

ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE

February 16, 2012

3:33 p.m.

MEMBERS PRESENT

Senator Joe Paskvan, Co-Chair
Senator Thomas Wagoner, Co-Chair
Senator Bill Wielechowski, Vice Chair
Senator Bert Stedman
Senator Lesil McGuire
Senator Hollis French
Senator Gary Stevens

MEMBERS ABSENT

All members present

OTHER LEGISLATORS PRESENT

Senator Joe Thomas
Senator Cathy Giessel

COMMITTEE CALENDAR

SENATE BILL NO. 192

"An Act relating to the oil and gas production tax; and providing for an effective date."

- HEARD & HELD

PFC ENERGY PRESENTATION ON PROGRESSIVE FISCAL STRUCTURES

- HEARD

PREVIOUS COMMITTEE ACTION

BILL: SB 192

SHORT TITLE: OIL AND GAS PRODUCTION TAX RATES

SPONSOR(S): RESOURCES

02/08/12	(S)	READ THE FIRST TIME - REFERRALS
02/08/12	(S)	RES, FIN
02/10/12	(S)	RES AT 3:30 PM BUTROVICH 205
02/10/12	(S)	Heard & Held
02/10/12	(S)	MINUTE(RES)

02/13/12 (S) RES AT 3:30 PM BUTROVICH 205
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02/15/12 (S) RES AT 3:30 PM BUTROVICH 205
02/15/12 (S) Heard & Held
02/15/12 (S) MINUTE(RES)
02/16/12 (S) RES AT 3:30 PM BUTROVICH 205

WITNESS REGISTER

JANAK MAYER, Manager
Upstream and Gas
PFC Energy
Washington, D.C.

POSITION STATEMENT: Testified during the discussion of SB 192.

TONY REINSCH, Senior Director
Upstream and Gas Group
PFC Energy
Washington, D.C.

POSITION STATEMENT: Testified during the discussion of SB 192.

ACTION NARRATIVE

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CO-CHAIR JOE PASKVAN called the Senate Resources Standing Committee meeting to order at 3:33 p.m. Present at the call to order were Senators McGuire, French, Wielechowski, Stevens, Co-Chair Wagoner and Co-Chair Paskvan.

SB 192-OIL AND GAS PRODUCTION TAX RATES
PFC ENERGY PRESENTATION ON PROGRESSIVE FISCAL STRUCTURES

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CO-CHAIR PASKVAN announced that SB 192 was before the committee and that PFC Energy would deliver a presentation [on progressive fiscal structures.]

He related that Alaska has many components to its fiscal system that are attractive across a spectrum of oil prices. For example, among the levers are low royalties; 50 percent or lower than the royalty in North Dakota or Texas. Alaska has attractive credits, such as a 100 percent deduction for capital expenditures in the year spent, plus 20 percent credit "on their

bottom line." It's also called the "comparative front end loading index." Alaska also disproportionately shares in the geologic risk and is one of the most attractive locations in the world. Also attractive to investors is the royalty modification component.

He questioned how Alaska will create a balanced fiscal regime in order to receive a fair return on its generous capital credits to investors in the North Slope and on its disproportionate geologic risk.

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JANAK MAYER, Manager, Upstream and Gas, PFC Energy, introduced himself as a legislative consultant hired by the Legislative Budget & Audit Committee to analyze Alaska's current fiscal structure and any proposed changes to the structure. One of the requirements is to build a complex model of the current fiscal structure and of a wide range of existing base production assets with the potential for new production from new investments. Another task is to provide presentations to the legislature.

He related that today's presentation will cover three broad areas: company behaviors and investment decision making, a conceptual overview of progressivity, and how progressivity works in other jurisdictions and under ACES.

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TONY REINSCH, Senior Director, Upstream and Gas Group, PFC Energy, said that his focus is on strategy, planning, and positioning of large international and national oil companies in the upstream sector of both oil and gas.

He related that PFC has focused traditionally on the area of the oil and gas sector that has been the weakest in terms of company, government, and regulator analysis - the areas of above-ground risk. These are areas such as competitor landscape, or who owns the resources, political, social, and economic risks, and policy and regulatory risks. He said that PFC advises international oil companies (IOC's), national oil companies (NOC's) and governments on how these risks are unfolding globally.

