ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE
February 9, 2011
1:01 p.m.

MEMBERS PRESENT

Representative Eric Feige, Co-Chair
Representative Paul Seaton, Co-Chair
Representative Peggy Wilson, Vice Chair
Representative Alan Dick
Representative Neal Foster
Representative Bob Herron
Representative Cathy Engstrom Munoz
Representative Berta Gardner
Representative Scott Kawasaki

MEMBERS ABSENT

All members present

OTHER LEGISLATORS PRESENT

Representative Mia Costello
Representative Mike Hawker
Representative Dan Saddler

COMMITTEE CALENDAR

PRESENTATION(S): THE HISTORY OF OIL TAXES IN ALASKA

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

ROGER MARKS, Economist
Logsdon & Associates
Consultant to the Legislative Budget and Audit Committee
Anchorage, Alaska
POSITION STATEMENT: Provided a PowerPoint presentation entitled "History of Alaska's Oil & Gas Production (Severance) Tax."

ACTION NARRATIVE

1:01:11 PM

CO-CHAIR ERIC FEIGE called the House Resources Standing Committee meeting to order at 1:01 p.m. Representatives Feige, Seaton, Kawasaki, Dick, Herron, Gardner, and Munoz were present at the call to order. Representatives Foster and P. Wilson arrived as the meeting was in progress. Representatives Costello, Hawker, and Saddler were also present.

PRESENTATION(S): The History of Oil Taxes in Alaska
[Contains discussion of HB 17 and HB 110]

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CO-CHAIR FEIGE announced that the only order of business is a presentation on the history of oil taxes in Alaska by Roger Marks. He pointed out that Mr. Marks is especially qualified to give this presentation because his career has spanned the entire history of oil taxation in Alaska.

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ROGER MARKS, Economist, Logsdon & Associates, Consultant to the Legislative Budget and Audit Committee, first noted that prior to entering private practice two years ago he was a petroleum economist with the Department of Revenue, Tax Division, for about 25 years. Much of his time with the department was spent analyzing the production tax and he had some involvement in many of the events that he is talking about today. He pointed out that for some of the events he is discussing there is no written record of the details, so his descriptions reflect a combination of his recollections and the many conversations he has had with lots of people over the years. He cautioned that other people could have different recollections and interpretations of those events.

MR. MARKS specified that his talk concentrates on the North Slope. The two major forces of production and price flavored the events of the past 34 years. Flow of Alaska North Slope (ANS) crude oil through the Trans-Alaska Pipeline System (TAPS) started in 1977 (slide 2). This flow peaked in 1988 at about 2 million barrels a day and has been declining ever since. Cook Inlet, also an important part of Alaska oil and gas history, started in 1958 with the Swanson River field. Cook Inlet [oil] production peaked in 1970 at about 200,000 barrels and is now

down to just 10,000 barrels a day. Gas production in Cook Inlet peaked at about 2 billion cubic feet a day during the 1990s and since then has been at about three-fourths of that level.

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MR. MARKS pointed out that while the bumps in price between 1977 and 1997 (slide 3) do not look like much on the graph, a difference of $5 a barrel back then was a huge deal in terms of state revenues. Notable past events are the 1979 Iraqi Revolution, the 1986 oil price crash to about $6 per barrel when the Organization of Petroleum Exporting Countries (OPEC) flooded the market to enforce some market discipline, and the 1990 [Persian] Gulf War. Since 1998 prices have been climbing due to a combination of increased world demand and the end of the era of cheap oil. Every new barrel of oil produced now is more expensive to produce. Alaska, he noted, has been very fortunate that the decline in its production has been offset by the concurrent increase in oil price.

MR. MARKS defined the production, or severance, tax as a tax on producing or severing a non-renewable resource from the state (slide 4). Authorized in AS 43.55 and administered by the Department of Revenue (DOR), the tax applies to all production in the state, including onshore state land, state land extending three miles offshore, and federal onshore acreage, such as any production from the National Petroleum Reserve-Alaska (NPR-A) or the Arctic National Wildlife Refuge (ANWR). Production tax is not payable on the public (state and federal) royalty production. Most state leases have a royalty of about one-eighth, so the production tax is only payable on the seven-eighths that is non-royalty.

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MR. MARKS discussed the three other elements of state revenue that Alaska receives from petroleum: royalties, oil and gas property tax, and state corporate income tax (slide 5). Royalties are not a tax, but rather the state ownership share. Administered by the Department of Natural Resources (DNR), royalties are based on gross production. The gross value of production is the value before subtracting the operating and capital costs to produce it. Most royalty rates on the North Slope are 12.5 percent; however, some leases have a higher rate, some have a lower rate, some are subject to a sliding-scale royalty where the royalty rate fluctuates with the price, some have profit shares on top of the fixed royalty rate, and some

are subject to royalty relief. Royalty relief may be received by some fields that apply to DNR, and is often received in the beginning years of the project to make it economic. The royalty terms are dictated by the lease and are determined at the time of the lease sale. The lease term is considered a contract; it is not determined by statute.

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MR. MARKS explained that the property tax is 20 mills or 2 percent of assessed oil and gas production property located in the state. For oil and gas property located within a municipality or borough, the borough or municipality keeps the amount of property tax generated up to its mill rate, even though the tax is administered by the state. For properties outside a municipality or borough, the entire tax goes to the state at the 20 mill rate.

MR. MARKS explained that Alaska's state corporate income tax is 9.4 percent of apportioned income. Apportioned income to a state is based on the amount of a company's property, payroll, and sales in that state relative to the rest of the world. Alaska has modified apportionment which is based on property, production, and sales. He noted that in addition to these state taxes, the producers also pay a federal corporate income tax at nominal rates of 35 percent of that.

