ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
January 30, 2023
3:30 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

OTHER LEGISLATORS PRESENT

Representative Tom McKay

COMMITTEE CALENDAR

PRESENTATION(S): 2022 COOK INLET GAS FORECAST

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

JOHN BOYLE, Commissioner-Designee
Department of Natural Resources
Anchorage, Alaska
POSITION STATEMENT: Provided opening remarks and participated in the presentation about the 2022 Cook Inlet gas forecast.

JHONNY MEZA, Commercial Analyst
Commercial Section
Division of Oil and Gas
Department of Natural Resources (DNR)

Anchorage, Alaska
POSITION STATEMENT: Participated in the presentation about the 2022 Cook Inlet gas forecast.

JOHN BURDICK, Petroleum Reservoir Engineer
Division of Oil and Gas
Department of Natural Resources
Anchorage, Alaska
POSITION STATEMENT: Participated in the presentation about the 2022 Cook Inlet gas forecast.

JOHN CROWTHER, Deputy Commissioner
Department of Natural Resources
Anchorage, Alaska
POSITION STATEMENT: Participated in the presentation about the 2022 Cook Inlet gas forecast.

ACTION NARRATIVE

3:30:13 PM
CO-CHAIR CATHY GIESSEL called the Senate Resources Standing Committee meeting to order at 3:30 p.m. Present at the call to order were Senators Claman, Dunbar, Wielechowski, Kaufman, Kawasaki, Co-Chair Bishop, and Co-Chair Giessel. She recognized that Representative Tom McKay was in the audience.

PRESENTATION(S): 2022 COOK INLET GAS FORECAST

3:30:52 PM
CO-CHAIR GIESSEL announced the committee would hear a presentation from the Department of Natural Resources about the 2022 Cook Inlet gas forecast. She reviewed the course of events starting 12 years ago when she joined the Senate. The legislature responded to the concern about limited gas supplies for Anchorage and the Interior by passing North Slope gas pipeline legislation and instituting cash credits to incentivize small producers in Cook Inlet. The gas pipeline has not been built and the cash credits were discontinued which resulted in several companies going bankrupt. She commented that history appeared to be repeating itself because the committee was again talking about the constrained gas supply in Cook Inlet. She invited the presenters to the witness table.

3:33:25 PM

JOHN BOYLE, Commissioner-Designee, Department of Natural Resources, Anchorage, Alaska, stated that it was a privilege to talk about the status of Cook Inlet. He said it's important to understand that Cook Inlet natural gas is a finite resource and that the basin has been producing for more than 60 years. Natural gas from Cook Inlet has been the primary source of energy for Southcentral for decades and it is likely to be critical going forward.

COMMISSIONER-DESIGNEE BOYLE stated that his team would summarize the history of activity in the basin; the supply and demand dynamics; and the prior fiscal terms and incentives the legislature has instituted. He said the current analysis incorporates certain assumptions that may change, but the overall perspective is that Cook Inlet demand will exceed the supply at some point in the future. Whether supply will increase to meet demand or demand will decrease due to trucking LNG to the Interior or increased efficiencies remains to be seen. However, the department does see the need for policy discussions about whether the current path is sustainable to provide energy to Southcentral into the future.

COMMISSIONER-DESIGNEE BOYLE displayed the outline for the presentation and reported that in 2022, the state offered two Cook Inlet oil and gas lease sales and both currently are producing natural gas for Alaskans in the Railbelt. Energy security is a priority and the department is looking at a variety of energy solutions to ensure that energy supplies are available for the short, medium, and long term. There are also alternatives such as LNG imports, the Alaska LNG project, hydropower, on- and offshore wind, tidal energy, coalbed methane, and geothermal prospects. He said the situation in Cook Inlet will require a lot of discussions and involve policy considerations. The goal today is to provide a snapshot in time to show what the data is demonstrating and help inform the committee's decision-making going forward.

CO-CHAIR GIESSEL listed the individuals who were available online to provide information and answer questions.

3:39:09 PM

JHONNY MEZA, Commercial Analyst, Commercial Section, Division of Oil and Gas, Department of Natural Resources (DNR), Anchorage, Alaska, stated that the purpose today is to present information from the recently published 2022 Cook Inlet Gas Forecast. The presentation also would provide background information regarding supply and demand and the geology of Cook Inlet.

