HOUSE FINANCE COMMITTEE
April 19, 2024
1:34 p.m.

1:34:58 PM

CALL TO ORDER

Co-Chair Foster called the House Finance Committee meeting to order at 1:34 p.m.

MEMBERS PRESENT

Representative Bryce Edgmon, Co-Chair
Representative Neal Foster, Co-Chair
Representative DeLena Johnson, Co-Chair(via teleconference)
Representative Julie Coulombe (via teleconference)
Representative Mike Cronk
Representative Alyse Galvin
Representative Sara Hannan
Representative Andy Josephson
Representative Dan Ortiz
Representative Will Stapp
Representative Frank Tomaszewski (via teleconference)

MEMBERS ABSENT

None

ALSO PRESENT

Sean Clifton, Policy and Program Specialist, Division of Oil and Gas; John Crowther, Deputy Commissioner, Department of Natural Resources; Representative Tom McKay, Sponsor; Trevor Jepsen, Staff, Representative Tom McKay.

PRESENT VIA TELECONFERENCE

Melanie Werdon, Director, Division of Geological and Geophysical Survey, Department of Natural Resources, Fairbanks; Steve Davies, Senior Petroleum Geologist, Alaska Oil and Gas Conservation Commission, Anchorage; Brandon Brefczynski, Deputy Director, Alaska Industrial Development and Export Authority, Anchorage; Mark Davis, Attorney, Alaska Industrial Development and Export Authority, Anchorage.

SUMMARY

HB 74 GEOTHERMAL RESOURCES

HB 74 was HEARD and HELD in committee for further consideration.

HB 388 COOK INLET RESERVE-BASED LENDING

HB 388 was HEARD and HELD in committee for further consideration.

Co-Chair Foster reviewed the meeting agenda.

#hb74
HOUSE BILL NO. 74

"An Act relating to geothermal resources; relating to the definition of 'geothermal resources'; and providing for an effective date."

1:35:07 PM

Co-Chair Foster reviewed the meeting agenda.

1:37:32 PM

SEAN CLIFTON, POLICY AND PROGRAM SPECIALIST, DIVISION OF OIL AND GAS, introduced the PowerPoint presentation "HB 74 Geothermal Resources" dated April 19, 2024 (copy on file). He advanced to slide 2 titled "Fundamentals of Geothermal Systems." He relayed that the following slides discussed geothermal fundamentals and move into an overview of the bill.

1:38:13 PM

MELANIE WERDON, DIRECTOR, DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEY, DEPARTMENT OF NATURAL RESOURCES, FAIRBANKS (via teleconference), presented slide 3 titled "Fundamental Ingredients of Useable Geothermal Energy:"

- Elevated geothermal gradient
- Porosity and permeability for the migration of fluids
- Surface access
- Sufficiently large thermal system

- Customers for energy

Ms. Werdon continued to slide 4 titled "Heat Flow in Alaska:"

Most of Alaska is thought to have slightly elevated heat flow (red). However, only very localized areas will have all the ingredients for cost-effective geothermal energy use.

Ms. Werdon turned to slide 5 titled "Introduction to Geothermal Resources:"

- Geothermal heat, where technically and economically accessible, is an excellent form of sustainable energy

- Hydrothermal systems are the most common form of energy extraction from geothermal heat

- Complex geologic parameters necessary for a viable geothermal resource, all present at one location, is rare

- Alaska contains several potential geothermal resources

- New technologies that will help expand geothermal development into less favorable geology are on the horizon

Ms. Werdon moved to slide 6 titled "Fiscal Note: DGGS Geothermal:"

- "Powering Alaska's Future with Geothermal Energy" $1,000.0 UGF; included in FY2025 Governor's Amended Budget

- Enables DGGS to restart its geothermal program:

    - Supply information to support DNR's geothermal leasing program and attract explorers and developers of Alaska's geothermal resources

    - Analyze satellite-based remote sensing data for known geothermal springs and the areas around them

- Contract airborne thermal imagery to identify/prioritize promising geothermal sites

- Contract limited, site-scale airborne geophysical surveys

- Conduct ground-based geologic mapping and geothermal-site investigations

- Collect water samples from geothermal springs and obtain state-of-the art analyses at commercial laboratories

- Attract federal funds to characterize Alaska's geothermal systems

- Complement initiatives by university, federal, native, and private-sector partners

1:41:13 PM

Representative Hannan referred to Ms. Werdon's statement concerning restarting the geothermal program. She asked what restarting the program would entail. She wondered if the $1 million was for the first fiscal year for new employees and what were the needs for the following years. Ms. Werdon responded that a geothermal program existed in the 1980s. However, since then the technology had progressed with new techniques which incited the proposal to restart the program. She indicated that the Department of Natural Resources (DNR) currently lacked staff with geothermal expertise. The fiscal note proposed to hire three new employees to run the program. Representative Hannan restated her question regarding if the $1 million would fund one year of operating expenses. She asked for more information about the program's budget and ongoing expenses. Ms. Werdon replied that the fiscal note called for three permanent staff for $400 thousand, $10 thousand for travel, $550 thousand for contracted data services, and $40 thousand for commodities. The budget was included in the governor's FY 25 Operating Budget and was an annual ongoing request. Representative Hannan asked what the anticipated length of time before geothermal energy production in Alaska would be realized. She wondered how long the commitment was to "see it through" to production. Ms. Werdon responded that DNR's geothermal program would identify geothermal potential in order to attract producers

to the state and invest. She was not familiar with the timelines of the permitting process for a project.

JOHN CROWTHER, DEPUTY COMMISSIONER, DEPARTMENT OF NATURAL RESOURCES, responded that the initial results in a geothermal program should be seen within the next year or two. A multi-year process was anticipated for a company to undergo exploration and if successful it would take several years before there was a project concept. He elaborated that one of the core purposes of the legislation beside the data collection program, was making the leasing and development terms more attractive and workable to geothermal producers. He noted that DNR had two active exploration licenses, and one of the two was evolving into a lease posture. He believed that HB 74 would help with all phases of the current projects. The goal of the anticipated lease was to develop a project, which entailed several years of onsite visits and several additional years of onsite development as a general timeframe.