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MR. MARKS reviewed the Department of Revenue's forecasted state petroleum revenues for Fiscal Year 2011 (slide 6). Predicated on a forecasted ANS price of $78 per barrel, DOR is forecasting $5.3 billion in general fund revenues. About half of that total, $2.6 billion, is from the severance tax, $2.2 billion is from the royalty, $104 million is from the property tax, and $445 million is from the state corporate income tax. He noted that for acreages leased prior to 1979, 25 percent of the royalty goes to the permanent fund; for acreages leased after 1979, 50 percent of the royalty goes to the permanent fund.

MR. MARKS defined "market price" as the price that Alaska North Slope (ANS) crude oil sells for on the West Coast, which is currently a little over $90 a barrel (slide 7). "Gross value" (also called "wellhead value") is market price less marine shipping cost and TAPS tariff. The current marine shipping cost is a little over $2 and the TAPS tariff is over $4 for a total of $6 to be subtracted. The gross value is the basis for

royalties and it was the basis for the severance tax until 2006. Technically, the gross value is at the point where the oil is first accurately metered and measured as it leaves the lease. "Downstream" is anything that happens from the gross value at the point of production towards the market. "Upstream" is the operating and capital cost to produce the oil. The "net value" is the gross value less the production operating and capital costs and less the exploration costs. In the current production tax, the term used for net income is "production tax value."

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MR. MARKS illustrated how the net value per barrel would be calculated (slide 8). At a market price of $90 per barrel, less a marine shipping cost of $2 per barrel and a TAPS tariff of $4 per barrel, the gross value is $84 per barrel. This $84 would be the basis for the royalty. For Prudhoe Bay this gross value is at Pump Station 1; other fields have pipelines to get the oil to Pump Station 1, so these fields pay additional pipeline tariffs that are subtracted to get to their gross values. To arrive at the net value the capital production cost and operating production cost, which DOR estimates respectively at $12 and $11 per barrel for FY 2011, are subtracted from the gross value. This results in a net value of $61 per barrel at a $90 market price.

MR. MARKS highlighted the four tax regimes that have occurred since 1977 when the North Slope began operating. The Economic Limit Factor (ELF) was in place from 1977-1989, a modified ELF was in place from 1989-2006, the Petroleum Production Tax (PPT) [also known as the Production Profits Tax] was in place from 2006-2007, and the current Alaska's Clear and Equitable Share (ACES) tax law has been in effect since 2007. However, there are places in current law where ELF still lives on.

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MR. MARKS reviewed how the production tax was calculated prior to the start of Prudhoe Bay in 1977 and which Cook Inlet was subject to (slide 10). The production tax was levied on a well-by-well basis. The first 300 barrels per day was taxed at the higher of 5 percent of gross value or $.17 per barrel. The next 700 barrels was taxed at the higher of 6 percent of gross value or $.20 per barrel. Any production over 1,000 barrels per day was taxed at 8 percent of gross value or $.27 per barrel. The cents per barrel was indexed for inflation every year.

MR. MARKS said it was known prior to 1977 that Prudhoe Bay was going to be a big deal and therefore it made sense to re-look at the tax given that Prudhoe Bay would be different than Cook Inlet. The Department of Revenue commenced a study and made recommendations for what it believed an appropriate tax, which became known as the Economic Limit Factor (ELF). As a field nears the end of its life a point is reached at which the operating royalty and taxes exceed the revenues (slide 11). The philosophy behind ELF was that the burden of tax should not cause a field to shut down when it reaches this economic limit. Thus, ELF was designed to scale down the production tax as production declined over the life of the field, with the tax becoming $0 at the point of economic limit. The proposed legislation would have required a monthly calculation of the number of barrels needed at that month's oil price to cover the operating cost, and those would be tax free to cover the operating costs at the economic limit. However, the legislature instead passed a bill that provided for the first 300 barrels per well per day to be tax free.

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MR. MARKS explained that under the original ELF formula, the percentage of production greater than 300 barrels per well per day was the percentage that paid the tax; it was computed on a field-wide basis (slide 12). For example, if a field's average production was 1,000 barrels, 300 would be divided by 1,000 to arrive at 0.3. Subtracting 0.3 from 1.0 would arrive at an ELF of 0.7. The 0.7 was multiplied by the nominal tax rate to arrive at the effective tax rate. When a field declined to an average of 300 barrels per well per day, the ELF was 0 and the tax was 0 (slide 13). Or, put another way, the ELF was a 300 barrel standard deduction. He noted that there was also a gas ELF under which 3,000 million cubic feet (MCF) per well per day was tax free.

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MR. MARKS pointed out that the Cook Inlet wells had lower productivity than the North Slope wells and this lower average productivity resulted in a higher tax rate. Therefore, an exponent was added to the ELF to provide a tax break to the older Cook Inlet wells (slide 14).

MR. MARKS outlined how the ELF was applied (slide 15). He reiterated that the ELF is a fraction between 0 and 1 and is calculated on the average of all productivity in a given field.

Between 1977 and 1981, the ELF was applied to the nominal tax rate, which was 12.25 percent of gross. Thus, if the ELF was 0.5 percent, the effective tax rate would be 6.125 percent (0.5 times 12.25). The nominal tax rate for gas was 10 percent.

MR. MARKS recounted that between 1981 and 1989, changes were made to the ELF in association with changes in the state corporate income tax. The ELF was kept the same but changes were made to how it would operate and to the nominal tax rates. Those changes affected how the corporate income tax works today.

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MR. MARKS returned to slide 5 to elaborate, explaining that most states do not have oil and therefore their corporate income taxes use the apportionment factors of property, payroll, and sales. Alaska was using these same apportionment factors when the North Slope first opened. However, this method created two problems for Alaska. The first was that when a company is relatively more profitable in a state per unit of property, sales, or payroll, that income gets drawn out of the state under apportionment. If a company is relatively less profitable, more income gets drawn into the state. With the startup of Prudhoe Bay, the producers' Alaska operations became very profitable relative to the rest of the world. The second problem was that the sales factor was very low because most of the oil was sold in the Lower 48. These two factors resulted in the corporate income tax being very low. To fix these problems the state changed the income tax to separate accounting, which ring fenced Alaska as itself and measured net income based only on what goes on in the state, thus causing the corporate income tax to go up several hundred million dollars.

