

**ALASKA STATE LEGISLATURE**  
**SENATE RESOURCES STANDING COMMITTEE**

February 2, 2009

3:33 p.m.

**MEMBERS PRESENT**

Senator Lesil McGuire, Co-Chair  
Senator Bill Wielechowski, Co-Chair  
Senator Charlie Huggins, Vice Chair  
Senator Hollis French  
Senator Bert Stedman  
Senator Gary Stevens

**MEMBERS ABSENT**

Senator Thomas Wagoner

**COMMITTEE CALENDAR**

Overview: Alaska Oil and Gas Fiscal Terms

Dan Dickinson -- Consultant to the Alaska Legislative  
Budget and Audit Committee

Rich Ruggiero -- Consultant to the Alaska Department of  
Revenue

**PREVIOUS COMMITTEE ACTION**

No action to report

**WITNESS REGISTER**

DAN DICKINSON  
Certified Public Accountant  
Anchorage, AK

**POSITION STATEMENT:** Presented concerns about Alaska's gas tax  
for himself and for David Wood.

RICH RUGGIERO, Consultant  
Gaffney, Cline and Associates Inc  
Houston, TX

**POSITION STATEMENT:** Rebutted the above analyses of Alaska's gas  
tax.

**ACTION NARRATIVE**

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**CO-CHAIR BILL WIELECHOWSKI** called the Senate Resources Standing Committee meeting to order at 3:33 p.m. Senators French, Stevens, Huggins, Wielechowski, and McGuire were present at the call to order. Senator Stedman arrived shortly thereafter and Senator Wagoner was excused.

CO-CHAIR WIELECHOWSKI said the reason for the meeting is to decide whether to modify Alaska's fiscal system for gas.

DAN DICKINSON, Certified Public Accountant, Anchorage, said he is a consultant for the Alaska Legislative Budget and Audit Committee. He will first give a presentation for David Wood, another consultant. He will follow with his own presentation.

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MR. DICKINSON said the committee has David Wood's report. Mr. Wood was asked to look at a tax system that would produce a vibrant gas regime on the North Slope. He was not asked to look at issues surrounding AGIA [Alaska Gas Inducement Act of 2008] and "what it would take to get that first commitment, but he was looking at a much, much longer term." The first page summarizes his recommendations, and the first four points are the key ones. Mr. Wood and Mr. Dickinson have "certain disagreements." But Mr. Wood believes that by looking around the world at successful [tax] regimes, one will find that they "articulate a clear strategy" with fiscal objectives. Mr. Wood said those situations have progressive fiscal designs. When companies are making high profits, the state take is higher. Mr. Wood said companies need some level of fiscal stability and a belief in a return on their investments. Mr. Wood thinks that a robust tax system that covers any future situation is probably more effective than having "some kind of contractual fiscal stability."

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MR. DICKINSON referred to the last few years of oil prices going to unanticipated levels, and Mr. Wood found that every place where people thought they had contractual fiscal stability, governments found ways around it. There was so much more money on the table that ways were found to reopen and renegotiate for higher takes. So Mr. Wood asserts that a system that is robust over many price changes may have better fiscal stability. Alaska combines oil and gas in a single progressivity measure [for taxation], and Mr. Wood was particularly critical about that. The \$30 a barrel equivalent trigger doesn't allow gas to fit in very well. So Mr. Wood believes that the progressivity elements

should be driven off of gas, not off of a barrel of oil equivalent (BOE). New fields should have a "return on investment [ROI] measure instead of, sort of, a year-to-year profitability measure or how-much-in how-much-out that year. You look at ROI, and so every year you can carry things forward, and basically when ... the investment has truly been paid off and you're in a different situation of a very different state-take regime than when someone is still recapturing their investment."

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MR. DICKINSON said Mr. Wood focused a lot on NGLs [natural gas liquids] as a separate source. Alaska's isolation may be an issue, but in many places in the world NGLs can be switched back and forth. Sometimes they are worth their BTUs and they get added into the gas, and then something like the ethane that is more valuable can be pulled out and the industry will "do something chemically with it." Mr. Wood believes that is something the state should focus more on. Mr. Wood said the state should consider equity involvement - owning an interest in some major infrastructure projects. He also focused on cost control components, saying they could be built into some of the fiscal incentives "so when you tell somebody 'gee, you'll get 20 percent of every investment you make,' you also want there to be something in there that says ... that cost control is important." If someone is picking up 50 percent of the bill, there might not be the focus on cost control.

