ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE
January 27, 2020
1:03 p.m.

MEMBERS PRESENT

Representative John Lincoln, Co-Chair
Representative Geran Tarr, Co-Chair
Representative Grier Hopkins, Vice Chair
Representative Sara Hannan
Representative Chris Tuck
Representative Ivy Spohnholz
Representative Dave Talerico
Representative George Rauscher
Representative Sara Rasmussen

MEMBERS ABSENT

All members present

OTHER LEGISLATORS PRESENT

Senator Click Bishop

COMMITTEE CALENDAR

HOUSE BILL NO. 27
"An Act relating to the manufacture, sale, distribution, and labeling of child-related products containing certain flame retardant chemicals; relating to an interstate chemicals clearinghouse; adding unlawful acts to the Alaska Unfair Trade Practices and Consumer Protection Act; and providing for an effective date."

- HEARD & HELD

PRESENTATION(S): PETROLEUM FISCAL POLICY

- HEARD

PREVIOUS COMMITTEE ACTION

BILL: HB 27
SHORT TITLE: REGULATION OF FLAME RETARDANT CHEMICALS
SPONSOR(s): REPRESENTATIVE(s) TARR

02/20/19	(H)	PREFILE RELEASED 1/11/19
02/20/19	(H)	READ THE FIRST TIME - REFERRALS
02/20/19	(H)	RES, L&C
04/03/19	(H)	RES AT 1:00 PM BARNES 124
04/03/19	(H)	Heard & Held
04/03/19	(H)	MINUTE(RES)
04/05/19	(H)	RES AT 1:00 PM BARNES 124
04/05/19	(H)	Heard & Held
04/05/19	(H)	MINUTE(RES)
01/24/20	(H)	RES AT 1:00 PM BARNES 124
01/24/20	(H)	Scheduled but Not Heard
01/27/20	(H)	RES AT 1:00 PM BARNES 124

WITNESS REGISTER

KARLA HART, Staff
Representative Geran Tarr
Alaska State Legislature
Juneau, Alaska
POSITION STATEMENT: On behalf of Representative Tarr, sponsor, introduced HB 27.

RICH RUGGIERO, Chief Executive Officer
IN3NERGY
Houston, Texas
POSITION STATEMENT: Provided a PowerPoint presentation related to petroleum fiscal policy, dated 1/27/20.

CHRISTINA RUGGIERO, Managing Member
IN3NERGY
Houston, Texas
POSITION STATEMENT: Answered a question during the PowerPoint presentation related to petroleum fiscal policy, dated 1/27/20.

ACTION NARRATIVE

1:03:29 PM

CO-CHAIR GERAN TARR called the House Resources Standing Committee meeting to order at 1:03 p.m. Representatives Tuck, Hannan, Talerico, Spohnholz, Rauscher, Rasmussen, Hopkins, Lincoln, and Tarr were present at the call to order. Also in attendance was Senator Bishop.

HB 27-REGULATION OF FLAME RETARDANT CHEMICALS

1:04:16 PM

CO-CHAIR TARR announced that the first order of business would be HOUSE BILL NO. 27, "An Act relating to the manufacture, sale, distribution, and labeling of child-related products containing certain flame retardant chemicals; relating to an interstate chemicals clearinghouse; adding unlawful acts to the Alaska Unfair Trade Practices and Consumer Protection Act; and providing for an effective date."

1:04:33 PM

REPRESENTATIVE RASMUSSEN moved to adopt the committee substitute (CS) for HB 27, labeled 31-LS0198\S, Bannister, 4/30/19, [Version S] as the working document.

1:04:49 PM

CO-CHAIR LINCOLN objected for discussion purposes.

1:05:10 PM

KARLA HART, Staff, Representative Geran Tarr, Alaska State Legislature, paraphrased from a prepared statement on proposed HB 27, which read [original punctuation provided]:

> Flame retardants are throughout our homes and offices. In keyboards, furnishings, mattresses, electronics, and toys. Loosely bound in plastics and foam, they are spread as dust. The dust is inhaled and ingested. Children playing on the floor ingest a disproportionate amount as their little hands capture dust that is transferred to their mouths. When you eat finger food while at your keyboard or in your car, you are almost certainly eating microscopic particles of flame retardants with your chips or fruit. These toxins go into your bloodstream.
>
> Evidence suggests exposure to flame retardants and PFAs before birth may impair children's cognitive and behavioral development. I shared a Neuroscience News article from January 14 with you on Tuesday. Their summary: "Exposure to flame retardants and pesticides resulted in more than a million cases of intellectual disability in children between 2001 and 2016. However, adverse outcomes from exposure to mercury and lead fell significantly during the same period." Mercury

and lead harm decreased because of restriction placed into law.

While we cannot (and should not) experiment on humans to isolate risks and dangers in a rigorous scientific manner, studies on animals have disturbing findings. Perinatal exposure (for humans perinatal is the 20 to 28th weeks of gestation up to a month after birth) in rats and mice permanently reprograms liver metabolism, often leading later in life to insulin resistance and non-alcoholic fatty liver disease. There are far more studies than I have time to read or list. I'm happy to get information to you in response to specific questions.

Widespread use of smoke detectors, improved building codes, fire safe cigarettes, and a reduction in indoor smoking all happened in the same timeframe as the introduction of flame retardants beginning in the late 1970s. While the chemical industry would like to take credit for reductions in fire deaths, there is strong evidence that is not where credit is due.

Why have are firefighters so keen to ban flame retardants? Firefighters experience their colleagues battling and succumbing to cancers that are directly linked to breathing smoke from burning flame retardants. Individual firefighters across the state and the Alaska Fire Chief's Association have written letters of support for HB 27. Retired Anchorage firefighter Carol Bacon testified before you last April. She has a rare blood cancer and is one of many Anchorage firefighters who have been diagnosed with cancer. Senator Lisa Murkowski sponsored the Cancer Registry Act in response to the cancer death of Anchorage firefighter Andy Mullen, whose death was linked with exposure to toxins from burning electrical wires. Right here at home our firsts responders are getting sick.