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MR. MARKS related that the producers sued the state claiming that Alaska's separate accounting resulted in double counting of income between what would be taxed in Alaska and what would be taxed in other states. The producers further claimed that separate accounting was discriminatory because the separate accounting only applied to the oil industry in the state. While the state eventually won the case in the U.S. Supreme Court in the late 1980s, it did not know for sure in the early 1980s that it would do so and a very large liability was accruing should the state lose the case. To hedge its bets, the state changed the corporate income tax to modified apportionment by swapping the payroll factor for the production factor. Since Prudhoe Bay

was so prolific, using production as an apportionment factor would draw in a lot more worldwide income. He recalled being told anecdotally that producers had indicated in discussions that they would not find modified apportionment legally objectionable.

MR. MARKS explained that going from separate accounting to modified apportionment would result in the state taking an income hit on the corporate income tax (slide 15). To offset this, the state made changes to the severance tax in 1981. The changes were expected to be approximately revenue neutral and were therefore like buying insurance in case of a bad outcome in the U.S. Supreme Court. One change consisted of applying the nominal rate of 12.25 percent of gross to only the first five years of a field and thereafter the nominal rate would be 15 percent. Another change, applicable to the first 10 years of a field, was the "rounding rule" in which the ELF was rounded up to 1.0 if it was greater than 0.7. This rounding rule, however, created a time bomb that went off when Prudhoe Bay had its 10-year anniversary.

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MR. MARKS, in response to Co-Chair Seaton, said that prior to PPT the taxes were based on gross, so [during the era of ELF] the state did not have a very good idea of what the upstream capital and operating costs were and subsequently what the net value was. At oil prices of $15-$20 per barrel during this era, he said his educated guess is that upstream costs during that time were probably in the range of $5-$10 per barrel, so the net value would probably have been $5-$10 per barrel. He offered to get back to members with further information.

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MR. MARKS returned to his presentation and outlined the problems with the first ELF (slide 16). One problem was that 300 barrels was very arbitrary for covering operating costs at the economic limit, because at an oil price of $5 per barrel a lot more barrels would be needed to cover operating costs than would be needed at a price of $20. Additionally, the 300 barrels was fairly generous in terms of covering operating costs. A second problem was that every time a well was drilled the average well productivity went down. A third problem was that oil fields naturally decline in production, so even if the number of wells remained the same the well productivity declined. Thus, drilling more wells and natural field decline resulted in a

constant reduction of the effective tax rate, regardless of what was going on with price.

MR. MARKS stated that another problem with ELF was that under some circumstances wells could be drilled for no other purpose than to drive down a company's tax rate. He said he does not know whether producers were really doing that, but the ELF effect had to be part of the equation when producers were evaluating their after-tax drilling programs. For example, there were a few years where the ELF for the Kuparuk field was at 0.69. The rounding rule would have made it very advantageous to keep the Kuparuk field below 0.7 to provide a big tax savings.

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MR. MARKS reported that a convergence of problems occurred in the late 1980s (slide 17). First was the oil price crash of 1986 in which the price declined to about $6 per barrel and did not recover much by 1987 or 1988. Second was declining production, which coupled with low oil prices affected state revenues a lot. Third was the declining ELF along with the declining tax rate. Then, in 1987, the 10-year rounding rule for Prudhoe Bay kicked in. He elaborated on the Prudhoe Bay rounding rule problem by turning to slide 22, which depicts the total average production for all fields on the North Slope under the economic limit factor from 1978 to just beyond 2003. He explained that well productivity from the Prudhoe Bay field was very high - just under 0.95 - at the field's start in 1977. When the Kuparuk field started in 1981 the ELF average dipped a little bit. Then, after the rounding rule began, the ELF went way up. The 10-year rounding rule for Prudhoe Bay expired in 1987, resulting in a huge drop in Prudhoe Bay's ELF and creation of the time bomb previously mentioned. The weighted average ELF for the North Slope dropped from about 0.94 to about 0.78, which was worth about $200 million [per year].

MR. MARKS, in response to Co-Chair Feige, clarified that the 10-year rounding rule began in 1981. For the first 10 years of a field, this rule provided that if the ELF was greater than 0.7 it would be rounded up to 1.0. So, instead of multiplying the nominal rate by 70 percent, it was multiplied by 100 percent.

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MR. MARKS related that at the time the rounding rule was put in, people understood that there was going to be a big problem when

the Prudhoe Bay field hit 10 years. He read the following statement made by then-Governor Hammond in 1981:

> As far as the possible revenue effects in 1988 and beyond, I have full confidence in the ability of the legislature to deal at the time with whatever is required to retain the state's fair share of our oil wealth.

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MR. MARKS stated that in 1987 then-Governor Cowper began trying to change the ELF system (slide 17). Many of the state's economists, himself included, encouraged the scrapping of ELF and the adoption of a net tax. Hugh Malone, DOR commissioner at the time, understood the ELF problem and why a net tax would be preferable, but it was Commissioner Malone's judgment that changing from a gross to a net system would create so much confusion that it was better to keep with the ELF form as a way of minimizing chaos. The ELF form was modified to bring in the new element of field size in addition to well productivity. Field size would be another proxy for profitability because bigger fields are generally more profitable. The bigger fields would pay more, the smaller fields would pay less, and this would bring in more revenue as well as encourage development of small fields. Under ELF II [1989-2006], fields with greater than 150,000 barrels per day would have relatively less than 300 barrels tax free per well per day and fields smaller than 150,000 barrels a day would have relatively more tax free barrels. A proposal in 1987 did not pass and neither did a proposal in 1988. The third proposal (slide 18) passed by only one or two votes on the last day of session in 1989. He offered his opinion that had the Exxon Valdez oil spill not occurred this third proposal would not have passed.

