

**ALASKA STATE LEGISLATURE
JOINT MEETING
HOUSE RESOURCES STANDING COMMITTEE
SENATE RESOURCES STANDING COMMITTEE
August 18, 2006
9:00 a.m.**

MEMBERS PRESENT

HOUSE RESOURCES

Representative Jay Ramras, Co-Chair
Representative Ralph Samuels, Co-Chair
Representative Paul Seaton, Vice Chair (via teleconference)
Representative Carl Gatto
Representative Gabrielle LeDoux
Representative Harry Crawford
Representative Mary Kapsner

SENATE RESOURCES

Senator Thomas Wagoner, Chair
Senator Fred Dyson
Senator Kim Elton

MEMBERS ABSENT

HOUSE RESOURCES

Representative Jim Elkins
Representative Kurt Olson

SENATE RESOURCES

Senator Ralph Seekins, Vice Chair
Senator Ben Stevens
Senator Bert Stedman
Senator Albert Kookesh

OTHER LEGISLATORS PRESENT

Representative Kevin Meyer
Representative Les Gara
Representative Mike Chenault (via teleconference)
Representative David Guttenberg (via teleconference)

Senator Gretchen Guess (via teleconference)

Senator Hollis French

COMMITTEE CALENDAR

PRUDHOE BAY CORROSION CRISIS PRESENTATIONS BY: BRITISH PETROLEUM - ALASKA; COMMISSIONER MENGE, CABINET TEAM LEADER; ALASKA OIL & GAS CONSERVATION COMMISSION; DEPARTMENT OF ENVIRONMENTAL CONSERVATION; DEPARTMENT OF REVENUE; ATTORNEY GENERAL

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

Presenters were:

STEVE MARSHALL, President
BP Production

BILL HEDGES, Manager of Corrosion
Strategy and Planning, BP

PATRICK H. VIETH, Senior Vice President
CC Technologies, Inc.

DAVID W. MARQUEZ, Attorney General
Department of Law

JOHN NORMAN, Commissioner/Chair
Alaska Oil & Gas Conservation Commission(AOGCC)
Department of Administration

CATHY P. FOERSTER, Commissioner
Alaska Oil & Gas Conservation Commission
Department of Administration

BILL CORBUS, Commissioner
Department of Revenue

MICHAEL MENGE, Commissioner
Department of Natural Resources (DNR)

KURT FREDRIKSSON, Commissioner
Department of Environmental Conservation (DEC)

ACTION NARRATIVE

CHAIR THOMAS WAGONER called the joint meeting of the House and Senate Resources Standing Committees to order at 9:00:49 AM. Senators Elton, Dyson, and Wagoner and Representatives Ramras, Samuels, Gatto, LeDoux, were present at the call to order. Representatives Seaton (via teleconference), Kapsner, and Crawford, and Senator French arrived as the meeting was in progress. Also in attendance were Representatives Kevin Meyer, Les Gara, Mike Chenault (via teleconference), and David Guttenberg (via teleconference), and Senators Hollis French and Gretchen Guess (via teleconference).

PRUDHOE BAY CORROSION CRISIS

9:01:22 AM

CHAIR WAGONER announced that the only order of business would be the presentations related to the Prudhoe Bay Corrosion Crisis.

CHAIR WAGONER let it be known that the purpose of the presentations is for fact-finding. He said BP is being given a chance to follow up on a short meeting that took place previously.

BRITISH PETROLEUM - ALASKA

9:03:09 AM

STEVE MARSHALL, President, BP Production, outlined four points that he would cover: the reason the decision was made to shut down the Prudhoe Bay oil field; the steps that are being taken to safely and expediently get back into production; the corrosion program that is used to manage corrosion on the North Slope; and the employee concerns program for both BP staff and contractors on the North Slope. He explained that the August 6 decision to shut down the Prudhoe Bay field was made primarily to "avert the potential of a major incident."

MR. MARSHALL said he has worked with BP for 29 years and has spent half of the time in Alaska. He first arrived in Alaska in 1978, just when the pipeline was begun, and he reported that the company is facing the prospect of another 50 years of business here. He introduced some of the other presenters. He stated that over the last two weeks BP has worked hard to attempt to come to grips with its discovery [of corrosion in the pipeline] on August 6. He commended the following groups for their

cooperation and in providing both insight and oversight: the Department of Revenue (DOR), the Department of Natural Resources (DNR), the Alaska Oil and Gas Conservation Commission (AOGCC), the Department of Environmental Conservation (DEC), and the federal Department of Transportation and Environmental Protection Agency. He credited the hard work of all the agencies in enabling BP to maintain production from the Western area of Prudhoe Bay. He reported that BP has exceeded production of over 200,000 barrels per day for the last two days. He relayed that BP is now focused on doing what it can to bring the Eastern area of Prudhoe Bay up to speed as quickly and safely as possible.

9:07:18 AM

MR. MARSHALL turned to the decision to shutdown. He stated that in early August, BP received the results of a "smart pig" survey that had been run in late July on the Eastern transit lines - the lines to the far east of the field. He said BP had been sequentially "pigging" a number of its lines in response to a spill that occurred in March. He said, "One of the things we committed to and worked with ... DOT on was to systematically maintenance pig and smart pig all of our transit lines." The first of those lines - the Lisburne line - was successfully pigged in June, and the line was pronounced fit for service - a status still met today. That line produces about 18,000 barrels a day, he noted.

MR. MARSHALL continued:

The results received from the Flow Station 2 to Flow Station 1 section of line ... showed ... a number of anomalies or defects ..., which was a concern and a surprise to us; we were not expecting to see that kind of severe corrosion or severe wall loss. After receiving those results, typically what you do from a smart pig is go out and corroborate or confirm the indications from the smart pig with ultrasonic testing, ... [which is] generally regarded as one of the most accurate tools to confirm wall thickness, corrosion in pipe and in oil field infrastructure.

On the morning of August 6, we found some insulation that had been oil stained on the pipe at one of the locations. We immediately took the decision ... - given that this was an indication that was communication with the fluid in the pipe - to shut

down ... Flow Station 2. That was about 35,000 barrels a day. That precautionary action then depressured the line and proceeded to inspect the further locations that had been identified from the smart pig run.

About two to three hours later, as we were inspecting one of the other locations, we saw a leak to tundra, which we were able to arrest and put drip pans underneath. But because we were now seeing two ... potential spots which had oil communication, we were very concerned about what was happening here. We contained the spill; I think the spill right now is estimated at about 23 barrels. The cleanup is complete, and we're working through the normal process on that. The indications ... were very much a surprise on the back of the March spill on the Western area line, and it was that which challenged our team to say, "Did we understand what was happening here?" This was not anticipated ..., and we said we don't fully understand and cannot predict. We lost confidence in our ability to predict what the condition of the lines [was]. We made the decision then ... - out of an abundance of caution - to shut down the field until we could confirm and verify that the remaining transit lines were indeed fit for service. And only then would we consider continued operations.

... We're still seeking answers to the cause for the pitting corrosion that we've experienced, and we'll only know the results of that once we complete [LaBarge, Inc.] testing of the steel. That will be some time away. But really, because this was an unknown, as operator, we believe the only prudent action - the only responsible action - ... to prevent the potential of a major spill was to shut down the field.

[9:11:42 AM](#)

MR. MARSHALL relayed that over the last weeks, BP has been working 'round the clock inspecting the Western area lines. He said BP initially focused on the Eastern area of the field, estimating it would take three to five days to complete an orderly shutdown and "do the freeze protection." Consideration was given toward understanding "the implications to provide fuel

gas" for other fields, the Northstar Unit, and the first three pump stations. He said hundreds of ultrasonic test inspections were conducted, and he credited many agencies for their assistance. Mr. Marshall stated, "Indeed, on Friday of last week ..., five days after the Flow Station 2 incident, we made a decision to keep that line in service." Notwithstanding that, he noted that crews are continuing their inspection on that line around the clock, through the use of such technology as forward-looking infrared sensors and hydrocarbon detectors, as well as performing visual inspections. He said BP expects that line to remain in service "through to when we can actually do the maintenance pigging and smart pigging in the weeks to come."

[9:14:47 AM](#)

MR. MARSHALL said the Eastern Operating Area, save Lisburne, remains "shut in." Inspections on the line are continuing from Flow Station 1, past flow station three, to skid 50. He said the insulation there is more difficult to remove, because of differences in "the final coatings that were put on the line." He said BP's intention is to demonstrate that the line is in reasonable condition to bring back into production and/or pig the line. He stated, "In the event that that transit line from Flow Station 1 to Pump Station 1 proves not to be fit for service, we are looking at a number of by-pass options, as reflected on a handout in the committee packet, entitled, "Prudhoe Bay Pipeline Schematic." He continued:

Those are tie-ins that our engineering team has identified, which would bring, basically, full production from the eastern side of the field into existing lines - either the Endicott line or the Lisburne line - both of which have been confirmed to be in good condition.

The Endicott line was originally sized to be able to produce the full production from Endicott, but there is capacity in that line for the volumes from Flow Station 1 and from Flow Station 2.

MR. MARSHALL said 340 engineers and inspectors are working tirelessly on "these dual fronts." Still to be done is the detailing engineering and material procurement. He indicated that the pipe is available, the company is still "sourcing the valves," and as soon as the detail engineering is completed, BP will be in a better position to share with everyone what it

estimates the completion time to be for resumption of the eastern side of the field.

MR. MARSHALL stated, "We're working on parallel paths. One is the inspection, which so far has proven the line to be in similar good condition to the western area line, but I do caution that ... we don't have as many inspection points. That is proceeding as quickly as we possibly can." He said BP made the announcement and commitment to purchase 16 miles of replacement transit line piping, which has been ordered and is scheduled for delivery in Alaska "on the fourth quarter." He explained, "That would be the backstop to replacing all of those lines."

9:18:29 AM

MR. MARSHALL commented on BP's role as an operator, stating that the company is responsible for all the safe operation of the field and the condition of the infrastructure, including the transit lines. He stated that BP thought it had understood the state of the lines, but obviously it did not. He stated the company's commitment to continually improve its corrosion program, and stressed its responsibility for keeping the western area producing and bringing the eastern area up as soon as safely possible.

9:19:39 AM

MR. MARSHALL then turned to the corrosion program. He stated that corrosion is a fact of oil fields that the company attempts to manage. Many factors are involved, including the amount of residual carbon dioxide, water, and solids that exist, how effective inhibition is, what the geometry of the lines are, whether there are low spots, and if there is bacteria. Only through laboratory testing can BP be able to definitively say what exactly caused the corrosion on the line.