1:46:21 PM

Co-Chair Foster wanted to proceed with the presentation before getting into the "nuts and bolts of the bill."

Mr. Clifton continued on slide 7 titled "Overview of HB 74" that began the next section of the presentation. He advanced to slide 8 titled "Purpose of HB 74:"

Modernize Alaska's geothermal exploration program:

- Greater potential for providing affordable, renewable energy to rural communities and remote natural resource extraction projects

- Promote clean energy industry job creation:

  Align geothermal licensing with the oil and gas exploration license program, thereby increasing feasibility for companies to develop resources

- More time for a company to identify and prove resource to convert to leases

- Conversion to leases based on completion of work commitment and submission of exploration plan instead of proving discovery of commercial resource

- Doubles maximum acreage allowed for exploration

- Repeals rental/royalty modification after 20 years of production, providing stability and predictability for investors in geothermal energy projects

- Reform definitions for geothermal resources and fluids to account for technological advancements in the geothermal industry

Mr. Clifton indicated that the bill had been heard in prior sessions and was similar to prior bills. He emphasized that the bill did not change anything for federal, private, or native lands and only applied to state lands. He believed that geothermal could be a component of energy production solutions in Alaska. He reported that there was renewed interest in geothermal and one of the main obstacles was the short timeline for the current permit system and the high bar for converting the leases into long term development. The goal was to modernize the program.

Representative Edgmon wanted clarification on two renewable energy grant program projects that possibly related to the information on slide 8. Mr. Clifton replied that the grants through the renewable grant program were doing feasibility studies for running power lines to the two current potential projects he had mentioned. He elucidated that the projects with active permits and leases were at Mt. Spur and the other was on Augustine Island. Co-Chair Edgmon recalled that the fiscal note would help staff the geothermal program. He related that the renewable energy grant program was funded at $15 million in the prior year. The two geothermal projects were high on the list at number 2 and 3. He deduced that there had been some work in DNR on geothermal analysis.

Representative Josephson asked for a description of the bullet on slide 8 regarding the rental/royalty modifications. Mr. Clifton answered that currently the language in the statute was broad enough that it could allow for increased rental/royalty modifications after 20 years. He relayed that the economics of the project changing during the financing term was pointed out by a lessee as being a significant obstacle to obtaining long term financing.

1:52:30 PM

Representative Galvin ascertained that geothermal was a "newer market" and that transmission was the biggest obstacle to getting the power to market. She pondered whether the bill was putting the "cart before the horse." She asked if working on transmission should be prioritized. Mr. Crowther agreed that the transmission and access to markets was critical for the projects to go forward. He indicated that for a successful project the "frontend" information gathered by the division was necessary for the project and licensing terms to perform the exploration and develop the project, which included transmission. He voiced that it had to happen all at once. Representative Galvin surmised that the idea was to get good data, expand the potential geographical areas, and get more time to develop a project that would be more attractive to "outside" producers. She wondered whether the overall goal was to potentially export energy or create the opportunity for Alaskans to have more reliable low cost energy. Mr. Crowther responded that the exciting potential of geothermal were the renewable, low-cost, and sustainable long-term elements. However, there were new evolutions in the energy and demand markets that were enabling more accessible geothermal development. He communicated that "core to the department's interest was the production of the resource but also the energy security benefits for instate use." Long term renewable power at low rates was a huge boon to the economy and consumer. The global interest in geothermal was due to new applications and technologies that can bring demand for its development. He delineated that HB 74 set the stage for the underlying resource to be identified, explored, and set-up for development versus solving the larger issues like transmission. Representative Galvin commented that the oil and gas industry was well-established in the state that provided some certainty regarding the marketability of oil and gas, by the producers and in terms of revenue generation for the state. She hoped that the bill would address marketability so Alaskans could enjoy clean energy at low costs and potentially attract other businesses in need of low cost power to Alaska. She hoped DNR was considering a global perspective with geothermal development.

1:59:05 PM

Co-Chair Foster wanted to finish the presentation before more discussion following Representative Hannan's question.

Representative Hannan referred to Representative Josephson's question regarding rental/royalty modification and wanted to know if it was in alignment with what was currently in oil and gas exploration licenses. Mr. Clifton responded that there was nothing like it in the oil and gas statutes; they could not be revised upwards only downwards. He reiterated that the language in the current geothermal statute was confusing and suggestive, and the provision was included to "clean up" the statute.

Mr. Crowther added that the language was not functional. The statute stated that renegotiation was inherently a mutual activity and "implied some sort of an authority to compel" but there was not a further statutory mechanism to act. The department was unsure that the statute was viable. He added that the statute was identified by financiers as a disincentive. Representative Hannan emphasized that the bill was presented as trying to match with oil and gas. She was aware of royalty modification language regarding gas. She was wondering why it was being repealed but not replaced with corollary oil and gas statutes. She thought the statutes should be consistent. Mr. Crowther understood Representative Hannan's point. The department viewed it as a different type of provision than the current authority in the statutory section regarding oil and gas royalty modification. There were some differences in how the projects proceeded and the legislation made the general framework very consistent. He indicated that, if necessary, the discussion might come at some point post development in the future.

2:02:24 PM

Mr. Clifton continued to Slide 9 titled "DNR Geothermal Leasing and Permitting History:"

Present

Mount Spurr Two leases in the Mount Spurr area, issued as permits in 2021 and converted to leases in 2023.

Augustine Island Prospecting permit in the southern part of the volcanic island issued in 2022, expiring August 2024. A second permit for extended areas around that permit was awarded in January 2024.

2013

Augustine Island 26 tracts were offered. Only one tract was leased to a private individual and no exploration work was conducted as a result of that lease sale.

