ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
May 8, 2024
3:31 p.m.

MEMBERS PRESENT

Senator Click Bishop, Co-Chair
Senator Cathy Giessel, Co-Chair
Senator Bill Wielechowski, Vice Chair
Senator Scott Kawasaki
Senator James Kaufman
Senator Forrest Dunbar
Senator Matt Claman

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

SENATE BILL NO. 194
"An Act relating to temporarily reduced royalty on oil and gas from pools without previous commercial sales in the Cook Inlet sedimentary basin; and providing for an effective date."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: SB 194
SHORT TITLE: REDUCE ROYALTY ON COOK INLET OIL & GAS
SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

01/18/24	(S)	READ THE FIRST TIME - REFERRALS
01/18/24	(S)	RES, FIN
02/23/24	(S)	RES AT 3:30 PM BUTROVICH 205
02/23/24	(S)	Heard & Held
02/23/24	(S)	MINUTE(RES)
03/20/24	(S)	RES AT 3:30 PM BUTROVICH 205
03/20/24	(S)	Heard & Held
03/20/24	(S)	MINUTE(RES)
04/26/24	(S)	RES AT 3:30 PM BUTROVICH 205
04/26/24	(S)	Heard & Held
04/26/24	(S)	MINUTE(RES)
05/06/24	(S)	RES AT 3:30 PM BUTROVICH 205

05/06/24	(S)	Heard & Held
05/06/24	(S)	MINUTE(RES)
05/08/24	(S)	RES AT 3:30 PM BUTROVICH 205

WITNESS REGISTER

JOHN CROWTHER, Deputy Commissioner
Department of Natural Resources (DNR)
POSITION STATEMENT: Introduced a modeling presentation for SB 194.

DEREK NOTTINGHAM, Director
Division of Oil and Gas
Department of Natural Resources (DNR)
POSITION STATEMENT: Described the modeling presentation for SB 194 and answered questions.

JHONNY MEZA, Commercial Manager
Division of Oil and Gas
Department of Natural Resources (DNR)
Anchorage, Alaska
POSITION STATEMENT: Provided a modeling presentation for SB 194.

NICHOLAS FULFORD, Senior Director
Gas and Energy Transition
GaffneyCline
Houston, Texas
POSITION STATEMENT: Gave a modeling presentation on the Economics of Cook Inlet Developments.

ACTION NARRATIVE

3:31:20 PM
CO-CHAIR CATHY GIESSEL called the Senate Resources Standing Committee meeting to order at 3:31 p.m. Present at the call to order were Senators Kawasaki, Kaufman, Wielechowski, Dunbar, Co-Chair Bishop, and Co-Chair Giessel. Senator Claman arrived thereafter.

SB 194-REDUCE ROYALTY ON COOK INLET OIL & GAS

3:31:50 PM
CO-CHAIR GIESSEL announced the consideration of SENATE BILL NO. 194 "An Act relating to temporarily reduced royalty on oil and gas from pools without previous commercial sales in the Cook Inlet sedimentary basin; and providing for an effective date."

CO-CHAIR GIESSEL said the committee previously adopted four amendments to SB 194 and requested modeling before considering further amendments. The modeling presentations were prepared for the committee by Department of Natural Resources (DNR) and GaffneyCline (GC).

3:32:32 PM
JOHN CROWTHER, Deputy Commissioner, Department of Natural Resources (DNR), introduced a modeling presentation for SB 194.

3:32:52 PM
DEREK NOTTINGHAM, Director, Division of Oil and Gas, Department of Natural Resources (DNR), said the modeling presentation would cover various scenarios and a range of royalty rates, focusing on incentives to address supply issues in the Cook Inlet. He said the modeling included optimistic and pessimistic scenarios to illustrate the economic possibilities for companies developing projects in the Cook Inlet.

3:34:01 PM
JHONNY MEZA, Commercial Manager, Division of Oil and Gas, Department of Natural Resources (DNR), Anchorage, Alaska, provided the modeling presentation for SB 195 as requested by the Senate Resources Committee. He moved to slide 2 titled "Hypothetical Projects Considered: Optimistic Case" consisting of a table comparing possible financial outcomes for an existing oil and gas production project and three hypothetical new oil and gas production projects. He noted that the production, price, and cost values used are simplified assumptions for illustrative purposes and that the existing production scenario doesn't include capital investment or expenditures (Capex) and it represents declining production.

- The existing oil and gas scenario produces 700 barrels of oil per day and 3.5 million cubic feet (mcf) of gas per day. For reference, he noted that the average current Cook Inet production is 8000 barrels of oil per day and 200 million cubic feet (mcf) of gas per day.

- The first [hypothetical] scenario involved a new offshore gas-only project with a final investment decision (FID) in August 2025 and production starting in August 2027. He said the potential gas production from the offshore project is 250 billion cubic feet (bcf), with no oil production, assuming a required investment of $350 million.

- The second [hypothetical] considered is an oil development project beginning in December of the current year, taking two years to develop with some associated gas production. This project would produce 45 million barrels of oil and 20 billion cubic feet (bcf) of gas, with an assumed required investment of $400 million.

- The third [hypothetical] scenario involves the infield development of two additional gas-only wells, starting next summer and taking a few months to develop. This project could produce 20 billion cubic feet (bcf) of gas at a cost of $30 million, with each well costing $15 million to drill.

MR. MEZA explained that all the projects presented assume the same operating expenditures of 50 cents per 1000 cubic feet of gas and $10 per barrel of oil and the price assumptions for gas and oil are $8.50 per mcf and $70 per barrel, respectively, with an overriding royalty interest (ORRI) of 5%.