MR. DICKINSON said the last point made by Mr. Wood relates to time constraints on new leases to develop resources. Pt. Thomson is irrelevant here, "but he was ... stunned by the notion that you could've had 23 plans, each one approved by the government and allowed to continue, and he basically thought the government shouldn't have that kind of discretion and you should simply get the ability to develop a resource for x-number of years and then it would end." Mr. Wood also supports a fiscal system that tries to realize a design. The next slide showed a pyramid with three ways to benefit from an oil resource: 1. getting the biggest, fattest check possible, or a sovereign-take focus. 2. getting the most reinvestment to develop the resource. 3. having the most local content, which can be the same as investment. In many places it includes obligations to hire locally. It may work against reinvestment because it may be more costly.

MR. DICKINSON said Mr. Wood placed Alaska 2/3 between the sovereign take and reinvestment focus, and Alaska has almost no local content. So Alaska is similar to the United Kingdom,

Australia, and the rest of North America. Norway has a local-content focus.

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MR. DICKINSON said if Alaska didn't have the 20 percent reinvestment credit, it would move into a sovereign-take focus along with the Middle East, Russia, and Iran. No goal is good or bad, but the state just needs to determine which focus it desires. And "if you focus on it, you probably won't attain the other ones." Mr. Wood concluded that Alaska is more aggressive than Australia and the UK, and less aggressive than North Africa and West Africa. Mr. Wood's final point was that any comparison needs to be looked at carefully. In a system with highly regressive or progressive elements, one needs to know what price was used in the analysis. Fiscal stability, risk, and progressivity/regressivity are used in investment decisions.

SENATOR FRENCH asked what risk he is referring to.

MR. DICKINSON said Mr. Wood is focused on political risk.

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MR. DICKINSON said the industry doesn't just look at what the government will take, it looks at what opportunities there are. He showed a slide of the likelihood of finding more resources charted against political risk. Things are flourishing in Qatar because there is low risk and great opportunity. Iran and Russia have lower opportunities and higher risks, so they are not as well positioned.

SENATOR STEVENS asked what the size of the points represents.

MR. DICKINSON said the diameters of the bubble-like points represent the size of the known resources. The number used by Mr. Wood is 35 TCF for the North Slope.

SENATOR FRENCH asked why there is a question mark near Alaska, and what makes Alaska look more attractive over time.

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MR. DICKINSON said he thinks that opportunity will increase when the gas pipeline is built. There is no way to monetize gas now.

SENATOR FRENCH asked if it means more drilling and exploration.

MR. DICKINSON said there is "a bit of gas going into TAPS," but it doesn't do you any good to have gas. So until there is a way

to monetize it, the opportunity won't be huge. Mr. Wood is saying that progressive and flexible designs are more likely to lead to long-range stability. The most regressive systems would be the least likely to spur stable development. "Reserve taxes (an issue that Alaska may be facing), signature bonuses, things that happen very early on in the production process aren't really related to profitability." Taxes on dividends and remittances may not be appropriate for Alaska, but the taxes on profits really do represent what Alaska has in its production and income tax. Alaska has some progressive elements. Property and royalty taxes are on the regressive side. Alaska's system has strong regressive elements in it, and Mr. Wood was advocating having allowances to deal with them. Mr. Wood created ten hypothetical fields, some just gas and some both gas and oil, and "ran them through." He was looking at future development and assumed the gasline was in place, and he modeled what will happen.

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MR. DICKINSON said he won't go over all of Mr. Wood's assumptions. "The entire second half of this has all the cases with all the various divisions, both of government take and how it's divided up for each of the cases." Mr. Wood's main conclusion is that the Alaska fiscal design has regressive behavior due to the impact of royalty, production tax, production floor tax, and "in a low gas price or high cost situation, you could have a nominally higher tax and that is the kind of situation that, he believed, could be disruptive over the long term to investment." Mr. Dickinson said he will next present some very specific illustrations of that idea. Mr. Wood's "fundamental approach was trying to look at creating a situation that would be so robust that it could be flexible enough to handle, without changes to the rules, a wide variety of situations." He looked at "the notion of dilution and what happens if you have an oil situation and you look at what happened in 2008 ... I think folks who believed that when you had an oil price spike - as we did in 2008 - the state should capture an increasingly large piece of that." Mr. Dickinson said it did work with oil last year, but he asked if it will work as well when Alaska has a gas pipeline. Mr. Wood has done some modeling looking at that - the interaction of the combined progressivity tax -- and what happens to the incentive to reinvest. Mr. Wood calls it the PTV (production tax value), which is the net value after all allowable costs have been deducted. "And if some of that is reinvested, what happens to the tax and are those incentives going in the right direction?"

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MR. DICKINSON showed a graph with the x axis representing dollars per barrel of oil PTV. It assumes that it can be measured for oil alone. "One way to think about this is to assume a gasline is being built ... and the x axis says: at the net values for oil, what's going to happen?" Each line represents a net value for a barrel equivalent of gas. The progressivity treats 6 MCF (thousand cubic feet) of gas like a barrel of oil. It has equivalent BTUs. As an example, \$5.00 BOE translates to \$0.90 MCF of gas. The graph shows that as the value of oil goes up but gas stays the same, taxes fall then rise and then they fall, and at \$40 the state will receive more taxes than if the gasline didn't come on. But at a very high oil price there's a threshold where "the amount of revenue the state receives from a gasline goes down as a consequence of that gasline."