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MR. MARKS illustrated how the amount of ELF II depended on both the daily field productivity and the well productivity, with the ELF rising correspondingly higher with increased field size (slide 19). Applying ELF II to the 15 percent nominal rate increased state revenue by about $300 million per year, thus bringing the ELF back to where it was prior to 1988 when the rounding rule kicked in. However, he continued, it is important to look at what happened with small fields under ELF II. A 5,000-barrel-a-day field had no ELF and paid no tax no matter what its well productivity. A 20,000-barrel-a-day field, which

is a hefty field size for North Slope standards, paid no ELF when the field average per well per day was below 2,000 barrels. Under ELF II, only three fields on the North Slope had a positive ELF - Prudhoe, Kuparuk, and Endicott. The other fields had no ELF and paid no tax, which caused problems later on.

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MR. MARKS explained that while ELF II got things back to where they were prior to its passage in 1989, the same problem re-occurred. Field size and well productivity continued to decline, again resulting in a decline of the tax rate regardless of what else was happening. Another problem was the proliferation of field satellites (slide 20). When ELF II was passed in 1989, five wells were operating on the North Slope - Prudhoe, Kuparuk, Milne Point, Lisburne, and Endicott. After passage of ELF II, industry came to the state concerned about the satellite development that it was going to be starting up. Satellites are small fields developed in association with the main field and they share drilling and processing facilities.

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MR. MARKS further explained that a provision since the start of ELF I allowed the [Department of Revenue] to aggregate fields for determining the ELF if it found that the fields were economically interdependent. Aggregating fields under ELF I was not a big deal and did not affect taxes because the fields had approximately the same well productivity. But under ELF II aggregating fields was a big deal because of the field size factor. Industry was concerned that if the department exercised its authority to aggregate the fields it would make the fields uneconomic either by the high taxes that would ensue or because new facilities would have to be built to avoid being aggregated. Governor Cowper said the intent of ELF II was to encourage small fields, so the department drafted regulations that would allow it to give advance rulings to the producers that would not aggregate fields under certain conditions.

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MR. MARKS outlined the four basic conditions in these regulations under which the department could give an advanced ruling not to aggregate (slide 21): 1) if the shared facilities reduced costs, 2) if the advanced ruling enhanced the likelihood of development, 3) if oil from each field could be accurately measured, and 4) if the shared facilities was the only factor

making the fields interdependent. The department carefully studied the requests it received and granted several for satellite development configurations. A little before the year 2000, the department received a request for an advanced ruling for Prudhoe Bay to not aggregate six new satellites that were under development. By this time, however, the department's understanding of satellite development was evolving. One particular aspect disturbing the department was the practice of "back out" and how it created a new dimension regarding the meaning of interdependence under Condition 4. Mr. Marks elaborated that all oil fields have gas that comes up with the oil. The unit's processing facility separates the gas and the gas is then injected back into the well; so, as a field matures, more and more gas comes up with the oil. However, a processing facility can handle only so much gas depending upon its size. Therefore, to handle the high gas to oil situation of an older field, oil from the high-gas field was throttled back and oil that had less gas was brought in from another field.

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MR. MARKS noted that while the statute gave the department the authority to aggregate fields if those fields were economically interdependent, the statute did not define interdependent. After mulling over this problem for several years, the Department of Revenue and the Department of Law came up with an interpretation of interdependent that meant the Prudhoe Bay satellites and main Prudhoe Bay field should be aggregated for ELF purposes. In 2005, then-Governor Frank Murkowski concurred with the departments and aggregated the six satellites and the main field. However, fields that had already been given the advanced rulings were not touched because the thought was that those fields had been developed under a good-faith agreement. The 2005 aggregation decision raised the Prudhoe Bay field size, causing the main field's ELF to go up from 0.8 to 0.9, and the ELF for the satellite fields went from 0 to 0.9, which was worth about $150 million. He said he believes that decision is still being challenged in court.

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CO-CHAIR SEATON understood the definition of satellite fields to be reservoirs that are at different vertical depths under the same drilling platform.

MR. MARKS expounded on what is meant by field. Units are an administrative concept for how leases are managed by the

Department of Natural Resources. A unit generally consists of several accumulations that are under some sort of common management system. For example, the big Kuparuk field was started in 1981 and then some other fields - Tarn, Tabasco, and Meltwater - were found near it. Technically, these fields are called participating areas; they are a distinct oil accumulation not in any pressure communication with any other accumulation. A unit consists of several of these participating areas. The main field is a participating area with these other fields sharing the same drill pad and same processing facilities, so there is some integration to how they are operated and managed.

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MR. MARKS pointed out that while the ELF for the North Slope had an uptick in 2005 when Prudhoe Bay was aggregated, the ELF had been steadily declining over the previous decade (slide 22). Many people were concerned about this decline and deemed the ELF broken. The Kuparuk field was seen as the poster child for "the ELF is broken" because by 2005 its well productivity was very close to 300 barrels per day. Thus, Kuparuk's ELF was about to become zero even though its production of about 130,000 barrels per day made it one of North America's largest fields.

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MR. MARKS related that the ELF was done away with through the 1998 Stranded Gas Development Act (SGDA) (slide 23). The SGDA set out to get a gas line by way of giving the administration the authority to negotiate with the producers a tax system for gas. Once that system was negotiated it was to be put in contract rather than statute so that there would be fiscal stability. Negotiations started in 2004 but stalled about two years later because producers wanted fiscal stability for oil. Wanting fiscal stability for oil was not frivolous, he said, because producers feared that if the state later became unhappy with the gas contract, the state would be able to take it out of the producers' hide on oil, given that the companies producing gas were the same companies producing oil. Since the SGDA did not authorize fiscal stability for oil, Governor Murkowski said the state would give that stability but the ELF would be replaced with a new oil tax system. Governor Murkowski asked a consultant, Dr. Pedro van Meurs, to design an oil tax system that would protect Alaska's interests and be internationally competitive. Dr. van Meurs designed an oil tax proposal called the petroleum production tax (PPT), which was based on net income rather than gross income. This proposal, a public

document published on 2/14/06, recommended a 25 percent tax rate and a 20 percent credit rate on capital cost. It did not include any progressivity because Dr. van Meurs was looking to make the system internationally competitive and the other jurisdictions that Alaska was competing with did not have progressivity. Additionally, Dr. van Meurs proposed a system of credits associated with production tax that the state largely still has.