3:37:51 PM
CO-CHAIR BISHOP asked whether the two additional gas wells are onshore or offshore.

3:38:07 PM
MR. MEZA replied that the [hypothetical scenario wells] were assumed to be offshore.

3:38:13 PM
CO-CHAIR GIESSEL asked how Department of Natural Resources (DNR) determined the capital expenditure/investment figures (Capex) for the illustrated scenarios.

3:38:30 PM
MR. MEZA said this information was publicly shared by companies for potential new projects in the inlet.

3:38:44 PM
SENATOR WIELECHOWSKI referred to the new offshore gas-only [hypothetical scenario]. He observed the capital expenditure (Capex) cost of $350 million and the operating expenditure (Opex) cost of $.50 per mcf and the sale price of $8.50 per mcf gas. He asked what the cost of production per mcf would be for the producer.

3:39:24 PM
MR. MEZA replied he did not have that exact figure but said the analysis considered the cost of supply as an investor would,

considering not only the cost of production, of investment and associated operating expenditures, but also of taxes and royalty payments to the overriding royalty interest (ORRI) owners.

3:40:00 PM
SENATOR WIELECHOWSKI noted figures from the charts and said he was trying to determine the costs for a producer that would lead to a cost of $8.50 for the consumer.

3:40:47 PM
MR. MEZA said he would provide the answer through the presentation.

3:41:07 PM
MR. CROWTHER sought to orient the committee by noting that the optimistic case was first up in the presentation. The optimistic case assumes a more attractive production volume, and lower capital expenditures and operating expenditures. He said the pessimistic case later in the presentation would include different assumptions.

3:41:35 PM
SENATOR KAUFMAN acknowledged the spectrum of optimistic through pessimistic scenarios and asked whether there was a sense of which is more likely or realistic.

3:42:00 PM
MR. NOTTINGHAM said the optimistic scenario assumes that all projections, including reserves, resources, and costs, are met exactly as projected. He acknowledged that in the real world, delays in startup dates and other unforeseen issues are common, which the optimistic scenario does not account for. He described the pessimistic case as the low-end scenario, while the actual outcome is expected to be somewhere in between these two extremes.

3:43:37 PM
MR. MEZA moved to slide 3 titled "Project Economic Metrics: Optimistic Case." He explained that the table compared possible outcomes for various royalty relief interest rates, including the status quo, for each of the three hypothetical oil and gas production scenarios: new offshore gas-only, new oil and associated gas, and traditional gas-only wells.

MR. MEZA said the analysis was conducted from the investors' perspective. He noted a typo in the description of Amendment [6]

(A.15) but he said the model accurately reflected the language of the amendment.

3:44:59 PM
MR. MEZA said there were three variables of interest for potential investors: net present value (NPV), internal rate of return (IRR), and the payback period. He pointed out that under the status quo, the new offshore gas-only project has a NPV of $58 million, an IRR of 19.3 percent, and a payback period of over nine years. He noted that the discount rate used for all three projects is 15 percent annual real rate. When different options for royalty relief are applied, the outcomes are affected as expected, with improvements to NPV and IRR and a reduction in the payback periods.

MR. MEZA explained that the commercial value of oil is higher than that of gas, as reflected in the oil and gas project scenario and that the gas-only project which did not require new infrastructure also had higher rates of returns.

MR. MEZA commented that the effect of Amendment [6] (A.15) was described as a middle case between the more beneficial, gas: 0 percent [royalty relief] and oil: five percent [royalty relief]; and the less beneficial royalty relief scenarios, gas: 6.25 percent and oil: 12.5 percent.

3:48:12 PM
SENATOR KAUFMAN noted that the table on slide 3 did not line up with Amendment [6] (A.15).

3:48:55 PM
CO-CHAIR GIESSEL asked Mr. Meza if this was the typo he described earlier.

3:48:58 PM
MR. MEZA affirmed that it was.

3:49:11 PM
MR. CROWTHER assured the committee that the presentation would be updated to correctly reflect Amendment [6] (A.15).

3:49:22 PM
SENATOR DUNBAR asked whether it was fair to say the primary driver of the net present value (NPV) difference in the model is the oil over the gas. He pointed out that there is only a two-million-dollar difference with a five percent change in the gas royalty. He asked whether he was reading the slide correctly.

3:50:05 PM
MR. MEZA agreed and said that under the second scenario the commercial value of [oil] is, as expected, greater than the value of gas. The reduction of the royalty rate affecting gas, but not moving the oil [royalty] rate would not create as impactful a change, as in the other cases.

3:50:35 PM
SENATOR DUNBAR said SB 194 is described as gas royalty relief but slide 3 seems to demonstrate that it would really be oil royalty relief in the inlet and that the hope is to sort of spin off gas. He asked whether that was what slide 3 was showing.

3:50:57 PM
MR. CROWTHER revisited the parameters for scenario 2 and explained that the project produces 20 bcf of gas per day, which is significant for state demand but not a major gas producer, primarily targeting oil. He noted this project scenario is based on an existing project in the inlet that is primarily targeted for oil development and the oil [royalty] relief would be material for that project moving forward, while gas-focused projects are more economically driven by gas [royalty] relief.

3:52:09 PM
SENATOR WIELECHOWSKI recalled previous testimony and today's testimony that the expected internal rate of return (IRR) for a project in Cook Inlet to be economic was between 15 and 20 percent.

3:52:27 PM
MR. NOTTINGHAM affirmed that was correct.

3:52:34 PM
SENATOR WIELECHOWSKI noted that all the projects in the model showed a minimum of 19.3 percent, which was within the expected IRR.