3:39:36 PM
JOHN BURDICK, Petroleum Reservoir Engineer, Division of Oil and Gas, Department of Natural Resources, Anchorage, Alaska, displayed slide 3 and explained that gas in the Cook Inlet basin comes from two primary sources. One is the biogenic gas from coals in the shallower strata. The second comes from oil that migrates from source rocks and creates associated gas.

3:40:20 PM
MR. MEZA displayed slide 4 and discussed the history of gas production from Cook Inlet fields since 2001. The graph on the left shows gas production from only state lands in the billions of cubic feet per year. During this time, the producers were primarily the oil and gas majors. That changed in more recent years to independent oil and gas companies such as Hilcorp, Furie, Chugach Electric, Vision Resources, and Cook Inlet Energy.

The graph on the right shows Cook Inlet gas production over the same timeframe but from state, federal, and private lands. It also shows that the production of gas has come down to 200 billion cubic feet per year. He said that's important to remember when the demand component is discussed late in the presentation. He noted that the production decline was stemmed in more recent years. This was due in part to continued drilling in the existing fields, but also the arrival of new fields such as Kitchen Lights, Kenai Loop, and Cosmopolitan.

3:42:04 PM
SENATOR DUNBAR asked what color on the chart represented Beluga.

MR. MEZA said he couldn't say for sure, but Beluga is a major contributor to production in the basin.

CO-CHAIR GIESSEL asked if anyone online could answer the question.

3:42:53 PM
JOHN CROWTHER, Deputy Commissioner, Department of Natural Resources, Anchorage, Alaska, offered to follow up with the information.

3:43:23 PM
SENATOR CLAMAN asked whether the production identified as MOA ML&P on the left chart represented the Beluga gas field.

MR. MEZA confirmed that was correct.

3:43:51 PM
MR. MEZA displayed slide 5 and explained that the chart provides production numbers for 2022. According to the Alaska Oil and Gas Conservation Commission (AOGCC), Hilcorp contributed about 85 percent of the gas production and about 78 percent of the oil production from January through November 2022.

MR. MEZA displayed slide 6 and pointed out that the graph shows the different components of demand for Cook Inlet gas from 2000 through 2022. These include commercial use, electric power, and residential use. It shows that over this time, the demand by category didn't change very much. In recent years, these user groups account for about 80 percent of the total demand for Cook Inlet gas. He noted that the graph also reflects the demand to power oil and gas field operations in Cook Inlet. He also pointed out that in the early years the excess production was used for LNG export from Kenai and the Nutrien Fertilizer Plant. The last LNG exported from the Kenai facility was in 2015 and the fertilizer plant ceased operation in 2007.

3:46:07 PM
MR. MEZA turned to slide 7 and explained that the bar chart shows the development, exploratory, and stratigraphic wells that were drilled from 2005-2022. It also shows the evolution of the production tax in Cook Inlet and the North Slope.

He explained that the early part of the graph reflects the Economic Limit Factor (ELF) that assessed tax on gross revenues. In 2006, the state transitioned to a new tax system that was based on net profits. Importantly, this was also about the time that the state instituted ceilings for production tax forecasts in Cook Inlet. In 2010, the legislature passed the Cook Inlet Recovery Act (CIRA), which allowed some credits related to exploratory drilling and activity, especially related to offshore activity and the buildup of gas storage facilities. He pointed to the evolution of the number of wells drilled and how the segment representing exploratory drilling declined significantly. He noted that a later slide would illustrate why that is important to maintain the level of production of gas in the basin. In 2017, House Bill 247 repealed the credits that hadn't expired, so the only remaining incentive is the discovery royalty which applies to production from previously undiscovered pools or fields in the basin.

3:48:16 PM

SENATOR CLAMAN noted the increase in exploratory drilling in 2011-2013 that started to tail off in 2014 and dropped to almost nothing after that. He asked if those exploration numbers could be attributed to passage of House Bill 280 and House Bill 247, or ACES and Senate Bill 21.

MR. MEZA said there was no intention to assign cause and effect to a certain tax system. The purpose of the graph was to provide information related to exploratory drilling because that's important to maintain production levels.

SENATOR CLAMAN asked if the credits or incentives in House Bill 280 (CIRA) were also present in ACES.

MR. MEZA answered that there were credits in the Cook Inlet Recovery Act that applied to drilling in Cook Inlet and on the North Slope. ACES had credits that predated CIRA.