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MR. MARKS said the Murkowski Administration's position when it began negotiations with producers was a 25 percent tax rate and a 20 percent credit rate. What came out of the negotiations was a 20 percent tax rate and a 20 percent tax credit, which was a sizeable tax increase over the ELF. Arm-in-arm with the producers, the administration then went to the legislature with this proposed oil tax system and proposal to amend the SGDA to allow fiscal stability for oil. The legislature was not supportive of the gas deal that the administration had struck with the producers, so the legislature took that proposal and used it as a starting point for amending the severance tax statute and getting rid of the ELF. The [Production] Profits Tax (PPT) [also known as Petroleum Production Tax], a net tax, was adopted in 2006. Most every economist believes that a net system is a much more efficient way to tax than gross. One reason why relates to production costs. A barrel of light oil on the North Slope might cost $10 per barrel to produce and a barrel of heavy oil might cost $30. Under a gross system, they would pay the same amount of tax, but a net system would recognize that difference. Another reason why is that under a net system costs can be deducted, but under a gross system they cannot. In 2006 the administration recognized that the pipeline was running in excess of 60 percent empty. A net system would be in the state's best interest because a company could reduce its taxes by investing in Alaska and deducting the cost, whereas under a gross system the profits would be taken and invested elsewhere where they can be deducted.

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MR. MARKS explained that the legislature made two main changes to the administration's "20/20 proposal" when it came up with the PPT. First, the tax rate was raised to 22.5 percent of production tax value, also called net value. Second, a progressivity element was added. Progressivity was triggered when the net value exceeded $40 a barrel, at which point the net

value was multiplied by .25 percent. The term for how fast the tax rate increases as value goes up is called the slope. The net value is determined by subtracting the transportation and operating costs, which average $29 per barrel in Alaska, from the price received per barrel. For example, at a price of $90 a barrel the net value per barrel is $61.

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[A brief at-ease was taken to correct an error discovered on slide 24 - the progressivity rate was incorrectly shown as 7.75 percent, the correct rate was determined to be 5.25 percent.]

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MR. MARKS continued with his aforementioned example, noting that the progressivity is calculated by subtracting $40 from $61, multiplying that by .0025, arriving at a progressivity of 5.25 percent. That 5.25 percent is added to the 22.5 percent base rate to arrive at a total tax rate of 27.75 percent. The $61 net value is multiplied by 27.75 percent to arrive at a tax of $16.93 per barrel.

MR. MARKS noted that the progressivity under PPT peaked at 25 percent. Along with this was another provision for capital costs. The PPT was being debated in the legislature at the same time that there was a big corrosion spill on the North Slope, which caused concern that deductions should not be allowed for maintenance that should have been done. As a result, $.30 a barrel was subtracted from capital costs for what could be deducted as a sort of maintenance provision. The PPT also established credits, but those were not changed much by ACES. Additionally, a floor was put in, with the floor being the higher of 4 percent of gross or the PPT.

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MR. MARKS illustrated the .25 percent slope of the severance tax rate under PPT at various net values per barrel (slide 25) and the PPT severance tax per barrel at various net values per barrel (slide 26). He said it was decided that Cook Inlet should stay at the ELF that was in place in April 2006 when the PPT went into effect, which is also the case under current law. So, Cook Inlet oil pays zero ELF, zero tax, and Cook Inlet gas pays $.17 per million cubic feet (MCF) in production tax. Under current law those provisions stay in place until 2022.

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MR. MARKS discussed the three main problems with PPT (slide 27). First, because the state had previously been under a gross tax, the Department of Revenue did not have a clear idea of what the deductible costs would be. So, while PPT was under debate, the department had to estimate those costs in the absence of perfect information. Second, even if the department had had perfect information, incredible cost inflation took place in the petroleum sector in 2007, the first year that the PPT was in effect, resulting in much less revenue than had been expected. Based on oil prices at the time, the estimate had been for about $1.1 billion more in production tax but only about $0.3 billion more came in, a difference of about $800,000 million. The third problem was what he calls "VECO taint". Evidence arose after the 2006 session that some votes for PPT may have been influenced by inappropriate relationships with VECO Corporation, which caused a lack of confidence in what had happened during the 2006 legislative session.

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MR. MARKS related that after her 2006 election, Governor Palin decided to look at oil taxes free of the taint. She introduced a new production tax, Alaska's Clear and Equitable Share (ACES), which proposed to increase the tax rate to 25 percent, drop the progressivity trigger to $30, and drop the progressivity slope from .25 percent to .2 percent.

CO-CHAIR SEATON understood that some of the new wells drilled by BP under PPT were paid off in 90 days. He asked whether Mr. Marks recalls this as being another part of the impetus for changing PPT.

MR. MARKS replied he does not, but that different people may have different recollections that may be absolutely valid.

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MR. MARKS pointed out that in its 2007 session the legislature made one major change to the Palin Administration's proposal. The base rate was increased to 25 percent [as proposed], the trigger was dropped to $30 [as proposed], but instead of reducing the slope from .25 to .2 [as proposed], the slope was increased to .4 percent. Noting that ACES operated exactly like PPT, he used his previous example of a $90 price and $61 net value per barrel to calculate the tax under ACES: progressivity

is calculated by subtracting $30 from $61, multiplying that by .004, arriving at a progressivity of 12.4 percent; that 12.4 percent is added to the 25 percent base rate to arrive at a total tax rate of 37.4 percent; [the $61 net value is multiplied by 37.4 percent to arrive at a tax of $22.81 per barrel.] Under current ACES law, the progressivity slope drops to .1 percent when the progressivity reaches 50 percent, which is at $92.50 net. He noted that some changes were also made to the credits.