3:52:43 PM
MR. NOTTINGHAM affirmed that was correct.

3:52:47 PM
SENATOR WIELECHOWSKI asked whether royalty relief was needed if the rate of return was already in the expected range. He further opined that a 15 percent rate of return seemed high. He said, according to some websites, the standard rate of return for gas production is ten percent discount rate. He asked what the

difference in the rate of return would be if the [royalty relief] is lowered from 15 to 10 percent.

3:53:37 PM
MR. CROWTHER affirmed that was correct, the [optimistic] chart does show attractive rates of return. He noted that the reality of today is that current operators do not have sufficient confidence in the optimistic case to move forward [with production]. He said the pessimistic case is likely not reflective of reality, either. He said it was a very fair point that the discount rate used in this [optimistic] model is high and reflects that the cost of capital for oil and gas in Cook Inlet is high.

3:55:29 PM
MR. MEZA offered further reflection on the optimistic case. He noted the assumption that investors would use a 15 percent annual discount in real terms and that a different rate would affect the net present value (NPV) in the table, but it would not affect the internal rate of return (IRR). He pointed out that the payback, the number of years of production required for investors to recover their capital, ranges from three years all the way to nine years. He emphasized that investors might prefer to recover their capital in four years and variation in investor expectations could influence project viability, even with royalty relief.

3:57:08 PM
MR. MEZA moved to slide 4, a chart illustrating state revenues for the optimistic case model, applying the different royalty options to each scenario. He reminded the committee of the typo regarding Amendment [6] (A.15) and that the model does reflect the language of the amendment as intended. He said, assuming investor approval of the projects based on economic metrics, the state could receive revenue from production tax, royalty revenue, and property tax. These revenues are calculated for the different modeling scenarios and are discounted using a 3 percent annual rate of return, which aligns with the state's preferences, to reflect present value.

3:58:12 PM
SENATOR DUNBAR sought the relationship between slide 3 and slide 4. He asked how the reduction in state revenue of $175 million translated to the increased net present value (NPV) of $75 million [for the producer].

3:59:17 PM

MR. MEZA explained that is the impact of the different discount rates. For the calculation of the net present value (NPV) the model used a 15 percent real annual discount rate. For the revenues to the state, the model used a three percent real annual discount rate. He said that was what generated the differences in terms of magnitude.

3:59:58 PM
SENATOR WIELECHOWSKI focused on the scenario with new offshore gas only and compared the status quo value, $246.6 million, with the values directly below, $127.7 million which are calculated using the staggered discount rate. He asked whether it was a correct reading of the table to conclude that the reduced interest to the state resulted in a loss of approximately $119 million to the state.

4:00:43 PM
MR. MEZA concurred that it was the correct reading of the table under the assumption that the projects were sanctioned [by investors] under the status quo. He noted the economic metrics [for the optimistic case] are appealing. He reminded the committee that investors would consider the range of potential scenarios affecting the outcome of the projects and that is the reason the presentation would transition to consider a pessimistic scenario.

4:01:24 PM
SENATOR WIELECHOWSKI asked him to explain how Department of Natural Resources (DNR) determines whether a producer is adhering to its duty to produce. For example, if a company showed a 19.3 percent rate of return or 29.5 percent rate of return for new oil and gas. He noted that the returns could be lower on the pessimistic side. He asked how DNR would determine whether a company should proceed to drill under the terms of their lease obligations.

4:02:08 PM
MR. CROWTHER said the primary enforcement mechanism to consider whether there was fulfilment of development obligations by lessees occurred at every stage of the process. He outlined the stages of developing a project and said for different projects at different stages, there are different metrics to evaluate a producer's performance. He posed a hypothetical production project for which Department of Natural Resources (DNR) had confidence in the nature of the reserve and resource and a level of confidence in the economics affecting it and doesn't see active efforts [on behalf of the producer] to pursue investment.

He pointed out that the optimistic case indicated a very attractive project. DNR would encourage that producer to develop or take remedial action against them. He said the internal rate of return (IRR) would be different in the presentation of the pessimistic scenario and in those scenarios DNR would be encouraging a developer to pursue investment from every possible source and continuing to monitor market conditions to see if there were material changes that would make that project more attractive. He concluded that IRR was just one metric for determining whether a producer was meeting their commitments and there were many other variables depending on a project's stage in the overall development cycle.

4:04:51 PM
SENATOR WIELECHOWSKI noted the scenario with two additional gas-only wells and 30.2 percent IRR, which, he said, was extremely high. He stated a company that bought a large amount of lease acreage had an obligation to produce everything. He said the state gave up that land, gave the resource to that company. He noted testimony by attorneys that [producers] don't get to make the decision [to forego production on leased land] and go somewhere else. He emphasized that producers have an obligation to produce on all the leases. He asked whether that was Department of Natural Resources (DNR)'s perspective.

4:06:11 PM
MR. CROWTHER affirmed that it was. He confirmed that oil and gas companies have the right and obligation to develop leases, with the state's interests protected through leasing and unitization programs. If a company fails to explore a lease, the lease may expire, and the Commissioner may choose not to grant extensions. Similarly, if a company breaches a unit agreement, the unit may contract or terminate, reverting leases to the state. Department of Natural Resources (DNR) actively manages leases, promoting ongoing development, drilling, and investment to maintain production. They identify participating areas, consider contract units, and review annual development plans to encourage continued investment.