MR. REINSCH began by explaining IOC decision making regarding capital allocation, budget, and long-range planning. He related that he plans to discuss company behaviors and decision making, especially regarding investment decisions and decisions on whether to develop particular resources in the near term or to

postpone development. He said he would also cover key metrics including return on capital employed (ROCE), net present value (NPR), and internal rate of return (IRR), as well as consideration of asset metrics versus portfolio metrics and differences between integrated versus non-integrated companies. He said he would conclude with cash flow allocation and the reallocation of free cash flow within global portfolios as projects and basins move through various stages of development to maturity.

SENATOR STEDMAN joined the committee.

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MR. REINSCH explained that oil and gas companies follow a standardized process linking the annual budget cycle to the long range plan and corporate strategy. They follow an annual process that is predictable. The timing has to do with filing reports and drilling seasons.

SENATOR WIELECHOWSKI asked if PFC Energy works with oil companies and governments.

MR. REINSCH replied that PFC advises international oil and gas companies, governments, and national oil companies.

He continued to explain the capital allocation cycle within a given company. The first quarter of the year is spent on strategy review and updates about where the company is going in the longer term. That process carries through at the corporate level for much of the year. The budget cycle begins in the third quarter and uses the strategies and long-range plan to create the capital expenditures of the coming budget.

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MR. REINSCH explained that slide 4 is an attempt to capture how companies look at the world during the planning and strategy process. The process begins with a view of the world they will be working in; economic markets, energy supply, and geopolitical considerations, leading to a view on oil and gas prices. Companies then look at the basins in which they are operating or may want to operate in the future. Next, they identify blockers, enablers, gaps, and logjams to being able to accomplish what they want to, and focus on competitor landscape and markets. From that analysis, the company targets objectives and identifies objectives. Finally, the company identifies strategies and uses the long-range plan to make capital investments.

He turned to slide 6 to show corporate input assumptions on the external environment. Companies have business units that manage operations in specific areas such as the Gulf of Mexico, the North Sea in the United Kingdom, Alaska's Prudhoe Bay, Eagle Ford Shale Gas, and Angola's deep water production. The units are responsible for developing a long-range plan, a five year plan, and a budget. He continued to say "at corporate, those are rolled up," leading to a discretionary and non-discretionary capital budget available for board approval. After the board approves the budget, capital is allocated, the projects are approved, and the programs are executed.

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MR. REINSCH moved on to slide 8, which depicts the issue of how to attract capital for a project within a corporate budget. There are a number of considerations when determining whether an oil company will position, or continue to invest, in a particular asset, basin, or country. Some of these considerations are materiality, total capex exposure, and full-cycle economics/metrics.

He continued to say that each project is broken down into discrete investment decisions, in the form of Project Approval Requests (PAR's), creating a natural "state-gate" for capital approval and allocation. Each stage-gate creates an opportunity for the company to continue, amend, suspend, or exit/divest. Each PAR has an authorization for expenditure (AFE) attached to it. The sum of the AFE's in any given year is the budget.

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He related that slide 9 shows a program with multiple activities over multiple years. He noted that discretionary capital comes up for discussion and approval every year.

He discussed how companies measure the performance of their investments and decide to allocate capital to one activity versus another - slide 10. Key to measuring performance are growth, profitability, efficiency, cash flow, and risk.

CO-CHAIR PASKVAN asked if, within any one company's decision-making process, 100 percent of the project approval request would not be funded.

MR. REINSCH replied that with \$100 oil, many companies were able to fund all of their projects. Currently, not all activities are

funded. Companies must decide how to balance growth activity, debt management, and returning capital to shareholders.

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MR. REINSCH explained project selections and decision metrics - slide 11. Energy companies employ a variety of benchmarks or metrics to rank investment opportunities and to allocate financial capital. Some of the more common include: pay-out period, internal rate of return, net present value, recycle ratio, discounted and undiscounted net cash flow profiles, maximum negative cash flow exposure, net booked reserves, and capex/boe or cost per barrel of production capacity.

CO-CHAIR PASKVAN inquired if there was a selection or decision metric most often used by a resource owner who is attempting to impose a production tax.

MR. REINSCH said the ranking metric is the internal rate of return (IRR) because it provides a relative ranking and allocation across a portfolio of projects. The owner of the resource would be more interested in the net present value (NPV) as the ranking metric.