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SENATOR FRENCH asked what BPT and CPT mean.

MR. DICKINSON said BPT is the basic production tax, which is 25 percent. CPT stands for combined progressivity tax. Mr. Wood is asking what would happen if there was a separate measure for oil and one for gas. "The status quo is CPT." Assume that a gasline is being built and Alaska is taking in oil revenue. The oil revenue consists of the base tax and progressivity tax. If there were no gasline in June, there will be an oil-based base production tax and a CPT with only oil. In July, the gasline comes on, so the state will get base production tax on oil, base production tax on gas, and a combined progressivity for both. So the question is what the consequence of that is.

SENATOR FRENCH asked why there is negative 60 and positive 50 on the graph.

MR. DICKINSON said that is how much the tax will go up or down in dollars. At the bottom of the graph is one BOE equivalent and one BOE of gas. So it is very simplified. It is not the full production. It is equal amounts of both and "we're just looking at one barrel each."

SENATOR FRENCH noted that it is very difficult to understand.

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CO-CHAIR WIELECHOWSKI asked if the numbers going across represent the price of oil.

MR. DICKINSON said it is the net value after subtracting costs. The relevant range [for the price of oil] is the first third of the graph.

CO-CHAIR WIELECHOWSKI surmised that if the price of oil increases, because the state has combined oil and gas together as opposed to treating them separately, Alaska will lose money.

MR. DICKINSON said, "From this point on, if that is trending down, then as the value of oil increases, the amount of tax goes down. If it's trending up, as the price of oil increases, the amount of tax also is increasing. If you're above this line, the net affect is positive - in other words, you're still getting more tax because of the gasline than without it. If it is below this line, you're getting less tax because of the gasline."

CO-CHAIR WIELECHOWSKI asked if Mr. Wood is saying that Alaska could build a gasline and end up getting fewer taxes.

MR. DICKINSON said absolutely, he is saying that. He referred to a presentation given to the legislature two summers ago by the administration when it was talking about the incentive under AGIA for producers. "They didn't actually add it up, but they say if a gasline comes on, the progressivity surcharge will drop from \$1.2 billion to \$200 million. So it will drop by \$1 billion." To make up for that, the state will receive \$900 million in additional base production tax and royalty. The net effect is \$100 million less. "So month one, we've produced an amount of oil, the next month the gasline comes on, and our revenues go down." He said there are lots of examples where it goes the other way, but in this example and some others, the net effect of adding that gas under Alaska's progressivity system is to decrease revenues.

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SENATOR FRENCH asked about the boxes at the bottom of the graph.

MR. DICKINSON said those are values of gas per BOE. That is the price of 6,000 cubic feet lumped together and called a barrel equivalent of oil minus the upstream and transportation costs.

SENATOR FRENCH said it shows, in gross terms, how the tax scheme works at increasing levels of gas value.

MR. DICKINSON said yes.

CO-CHAIR WIELECHOWSKI said the state will probably be bringing in a tremendous amount of money at \$200 to \$300 [per barrel], but if the price is \$200, it would be about 5 to 15 percent lower than dealing with oil alone.

MR. DICKINSON said he doesn't think you can tell how much lower it is from this graph. Based on an example he showed earlier, the maximum was about a 20 percent drop in state revenues with a gasline coming on.

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SENATOR HUGGINS said that another important factor is that if the two [gas and oil progressivity measures] are decoupled, the predictability becomes more certain.

MR. DICKINSON said for a given price it's much more predictable, but a change in the gas price can suddenly affect the tax paid on oil and vice versa. But Mr. Dickinson believes people will be surprised if revenues fall when the gasline comes on.

SENATOR HUGGINS said he thinks of the camouflage effect when the taxes are coupled. It camouflages what the cause and affect is, and the predictability becomes questionable.

SENATOR STEDMAN said the legislative intention was to ignore gas and to "fault it out to the six-to-one ratio" because of the difficulty and complexity of dealing with oil and the administration trying to include progressivity. The legislature hasn't sat down and examined the impacts of gas, because there really is no gas production affecting Alaska's treasury. This is the beginning of that review. Even though there were presentations in the past about this being an incentive -- this dilution - "some of us have operated for the last several years under the assumption that we haven't dealt with gas and we'll deal with this dilution issue at some later date." Now is that time. He didn't want people at home to think that the comments at that presentation several years ago were saluted by the legislature. He expects that "when we get into this we're going to find the numbers rather enlightening."

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CO-CHAIR WIELECHOWSKI said this is the beginning of the discussion. The legislature did focus more on oil, and now it is starting to focus more on gas.