3:50:17 PM
MR. CROWTHER added that in 2014-2015, there was a significant decline in the price of oil so it was reasonable to assume that those price dynamics challenged any interest in oil exploration.

3:50:52 PM
SENATOR WIELECHOWSKI asked if he was saying that the tax structure had nothing to do with the level of exploration and development in Cook Inlet.

MR. CROWTHER responded that the slide indicates that in the pre-2014 timeframe, there was true exploration well activity in Cook Inlet. He said it was reasonable to assume that it had to do with incentives or corporate objectives, but there had not been that sustained level of exploration drilling since the Cook Inlet incentive program ceased.

SENATOR WIELECHOWSKI asked what the oil and gas tax and royalty rates were in Cook Inlet.

3:52:01 PM
MR. MEZA replied the royalty rates in Cook Inlet generally are 12.5 percent and starting in 2022 the production tax in Cook Inlet was 35 percent of the production tax value, although the ceilings he referenced earlier remain active.

SENATOR WIELECHOWSKI asked if any tax credits or incentives were currently available in Cook Inlet.

MR. MEZA replied he was not aware of any, but the slide references a discovery royalty statute that allows the royalty rate to be reduced by five percent for a producer that discovers a new field or pool.

3:52:54 PM
SENATOR KAWASAKI asked if part of the reason for the increase in exploratory drilling in 2011-2014 was due to the high price of oil.

MR. CROWTHER said it's fair to say that the industry in Cook Inlet, particularly the companies focused on oil development and exploration, are very oil price sensitive.

SENATOR KAWASAKI noted that the Cook Inlet Recovery Act passed at the lower end of the price spike. He asked how much could be attributed to the large credits under CIRA versus just the price spike in 2010.

MR. MEZA said it may be a combination of factors other than the credit.

SENATOR WIELECHOWSKI asked how the price of Cook Inlet gas to the consumer compares to the price throughout the US.

3:55:08 PM
MR. CROWTHER said the Henry Hub price has seen upward pressure recently and it's been more volatile. The average over the last ten years was about $2/Mcf compared to gas prices in Cook Inlet of about $6-$7/Mcf. For a variety of reasons, the Henry Hub price has gone up to $3-$4/Mcf and sometimes a little higher. The Henry Hub price is converging with Cook Inlet prices, as opposed to the historical norm which was flat and fixed.

SENATOR WIELECHOWSKI recapped the answer and asked if Cook Inlet gas was still in the $6-$7 range.

MR. CROWTHER replied that was an accurate high-level summary.

SENATOR WIELECHOWSKI asked if any other jurisdiction had gas that was priced as high as Cook Inlet.

MR. CROWTHER offered his understanding that in limited jurisdictions in the northeast US, imported LNG prices were quite high, but most markets in the Lower 48 were closer to the Henry Hub than the Cook Inlet price.

SENATOR WIELECHOWSKI asked why there wasn't more production when Cook Inlet prices were the highest in the US.

MR. CROWTHER replied that while Cook Inlet natural gas prices are high, the demand profile is relatively limited, and mostly under contract, which makes it challenging to incent new production.

3:59:10 PM
SENATOR WIELECHOWSKI asked how the internal rate of return and net present value at Cook Inlet compare to Henry Hub or other places in the Lower 48.

MR. MEZA replied that may be confidential information.

SENATOR WIELECHOWSKI expressed frustration about the lack of analysis when Alaska was the resource owner and the producers were under lease obligation.

MR. CROWTHER said DNR believes that the producers are largely fulfilling their development obligations for their existing fields.

SENATOR WIELECHOWSKI asked what sort of policy tools the legislature had at its disposal to get more production out of Cook Inlet.

4:00:59 PM
COMMISSIONER-DESIGNEE BOYLE said it was beyond DNR's ability to predict what causes one company to move forward with greater activity, but the department was hearing from some Cook Inlet operators about external constraints. For example, the environmental, social, and governance (ESG) policies of some major lending institutions consider Cook Inlet to be Arctic. This limits access to outside capital and constrains these companies from moving forward on some promising developments. If this were resolved, it could lead to increased production.

CO-CHAIR GIESSEL asked if it was true that natural gas prices go up when the weather is extremely cold because some of the additional supply is drawn from the Cook Inlet Natural Gas Storage Alaska (CINGSA) facility and that gas is more expensive.