2008

Mount Spurr 16 tracts were leased to Ormat and one private individual. Ormat purchased 15 leases in the 2008 sale and drilled on southern flank of volcano. They didn't find adequate temperatures in wells to pursue the project. The State has the data available on the Division of Oil & Gas website.

1986

Mount Spurr on June 24, 1986, DNR offered 2,640 acres in two tracts. Both tracts received bids. The lease for Tract 1 expired in 1996, and the lease for Tract 2 was terminated in 1990.

1983

Mount Spurr DNR held its first geothermal lease sale in the Mount Spurr area on May 17, 1983. 10,240 acres in 16 tracts were offered in Competitive Geothermal Lease Sale 1. One tract received a bid. The lease for that tract was terminated in 1992.

Mr. Clifton summarized that the permits, similar to exploration licenses were only valid for two years and had a high bar to meet to become leases. He noted that the Augustine Island lease was set to expire in August 2024. He pointed to the Mount Spurr activity and reported that the leases expired before the developer could find the resource and invest in development. He hoped that the current permittees find the resource.

Mr. Clifton continued to slide 10 titled "Leasing Under Current Law:"

Application and call for competing proposals:

- If competing proposals ► competitive lease sale

- If no competing interest ► issue prospecting permit with *two-year* time limit

- This bill replaces two-year permits with five-year licenses modelled after our modern oil and gas exploration licensing program (AS 38.05.131–134)

- Conversion to lease:

- Permit (current): "showing of a discovery of geothermal resources in commercial quantities"

- License (bill): after work commitment is met
Both processes require Best Interest Finding and public input opportunity prior to award of permit, license, or lease

    - Royalties are set by AS 38.05.181(g): 1.75% of gross revenue for the first 10 years of production, then 3.5% of gross revenue after 10 years

Mr. Clifton clarified that the similarities between geothermal and the oil and gas program referred to the aspect of land management and resource disposal. The energy produced from a geothermal well could not be put into barrels and transported to distant markets. Geothermal needed to be connected to transmission lines and its limitations were the reason the royalty provisions were significantly different. He pointed to the last point on the slide regarding royalties and remarked that they were a percentage of gross revenue because there were no barrels to measure. He stressed that the permit and license process required a Best Interest Finding that included a robust public process.

Mr. Clifton continued on slide 11 titled "Sectional Summary:"

Section (Agency) Summary

1 (AOGCC) Grants Alaska Oil & Gas Conservation Commission (AOGCC) authority to pursue primacy of Class V injections wells for geothermal energy

2 (AOGCC) Removes unnecessary reference to AS 41.06 from AS 31.05.030(m) (see Section 10)

3 (DNR) Changes permits to licenses; adds exemption for geothermal resources intended for domestic, noncommercial, or small-scale industrial use (same as Section 11); removes preferential rights clause (inappropriate for commercial development of State resources)

4 (DNR) Changes permit to license; extends term of licenses (formerly permits) from two to five years; replaces lease conversion requirement of commercial discovery and development plan with work commitment and exploration plan

5 (DNR) Changes permit to license

6 (DNR) Changes permits to licenses; increases maximum acreage from 51,200 to 100,000; moves rental fees to be set by regulation

7 (DNR) Amends AS 38.05.181(f) to grant leases for 10 years, with opportunity for a five-year extension, with standard indefinite extension by production Repeals opportunity for DNR commissioner to modify rent and royalty rates after 20 years of production

8 (DNR) Adds three new subsections AS 38.05.181(i-k) to modernize unitization statute for geothermal leases to match the model used for oil & gas

9 (DNR) Replaces AS 38.05.965(6) definition of geothermal resources (same as Section 14)

10 (AOGCC) Amends AS 41.06.020(e), clarifies that AS 41.06 does not limit DNR's authority over geothermal resource management on state land

11 (AOGCC) New subsection AS 41.06.020(f) adds exemption for geothermal resources intended for domestic, noncommercial, or small-scale industrial use (see Section 3)

12 (AOGCC) Adds new subsection AS 41.06.057 to provide for penalties for violations of geothermal statutes (like oil & gas AS 31.05.150)

13 (AOGCC) Amends AS 41.06.060(4) definition of geothermal fluid to remove temperature references and better conform with other changes in this bill

14 (AOGCC) Replaces AS 41.06.060(5) definition of geothermal resources (same as Section 9)

15 (AOGCC) Repeals AS 41.06.005(b) and AS 41.06.030, since geothermal units are managed by DNR

16-20 (AOGCC/DNR) General provisions for applicability and effective dates, including applicability for prospecting permits issued or currently being processed.

Mr. Clifton informed the committee that slide 11 was his attempt to succinctly summarize the entire bill on one slide that could be used as a reference. He continued to Slide 12 titled "Sections 3-6: Permits to Licenses:"

- Provisions in these sections replace "permit" with "license."

- Within DOG, "permits" are for surface use authorizations. For subsurface, "licenses" and "leases" are issued.

- Adopting the exploration licensing program for geothermal resource management conforms with existing processes for oil and gas.

- Section 17 allows for conversion of existing permits to licenses.

Mr. Clifton illuminated that permits were issued for surface activities such as roads, pipelines, power lines, and facilities versus licenses were a pathway to lease the subsurface resource.

Mr. Clifton continued on Slide 13 titled "Section 3: Private Use Exemption:"

- New language:

  A prospecting license or lease is not required under this section to explore for, develop, or

use geothermal resources if the geothermal resource is intended for domestic, noncommercial, or small-scale industrial use.

- Intent:
    - Clarify that domestic users of ground source heat pumps don't need an authorization from DNR
    - Encourage the use of geothermal energy to provide affordable energy in non-utility scale applications

2:08:30 PM

Mr. Clifton turned to Slide 14 titled "Commercial Geothermal Power Plants VS Non-Commercial Systems." He explained the graphic depicting an example of commercial as compared to non-commercial geothermal power plants. He emphasized that non-commercial systems do not produce enough to market the energy.