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MR. MARKS compared the ACES and PPT severance tax rates (slide 29). Under ACES, progressivity is triggered at $30 compared to $40 under PPT; ACES has a steeper slope [.4 percent] than PPT [.25 percent]; under ACES, when the net value per barrel hits $92.50, the slope drops from .4 to .1 percent, but under PPT the severance tax rate peaked at 50 percent and then remained flat. Comparing the ACES and PPT severance taxes per barrel (slide 30), he reported that when oil prices averaged about $100 per barrel in 2008, ACES brought in about $2 billion more than PPT would have.

MR. MARKS reiterated that the ELF provisions for Cook Inlet were kept in ACES. Additionally, a new provision in ACES provides that any gas used in-state for fuel, meaning fuel used for space heat or power production, is also subject to the April 2006 Cook Inlet ELF of $.17 per MCF, which grandfathers out in 2022.

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MR. MARKS compared the ELF, PPT, and ACES severance tax rates as a percent of net under various Alaska North Slope (ANS) market prices based on a cost of $29 [slide 31] and a cost of $39 [slide 32]. On a percent of gross the ELF is just flat: if ELF was still in effect right now and DOR figures are used, the weighted average ELF would be about .37, which when multiplied by a 15 percent tax rate comes out to an effective tax rate of 5.5 percent of gross flat. He explained that as prices go up the net is a higher percent of gross, so when a flat percent of gross is put on a net basis, it is a decreasing percent of net, which is why the ELF curve slopes downward on the graph. He interjected that this is also how royalties currently work: as prices go up, the royalty, which is 12 percent of gross, becomes a smaller percent of net.

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MR. MARKS noted that on slides 31 and 32 the ANS market price begins at $50 per barrel. However, at ANS market prices below $50 the ELF severance tax gets "weird" [supplemental slides]. He reiterated that the ELF is based on gross and gross is the difference between market price and transportation cost, which in Alaska is about $6. Until oil prices reach $6, there is no gross value, so ELF is zero. However, even though the ELF becomes positive at a price of $6, the ELF curve is negative when calculated as a percent of net because the net value is negative until a price of $29 a barrel is reached. When a positive net value is reached at $29 a barrel, the ELF then shoots up because a positive value is divided by a positive value. In response to Co-Chair Seaton, Mr. Marks confirmed that if this ELF was expressed as actual money paid, the ELF would be positive.

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MR. MARKS added that he did not have time to make models of another dimension of ELF, PPT, and ACES, which is that they have "higher of" provisions. For PPT and ACES, it is the higher of 4 percent of gross or the PPT calculation, and under ELF there was also a minimum tax of $.80 per barrel. Regarding the two supplemental slides, he added that the ELF spikes at a price of just over $39 a barrel because it is a tax based on gross which is a very, very high percentage of net, and this is why most economists believe that taxes based on gross are not efficient.

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MR. MARKS reviewed the credits, many of which came out of Dr. van Meurs' recommendations and which still exist today (slide 33). One is the 20 percent credit on capital costs. Another is a 40 percent well lease expenditure credit for areas outside the North Slope; these credits are directly related to drilling wells and were put into law last year. Governor Parnell's bill, HB 110, proposes to expand that 40 percent credit to include the North Slope. There are exploration credits ranging from 20 percent to 40 percent depending on the location of the bottom hole in the exploration well and depending on whether the well is inside or outside of an existing unit or how far the well is from an existing unit. There is a credit of $12 million for companies that produce less than 50,000 barrels per day and that have enough offsetting income. Last year some very aggressive credits were added for the first three parties to explore the Cook Inlet pre-Tertiary zone with a jack-up rig. The first party will receive a 100 percent credit up to $25 million, the

second party will receive a 90 percent credit up to $22.5 million, and the third party will receive an 80 percent credit up to $20 million. If there is any commercial production as a result of this exploration, 50 percent of the credit will have to be re-paid. There is no double-dipping on the credits - an expenditure used for claiming one credit cannot be used for claiming a second credit.

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MR. MARKS noted that a company unable to use all of its deductions because of a net operating loss can convert its unused deductions at 25 percent to a credit (slide 34). There is a floor of zero of the tax, so a company that cannot monetize its credits because it is down to zero tax can either keep the credit until it has sufficient offsetting income or can sell its credits to other taxpayers. When selling credits, a company will always get less than 100 percent on the dollar; however, under an ACES provision for companies producing less than 50,000 barrels a day, the state will buy the credit.

REPRESENTATIVE GARDNER, referencing a previous Department of Revenue presentation before the committee, understood that the small company credit and another $6 million credit were cumulative. She asked whether that is an exception to the rule.

MR. MARKS replied correct, an additional $6 million credit is available to anyone, not just small companies, for producing either non-North Slope or non-Cook Inlet. Because it expires in 2016, he said he doubts that the credit will ever be used. The credits of $12 million and $6 million are use-or-lose credits, so if a company does not have offsetting income in the year it earns the credit, the credit cannot be carried over.

MR. MARKS concluded his presentation by reporting that between 1977 and Fiscal Year 2010 a total of $40 billion in severance tax has been collected from across the state (slide 37).

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The committee took an at-ease from 2:25 p.m. to 2:29 p.m.

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CO-CHAIR SEATON requested Mr. Marks to tell where the figure of $12 million came from and how it was arrived at.