MR. DICKINSON said the prior administration gave a very specific directive to focus the [profit-based petroleum production tax]



as an oil tax, and gas issues were off the table. They were part of a larger and separate issue. Early work was done on gas, "and everyone said we're not going to think about that at the moment." Alaska has the consequence of that instead of a thought-out strategy. A significant portion of what is now put in TAPS [TransAlaska Pipeline System] is natural gas liquids, but it is sold like oil because once it is mixed in, it gets treated the same and it might work to mix the progressivity. There is a lot of gas being produced on the North Slope and put into TAPS.

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MR. DICKINSON said the idea behind slide 14 is that effective tax rates bounce around based on the amount of reinvestment. There are situations when investment increases and the tax rate drops and falls as a consequence of that increased investment. Mr. Wood's slide is showing that "as you move through these different cusp points in the tax, you can have these strange results around the cusps."

SENATOR FRENCH asked if there is a difference between investment and reinvestment.

MR. DICKINSON said no. He believes Mr. Wood modeled it in a way whereby someone with a production tax value of \$30 who reinvests some of those profits to bring the value down to \$25, it will be called reinvestment.

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SENATOR FRENCH suggested that one still couldn't tell the difference in the dollar that is spent.

MR. DICKINSON said correct, but the spreadsheet is built for someone who has a certain value and reinvests some of it. There is nothing in statute that talks about the difference [between investment and reinvestment]. It is a term of art and may make the graphic more confusing than if Mr. Wood had just used investment.

CO-CHAIR WIELECHOWSKI said, "The more you reinvest the lower your tax rate."

MR. DICKINSON said that should be the goal, yes. Mr. Wood concluded that if gas were brought on and revenue went down, then Alaska would change the tax regime, and that is an instable situation. Mr. Wood tried to identify the things that lead to that fiscal instability. He recommends separating the combined

production tax into a gas progressivity tax and an oil progressivity tax and structure them in different ways. That would make the taxes more predictable, stable, and flexible. Mr. Wood suggests modeling Prudhoe Bay and Pt. Thomson. If the legislature really wants to focus on what will happen when the gas comes on, it needs to be modeling to see what the outcome really might be. Finally, Mr. Wood suggests looking at tax regimes for shale gas and unconventional gas in the Lower 48. Mr. Wood was surprised to see the huge difference between the taxes in Alaska, California, Louisiana, etc. Comparisons with the Lower 48 are probably more useful than comparisons with Iran or Russia, for example.

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MR. DICKINSON said he will now give his own presentation. He showed a chart looking at the production tax. In 2004 the state raised \$600 million in production taxes, and in 2008 it was eleven times larger. That doesn't mean the new taxes were that much higher because oil prices were much higher. Production was also lower. He multiplied the price each year by the volume to get the total production value. In 2004 it was \$11.5 billion, and in 2008 it was \$25.7 billion. Royalties went from a billion to about 2.4 billion, an increase almost the same as the production value. That is because the royalty rules didn't change. The relationship makes him conclude that taxes were five times greater in 2008 than with the old rules.

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MR. DICKINSON said some reported a three- to five-fold increase. But that is only one part of it. There is also "state take" including royalties, income taxes, and property taxes. His slide showed the total state take in column A (three taxes and royalties), and that went from \$2.4 billion up to about \$11.3 billion in that five-year period. In his calculation he subtracted costs, but there was no way of knowing the costs in 2004, so he made a huge assumption. Transportation can be figured out from the Department of Revenue. The question is how much the oil and gas were sold for, less the downstream and upstream costs. He then figured how much the state, federal government, and producer got. From 2004 to 2006, the state was getting between 30 and 38 percent, and the federal government was taking between 11 and 17 percent, and the producers got the rest -- about half. In 2007 the state share went up to 40 percent, and in 2008 the progressivity was triggered and the state took 55 percent, the federal share was 12.2, and the producers ended up with about one third. It is not a five-fold increase but it is significant. By randomly dropping the figure

to \$2.6 billion the story remains the same, with the government taking about half. So it is not that sensitive.

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MR. DICKINSON said TransCanada had a section in its application about what it would need to make the project work, and it said TransCanada would rely on the state of Alaska to take all feasible actions exclusively within its authority as a sovereign power to ensure a favorable economic environment for potential shippers on the project. These actions include engaging with the ANS producers to reach agreement on a commercially reasonable and predictable upstream fiscal regime that balances the needs of the state and the ANS producers, and encouraging robust exploration for and development of new natural gas resources and the commitment of such resources to the project. Conoco-Philips, which owns the Denali Project with BP, said the issues surrounding taxes are important to making the project go forward.