Mr. Clifton advanced to slide 15: "Section 3: "Preferential Rights Provision:"

- Current statute grants preferential rights to a surface owner to apply for a geothermal prospecting permit once notice is received of an existing application
    - Inappropriate for a surface owner to have a preferential right to the State's mineral estate
- Surface owners may still pursue domestic geothermal developments for their own uses
    - Need well permits from AOGCC if hazards may exist
    - Need environmental review or permits from agencies such as Department of Environmental Conservation, Fish & Game, DNR Division of Mining Land & Water, or federal agencies
    - Examples of permitting requirements are detailed in a supplemental slide

- Geothermal licenses and leases are not surface use authorizations
    - They only provide the exclusive right to explore for and develop the subsurface resources
    - Public notice is a part of the license issuance process and surface owners can participate
    - Surface use authorizations require public notice and direct notice to any affected surface owners

Mr. Clifton summarized that preferential rights were seen as a hurdle by potential developers and investors.

Mr. Clifton moved to slide 16 titled "Sections 4 & 7: Terms & Work Commitment:"

- Changes prospecting permit to license and increases term from 2 to 5 years
- Creates greater opportunity for success of noncompetitive geothermal program
- Conversion to noncompetitive lease through completion of agreed upon work commitment
- Current process for oil and gas exploration license
- Commitment expressed in dollar figure
- Annual reporting and performance assessments are required
- Amends AS 38.05.181(f) for geothermal leases
- Geothermal leases last for 10 years, with opportunity for a five-year extension, and standard indefinite extension by production
- Repeals opportunity for DNR commissioner to renegotiate rental and royalty rates for geothermal leases after 20 years of production

Mr. Clifton continued to slide 17 titled "Section 6: Acreage Limit and Rent:"

- Maximum acreage a lessee may hold increases from 51,200 to 100,000 acres

    - Geothermal systems can underlie very large areas

    - Enables explorers to more effectively delineate resource

- Rental fees to be set by regulation instead of statute

    - Enables DOG to be nimbler in response to market changes

2:12:39 PM

Mr. Clifton advanced to slide 18 titled "Sections 9, 13, & 14: Geothermal Resources Definition:"

> "Geothermal resources" means the natural heat of the earth; the energy, in whatever form, below the surface of the earth present in, resulting from, or created by, or which may be extracted from, such natural heat; and all minerals in solution or other products obtained from naturally heated fluids, brines, associated gases, and steam, in whatever form, found below the surface of the earth; but excluding oil, hydrocarbon gases, or other hydrocarbon substances.
>
> "geothermal fluid" means liquids, brines, water, gases, or steam naturally or artificially present in a geothermal system; "geothermal fluid" does not include oil, hydrocarbon gases, or other hydrocarbon substances;"

- Modern definition for geothermal resources

- Not limited by temperature because current technology enables development of cooler geothermal systems

- Ensures all the State's mineral estate resources are captured in definition

- Distinguishes geothermal fluids from hydrocarbon resources

- Same definition being applied to both DNR & AOGCC statutes

Mr. Clifton emphasized that the definitions were new and the department had consulted several different states to see how other states updated their definitions. He elaborated that one of the main points was DNR was eliminating the temperature limitation, which was currently 120 degrees Celsius and was no longer an appropriate limit. He exemplified Chena Hot Springs that was producing power at roughly 80 degrees Celsius. He noted that it was potentially viable to take even cooler resources and produce commercial power. Retaining an arbitrary temperature in statute did not make much sense.

Mr. Clifton presented Slide 19 titled "Minerals or Gases:"

- Why this is an issue:
    - In some places, minerals such as lithium are being extracted from geothermal fluids as part of the production system
    - Helium and hydrogen are sometimes present in geothermal fluids and could also be produced
    - These are all valuable resources and production should be encouraged
- What happens if these resources are produced:
    - The geothermal lease grants access to the State's subsurface, so no additional lease or permit is needed for associated extraction from fluid as part of the geothermal operation
    - Minerals and gases, except hydrocarbons, are part of the geothermal fluid, so royalties for produced minerals or gases would be paid under the terms of the geothermal lease
    - Production of dissolved minerals would, however, need a mining license from Department of Revenue and pay taxes under AS 43.65
    - Royalties for geothermal leases are set by AS 38.05.181(g): 1.75% of gross revenue for the

first 10 years of production, then 3.5% of gross revenue after 10 years

Mr. Clifton shared that the potential for extracting minerals or non-hydrocarbon gases from the produced geothermal fluid was possible, and the issue was not anticipated or considered in prior legislation. The department worked through how it could function and deal with the situation was delineated on the slide.

2:15:37 PM

Representative Galvin referred to slide 6 regarding the fiscal note and questioned what was intended to be produced based on the fiscal note. She deduced that much of the work listed on the slide were things that the industry would invest in. Mr. Crowther answered that it was not unlike many other resource industries like mining. The department devoted a significant amount of funding to general geologic information about where a resource was located and "passed the baton to industry" for further exploration. He believed that geothermal was similar; the division characterized where possible geothermal resources existed and letting industry further explore the resource. He expounded that industry wanted to focus on a specific area and not engage in general area wide exploration. Representative Galvin deemed that maybe because geothermal was a new type of energy industry, it would need to be examined differently and invested in differently. She expected to see work like processing leases, oversight, public input processes, and ensure that there was promised investment, etc. on the fiscal note. However, she saw that much of DNR's work would be front-end in exploration. She wondered why the fiscal note was so different from her expectation. Mr. Crowther responded that the department had significant capacity to manage subsurface resources, which was the reason those type of costs was not included in the fiscal note. The same staff that was engaged in hydrocarbon and other subsurface management had the expertise to manage the geothermal resource.

Co-Chair Foster requested a review of the DNR fiscal note.