4:07:55 PM
SENATOR WIELECHOWSKI said overriding royalty interest (ORRI) was noted at five percent on slide 2. He asked whether the calculations for internal rate of return (IRR) included the ORRIs. He asked how ORRIs impact DNR's evaluation of a [oil or gas] field. He opined that a project could be extremely profitable, but with ORRIs it might not be. He asked whether DNR would enforce a lease if there were ORRIs.

4:08:42 PM
MR. CROWTHER replied that, generally, the need for development accrues irrespective of the operator's commercial terms. ORRIs are a contractual third party right and can be created and applied in some circumstances, but they wouldn't change the terms of the lease, implied or otherwise.

4:09:26 PM
MR. MEZA replied that ORRIs and other cash layouts as well as the cost of production are considered in the calculations for net present value, internal rate of return and payback period.

4:09:44 PM
SENATOR WIELECHOWSKI asked for confirmation that five percent ORRI was included in internal rate calculations.

4:09:58 PM
MR. MEZA affirmed that a five percent deduction of the gross revenue represented payment to the ORRI owners. Anything left after the five percent deduction would be the cash flow to the producers, after accounting for the cost of production and taxes.

4:10:19 PM
SENATOR WIELECHOWSKI asked whether the 19.3 percent [slide 3, new offshore gas scenario, status quo] included a five percent ORRI and assumed a fifteen percent annual discount, which, he opined, is high. He opined that the five percent ORRI shouldn't be included in the calculations because it is not part of [DNR's] consideration whether [a producer should] produce.

4:11:00 PM
MR. CROWTHER agreed, conceptually, that projects are more attractive without royalties of any kind, naturally, because it's a gross cost. [ORRIs] are included for the model's hypothetical projects because they represent the reality that most of the development projects in Cook Inlet already feature ORRIs under existing contractual commitments and those cannot be abridged under the DNRs current authority.

4:11:55 PM
SENATOR WIELECHOWSKI pointed out that the state did not force producers to take on overriding royalty interests (ORRIs). He opined [ORRIs] skew the economics and the state should not bear the burden. He said if producers were not producing because ORRIs make production unprofitable, it [should not be] the

state's problem. He opined that ORRIs should not be considered. He said it appeared internal rates of return (IRR) would be several percentage points higher absent ORRIs. He proposed that if a company is not producing because they agreed to a contract term that makes it unprofitable [to produce], [the producer] should give the lease back [to the state].

4:13:29 PM
MR. CROWTHER said he appreciated the point. He noted DNR denied applications to create new ORRIs under the rationale that they burden long-term development of state leaseholds. The denials were upheld by the Alaska Supreme Court. In many cases ORRIs were created years and sometimes decades ago and they persist with the life of the lease, so leases that remain may continue to have ORRIs for a very long time. He said the goal of the presentation is to provide a realistic hypothetical that matches the scenarios seen currently in Cook Inlet with contractual commitments [including ORRIs], some of which were put in place by developers decades ago.

4:14:32 PM
SENATOR WIELECHOWSKI asked whether the ORRIs would disappear if the state took a lease back.

4:14:44 PM
MR. CROWTHER replied that ORRIs persist with the life of a lease and would be terminated with the end of the lease.

4:14:52 PM
SENATOR DUNBAR stated that the goal [of SB 194] was to find a balance supporting production and reducing the state's revenues as little as possible. He referred to the modeling charts and said it appeared that under Amendment [6] (A.15), producing companies would be in no worse shape and the state would earn $55-60 million dollars more. He said that seemed ideal and asked for further explanation.

4:16:08 PM
MR. MEZA explained that the reason for different discount rates for the state and for investors was to represent the opportunity costs for each side. Investors would consider various risk profiles and the state would consider its alternatives for future cash flow. He said that is the main reason the state uses a lower discount rate and that has been done for other types of analysis. He acknowledged comparing those different perspectives might lead to a disconnect.

4:17:19 PM
SENATOR DUNBAR sought to clarify his question. He noted that the payback, internal rate of return (IRR), and net present value (NPV) are about the same [see slide 3, new oil and associated gas scenario, line 3, compared to line 9] for the status quo and [the projected results of] Amendment [6] (A.15). He said slide 4 shows that revenue to the producer remains about the same and revenue to the state is $50-60 million more under Amendment [6] (A.15) [line 1] than under the status quo [line 1]. He asked if he was misunderstanding the model.

4:18:28 PM
MR. MEZA noted the comparison of fixed royalty rates of five percent whereas Amendment [6] (A.15) uses royalty rates that vary throughout three periods. The calculations reflect the impact of those different royalty rates and constitutes a large portion of revenues to the state. He said cash flow to producers is just one component of different cash outlays for investors that includes not only royalty rates, but also taxes and production costs.

4:19:30 PM
SENATOR DUNBAR said if these numbers are correct, it is a very strong argument for Amendment [6] (A.15) relative to the zero/five percent structure.

4:19:52 PM
CO-CHAIR GIESSEL noted that the status quo is even better [for the new oil and associated gas scenario].

4:20:14 PM
MR. MEZA moved to slide 5, transitioning to the pessimistic case. He said this case assumed the estimated cost [to produce] related to each of the three project scenarios would be higher and production was assumed to be lower than for the optimistic case. He briefly repeated the values from the slide and explained this [pessimistic case] was included to convey the message that investors not only consider the [optimistic] case initially shown, but they also consider variations where costs are higher, and production is lower. He said investors would consider the range and assign probabilities for net present value (NPV), internal rate of return (IRR) and length of payback period to each of the scenarios based on the investors' appetite or aversion to risk.