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MR. DICKINSON said progressivity is an important part of stability. He showed a graphic of a \$133 barrel of oil. It costs about \$6 to put it in TAPS and to get it to Los Angeles. It costs about \$16 to get it out of the ground (upstream cost). "The way progressivity works is you then add another \$30 in there. In other words, there's \$30 that the producer can realize before progressivity kicks in, and ... this is what drives the progressivity." A new percentage rate is applied to all the value the producer receives. In this case, there was a huge driver of progressivity, and at 0.4 percent the taxes in June were a 25 percent base tax and another 25 percent being driven by progressivity from the high price. What happens to the gas at that time? Gas was selling for \$12.69, which is multiplied by six to create the BOE, and the tariff "is huge compared to what it costs to ship a barrel of oil." He doesn't know the upstream costs. Prudhoe Bay has almost none, but Pt. Thomson will likely have higher upstream costs. What is left is \$1.50 that is subject to progressivity, which is a very small amount. So if you took one barrel of oil and one BOE of gas, the progressivity rate will fall from an additional 25 percent to about 4 or 5 percent. That is really the driver behind this process.

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MR. DICKINSON described how to calculate the tax. At 700,000 barrels per day, there are 255.5 [million] barrels per year. The ANS price was \$79. Transportation costs about \$6, so the gross value at the point of production was about \$73. That comes out

to about \$18.7 billion, with 12 percent of that going to royalty. Upstream costs are another \$4 billion, so taxable value is \$12 billion. Dividing that number by all the non-royalty barrels ends up with a progressivity base of \$53.98. By subtracting \$30, there is a starting point of \$23.98. The rule in law is 0.4 percent for every dollar. So in this example, there will be an added 9.5 percent tax. The total tax rate is 34 percent. The tax comes out to be \$4 billion before the application of investment credits and other adjustments. He presented the same type of calculation for gas. He assumed 4.2 BCF of gas per day, with a Henry Hub price of \$6. Alaska gas would be worth 75 percent of that in Alberta. TransCanada's application used a tariff that was later doubled by Black and Veatch, but Mr. Dickinson used the TransCanada tariff of \$2.88. The gross value at the point of production for each BOE is \$2.45, and the progressivity base ends up at \$14.70 - "there's no progressivity. It doesn't contribute at all, and in fact, when you add the two together, what you see is, it ends up eating into the progressivity from the oil." In this example, when Alaska had oil alone, it was pulling in about \$4.1 billion in taxes, and when gas was added the state would lose about \$70 million per year. "When you have the oil alone, you have a very high tax rate times a smaller tax base. When you moved over and you combine them, you have a much larger tax base, but you have a much lower tax rate."

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SENATOR STEDMAN said when the legislature was dealing with oil [taxes], there was a lot of concentration on \$60 per barrel and less. The example uses \$80, which is actual, and an incremental gas price of \$6. "When we turn this gasline on at 4.2 BCF a day, are you telling us that we're going to collect no revenue under this scenario from the gasline? We're actually going to pay the producers to take our gas?"

MR. DICKINSON said if those prices he used prevailed, and there were the same volumes, Alaska would get less production tax. In this case, Alaska would get royalties, income tax, and property tax, but those might not make up the deficit. With this example, Alaska would get less production tax, "and you certainly can create examples where the total revenue for the state goes down, not up, as a consequence of the gasline. That's correct."

SENATOR STEDMAN said, "We've spent years trying to get to the gasline so we can get some revenue to run the state and create jobs." The goal is to have incentives for the industry to move forward and not to give Alaska's gas away. He noted that Mr.

Dickinson hadn't taken credits into account, and those can be significant. He asked if the legislature will see more complex scenarios to see how these variables interact so Alaska doesn't end up paying someone to take its gas.

MR. DICKINSON said that is what Mr. Wood is saying.

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MR. DICKINSON showed a graph to show when a gasline would lower the state production tax revenue. Slide 14 uses actual data from 2004 to 2008 to see what relationships there were between oil and gas and to show how often revenue goes up as a consequence of a gasline and when it would go down. There are some times when it goes down, and the great majority of them are up. If it is an incentive to combine the tax, there are situations where the tax is quite a bit higher. Generally oil will always be diluted by gas, but the amount is really the question.

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SENATOR STEDMAN said the legislature concentrated on \$60 oil, which seems awfully low today. He asked if there was a marketplace dynamic pushing for the discrepancy in gas and oil.

MR. DICKINSON said American policy will likely make carbon-based energy more expensive. The dirtiest will be most expensive. How that works out with supply and demand confuses him. It is difficult to predict. He showed the effect of adding a gas stream on revenue. "In this case, if we have oil only, we'd get \$41.48 billion; if we add in gas at these prices and these volumes, the production tax would drop to 4.1, so it would be a net loss of \$34.8 billion." He showed a spreadsheet using an oil volume of 350,000 barrels per day when the gas comes on, which may be optimistic. If the price of oil is very high it would generate taxes of \$5.6 billion. If gas comes on at \$6, there would be a loss of \$1.2 billion, so a gasline would definitely be a detriment at those prices and volumes. Some may say that is an incentive to produce and that there will also be royalties, property taxes, and income taxes. But if the price of oil is \$80 and gas is \$13, gas production would cause Alaska to have \$4 billion more in revenues. The shift of one variable creates a huge change.

