

ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON WAYS AND MEANS

January 31, 2007

3:30 p.m.

MEMBERS PRESENT

Representative Mike Hawker, Chair
Representative Anna Fairclough, Vice Chair
Representative Bob Roses
Representative Paul Seaton
Representative Peggy Wilson
Representative Sharon Cissna
Representative Max Gruenberg

OTHER LEGISLATORS PRESENT

Representative Ralph Samuels

COMMITTEE CALENDAR

PRODUCER PRESENTATIONS: Production Decline Reality Check

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

ANGUS WALKER, Commercial Vice-President
BP Exploration (Alaska) Inc.
Anchorage, Alaska

POSITION STATEMENT: Presented BP Exploration (Alaska) Inc.'s
view of future oil production in Alaska.

SCOTT DIGERT, Resource Manager
Milne Point Unit
BP Exploration (Alaska) Inc.
Anchorage, Alaska

POSITION STATEMENT: Presented BP Exploration (Alaska) Inc.'s
future plans to explore for and produce oil and gas in Alaska.

CARL LUNDGREN JR., Resource Manager
Liberty Subsurface Project
BP Exploration (Alaska) Inc.
Anchorage, Alaska

POSITION STATEMENT: Discussed development by BP Exploration (Alaska) Inc. of a new oil producing area at Liberty Point.

DARREN JONES, Vice President, Commercial Assets
ConocoPhillips Alaska, Inc.
Anchorage, Alaska

POSITION STATEMENT: Presented ConocoPhillips Alaska, Inc.'s overview of future oil production in Alaska.

ACTION NARRATIVE

CHAIR MIKE HAWKER called the House Special Committee on Ways and Means meeting to order at [3:30:44 PM](#). Present at the call to order were Representatives Cissna and Roses. Representatives Fairclough, Wilson, Gruenberg, and Seaton arrived as the meeting was in progress. Also in attendance was Representative Samuels.

PRODUCER PRESENTATIONS: Production Decline Reality Check

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CHAIR HAWKER announced that the committee would hear an overview of future oil production in Alaska by BP Exploration (Alaska) Inc. ("BP"), and ConocoPhillips Alaska, Inc. ("Conoco"). This presentation is the second of a four-part overview of whether the state faces a fiscal gap due to a probable future decline of oil production in Alaska. Chair Hawker noted that the subject of the first meeting with the Department of Revenue ("DOR") identified the disturbing trend of declining state oil production. He reminded the committee that in 1989 oil production was around two million barrels a day, but is now down to something less than 800,000 barrels a day. High market prices have masked the consequence of this decline, but as the DOR noted in the previous meeting, oil production decline is a serious issue for Alaska.

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ANGUS WALKER, Commercial Vice-President, BP Exploration (Alaska) Inc., stated that the issue of future production was probably the most important issue to face the oil industry and the state of Alaska. He then referred to a PowerPoint presentation and committee handout titled "BP Presentation to the House Ways and Means Committee, Juneau, 31st January 2007."

MR. WALKER drew the committee's attention to the graph titled "North Slope Production Decline" which showed a steady decline

in oil production of around 6-7 percent from 1992 to 2006. This decline, he noted, occurred despite the fact the producers have been investing around \$1 billion a year into the North Slope. Without this investment, he opined, production would decline at a rate of around 20 percent. When the Alpine and Northstar Unit ("Northstar") fields came into production the rate of decline was arrested, which shows how the development of big fields can slow or stop production decline, at least for a short period. Despite the short surge in production due to Alpine and Northstar, the decline trend has recently accelerated in the last couple years to just above 7 percent, said Mr. Walker

MR. WALKER then referred to the graph titled "ANS production is declining rapidly" which shows both production decline and BP's aggregate capital spending on the North Slope. If this decline rate of 6 percent continues into the future, remarked Mr. Walker:

"We would see that North Slope production could be as low as 450,000 barrels a day within 10 years. Clearly, that is of great concern to us...[and to] everybody else in the state. The issue is not shortage of resources-Alaska has vast resources-the issue is for Alaska to attract sufficient investment to stem that decline in production."

CHAIR HAWKER queried as to how low a flow of oil the Trans-Alaska Pipeline System (TAPS) could sustain.

MR. WALKER replied that although he did not have the expertise to answer that question, he agreed that there is a point, which has he heard is "around 500,000 barrels a day, where we may have to start investing in TAPS to change the nature of its operations. Clearly, the lower the flow rate in TAPS goes, the more we'll have to think about how that pipeline operates."