4:23:06 PM

MR. NOTTINGHAM noted the variability in reserve estimates and capital expenditure (Capex) in subsurface resource drilling projects. He said the differences are not extreme and are to be expected due to the inherent uncertainty in such projects. He stated that the modeling presented represented realistic scenarios.

4:24:31 PM
SENATOR WIELECHOWSKI recognized the range [of factors considered for the model] and asked why the range differed for each scenario. He specified some of the variations between the scenarios and asked why the model did not assume a uniform range of conditions to allow for comparison.

4:25:45 PM
MR. MEZA affirmed the observation and explained that the model intentionally used different percentage changes because the variables are not observed to change at the same rate in the market. The model was purposely constructed to demonstrate the effect of negative shocks to the producer. He said it was valid to consider other cases with an exact percentage change.

4:26:36 PM
MR. MEZA moved to slide 6, a chart illustrating Project Economic Metrics: Pessimistic Case. He explained that analysis of the various scenarios revealed that under pessimistic assumptions, some projects face negative net present values (NPV) and low internal rates of return (IRR), indicating potential investor losses. For instance, the NPV for new oil and associated gas projects varied from negative $10.8 million to [positive] $46.3 million depending on royalty relief. However, [according to the modeling] not all projects would benefit equally from royalty rate reductions, and some may still face financial losses. He noted a typo in the results for new offshore gas-only scenarios and promised corrected data post-hearing. He emphasized that investors would consider both optimistic and pessimistic scenarios and if the economic metrics of the scenarios do not meet investors' investment criteria, they may not sanction the projects. Consequently, there would be no gas or oil production, and no revenues to the state.

4:30:05 PM
SENATOR DUNBAR recalled that Department of Natural Resources (DNR)'s strongest argument in favor of SB 194 was that [Cook Inlet] projects were not moving forward under the current conditions. He concurred that was clear. He quoted figures from

slide 6 compared to the optimistic case figures. He concluded that it appears the projects would be profitable under all the given scenarios and asked which [royalty relief] DNR would recommend.

4:31:23 PM
MR. CROWTHER answered that Department of Natural Resources (DNR) generally viewed the state, the consumer, the market and the gas supply as very sensitive to these projects occurring as soon as possible. He noted that a small difference in the [royalty relief] percentage was associated with a small difference in the economic metrics for the producer. He said the question for the legislature was whether a slightly more attractive project [for investors], given the extreme sensitivity to the need for success, was worth the associated cost [lower revenue to the state]. He explained that the administration supports legislation that makes projects more attractive and mentioned a bill introduced by the governor reducing the state's royalty interest to five percent for both oil and gas. He said going lower [with royalty interest to the state] to meet market needs, is supported [by DNR].

4:33:51 PM
SENATOR DUNBAR concluded from the modeling that [royalty interest to the state] should stay at five percent and not go to zero percent given the very small change to IRR for the producer.

4:34:15 PM
MR. CROWTHER said it depended on the scenario. He agreed that for the gas-only scenario, staying at five percent was attractive. He noted the differences in the model scenarios, highlighting the different potential outcomes to the producers' economic indicators of applying different royalty rates. He recommended looking across all possible scenarios and choosing the [royalty interest rate that strikes the] right balance.

4:35:07 PM
SENATOR DUNBAR noted that it would be hugely expensive for the state to cut the royalty interest on oil to zero and that [legislation to lower the royalty interest] should be focused on gas.

4:35:25 PM
MR. CROWTHER said it was DNR's firm position that success required all three of these projects moving forward. He

advocated for finding a balance that would encourage all three production scenarios as well as exploration.

4:36:21 PM
SENATOR WIELECHOWSKI expressed appreciation for the modeling presentation and said it was what the committee requested and needed. He observed:

- overriding royalty interests (ORRIs) distort the oil and gas royalty analysis and the state should not have to bear the ORRI burden.
- the 15 percent discount rate also distorts the analysis by underestimating returns and leading to unrealistic conclusions about payback periods.
- the AIDEA reserve-based lending program, which allows for lower discount rates, could be more economically beneficial.

SENATOR WIELECHOWSKI concluded that oil remains profitable under all scenarios and did not see a strong case for reducing the oil royalty rate.

4:38:25 PM
MR. NOTTINGHAM said this oil project represents what is known about oil projects in Cook Inlet. He noted the significant decline from 18,000 barrels per day in 2018 to below 9,000 barrels currently. He said that no new oil wells have been drilled since late 2018 or early 2019. He emphasized that despite the economic potential of a new oil project, there are challenges in advancing further oil development in the Cook Inlet.

4:39:32 PM
SENATOR WIELECHOWSKI asked whether companies have come forward with oil projects that are not economic.

4:39:39 PM
MR. NOTTINGHAM said he was not aware of any, but hesitated to say there weren't any. He said there were companies looking into developing additional oil in Cook Inlet, beyond the more well-known projects, and they report significant challenges, including high costs, high risk and [limited] access to services, drilling rigs, etc.

4:40:36 PM
CO-CHAIR GIESSEL noted that the governor talked about encouraging companies to drill for gas. She asked whether he was

also encouraging oil development. She pointed out that gas was associated with oil and [oil] was more profitable.

4:40:57 PM
MR. CROWTHER said the governor's bill referenced earlier included both gas and oil and DNR supported that because of the value of a healthy market service industry. He said equipment and drilling services are all supported when people are pursuing oil, gas or both. He noted consumers were using both oil and gas and both were important commodities.

4:41:32 PM
CO-CHAIR GIESSEL appreciated the presentation and affirmed that it provided the information the committee sought.