2:20:45 PM

Ms. Werdon reviewed the DNR fiscal impact note allocated to Geological & Geophysical Surveys. She reiterated that the

details were on slide 6. She delineated that the data that would encompass broad areas of the state and identify favorable areas for geothermal exploration to attract explorers and developers to Alaska. She reiterated several of the bullet points on slide 6 that listed the technical work DNR would perform in gathering data. She exemplified that at Pilgrim Hot Springs both airborne and ground based surveys helped identify where the controlling fault for geothermal was located. Field crews mapped out the findings and used water samples to determine the subsurface temperatures and identify the potential to produce energy. The data would be made available to the public through a variety of sources. She spoke about the potential for federal grant funds to further explore geothermal resources.

2:25:04 PM

Co-Chair Foster clarified that the new DNR fiscal impact fiscal note allocated to Geological and Geophysical Surveys totaled $1 million in the following operating expenditures: Personal Services $400 thousand; Travel $10 thousand; Services $550 thousand; and Commodities $40 thousand. He asked about the 2 full-time positions noted on page 1 of the fiscal note but observed that 3 positions were included in the analysis. He wondered what the position count was. Mr. Crowther explained that two of the positions were new and one was currently within the department and would be funded through the fiscal note. He summarized that there were two new positions but three total in the program.

Co-Chair Foster asked for a summation of the Department of Commerce, Community and Economic Development (DCCED) fiscal note.

2:26:58 PM

STEVE DAVIES, SENIOR PETROLEUM GEOLOGIST, ALASKA OIL AND GAS CONSERVATION COMMISSION, ANCHORAGE (via teleconference), cited the new zero Department of Commerce, Community and Economic Development (DCCED) fiscal note allocated to the Alaska Oil and Gas Conservation Commission (AOGA). He was unable to discuss the fiscal note and reported that the chairman of the commission would speak to it at a forthcoming hearing.

Representative Hannan inquired about section 3 on slide 15 regarding preferential rights. She asked what would happen if a commercial enterprise was involved; would they gain access to someone's surface rights if there was a commercially viable resource via a lease obligation. Mr. Crowther replied that the subsurface estate was the dominant access via statute. He elucidated that if an entity had a geothermal lease, it had the right to enter the surface as necessary to develop the resources. He added that the entity did not have an unfettered right and in almost all cases, worked cooperatively with the surface owner to create mutual agreements on how and where that surface was accessed. The department had existing regulation to set bonds to prevent unreasonable interference in the event a reconciliation between the parties could not be reached. A process was in place, but it was rarely used. Representative Hannan offered that in oil and gas the infrastructure could be besides the access point and fairly far removed from it. She ascertained that in geothermal, it was all in concentrated footprints and a developer could place their equipment, etc. on private land because the commercial lease allowed access to the "superior" subsurface mineral estate. Mr. Crowther answered that in the event that the private surface ownership was separate from the state subsurface ownership, the demarcation line would need to be negotiated between the parties including state entities. He added that the subsurface owner did not have the right to unreasonably interfere without compensation. Ultimately, the subsurface owner would have the right to site a facility if it was necessary to develop the resource. Representative Hannan cited the Chena Hot Springs and asked whether they were exempted from the bill. Mr. Crowther replied that the hot springs owned both subsurface and surface rights and were a private resource privately owned and did not need state rights of access.

2:32:47 PM

Representative Josephson referenced Section 3 and cited the deletion of statute 38.05.381, written in 1971 and rewritten most recently in 2010. He wondered how in regard to the overriding interest of the subsurface leaseholder that the statute ever became law. He speculated that the bill was proposing the change prior to dispute over ownership interests. He doubted that there was much private property on Mt. Spur. Mr. Clifton responded that many

Alaska statutes were copy and pasted from old federal laws. He expounded that the statutes under 38.05.180 for oil and gas had been revised many times and often through lessons learned from past development. The state's geothermal resources had never been produced and there had not been enough activity in the industry. There was no reason to focus on the statute and revise it. He noted that other states like Utah and Nevada had been updating statutes and regulations and DNR looked to those statutes in consideration of the legislation. Representative Josephson shared that he had recently traveled to the community of Dutch Harbor where a geothermal resource exploration, the Makushin Geothermal Project was underway. The project was designed to produce inexpensive power to seafood plants and the community. He reported that the community discontinued investment due to much disruption to the land. He asked what could be learned about the Dutch Harbor obstacles that might help with the bill.

2:37:11 PM

Mr. Clifton responded that he did not know the details since it was a private resource owned by a native corporation. He understood that there were some challenges with some federal permitting. He was aware of a presentation in the Senate Resources Committee in the prior year that contained more details, but he advised Representative Josephson to engage in a discussion with those directly involved.

Co-Chair Edgmon was considering the opportunities that might be viable in the state in light of prior failed projects in Naknek and Makusin and the amount of money that it cost to take a helicopter to Mt. Spur from Anchorage, etc. He believed that it was the most speculative of all the renewable energy when compared to wind, hydro, and solar. He surmised that the ability to access the resource was "extremely difficult". He offered that there was a case to be made that the program did not have to be so costly each year. He noted the difficulties of hiring highly skilled employees in any agency. He concluded that the opportunities in the state for geothermal existed but were likely not enough to be commercialized; it was very speculative. He referenced HB 152 (Renewable Energy Fund/Task Force/Assist- Chapter 31 SLA 08 - 05/22/2008) in 2008 that created the Renewable Energy Grant Fund. He was not dismissive of the efforts and supported the effort but

wondered whether if the data aligned itself more to oil and gas exploration. Mr. Crowther shared that the department saw the need for the legislation. He believed that the fiscal note was about $1 million less than drilling one well and much more about the ability to collect general information that DNR had increasing capacities to do. He pointed to the burgeoning interest in geothermal power due to technological advancements in geothermal power in remote locations and its lower temperatures applications. He believed that the legislation and the division's desire to open up information and help apply the advancements in Alaska was beneficial. He thought there was a lot of prospectivity and geothermal could be a huge energy resource in the state in long-term. There were many benefits in attracting and attaining new commercial interests in Alaska. Co-Chair Edgmon thought that the same reasoning could be said about a gas line in Alaska. He appreciated the bill.