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MR. WALKER referred to the graph titled "Alaska has adopted the highest marginal tax rate in the North America" which shows the marginal tax of oil-producing American and Canadian regions. Mr. Walker noted that Alaska's adoption of the production profits tax (PPT) resulted in it adopting the "highest marginal tax rate, by some considerable margin" of any state or Canadian province. Mr. Walker referred to Alberta and the Gulf of Mexico as areas which, through more conservative fiscal policy, have

attracted vast amounts of investment. As a result, those areas are "booming," while Alaska production continues to decline.

MR. WALKER opined that the structure of PPT could work very well for Alaska since it is a net tax, which taxes the reality of the business. Despite significant improvement on PPT by in 2006 by the legislature, the single biggest problem with PPT is the scale of the tax, he said. BP continues to believe the PPT rate is too high and will deter investment in Alaska; therefore Alaska may be better served by adopting a lower tax rate, suggested Mr. Walker.

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REPRESENTATIVE SEATON questioned whether all taxes, such as royalties paid to private landowners, were included in determining the marginal tax rates for other states.

MR. WALKER replied that it is his understanding that the marginal tax rate is indeed calculated using all the taxes imposed on producers, including royalty, production, state and federal income taxes.

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MR. WALKER noted that BP's vision for the future is shown on the page titled "BP Alaska-Building for the future." Simply stated, BP's vision in Alaska is to create a business that will remain a material part of BP's portfolio for a very long time to come. Although past production has focused on extraction of light oil, future production will focus on other segments of Alaska's vast resource base. Future projects may not be easy, but with the right cooperation between industry and government, there should be a very bright future for BP and the state, summarized Mr. Walker.

MR. WALKER confirmed Chair Hawker's summation that BP's future vision depends on new investment. If BP continues with its current level of investment North Slope production will continue to decline by 6-7 percent annually.

CHAIR HAWKER further queried about whether Alaska has provided BP adequate incentive to make further investments in the state.

MR. WALKER replied that government provides the environment within which industry invests. Within the given environment, industry's role is to do "as much business as we can possibly

do." and BP plans to continue "to do as much good business as we can possibly do in Alaska," Mr. Walker informed the committee.

MR. WALKER said BP is evaluating certain future projects, but the state's decision to adopt a higher tax rate clearly is a burden on the projects. In response to Chair Hawker's inquiry about the effect of tax rates, Mr. Walker replied that BP would continue to invest in Alaska, but as a matter of economic theory a more conservative tax regime would increase investment by all producers.

MR. WALKER agreed with Representative Samuel's point that development of the gas pipeline would increase investment; indeed the "most important thing that we can do is make the gas project happen."

REPRESENTATIVE WILSON queried whether development of the gas line will stem production decline.

MR. WALKER opined that development of the gas pipeline may allow anywhere from 20 to 40 more years of oil and gas production on the North Slope.

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CHAIR HAWKER asked whether there was any basis to predict more optimistic gas production than is illustrated by the red gas sector on the page titled "BP Alaska-Building for the future."

MR. WALKER replied that the graphic assumes the Prudhoe Bay and the Point Thomson gas that is known today with the expectation that more gas will be discovered once the gas pipeline project is underway. Mr. Walker confirmed that the green segment on the chart represents some currently unknown light oil resources, while the red sector represents currently known, but undeveloped, gas resources. Mr. Walker cautioned that without the gas pipeline and technological breakthroughs, some of the predicted future production of gas and heavy oil will not occur; therefore the predicted development on the chart will not proceed as desired.

MR. WALKER responded to Representative Seaton by confirming that the aforementioned chart shows only BP's predicted future production. He reminded the committee that in the past BP had a "higher equity share of Prudhoe Bay before the alignment with ARCO," so the BP share of future oil is slightly disproportionate to its past share of production.

REPRESENTATIVE SEATON asked whether BP had any plans to develop gas-to-liquid (GTL) absent development of a gas pipeline; noting that BP and other producers have GTL production plants in other areas.

MR. WALKER replied that BP's base assumption is that future gas development will be a gas pipeline project because that has consistently been the only project that has been demonstrated to be viable and economic. However, BP is open to any economic ways to develop Alaska's gas. Mr. Walker did note that BP has been testing technologies at its \$84 million facility in Nikiski, but has not yet identified a GTL technology which would work on the scale required for the North Slope.