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SENATOR WIELECHOWSKI asked if information such as the rate of return or the net present value is readily available to the resource owners in the countries PFC Energy has worked in.

MR. REINSCH explained that varies by country and regulatory structure. He reported that it was surprising to find that in the least developed jurisdictions, in terms of government institutional capacity, the standard for regulation and approval is increasingly becoming the IRR, which the companies are required to provide.

SENATOR WIELECHOWSKI inquired about the standard or average IRR for which a project is deemed profitable or should go forward.

MR. REINSCH answered that in countries that are just beginning oil and gas development, projects have IRR's of greater than 25 percent. IRR's becomes less useful in more mature jurisdictions.

MR. MAYER added that from the government's perspective, IRR's happen most in the less developed countries that have a strong national oil company.

MR. REINSCH turned to slide 12 - net present value, which is the estimated value of a project when all future net cash flows are discounted to the present at an appropriate rate or discount factor. He contrasted the advantages and disadvantages of NPV. The main disadvantage is that it is difficult to rank projects.

He explained slide 13 - internal rate of return, which is the discount rate that equates all future cash inflows to outflows at a point in time. He contrasted the advantages and disadvantages of IRR.

He pointed out that corporations establish a "hurdle" IRR number. Projects with IRR's in excess of the hurdle rate attract budget capital, with those below the hurdle rate not funded. He listed issues with IRR hurdle rates.

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SENATOR FRENCH stated the legislature spends a lot of time guessing what a company's IRR rate is in order to determine if the state's investments are sufficiently attractive. He requested an example of what a good IRR rate would be for a major international oil company.

MR. REINSCH said it varies by company. A good rate would be an IRR threshold at 15 percent or greater for a domestic investment, or 20 percent for an international investment.

He explained the third metric, the return on capital employed (ROCE), as described on slide 15. ROCE means net profit before interest and taxes, divided by the gross capital employed, times 100. The ROCE indicates how well management has used the investment made by owners and creditors into the business. He referred to two charts that depicted ROCE, one of global players and one of international players.

He said that seldom is a company able to perform at high ROCE and high growth; they move in and out of those cycles. Upstream ROCE is higher for the larger companies and is lower for the intermediate companies because ROCE has a built-in capital bias.

He described some of the issues with ROCE. Initially, ROCE penalizes an oil company for major capital investments. Once the projects are in place, there is a bias toward large asset portfolios due to a material production cash flow.

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MR. REINSCH explained why fiscal changes impact project economics. It is rare to find a company able to perform at both a high efficiency level, or high ROCE, and a high production growth level as measured by changes in production. He used as an example the increase in the United Kingdom supplementary ring fence charge, where the supplementary profits tax of 20 percent was increased to 32 percent. The impact was a reallocation of net cash flow from the contractor to the government with little or no impact on the development of the basin or the wells that were drilled. The result was the government gave up a degree of freedom in dealing with the price cycle. When the price cycle is down, it is harder to attract capital.

SENATOR FRENCH asked how the deductions and credits work in Alaska when calculating IRR's.

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MR. REINSCH explained that calculating IRR's are part of company operations that are almost impossible to assess externally.

SENATOR FRENCH suggested that \$1 billion would be the figure used to calculate IRR.

MR. REINSCH agreed.

MR. MAYER added that the modeling work PFC Energy has undertaken is aimed at looking at the entire base of existing production for producers on the North Slope, as well as trying to understand some of the possible new investments, because it is the interaction of all factors that determines the economics under Alaska's system. It is important to understand how the credits play into the equation.

SENATOR FRENCH suggested that the figure of \$400 million may have to be used to calculate the IRR as well.

MR. MAYER agreed there would be an immediate tax benefit on the \$1 billion.

SENATOR WIELECHOWSKI asked for the date of slide 17. He noted that oil production has increased in the British fields since 2011.

MR. REINSCH reported that the slide was introduced in the spring or summer of 2011.

He turned to the issue of integration on slide 18. Both integrations and de-integration are hot topics ever since Marathon and ConocoPhillips have both de-integrated their downstream operations from their upstream operations. Both companies maintain that integration hides value. De-integrated entities are better capable of developing appropriate strategies and appropriate execution of those strategies. He said there are technical drivers for integration; however, the benefits can be secured through contracts and partner agreements. BP, TOTAL, and Shell are divesting from Africa in favor of pure play refiners and marketers.