2:43:12 PM

Representative Coulombe referenced slide 4 that stated "However, only very localized areas will have all the ingredients for cost-effective geothermal energy use." She asked what were the ingredients that made it cost effective and how was it known that it would only be in localized areas. Mr. Crowther responded that there were 5 criteria. He communicated that historically, there was not much geothermal activity in Alaska. He believed that currently, the context was shifting, and the department wanted to disprove the statement. Representative Coulombe cited the fiscal note and asked if the $1 million was included in the governor's request. Mr. Crowther replied that the fiscal note matched the governor's request.

Co-Chair Foster clarified that if the bill were to pass, the conferees could square up any discrepancies in the fiscal note.

2:46:40 PM

Mr. Clifton and Mr. Crowther made general closing comments.

HB 74 was HEARD and HELD in committee for further consideration.

2:47:51 PM

#hb388
HOUSE BILL NO. 388

"An Act relating to state loans for oil and gas projects in the Cook Inlet sedimentary basin; relating to the Alaska Energy Authority; relating to the Alaska Industrial Development and Export Authority; and providing for an effective date."

2:48:09 PM

REPRESENTATIVE TOM MCKAY, SPONSOR, explained that the bill was one of a "portfolio" of bills designed to stimulate increased gas production in Cook Inlet. He reminded the committee that Cook Inlet served a closed market and was limited to 70 Billion Cubic Feet (bcf) production per year. He indicated that importing LNG was not possible until 2030. The legislation was intended to close the gap. He summarized that HB 388 provided a mechanism through Alaska Industrial Development and Export Authority (AIDEA), to loan money to operators in Cook Inlet who lacked the resources to drill new wells in existing and proven new gas fields. The bill offered a framework but did not commit any funding. He read the sponsor statement (copy on file):

Based on the projected shortage of Cook Inlet gas production in both the near-future and years to come, Southcentral Alaska risks becoming reliant on imported liquefied natural gas (LNG). This dependency not only threatens to destabilize our energy prices but also to erode the economic foundations of our state, impacting every Alaskan. HB 388 is a potential solution to this problem and is designed to bolster our state's energy independence and economic stability by leveraging gas that is in the ground but not currently being developed.

Reserve-Based Lending is an asset-based financing mechanism in the oil and gas industry in which loans are made based on either undeveloped or developed and producing oil and gas assets. The amount of the loan is based on the value of the borrower's oil and gas reserves. This bill proposes the establishment of a Cook Inlet Reserve-Based Lending Fund to support increased oil and gas production in Cook Inlet, ensuring that we continue to prioritize local production over expected costly LNG imports.

Recognizing the challenges of attracting private capital to Cook Inlet gas plays, HB 388 proposes a solution to finance projects essential for enhancing affordable gas production for Alaskan's.

This innovative funding mechanism will not only help avoid the potential economic impacts associated with importing liquefied natural gas, but also ensure a more secure and self-reliant energy future for Alaskans. By making prudent, interest-aligned loans against oil and gas reserves, the state can catalyze critical infrastructure developments, thereby safeguarding and expanding Cook Inlet's contribution to our energy supply.

I urge my colleagues of the 33rd Legislature and the people of Alaska to support HB 388 as a step towards energy development, economic resilience, and the long-term prosperity of our great state.

2:52:22 PM

TREVOR JEPSEN, STAFF, REPRESENTATIVE TOM MCKAY, introduced the PowerPoint presentation "HB 388 Cook Inlet Reserve-Based Lending" dated April 19, 2024 (copy on file). He began on Slide 2 titled "Cook Inlet Gas Shortage:"

South Central will face an increasing gas production shortage in the coming years

- Fallback solution to Cook Inlet gas is LNG imports
- LNG imports estimated to be significantly more expensive, however exact increase is currently speculative

Mr. Jepsen recounted that a projected Cook Inlet gas shortage threatened the energy security of Southcentral Alaska. A potential shortfall was expected as early as 2027 increasing through 2040. He cited the Ditman Research opinion poll from July 2023 that showed Southcentral residents held a "high level of opposition" to imported LNG and a "high level of support" for implementing financial incentives to increase Cook Inlet gas production. Many experts believed that gas imports would be significantly more expensive than locally produced gas. He believed that

the legislature owed a solution to Alaska residents through increased exploration and production. He pointed to the graph on slide 2 that portrayed fuel price forecasts for the next 16 years from the Alaska Energy Authority. He remarked that by simply hoping the price for imported LNG would cost the same as Cook Inlet gas and not taking any action was not in the best interest of Alaskans. He believed that HB 388 represented a proactive approach to development of Cook Inlet gas reserves. He added that private sector capital had not been secured due to project economics in a highly competitive global market.

Mr. Jepsen continued to slide 3 titled "Cook Inlet Gas: Private Capital Attraction Issues:"

> Expensive, risky, or low rate of return projects have difficulty in the private market
>
> - Oil and gas projects are highly capital-intensive investments competing for limited capital in a world of (relatively) unlimited projects
>
> - Nature of Cook Inlet as a stranded gas market further complicates funding issues for private investment

Mr. Jepsen voiced that the petroleum industry faced a "complex global environment" engaging in exploration and development amidst fluctuating prices and other factors. Financial institutions were confronted with limitations related to capital necessitating collaboration with entities that helped mitigate some risk such as, local governments that were stake holders in oil and gas development. He identified that the primary issue in Cook Inlet gas development was attracting private capital for "proven and highly probable reserves." If only so much gas a year could be sold, the potential rate of return on investment could decrease due to the time value of money, making a project uneconomical.