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SCOTT DIGERT, Resource Manager, Milne Point Unit, BP Exploration (Alaska) Inc., noted that in about 10 years or so BP expects its production to be approximately one-third each of light oil, viscous or heavy oil, and gas. Mr. Digert characterized heavy oil as a tremendous resource; future development of which is one of the most exciting opportunities on the North Slope. He further explained that the Prudhoe Bay and Kuparuk River units are both light oil reservoirs and underpin North Slope production. These reserves are shown on the map titled "Known Opportunities on North Slope." The Alpine field and Northstar unit, which caused the recent upward trend in production, are not BP fields and thus are not shown on the map, he said. Mr. Digert said that BP has developments in Tarn Field, Meltwater Participation Unit, Point McIntyre, and Niakuk, as well as newer developments at Endicott, Milne Point Unit, and Badami. Mr. Digert commented that Badami is an example of aggressive development where BP tried some new techniques to bring on a marginal field. Despite these efforts and investment of hundreds of millions of dollars, Badami has been a disappointment. Current high oil prices allow Badmai to remain in production, but at a very low rate.

MR. DIGERT said the resources at Prudhoe Bay include heavy oil reserves under the Kuparuk River and Milne Point Units. This heavy oil tends to be found at shallower levels, and is colder and thus more viscous than light oil. He then showed committee members samples of heavy crude from the Milne Point Unit.

MR. DIGERT referred to the page titled "Status of Known Alaska Oil," which shows how oil can be placed into categories of

viscosity which illustrate the thickness of oil and the ease at which it flows. Approximately 40 percent of light oil reserves have been produced to date, with a remaining potential target of about 10 percent, or 3.5 to 4 billion barrels. Mr. Digert explained that the remaining 50 percent of light oil reserves are not accessible through current technology; therefore BP is working on new techniques to tap these known, but currently inaccessible, reserves of light oil. These technologies include use of displacement techniques such as low salinity water flooding or gas injection.

MR. DIGERT informed the committee that BP is currently recovering "tremendous amounts of oil at Prudhoe Bay from the recycling of the gas at Prudhoe Bay. It's been a phenomenally efficient recovery mechanism...." Indeed, he continued, gas "has been put to terrific use so far, and it will continue to be put to use in the future" at Prudhoe Bay and other fields as well.

MR. DIGERT addressed the status of viscous oil, a heavier crude rather like cold maple syrup. Of the 6.5 billion barrels of this oil, BP is currently recovering about 10-15 percent. Recovery could be raised to about 25 percent with new technology; therefore, BP has been working to develop this resource since the mid-1980s and has had some success in Schrader and West Sak fields.

MR. DIGERT explained that this type of oil flows more like cold molasses. He noted that there may be as much as 20 billion barrels of this heavy oil below the existing oil-producing infrastructure. Mr. Digert pointed out that BP is very much in action to develop ways to produce heavy oil. To this end, BP is establishing Alaska as a center of excellence for heavy oil production. In 2007, BP expects to spend about 25 million in pilot tests of some newer technology such as "CHOPS--cold, heavy oil production and sand," a technique where large amounts of sand are produced with the oil. On the surface the sand is separated out and the oil warmed up so it can be transported with the light oil, explained Mr. Digert.

MR. DIGERT described to Representative Wilson some of the differences between oil production in Alaska and Alberta, Canada, by noting that the Alaska reserves can be quite deep, around 2,500-3,500 feet. This depth makes some methods of extraction, such as steam injection, inefficient. Additionally, there tend to be layers of shale in Alaska's ground which also affect the ease of resource extraction.

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CARL LUNDGREN JR., Resource Manager, Liberty Subsurface Project, BP Exploration (Alaska) Inc., directed the committee's attention to the map titled "Proposed Liberty Development," and explained that Liberty, a 100 million barrel offshore oil development, is one of the largest undeveloped light oil reservoirs on the North Slope. Future plans include development of this field with Ultra-Extended Reach Drilling (uERD) technology, explained Mr. Lundgren. This new drilling technique allows development of offshore fields through the existing infrastructure on the North Slope, in this case the Endicott field. Mr. Lundgren likened the length of the proposed wells to the Liberty development as akin to drilling a well from downtown Juneau to the Juneau International Airport, a length of about 8 miles.

MR. LUNDGREN responded to Chair Hawker by explaining that the Liberty ERD Development ("Liberty") is predicted to peak at about 40,000 barrels a day, therefore it will not be as large as the Alpine field. Mr. Lundgren confirmed Chair Hawker's observation that development of Liberty would help mitigate decline, but would not stem oil production decline. Mr. Lundgren informed the committee that BP intends to invest \$30 million in Liberty during 2007, with total investment in the project expected to be \$1 billion. He said BP hopes to begin construction of a new, state-of-the-art drill rig in 2008, with production slated to begin in 2010.