Last spring you heard from Dr. Vytenis Babrauskas, a leading global expert on fire protection engineering. His 14-page resume of professional accomplishments and scientific publications was shared and is on BASIS. He summarized: "The plethora of harm and the lack of benefits make conclusions quite obvious. We should not be putting flame retardant chemicals into

consumer goods that end up in the household and are likely to adversely affect your children.

Last spring the Anchorage Assembly unanimously adopted a municipal ban on flame retardants, which went into effect on January 1 of this year. HB 27 is the ninth flame retardant bill before the Alaska legislature since 2008. The chemical industry launched aggressive and dishonest campaigns in state houses across the country, including Alaska, to stop these bills until being exposed by Chicago Tribune in 2012. A doctor who had testified in Alaska and other states lost his license for lying on the record. State legislatures and local governments are taking action over the past decade plus because the federal government is not. Industry claims that federal rulemaking is in the works and a better solution than a fragmented system of laws. This is true; however, until there is federal rulemaking, which may be never, you have the opportunity to reduce the harm to Alaskans throughout the state by adopting a law that is quite similar to that of Anchorage's. In Alaska, we spend more time indoors and are at higher risk for exposure, as our our kids. We need to be leaders!

Alaskans' support for passing a flame-retardant bill is wide and strong. You'll find letters from the Governor's Council on Disabilities and Special Education, the Cancer Action Network in Alaska, the Alaska School Nurses Association, Scan Home, an Anchorage furniture dealer, the Alaska Children's Trust, the Learning Disabilities Association of Alaska, the Alaska Public Interest Research Group. In 2011-12, the supporting letters have included a resolution from the Alaska Federation of Natives, the Alaska Nurses Association, the Alaska Mental Health Trust, the Alaska Professional Firefighters Association, the ARC of Anchorage, the Association of Village Council Presidents, and the Alaska Inter-Tribal council. Alaskans who are in the know, know that exposure to flame retardants is harmful. A fall off in letters of support is a sign of fatigue with the failure of legislatures to adopt protections, session after session.

We have the household equivalent of a canary in a coal mine if only we had been paying attention. House cats.

In 1972 feline hyperthyroidism didn't exist. In 1979 the first five cases of feline hyperthyroidism were presented at a veterinary conference in Seattle. By 1980 one in 200 cats were being diagnosed with feline hyperthyroidism. Various studies of blood levels and contact implicate flame retardants. I'll pause to let you consider what you think the rate is today…. None, 1972. 1 in 200 1980. ……. It is estimated that one in 10 house cats are now afflicted.

In the interest of respecting your time, and because a more substantive version of this bill has been heard twice before by this committee, we have not brought expert testimony. Pam Miller with Alaska Community Action on Toxics is online needed. The bill goes from here to Labor and Commerce where three members of this committee also serve and can continue the work.

There are safe, affordable alternatives that exist to provide protections from fire while not inadvertently causing a plethora of far reaching and permanent harms to children, firefighters, and all other Alaskans.

You've received letters from industry representatives with specific technical concerns. We have been responsive to those concerns and drafted amendments. I will share them with offices with the goal of addressing concerns and moving the bill forward.

1:12:35 PM

MS. HART introduced the changes to the proposed committee substitute, Version S, [Included in members' packets] which read:

The CS makes changes to 1) clarify that the act includes upholstered furniture used in all homes, not just those with children, 2) removes any labeling requirement, and 3) addresses reupholstered furniture in a manner consistent with the recently passed Anchorage law.

Page 2, line 17 – The title is changed to clarify that the Act includes upholstered furniture and child-related products.

Line 20-21 – changes "consumer product" to "covered product."

Line 25-26 – (b) of Ver A re resale is now addressed in Sec. 18.31.620

Page 3, Sec. 18.31.620 is changed.
The labeling requirement in version U is removed from the bill. The section now more clearly addresses exemptions, including reupholstered furniture.

Page 3, Sec. 18.31.630 – Removes the penalty for violation of labeling.

Page 3-4, Definitions – (2) "consumer product" is changed to "child-related product," detachable car seats are removed, the word upholstered is dropped from furniture.

MS. HART added that a proposed amendment had been prepared to address a concern by the industry for car seats. She continued with the discussion for the changes in the proposed CS.

New (3) defines "covered product" to include all upholstered furniture used in the home and child-related products.

New (4) defines reupholstered furniture (in alignment with Anchorage law).

New (5) defines upholstered furniture (in alignment with Anchorage law)

1:14:07 PM

CO-CHAIR TARR added that the effective date for the proposed bill would be amended to a later date to allow some lag time for retailers to respond to the changes.

1:14:37 PM

REPRESENTATIVE RASMUSSEN acknowledged that, as she was not an expert on flame retardants, she had forwarded a letter of opposition from the American Chemistry Council, dated January 23, 2020, [Included in members' packets] to a family member who was a firefighter, for their thoughts. He had replied that fires now burn hotter than ever and with light weight

construction there was less time for response. She expressed her concern for the protection of flame retardants versus the potential for negative consequences. She asked for in put from other committee members.

1:16:27 PM

CO-CHAIR TARR, in reference to the letter from the American Chemistry Council, shared examples of some changes, which included: these chemicals had been removed from children's clothing; cigarettes were now self-extinguishing; and, there was greater enforcement on the use of fire alarms. She shared that a challenge for the use of the flame retardants was that although they provided a little delay, this was not a significant amount of time. She pointed out that there was strong support from the Alaska firefighting community, and the Alaska Fire Chief Association, to push for removal of these chemicals with replacement by safer alternatives. She pointed to the significant improvement to the number of available products, adding that "almost half the country that have passed some kind of legislation with these restrictions." She pointed out that, in response, the retailers and the manufacturers were making new products. She noted that once California consumers lead the way, the rest of the West Coast would follow. She expressed her hope to provide a transition time for retailers and inspire new product development.

