ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE
March 8, 2017
1:02 p.m.

MEMBERS PRESENT

Representative Andy Josephson, Co-Chair
Representative Geran Tarr, Co-Chair
Representative Dean Westlake, Vice Chair
Representative Harriet Drummond
Representative Justin Parish
Representative Chris Birch
Representative DeLena Johnson
Representative George Rauscher
Representative David Talerico

MEMBERS ABSENT

Representative Mike Chenault (alternate)
Representative Chris Tuck (alternate)

COMMITTEE CALENDAR

HOUSE BILL NO. 111
"An Act relating to the oil and gas production tax, tax payments, and credits; relating to interest applicable to delinquent oil and gas production tax; and providing for an effective date."

- HEARD & HELD

PREVIOUS COMMITTEE ACTION

BILL: HB 111
SHORT TITLE: OIL & GAS PRODUCTION TAX; PAYMENTS; CREDITS
SPONSOR(s): RESOURCES

02/08/17	(H)	READ THE FIRST TIME - REFERRALS
02/08/17	(H)	RES, FIN
02/08/17	(H)	TALERICO OBJECTED TO INTRODUCTION
02/08/17	(H)	INTRODUCTION RULED IN ORDER
02/08/17	(H)	SUSTAINED RULING OF CHAIR Y23 N15 E2
02/08/17	(H)	RES AT 1:00 PM BARNES 124
02/08/17	(H)	Heard & Held
02/08/17	(H)	MINUTE (RES)
02/13/17	(H)	RES AT 1:00 PM BARNES 124

02/13/17	(H)	Heard & Held
02/13/17	(H)	MINUTE (RES)
02/17/17	(H)	RES AT 1:00 PM BARNES 124
02/17/17	(H)	Heard & Held
02/17/17	(H)	MINUTE (RES)
02/20/17	(H)	RES AT 1:00 PM BARNES 124
02/20/17	(H)	Heard & Held
02/20/17	(H)	MINUTE (RES)
02/22/17	(H)	RES AT 1:00 PM BARNES 124
02/22/17	(H)	Heard & Held
02/22/17	(H)	MINUTE (RES)
02/22/17	(H)	RES AT 6:30 PM BARNES 124
02/22/17	(H)	Heard & Held
02/22/17	(H)	MINUTE (RES)
02/24/17	(H)	RES AT 1:00 PM BARNES 124
02/24/17	(H)	Heard & Held
02/24/17	(H)	MINUTE (RES)
02/27/17	(H)	RES AT 1:00 PM BARNES 124
02/27/17	(H)	Heard & Held
02/27/17	(H)	MINUTE (RES)
02/27/17	(H)	RES AT 7:00 PM CAPITOL 106
02/27/17	(H)	Heard & Held
02/27/17	(H)	MINUTE (RES)
03/01/17	(H)	RES AT 1:00 PM BARNES 124
03/01/17	(H)	Heard & Held
03/01/17	(H)	MINUTE (RES)
03/01/17	(H)	RES AT 6:00 PM BARNES 124
03/01/17	(H)	Heard & Held
03/01/17	(H)	MINUTE (RES)
03/06/17	(H)	RES AT 1:00 PM BARNES 124
03/06/17	(H)	Scheduled but Not Heard
03/06/17	(H)	RES AT 6:30 PM BARNES 124
03/06/17	(H)	Heard & Held
03/06/17	(H)	MINUTE (RES)
03/08/17	(H)	RES AT 1:00 PM BARNES 124

WITNESS REGISTER

TOM BARRETT, President
Alyeska Pipeline Service Company
Anchorage, Alaska
POSITION STATEMENT: Provided a PowerPoint presentation entitled, "TAPS Update" dated 3/8/17, and answered questions.

KLINT VAN WINGERDEN, Engineering Manager
Oil Movements Department
Alyeska Pipeline Service Company

Anchorage, Alaska
POSITION STATEMENT: Answered a question during the presentation by Alyeska Pipeline Service Company.

ACTION NARRATIVE

1:02:58 PM

CO-CHAIR GERAN TARR called the House Resources Standing Committee meeting to order at 1:02 p.m. Representatives Tarr, Birch, Drummond, Johnson, Parish, Rauscher, Talerico, Westlake, and Josephson were present at the call to order.

HB 111-OIL & GAS PRODUCTION TAX; PAYMENTS; CREDITS

1:03:33PM

CO-CHAIR TARR announced that the only order of business would be HOUSE BILL NO. 111, "An Act relating to the oil and gas production tax, tax payments, and credits; relating to interest applicable to delinquent oil and gas production tax; and providing for an effective date."

CO-CHAIR TARR said in conjunction with the committee's work on HB 111, Tom Barrett, President, Alyeska Pipeline Service Company, [and retired Admiral in the U.S. Coast Guard (USCG)], would present an update on the Trans-Alaska Pipeline System.