4:42:20 PM
NICHOLAS FULFORD, Senior Director, Gas and Energy Transition, Gaffney Cline, Houston, Texas gave a modeling presentation on the application of SB 194 to the Economics of Cook Inlet Developments.

MR. FULFORD moved to slide 8 at the direction of the chair.

[Original punctuation provided.]

Development Cases Evaluated

Royalty relief proposals were evaluated for two hypothetical Cook Inlet developments.

- Project 1: Standalone shallow water gas field
- Project 2: Gas well (incremental development) in an existing onshore gas-condensate field. (work in progress)

Detailed excel model has been developed, capable of modelling multiple scenarios
[Slide 8 includes a screen-shot of the Excel model.]

MR. FULFORD stated that the model was still a work in progress and while they have a good understanding of the gas side, they haven't delved into the oil side yet and the presentation would focus on gas developments and economics.

4:44:00 PM
MR. FULFORD moved to slide 9.

[Original punctuation provided.]

Sensitivity to Royalty Changes

- Royalty changes will help to create an investment case
- Other features are more influential, especially gas purchase price and production levels
- Higher production levels can be facilitated by additional gas storage

MR. FULFORD explained the significance of royalty changes for gas or oil developers, noting that their impact on the investment's net present value (NPV) is comparable to a 20 percent change in operating expenses (Opex) and somewhat less than 20 percent change in capital expenditures (Capex). He emphasized that maximizing production levels and the price of the gas sold are the two major factors that substantially influence the project's economics.

4:44:56 PM
MR. FULFORD moved to slide 10, consisting of several data tables illustrating three different cases or scenarios of gas development and the potential outcome of various royalty interest levels:

Case 1: 250 billion cubic feet (bcf) offshore development, with all the processing facilities contained on a new offshore platform; gas delivered by pipeline.

Case 2: gas is produced in the platform, then tied into another offshore facility, and from there, it goes to market. He noted this case was the most economic.

Case 3: is a tie back to onshore production, which he compared to the Cosmopolitan concept.

MR. FULFORD explained the tables and concluded that the difference between a 10-year relaxation royalty and an indefinite royalty is quite marginal and unlikely to change the perspective of an investor.

4:47:07 PM
SENATOR WIELECHOWSKI asked whether a ten percent overriding royalty interest (ORRI) was included in the model.

4:47:09 PM
MR. FULFORD said a five percent ORRI was included.

4:47:21 PM
MR. FULFORD moved to slide 11 titled, Example Economics - 250 bcf vs 500 bcf standalone platform. The slide contains two data tables and two graphs comparing economic data for two different gas production volumes at a given standalone platform. He noted the economic case moves from being sub-economic for [production level of 250 bcf] to fairly attractive IRR and NPV numbers for [production level of 500 bcf]. He said the scale of the development is particularly important as well as the manner in which new developments are brought to market and the extent to which they use existing infrastructure. He noted that, for the 250 bcf case, using existing infrastructure for the tie in is a prerequisite for investment.

4:48:23 PM
SENATOR DUNBAR asked for clarification about the difference between the two projects on the slide.

4:48:34 PM
MR. FULFORD said one illustrated 250 bcf [of gas] recovered and the other illustrated recovery of 500 bcf. He said this was to demonstrate the importance of scale [of production].

4:49:04 PM
MR. FULFORD moved to slide 12 titled, Example Economics - Impact of 100 percent Take or Pay and flat daily nominations. Slide 12 contained two data tables and two graphs comparing the potential economic outcomes for two different contractual arrangements between a gas producer and a gas and power utility [purchasing the gas]. He noted the sensitivity of the gas economics to the nature of the contract. The slide was informed by analyzing contracts available on the public domain, comparing minimum and maximum daily contract volume with annual contract volume. He pointed out that, especially for the gas and power utilities in Alaska, a significant degree of contractual flexibility is required to deal with demand changes due to weather, etc.

MR. FULFORD explained that one scenario demonstrated a contractual obligation for the gas buyer to nominate [purchase] exactly the same quantity of gas every day, effectively removing the volume risk from the gas producer. He pointed out that the impact on the NPV and the IRR was substantial and said he would revisit the comparison when he presented recommendations and consequences.

4:50:28 PM

MR. FULFORD moved to slide 13 titled, Example Economics - Impact of potential Gas Line/Price Adjustment ($1/MMBtu discount in 2035). The slide contained two data tables and two graphs and was intended to convey the perspective of a global investor who has the choice of deploying capital anywhere in the world. It illustrated the impact on Cook Inlet of a potential liquid natural gas (LNG) line development. He said such a development, particularly if it's linked to an LNG export plant, would be a huge asset to the state and would bring in very substantial state revenues. However, for a Cook Inlet producer, it represented a significant risk. The economics of an LNG line as well as public statements by Alaska Gasline Development Corporation (AGDC), suggest that if such a project were built, it would deliver gas to the rail belt area at a substantial discount to what people were currently paying for gas out of Cook Inlet. He said, even with robust contractual obligations between gas buyer and seller, this sort of global market action is very disruptive.

MR. FULFORD explained that slide 13 posed a hypothetical start date of 2035 for the LNG line and assumed that there would be a $1 discount price adjustment. He pointed out that the model indicated a significant effect on the IRR for the Cook Inlet gas producer. He said, from an investor perspective, these events would make it much more difficult to finance a project in Cook Inlet.

4:52:47 PM
SENATOR WIELECHOWSKI asked what the general, overall lifting costs were in Cook Inlet, the cost to produce one million cubic feet (mcf) of gas.