MR. CROWTHER offered his understanding that there were sales from both CINGSA that requires the payment of the storage costs in addition to the production costs, and the utility contracts

that have different costs associated with high demand for a short term.

4:05:00 PM
SENATOR KAWASAKI asked who owns CINGSA.

MR. MEZA answered that a group of companies own CINGSA and one is related to ENSTAR.

SENATOR KAWASAKI asked if he was saying that some CINGSA owners were also producers.

MR. MEZA said he would follow up with an answer.

SENATOR KAWASAKI said he'd also like to know if they take advantage of the gas storage credit that are attached to the program under the Cook Inlet Recovery Act.

MR. CROWTHER said he would follow up and provide an answer.

SENATOR CLAMAN asked how many companies participated in the 2022 gas sales.

MR. CROWTHER explained that the state held its regular spring lease sale and another in December. There was also a mandated federal lease sale in the federal Outer Continental Shelf area of the southern Cook Inlet. In the earlier lease sale, Hex got two leases adjacent to its existing operations. In the December state lease sale, Hilcorp acquired five leases adjacent to its existing lease holdings, some of which are under production. Hilcorp also added one federal lease to its existing federal lease position in the federal Outer Continental Shelf.

SENATOR CLAMAN asked if there would have been more participation if more leases were offered.

MR. CROWTHER said it's difficult to speculate about the decisions that companies might make, but DNR was happy to see the commitment from the existing leaseholders. The department would like to have seen interest from new companies, but that did not happen.

4:08:17 PM
SENATOR WIELECHOWSKI observed that the situation had not changed since it was discussed 10-15 years ago even though the legislature had tried a variety of things, including $1.5 billion in tax breaks over the years that only worked to a

degree. He wondered whether DNR had additional levers it could use to get more gas to the consumers.

MR. CROWTHER suggested that one distinction between now and ten years ago was that the current operators in Cook Inlet have indicated that they do not anticipate automatically extending their existing contracts as they have in several recent years. This is an indication of some market dynamic other than purely cost that is affecting their decisions. One dynamic is that the basin is advanced in years and is contributing a smaller amount of supply. He cited the Beluga River field as an example and noted that there was more about that later in the presentation.

To the question about what the department can do, he cited the discovery royalty provision for new discoveries that Mr. Meza mentioned, and working to improve the financial attractiveness of projects in the Cook Inlet environment as the commissioner mentioned. He said the department would be happy to engage in other policy discussions with the committee related to Cook Inlet production. DNR sees significant potential but acknowledges that it's a complex and unique market.

SENATOR WIELECHOWSKI asked what the annual investment would be to ensure an adequate supply of gas for consumers and utilities.

MR. CROWTHER said he wouldn't suggest a dollar figure, but an assumption in the department's forecast was for about 15 development wells per year for Cook Inlet to continue to produce the existing reserves into the market and meet demand.

SENATOR WIELECHOWSKI asked for the ballpark cost of drilling a well.

COMMISSIONER-DESIGNEE BOYLE replied it depends in part on whether the well uses an existing platform and infrastructure. For a new platform the estimates range from $200 million to about $0.5 billion and estimates for an exploration well from an existing platform are still in the multimillion dollar range. He added that oil production helps underpin or even support gas production in Cook Inlet. The margins for oil are higher than for gas, so the harder it is to find new oil deposits in commercial quantities, the more the supply of gas is constrained because the supplies of gas that are brought online oftentimes are associated with a new oil discovery.

CO-CHAIR GIESSEL noted that BlueCrest Energy said it had significant gas offshore but to produce it would require

significant investment for an offshore platform, which would be prohibitively expensive.

4:15:17 PM
MR. MEZA advanced to slide 8 which emphasizes the need for new wells to maintain the gas supply for the basin. The bar chart provides data points for 2005, 2010, and 2021 that illustrate that wells drilled in Cook Inlet pre-2000 have declining production, but when new wells are drilled they maintain the level of production in the basin.

4:16:20 PM
MR. BURDICK paraphrased the bullet points on slides 9 and 10 that read as follows:

2009 - Preliminary Engineering and Geological Evaluation of Remaining Cook Inlet Gas Reserves

- Consisted of engineering and geologic evaluations of 28 currently producing Cook Inlet gas fields to derive estimates of remaining Proved and Probable reserves.
- Applied single deterministic Decline Curve Analysis (DCA) and Material Balance (MBAL) engineering methods to publicly available production and pressure data obtained from Alaska Oil and Gas Conservation Commission (AOGCC).
- Did not address economics of drilling additional wells, recompleting existing wells, optimizing infrastructure, and the ability to sell the gas into the Cook Inlet market.
- Proved + Probable reserves estimated at 1.14 trillion cubic feet (Tcf).