MR. MARKS responded that the $12 million credit is a second area where ELF lives on. When Dr. van Meurs was designing the PPT he understood that there were some projects under development, small fields, that would have had a zero ELF and companies had started developing these fields assuming they would be under ELF and have a zero tax. This provision was put in so that small development would continue to have a zero tax; additionally, it would create an incentive for small companies to produce small fields. Dr. van Meurs arrived at the $12 million by looking at the amount of oil these fields would produce and the price of oil, which was $45 a barrel at that time. He then backed in the amount of credit a company would need to bring the tax to zero under PPT, and that was $12 million. Quite frankly, he added, another reason for putting in this credit was to get political support for the PPT from small companies during the 2006 session.

CO-CHAIR SEATON expanded on Mr. Marks' response, saying that it was looked at as $60 million in deduction, so that for the first $60 million of production from a field the company would not have a tax. This was later converted at 20 percent to a tax credit of $12 million because that was easier to implement.

MR. MARKS concurred.

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REPRESENTATIVE HERRON, saying he understands why the credits of $12 million and $6 million were needed to get buy-in for passing the PPT, asked whether it is important to maintain these two credits or to increase the amounts.

MR. MARKS answered that he would say it is for small fields. He clarified that it is not really small fields, it is small companies. Getting into new areas gets into really high costs, and these credits create additional incentives for small companies to come in. Additionally, the biggest risk takers around the world are the small companies. As a way to get small companies into Alaska, to get bigger risk taking, it probably is a good feature to retain as a way to encourage a wider number of views as to what is geologically attractive.

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REPRESENTATIVE HERRON inquired whether it would have a profound effect on the taxes if the state was to figure out how to value-add the resource, which in this case is oil. For example, if

the oil was refined in the state and then left the state as a refined product, would the severance tax, the tax on that oil, be significantly different?

MR. MARKS replied that what gives value to the oil is its market price. The value of what comes out of the ground is its market price less its cost, and that is the tax base. When value is added, cost is added, and while there is a little bit of profit on that, the basic feedstock that goes into a refinery basically reflects the value of the oil which is being taxed, which is how the severance tax is based. As a feedstock to a refinery, it is the same thing - it is the value of the oil.

REPRESENTATIVE HERRON expressed his frustration that [a raw resource has more value than a finished product]; for example, a log exported from the state in the round has more value than manufacturing that log into lumber in the state and exporting that finished lumber.

CO-CHAIR FEIGE suggested looking at what kind of credits could be given for in-state use.

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REPRESENTATIVE MUNOZ, regarding the PPT progressivity that kicked in at $40 profit per barrel, asked whether that tax applied to the full profit or just to the profit over $40.

MR. MARKS directed attention to slide 24 and explained that for this example the total PPT tax rate with progressivity and the base rate is 27.75 percent. He said it is important to understand why there is discussion about the high marginal tax rate under ACES. Under ACES, progressivity starts when [the profit] goes above $30, at which point [12.4] percent [progressivity] is added to the 25 percent [base rate] to arrive at [a total tax rate] of 37.4 percent. This 37.4 percent does not apply to the thirty-first dollar, it goes all the way back to the very first dollar and applies to every single dollar of value, and this is the genesis of the argument by some people that ACES has high marginal tax rates. In further response, he confirmed that this same method was used under PPT.

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REPRESENTATIVE MUNOZ understood that Prudhoe Bay, Kuparuk, and Endicott were the only fields that paid under the ELF factor.

MR. MARKS responded after it passed in 1989 *(indisc.)*....

REPRESENTATIVE MUNOZ requested Mr. Marks to explain again why the Kuparuk field was the poster child for a broken ELF.

MR. MARKS answered that the ELF was going down, down, down. Between 2000 to 2005 or so, Kuparuk was producing about 130,000 barrels a day at very healthy prices at the time of $40 to $50. Despite being one of the largest fields in North America, it was paying just about zero tax because of the ELF calculation, and that is what he means by the poster child of a broken ELF - a very, very economically healthy field was paying no tax.

REPRESENTATIVE MUNOZ asked whether the changing of Alaska's tax regime 4 times in 25 years would be considered erratic or unusual as compared to other oil provinces in the world.

MR. MARKS replied that most oil companies generally expect that an oil tax will change about every 10 years.

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CO-CHAIR FEIGE noted that the committee is trying to put more oil in the pipe, so in its immediate deliberations the committee is not necessarily looking at how much money the state is making or how much profit the oil companies are making. The objective is to structure HB 110 in the best way for putting more oil in the pipe. All kinds of different development could happen on the North Slope - new fields adjacent to currently unitized areas; development within each unitized area; different kinds of oil such as heavy, viscous, and source rock; and tapping individual fault blocks using directional drilling. He asked Mr. Marks to provide his opinion on the best way to structure HB 110 to encourage companies to put more oil in the pipe.

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MR. MARKS responded that under the progressivity structure, when the price goes up $1, the tax rate is drawn up for every single dollar below that. The concept of marginal tax rate is that when the price of oil goes up $1, what percentage of that dollar goes to government? Progressivity is an absolutely fine and straight-forward philosophy that at lower income a company can afford to pay less, so there is a lower rate, and at higher income a company can afford to pay more, so there is a higher rate. In his judgment, the progressivity structure within ACES is seriously dysfunctional because of the way it works. When

the value goes up from $89 to $90, not only does the tax rate on the ninetieth dollar go up, the tax rate on all the previous dollars of value is drawn up as well. That is what is called a high marginal tax rate, and it can exceed 90 percent at high prices. This is a problem because when a company looks at developing a prospect it looks at the expected price. Since prices are very volatile and hard to forecast, a company looks at what is going to happen under a range of prices and there are now non-frivolous oil price forecasts that go up to $200 per barrel by 2020. Most people expect that more things can happen to make prices go up in the future than down. So when companies look at their price forecasts and how things work under a variety of prices, what happens on the high side of high prices can be very important to their outcome because if high prices materialize they can make a lot of money.

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MR. MARKS pointed out that the high marginal tax rate of ACES caps upside potential because as price goes up the marginal tax rate gets higher and higher to the point where not much money is being made by the company anymore. From what he can tell, Alaska, at high prices, has the highest marginal tax rates in the world, and he believes this makes Alaska seriously uncompetitive. Evidence for this is Department of Revenue data that shows only three exploration wells drilled in 2010 - the smallest number of exploration wells since 1988 when prices were $8 a barrel, which he thinks is a problem.