MR. DIGERT explained that future BP production plans include development of heavier oil than has been produced in the past. He observed that "the easy barrels are behind us," and that continued production will require "imagination, innovation and determination."

MR. WALKER closed by emphasizing that North Slope production is and will continue to decline until there is a step-change in investment. He stated that BP is focused on bringing forward technology to make the most of Alaska's resources. He emphasized the importance of the gas pipeline, development of which will underpin the future of the North Slope and enable many other projects in both oil and gas development. Mr. Walker concluded by noting that industry and government should work together to create a bright future for the state and oil industry.

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MR. WALKER responded to Chair Hawker regarding ways to assure adequate future production by noting that decline will continue at 6-7 percent or higher annually absent further investment and a major project, such as the gas pipeline. Mr. Walker noted that BP's interest in developing future projects is an attempt to flatten production; however, it is unrealistic to assume production decline will stop in the short term.

DARREN JONES, Vice President, Commercial Assets, ConocoPhillips Alaska, Inc. ("Conoco"), pointed out that Conoco is Alaska's number one explorer, and started two new fields (Fiord and Nanuq) in 2006. Mr. Jones referred to a PowerPoint presentation and committee handout titled "Testimony to AK House W&M Committee-ConocoPhillips." As shown on the page titled "NS Production Decline," past production forecasts have been 5-10 percent higher than actual production.

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REPRESENTATIVE CISSNA questioned whether the past tendency to over estimate production was due to difficulty in getting the oil out.

MR. JONES replied that the historical tendency to overestimate production is due to a combination of factors. For example, fields can take longer to produce than originally thought, or actual production rates of some heavy oil may be slower than planned.

MR. JONES noted that development of new satellite fields is the key to slowing oil production decline. He cautioned that the bigger fields are found first which leaves smaller, more remote, fields available for future development. As a result, noted Mr. Jones, more investment by the producer is needed to find and produce oil. This is illustrated by what he termed the "creaming curve" shown on the graph titled "Satellite Discovery Sizes Down." This type of decline is typical for oil basins, which is why other oil producing areas such as the Lower 48 or Alberta are trying to "make sure a lot more wells get drilled, so [they] get a whole bunch more of the little things. Here in Alaska we have much harder time doing that," explained Mr. Jones.

MR. JONES suggested that not all of the aforementioned production shortfall was due to overly optimistic projections. He explained that economic factors guide producer investment and

development decisions, making some projects more economically attractive than others. Current "hyper-inflation" in the construction industry has resulted in rising costs which have not declined even as the cost of crude oil has declined, noted Mr. Jones. He also referred to the need to update the facilities at Prudhoe Bay.

CHAIR HAWKER asked whether Lisburne is under-producing due to the age of its facilities.

MR. JONES replied that the only problem he is aware of at Lisburne concerns a pipeline with some corrosion problems. It has been shut in and will be replaced, perhaps by summer 2007. This effects flow of about 12,000 barrels a day. A few wells in that area are being worked on, he said. But overall Prudhoe Bay is operating as expected, he concluded.

MR. JONES assured members that capital maintenance of Prudhoe Bay and Kuparuk has been ongoing under a renewal plan which allows updates and replacements to be done in an intelligent and well thought-out plan and manner. He further explained that the operator of each field plans and oversees maintenance for that field. He went on to say that higher levels of production activity are needed to slow production decline. In addition, a competitive and predictable fiscal regime, a more streamlined permitting process, and access to acreage will draw investment, he opined. He said the state's area-wide lease sales have helped the producers get access to acreage. Mr. Jones pointed out that the state could assist development, but he cautioned, the state "could do probably a lot more to make the decline accelerate."

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MR. JONES responded to a question by Chair Hawker by stating that each producer faces a different rate of future oil production decline, dependent on that producer's level of development and exploration. In response to further inquiry, he stated that given Conoco's current level of investment, its predicted future production decline would be around 6-7 percent. In response to a query about future plans, he stated that Conoco intends to work on development of the gas pipeline as much as possible. He did note that further technologic advancements could help develop heavy oil, and that the producers are working on many different techniques to extract oil.

MR. JONES responded to a question by Representative Seaton about whether Conoco has any GTL plans for the North Slope by stating he could get information on GTL projects to the committee.

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Ways and Means meeting was adjourned at [5:16:44 PM](#).