2011 - Cook Inlet Natural Gas Production Cost Study

- Investigated investment requirements around various targeted reserves.
- Addressed commercial viability of remaining gas by postulating conceptual plans to produce natural gas from the Cook Inlet Basin to meet a demand of 90 billion cubic feet (bcf) per year.

2015 - Updated Engineering Evaluation of Remaining Cook Inlet Gas Reserves

- An update to 2009's study of 34 currently or historically producing Cook Inlet gas fields to derive estimates of remaining Proved and Probable reserves.
- Applied single deterministic DCA and MBAL engineering methods to publicly available production and pressure data obtained from AOGCC.
- Did not address prospective (undiscovered), contingent (discovered, non-producing), and 3P (Proved + Probable + Possible) reserves.
- Proved + Probable reserves estimated at 1.18 trillion cubic feet (Tcf).

2018 - Cook Inlet Natural Gas Availability

- Built on three previous DOG Cook Inlet gas studies, while incorporating future supplies by formulating hypothetical development projects required to produce undeveloped volumes and estimate each project's economic viability.
  - 500-800 bcf of additional gas is economic to develop at a price range around $6-8/thousand cubic feet (real 2016 dollars).
- P50 reserves estimate of 700 bcf when price is $8 per thousand cubic feet (mcf).

CO-CHAIR BISHOP asked how many years the production of 700 bcf/year was estimated to last.

MR. MEZA answered that the study concluded that 2028 would be the last year.

4:20:54 PM
SENATOR KAWASAKI referenced the third bullet in the 2015 study and asked for the definition of "Proved + Probable + Possible."

MR. BURDICK explained that those are industry-recognized categories for a commercially available resource in a petroleum resources management system. Proved + Probable + Possible is much more certain than contingent or prospective resources. Proved has 90 percent certainty with the particular volume; adding Probable to Proved has a 50 percent certainty; and Possible + Probable + Proved has a 10 percent certainty. Methodology applications are what distinguish each category.

SENATOR KAWASAKI asked if the [Proved + Probable reserves estimated at 1.18/Tcf] was based on the net price of gas at the wellhead. He confirmed he was referring to the 2015 study.

MR. BURDICK explained that it was a technically-based forecast that had no economic factors.

SENATOR CLAMAN asked if he could place the 1.2 Tcf of reserves in the context of and comparison to the 700 bcf at a price point.

MR. BURDICK explained that what demarcates both studies is that there is no cost factor for the 2015 study and there is a cost associated with the 2018 study.

SENATOR CLAMAN observed that the 1.2 Tcf suggests it's the volume in the reserve that has not been produced, whereas the 700 bcf suggests the volume at $8 per thousand would be economically recoverable. Together, the 1.2 Tcf and the 700 bcf would be the volume of gas that at $8/Mcf is too expensive to extract.

4:24:10 PM
MR. BURDICK said that's a fair assessment.

SENATOR DUNBAR referenced the 2011 study that estimated demand of 90 bcf/year and the estimate in 2022 of 70 bcf/year. He asked if the difference could be attributed to the fact that LNG was no longer exported from the Kenai facility.

MR. CROWTHER answered that two things primarily changed the demand profile. One was Agrium no longer producing fertilizer for export and second was that consumer and utility efficiencies increased from 2015 to 2022.

SENATOR DUNBAR referenced the 2018 study that estimated reserves of 700 bcf at $8/Mcf and asked if it was fair to say that there was 10 years of economically recoverable gas.

MR. CROWTHER called it a fair extrapolation.

4:25:40 PM
MR. BURDICK paraphrased the following bullet points on slide 11:

2022 Cook Inlet Gas Forecast

- A technical reserves assessment of 90 different gas & oil pools in the Cook Inlet Basin using publicly available production data obtained from AOGCC.
- Decline Curve Analysis (DCA) used to estimate volumes from currently producing well set. Type Curve(s) were developed to estimate volumes from future development wells.
- Discovered resources contingent upon more favorable commercial conditions and undiscovered (prospective) resources were not included in the forecast.
- Estimated field level economic limits were used in the "truncated" forecast cases.
- Forecasted volumes do not account for gas produced from gas storage to avoid duplicative gas volumes produced.
- Flat gas demand of 70 billion cubic feet per year does not assume future additional requirements nor does it assume possible substitutes or increasing efficiency in consumption both for energy producers and commercial or domestic consumers.