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SENATOR STEDMAN asked if it is reasonable to have 365 barrels per day once the gasline is built. He asked what the range would be. "I'd be a little surprised if we did a gasline and opened up

the gas fields and we found no more oil, and we're down to 200,000 barrels a day or 250,000 barrels a day."

MR. DICKINSON said finding gas may cause more exploration for oil. The state has gotten used to a huge dinosaur. Lots of new fields came on in the last ten years, but the declining Prudhoe Bay elephant is what drives us. There might be a lot of new discoveries to keep the pipeline going. It is speculative.

SENATOR STEDMAN said he didn't try to insinuate that Alaska will return to its highest production numbers, but "the scenario here may be hopefully unlikely that we're going to have a gasline and we're not going to be able to get our oil production over 350,000 barrels a day." He continued, "I don't want to walk into our gas ... conversation on taxes with the structure that we had with the original oil, where we're hemmed in at the \$20-\$60 range, and progressivity was off the table. We spent a lot of time trying to create a more dynamic analysis so we can try to make some better decisions than what was originally put in front of us several years ago by another administration."

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MR. DICKINSON said both of the times the legislature acted, a huge degree of progressivity was added above what both Governors Murkowski and Palin put forward.

SENATOR WIELECHOWSKI said this is just the beginning of the discussion.

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Rich Ruggiero

RICH RUGGIERO, Consultant, Gaffney, Cline and Associates Inc (Gaffney-Cline), Houston, TX, said he is under contract to the Alaska Department of Revenue to provide advice on energy fiscal systems. He worked with ACES and AGIA. He said he provided a paper after sitting through the Legislative Budget and Audit presentation in Anchorage last December. He thought there were things that got into the record that need to be corrected. He wants people to come away with a better understanding of how ACES works. Mr. Dickinson highlighted some unexpected consequences of ACES giving some unwanted results. Alaska was trying to get more taxes out of higher profits. "You were really looking for something where you didn't have to guess where the price of oil would be. The state wanted a system that would work across the range of oil prices. He noted the broad range of recent prices. He said he believes it is a system that is

responsive across a very wide range of prices in the marketplace. The state wanted to encourage reinvestment and new developments. He has heard that there is now an exceedingly high amount of reinvestments in existing units on the North Slope, and Alaska has a lot of new explorers. The Petroleum News stated that some were here because of those tax credits and the ability to generate value should the explorations not be successful.

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MR. RUGGIERO said what Mr. Dickinson presented wasn't unexpected or unintended in any way. He showed two images that Gaffney-Cline previously showed to the legislature. "We talked about the fact that there was the base, sort of, ACES curve, and then there was the delta, or marginal, curve that occurred as you either increased your overall cash flow by a dollar a barrel through increasing prices, or you decrease by a dollar a barrel your cash flow as a producer by reinvesting in the field or in the state."

MR. RUGGIERO showed a slide entitled: *There are No "Unexpected" or "Unintended" Consequences*. It showed existing production and whether there was heavy oil or gas coming in, and he said "we did know and we did predict that that would bring the overall combined progressivity down." The system was designed to encourage what appeared to be - at the time -- uneconomic developments in heavy oil and natural gas. So this was clearly not unexpected. "This is exactly the way we went." If the state actually offered the full 20 percent tax credit right away, "you could get to the point where the state was actually paying more than 100 percent of incremental investments, and you corrected that by putting the tax credit across a number of years instead in the single year."

MR. RUGGIERO said Gaffney-Cline looked at a number of different reinvestment levels, whether it was a simple dollar per barrel or all the way up to a 20 percent reinvestment, which, given the recent high prices in oil, it could be one to two billion additional dollars of investment on the North Slope. The one thing Gaffney-Cline did not show previously and that Mr. Dickinson discussed was: "we've added to this marginal line. If you've got ACES here in the green, sort of the marginal state delta in blue, we put the federal in to show what the total government take would be." As the state-take percent increases, the federal take goes way down. The federal government is funding a lot of the state's increase in taxes.



MR. RUGGIERO said that Gaffney-Cline also previously discussed "the cross subsidy or less tax," with an extensive presentation. The concluding slide showed an existing portfolio that paid a tax rate, and then fields were added in that were less profitable and more expensive to bring on. Gaffney-Cline did show in that scenario that the effective tax of one of the added fields could be as little as 18 percent. With a base tax rate of 25 percent, when that field comes on, the state is actually giving it a subsidy. There was a discussion about why the state would give a subsidy at a point in time when things were coming on, "and it goes exactly to what Senator Stedman was leading to, is that as you bring these additional developments on, you keep assets that you've now got, such as TAPS, continuing in operation." Feeding the crude into TAPS allows Prudhoe Bay, Kuparuk, and the other existing fields to continue to produce at lower and lower levels. That will keep the minimum needed to keep TAPS in operation. So there is a lot of upside. It would also provide some incentive for higher cost operations like heavy oil and gas.