CO-CHAIR PASKVAN asked what Mr. Reinsch thought about integration of North Slope crude with the West Coast of the United States.

MR. REINSCH opined that the maturity of the North Slope and of the refining and marketing business in North America creates a situation much like the Canadian oil sands, where the companies can either integrate refineries with the upstream operations, or contract with third parties. North Slope crude would fall into that same category with other crude flows. Incentives to create artificial barriers have eroded away.

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He turned to the issue of basin allocation and free cash flow distribution. He described Alaska as a harvest area and said he would discuss what that means regarding global portfolios, as shown on slide 19. PFC Energy allocates company activities to particular basins on the basis of whether those basins are core to the company, and whether their focus area is new venture.

He defined harvest area as an area that produces positive net cash flow, with investment activity typically at or below replacement level. Investing is done to maintain the cash flow. There is a limit to actual or perceived growth. He pointed out that the oil industry has largely been built up by the reallocation of free cash flow from one basin to another.

MR. REINSCH defined the "sit and hold" category as an area with a substantial resource base, but investment has been delayed due to unattractive fiscal terms or significant above ground risks. The company may hold large projects in this area but hold back the pace of investment until the risk factors have been addressed. He used the changes taking place in Libya, Sudan, Chad, and Venezuela as examples.

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SENATOR FRENCH noted that Alaska appears in the harvest area. He wondered if jurisdictions cycle in and out of their status and how quickly that happens.

MR. REINSCH clarified that the chart was not PFC's analysis. He said that companies do cycle within base allocations in a couple of ways. Harvest assets for one company can be a growth asset for another company. Apache is such a company because they take over assets, such as BP's, and use them for growth. Another example is the UK's North Sea, which has been in harvest mode for decades. Chevron built the majority of its Asian portfolio off of the free cash flow generated from Europe and West Africa, just as those jurisdictions had been built by the free cash flow generated from U.S. on-shore assets of Chevron.

SENATOR FRENCH gave a hypothetical example if the UK had decided to drop their taxes to entice Chevron back into the UK, it wouldn't have worked. Chevron was focused on a different part of the world.

MR. REINSCH agreed.

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CO-CHAIR WAGONER requested more information about Apache's takeover of BP's assets.

MR. REINSCH reported that Apache first stemmed the decline of the 40's Field and then they grew the production. The incumbent company, BP, had the capability to do the same thing, but they had better prospects elsewhere.

CO-CHAIR PASKVAN summarized that BP turned to another area of their diversified portfolio.

MR. REINSCH agreed. BP ended up developing Deepwater in the Gulf of Mexico.

MR. REINSCH turned to a chart on slide 20 that shows, over a three year period from 2003 to 2005, the sources and uses of cash flow on a regional basis for the largest international oil companies. North America and Europe are the largest generators of net or free upstream cash flow. Sub-Saharan Africa is beginning to develop as a deep water player.

He related that the second chart shows sources and uses of cash flow between 2008 and 2010. It shows Sub-Saharan Africa as a net

cash flow generator with the capital going to North America. There are substantial shifts in how capital is allocated across portfolios on a global basis.

MR. REINSCH described, on slide 21, Nexen, Inc. as a company that initially built its North Sea assets from the cash flow generated out to Yemen, and now the cash flow from Europe is being used to finance developments in Canada. These moves can be very rapid.

He discussed ExxonMobil's global areas of upstream operations, as shown on slides 22 and 23.

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MR. MAYER presented the principles of fiscal regime design. He said he would address the concept of progressivity with emphasis on progressive versus regressive fiscal regimes, the rationale for a progressive fiscal regime, how the concept of progressivity works in a range of other hydrocarbon jurisdictions, and the problems in the applications of progressivity. He shared a favorite quote by Jean Baptiste Colbert, the Minister of Finance under King Louis XIV of France. Colbert said, "The art of taxation consists in so plucking the goose as to get the most feathers with the least hissing." In more contemporary terms, that art of taxation consists in maximizing revenues, subject to two important constraints, efficiency and competitiveness.

MR. MAYER said that efficiency is an absolute concept - the degree of distortion in a taxation regime is something "we can assess solely in relation to ourselves." There is a need to examine the incidence of the tax under different price and cost levels and to understand what components of the underlying economic activity are being taxed.