MR. MARSHALL, to explain why BP did not suspect there was corrosion in its lines, pointed out the "Oil Process Flow" handout that relates the process utilized by Prudhoe Bay, and he reviewed the process with the committee. He said once the oil has gone through the process, it is called "sales quality crude," and it is, at that point, considered to have lower risks of corrosion. He said that BP has a comprehensive corrosion management program. Each year BP performs over 100,000 inspections and involves a number of technologies, including ultrasonic testing, x-rays, and pigging. In fact, each year 370

maintenance pigs are run. Furthermore, three to five in-line smart pigs are utilized to supplement the pigging operation. On any given year, he reported, BP repairs between 250-300 pipes; many of those pipes are small-bore piping inside BP's gathering centers and flow stations. He then related what BP has done in the way of maintenance over the course of the last years. On any given day, 225 people are inspecting and monitoring the condition of BP's infrastructure, but because of the discovered gap, the company will provide an even more comprehensive program, including smart pigging in the future and reanalyzing its entire corrosion program.

9:26:03 AM

MR. MARSHALL addressed transit line inspections. He said many people have asked why BP did not pig the lines [that were found to be corrupted]. He explained that BP started with the assumption "that this was sales-quality oil, with the water, CO2, and solids pretty much removed," and that it met the pipeline specifications for Alyeska Pipeline Service Company ("Alyeska"), which is part of BP's contractual requirement. He stated that BP believed that the risk and the expectation of corrosion were both considered to be low. He said smart pigging was done in 1990 and 1998, and in the latter year, less than two cubic yards of solids were removed from the western area lines. The smart pig information confirmed that the western line was fit for service. He related, "The 1998 smart pig run for the west is indeed our baseline, even today." Annual ultrasonic testing has been done on that line to confirm the inspections." When BP took over the eastern field in 2000, he said, ultrasonic testing was done on the eastern transit lines, which confirmed that the line was in good condition and corroborated the results from the smart pig run on the western line only two years earlier. He offered further details. He said, "We had no reason to believe, certainly given the testing that was done, that the east was in any different shape." He said BP continued to monitor the eastern lines on an annual basis. Over the course of the last 18 months, ultrasonic testing indicated a slight increase in the corrosion rate on the line between gathering centers one and two, thus BP increased the frequency of testing and number of points tested, and it commissioned a smart pig for 2006. However, that run did not take place before the March spill. Mr. Marshall said plans for the future will include whatever technology necessary.

9:30:03 AM

MR. MARSHALL acknowledged that many BP employees have voiced concerns, and he said the company wants to know about these concerns in order to address them. He listed the following forums that can be used by employees: management; employee-run safety committees; an anonymous world-wide internet program called, "Open Talk"; a toll-free telephone health, safety, and environmental hotline; another toll-free number to a contact outside the company; and, upcoming, an ombudsman to address Alaskan and "broader American issues." Beyond that, he related, employees are free to raise concerns through outside channels, such as the media. He stated, "Regardless of the source of those concerns, we treat them all seriously. The only thing we need is specifics ... [in order to] do a responsible investigation. We look into everything we hear about ... internally or using external resources. We just want to understand the issue, get to the bottom of it, and take the appropriate action." He reported that over the last five or six years, the safety committees alone have addressed over 600 safety concerns covering a broad spectrum.

MR. MARSHALL stated that there has been concern that BP is focused on cost management to the detriment of "the things that we need to do." To that he informed the committee that while production has declined, costs have increased considerably as specified in the handout. He stated, "We are committed to do what it takes to keep that field as robust and healthy as we possibly can. We are ... investing." He offered examples of areas in which spending has increased.

[9:34:32 AM](#)

MR. MARSHALL related that BP has a great staff. He stated he is confident that production will be back as soon as possible. Since March, a gap in the system has been identified in BP's corrosion system. The result, he said, will be a better system, not only to protect the effected pipelines, but to protect the entire infrastructure. He concluded:

From this adversity we will enhance our capability. We all benefit from that, whether it's the State of Alaska, your constituents, the nation. I deeply regret the problems we've caused the state and the nation from these actions and the condition of Prudhoe Bay. We will emerge stronger.

[9:36:19 AM](#)

SENATOR DYSON inquired as to when corrosion monitoring began, particularly on the western side.

MR. MARSHALL deferred to Mr. Hedges, but said, to date, BP has a capable corrosion management team consisting of a core BP staff that is supplemented by contractors who provide much of the inspection expertise. Since March, a new technical group has been created in order to review corrosion planning, and that group reports directly to Mr. Marshall.

[9:39:36 AM](#)

SENATOR DYSON recalled that in the mid- to late-'80s, BP laid off many in the state. He said he found it a stretch that 225 people are actively looking at corrosion on the North Slope on any given day. He inquired as to how many employees BP has operating the flow stations and gathering centers, for example.

MR. MARSHALL replied that of the 225, approximately 200 are contracted staff and 25 are BP employees. He deferred to Mr. Hedges to provide further detail.

[9:40:57 AM](#)

BILL HEDGES, Manager of Corrosion, Strategy and Planning, BP, confirmed that BP has approximately 25 employees between the North Slope and Anchorage and 200 contractors who work mainly on inspection services and other corrosion-related activities. He added that the number is not exact, because for example, BP tends to have more employees in the summer than in the winter.

[9:43:04 AM](#)

SENATOR DYSON stated that the implication is that all the employees are experts; they are not field hands doing manual labor that enables inspection, but are trained experts in corrosion.

MR. HEDGES responded, "No, that would include everybody associated with corrosion, so it will include the removal of insulation. But they're all professionals in their own field. Even activities such as removing insulation is a skilled operation on the North Slope."

SENATOR DYSON said, "So, ... you didn't mean to infer that each one of those people ... specifically had advanced training in

corrosion itself, but they're a part of the team that's working on the problem."

MR. HEDGES answered, "That is correct, Senator."

[9:44:03 AM](#)

CO-CHAIR SAMUELS asked if there has been a change in the quality of the oil from the flow station and whether procedures for testing need to be changed.

MR. MARSHALL replied that the oil from the Prudhoe Bay field has remained fairly the same, with one exception: in the far west of the field the oil produced is viscose. Because that reservoir is shallower, it is typical for the sands to come up through the well into the gathering center, at which point BP tries to accumulate them and remove the ... solids. He stated, "We suspected, after the March spill, the solid carryover from Gathering Place 2 was one of the key factors of what had caused some accelerated corrosion in that ... line. It still remains a strong working theory around what happened there. There are no similar sands and solids from the reservoir in other parts of the field." He said he thinks that, largely, the crude oil quality and the specification - which is .35 percent - has remained the same.

[9:46:49 AM](#)

REPRESENTATIVE GATTO remarked that an article in yesterday's USA Today said BP has used smart pigs and found 16 anomalies in 12 locations and has not done so since the early 1990s, relying instead on other tests. He read: "After the March spill of 267,000 gallons, the ... U.S. Pipeline and Hazardous Material Safety Administration ordered the company to use smart pigs to test the line. ... The agency has criticized BP for not doing the testing sooner." He asked that Mr. Marshall comment on some of the accusations from USA Today.

MR. MARSHALL, in response to the comment about 16 anomalies in 12 locations, confirmed that was accurate reporting. He said those anomalies indicated wall-thickness losses of between 70 and 81 percent. He said, "We were in the process of verifying those anomalies with ultrasonic testing when we discovered the contaminated insulation." He said although some people think smart pigging is the only tool, it is actually only one; a more accurate tool is actually ultrasonic testing. The two tools combined, he said, provide a good picture.

MR. MARSHALL reiterated that BP had based its assessments on the pigging that it had done on its western area lines in 1990 and 1998, and the pigging done there demonstrated that those lines were in good condition. Mr. Marshall said BP did not just accept that, it followed up with ultrasonic testing. Clearly, he said, BP was not quick enough to identify a threat to that line; a smart pig was ordered for 2006, but "was going to be done too late." Ultrasonic testing was instituted on the eastern line when BP took it over in 2000. In response to Co-Chair Samuels' question, he said, "We believed that the condition would be broadly similar to that which has been pigged only two years earlier. The ultrasonic testing that we did on those eastern lines indeed confirmed ... that the line was in good condition." He said the events of the last two weeks showed that that was incorrect, and he repeated that BP will fix that problem.

[9:51:38 AM](#)

SENATOR ELTON related his understanding that Mr. Marshall's testimony to the legislature 7-10 days ago was that "the line" had not been pigged since 1992. He stated that he has heard subsequent to that that BP has issued a clarification that "it hadn't been pigged in 1992, and it had not been pigged since 1977." He asked if that is correct.

MR. MARSHALL clarified as follows:

In 1992, the eastern area lines - the flow through Pump Station 1 lines - were pigged. They maintenance pigged [and] cleaned ... with some success. I mean they were pigged to the point where a smart pig was run. What ARCO was unable to get was good data from that pig. What I can't [indisc -- coughing] was whether that was because of the incompleteness of the pigging or the solids, or whether or not there was a problem with the ... pig run itself. But that line was pigged in 1992 and a smart pig was attempted.

SENATOR ELTON asked if it had been determined that no good data had been procured.

MR. MARSHALL deferred to Mr. Hedges.

MR. HEDGES related that he had spoken with somebody who had been involved in that smart pigging program, and that person's

recollection was that the line had been cleaned successfully enough that [ARCO] was confident enough to put a smart tool into the line. The data that was produced by the smart tool was terrifying, he said; it suggested that the entire pipe was fully corroded. He continued:

They went back and did spot checks, as code and standards would recommend you to do, and found actually that the line was in very good condition. It raised questions about the tool. There was some research done, and in fact the tool was subsequently withdrawn from the market. It was in the early days of smart pigging. And consequently, although a tool was run, there was no smart pig later associated with the eastern line until we recently ran one in July on the upper section.

[9:54:34 AM](#)

SENATOR ELTON referred to Mr. Marshall's written testimony, which relates that BP actively encourages its workforce to raise issues of concern and promote open communications in many forums. Senator Elton said through performing a search on the Google search engine on the internet, he reached an understanding that BP employees may not fully agree with Mr. Marshall's statement. He said he found that a few years ago, BP employees came to Mr. Marshall with complaints, but those complaints were dismissed. There were allegations by some of the BP employees of "harassment and intimidation when it came to maintenance issues."

MR. MARSHALL said that he is aware of those issues, which he said were investigated comprehensively, and for which appropriate action was taken. He stated that he has not been in the position of dismissing any safety concerns or allegations during his time in Alaska. However, he pointed out that BP is a large organization, and not a perfect one. He stated that it is his responsibility to ensure that everyone in the entire workforce believes the same thing, which he said is a huge challenge, but one to which he is committed. He stated, "Until every ... one of the 4,000 people that are on the slope at any one time truly believe[s] that it is okay to raise a concern without reaction, we haven't done our job."

[9:57:10 AM](#)

SENATOR ELTON recalled that there was another gentleman who had raised maintenance concerns related to safety valve and corrosion issues, and he said he would like to know what happened after that gentleman's allegations were made four or five years ago.