1:04:44 PM

TOM BARRETT, President, Alyeska Pipeline Service Company (Alyeska), provided a PowerPoint presentation entitled, "TAPS Update." He informed the committee Alyeska is honoring the Trans-Alaska Pipeline System (TAPS) on its 40th anniversary; TAPS is a remarkable piece of infrastructure and a part of the history of the state, along with oil production on the North Slope over the last 40 years. He told a story of meeting a visitor in Fairbanks who brought her children to see the pipeline after hearing their grandfather's stories about Alaska and the construction and operation of the pipeline during its early years. Mr. Barrett related that the people who worked on the pipeline, and who work there today, take pride in the pipeline and understand that its successful operation matters to everyone in the state. However, he said he is more interested in the next 40 years and working to maintain the pipeline's fundamentally strong, solid, and sound infrastructure, in order to keep TAPS functional and moving forward: a goal that needs

help from the legislature because a major driver [of continued operation] is production.

MR. BARRETT presented slide 3, noting TAPS operates in a tough environment of hurricane force wind and blizzards that challenge its 40-year-old infrastructure, and which, therefore, requires a lot of care. In addition, throughput is at 25 percent of maximum capacity, although throughput increased last year and is up in January and February of this year as well. He pointed out TAPS is challenged by its aging infrastructure, impacts of declining throughput, and - beginning 10 to 15 years ago - risk from global cyber [terrorism], which due to the pipeline's automated system, garners an enormous amount of attention to keep its operations safe. Further, Alyeska is "solid" on the environment and in business performance, and seeks to keep operating costs down; however, the efforts to keep TAPS running safely are among the most expensive in the U.S. "Bottom line," he said, TAPS successful performance comes from its people who are tough, smart, and who work in conditions as difficult as those during the construction of the pipeline.

1:10:02 PM

MR. BARRETT directed attention to slide 4, and offered that efforts to prevent an aging infrastructure from impeding operations include: major electrification and automation projects at pump stations to provide variable speed drivers in order to better manage fluctuations; replacement of the flare tip at Pump Station 1 after a drone inspection conducted by the University of Alaska Fairbanks (UAF); completion of a four-year valve testing program; continued pipe inspections at all pump stations and storage tanks; major inspection of the large gravity underground lines at the Valdez Marine Terminal; increased use of "smart" instrumented pigs to assess the mainline; replacement of loading arms on two loading berths in service at Valdez.

REPRESENTATIVE RAUSCHER requested additional information on the drone.

MR. BARRETT explained that a sensor package that contains high fidelity cameras, infrared, or geophysical global positioning service (GPS) locator information is hung from a drone. Although drones cannot be operated over water out of line-of-sight, UAF, the Federal Aviation Administration (FAA), Alyeska, and others are conducting a pilot program to determine whether drones can be operated safely over the pipeline corridor to

provide less-expensive and more reliable assessments. He pointed out approximately one-half of TAPS runs aboveground due to seismic activity and permafrost, and because the pipeline is located in an earthquake zone, Alyeska utilizes 70,000 pipeline supports to keep the pipeline stable and prevent lateral or vertical movement. At this time Alyeska believes a drone and sensors could detect vertical deflections [bends], and if so crews could then be sent to specific sites as needed for measurements. Further, security is always an issue; security patrols drive the line, stations are locked out, and terminals receive more security than ever post-[the terrorist attacks of September 11, 2001]. Mr. Barrett opined technology has unknown potential to improve the state's understanding of TAPS.

1:16:02 PM

CO-CHAIR TARR asked for information on the aforementioned "smart pigs."

MR. BARRETT explained pigs are a pipeline inspection tool and TAPS uses two different kinds of pigs, one of which is a scraper pig made of hard plastic that scrapes off wax. Alyeska needs to know the condition of the pipeline inside as well as outside, thus "instrumented pigs" measure the thickness of the pipe to reveal wall loss or pits, detect corrosion from the outside due to wall loss, and measure a gouge or a deflection. The pigs used on TAPS weigh approximately 10,000 pounds and the data from the vendor is analyzed for approximately three to six months. One challenge to the operation of the pigs occurs where TAPS crosses a mountain range because as the pig descends, it accelerates until it abruptly contacts the oil at the bottom. However, industry technology has made the pigs more rugged, so they do not lose their sensors on impact. The data from the sensors calls attention to a potential loss of pipe wall or a dent in the pipe, which would then require a physical inspection to determine whether the pipe needs to be dug up and repaired. He said Alyeska was exploring the use of a "hat" pig design, which has never been used on a 48-inch pipeline, and explained that rather than scraping, it would "jet the oil," dissolve the wax, and put the wax back in the flow stream.