1:19:49 PM

MS. HART offered to provide information on the amount of time [for combustion], adding that closed bedroom doors "can be life-saving."

1:20:26 PM

REPRESENTATIVE RASMUSSEN expressed her concern at the number of homes, especially rental homes, without smoke alarms, even as there was a code for "one in every bedroom and then one in any living space."

1:21:29 PM

REPRESENTATIVE HANNAN asked how the Anchorage ordinance was aligned and differed with the proposed legislation. She asked if there were any Alaska based manufacturers impacted by the proposed legislation.

1:22:23 PM

MS. HART explained that snow machines would not be covered by the proposed legislation unless used as household furnishings. She stated that her office had not been contacted by anyone involved with manufacturing. She said that the proposed bill did not align perfectly with the Anchorage ordinance, noting that neither ordinance had "teeth" as there was no money for enforcement. She declared that it did "encourage and incentivize the industry to work at a national level to get one unified law that would cover all jurisdictions across the country without having to deal with a lot of different laws." She referenced proposals for national laws dating back to 2008 without any "near giving birth anywhere." She opined that "not being perfectly aligned is actually part of what makes this help to provide better protections in the future." She listed the most critical points of differentiation between the proposed legislation and the Anchorage ordinance, which included: the proposed legislation prohibits toys with flame retardants; the proposed legislation prohibits electronics, which included the casings on cell phones and computers; and an amendment had been drafted to align with the Anchorage ordinance to exempt the child restraint systems.

1:25:19 PM

CO-CHAIR TARR directed attention to the proposed HB 27, page 3, line 22, "participation in the interstate chemical clearinghouse," which referenced work with other states to develop national policy. She declared that it would be better to have a consistent national policy. She shared that proposed amendments had been drafted to address the four specific concerns, including the electronics and toys, and that the House Resources Standing Committee could decide whether to adopt these for more comprehensive legislation.

1:26:52 PM

REPRESENTATIVE HANNAN pointed out that should the proposed legislation pass, the Anchorage ordinance which did not cover toys and electronics would be moot for the distribution of any manufactured goods that contained fire retardants. She noted that there was a local Juneau manufacturer of all wood toys. She asked if there were concerns for the interstate economics of technology, musing that, as there was no money for enforcement, it would be a moot point.

1:28:16 PM

MS. HART pointed out that San Francisco, California, had enacted "quite a rigorous ban" which included electronics [containing fire retardants], although the State of California had not. She acknowledged that, as the boundaries of the city were "very porous" it was not a long journey to buy something.

1:28:47 PM

CO-CHAIR TARR shared that she generally watched California, as that population demanded sufficient availability of a new product at an affordable price.

1:29:42 PM

REPRESENTATIVE SPOHNHOLZ noted that states could impact policy at higher levels as states were often incubators for policies "that could then move up to the federal level," even though Alaska was a small market in terms of buying power. She asked about the length of time that flame retardants would delay incineration.

1:30:39 PM

MS. HART replied that the delay was about 30 seconds, and she directed attention to a video igniting furniture with and without flame retardants in a laboratory setting. She questioned whether this would allow enough time to escape a burning building. She pointed out that, as the foam in furniture was made from petroleum products, "so they'd burn pretty well," flame retardant was included on the barrier to slow the burn.

1:31:45 PM

REPRESENTATIVE RASMUSSEN asked whether the time would be any different in a room with most of the furniture treated with a fire retardant.

MS. HART replied that she would get back to her with an answer.

1:32:37 PM

REPRESENTATIVE TUCK asked if there was a direct link between household pets and thyroid problems.

1:32:57 PM

MS. HART replied that it was not ethical or legal to do studies on humans. She explained that house cats spent considerable time on the floor and grooming, so dust would collect on the fur and then be groomed into their system. She reported that initially there was not a link between flame retardants and hyperthyroidism. As studies were being done, it was realized that there was a disproportionate amount of flame retardants in cats with hyperthyroidism. Further tracking offered a link between these, as serious health effects were showing up more often and a strong correlation was suggested.

1:35:05 PM

CO-CHAIR TARR asked that any proposed amendments be submitted by January 28.

1:36:28 PM

CO-CHAIR LINCOLN removed his objection. There being no further objection, the proposed CS, Version S, was adopted as the working draft.

[HB 27 was held over.]

PRESENTATION(S): PETROLEUM FISCAL POLICY

1:36:39 PM

CO-CHAIR TARR announced that the final order of business would be a presentation related to petroleum fiscal policy.

1:37:53 PM

RICH RUGGIERO, CEO, IN3NERGY, presented a PowerPoint from IN3NERGY and directed attention to slide 2, "Week Goals and Recap." He reported that the Legislative Budget and Audit Committee had stated a "scope of work to come up and provide foundational training on petroleum fiscal systems." He shared that he had come to share training, and, although he was full of opinions, these opinions were not with respect to any bills, pending bills, initiatives, or regulations. He reported that they had presented two courses over five hours, and this brief presentation would offer the highlights of that training. He relayed that, through the course of the training, they attempted to answer any questions "about fair share, and how do we

compete, and how do we compare." He stated that "the majority of the capital in the world is spent with people that have a greater government take than Alaska and, as committee, as legislators, and the rest, you should be asking why." He declared that he would also present on why the money was being spent in places other than Alaska.