4:27:44 PM
SENATOR WIELECHOWSKI questioned the reason the study did not include the 20 Tcf of undiscovered, technically recoverable gas the US Geological Survey (USGS) has said exists.

MR. CROWTHER replied the intent of the study was to focus on the reserves and resources in existing fields, both under production and expected to be develop with the consistent level of activity. There was no intention to forecast when and how an undeveloped known resource would be brought into production, or to attribute exploration success to the undiscovered category that the USGS says is abundant in Cook Inlet.

SENATOR WIELECHOWSKI asked if the USGS estimate how accurate and what it considered technically recoverable.

MR. CROWTHER explained that USGS does undiscovered resource assessments in Alaska and worldwide. They are extrapolations based on representative assumptions about the particular basin, including historical well activity, exploration success, the scope of pools in the context of the geologic structure of the particular basis, and the statistical extrapolation thereof. He

said it's fair to say those assessments are meant to provide tranches of what could be in a basis at a very high level without any economic screens. Although economic screens are applied at times to obtain a high level assessment of what could be there to compare one basin or one jurisdiction to another.

4:30:43 PM
CO-CHAIR BISHOP commented that economically recoverable was where the rubber meets the road.

MR. CROWTHER agreed.

4:31:03 PM
MR. BURDICK advanced to the bar chart on slide 12 and conveyed that the chart illustrates that approximately 15 wells per year were drilled in the 2009-2019 pre-pandemic years.

SENATOR CLAMAN asked if the projection for 2023 was 15 wells.

MR. BURDICK confirmed that for 2023, 15 development wells were factored into the forecast.

4:32:27 PM
MR. MEZA stated that slide 13 provides a little more detail about how the current study considered a technically recoverable gas resource, by applying an economic limit test to the decline curve analysis and type well curve analysis. Essentially, this compared the marginal revenue associated with production in a given month to the marginal expenditure associated with the production of that volume.

The exercise was to demonstrate that upstream companies are unlikely to operate their fields at a sustained loss. Once a company reaches the point that it can no longer cover its marginal expenditures with their marginal revenues, it will probably consider shutting down the field. At that point, the technically recoverable forecast would no longer be available to the market.

The analysis considered the technically recoverable forecast from each of the fields and an approximation of gas prices using the publicly available information between some Cook Inlet producers and local utilities. For cost, a one-size-fits-all approach was followed using a benchmark of the cost to produce the fields, while allowing for differences based on the proximity of those fields to infrastructure. Comparing fields on the western side to those on the eastern side demonstrated that

offshore fields tend to have a higher cost than onshore fields. The exercise also considered the royalty rate of 12.5 percent and the tax structure related to production tax and the oil and gas property tax.

SENATOR WIELECHOWSKI referenced the information on the chart about taxes and asked for an explanation of "$1/bbl and $0.177/Mcf ceilings."

4:35:15 PM
MR. MEZA replied those are the ceilings referenced earlier that are applicable to taxable production from Cook Inlet. It follows the same net profits structure as for the North Slope but is subject to the values that appear on the slide.

SENATOR WIELECHOWSKI recalled that he said the tax rates were 35 percent, which would be less than one percent at $1/bbl.

MR. MEZA confirmed that he said that the tax rates were based on 35 percent.

SENATOR DUNBAR offered his understanding that the tax rate on gas coming out of Cook Inlet was so low it could not be used as a lever to incentivize more production.

MR. MEZA responded that the tax rate is 35 percent of the production tax value, which is taxable revenue minus lease expenditures. However, the calculation of taxable obligations from these fields also includes the values for oil of $1/bbl and a ceiling of $0.177/Mcf.

SENATOR DUNBAR asked if the $0.177/Mcf ceiling was applied to $8/Mcf or some other value.

MR. MEZA replied the $8 is part of the taxable revenue and then the lease expenditures are deducted. The result of that calculation is compared to the $0.177/Mcf ceiling.

MR. CROWTHER added that the calculation is revenue minus expenditures multiplied by the tax rate. If that number is higher than the ceiling, it would be reduced to the ceiling.