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MR. RUGGIERO said the real key in Mr. Dickinson's analysis is the price parity. The price parity between gas and oil is generally six to one. Plotting the ratio of gas price to oil price from January 1995 to early 2008, based on Black and Veatch's work in AGIA, shows that Mr. Dickinson picked a gas/oil ratio of 13, and that big of a difference has occurred only six months out of 14 years. The last example that Mr. Dickinson just showed ends up with a \$1.2 billion subsidy by the state, and it is an oil to gas ratio of 22 to 1, which has not been seen since gas prices were controlled and oil prices were decontrolled.

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SENATOR STEDMAN said the parity is the BTU equivalent, which should hold fairly constant. Then there is the parity in the marketplace.

MR. RUGGIERO said exactly, and that is what the graph shows. The black line is the market parity in those points in time.

SENATOR STEDMAN asked if he had the mean, median, mode, and standard deviations.

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MR. RUGGIERO said no, but in the work done under AGIA, Black and Veatch testified that in the long run, there would be a gas/oil ratio of 7/1 or 8/1. Pure parity is 6/1.



SENATOR STEDMAN suggested that this discussion was going to fast for the committee and for the public. If Alaska wants a stable tax regime for the industry and for the citizens, wouldn't it be presumptuous to tell constituents that Alaska is giving its gas away for free or next to nothing? "How do we do that and keep the populace from uprising?"

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MR. RUGGIERO said these very large gas export projects have "an awful lot of dealing within a commercial nature." One aspect of that is the producer will look for protections on the down side. The senator should tell the Alaska people that under ACES, if the gas project had been in operation from January of 1995 to 2006, Alaska would have provided a bit of a subsidy to the oil companies four percent of the time - it would have uplifted the producers' net value of gas during those six months out of 14 years. But every time gas got below the standard deviation, the state would have received extra value as the price of gas increased relative to oil. The progressivity curve would kick in, and the state would get it back.

MR. RUGGIERO said there is a quid pro quo within ACES. Progressivity works, and the combination of oil and gas work such that when prices get disparate from one another, the state provides a subsidy. "But when prices get exceedingly good, the state takes a bigger share of the profit that's available." He said he ran Mr. Dickinson's numbers at different gas/oil price parities, and it is shown on the graph labeled: *Collecting "less" combined tax*. At a parity of 13, where Mr. Dickinson's model was run, there is a very slight subsidy by the state, but "into the range of expected flows..." He stopped in order to explain the graph. Plotted on the y axis is the total state tax take based on the production levels that were in Mr. Dickinson's model. The x axis represents the gas/oil parity. The green is the tax that oil would've paid on a stand-alone basis. The red is what the gas would've paid on a stand-alone basis, and the blue line is the combined tax. As price parity gets high, which means that gas is getting very low compared to oil in the marketplace, there is a subsidy provided by the state (relative to treating those as two separate streams). In parity ranges that are expected on a long-term basis, it will average itself between seven and eight, and the combined tax will be almost equal to what the two stand-alone taxes would be.

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SENATOR STEDMAN asked for more explanation.

MR. RUGGIERO said the green bar represents the tax that oil would pay alone -- \$4.1 billion. The red bar shows the additional tax that gas would pay if it were not tied to oil (using the \$30 kick-off point for the 0.4 progressivity). The blue line shows what happens under the combined tax system. The conclusion by Mr. Dickinson is shown at a parity of 13/1, and the blue line is below what oil would be if it were taxed alone. That is where the state gives a \$70 million contribution to the oil and gas producers.

SENATOR STEDMAN noted that the administration didn't ask the legislature to deal with this issue, and the industry doesn't want this dealt with. The committee has decided to look at this issue. With a parity of 8, going toward 15, the tax becomes less stable. "I would expect the view from the public to be that way." Maybe there should be another briefing on the global aspects of the oil and gas industries to see if the world is awash in gas or oil, and that will give a better feel for the future. If [the parity] ended up being at 5 or 6 for an extended period of time, it won't be an issue, but if there is an extended time with a parity of 14 or 15, the legislature will have trouble dealing with constituents.

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CO-CHAIR WIELECHOWSKI said that is an excellent point. This is the beginning of the discussion.