Mr. Jepsen continued on slide 4 titled "Reserve-Based Lending (RBL):"

> - Financing structure for independent oil and gas companies

- "Borrowing-base" type of loan based on the projected Net Present Value (NPV) of cash flows generated by the underlying hydrocarbon assets

- Began in onshore Texas in the 1970's; use accelerated for UK North Sea plays in the 1970's and 1980's

- A state-funded RBL program would balance lower project rates of return against the avoidance of the impact of higher and unstable energy prices on Alaskans

Mr. Jepsen explained that repayment of a RBL loan happened through the sale of oil and gas from the assets. The value of RBL was periodically adjusted to reflect shifts in underlying assumptions like production volume, market prices, evaluation of reserves, taxation, etc. He delineated that RBL was an established financing tool with origins in the United States. The market was segmented into two primary regions, the U.S. and International markets. Due to the Alaska Constitution, Alaskan RBL lending structures would mimic the international market structure because the mineral rights belonged to the state. He added that state funded RBL financing would not necessarily be for the full amount of the project and in many cases would be one of many financing mechanisms.

Mr. Jepsen continued on slide 5 titled "Reserve Classifications:"

- Not all "reserves" are equal:

  3 classifications: Proven (P1), Probable (P2), and Possible (P3)

Mr. Jepsen elaborated that the deterministic method of calculating reserves was based on known geology, technology, and economic conditions. The method employed a single set of values that represented a best estimate for each parameter in order to estimate reserves and was the most common estimation technique. He delineated that the probabilistic method estimated reserves by incorporating the uncertainty in key parameters of the calculation, which resulted in a range of estimated reserves at different levels of probability. The method provided a more comprehensive view of risk and enabled decision makers to

better grasp the range of outcomes. He determined that the best way to approach reserve classification was to use a combination of both methods. According to the chart on the slide, he reported that Proved (P1) correlated to P90 reserves, Probable (P2) reserves correlated to P50, and Possible related to P10 reserves. He noted that a state funded program would focus on proven reserves and the bill made the distinction.

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continued on slide 6 titled "HB 388 Cook Inlet Reserve-Based Lending:"

- Establishes Cook Inlet Reserve Based Lending fund under AIDEA outside of their revolving fund; conforms fund to current AIDEA dividend policy and defines funding sources. Also allows for the creation of AIDEA subsidiaries to issue loans.

- Does not specify an appropriation, simply creates the fund allowing legislature flexibility to fund directed projects

- Introduces reporting requirement for AIDEA to deliver to the legislature at the beginning of each new session regarding potential Cook Inlet RBL projects

- Funds may be used for reserve-based loans deemed necessary to increase oil and gas production from the Cook Inlet Sedimentary Basin

Mr. Jepsen concluded that HB 388 allowed AIDEA to issue loans to the private sector with lower rates of return than typically allowed.

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Representative Stapp ascertained that the state would capitalize an account and let companies' loan on a state owned asset; the oil and gas reserve, and when the gas was produced, they would sell it back to "us." He asked if his assessment was fair. Mr. Jepsen answered that they would receive the loan based on the value of the produced asset. The revenue and profit were associated with extracting the asset, which was how the loan value would be calculated.

Representative Stapp inquired as to who owned the asset. He proposed that the state did. Mr. Jepsen responded in the affirmative, which was why the lending structure was fashioned after the international market loan structure. Representative Stapp hypothesized the scenario of asking the North Rim Bank for a loan using its Anchorage asset as collateralization for the loan and paying back via its business model. He wondered if he should expect to get the loan by using the banks asset as collateral. Mr. Jepsen replied that the comparison was "apples to oranges" and that the two were not comparable. He voiced that there was "significant value" to gas extraction, which was what the loan was based upon. The state could not extract the reserves itself, therefore the scenario brought "significant value" to the state. He remarked that it was necessary for a third party to conduct the activity to bring the revenues to the state. Representative Stapp asked what happened to the state's funding if the state "gives them the money to develop our gas and they go bankrupt." Mr. Jepsen responded that there was a level of risk as with all loans and AIDEA had the discretion to perform the financial due diligence.

Representative McKay interjected that the bill did not authorize lending money to anyone, but it set up the framework that could be enacted under another bill in the future. He replied that if a company went bankrupt, the assets were still in existence and the likely outcome was that another operator would take over and assume the loan. The loan payments were from the sale of the produced gas. He emphasized that there was no risk to the state with HB 388 and pointed to bullet point 4 on slide 6. He offered that the bill required AIDEA to assess the Cook Inlet situation and recommend projects. He recommended that the committee take a hard look at the bill. He characterized the legislation as an evaluation program to find out what was available in Cook Inlet as a basis for a decision on how to proceed.

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Representative Stapp asked whether AIDEA currently had any debt or bonds issued to Blue Crest or Furie.

3:06:58 PM

BRANDON BREFCZYNSKI, DEPUTY DIRECTOR, ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY, ANCHORAGE (via teleconference), responded that AIDEA had a loan with Blue Crest with a balance of $13 million. Representative Stapp asked what the purpose was of the loan. Mr. Brefczynski answered that the purpose was to finance the rig and the man camp.

Representative McKay interjected that the rig drilled several oil wells at the Cosmopolitan field and were currently producing. He voiced that the investment was providing a return to the state. Representative Stapp responded that the point to his inquiry was the state was already providing investment money. He wondered if there was anything that prevented AIDEA from issuing more loans to the producers. Mr. Brefczynski responded in the negative. He expounded that AIDEA currently has the ability and had issued loans to finance Cook Inlet efforts. The authority provided a loan to HEX for $7.5 million, which was repaid. He deduced that clarity in the statutes was "better" even though AIDEA could finance projects in Cook Inlet and had the ability to structure the size of its debt using a reserve based model. He appreciated the clarity the bill offered.

Representative McKay added that there were two different fields at Cosmopolitan: an oil field and a gas field. The rig that AIDEA provided money for was an onshore oil rig. The legislation was focused on gas extraction and was a completely different project.