1:41:32 PM

MR. RUGGIERO, in response to Representative Rauscher, said that he would not step out of his lane in these discussions. He reported that this basic class, "Oil and Gas 101," had been offered four times, while "Oil and Gas 102" had been offered twice. He estimated that 100 people had attended each of the different courses. He directed attention to slide 4, "Oil and Gas 101," and paraphrased the slide, which read:

> Oil and gas terms and jargon are extensive but important to building knowledge and preventing false assumptions and misunderstandings
>
> •Schlumberger Oilfield Glossary https://www.glossary.oilfield.slb.com
>
> • Each source of hydrocarbons are finite
>
> • Each barrel of crude oil and cubic foot of natural gas are not created or valued equally
>
> • Their value, and the associated costs to produce them, are dependent on quality specifications and location
>
> • These variations result in price premiums or discounts relative to global marker crudes or reginal natural gas hubs
>
> • Conventional and unconventional reservoirs require different technology and extraction methods, and have varied production profiles
>
> • Oil companies and governments work together in countries across the globe to produce and market hydrocarbons

MR. RUGGIERO declared that it was important to understand real meanings versus assumptions, and he directed attention to the

glossary. He explained that the term "state take" was a common term used by petroleum fiscal systems to refer to the central government. He pointed to the distinction between a "resource" and a "reserve," explaining that a reserve needed to be discovered, to be commercial, and to be approved by a company in order to go forward with the development and production of the resource. He further explained that one of the variables in determining the value of oil was API, which ranged from a low number for a heavy, thick, crude oil to a high number for oil flowing like water. He declared that it was important in comparison of profitability to other oil regimes to understand the quality difference from the marker crude, adding that this was also true for natural gas. He pointed out that the oil price was based on a global market, while natural gas price was based on the supply and demand in a regional market. He added that there were different expenses to move different qualities of gas and crude oil. He noted that, as the market price was already set, the cost to get to the market was subtracted from that market price to arrive at the profit.

MR. RUGGIERO shared that, in 1978, the known proven global reserves had projected to be less than 20 years of oil. He reported that, from 1998 to 2018, global oil reserves had increased by 51 percent, with production of approximately 600 million barrels and the addition of reserves of 1.2 trillion barrels. He pointed out that the Alaska share was "but a thin sliver now in the U.S." Hence, the prominence of Alaska as a resource owner had changed drastically with greater discovery and production elsewhere. He stated that, as competition changed over time, it was necessary to offer, through the fiscal system, the right level of incentives to attract the necessary capital to meet the state's goals. He directed attention to slide 5, "Oil and Gas 101," and paraphrased the slide, which read:

- From 1998 to 2018 global reserves increased roughly 50%. Alaska’s share has declined

- The intent of a fiscal system is to provide economic and other terms that will attract sufficient capital for the prudent development and production of a country’s mineral wealth

- There is no single ideal or optimum fiscal structure

- Government drivers are unique

- Each hydrocarbon development and production project tends to have unique characteristics and circumstances

- Alaska utilizes a fiscal system comprised of royalty (gross tax) and a petroleum tax based on net revenues

1:50:46 PM

REPRESENTATIVE HOPKINS referenced the aging oil fields globally and asked if there was a trend toward a specific fiscal regime.

1:51:29 PM

MR. RUGGIERO, in response, stated that 30 years ago there were not very many strong national oil companies; however, in the last few decades, those countries with national oil companies had educated themselves and believed themselves capable of running some of these aging oil fields under risk-service contracts in which the state retained ownership of the base, and a contract was offered to incentivize a company to increase the production.

REPRESENTATIVE HOPKINS asked if this trend existed outside the state-owned oil companies.

MR. RUGGIERO said that he was only aware of this with national oil companies.

REPRESENTATIVE RASMUSSEN asked if there was detailed information on the trend of Alaska's decline.

1:53:30 PM

MR. RUGGIERO, in response to Representative Rasmussen, said that he did not have the information. He moved on and paraphrased slide 6, "Oil and Gas 102," which read:

- The role of the government is to ensure the optimal development of its natural resources for the near-term and long-term benefit of its people
- The more durable fiscal systems today are those designed to respond to inevitable change as well as the up and down cycles of the energy industry and geopolitical events
- Policy design should start with a set of agreed goals, which tend to be unique for each government

- Fiscal regime design recognizes that government's own the majority of hydrocarbons in the ground and oil and gas companies provide the necessary capital, trained personnel and technology

MR. RUGGIERO explained that stable did not mean "everything stops," but instead, being able to move with changes as the changes occur. He offered his belief that this was different for oil versus other industries. He stated that it was important to recognize what goal was intended for a fiscal system and explained that any of the past fiscal oil legislation could only be viewed as successful or unsuccessful against the goals to which they had been set up to achieve. He offered a recommendation that legislators first get agreement as to what was the intended goal. He pointed out that, although almost all the hydrocarbons in the ground, the upstream, were owned by governments, the midstream and downstream facilities were predominantly owned by the private sector and most of these facilities were low risk and low reward, as the information was known ahead. However, as the upstream ownership of the oil was dealing with unknowns for quantity, cost of facilities, and fiscal systems, there was significantly more risk.

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REPRESENTATIVE HANNAN mused that although Senate Bill 21 had met its legislative goal, the public perception had been for 1 million more barrels of oil per year. She asked for expansion on these perceptions.

2:00:20 PM

MR. RUGGIERO, in response, offered his belief that the goals of ACES (Alaska's Clear and Equitable Share) were achieved at that time, noting that there had been a list of five goals agreed upon by the Alaska State Legislature. One of the goals had been to incentivize new players to get new oil flowing into the pipeline, and the tax credits included in ACES brought extensive drilling with many discoveries. He acknowledged that, as the price of oil had crashed when it came time to pay those incentives, the amount of revenue to the State of Alaska did not meet the goals. He pointed out that the time cycle for oil development in Alaska was at least 10 years, much longer than the time necessary in the Lower 48, so success could not be measured in short time frames. He noted that, as there were a series of steps: exploration, discovery, and development into

production, it was necessary to ensure everything was now in place to move through development into production.

2:03:00 PM

CO-CHAIR TARR referenced the second point on slide 6 and reflected on the fiscal system problems with ACES and Senate Bill 21. She expressed her hope that lessons could be learned from these experiences to craft a fiscal system that would not fail under one price circumstance. She declared that would allow for a more durable system.