1:20:20 PM

MR. BARRETT, in response to Representative Rauscher, said a pig could travel a distance of 280 miles on battery power; current technology allows the instrumented pigs to run in two segments, from Pump Station 1 down to a new launcher/receiver at Pump

Station 9 - where it is reset - and then continuing to the end. This is possible because battery life has improved.

1:21:25 PM

REPRESENTATIVE RAUSCHER asked whether pigs are equipped with cameras.

MR. BARRETT advised cameras are useless in the oil stream; the pig measures the thickness of the pipe wall and magnetic resonance. Cameras are used on tethered "crawler" pigs which can travel in "clean" lines under buildings or through difficult bends and turns. Alyeska engineers based the crawler pig design on pigs used in natural gas pipelines, and there is hope that further technology will improve the design and facilitate the use of cameras in smaller lines.

REPRESENTATIVE PARISH surmised that most pigs travel from oil pressure.

MR. BARRETT said yes, pigs move with the flow of oil. He pointed out if the flow continues to decline, pigs will become stuck in the pipeline because pigs require an oil flow of approximately one foot per second.

MR. BARRETT directed attention to throughput decline and noted that last calendar year, TAPS throughput was approximately 8,000 barrels per day up over what was anticipated; through January and February 2017, there has been a further increase, which is a welcome change from the last 10 years. The decline issue is a particular challenge in cold weather, and he explained that although the line is always full with about 9 million plus barrels of oil, the flow rate is slower with less oil. When TAPS was built, it took approximately four days to move a barrel of oil from Pump Station 1 to Valdez, but currently it takes almost 18 days; furthermore, with extremely low temperatures in the Interior for periods of 7-10 days, as throughput slows, small amounts of water in the oil can become ice, which poses a risk to pump stations and can damage equipment. To manage the ice, heat is added through recirculation at Pump Stations 3, 4, 7, and 9, to minimize the risk of ice causing problems. A second and worse problem caused by slow flow is paraffin wax, which can clog the pipe, but also can adhere to the pipe wall and cause corrosion. In response to wax, Alyeska has instrumented the pipeline with testing devices such as cameras, to understand how wax forms in the pipeline - at various flow rates under varying conditions - in order to solve this problem

prior to continued throughput decline. To further address cold weather, Alyeska installed methanol injection ports that are used to inject antifreeze if pipeline flow is stopped, which will make a restart easier [slide 6]. Mr. Barrett assured the committee Alyeska is working on solutions to continue operations; however, to the question as to how long TAPS can operate, his answer is that TAPS is being managed in a significant risk profile and needs the legislature's assistance to prevent decline and to continue to increase throughput.

1:30:58 PM

CO-CHAIR TARR asked how heat recirculation occurs.

MR. BARRETT explained some of the pump stations - like Pump Station 7 - are no longer used to pump oil, and so loops of pipe have been added; the oil runs through drag valves that create friction which generates heat, resulting in several degrees of increased temperature. Although, he said, a better and more cost-efficient way to generate heat is to use a fire heater.

REPRESENTATIVE RAUSCHER asked whether the wax scraped by the pig dissolves from the heat of the oil.

MR. BARRETT returned attention to slide 6 that showed a picture of a pig trap, a pig, and wax. The wax does not dissolve but is a hard, hazardous material that must be removed and shipped south in oil drums at high expense. In further response to Representative Rauscher, he said he was unsure of the length of the run that generated the amount of wax shown on slide 6.

MR. BARRETT restated Alyeska seeks to understand what causes the wax to form, and at what flow rate.

REPRESENTATIVE PARISH questioned whether more hazardous material would accumulate during winter than in summer.

MR. BARRETT deferred to Mr. Van Wingerden, Alyeska Pipeline Service Company.

1:34:20 PM

KLINT VAN WINGERDEN, Engineering Manager, Oil Movements Department, Alyeska Pipeline Service Company, attributed wax accumulation to freeze/thaw cycles; in fact, in winter, the heat transfer is less, thus the highest heat transfer is during the spring breakup season and through the summer months because

where the pipeline is routed through the ground and up the riverbeds, heat loss is high, which contributes to wax precipitation.

MR. BARRETT turned to the subject of environmental stewardship, and pointed out Alyeska completes hundreds of response drills every year. The Ship Escort/Response Vessel System (SERVS) operation is unique in that Alyeska has over 400 fishing boats on charter for near-shore potential cleanup in Valdez from Valdez, Cordova, Homer, Kodiak, and Seward. The vessels receive training each year, participate in exercises to prepare for an emergency, and are essential for the safe operation of TAPS. Further, the pipeline crosses over 700 streams which are surveyed to make sure the fish can run clear, run free, and that pipeline activity does not impede fry or fish movement. In addition, TAPS crosses 34 major rivers [slide 7].