MR. MARSHALL recalled that upon his arrival in September 2001, there had been a number of allegations made about maintenance backlogs. He said he instituted a weekly meeting of his integrity management team to address these issues. He said he has been determined to eliminate these issues, and he indicated that there are no backlogs regarding equipment and maintenance. He stressed the importance of listening to the people in the field.

SENATOR ELTON said he appreciates that part of the discussion has to do with BP's history before Mr. Marshall's arrival. He recalled a report in the Wall Street Journal, as well as the Anchorage Daily News regarding a safety valve issue that was reported, but took four years to fix. He said he would like Mr. Marshall to respond to that issue.

MR. MARSHALL stated that every time BP receives allegations it looks into them. He said he can recall over 100 allegations from various letters from outside the company, and the company has dug into each one, correcting things when it can. He said he is conscious that a track record takes a long time to build and a short time to lose. He said BP is on a path of rebuilding its track record, and clearly what has happened over the last few weeks has been a big setback in that regard.

[10:01:31 AM](#)

SENATOR ELTON expressed his appreciation of Mr. Marshall's presence. He said he would like to hear whether BP thinks there is a state responsibility for the problems that have arisen over the last few weeks, or if the company believes that the issue is theirs and there ought not be any impact on the state treasury through taxes or credits or any other form. He said he wants to know whether BP is planning to finance the repairs on its own, or whether it expects assistance from the State of Alaska.

MR. MARSHALL said BP's focus has been on the swift and safe restoration of production, while pursuing inspections and bypasses. He asked Senator Elton to confirm that he is asking if BP will be seeking state assistance on the funding of the repairs.

SENATOR ELTON clarified that he is interested in whether BP is going to use state taxes or state credits to help finance any of the repairs that are necessary, or whether Mr. Marshall fully expects that it is the obligation of BP.

10:03:36 AM

MR. MARSHALL responded that money isn't the object; BP will backstop and fund whatever it takes to get the production back on line. He said BP will work with the existing system, make changes where necessary, and replace equipment wherever it can. He stated, "I have not really spent a lot of time thinking about the implications of that."

SENATOR ELTON said he would appreciate BP's consideration of the issue.

10:04:30 AM

REPRESENTATIVE LEDOUX inquired as to what programs BP offers to protect workers who come forward with comments or criticism regarding BP's maintenance practices. For example, she asked if there is any method by which a worker can file a complaint anonymously.

MR. MARSHALL replied yes. He said anonymity has been perfected through a number of methods, and as long as people "raise the specifics," BP can and does investigate the issues.

REPRESENTATIVE LEDOUX asked Mr. Marshall what he would do differently, in regard to BP, if he could turn back time 10 years.

MR. MARSHALL, characterizing that as a hypothetical question, said clearly the events of the last few weeks and months have shown that the investment BP has made over the last five years has been insufficient, and the company will take steps to correct that moving forward.

REPRESENTATIVE LEDOUX asked what those steps are and how they will prevent current events from happening in the future.

MR. MARSHALL said that he is proud to work for a company that is committed to learn from its experiences - good and bad. He said BP will have to operate transit lines in a fundamentally different way. He said BP will incorporate maintenance pigging,

smart pigging, ultrasonic testing, and whatever other technology necessary it needs to bring. It is reevaluating its entire corrosion program, and the company will look at its infrastructure with an eye to answering the questions.

REPRESENTATIVE LEDOUX asked when BP thinks it realistically will have a more advanced program in place.

MR. MARSHALL said new pipe has been ordered and will arrive later this year, and whatever new programs are installed will be in place "to accompany those new lines in service." Going forward from this point, he said, the goal is to complete the maintenance and smart pigging of the remaining lines. Currently, he reported, the western area lines are in good shape and will be pigged and smart pigged as soon as possible. Furthermore, inspections on the five miles of eastern line are being conducted; so far, the results show that that line is in good condition.

REPRESENTATIVE LEDOUX raised the issue of the number of employees, noting that it is "up to 225 employees," which she pointed out means it could be any number from zero up to 225. She asked Mr. Marshall how many people are working on the North Slope on average, on any given day.

MR. MARSHALL said the number varies depending on the season. He deferred to Mr. Hedges.

[10:12:27 AM](#)

MR. HEDGES estimated that the number of employees could be a minimum of 100 on any day, up to 250.

CHAIR WAGONER asked whether BP expects any employee layoffs due to the shut down of part of the field.

MR. MARSHALL answered no. He explained that BP is keeping the facilities idled - "keeping them warm" - and is producing oil in flow stations one and three. Furthermore it is producing gas to keep the fuel gas running, producing oil for the purpose of freeze protection, continuing to run seawater for the injection wells, and seeking to take advantage of the throttle back by performing critical maintenance. He mentioned redeploying drilling work because of the use of diesel. He relayed that employees were assured that their jobs are secure, because it was an issue that was raised.

CHAIR WAGONER asked when the eastern [line] will be back up and running.

MR. MARSHALL replied that only after completing the engine reassessment will he be able to provide a definitive date. He said inspections are continuing "at pace," working with various state and federal agencies.

[10:15:15 AM](#)

CO-CHAIR RAMRAS asked, "What umbrella are these activities going to fall under in the long term? Force major, negligence, ... deferred maintenance, or something else?"

MR. MARSHALL, seeking clarification, said that BP has been focused on understanding what has caused the situation of unexpected corrosion in its lines and what can be done to ensure the supply of crude oil is maintained to both the Alaska and West Coast refineries. He said BP has indicated that it will backstop all the Alaskan refinement as needed to ensure sufficient supplies to "keep them running." The company has also purchased 4.5 million barrels of crude oil to ensure adequate supplies to the west coast.

[10:17:18 AM](#)

CO-CHAIR RAMRAS asked what BP's long-term goals are with regard to addressing the damage that has been done to people's perception of the integrity of the Trans-Alaska Pipeline System and Alaska's ability to pursue environmentally safe drilling of the Arctic National Wildlife Refuge.

MR. MARSHALL said he understands the impact the recent pipe corrosion has had on both BP's and Alaska's reputation. He restated that a track record, though long to build, is quick to be lost. He said although there is no comprehensive plan in place, BP is focused on learning and doing something about the experience it has had, and he stated that the company will work tirelessly to put in place whatever it takes to restore confidence in its operations. He said BP knows the importance of being an environmental steward, which is why it made the decision to shut down the field in an orderly manner.

[10:21:30 AM](#)

REPRESENTATIVE CRAWFORD related that some years back one of his friends was involved in ARCO's corrosion crew and ARCO brought

corrosion concerns to light that subsequently were not addressed to the extent they should have been. He said the recent spill comes as no surprise, because his friend told him that it was not a matter of if it was going to happen, but rather a matter of when. He indicated that he has given much thought to the matter. He said, "I don't know that there's a question that can be asked about this now, it's just I hope we all do a lot better in the future."

MR. MARSHALL said he has reviewed as many documents as possible to discover whether specific concerns have been raised about the transit lines. Corrosion, he said, has been a fact from day one; corrosion inhibitors have been incorporated into the system since the beginning. He related that particularly in the upstream areas where there is 12 percent carbon dioxide, corrosion can "eat" a quarter of an inch per year, left unchecked. So far, in going through the documents, Mr. Marshall said, nothing specifically related to the transit lines in question has been discovered.

The committee took an at-ease from [10:25:37 AM](#) to [10:33:16 AM](#).

[10:33:23 AM](#)

REPRESENTATIVE SEATON asked if there is an estimate as to "why the leak occurred at that time, four hours into the operation there."

MR. MARSHALL said it had been about 15 minutes since the leak started when the original estimate was made of five barrels at six gallons per minute. He said he would have to reconfirm how long the leak had been occurring at the new estimate of 22 or 23 barrels. He said although BP does not have a definitive answer at this stage, it is not inconceivable that the pressure shock from shutting down the system could have finally triggered the leak; that answer may be illuminated through further investigation.

[10:35:06 AM](#)

MR. MARSHALL, in response to a follow-up question from Representative Seaton, related his belief that a 10-inch pipe [is used for the bypass lines] and is on location on the slope. He said, "We've been able to source that with the corporation of Alyeska and, I believe, [ConocoPhillips Alaska, Inc.]. We are trying to source the remaining materials - the metering, the valves, and other fittings - that will be necessary to get that

in. We are proceeding in parallel with all of the other inspection and pigging efforts, and that activity will proceed in parallel until we've got it completed." Mr. Marshall mentioned that there are options to pursue, naming bypasses from Flow Stations 1 through 3, and he indicated BP's plan to restore the entire Eastern Operating Area to production as quickly as possible.

10:36:35 AM

REPRESENTATIVE SEATON said he had heard reports that maintenance pigging was not done on the transit lines because the filters could not handle the amount of sludge that was inside them. He asked if that report is accurate.

MR. MARSHALL said he classifies the initial estimates of solids in the line after the "GC2" spill as worst-case scenario, because upon a subsequent technological check, that estimate was found to be about 10 times too high. He said BP has determined it will be able to do complete pigging with the estimate of solids in each of the lines, by installing one of two "crossovers." He explained that crossover A will allow BP to pig from Skid 50 and put the solids into Flow Station 3 and dispose of them from there. He noted that there is also a parallel activity being completed by Alyeska, which will allow a line to be installed to put the solids into one of the Pump Station 1 tanks. Mr. Marshall estimated that by early September [2006], BP will have two methods of pigging those lines and capturing the solids in a way that will not affect the strainers, meters, or any part of Pump Station 1.

REPRESENTATIVE SEATON asked if there was consideration of not doing pigging prior to the spill.

MR. MARSHALL responded that he can't comment on what Alyeska's position might have been prior to the March spill. He continued:

We identified the slight increase ... in corrosion rate on the GC2 line in the fourth quarter of last year. We did order and schedule a smart pig run in the summer of this year, and that was something that was being planned at the time of the March spill. We were going to have to find a way to deal with the solids in that line, measure them, and work with Alyeska to deal with them. Certainly the events since March have ... forced us to examine two possibilities:

one to cross over the solids to flow station three, and one to put in an additional cross over at Pump Station 1 so we can handle any of those solids with minimal impact to the ongoing operations.

REPRESENTATIVE SEATON asked Mr. Marshall to check whether there had been any contact with Alyeska in the last several years prior to the March spill in regard to pigging the line and Alyeska's concerns about whether there was too much sludge to handle that pigging. He recollected that the federal government had required 12 wells to be shut down for testing. He asked Mr. Marshall to describe the progress of that testing and whether or not that shut down was based upon corrosion concerns.

MR. MARSHALL surmised that Representative Seaton was referring to well cellars, in which there were indications of oil. He clarified that BP made the decision to shut down those wells; it was not a shut down mandated by the federal government. He estimated that the shut down occurred three or four weeks ago to check the integrity of the wells and to ensure that there were at least two barriers between the reservoir and the surface. The tests were completed, and "each of those wells did confirm good integrity to the reservoir." He said each of the wells is designed with insulation materials, and it is that material which has leaked through the surface casing; a number of the wells has exhibited some corrosion from snow and rain melt running down the side of a shallow section of the well. He said BP is in the process of identifying repair plans to fix the wells.