2:04:19 PM

REPRESENTATIVE RASMUSSEN asked if the time cycle was related to implementation for a specific policy.

MR. RUGGIERO, in response, listed the process for an oil company which entailed the ten-year cycle: study an area, purchase the rights for exploration in that area, drill a well in the area, experience a discovery, create a development plan, and move into production. He acknowledged that these actions happened much more quickly in the lands of the Lower 48, except for the Gulf of Mexico.

REPRESENTATIVE RASMUSSEN asked if there was consideration during this timeframe for impacts of policy changes.

MR. RUGGIERO allowed that any great disruption in the ten-year cycle to the fiscal system created a much greater risk to the business. He paraphrased slide 7, "Oil and Gas 102," which read:

- The use of a single aspect of a fiscal system, such as headline tax rates or government take, are not an effective way to measure competitiveness or the attractiveness for capital spending

- Within the concession and contract structures there are numerous tools and methods for designing fiscal policy that significantly impact the attractiveness of a regime

- Most of those tools impact the timing of cash flows to a company, and time plays an important role in a regime's attractiveness

- Insight was provided into how oil companies tend to evaluate project economics and make investment decisions

MR. RUGGIERO pointed out that there was not one ideal fiscal system, and that no two fiscal regimes could be compared with the use of a single metric, even if that metric was the overall government take. He stated that there were many tools used to create contracts which could be used in multiple ways to create hundreds of variations for a petroleum fiscal system and could be made to economically look similar to any other model. He noted that concession agreements tended to be put in places where it was believed that the central government was more stable in case any disputes needed to be resolved and any judgement carried out, and the law was enshrined within the contract. He pointed out that oil companies used their own analysis, which included many aspects not included in the Alaska analysis. He stated that the economic analysis would include every dollar of expected expenditure and every dollar of revenue, when it came in and how it came in. He shared that the only reference to the fiscal system by the oil companies would be an assessment of the risk factor for how long the fiscal system would stay in place during the life of the project.

2:10:39 PM

MR. RUGGIERO shared slide 8, "Caution: The Flaw of Averages," which read:

- All too often regimes are described, compared or, even worse, modelled using average values

MR. RUGGIERO explained that there could be either a wide range of values or a tight distribution of values in any fiscal system, and even though both could have the same average, each of these fiscal systems could be very different. He cautioned against reliance on averages.

MR. RUGGIERO paraphrased slide 10, "Change is the Only Constant, which read:

- The Petroleum industry has continually undergone change, thus it's important to balance preparing for the future while addressing the present in a global market, where no single region, player, or component is isolated from another, and where governments design fiscal policy that is responsive to a complex and

sophisticated business environment in a global competition for oil company investment dollars

- In other words, when putting together petroleum fiscal policy you must assume an unpredictable future that can range from much better than hoped to much worse than feared

- The more durable fiscal systems today are those set up to respond to inevitable change as well as the up and down cycles of the energy industry and geopolitical events

MR. RUGGIERO pointed out that the design of a fiscal system which centered on "at this price, I've got this profit level," would have a problem as time passed. He offered an example of gross tax based on the cost structure fixed price points for profit.

2:13:27 PM

REPRESENTATIVE HOPKINS asked if there were tax regimes not as price dependent as Alaska.

MR. RUGGIERO explained that the most responsive systems used five or six different methodologies for the determination of profitability, with an increase to the government share as the profits increased.

REPRESENTATIVE HOPKINS asked if this was similar to the progressivity in Alaska's Clear and Equitable Share.

MR. RUGGIERO explained that progressivity tended to change with the net price of the barrel to cost which was different than net profitability. He said that ACES was a representation of the margin of profit on a barrel of oil that day or that month.

REPRESENTATIVE RASMUSSEN asked if there were other governments who had kept a 10-year policy in place without substantial changes.

MR. RUGGIERO explained that this required a breakdown of contract regimes and license regimes. The contract regimes did not change for the life of the contract unless both parties wanted to change, which usually reflected a change in the economics from the time of approval. Licensing regimes reflected different philosophies on change, and he offered an

example from the United Kingdom, which had relaxed its taxes and removed royalties when prices went down and increased the government share when prices went up. He pointed out that change could be stable when in tune with the profitability of the industry at the time.

2:17:00 PM

REPRESENTATIVE RASMUSSEN asked if Senate Bill 21 was a system designed to be similar to that of the United Kingdom in order to keep production relatively stable.

MR. RUGGIERO offered his belief that Senate Bill 21 was not designed to keep production stable but was designed to incentivize investment to change production. He added that stable could be growth as old fields declined.

CO-CHAIR TARR shared that there could be a more appropriate place to tax which reflected profitability because in a net profit system all expenses had been accounted for.

MR. RUGGIERO expressed his agreement.

2:18:33 PM

REPRESENTATIVE HANNAN asked how wide a progressivity in the fiscal policy was necessary to measure profitability. She asked if there was a standard recommendation or did it include the spectrum of worldwide investment.

2:19:49 PM

MR. RUGGIERO replied that the type of system depended on the type of ringfence. He stated that the profitability metrics and tools he referenced were usually used over the life of the project, not per barrel as that was a "point in time" and not indicative of the whole.

REPRESENTATIVE HANNAN asked if this profitability could extrapolate to that specific project and not with regard to other projects by the same company.

MR. RUGGIERO explained that normally a fiscal regime does not look outside itself, therefore, review of an Alaska project would not look outside Alaska. He said it was then a choice whether to separate individual Alaska projects, including new projects from old projects, and there were many options for this

separation. He pointed out that the fiscal system was in line with the ringfence. He declared that you cannot go outside your fiscal regime.

MR. RUGGIERO directed attention to slide 11, "Attracting Investment Capital," which depicted all the countries changing their fiscal regime from January 2001 to January 2016. He noted that it was necessary when comparing regimes to determine whether that regime had changed.