Representative Stapp inquired what type of asset evaluation was performed when companies were awarded loans to ensure the loan would be repaid. He wondered if potential production was factored in or the company's balance sheet was reviewed. Mr. Brefczynski replied that it included all of the above. He related that the "extensive due diligence process" included hiring a contractor to review assets, review the company's fiscal model, and vetting through AIDEA's investment committee and board.

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Representative Hannan asked about slide 6 and referred to the second bullet specifically the language, "allowing legislature flexibility to fund directed projects" related to the dividend created. She asked if the bill would offer

more legislative authority to give direction internal to AIDEA's decision making regarding eligible projects.

Mr. Jepsen responded that one of the most important aspects of the bill was the reporting mandate that required AIDEA to review Cook Inlet Reserve Based Lending projects. He indicated that the provision was not in current statute. The projects were evaluated by such measures as project cost estimate, potential recoverable gas, and the amount necessary to be appropriated to the fund. The bullet point addressed the created fund that offered the legislature flexibility to fund the projects analyzed by AIDEA. Representative Hannan relayed that she consistently was asked why the legislature did not direct projects within AIDEA. She understood the legislature could not make the decisions regarding AIDEA's loans. She ascertained that the bill created the flexibility for the legislature to decide which Cook Inlet RBL projects should be funded. Mr. Jepsen responded in the affirmative. Representative Hannan asked if it would limit the projects to only those included in AIDEA's report. Mr. Jepsen answered that the legislation did not replace AIDEA's current RBL lending ability. He furthered that for most of the projects AIDEA was not making RBL type loans because they did not meet the fiduciary responsibility due to lower rates of return. The legislature could choose to capitalize these types of projects via the authority in the bill.

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Representative Josephson reported that historically, AIDEA's returns had only been in the 3 percent range anyway. He pointed to the first bullet point on slide 6 focusing on the language "Establishes Cook Inlet Reserve Based Lending fund under AIDEA outside of their revolving fund;" He asked if the revolving fund was the typical loan fund with funds lending out and loan payments repaying the fund. Mr. Brefczynski responded in the affirmative. Representative Josephson asked if AIDEA had "hundreds of millions of dollars" of unencumbered funds. Mr. Brefczynski replied that AIDEA had a "cash position" but also had a project pipeline in the range of $400 to $500 million of potential projects. He reported that the money was accounted for. Representative Josephson asked if a portion of the unencumbered funding would be incumbered for the RBL program in the bill. Mr. Brefczynski asked for clarification. Representative Josephson assumed that some

of AIDEA's unencumbered loan funds "would shrink to some degree" for the purposes of Cook Inlet RBL. Mr. Brefczynski responded that it would only be if the board decided to move its own receipts into the RBL fund for an active loan application. He furthered that if the legislature were to appropriate general fund (GF) money to the fund the amount would be designated only for RBL. Representative Josephson asked that if the legislature approved a recommended RBL the funding would be AIDEA dollars and not GF. Mr. Brefczynski answered that the funding could be either or AIDEA funding or GF. He voiced that for the likelihood of AIDEA to approve a loan below market interest rates it would likely need GF funding. The authority was subject to the prudent investor rule and other policies and was limited in supporting loans below interest rates. However, in the past, the legislature had appropriated money to AIDEA for the Interior Gas Utility (IGU) project in Fairbanks at a lower market rate.

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Representative Stapp summarized that a private company would collateralize the state's asset, lend state money to the company by net present cash value repaying the loan in sales to the state. He wondered what mechanism was available to limit the company's profit margin from the system he described.

Representative McKay responded that the company would not sell the product to the state. He communicated that the gas would be sold to utilities and the company would repay the loan from the sales revenue. The utilities price was regulated by the Regulatory Commission of Alaska (RCA), and he doubted that a windfall profit situation could result from the provisions in the bill. He reminded the committee that the Regulatory Commission of Alaska regulated the price of gas produced in Cook Inlet and sold to utilities. Representative Stapp referred to the price controls. He deemed that the problem with the demand was at the end user point of sale. He wondered if there was a higher profit margin via the utilities paying more money for gas whether it would make the economics of the project more valuable to the producers. Representative McKay could not predict future gas prices in Cook Inlet. He believed that gas produced in Cook Inlet would be cheaper than importing LNG. He commented on other legislation put forward to mitigate the situation that included royalty relief. He viewed HB

388 as another way to incentivize more gas production activity in Cook Inlet if the royalty relief bills failed to increase production. He warned that if the private sector lost interest and left Cook Inlet the state would have to operate an Alaska oil and gas company. He was attempting to design bills that left the work in the hands of the private sector while the state assisted via the financial aspect. He maintained that the bill did not currently commit any funds. The bill facilitated determing how much more gas could be produced in Cook Inlet and whether it was worth investing in the private sector.

3:24:48 PM

Representative Stapp wondered why the state did not just purchase a jackup rig. He asked if the state had purchased a rig in the past. Mr. Jepsen answered in the affirmative and added that the Endeavor rig was roughly $140 million, and the state's portion was $20 million.

3:25:24 PM

MARK DAVIS, ATTORNEY, ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY, ANCHORAGE (via teleconference), confirmed that the rig cost $140 million and AIDEA contributed $23 million and made a return on the investment. Representative Stapp asked what happened to the rig. Mr. Davis responded that it was moved to South Africa by one of the state's partners that purchased the state's portion. He furthered that while in operation, the state drilled several abatement holes and determined that some of the areas did not contain oil and gas reserves. He voiced that RBL created a borrowing base rather than resource based lending. Representative Stapp asked if the state could bring back the rig. Mr. Davis answered that if would need to be purchased. He noted that there was another jackup rig in Cook Inlet.

Representative McKay did not think it was advisable to buy large marine drilling equipment which had significant liability.

3:27:05 PM

HB 388 was HEARD and HELD in committee for further consideration.

Co-Chair Foster reviewed the agenda for the following meeting.

#
ADJOURNMENT

3:28:08 PM

The meeting was adjourned at 3:28 p.m.