4:53:02 PM
MR. FULFORD said [producers] were carrying a two dollar per mcf operating cost. He elaborated, noting the capital expenditures (Capex) recovery and amortization would be on top of that, plus tax royalties, etc. From a purely operating expenditures (Opex) point of view, direct cost is about two dollars per Mcf.

4:53:33 PM
SENATOR WIELECHOWSKI asked for a sense of the all-end cost.

4:53:39 PM
MR. FULFORD replied that at a relatively low discount rate, for example ten percent, it would be potentially less than the $8.50 that is being paid for the gas. However, he pointed out that the cost of borrowing and IRR expectations could change the picture

substantially. He suggested that sharing the model and other scenarios he had prepared would help address the question.

4:54:28 PM
MR. FULFORD moved to slide 14

[Original punctuation provided.]

Key Conclusions

- A 250bcf offshore development typical of the Cook Inlet currently has marginal economics if developed as a stand alone platform
- A tie-back to offshore or onshore infrastructure is needed
- In this case, changes to royalty may be help in establishing an investment case for development
- A larger resource base considerably improves economics
  - Royalty reductions may still be required to meet investor requirements
- Higher average production significantly helps investment case
- The potential for "disruption" owing to a gas line from the North Slope is material within the lifetime of these projects
  - There are many examples internationally of material changes in the market creating "stranded assets"
- In fill wells appear to have strong economics, without royalty changes

MR. FULFORD said his initial impressions were that Cook Inlet gas would have relatively good economic returns. However, over the last five years, perspectives and expectations for dry gas projects changed significantly with restricted access to capital. He emphasized that economically justifying a standalone 250 bcf gas development was very difficult, with or without a concession on the royalty. Existing infrastructure could make a 250 bcf project more feasible and a 500 bcf development may be very respectable. He said the concerns for operators and investors were aged infrastructure, which posed very high technical risk, and abandonment costs, as well as the difficulty of obtaining oil and gas services, offshore and onshore. He said these features begin to explain why an apparently attractive gas province has failed to attract capital for development. He said

the imbalance between apparent economics and action on the ground, was clearly something experienced over the last many years, and was part of the reason for SB 194.

4:57:25 PM
SENATOR DUNBAR noted the point about disruption to the [market via a gas line] and mentioned a large project by BlueCrest that was having difficulty accessing capital. He asked whether investors are hesitant to invest in Cook Inlet because of worries about a developing LNG line. He said that seemed optimistic and noted that it would take a long time to build [an LNG pipeline]. He said it seemed Cook Inlet producers would have years, if not decades of profitable operation before the [LNG line would operate]. He asked for clarification.

4:58:03 PM
MR. FULFORD said that when he puts himself in the place of someone considering the deployment of $300 or $400 million dollars of capital in a project that has a 15-to-20-year payback period, these are the sorts of things he would worry about. He explained that when he has been asked to determine the causes for past chaotic outcomes for major gas investments, he found market disruptions such as price deregulation or the introduction of new technology or a new project. He said it was often these significant changes in the market dynamic which completely unraveled a gas project, because of their long-term nature. He said that, although it might seem a little odd that somebody would look at what is a highly speculative project and allow it to put them off an investment, it's a real factor which an investor might contemplate, but he said he thought there were solutions for that.

4:59:39 PM
SENATOR WIELECHOWSKI asked whether Mr. Fulford had any comment on the previous presentation by Department of Natural Resources (DNR).

4:59:54 PM
MR. FULFORD replied that nothing stood out as being materially different. He said GaffneyCline (GC) took a different modeling approach with more detailed development plan assumptions, but that, directionally, the two models were similar.

5:01:25 PM
At ease.

5:03:18 PM

CO-CHAIR GIESSEL reconvened the meeting.

5:03:23 PM
MR. FULFORD moved to slide 15.

[Original punctuation provided.]

What facets may be helpful to spur continual exploration and development?

- The key economic impact of tie-ins and tariffs for access to infrastructure may support regulatory action to improve utilization of existing pipelines and processing facilities
- High take or pay gas offtake contracts would assist in improving economics, but may lead to higher consumer prices for gas and electricity
  - Potential for a socialized "reliability charge" on utility bills
  - Cooperation between buyer groups, with sub-allocation
- Additional storage may also release greater value by reducing volumetric flexibility needs of the field production
- Very strong contractual mechanisms to maintain commerciality of Cook Inlet environment, should a gas line be constructed.

MR. FULFORD expanded on the ideas for the committee to consider. He noted that Cook Inlet has an array of existing infrastructure around processing pipelines, gathering plants, etc. One of the conclusions from the economics is that efficient utilization of existing infrastructure will aid future development of new gas and could make the difference between an investable project or not. He said some kind of structured approach to utilization of existing assets might be something to consider.

5:04:41 PM
MR. FULFORD noted that flexibility in a dry gas contract is economically damaging and very costly for the producer and investor, but equally for the consumer, whether it be an electric utility or a gas utility. He suggested determining where that risk sits and who should pay for it. He noted that was not part of SB 194 but said some kind of structured mechanism whereby the gas buyers in the state could offer the gas producers a greater degree of firm demand would, in turn,

help the economics. He acknowledged that it may have consequences for energy users.

5:05:46 PM
MR. FULFORD said another factor to consider was the value of storage in the Cook Inlet. Given the climate changes that occur in that part of the world, having gas storage is an essential part of meeting demand fluctuations. One consideration would be to determine whether investment dollars would best be spent increasing the storage capability and thereby leveling out the gas production from new facilities, or whether it would be best spent on the new facilities themselves.