CO-CHAIR TARR noted that the graph clearly showed that the change in fiscal regime with an increase to government take clearly followed the increase in price per barrel.

MR. RUGGIERO pointed to the three plots for Alaska on the graph.

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CO-CHAIR TARR asked if any other countries on the graph were as reliant on the revenue from oil and gas as Alaska. She suggested that it would be easier to be more nimble with the oil and gas tax policy in Alaska if there was not such a heavy reliance on revenue.

MR. RUGGIERO suggested that this could be asked from several different perspectives. He shared an example of the United Kingdom dropping royalty and oil taxes because of the importance for domestic supply. He pointed out that many of the countries on the graph had a different driver for change, even as they operated in the same world, with the same pricing, and with the same oil companies.

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CHRISTINA RUGGIERO, Managing Member, IN3NERGY, pointed out that each of the points on the graph told a story, and that it was necessary to find the reason to determine the change, whether to incentivize exploration or production or to open to foreign investment. She added that some of these contracts could be ending and would not be extended. She reminded that, as each of these changes had factors, it was necessary to determine the goals and the drivers prior to making a comparison.

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MR. RUGGIERO paraphrased slide 12, "Addressing Change in Fiscal Design," which read:

• To prepare for unexpected change, any policy and design goals should be tested against several possible future scenarios in order to provide a resilient investment climate

• For example: • Continued demand growth - business as usual
• Move to Green – leveling off of demand followed by slow decline in demand
• Accelerated Green- quick development and adoption of hydrocarbon alternatives, sharp decline in demand of fossil fuels

• By testing various policy alternatives against a range of possible future end states, a preferred pathway forward can be set

MR. RUGGIERO reminded the committee, when making a change or introducing a new fiscal policy, to keep in mind the goals to achieve while viewing it across some agreed future scenarios. Then, when it is approved, it would have some resilience as it would have been previously analyzed for the future scenarios with the agreed upon set of goals. He shared slide 13, "Example on How Needs Drive Policy," as a graph depicting one example for a big oil price drop in eight different regions for the reserves to production ratios in each region. As these countries then changed the fiscal system to incentivize exploration, this was quickly turned into actual development and production of reserves. He referenced the British Petroleum Statistical Review as excellent for industry data and the trends over different time periods.

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MR. RUGGIERO shared slide 15, "Capital Spent in High Take Countries," which read:

• The concept of cost recovery is a globally accepted standard, applied various ways throughout fiscal systems. The most important parameters are:
• Which costs can be deducted and/or recovered?
• When can the deductions/recovery take place?
• Before or after tax is due?

• Non-deductibility or exclusion of costs (such as disallowance of some or all NOLs) significantly hurts

economics and increases risk, thus creating a deterrence for producers to invest

- Global standard is to deduct and recover 100% of costs, such as exploration, development, production, administration and services

- Usual minor exclusions are financing interest, excess corporate overhead, penalties, entertainment, and donations

MR. RUGGIERO said that the debate over NOLs (net operating loss) as a giveaway was often heard relative to discussions about Alaska. He stated that NOLs were simply businesses recovering their costs. He shared an example of putting money into two different banks, with one bank charging tax on the money invested, while the other charged tax on the money earned. He pointed out that no one wanted to pay tax on the money invested, only on the money earned. He compared NOLs to the money invested, on which no business wanted to pay tax.

MR. RUGGIERO discussed whether costs should be allowed or not allowed, noting that assorted regimes handled what costs were allowed this differently. He listed excessive overhead, environmental penalties, and financing as costs not usually allowed to be deducted and recovered without paying tax. He pointed to slide 16, "Sharing Benefits," which listed countries and the corresponding government take. He reported that many areas had significant investment with a higher take than Alaska. He offered his belief that there was something other than government take which determined where to invest.

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MR. RUGGIERO addressed slide 17, "Capital Spent in High Take Countries," which read:

- Simple example comparing 3 regimes with these key differentiators
- Tax rates
- Disallowed costs
- Uplift

	Regime A	Regime B	Regime C
Allowed Costs	90	115	115
Disallowed Costs	25	0	0
Uplift %	0	0	10%
Uplift Years	0	0	3

Royalty	15%	0	0
Net Tax	45%	75%	85%

MR. RUGGIERO defined: tax rates as gross or net tax; disallowed costs as those costs the oil company experienced and had to pay but could not deduct or recover hence the associated revenue was taxed; and, uplift as the interest on the unrecovered cost to account for that time value of money. He reported that the tighter the ringfence around revenue to recover cost, the more likely there would be for an associated uplift to compensate for the time value. He moved on to slide 18, "Capital Spent in High Take Countries," which compared the percentage of government take for the three regimes to the final producer share for each. He reported the revenue as the same for each regime, then deducted the royalty, the allowed costs, and the uplift, if offered, for each regime. This resulted in different taxable incomes for each regime. When the net tax was deducted from the taxable income, the result was the gross profit. From the gross profit, the disallowed costs were deducted, and any non-taxed uplift was added to reach the final producer share. He noted that, in this example, the country with the highest government take also had the highest producer profit. He reported that a longer-term cash flow profile on a real project with similar numbers would have similar differences in the return to the producer.

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CO-CHAIR TARR explained that under the current statute the NOLs could be carried forward for up to seven years, instead of allowing the uplift. She mused that any recovery of costs that was unused after the seventh year was then depreciated by 10 percent annually. She acknowledged that this was related to the time value of money.

MR. RUGGIERO explained that this created a negative uplift and ultimately became a tax on parts of the investment.

REPRESENTATIVE HANNAN asked whether the current Alaska fiscal regime offered all the net operating losses as other fiscal regimes. She asked for examples of NOLs that Alaska did not allow but were allowed by other fiscal regimes.

MR. RUGGIERO clarified that there were costs incurred that were not allowed to be deducted through the fiscal system and were not specific to NOLs.