[10:42:18 AM](#)

MR. HEDGES provided his resume to the committee, which relates his experience and education in corrosion. He stated that BP has large infrastructure, with a team in place that manages several corrosion risks, and the company works with regulatory agencies to overview its programs. He said BP's programs are acknowledged as very comprehensive, and it is working hard to close the gaps that resulted in the leaks in March. He provided an illustration of the corrosion process for which there is much science. Corrosion, he explained, is an electrochemical phenomenon.

[10:47:16 AM](#)

MR. HEDGES reviewed the various infrastructure of the pipeline. He noted that BP has 3,500 regulated vessels, 750 regulated

tanks. Platforms are regulated as well. The new EPA requirements will mean many more tanks will be incorporated into a regulated environment. Mr. Hedges reported that in addition to oil production, BP produces a record 9 billion standard cubic feet of gas per day. He said BP also produces 1.5 million barrels of water per day, which is a 75 percent average water cut; for every oil barrel there are three barrels of water.

MR. HEDGES said that within its facilities, BP faces a variety of corrosion risks, particularly from water, without which corrosion cannot exist. Many fields begin their life with little water, but as they get older, water starts to come through and corrosion problems begin and continue as the field ages. He said carbon dioxide gas can dissolve into the water and cause a mild, corrosive acid. Solids, he relayed, can create different environments and shelter bacteria. Furthermore, he stated that if fluids are flying at a high velocity, they can remove metal - a process known as erosion. Bacteria, he said, can produce organic gas byproducts which can cause corrosion. Mineral acids are used in operations to stimulate reservoirs, and BP must be careful to manage those acids. How fast the fluids are flowing down the pipe also influences corrosion, he said. He noted that BP has programs to manage corrosion, and those programs have oversight by government agency.

MR. HEDGES listed four forms of corrosion: inside, outside, spread, or localized; more than one type of corrosion can occur at a time. He offered some examples (indisc. -- other voices overlapping on recording). He mentioned the corrosion management team and noted that BP has 21 programs to address all the risks and threats. He said the company makes extensive use of contractors for program execution and works closely with regulators. Mr. Hedges related that during his year with BP, he has attempted to foster as open a dialog with regulators as possible. He reported that the budget this year is \$72 million. Those operating Alaska's pipeline have access to BP's global corrosion network.

[10:53:14 AM](#)

MR. HEDGES related the types of corrosion control programs that BP has. He said often pipes are made thicker to allow for some of the steel to corrode. To address conditions that are particularly aggressive, he said, BP can use corrosion resistance alloys - referred to as stainless steel. He said the Endicott facility is made significantly out of what is called,

"duplex stainless steel." He reported that BP pumps approximately 3 million gallons of corrosion inhibitor each year and spends approximately \$35 million a year on chemicals. He asked the committee to think of corrosion inhibitors as chemicals that are injected into the pipeline and mixed with the fluid inside, thereby traveling down the pipeline leaving a single molecular layer all around.

MR. HEDGES confirmed reports that BP dilutes its chemicals, explaining that because it costs approximately \$1 a gallon to send the chemicals up from Houston, Texas, to the North Slope, they are sent up in super concentrated form, and BP dilutes them so they can be pumped through the line. That practice saves BP approximately \$3 million dollars a year. Management ensures BP does not "go to high velocity," which would cause erosion problems. The condition of the pipelines is tracked carefully, he said, and when they come to the end of their useful service life, plans are in place to repair or replace them as necessary.

10:55:50 AM

MR. HEDGES turned to the subject of pigs and provided photos and models of the various types of pigs to the committees. He defined pigs as "pieces of equipment designed to travel down pipelines and either clean them or gather information around the condition of the pipeline." He said if there is any residual corrosion, there should be corrosion inhibitor in place to deal with it. He then provided a graph of corrosion rates over time since the 1990s. Corrosion rates came down in the 1990s, but at a price of having to pump more corrosion inhibitors in the pipeline. In fact, BP has to pump more corrosion inhibiting chemicals into its pipelines in Alaska than are used in many other parts of the world, due to Prudhoe Bay's aggressive conditions. He discussed the "coupon" approach to corrosion. He explained that coupons are "strips of metal made of the same material as the pipeline which we insert into the pipeline." He said there are other approaches that allow BP to get a continuous feed of corrosion rate data. He stated that where inhibitors exist there is great protection, but where they are missing there can be "great problems." In the late 1980s and early 1990s, when water started to be produced in Prudhoe Bay, corrosion became a problem, and in the early to mid 1990s, control programs were put in place to lower the corrosion rates to well below BP's target of "2NPY." He then referred to charts regarding to the effectiveness of the coupons, and he explained the use of averaging. Mr. Hedges then reviewed the ultrasonic testing and radiographic testing programs, which are methods

used in addition to smart pigging. BP chooses from its variety of inspection programs to target the specific mechanisms previously mentioned. He talked about how BP chooses locations to test. First, it repeats testing in areas that have shown to have corrosion to see if the areas have become worse. Also, BP chooses new areas to find out if anything new is happening; it chooses those new spots, both through corrosion engineering judgment and by random selection. In recent years, he said, external corrosion has become a problem, and there is a program to address that issue.

[11:05:47 AM](#)

MR. HEDGES said corrosion probability was considered to be low in the transit lines and, until this year, with monitoring inspection, Mr. Hedges said, BP was doing "fairly well with no leaks in 29 years." He provided an ultrasonic scan of the leak area for the committees to review, which illustrates "discrete" pitting - "not one giant network running into each other." In summary, Mr. Hedges said BP has clearly identified a gap and is working as fast as possible to fix that gap.

PATRICK H. VIETH - CC TECHNOLOGIES

[11:08:34 AM](#)

PATRICK H. VIETH, Senior Vice President, CC Technologies, Inc., informed the committees that CC Technologies works in the area of corrosion around the world. He said his expertise is primarily in the area of the development and implementation of integrity management programs for pipeline operators. Specifically, he said, he develops programs to prevent the likelihood of failures, through methods such as in-line inspection, hydrostatic testing, defect assessment, and fitness for purpose. He stated, "It is my job to bring together the experts within our company, to take a look at the available information, and provide input to BP throughout this process." He offered further details. He said CC Technologies has been involved in assessing the information produced and providing input to BP related to the Western Operating Area (WOA), and it is currently doing similar work related to the Eastern Operating Area (EOA).

[11:13:28 AM](#)

REPRESENTATIVE LEDOUX inquired as to how long the corrosion has been forming.

MR. HEDGES responded that BP would like to know the answer to that question, as well. He said the company does have some data from running the smart pig in 1998, which produced a baseline assessment. He said BP was tracking the damage in the pipeline every year following that assessment, but was not seeing any significant changes until some slight increases [in corrosion] were found in 2004-2005. He said BP was following those increases and, based on them, ordered a smart pig run scheduled for this year. Unfortunately, the leak occurred on March 2, 2006, before the smart pigging was run.

[11:14:35 AM](#)

REPRESENTATIVE CRAWFORD mentioned one article said BP had not had a leak, whereas another article [from April 2001] said there had been five leaks in three months - one rupture resulting in 92,000 gallons of seawater and crude oil on the tundra.

MR. HEDGES specified that when he said BP hadn't had any leaks, he was referring to the oil transit line sections; he explained there have been leaks in other parts of the infrastructure.

[11:15:29 AM](#)

SENATOR DYSON said he is mindful of the sanctity of the relationship between CC Technologies as contractor and BP; however, he said the legislature has an overriding responsibility for the people's oil, the money it brings in, and the care of the environment. He said, "I'm wondering if there'll be any restrictions on the reports that you get from these various experts here that won't be available, either to the regulators or ultimately to the public, on the nature of ... what the investigations find."

MR. VIETH said BP allowed outside agencies to participate and learn about new findings in "real time." To that, he remarked that many of the presentations and results that he has prepared over the last week have been seen simultaneously, for the first time, by both BP and other agencies.

MR. MARSHALL reinforced that he is personally committed to have information available to anyone interested.

[11:17:48 AM](#)

SENATOR ELTON recalled that the presenters had said that [the events of] March 2 helped identify a significant gap. He asked if, either prior to or following that date, there had been any review done of the Kauffman report mandated in the merger agreement that identified significant corrosion problems, or if there had been time to review the 2001 BP report that identified significant staff and maintenance issues.

MR. HEDGES responded that in his year at BP he has reviewed some of BP's annual reports and was actively engaged in publishing the 2005 reports, but he has not read the Kauffman reports from previous years.

SENATOR ELTON expressed concern that there are four- to five-year-old reports that identified gaps, but it took a catastrophic incident that affected state revenues and gas markets to catch BP's attention. He said he is trying to figure out what happened between the time that reports that identified a gap were available and the March 2 incident, and what the operator's response to those reports were.

MR. MARSHALL said he cannot recall the specifics of the 2001 report without refreshing his memory. Notwithstanding that, he surmised that in any year, gaps will be identified and issues will need to be addressed and corrected. He stated that he wasn't aware of any of the reports that identified corrosion in the transit lines. He said he would like to clarify that the first indications that BP had that the transit lines began to experience an increase of corrosion was in the 2004-2005 time frame, as Mr. Hedges previously noted. The last inspection done on the GC2 transit line was, he estimated, in September of 2005, and it was judged then that BP needed to increase the frequency of inspection and commission the smart pig run to get a reestablishment of the condition of that line.

SENATOR ELTON said he remains confused with regard to pipeline corrosion; he questioned why corrosion was not an issue following the Kauffman report.

MR. MARSHALL said, "What we're talking about here is one hundredth of that pipeline system." He said he suspects that the Kauffman reports speak largely to many of the lines more likely to have corrosion issues, for example, those with high carbon dioxide and water. He reiterated that it is only recently that corrosion has presented as a problem on the oil transit lines. He offered, "Certainly we'd be happy to go back

and try and provide a summary of the findings and put that into context for you."

[11:23:42 AM](#)

CO-CHAIR RAMRAS said he believes that BP is a careful company, thus he wants to know if the spill is characterized as: an act of God, a physical depreciation of the line that went unchecked for a significant period of time that lead to 70 percent failure, or deferred maintenance that was not addressed in a timely fashion.

MR. HEDGES replied that BP is still in the middle of an investigation, and until the mechanism is proven, it would be foolish to speculate.

CO-CHAIR RAMRAS restated his question for Mr. Marshall.

MR. MARSHALL responded that he is not able to say at this point, but he is working to find out.

[11:27:01 AM](#)

CO-CHAIR RAMRAS asked if the Kuparuk River Unit or other major fields are at risk for similar problems.

MR. MARSHALL deferred to ConocoPhillips Alaska, Inc., the operator of the Kuparuk River Unit.