MR. FULFORD concluded by addressing the considerations for Cook Inlet and the possibility of a new gas line. He suggested the state could consider some kind of mechanism providing for a supporting agreement to maintain the value of Cook Inlet gas in the event of a gas line, thereby alleviating some of the concerns of potential Cook Inlet development investors.

5:06:59 PM
SENATOR DUNBAR said the last point implies that gas producers would want very long contracts. Currently, he said gas purchasers like ENSTAR, are asking for long contracts, but the producers are refusing to give them long contracts. He asked for an explanation for that observation.

5:07:27 PM
MR. FULFORD opined that the nature of those contracts is unusual. Typically, a long-term, firm offtake contract would be something an investor or lender considers a prerequisite for investment. He suggested that the technical features of developing the gas resources in Cook Inlet may be leading the gas producer to hold back that option depending on market conditions. He opined that mechanisms to generate a longer term, stable investment platform for dry gas is a good thing and understanding why producers are not willing to embrace long-term, firm contracts would be very helpful.

5:08:42 PM
MR. FULFORD moved to slide 16.

[Original punctuation provided.]

Other commentary

- HB 393 requires further study, with benefit of oil examples
- If differential royalty changes are applied, they may be better assigned to utility contracts, owing to the more variably demand pattern
  - Could be administratively complex to administer
  - Unlikely to make a difference to investment levels
  - Export market for Cook Inlet gas not considered viable
- HB280 appears to have been appropriate for the environment that existed in 2010. Other jurisdictions have experienced similar investment challenges owing to a changed market conditions.
- Recent history suggests that a relaxation on oil royalties may be necessary to maintain or slow decline in the basin, but this has not been studied yet.

MR. FULFORD said he would need more time to incorporate oil mechanisms into the model. He addressed a question from the committee about applying different royalty rates and said there could be an argument for assigning royalty discounts to the utility contracts which have volume inefficiency embedded in them, rather than the flat demand that, for example, a refinery would have for fuel. He questioned whether the administrative burden and the difference it would make to an investor would be worth breaking it up in that way, however.

5:09:50 PM
MR. FULFORD addressed the possibility of out-of-state markets and said Cook Inlet gas was not a viable source of energy for export markets because the cost is just too high.

MR. FULFORD answered a question about House Bill 280 from 2010. He said the environment for gas, in particular, is very different now than it was then. He said when House Bill 280 was debated and put in place he didn't see anything inappropriate given what people knew at that time. However, considering what's happened since then, clearly there are things which could have been changed.

5:10:40 PM
MR. FULFORD offered a final comment on oil royalties, based on public domain information and history. He said there seemed to

be diminishing interest in developing oil in the Cook Inlet and questioned whether royalty rates were part of that. He said it could be something to look at in a lot more detail.

5:11:13 PM
SENATOR KAUFMAN suggested a model showing replacement of Cook Inlet gas. He said it was important to consider. He opined that the worries about royalty rates were less a concern than the looming possibility of the total replacement of Cook Inlet gas, which would make Cook Inlet completely uneconomic, resulting in no revenue for the state. He asked for comment on that and how quickly a model incorporating oil metrics could be prepared.4

5:12:01 PM
MR. FULFORD replied that the alternatives to Cook Inlet were all potentially complex, time-consuming, and expensive. He highlighted the liquid natural gas (LNG) option and said it would involve a high price of gas and the leasing of a floating storage unit for what would be a relatively small volume of gas in early days. He said it would lead to a disproportionately high fixed tariff for a vessel of that sort. He concluded that the LNG option for the short to medium term would be expensive compared to further incentivization for Cook Inlet development. He revisited an earlier comment about whether the state should use its own resources to invest in a kickstart for Cook Inlet development. He said that could be an avenue to pursue and suggested modeling for consideration.

5:13:55 PM
SENATOR WIELECHOWSKI asked for Mr. Fulford's perspective on the discussion about a sunset provision that would go into effect ten years after production and the proposal to incentivize quicker production using a waterfall concept.

5:14:25 PM
MR. FULFORD questioned the benefit of a sunset provision to incentivize early production versus a permanent reduction [in royalties] because it adds risk to the back end of the profile. He said many of the other risks also increase in magnitude further down the profile. The potential for a return or an increase in royalties after ten years, for example, may have a negative influence. He said he would need time to consider mechanisms to incentivize early production that might be applicable to Cook Inlet.

5:15:50 PM
SENATOR WIELECHOWSKI asked for general advice.

5:16:03 PM
MR. FULFORD replied that the implications of a significant gas shortage in Cook Inlet for the whole of the Railbelt and the Alaska economy are such that, at this point in time, he would err on the side of creating a more generous investment climate for potential new gas developments rather than holding back in an effort to mitigate losses to the state. He said he was unaware of current analysis to determine the implications of volatile energy prices for Alaska businesses and consumers in terms of jobs, etcetera, but the implications of that would lead him to err on the side of caution, lifting royalties more than they might think would strictly be necessary. He said that might lead to a good outcome.

5:17:13 PM
SENATOR WIELECHOWSKI noted that oil seemed to be profitable under all scenarios. He asked how important it was to reduce the oil royalty and what rate Mr. Fulford would recommend.

5:17:29 PM
MR. FULFORD acknowledged that he had not yet studied the oil situation in as much detail as gas, but to revive Cook Inlet and create a dynamic investment environment with the return of services and to make it attractive to global investors, changing oil royalty rates may be advisable and would indicate Alaska is a place to do business.

5:18:29 PM
[CHAIR GIESSEL held SB 194 in committee.]

5:18:36 PM
There being no further business to come before the committee, Co-Chair Giessel adjourned the Senate Resources Standing Committee meeting at 5:18 p.m.