He explained that competitiveness is a relative concept and requires us to examine our attractiveness in comparison to others. There is a need to understand what other jurisdictions we are competing with for capital and to understand whose capital we are competing for, as well as how rates of return for projects compare to what our target investors can achieve in other jurisdiction.

He said the goal is to find the intersection between efficiency and competitiveness, and to find a regime that does not distort investment with rates that are internationally competitive.

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MR. MAYER showed slide 31 which depicts the efficiency of supply, demand, and price. The graph on the right shows that the supply curve is a series of various projects, such as five different classes of oil regimes. The point is that each has a very different cost structure and very different economic returns at a given oil price.

He used slide 32 to explain economic rent, the gap between the cost required to ensure a normal return on capital and the price received.

He related that slide 33 depicts the impact of a 30 percent royalty on the five projects. The royalty successfully captures 30 percent of the gross revenues from projects 1 - 4 for the government. The tax, however, is highly distorting. Project 5 no longer earns a normal return on capital; if it were a prospective investment, it would now have negative NPV and would be cancelled. If the oil price were to fall, the 30 percent royalty would make further projects non-economic.

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MR. MAYER defined relative government take as government take divided by divisible income. Divisible income is the gross revenues less cost, including capex and transportation costs. Government take includes all payments the government mandates in its function as a sovereign: royalties, land rental fees, property taxes, production taxes, and income taxes. Government take does not include amounts the government earns in an entrepreneurial function.

He turned to slide 35 to depict the relative government take impact of a 30 percent royalty. The impact of the royalty is very different across different projects. For project 5, it is 100 percent, but for project 1, it is less than 30 percent. A fixed percentage royalty is inefficient and highly regressive with regard to costs - as costs increase, so does relative government take. Royalties, however, are very simple to administer.

He noted that more revenue could be created, not by taxing production, but by the targeting of economic rent.

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Mr. MAYER turned to a brief history of production sharing contracts, as shown on slide 39. He said that ACES is in many ways a reflection of a recent trend seen in tax/royalty regimes

around the world that have endeavored to capture a greater share of rent, by replication many aspects of the economics of a production sharing contract (PSC). Until the 1960's and 1970's, the global oil industry was dominated by tax/royalty type concessions for oil and gas production. These were very simple to administer, and made sense so long as prices were reasonably low and stable, and oil was easy to produce.

He related that, in many cases, relatively generous terms for oil companies reflected the colonial-era world in which the concessions had been set. Rising nationalism in oil producing countries saw the first moves away from this system. OPEC was formed in 1960, and Indonesia introduced the first "contracts of work" with terminology and mechanics very similar to later PSC's. The 1973 Arab oil embargo sent oil prices from \$3 to \$12/bbl, dramatically eroding government take under tax/royalty systems, as international oil company profits surged. This resulted in the widespread rescission of existing of concessions in major oil producing nations and the introduction of PSC's.

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MR. MAYER described the structure of a simple PSC - slide 40. Core to the concept of PSC is the differentiation between cost oil and profit oil. Cost oil represents barrels of production required to recover operating and capital costs. The remainder of production is deemed profit oil.

He related that the Malaysia-Thailand joint development area has one of the simplest PSC structures anywhere. It is not regressive with regard to either price or cost. Because it includes the normal return on capital in the tax base, it is regressive with regard to economic rent.

He explained that many PSC-type regimes include progressive and regressive elements. Many such systems incorporate regressive elements like fixed-percentage royalties. Some regimes add progressivity to their profit-focused components to compensate for regressive elements of the regime to achieve a more neutral outcome. Often application of progressivity has been taken further, to focus on limiting the share of rent received by IOC's in high price environments and maximizing relative government take.

He said that tomorrow's presentation would focus on how progressivity works in a number of different regimes and how it includes a range of different metrics. He noted he would also focus on progressivity under ACES.

CO-CHAIR WAGONER asked whether the presenters could explain Alaska's total tax system to a new producer who was ready to invest in Alaska.

MR. MAYER stated that Alaska has a very complex tax system with different impacts, depending on the existing production base and the nature of a number of factors. He stressed that a generic modeling of ACES wouldn't tell the company the reality of the field for a specific investment.

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There being no further business to come before the committee, Co-Chair Paskvan adjourned the Senate Resources Standing Committee at 5:05 p.m.