[11:27:51 AM](#)

CO-CHAIR RAMRAS inquired as to the revenue flow. He asked if the oil will come through in the later life of the line or push through to recapture lost volume in the next calendar year, and how that would affect the state treasury.

MR. MARSHALL said he would be happy to provide "a more detailed analysis of that question." He proffered that certainly the oil that would have been produced from the east lines today that is not being produced will remain there. He said BP is continuing to inject sea water and produce water in flow stations one and three; one benefit of that is that the company is able to keep the pressure in the reservoir as high as possible. Typically, he noted, when a field or portion thereof is shut down, the field comes back with "flush production" - increases in production for some time. He said he would need to talk to BP's reservoir engineers to get a better understanding of that.

CO-CHAIR RAMRAS said that would be appreciated.

[11:31:20 AM](#)

CHAIR WAGONER pointed out that all the documents being presented to the joint committee are available on the following web site: www.akrepublicans.org, and through either the link for the Senate or the House Resources Standing Committee.

The committee took an at-ease from [11:32:02 AM](#) to 11:35 a.m.

ATTORNEY GENERAL, DEPARTMENT OF LAW

[11:35:16 AM](#)

DAVID W. MARQUEZ, Attorney General, Department of Law, stated that this hearing should assure the people of Alaska and the rest of the United States that the administration and legislature "are diligent and vigilant in overseeing the responsible development of Alaska's important natural gas and oil resources." He introduced attorneys serving on his own task force, as well as other related individuals present. He said a thorough fact-finding investigation of BP's management of the North Slope oil field is taking place. After the investigation is complete, appropriate legal action will be taken to protect Alaska's interest. Corrosion issues of the past, present, and future will be considered, relating to what damage has been done and how "the risk that this will ever happen again is significantly reduced or eliminated."

ATTORNEY GENERAL MARQUEZ reported that yesterday, through the authority of the Department of Environmental Conservation (DEC), subpoenas were issued to BP and other Prudhoe Bay unit leaseholders with regard to documents related to corrosion dating back to 1996. After BP announced the complete shutdown of the Prudhoe Bay field, Governor Frank Murkowski announced the formation of a special cabinet team, which included Commissioner Mike Menge, the commissioners of DEC and the Department of Revenue (DOR), John Katz, in Washington D.C., and Attorney General Marquez. The goal of the team was to protect the environment, develop an action plan, and get oil production up and running.

ATTORNEY GENERAL MARQUEZ said he formed an internal task force within DOL, which was headed by Deputy Attorney Generals Susan Parks and Craig Tillery, and made up of experienced attorneys,

for the purpose of recommending the proper legal courses of action for the state to pursue and, at the right time, to implement those recommendations. One consideration is to determine whether BP, and possibly other parties, can be held legally responsible for losses incurred by the state.

ATTORNEY GENERAL MARQUEZ said he appreciates BP's efforts to quickly address the effects and causes of the corrosion and consequent spill and the apologies of BP's executives and managers. Acknowledging the shortcomings of the company's maintenance corrosion control programs, he said, reflects favorably on BP's intentions to address this serious issue. Furthermore, Attorney General Marquez acknowledged that billions of barrels of oil have flowed through safely and reliably to market. He said Alaskans go to work every day on the North Slope with the best of intentions to perform their jobs safely and in an environmentally sound manner. Nevertheless, he stated his deep concern regarding the practices that led to the current situation. Attorney General Marquez said apologies are not enough; the problem must be corrected, and BP must make all necessary efforts to ensure that other existing problems are identified and resolved.

11:42:09 AM

ATTORNEY GENERAL MARQUEZ said there is an ongoing criminal investigation related to both the March and August spills, which involves DEC investigators and the DOL environmental prosecutor. He said he is not at liberty to discuss the investigation, in order to preserve its integrity, and also because the state is working cooperatively with federal authorities. Pursuant to Federal Rule of Criminal Procedure VI, he said, the subject matter of a federal grand jury investigation is confidential. He stated, "Any successful criminal prosecution at the state level will require that the state prove that the actions taken or omitted were criminally negligent." He said criminal negligence is defined in AS 11.81.900. Title 46 of the Alaska Statutes contains several provisions related to oil spills, he noted. Violations are criminalized in AS 46.03.790; any criminally negligent violation of a DEC statute, regulation, order, or permit is a misdemeanor. It becomes a felony, he said, if the spill is 10,000 barrels or more. The recent incidents, he noted, are well below that threshold. Attorney General Marquez said under these provisions, the maximum penalty for an individual for a misdemeanor is one year in jail and a \$10,000 fine. For an organization, the maximum penalty for a misdemeanor is a fine of \$200,000 or three times the pecuniary

gain to the defendant or up to three times the damage or loss caused by the defendant's conduct. He listed the penalties for a felony offense.

11:44:59 AM

ATTORNEY GENERAL MARQUEZ turned to civil remedies available to Alaska. He stated:

Under Alaska law, a person who discharges petroleum into or upon the waters or land of the state, in violation of AS 46.03.740, is liable in a civil action to the state or a sum assessed by the court in an amount not more than \$100,000 for the initial violation, [and] no more than \$5,000 for each day the violation continues. The award shall reflect when applicable reasonable compensation for adverse environmental effects, costs incurred by the state in detection, investigation, and attempted correction of the violation, and the economic savings realized by the person in not complying with the requirement.

In addition, the liability under AS 46.03.760(a), a person who violates AS 46.03.740 is liable to the state for the full amount of actual damages caused by the state by the violation, including direct and indirect costs associated with the abatement, containment, or removal of the pollutant, restoration of the environment, and all incidental administrative costs.

A person found liable under any other state law for an unpermitted discharge of crude oil in excess of 18,000 gallons faces a potential civil penalty up to a maximum of \$500 million. For example, a person is to be charged a penalty of \$8 per gallon for the first 420,000 gallons of crude oil discharge, and \$12.50 per gallon for amounts in excess of 420,000. If subject to the \$500 million statutory maximum, the court shall assess four times the penalty if it finds that the discharge was caused by the gross negligence or intentional act of the person. Additionally, pipeline owners and operators are strictly liable for the state's response cost. Owners and operators are also liable for damages, including injuries, property, loss of income, loss of means of producing income, or loss of economic benefits.

If the state sues for civil assessment for penalties, then it may recover full reasonable attorneys' fees and costs, and the operator must pay restoration damages to restore the environment to its pre-spill condition. Owners and operators are liable for natural resources damages, such as damages to the tundra. The owners and operators of a facility from which there is release of oil are strictly liable, jointly and severally, for damages resulting from an unpermitted release. Damages are statutorily defined as including loss of income, loss of the means of producing income, or the loss of an economic benefit. If the field shuts down and any resulting loss of tax and royalty revenue is seen as the result of the release, then AS 46.03.822 will provide a cause of action for lost tax and royalty revenue.

The Alaska Supreme Court, in the case Kodiak Island Borough v. Exxon Corp. - a 1999 case - recognized that the legislature intended AS 46.03.822 to allow for broader damages to government entities than those compensable with common law. There may be issues regarding extra costs due to decreased flows through TAPS. It is known that the state's royalty and tax interest in North Slope production are calculated on the wellhead value of the oil. The wellhead value for oil that is shipped intrastate is determined by subtracting the transportation cost, TAPS tariff, plus any tariff for shipping upstream of Pump Station 1, plus tanker costs from the market price at the purchasing refinery. Higher TAPS tariffs thus result in a lower wellhead value on which state royalties and taxes are calculated.

Because of TAPS, current TAPS tariff rates are through-put driven; any reduction of total barrels shipped on TAPS may result in a higher cost per barrel tariff rate applied to remaining through-put. In turn, these higher tariff deductions would result in lower state royalties and taxes on all remaining TAPS-shipped oil, even if no additional costs are incurred to taps operations from the corrosion problem. Of course, additional costs arising from the corrosion problem may show up in the tariff also. Cost revenues to the state, therefore, may be consequential damages caused by BP conduct and that of others.

ATTORNEY GENERAL MARQUEZ said enforcement tools are also available to the state. For example, a person responsible for the discharge of oil must immediately contain and clean it up. He noted the following authority of DEC: to take over the clean up if not done adequately; to investigate the spills and issue subpoenas to reserve records and evidence; to obtain search warrants to investigate actual or suspected pollution incidents; to inspect oil terminal facilities, pipelines, and exploration production facilities to ensure pollution control; to perform its own inspection of the structural integrity in operating and mechanical systems of pipelines in oil facilities in the absence of timely and adequate inspection by other agencies; and to issue notice of violation, requesting the violator to cease and desist the violations and explain why the violation occurred and how the problem will be cleaned up or repaired.

11:51:06 AM

ATTORNEY GENERAL MARQUEZ relayed that DOL is reviewing the state's rights under various leases, unit agreements, state statutes, and common law. He predicted that the claims most likely to arise will be those based on principals of contract law - specifically, those claims based on breach of both expressed and implied terms of the applicable oil and gas lease and the unit agreements. He continued:

Section 19 of the lease expressly provides that the lease contemplates the reasonable development of said land for oil and gas as the facts may justify, and that upon the discovery of oil or gas in paying quantities on the land, the lessee shall drill such wells as a reasonably prudent operator would drill, having due regard for the interest of the lessor - that's the state - as well as the interest of the lessee - that's the oil company. A reasonably prudent operator is someone who represents him or herself to possess an expertise in matters relating to the technology and operating practices of the oil and gas industry that most persons do not have, and must consider the lessor's - in our case the state - interest while pursuing his or her own.

To that end, Section 20 of lease correspondently provides that the lessee - the oil company - shall exercise reasonable diligence in drilling, producing and operating wells on said land unless consent to

suspend operations is temporarily granted by the lessor. This section further provides that the lessee shall carry on all operations in a good and workman-like manner in accordance with approved ... methods and practices, having due regard for the prevention of waste of oil and gas.

This mandate is also echoed in Section 4.2 of the unit agreement, which requires that working interest owners shall, with due diligence, develop the unit area in accordance with good engineering and production practices. In this case, the matter of what constitutes "good and workman-like manner," and "reasonable," and "prudence," are issues of fact to be determined later.

Ordinarily, lessees are bound by implied terms or covenants, in addition to express terms and leases, and our leases include implied duties. Addressing the relationship between the state and its oil and gas lessees, the Alaska Superior Court ..., by Judge - now Justice - Carpeneti, in the ANS royalty litigation, held that oil and gas producers have an obligation to act as reasonably prudent operators in performing their duties under the lease. A reasonably prudent operator standard obliges the operator to act in good faith, with competence, and with due regard to the interest of the lessor - the state - as well as its own interest. This obligation includes reasonableness and prudence regarding the technology and operating practices of the industry.

Judge Carpeneti explained that lessors cannot take actions that injure a lessor's right to recover the benefit under a lease. [The] prudent operator standard imposes an affirmative duty to do certain things in a given, factual scenario, he said. In the same scenario, the covenant of good faith and fair dealing commands the lessee to refrain from doing anything to injure the lessor's right to receive benefits under the oil and gas lease.