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MR. MARKS said he believes that the PPT was as dysfunctional on the upside as ACES because it had the same progressivity structure. A comparison of Department of Revenue or Department of Natural Resources production forecasts made in 2006, before PPT, with current forecasts for the years 2010 to 2020 shows a reduction of hundreds and hundreds of millions of barrels. This reduction is not because a field that was thought would come online did not materialize; it is for basically the same fields - the core fields of Prudhoe Bay, Kuparuk, and Alpine. Eighty to ninety percent of the oil in the forecasts is forecast to come from these core fields because there is a lot of oil to be developed from them. While ACES and PPT may not be 100 percent of the cause for this reduction, he believes they are a major contributing factor.

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MR. MARKS stated this could be fixed by fixing the progressivity structure. The bracketing proposed by HB 17 and HB 110 would provide for an incremental tax paid on an incremental value, which lowers the marginal tax rates and is how progressivity universally works around the world. He has spent a lot of time on this and nowhere else in the world has he encountered a progressivity structure like the one in PPT or ACES, be it oil or non-oil. He said his judgment is to go to a bracketed tax structure and to use international competitiveness to come up with comparable marginal tax rates. He added that he thinks the current credit system is very strong and very good for encouraging development, so he would not focus on the credits. Credits coupled with deducting costs are significant incentives for developing, but the high tax rates dwarf anything the credits do. In his judgment, fixing the progressivity structure will put more barrels in the pipeline.

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CO-CHAIR FEIGE noted that under the current system the capital costs are reported as one item and include operations and maintenance as well as exploration. He asked whether there is any advantage to having companies report those exploration, operations, and maintenance costs separately and then adjusting the credit structure to apply to either side of that, such as favoring more exploration and development versus operations and maintenance.

MR. MARKS answered that it is all production because, in a way, even maintaining things is production. Encouraging producers to maintain their fields is wanted and the credits do that as well. He reiterated that he thinks the current credit structure is strong and he would focus on the progressivity structure rather than the credits.

REPRESENTATIVE FOSTER noted that the taxes for individual people are based on incremental taxation for the incremental value and do not go retroactive to the first dollar that a person makes. He understood this to be the point that Mr. Marks is making.

MR. MARKS replied exactly; what is proposed in HB 17 and HB 110 mirrors the Internal Revenue Service (IRS) tax booklet.

MR. MARKS, in response to Co-Chair Feige, said the IRS does have progressivity, and it is bracketed.

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CO-CHAIR SEATON, referring to slide 31, asked what is the effort being undertaken by an oil company to have the ANS market price change from $90 a barrel, where the tax rate is about 36 percent, to $125 a barrel, where the tax rate is 50 percent. In response to Mr. Marks, he noted that the state is charging a severance tax for a non-renewable resource that is being taken out of the state. In further response to Mr. Marks, he re-phrased his question by asking what is a company doing that it should keep basically most all of that profit difference between $90 and $125 instead of having significant progressivity.

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MR. MARKS allowed that even under ACES the producers are making a lot of money, but the question is how much more money can they make somewhere else. At the corporate level corporations have a finite amount of capital. In today's age of globalization this capital is very fluid and an oil company can put capital lots of places. For example, ConocoPhillips has presence in more than 30 countries and can choose to put its money where it will get the most for that money, which is why looking at international competitiveness is key. One would think that as prices go up production would go up, [but in Alaska] the production forecasts have dropped between 2006 and now. He said he truly believes it is very possible that because of ACES, when the price goes up the schism between Alaska's tax and international competitive tax rate widens. The higher the prices the more capital gets diverted from Alaska to elsewhere, so at higher prices Alaska gets less oil.

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CO-CHAIR SEATON understood Mr. Marks to be saying the companies do not do anything to change the price from $90 to $120.

MR. MARKS responded that they do not.

CO-CHAIR SEATON surmised that Mr. Marks is saying the state can expect the companies to continue removing their investment from oil in Alaska to gas, which legislators are being told is very unprofitable. For example, ConocoPhillips has a much higher percentage of profit coming from its Alaska investment than from its international investments, which are gas investments; yet ConocoPhillips is going to take its capital from Alaska and put it in those gas projects because of the marginal tax rate in

Alaska, even though its percentage increase in profits in Alaska is much larger than it is internationally.

MR. MARKS answered that ConocoPhillips is an oil and gas company with interests all around the world; worldwide it produces about 50 percent oil and 50 percent gas. It can invest in oil in Alaska or elsewhere and if it can earn more profit elsewhere than it can in Alaska, it will go elsewhere. That is why he believes Alaskans should be very concerned about how the state competes. Fair value for oil is no different than fair price for a loaf of bread. Fair is what can be received in a competitive environment and as an economist this is how he sees fair share, although others might see it differently. In his opinion, if Alaska thinks it is entitled to more than that, it might end up in a not-very-good place.

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REPRESENTATIVE HERRON observed that current law stair steps up to a certain value and then progressivity takes off; the proposed legislation stair steps to a certain value and then goes flat. He said he is unsure whether he supports it being flat at around $100 because he thinks it should stair step down to encourage oil development and production. In response to Mr. Marks, he confirmed he is meaning that it should stair step down at high prices because more money is needed back in the state to fill the pipeline.

MR. MARKS replied that the state's interests must be protected, too. Looking at the international environment, he said he does not think that stair stepping down at high prices needs to be done to be competitive. Under these bills the marginal tax rates peak at about 75 percent, which means the producers walk away with 25 percent of incremental value. At high prices that seems to be the lay of the land. He added that the perfect tax could be passed this year, but that the international environment must be continually monitored to stay competitive because that is what life in the age of globalization is.

3:02:54 PM

ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at 3:03 p.m.