SENATOR DUNBAR asked if that calculation was currently at the ceiling.

MR. MEZA replied he didn't have the information for the particular taxpayers, but the law provides for that ceiling. He

offered to follow up with the Department of Revenue (DOR) to find out whether they had specific information about taxpayers.

4:38:20 PM
SENATOR WIELECHOWSKI asked if the state was getting the full 12.5 percent on all the fields in Cook Inlet or if the state was providing royalty relief on some fields.

MR. MEZA replied the Kitchen Lights unit enjoys the discovery royalty provision for 10 years.

SENATOR CLAMAN observed that the 35 percent tax rate seemed to be largely irrelevant in the calculation about whether to produce because the $1/bbl ceiling had a greater impact unless the company was making almost no money on the field.

MR. CROWTHER acknowledged that DNR needed to meet with DOR to get the most accurate information for the committee about how the tax is currently applied. To Senator Dunbar's question about the application of the tax cap to the oil and gas production tax, he explained that Cook Inlet operators were not only obligated to make Cook Inlet tax payments but also property tax and corporate income tax payments. He opined that depending on the size of those fiscal assessments, any of those levers could be relevant to operators' commercial decisions.

SENATOR WIELECHOWSKI pointed out that the majority of the Cook Inlet producers do not pay any corporate income tax.

MR. CROWTHER responded that he wasn't speaking to the status of the different taxpayers in Cook Inlet, just that corporate income tax was associated with activity in Cook Inlet.

SENATOR WIELECHOWSKI asked for confirmation that S corporations pay no corporate income taxes.

MR. CROWTHER said he was not a tax professional, but that was his understanding.

SENATOR WIELECHOWSKI asked whether companies producing in Cook Inlet were able to write off their costs associated with exploration, production, and development in Prudhoe Bay, or if they were fenced off.

MR. CROWTHER replied he would confer with DOR and follow up with the information.

4:42:35 PM
CO-CHAIR GIESSEL noted that the $1/bbl and $0.177/Mcf ceilings were passed in about 2016, but she didn't recall whether there was any fencing. She said the question of incentives is an important one.

SENATOR DUNBAR commented that the Department of Revenue probably should be present for all the discussions about economical reserves and whether the collection of tax revenues impacts the decision about whether the reserves are recoverable.

CO-CHAIR GIESSEL agreed.

4:44:07 PM
MR. BURDICK stated that slide 14 reflects a technical base forecast for the high, mid, low, and mean cases for total gas reserves from 2010 to 2041. He explained that an untruncated forecast means that economics are not factored. The forecast for the high case was for about 1.4 Tcf and the low case was about 843 bcf. The mean case forecast for total gas reserves was approximately 1.1 Tcf.

4:45:05 PM
MR. BURDICK displayed the chart on slide 15 and explained that this truncated forecast incorporates economics into the technical forecast. The high case is about 1.1 Tcf and the low case is about 603 bcf. The mean case forecast of total gas reserve was about 820 bcf.

4:45:41 PM
MR. MEZA pointed out that the middle part of the graph shows the impact of the economic limitations. It reflects the pace of drilling and that, according to the assumptions, some of the fields may reach the end of their economic life, which affected the production for the whole basin

SENATOR WIELECHOWSKI asked what internal rate of return (IRR) was assumed on the truncated forecast.

MR. MEZA replied that future investments were not evaluated. Primarily, the ongoing costs of production were compared to the marginal revenue associated with that production.

SENATOR WIELECHOWSKI asked if the truncated forecast assumed the companies would make a profit.

MR. MEZA replied that the production reflected in the graph means that the marginal revenues are higher than the marginal expenditures. Therefore, there is a marginal profit associated with that production.

SENATOR WIELECHOWSKI asked if he was saying that the assumption was that the company would move forward even if there was virtually no profit.

MR. MEZA said yes.

SENATOR WIELECHOWSKI asked if it wasn't necessary to factor in some return for the company.

MR. MEZA clarified that the scenario that the slide seeks to present is one where companies have to make a decision about whether to continue production when a field returns no profit at all.

4:48:02 PM
COMMISSIONER-DESIGNEE BOYLE added that the illustration is simplified to avoid the problem associated with trying to target IRRs, because a return that's sufficient for one company may be completely insufficient for another.