REPRESENTATIVE HANNAN asked for examples from other regimes for what was allowed that was not allowed in Alaska.

MR. RUGGIERO replied that many regimes created accounts when revenues were high to handle the costs for abandonment at the end of the field life. If abandonment was not deductible in a fiscal regime, there could be billions of dollars of abandonment costs with nothing to write them off against.

MR. RUGGIERO shared slide 19, "Fiscal Regime Tool Kit," which read:

- So how does the simple math of Revenue – Costs = Taxable Profit become complex?

- Fiscal systems are modified using one of many different "tools" to achieve a subset of goals and to prevent another subset of unwanted outcomes

- Each of these tools can be deployed in a variety of ways

- While high-level fiscal structures have not changed much, variations on how to handle constituent parts continue to be developed

- Regimes and fiscal systems that share benefits that align with oil company investment decision-making metrics, timing and processes can be expected to attract the most investment dollars

MR. RUGGIERO offered his belief that the design of fiscal regimes was half science and half art. The art was for what was attempted to be accomplished, and what sequence of tools would achieve those goals and attract the capital for development. He noted that many of the pieces built into fiscal regimes did not appear in the most common ranking of government take. He moved on to slide 20, "Fiscal Regime Tool Kit Items," which read:

- Bonuses • Bid Fees • Annual Fees • Royalty • Cost Oil & Caps • Profit Oil & Split • Rate • Reserves • R Factor • IRR • Combination • Delta Oil/Gas • Work Program • Abandonment Bank • Income Tax • Capital Gains Tax • Petroleum Tax • Property Tax • Excise Duties • Import Duties • Ringfencing • Data Transfer • Facility Transfer • Local Market • Local Content • Training

MR. RUGGIERO offered an example of the huge bonuses paid for the Gulf of Mexico leases and the billion-dollar bonuses for the Angola blocks. He compared the $5 cost per acre of land for drilling 30 years ago to the current cost for the right to drill of up to $25,000 per acre. He noted that occasionally an individual shale well could be burdened with up to $4 million of acquisition costs just for the right to drill. He reported that much of this was not plotted on the metric charts. He directed attention to the Profit Oil & Split, noting that each of these represented the profitability of the project as a whole and not the profit on a barrel for the day, the month, or the year. He reported that countries had benefits from specific and targeted investment by the oil companies that did not show up as part of the government take.

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CO-CHAIR TARR shared that data transfer was a benefit to the State of Alaska, as revenue could be generated when it was sold. She acknowledged that there had not been any goal setting with the changes to the fiscal system in Alaska.

REPRESENTATIVE HANNAN asked for a definition to the term "delta oil/gas" on slide 20.

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MR. RUGGIERO explained that this meant different for oil and different for gas as most regimes had a combination of oil and gas together. He directed attention to slide 21, "Fiscal Regime Tool Kit Items," which listed other oil company economic impacts, and read:

> • Capital Expense • Uplift • NOLs • Inv Credits • Depreciation Schedule • Recovery • Period Recovery Caps • Allowed / Disallowed • Operating Expense • Sole Source vs Bidding • Affiliates • Allowed / Disallowed • Overhead • Abandonment • Other • Liability • Environmental • Insurance • Employee costs • Marketing • Ultimate sale point • Unit valuation point • Allowed expenses • Affiliated sales

MR. RUGGIERO opined that the top item that drove companies to invest was time: the sooner costs could be recouped, the better the economics and the less risk with the project. He stated that time played an equal or greater role than the government

rate of take. He added that liability environmental insurance was also very important to getting approval for a project as it could otherwise carry a monetary risk that far exceeded what was willing to be taken. He reported that some governments accepted full liability unless there was pure gross negligence or willful misconduct. He shared that the Iraq government had indemnified the companies for land mines during the post war development.

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REPRESENTATIVE SPOHNHOLZ referenced the timing for government take and asked how to help companies successfully recover their investment early without changing the total government take.

MR. RUGGIERO shared an example he had offered during the workshop of the same project under four regimes.

REPRESENTATIVE SPOHNHOLZ asked what specific levers were used to speed up the recovery of the front-end investment.

MR. RUGGIERO referred again to the earlier workshop training, and stated that, in Alaska, the capital charges could be a write off as soon as there was the revenue. He explained that many regimes used a form of depreciation to recover those charges over three to ten years. Alaska was in the top 10 percent of regimes which allowed that to be written off immediately. He stated that it was an incentive to allow monies to move across project boundaries, so that a new project could be written off against an existing project, which offered a significant time enhancement. However, if that was ringfenced to stand alone, it would discourage investment. He listed the period of recovery and the allowable amount to recover each year as things to deal with.

CO-CHAIR LINCOLN referred to slide 18 and asked if the cash flow and the NPV for the government had been modeled. He asked for further explanation to the government take for 85 percent.

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MR. RUGGIERO, in response, explained that government take was the total profit over the life of the project. He stated that others would add a marginal dollar to the chart, which would reflect the split after all the costs had been recovered. He declared that it was very important to understand what each number represented in any comparisons of government take charts.

CO-CHAIR LINCOLN asked to clarify that, on slide 18, the 85 percent was for total cash not adjusted for time.

MR. RUGGIERO expressed his agreement, noting that the 85 percent was "just a straight cash flow split." He moved on to slide 22, "Oil Company Decision Making," which read:

- It is not uncommon for producers to create a set of economic standards and project evaluation guidelines and require that all term projects be evaluated in a consistent manner

- Parameters that are typically established as part of a "corporate" standard include:
- Multi-Year Price Forecast
- Multi-Year Foreign Exchange Rates
- Multi-Year Inflation
- Discount Rates
- Overhead Allocation
- Required Sensitivities
- Risk Analysis Methodology
- Hurdle Rates for Project Approval

MR. RUGGIERO said that the larger companies tended to publish a set of standards that had to be used for every project, in order to compare projects. Therefore, they could have price forecasts, cost forecasts, and inflationary forecasts that were very different from the Department of Revenue. He pointed out that, when determining fair share, it was necessary to recognize whether what was being left for the producer was enough to allow approval of the project. He directed attention to slide 23, "The Project "Hockey Stick,"" which depicted a graph reflecting the cumulative cash position, similar to the shape of a hockey stick. During the investment without revenue, the cash was negative, but once the revenue begins, the period of positive cash flow begins, and so begins the cost recovery mode. He emphasized that during positive cash flow, it was necessary to define whether this was before payback, the point when cash in equals cash out, or after. He shared that each company would have certain expectations for the final cost of capital to determine whether to make the investment.