The covenant to conduct operations with reasonable care and due diligence is of particular relevance to the ... case. In this matter, the types of claims that generally fall under this covenant are that the lessee has damaged the royalty interest by operating

negligently, carelessly, or incompetently, and that the lessee failed to use advanced production techniques. An argument may also be available that BP's breached the covenant to conduct operations with reasonable care and due diligence.

11:55:24 AM

ATTORNEY GENERAL MARQUEZ said the state may have causes of action under the express and implied covenant; however, he emphasized the importance of not treating BP unfairly at this stage of the investigation or unjustifiably raising the expectations of the public and legislature "with regard to the opportunity to recover damages under these theories." The state will have to establish fact as information unfolds, and will need to assess the relevant industry standards and review BP's documents, in order to determine whether BP's conduct fell below those standards. Then there is the question of allowable damages, he said. Monetary damages, he related, generally are measured by lost royalties or taxes - those monies that would have been paid had production continued uninterrupted. He continued as follows:

A difficulty in application of the damages remedy is the proper measure of the damages. For example, where the breach results in no permanent loss of oil or gas and the action is either for failure to produce the oil now, rather than later, the value of the royalty or tax that would have been paid on the production from the well, had it been operating properly at the time, may be considered double recovery, since the state may receive a royalty or tax, once again, when the oil is eventually produced. Other measures of damages may include the time value of royalties or taxes received later rather than now. Also, the interest on the sum that would have been paid the state if no breach had occurred. Overall, it is difficult at this time to ascertain the precise measure of damages from BP's acts or others' acts or omissions until the field comes back into full production. We are examining, in addition to the previously discussed remedies, whether there may be more attenuated damages claimed.

ATTORNEY GENERAL MARQUEZ stressed the importance of BP's acting quickly to mitigate damages for the purpose of getting the field up and running to the capacity that it was running prior to the

shutdown as soon as safely possible. He expressed a serious concern as being whether production can resume to the level it was prior to the shutdown after production is resumed.

11:58:17 AM

ATTORNEY GENERAL MARQUEZ, regarding future legislation, regulation, and other actions, said he wants to ensure that all state agencies have the authority needed, with no regulatory holds between federal and state authorities. He said the appropriateness of the criminal and civil sanctions are being reviewed, as well as the oil and gas leases, for the purpose of deciding "whether future leases should have provisions that more expressly deal with these types of maintenance situations and more explicitly set forth our rights and remedies as lessor."

11:59:17 AM

CO-CHAIR SAMUELS, regarding Attorney General Marquez' previous statement that the owners and operators are jointly and [individually] liable, noted that the owners would also include the ExxonMobil Corporation and ConocoPhillips Alaska, Inc. He asked for further explanation regarding those companies' liabilities as opposed to solely BP's liability.

ATTORNEY GENERAL MARQUEZ responded that there is a potential liability relating to any direct action against any of the other parties, including contractors and other owners. He said there will not be payments for the same damages.

CO-CHAIR SAMUELS asked if the state gets involved with commercial relationships.

ATTORNEY GENERAL MARQUEZ answered that certainly the state will review communications between all parties to determine "what relationship may have caused damage to the state."

12:01:58 PM

SENATOR ELTON said he is interested in knowing how the federal investigation implicates the state investigation, and whether or not there are things one can or can't do, or should or shouldn't do because of an ongoing federal investigation.

ATTORNEY GENERAL MARQUEZ reminded the committee of the ongoing criminal investigation involving state and federal agencies and his inability to speak to it. With regard to other factual

investigations of a noncriminal manner, he deferred to the commissioners of DEC and DNR with regard to how the state's teams are working with the federal teams.

[12:03:46 PM](#)

REPRESENTATIVE LEDOUX asked if there is a criminal or civil action for negligence, in the absence of a suit on the lease or contractual suit and with no oil spill.

ATTORNEY GENERAL MARQUEZ reminded Representative LeDoux of the statutory provisions he cited during his testimony that are related to a spill. He stated, "With regard to any actions we may have under a lease, if we've been damaged because of the operator that lessens the prudence and is not up to the industry standards, we would still have a claim, even if there were not a spill."

[12:05:20 PM](#)

CHAIR WAGONER announced that the committee would be [in recess] until 1:15 p.m.

1:17:22

CHAIR WAGONER called the Joint House and Senate Resources Standing Committee back to order.

ALASKA OIL & GAS CONSERVATION COMMISSION

[1:17:26 PM](#)

JOHN NORMAN, Commissioner/Chair, Alaska Oil & Gas Conservation Commission(AOGCC), Department of Administration, noted that he had submitted written testimony, and, rather than reading it, he said he would try to address some remaining concerns that might be in the minds of the legislators present. He said there has been question related to whether there is a risk in shutting down part of the pipeline. He indicated that upon consideration of the question, AOGCC sees no evidence that a one-time, temporary shutdown of oil production from the Eastern Operating Area of the Prudhoe Bay reservoir will damage the reservoir. He said the pipeline operator has informed the commission that BP plans to continue water flood and gas cap injections into the reservoir, which will benefit the line by allowing the pressure to be maintained and build up. When production is resumed, he said, it is possible that one or more wells may not come back on

line in the same fashion that they were producing before; however, Commissioner Norman said, AOGCC does not think that will result in any decrease in ultimate recovery, because other wells can be utilized to produce the same reserves or the operator can perform "workovers" to access the reserve.

COMMISSIONER NORMAN said another potential risk identified relates to the timing synergies of oil production and gas pipeline startup. He explained, "Producing gas from Prudhoe Bay while there's still oil in the ground to be reproduced will put ultimate oil production at risk." He said the commission has previously corresponded with the legislature in this regard, and he said he believes that that type of reservoir behavior is understood: the gas represents energy in the reservoir. The more oil that can be recovered before beginning major gas sales from the reservoir, he said, the less oil is at risk when large-scale gas off-take begins in the future. He stated, "Obviously this particular slow-down delays rather than accelerates recovery of oil, and thus could possibly have some negative impact upon total ultimate recovery."

COMMISSIONER NORMAN said a greater concern is to identify the cause of the leaks and to have everyone involved working to ensure this is not repeated. He said there are also safety considerations related to the integrity of the well. The AOGCC, through its experience reacting to conservation-related mishaps, has procedures in place dictating how wells are to be restarted and pressures monitored. He predicted, "As long as the operator, upon restart of each well and bringing pads into operation, follows these procedures, we do not believe restart will be a problem."

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SENATOR ELTON raised the issue that it has been reported over the years that Alaska does not have as many inspectors working in the fields as other jurisdictions that produce much less oil. He asked if that is still the case and what the appropriate level of regulatory staff would be.

MR. NORMAN responded that the commission believes Alaska has the resources to do the job. He said, "An adequate number of inspectors would be the number needed to ensure compliance with Alaska's regulations." He said currently, 100 percent of the time there is at least one inspector on the slope; 75 percent of the time there are two inspectors. He mentioned inspectors that work out of Kenai, and said the total number of inspectors is

five. He admitted that it would be nice to have more inspectors; however, he emphasized the high level of experience, competency, and dedication that each of the inspectors exhibit. Commissioner said if time permitted, he could offer examples of a number of enforcement actions that have resulted from the careful oversight of those inspectors.

SENATOR ELTON indicated that he would like the commissioner to supply that information to the committee members. He noted that it has also been reported that the inspectors do not perform surprise inspections, but rather schedule inspection times with the oil companies. He asked if that was and is still true.

COMMISSIONER NORMAN said generally the inspectors schedule with the companies because the inspection is for a particular purpose; however, he pointed out that there have been times when inspectors were at a site for one purpose and "picked up a violation on other things." He said often inspectors witness tests done on safety valve system and blowout prevention equipment, for example.

SENATOR ELTON said he has been told that Louisiana does surprise inspections on offshore oil rigs. He asked if the standard that Commissioner Norman described is considered the standard in other oil producing regimes.

COMMISSIONER NORMAN answered yes. He revealed that the reason he can answer thus is that within the past year he had a tour as the national chair of the Interstate Oil & Gas Conservation Commission and had the chance to interact with all the other regulatory agencies. Notwithstanding that, he said he doesn't want to leave the impression that surprise inspections are not done. He said he meant to indicate that very often the inspections are for the purpose of witnessing testing of particular pieces of equipment, which requires the inspector to be on site at a particular time.

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SENATOR ELTON stated his understanding of Commissioner Norman's answer that oftentimes inspectors are present when the industry is doing tests. He questioned whether the inspectors set a time with the industry, or if they wait to be invited when the testing is done.

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CATHY P. FOERSTER, Commissioner, Alaska Oil & Gas Conservation Commission, Department of Administration, said typically "we invite ourselves and we don't give a lot of notice." She said the right personnel has to be on location to do the testing of specific equipment. Typically, she explained, an inspector will call a pad operator and say, for example, "I intent to be at drill site three this afternoon to witness safety valve system tests on all the wells on that pad; have the appropriate person there to conduct those tests." She pointed out that the inspectors test equipment that has to run all the time, so it's not as if the industry would not have it operable and then quickly turn it on when the inspector shows up; therefore, it is not necessary to have surprise inspections.

SENATOR DYSON asked if the inspectors witness the calibration of meters.

COMMISSIONER NORMAN answered that's correct.

SENATOR DYSON asked, "If there was a discrepancy between meters that might have detected a leak ... and if the operator was ignoring it, how would you know?"

COMMISSIONER FOERSTER explained that the only meters over which AOGCC has authority are the custody transfer meters, so if there are meters on either side of a leak that aren't adequately calibrated to be together, the commission would not have the information to detect that. She explained, "What we do is we prove the oil meters; we get an oil sample of a set size that we can accurately determine, and then we run it through the meter to make sure that the meter measures the volume that we know we're sending through. But we only do that for the custody transfer meters."

SENATOR DYSON asked what other kind of equipment the inspectors look at.

COMMISSIONER NORMAN replied, "We look at virtually the entire operation." He said, in drilling, pressures far greater than "anything we're talking about with this particular transit line" are encountered. He offered examples ranging from 100 pounds per square inch (psi) to 10,000 psi, and he emphasized the importance of being able to monitor those pressures. He spoke of gauges and hydrogen sulphide measures that are used. He said inspections are made to ensure that the integrity of the well is intact and that there are at least two competent barriers "that will prevent whatever that produced or injected substance is

from escaping in any way into the environment that could be harmful." He indicated that the following categories fall under the responsibility of AOGCC: all equipment, the subsurface strata, the reservoirs, the destination of substances when injected, the protection of fresh water, and the underground injection control program.

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CO-CHAIR RAMRAS directed attention to the last bulleted point on page 3 of Commissioner Norman's written testimony, which read as follows:

In order for production to be restored in a timely manner, there will likely be modifications that will require our involvement as the operator continues to pig lines and to look for alternate routes for the transportation of EOA oil.