SENATOR WIELECHOWSKI asked if the forecast considered that companies would write off their expenses in Cook Inlet against their profits in Prudhoe Bay.

COMMISSIONER-DESIGNEE BOYLE said he would defer to DOR because he didn't know whether that was an option for companies working in Cook Inlet.

4:49:22 PM
MR. BURDICK explained that slide 16 was a zoomed in view with data incorporated into the forecast. The dashed green line shows the actual volumes of gas, which fall between the high and low case. He said there is high certainty that the actual data will fall in the band between the high and low cases. There's low probability of any production above the high case or below [the low case].

4:50:07 PM
MR. BURDICK stated that slide 16 showed a rate-based plot and slide 17 looks solely at volume on an annual basis with no economics factored into the forecast. The demand profile is overlayed as a benchmark for technically recoverable reserves.

4:50:48 PM
SENATOR KAWASAKI asked whether the assumptions were based on the current contracts.

MR. MEZA replied the pricing information in the current multi-year contracts was used.

SENATOR KAWASAKI asked if most of those contracts were 4-6 years old.

MR. MEZA answered yes.

4:51:34 PM
MR. BURDICK stated that slide 18 reflects the truncated version of the forecast of annualized gas volume by year. He pointed out that looking at the assumed demand profile compared to supply highlights the impact of factoring economics into the forecast.

4:52:03 PM
MR. BURDICK explained that slide 19 is the same untruncated scenario, but it focuses on the mean case, broken out by proved developed, and incremental proved undeveloped.

MR. BURDICK advanced to slide 20 and explained that it illustrates the truncated view of the previous slide. It shows the impact of factoring in the economics, but it primarily shows the impact on proved undeveloped volumes. That speaks to the assumption of drilling 15 development wells per year.

4:53:16 PM
SENATOR DUNBAR offered his perspective that slides 17-20 were the heart of the presentation. They offer DNR's estimate that sometime between 2027 and 2030, the Cook Inlet gas supply will be insufficient to meet the demand.

MR. CROWTHER said the assumptions in the study could change, but it was fair to say that the status quo would be affected in the 2027 to 2029 timeframe.

SENATOR CLAMAN summarized that the forecast on slide 20 illustrates that the three main factors that could change the graph over time and avoid the challenge in the 2027-2030 timeframe would be a change in price dynamics, a change in legislative dynamics, or a change in the economic model due to the discovery of new fields.

MR. CROWTHER said that's a good summation.

4:55:17 PM
MR. BURDICK stated that slide 21 provides a comparison of the four studies that the Division of Oil and Gas released. The gray bars reflect the cumulative gas volumes produced at the time of the study and the red bars reflect the total estimated reserves. The takeaway is that each study incorporated different methodologies and different scopes of work. This study showed a cumulative volume of 820 bcf and roughly 9.7 Tcf of estimated ultimate recovery.

4:56:16 PM
MR. BURDICK displayed slide 22 that talks about undiscovered resources in the Cook Inlet basin. The first of two 2011 studies was by the US Geological Survey (USGS). The agency estimated the total volume of mean conventional and mean unconventional technically recoverable oil and gas resource to be 19 (Tcf).

The second study, which was conducted by BOEM, estimated the technically recoverable undiscovered gas resource to be 1.2 Tcf. The assessment was in the southern Cook Inlet Outer Continental Shelf (OCS).

COMMISSIONER-DESIGNEE BOYLE cautioned that as fewer companies are operating in Cook Inlet, it was important to maintain the health of support services in the area or the exploration and development companies would be constrained in how aggressive they could be during the exploration season. Trying to bring support services up from the Lower 48 or down from the North Slope would increase costs.

CO-CHAIR GIESSEL expressed appreciation that he raised the issue.

4:58:45 PM
SENATOR WIELECHOWSKI said he appreciated the discussion but it was the same as the last 15 years. He commented on the lack of available levers and advocated for thinking outside the box to look for solutions, perhaps by working with the utilities and Native corporations so they could produce the fields. He emphasized that without a solution, consumers would suffer.

CO-CHAIR GIESSEL advised that the committee would hear from the utilities on Wednesday and perhaps DOR would be available to respond to the questions that came up during this meeting. She added that she was interested in inviting some Cook Inlet

5:02:23 PM
There being no further business to come before the committee, Co-Chair Giessel adjourned the Senate Resources Standing Committee meeting at 5:02 p.m.