MR. RUGGIERO said the market shows resilience in correcting itself when it gets way out of whack. When gas gets to be that inexpensive relative to oil, industries like power plants will switch fuels. A sustained disparity is not reasonable or possible in the market as it exists today. If government intervened in pricing, it could be sustained. But the market will stabilize it. The next model is labeled: *Impact of Varying both Oil/Gas Production and Price Ratios*. It has gas produced at 4.2 BCF per day and oil priced at \$80 per barrel, and "the curve on the left shows prices at the 13 to 1 parity level, which ... is a very unusual level." If oil production is 0.7 million barrels a day, there will be a slight contribution by the state. But he expects liquid volumes to decline by 6 percent, so there would be 0.3 or 0.35 million barrels a day for the producers that have both gas and oil. That combined tax effect only occurs if the producer has oil and gas. Even at that unusual parity rate, the combined tax paid, which is the blue line, is in excess of the oil stand-alone rates. Out of the tens of thousands of different scenarios, it's a one-off. It is not

impossible because those prices did occur on that day, but one doesn't look at an anomaly when creating a fiscal design. Using a 10 to 1 parity is still above where Mr. Ruggiero believes the markets would settle out. "You'll see it no matter what the level of oil production is relative to gas production." The blue line, which is the combined tax, will always be greater than what the oil would have paid on a stand-alone basis. In answer to the question if Alaska is going to subsidize the gas project, "I believe, in looking at these numbers and looking at where the market will actually take the price of gas, that you do not have to worry about that across the range of production levels we're expected to see." Although the blue line shows that taxes paid will be less than if they were figured individually, taxes are still much greater than the taxes on a stand-alone basis. "And the state of Alaska and its people are better off."

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SENATOR STEDMAN said he understands amortizing over 20 or 25 years and stability of revenue stream. But from a policy perspective, if a quarter, a year, or two years had anomalies back to back, the legislature would have issues in dealing with the public. There are budget cycles, and he would have to explain to people why there is a 4.2 bcf pipe and no revenue. He wants to come up with a solution so it does not happen.

MR. RUGGIERO said there are tens of thousands of scenarios that could be run. Gas and oil price parity and relative volume are but two of many parameters that can vary with reasonable numbers.

CO-CHAIR WIELECHOWSKI said Senator Stedman has raised some good points. "Are you of the opinion that we need to change our gas taxes - change ACES to address these concerns?"

MR. RUGGIERO said he has seen nothing to justify a change right now. No one has brought forth a reasonable real-world scenario to show how and why ACES needs to be modified. Many people would like to see the absolute level of the taxes lowered, but the tax is doing exactly what the state wanted.

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SENATOR HUGGINS said, "Nobody's brought forth the expected sustainable scenario. It sounds like you're trying to defend your position." He asked if there were only oil production and only an oil tax, and then there was a sudden gas find, "would you be here advocating to join those two?"

MR. RUGGIERO said it depends on the project size, location, and challenges. A separate gas and oil tax will open Pandora's box. Will the tax be separated by the revenue stream, field, or unit? It would require a way to define a gas field or an oil field. If it is done on the revenue stream, every piece of equipment would have to be labeled one way or the other. Other factors include the type of market and how many existing facilities it would have to use, "and the list would go on and on." His firm has recommended other jurisdictions to combine and others to separate. There is no absolute.

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MR. RUGGIERO showed Mr. Wood's summary slide and said there was no consideration of the incremental oil production. He assumed that Mr. Wood ran it like normal oil field analysis, holding out expenditures that weren't recovered until there was production to write it off with. The state offers credits and some cash back on those credits. Mr. Wood had no comparison to show how the tight fields, which he is using to generate his conclusions, actually relate to Alaska's fields. One recommendation is that there is a lot more analysis to do before the state can even start to think about changing the gas fiscal system.

SENATOR STEDMAN said he would be surprised if the legislature has a debate on the gas tax, but the discussion will be on the mechanics of progressivity and if it should be linked to the BTU of oil. "We're waiting to deal with the gas tax issue for a later date, but it's a mechanical issue." When the legislature worked on the oil tax, "we had to deal with gas - there was that link - and we just set it aside and went on. But that link seems to create substantial more interest in its outcome than a lot of us anticipated."

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SENATOR HUGGINS said he is frustrated by "our reactive mode." This is one we can get out in front of, "and you're the professional in the sense that in 2010 there is going to be an open season, and I do not want to be sitting here with somebody announcing a special session because we haven't been proactive enough to have this conversation to come to a conclusion that people can buy into."

CO-CHAIR WIELECHOWSKI thanked Senator Huggins for requesting a hearing on this important topic.

SENATOR FRENCH said in 2010, in AGIA, "we promised to keep gas taxes the same for 10 years. When gas starts flowing, maybe

twelve years from then, so that's why there's a huge imperative." The stakes are very high. Starting in 2022, the state is promising to hold taxes constant for a decade, and that is a big deal. It needs to be thought about now, before the promise becomes real during the open season.

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There being no further business to come before the committee, the meeting was adjourned at 5:10 p.m.