CO-CHAIR RAMRAS questioned how a numerical value can be determined regarding loss of revenue. He indicated that it must be determined whether the oil will be recaptured in 2007 or 2008, or perhaps will go "to the end of the train in 2030." If the latter, he said, the oil may be at risk, because by then, presumably, "we will be bringing gas out and, potentially, those barrels that could have been recovered right now will be lost forever."

COMMISSIONER NORMAN suggested that that question could be answered more fully later. Notwithstanding that, he proffered that a period of lost production is anticipated. However, when production begins again, it is expected to be "at a higher level or flush as you used." Then, he said, those lines should begin to converge and should "return to normal." He continued:

Now, exactly when or how, we don't know yet in the fullness of time; but insofar as damages to the state are concerned, it will depend upon whether we have enhanced - I'll use the word enhanced or flushed - production whenever the field starts up, that will offset this.

COMMISSIONER NORMAN pointed out that his comments relate strictly to the physical resource recovered; however, he noted that there also is the time value of money with which AOGCC normally does not concern itself.

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COMMISSIONER FOERSTER said that the operator has very sophisticated tools for creating estimated production forecasts, and the state uses that data in conjunction with its own prediction tools. She related, "So, we can compare what we have predicted with what we actually see ... to see if the losses are recovered."

CO-CHAIR RAMRAS referred to page 5 of the aforementioned handout and read [original punctuation provided]:

This incident is a wake up call of all of us in Alaska. We face declining production and aging infrastructure. This event leaves no question that there is a need for State regulation of the design, construction, installation, operation and maintenance of critical oil and gas infrastructure in Alaska.

CO-CHAIR RAMRAS asked whether it is possible to ask the AOGCC to pass some guidelines prior to January, so that the legislature can implement precisely what Commissioner Norman is recommending. He stated his concern about the reputation of the State of Alaska, as well as the protection of the environment and income stream. He opined that those three issues are clearly the most important ones on the table.

COMMISSIONER NORMAN surmised that after some time, "things will be back to normal" He predicted, "The greatest harm is going to be done to perception, particularly to those not in Alaska. Alaskans will digest this and ... move on, and perhaps everyone will be better for it." With regard to Co-Chair Ramras' specific question, he noted that currently there are other agencies with statutory jurisdiction over pipelines, for example, DEC, DNR, and the RCA. He suggested that if, after listening to the testimony, the legislature's decision is that AOGCC should be tasked, then the commission would be willing to accept that; however, he said he is not convinced at this time that AOGCC is the best agency to be the lead in that regard.

CO-CHAIR SAMUELS asked how long it would take before the state gets its money back on a net present value basis.

COMMISSIONER FOERSTER replied that she does not know.

CO-CHAIR SAMUELS asked if the state has access to the company's own production forecast.

COMMISSIONER FOERSTER replied that it is information that could be requested.

CO-CHAIR SAMUELS asked if the shutdown will result in a steeper decline curve because of reservoir engineering.

COMMISSIONER FOERSTER said that is not expected.

CO-CHAIR SAMUELS asked, "How will you know when you've equalized what would have been? ... Is it more an economic question for [the Department of] Revenue, or is it going to more of an engineering-type question, or is it a strictly a legal question that the courts will decide?"

COMMISSIONER NORMAN responded that there have been studies and extensive "modeling" done of the entire reservoir; therefore, it is possible to project some trend lines, "ignoring this event," and then compare the event with those trend lines to figure out the differences and draw some conclusions "with some level of scientific and engineering confidence," to say, "This is where we would have been but for this event, and this is where we are because of this event."

The committee took an at-ease from [1:43:08 PM](#) to [1:46:33 PM](#).

DEPARTMENT OF REVENUE

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BILL CORBUS, Commissioner, Department of Revenue, offered a presentation outlining the potential financial impacts to the state resulting from the Prudhoe Bay shut down. He reminded the committee that his presentation is based on assumptions and the scene continues to change. He began by informing the committee that the state's revenues consist of five components: royalties on oil and gas; severance tax on oil and gas, property taxes on oil and gas, corporate income taxes on oil and gas, and non-oil revenues consisting of corporate income tax on nonpetroleum corporations and a myriad of other taxes and fees. He directed attention to the fiscal year 2007 (FY 07) budget as presented on slide 3 of his PowerPoint presentation. The revenues in that budget, he noted, were based on an assumption that oil would be produced at the rate of 825,000 barrels a day, with an average price of oil for the fiscal year of \$53.60, and severance taxes would be based on the old economic limit factor (ELF) system. He said the presentation will focus on two different production

and price scenarios in an attempt to specify the potential loss of revenue to the state under the various scenarios and the effect on the day-to-day, monthly, and yearly budget. He said the presentation would also offer a look at the state's liquidity.

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COMMISSIONER CORBUS turned attention to the slide entitled ANS Crude Oil & natural gas liquids (NGLs) Production. On an annualized basis, if 825,000 barrels a day were produced for 365 days of a year, the total would amount to about 300 million barrels. If Prudhoe Bay were to produce roughly 200,000 barrels a day, the total loss would be approximately 69 million barrels for August through June, or 23 percent of the total budgeted production. The second scenario, he said, is considerably more optimistic; it assumes that for the month of August, Prudhoe Bay will produce about 200,000 a day and will ramp up to normal production level by the end of December. Under that set of assumptions, total production will be down by about 21 million barrels for the year and total production will be off by about 7 percent of the total budgeted production.

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MR. CORBUS moved on to a PowerPoint slide that shows crude oil prices. He characterized the graph as having an upward trend, but with some spikes along the way. Those spikes, he explained, correspond either with major international events or changes in the supply. He noted that the day after Prudhoe Bay's announcement that its production would close down, the price of crude oil rose \$2.22 [per barrel]. Yesterday, he said, the West Texas Intermediate (WTI) price of oil froze at \$70.06. He said the budget assumed a price of \$53.60. He explained, "When we're talking about the price we assume, that is for the price for ... Alaska North Slope (ANS) oil delivered to the West Coast." He clarified that that is not the same price as WTI shown on the graph. He stated that the difference between the WTI and [the ANS] is called the differential, and in recent times, [ANS] "North Slope oil" has been about \$1.30 below WTI.

COMMISSIONER CORBUS said fortunately FY 07 is off to a good start; for the first two months of the fiscal year, the August average price of West Coast oil has been \$71.31, which is approximately \$18,31 ahead of budget.

COMMISSIONER CORBUS said the second price scenario reviews the future. He turned to the PowerPoint slide showing a spreadsheet of WTI Futures Prices. The spreadsheet, he explained, places the value for contracts for oil that will be delivered in the future. He pointed out that a column on the right of the slide shows that of the total transactions occurring for future periods "falls dramatically off after the month of December." He said the futures also indicate a higher price for fuel in future. Commissioner Corbus said the department is somewhat nervous about using this as a method of projecting the price of oil, because so few transactions are occurring beyond September to give comfort in regard to the value of oil. He said the state has a better track record in predicting oil prices than the futures market does. He then highlighted the next PowerPoint slide regarding ANS Crude Oil Price Scenarios - futures prices compared to revenue sources book prices.

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COMMISSIONER CORBUS continued his presentation in regard to comparisons. He referred to the cumulative losses due to the Prudhoe Bay Unit shutdown as illustrated on slide 13 of the PowerPoint. Assuming a pessimistic scenario of 200,000 barrel a day production throughout the remainder of the year, the futures price shows a revenue loss of about \$2 billion a year, while the revenue source book price shows a loss of approximately \$1.1 billion. Using the more optimistic scenario of 400,000 barrels a day production, the futures prices show a loss to the state of approximately \$815 million, whereas the amount lost using the revenue source book would be \$460 million. He noted that the following assumption had to be made in calculating the severance taxes under the new production profits tax (PPT) system: an investment for FY 07 of \$1.45 billion; an average operating cost of \$4.00-plus per barrel; and a disallowance for heavy maintenance of 30 cents per barrel, which would result in about \$80 million that won't be included as capital expenditures.

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COMMISSIONER CORBUS addressed Co-Chair Ramras' earlier question as to when the lost production will occur and whether, when the oil is produced, it will be produced at the same favorable market prices as today or be lower or higher than today's market prices. He then directed the committee's attention to the PowerPoint slide showing the monthly cash flow versus the budget. He noted that for the months of September through January, the cash flow projections were based on severance taxes

computed on the old ELF-based system. Beginning in February, he said, severance taxes and payments will be based on the estimate using the PPT methodology of tax rates. He stated, "And then for the month of March, there's going to be a true up to cover the period from the effective date through ... December - the difference between the ELF-based system and the PPT system, [a] net profit system." He said there is a major influx of cash. The next slide shows the same analysis assuming the optimistic production forecast, in which an August through December ramp up from 200,000 to 400,000 barrels a day results in the same circumstances in which there is a favorable cash flow from February to the end of the year reflecting the impact of the new PPT taxes. The futures prices at year's end, under the pessimistic production scenario, he summarized, would still result in the state being about \$2 billion ahead of budget; however, if successful in getting production back up to normal by the end of December, that number would be about \$3.2 billion. He stated:

Under the assumptions that we will return to the budgeted price of \$53.60, we find that we will still have a budget surplus for either the optimistic or pessimistic production forecast. Now, this is indeed a favorable picture just from strictly the cash flow point of view. We must keep in mind that this is greatly impacted, at least in the case of the \$53.60 scenario, by the fact that we have a good head start in cash flow for the months of July and August, due to the fact that prices are quite a bit higher than projected. And in all cases, the impact of the PPT is very substantial compared to what we had assumed when the budget was prepared and adopted last ... spring.

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COMMISSIONER CORBUS moved on to the state's liquidity situation. He reminded the committees of the existence of the constitutional budget reserve fund, which currently sums \$2.3 billion. He said the state has the authority to borrow from that fund month to month, but must pay it back before the end of the fiscal year. He said there is also the permanent fund earnings reserve fund in the amount of \$2.5 billion, but it can't be accessed without the legislature's approval. Commissioner Corbus concluded that regardless of the assumptions, the loss to the state is substantial. However, due to the higher oil prices for the fiscal year to date and incremental revenues from the PPT, it's unlikely that the state

will have to cut spending to [avoid] a deficit. Moreover, the state has substantial reserves to address cash flow timing issues and, with legislative approval, to cover a deficit.

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CO-CHAIR RAMRAS asked if, prior to the shut down of Prudhoe Bay, the production of 825,000 barrel-a-day production was on track.

COMMISSIONER CORBUS replied that production was below 825,000 barrels; however, generally speaking, production tends to be lower in summer and catch up in the winter.

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SENATOR ELTON inquired as to the magnitude of what BP will be able to write off because of "the investment that we now recognize as needed to correct the problem."