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MR. RUGGIERO shared slide 25, "Fiscal Regime Tool Kit," and the basic construct that revenue minus cost equals profit. He explained that, in Alaska, there was an attempt to have the

revenue, minus any costs to market, to whatever border the contract had established, at which point the royalty and the allowed costs were deducted to achieve the taxable value. Once any tax was assessed, the remainder was the profit for the oil company. Moving on to slide 26, "Alaska Fiscal Regime High Level View," he paraphrased the slide, which read:

- What causes concession based fiscal regimes to go from simple to complex?

- Usually it is a perception of achieving a big marginal gain or preventing a potential loss; i.e. plugging a loophole

- Putting Alaska in perspective:
- At 500,000 bpd you get roughly 182,000,000 barrels per year
- Thus $1 per barrel change in revenues or costs represents a change of $182,000,000 per year

- Consequently, governments like Alaska closely scrutinize revenues and costs and make incremental changes to laws and regulations to ensure they are creating the highest possible taxable value

MR. RUGGIERO pointed out that plugging the loopholes, over time, created a very complex system, which would then require many modifications when there was a need to make any significant changes. He paraphrased slide 27, "Fiscal Regime Tool Kit," which read:

- How does Alaska make sure the right value ends up back at the lease?

- Market Sales Revenue
- Actual price and revenues if arms-length sale to a third party
- If non arms-length sale to an affiliate, the price and revenues are to be agreed between the company and the State of Alaska
- Large integrated oil companies tend to keep things in house

- Less Costs to Market
- Shipping
- TAPS

- Same issues on affiliated transactions versus third party transactions
- Additional issues with the perceived fairness of rates set by non-AK regulatory bodies

MR. RUGGIERO added that affiliated transactions were usually monitored closely, which raised the questioned for a definition of affiliate. He raised the question for whether the affiliate was controlled by the oil company and to what percentage and noted that often the regime would create the definition and delineate the rules for each definition. He pointed to disputes over the number of barrels of oil, as the number of barrels at the refinery was often less than the number of barrels out of the well. He raised the question for whether those lost barrels belonged to the government or the oil company, hence which party suffered the loss. He stated that the fiscal system in Alaska defined how to arrive at the price, what was deductible, and how the barrels would be counted.

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MR. RUGGIERO presented slide 28, "Fiscal Regime Tool Kit." He reported that when the number of barrels was multiplied by the price, the allowed transportation was deducted, then the gross value at the point of production (GVPP) was ascertained. He added, "then we start get interesting." He said that if the field qualified as a GVR (gross value reduction) field, there was a GVR deduction on the claimed revenue which would start a reduction of the ultimate tax paid. After this, royalty would be deducted on the land and water, which would be deducted from the state royalty. He stated, "in Alaska, all royalty is not equal. It may be of the same total dollar amount but whose pocket it goes into varies depending on where that oil's produced."

CO-CHAIR TARR shared that most of the restricted dollars were going into the permanent fund.

MR. RUGGIERO reiterated that the GVR and royalty were subtracted from the GVPP, and then the costs of the operations were subtracted. He reminded the committee that not all the costs were deductible. He explained that the term "direct" usually applied to what was happening in the field, whereas "overhead" applied to costs elsewhere. He pointed out that a deduction on equipment was not allowed until it was present in the field in Alaska. He reported that some fiscal regimes allowed the costs to be deducted as they were spent, whereas other fiscal regimes

only allowed the deduction when the equipment was present. He pointed out that this was an example of the timing element for carrying the investment. He added that any carry forward net operating losses would also be deducted.

REPRESENTATIVE HANNAN asked whether the equipment had to be present in the field and operational before deduction or just on site even if it was never operated. She shared an example of a Shell Oil drilling platform brought to Alaska but never used.

MR. RUGGIERO replied that there was a presumption of operation, even though there was always the possibility of the unknown. He moved on and paraphrased slides 29, 30, 31 and 32, "Fiscal Regime Tool Kit." He said that, after the eligible deductions, one arrived at the production tax value (PTV), and at this point, would deduct the tax. He stated that it was necessary to do two tax calculations: (1) for gross tax on the GVPP, multiplied by the appropriate gross tax rate; and (2) for net tax, multiplied by 35 percent, with application of the appropriate credits. The producer was then obligated to pay the greater of the gross tax payable or the net tax payable. He pointed out that differential interests and different activity in the different fields on the North Slope resulted in different taxes. He explained that the oil company profit was subject to the appropriate Alaska and federal income tax before it was placed into the oil company bank account.

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MR. RUGGIERO paraphrased slide 33, which read:

- Driver: Every $1 per barrel represents $182,000,000 per year

- Through the years, with numerous modifications, the simple concessionary design has become quite complex in Alaska

- Fiscal system complexity leads to:
- Greater number of regulations
- Greater costs to administer
- Greater need for regular auditing
- Greater likelihood to end up in some form of dispute; and
- Unintended consequences when changes are attempted

MR. RUGGIERO directed attention to the unintended consequences resulting from many moving parts, offering an example of House Bill 111.

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CO-CHAIR LINCOLN shared that it was necessary to keep in mind the industry perspective as the government take for a project that did not happen was zero.

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ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at 3:14 p.m.