COMMISSIONER CORBUS said that the department doesn't have any information with regard to the cost of the repairs. He said the department assumes investments of \$1.45 million, which is higher than was assumed during all the discussions previously held on the PPT. He said the department determined that with the higher oil prices, there was an incentive to increase the investment and take advantage of trying to hold taxes down. He mentioned statutory provisions for disallowance for 30 cents per barrel, which are to cover situations such as the present. It turns out that \$80 million will be disallowed, whatever the cost of making the repairs.

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COMMISSIONER MENGE, CABINET TEAM LEADER

MICHAEL MENGE, Commissioner, Department of Natural Resources (DNR), said the department is the lease manager and draws its ultimate authority for regulation from the leases. He explained that there is a patchwork of regulatory authority - federal, state, and local - but ultimately DNR, by virtue of the lease and the right of way, has the ability to exercise any necessary authority to exercise the lease. Currently, he relayed, the appointed task force is working on six topics: operation of the Western Operating Area; operation of the Eastern Operating Area; reduced flow impacts to the Trans-Alaska Pipeline System; impacts to other Prudhoe Bay Unit operations, other fields, and in-state refineries; a transit pipeline replacement plan; and

the implementation of a system integrity oversight. He said one of the first steps the department will take is to measure the effectiveness of the quality control program, including spot checks, which allows the effective gauging of the entire system with a minimal amount of resource and personnel. He specified that it is important to decide what to monitor, to ensure the quality control program of each company is effective in maintaining a safe operating system, and to carry out quality control spot checks.

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COMMISSIONER MENGE provided a flow chart with regard to where the aforementioned entity will reside. He said the organization will be co-located with DNR's joint pipeline office, because of the expertise that is already available there. He expressed pride in the quality control program that the government and Alyeska assembled over the last decade, characterizing it as probably the best in the world outside of the nuclear industry.

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CHAIR WAGONER requested additional copies of the report be sent to the committee.

COMMISSIONER MENGE obliged, but noted that they are also available online.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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KURT FREDRIKSSON, Commissioner, Department of Environmental Conservation (DEC), referred to a handout which begins with the six elements of a good regulatory program: unambiguous statutory authority; documented basis for concern; protective standards; rational regulatory scheme; documented compliance; and enforcement. The department's broad authority includes not only crude oil but also noncrude oil activities, as shown on the next page of the handout. He stated that although spill prevention is the topic of the day, it is important for the committee to understand DEC's role in oil spill response. He echoed Attorney General Marquez' remark that any person causing an oil spill must immediately contain and clean up that spill to the satisfaction of DEC on behalf of the state. Regarding both the GC2 and Flow Station 2 spill incidents, Mr. Fredrickson said BP "and others" responded in an exemplary manner; the spills

were contained, oil was removed, damage to health and wildlife was prevented, and the impact to the environment was minimized. Moreover, Mr. Fredriksson said DEC expects that the area impacted will be fully restored within the next year or two.

COMMISSIONER FREDRIKSSON stated that DEC pursues its goals for spill prevention response "through development of regulations in a disciplined manner, using a risk-based approach based upon a documented basis of concern. He listed the following considerations: historical spill data; lack of other federal or state agency regulation of the facility or operation; request by the public or other government agencies to regulate a facility of operations; and the environmental risk posed by a particular type of facility or operation. He said there are many different types of pipelines on the North Slope. He said leak detection for crude oil transit lines was first imposed by EPA in 1992, and those same requirements remain on the books today. In 1999, DEC identified pipeline integrity associated with the aging infrastructure of Prudhoe Bay. He explained, "That occurred when BP and ARCO merged, and there was a commitment by industry to extend the life of the Prudhoe Bay field." He reminded the committee that BP's policy is to invest heavily in the recovery of the oil and to extend the life of the Prudhoe Bay field. He continued:

The initial steps to manage the risk posed by the aging infrastructure of the North Slope included a commitment imbedded in the North Slope Charter Agreement to develop a performance management program for corrosion monitoring, maintenance, and inspection, and evaluate if a documented basis of concern existed for further regulation.

COMMISSIONER FREDRIKSSON noted that the handout contains the actual language taken from the charter agreement, with respect to corrosion. At the bottom of the page, he pointed out, the following additional environmental commitments are listed: cleanup of abandoned sites; cleanup of abandoned empty barrels; cleanup of existing BP and ARCO sites; closure of inactive reserve pits; commitment to North Slope spill response; renewed commitment to the Oil Pollution Act of 1990; replacement vessels; and marine operations. He noted that he provided a copy of all of the reports required under the charter agreement, including annual reports that are then reviewed by the third-party consultant, Kaufman Engineers.

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COMMISSIONER FREDRIKSSON stated:

Subsequent spill data and other information provided to DEC under the charter agreement indicated a documented basis for concern with respect to further regulation of the flow lines. The documented basis for concern led DEC to increase its regulatory corrosion control requirements in response to an unacceptable increase in the transit spills from flow lines. Following two years of study and public review, this last month I adopted regulations that will impose additional corrosion control requirements on the flow lines.

COMMISSIONER FREDRIKSSON emphasized the need to realize that this matter is complicated; state resources must be matched to the appropriate level of oversight. He explained that expanded oversight and more in-depth analysis requires more engineering expertise, technical training, and technical consultants. Following the GC2 spill of March 2006, DEC joined DNR and the OGCC to create an arctic pipeline technology team to coordinate the state's pipeline priority oversights. The purpose and structure of the team, he said, is described in the memorandum of agreement, which is shown as the last part of the DEC handout. He said Commissioner Menge described DEC's plan for improving the state's system integrity oversight, to be built upon the interagency coordination of the pipeline technology team and the joint pipeline office model. Moreover, he said, DEC has enlisted the support of North Slope operators to expand its technical knowledge of pipeline corrosion control systems; both BP and ConocoPhillips Alaska, Inc. have provided funding to conduct a pipeline technology conference in Alaska to examine the latest technology and best practices for corrosion management, monitoring inspection, and leak detection for oil pipelines operating in arctic conditions.

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SENATOR ELTON said it has been easy to point the finger at BP over the last few weeks, and there has not been a lot of focus on the issue of the state's responsibility in ensuring that the proper regulatory efforts are being made. He recalled a statement made by Mr. Fredriksson that transit lines contain oil only - no water. Conversely, he recollected that there had been previous testimony by BP that there is water in the transit lines.

COMMISSIONER FREDRIKSSON said he believes that there is water within the transit lines, albeit a small amount compared to the flow lines that contain a potentially large volume of water and gas.

SENATOR ELTON asked Mr. Fredriksson to confirm that regarding the issue of pipeline corrosion, the Kauffman reports focused on the flow lines rather than the transit lines.

COMMISSIONER FREDRIKSSON specified that the Kauffman reports are a review of the BP and ConocoPhillips Alaska, Inc. reports submitted by the companies. He stated his belief that after its review of the oil companies' information, Kauffman advised DEC that the corrosion problem was presenting itself in the flow line "to a much greater extent than we were lead to believe with respect to the transit lines." In response to a follow-up question, he said he thinks DEC did independent analysis of the data that came from Kauffman.

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SENATOR ELTON related his understanding that until 1985, there were DEC regulators stationed in Prudhoe Bay. He asked if there have been any people from DEC stationed on the North Slope subsequent to that time.

COMMISSIONER FREDRIKSSON replied yes. He said DEC, DNR, and perhaps staff from the Alaska Department of Fish & Game have staff in a joint office located on the North Slope.

SENATOR ELTON asked if the responsibility of the staff on the slope is to perform permit reviews or act as "cops in the field."

COMMISSIONER MENGE explained that the DNR staff on the North Slope are essentially permit monitors; they look at the various permits, authorizations, leases, and right-of-ways, and then focus on stipulations related to a best interest-finding process. To date, he said, that staff has primarily ensured that all stipulations [are followed].

COMMISSIONER FREDRIKSSON said that much the same applies as it relates to DEC staff on the North Slope; they are primarily there for inspection purposes.

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SENATOR ELTON said during his search online, he was struck by comments that BP employees had made regarding maintenance that implicated both employee and environmental safety. He asked what DEC's response was in reading newspaper articles about the spill and BP employees' concerns about corrosion and safety.

COMMISSIONER FREDRIKSSON said many of those issues have been brought to the attention of DEC by Charles Hamel in Washington, D.C. He said he has also received complaints from individuals in Alaska, but it is sometimes difficult to get more information from people if they have concerns related to confidentiality, even though DEC ensures its own confidentiality. He said DEC takes that feedback seriously and not only pursues information, but also lets the person who brought it know what was discovered.

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SENATOR ELTON requested a list showing the chain of command of on-site staff. Furthermore, he said he would like to know what percentage of the state jobs on the North Slope consists of permit review and what percentage consists of doing the necessary inspections. He also inquired as to what the department's request has been over the last five years to reach the necessary level of compliance inspection and what the results have been related to those requests.

COMMISSIONER FREDRIKSSON agreed to provide that information. He related that he is proud that, particularly in the area of water and air, DEC has actually increased its commitment "in measurable terms of staff."

SENATOR ELTON specified that he is more concerned with the effort in the Prudhoe Bay Unit, as compared to air quality in Dutch Harbor, for example.

COMMISSIONER FREDRIKSSON noted that there have been concerns about air quality on the North Slope, and he reiterated that he would provide Senator Elton with the requested information.

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CHAIR WAGONER requested information as to which state and federal agencies are responsible for what programs on the North Slope.

COMMISSIONER MENGE agreed to provide that information. He reiterated the concept of the patchwork of authority in the area, saying that some people on the North Slope have a lot of authority, while others have implied authority, and still others have authority "by virtue of assumption of programs." He said the first thing the department will do is identify all the state and federal agencies with regulatory authority, and then it will outline the scope of that authority and how it is best implemented. He said the concept of a coordinated state and federal oversight program is to first identify a problem, then determine a procedure to remediate that problem, and third, to sit down as a group and decide who has the best authority available to exact change as quickly as possible. He concluded, "But it all rests ... on our ability to understand exactly who has authority to do what. ... It will be a living document [such] that we can give you a broad overview, and then I promise you over time it will develop into a very detailed assessment of precisely which organization and individuals have what authorities to exercise."

CHAIR WAGONER said the committees would consider hearing a presentation from Commissioner Menge sometime in September.

COMMISSIONER MENGE said he would be happy to offer such a presentation to help the committees understand how each of the programs evolved and the control systems that are in place to ensure that all the requirements of the state are met. Furthermore, he noted that there is "a huge futuring component in there." A lot of quality risk assessment is done. He offered further details. He talked about risk analyses regarding where the critical components in the system are, for example, the central gas facility, transit lines, and the central power plant. He said, "There are crucial components within any engineering system, that if there is a problem with them, then the entire house of cards comes down." He said the state can never reach a point where it can say there will never be another accident, but it can take extraordinary measures to ensure it does everything in its power to anticipate where accidents occur and what might be done to prevent them.

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ADJOURNMENT

There being no further business before the committee, the joint meeting of the House and Senate Resources Standing Committees was adjourned at 2:55 p.m.