MR. BARRETT noted that Alyeska's employees are instinctive conservationists and he told the story of Katie, the muskox who was rescued by Alyeska employees. In his experience, wolves, bears, moose, fox, birds, and caribou are often seen along the pipeline and he said conservation is an inherent value of Alyeska employees [slide 8]. Continuing to marine operations, Mr. Barrett said over 40 years Alyeska has loaded nearly 22,000 tankers, carrying 17 billion of barrels of oil, and today loads approximately 20 tankers per month for market. Today's tankers are equipped with double hulls and he stressed much of his focus and effort is on preventing an incident, as much as responding to an incident; he reviewed Alyeska's response operations including SERVS, response tugs and barges, and trained response fishing vessels [slide 9]. Currently, Alyeska is transferring its marine services provider from Crowley Marine Services to Edison Chouest Offshore, and the transfer will be finalized in 2018. The contract was competitively bid with the intent to make some changes in operations, although performance standards are based on contingency plans required by the state for tankers and for the terminal. In addition to performance standards, the bid sought new equipment to replace old, including barges that are 50 years old. In response to the bid, Edison Chouest Offshore offered a best-value service package of new equipment including escort tugs, new docking tugs, new barges, and a new utility tug, all of which are under construction. The new equipment will provide more horsepower and additional features. The transition plan is underway, and he described some of the pertinent activities. He assured the committee that the current provider will meet its commitments through the end of the existing contract. Mr. Barrett cautioned the greatest risk is

in crews that are not qualified or experienced in Prince William Sound waters. He restated the new equipment is better, modern, and has more capability; for example, all of the escort vessels will meet load line requirements and USCG requirements, and are equipped with some of the best technology available. The bid process was purposefully long to allow interested companies time to build new equipment [slide 10].

1:45:47 PM

CO-CHAIR JOSEPHSON said he was impressed by the new infrastructure and capability of Edison Chouest, but noted criticisms of the successful bidder from both the Prince William Sound Regional Citizens' Advisory Council, and the Department of Environmental Conservation (DEC). He asked Mr. Barrett to speak to those concerns.

MR. BARRETT answered DEC will have to approve Alyeska's revised contingency plan with the new equipment before operations begin in 2018. Alyeska's goal is to give DEC whatever information it needs to certify the tugs, which will also need USCG and American Bureau of Shipping (ABS) certifications. He pointed out DEC is a good agency with which to work, however, obtaining its approval on a change takes 315 days, which is costly and difficult for Alyeska. Therefore, the contingency plan process must begin long before any of the vessels are in the water. Furthermore, some of the design-build concepts requested by DEC are proprietary. In any case, Edison Chouest's contract must meet the requirements of the contingency plan and will do so. Regarding the Prince William Sound Regional Citizens' Advisory Council (advisory council) he remarked:

> They've raised some questions, some of which I fundamentally disagree with and I think are ill-informed and ill-advised. That's their prerogative, we don't tell them what to do or how to do it, and I value the citizen input and, and but we've scrubbed their report and ... some of the material in that report is simply not accurate, that's the only way I can put it. But again, we'll keep working with them and meeting with them and hopefully get to one place.

MR. BARRETT, speaking from his experience as an Admiral in the USCG, strongly cautioned against conducting training exercises with new tugs and a tanker in conditions suggested by the advisory council. He said this type of training in an uncontrolled environment risks lives, and he gave examples of

unsafe and safe training exercises that do not take unnecessary risks in unknown conditions. He noted the new tugs will have equipment sought by the advisory council, and assured the committee Alyeska will provide the requested information to agencies in a timely manner.

1:52:21 PM

MR. BARRETT, in response to Co-Chair Tarr, explained a contingency plan is a plan to address the contingency of a tanker oil spill of a certain size. For example, Alyeska must have the equipment, trained people, and the ability to manage a spill safely, contain it, and clean it up; Alyeska also has contingency plans for the pipeline. For Prince William Sound, there are separate contingency plans for the tankers and for the terminal itself.

1:53:13 PM

REPRESENTATIVE BIRCH noted that Edison Chouest is a great outfit and it is exciting to see new equipment coming online.

REPRESENTATIVE PARISH said he was excited to hear about state-of-the-art technology and better hardware; however, he expressed concern about out-of-state crews brought into one of the most challenging environments in the world. Alyeska has maintained a high level of Alaska-hire [employment policies], and he asked whether Edison Chouest would adhere to a similar standard of acquiring high quality Alaskan captains and crews.

MR. BARRETT said in accordance with the Alaska Native Utilization Agreement, Alyeska's contract contains the Alaska Native Program and maintains a 20 percent Alaska Native hire standard; Edison Chouest is required - and has committed - to uphold that standard. Alyeska is 95 percent Alaska-hire, although marine operators average less; Crowley has between 200 and 220 employees working under the marine operators' contract and the majority are not Alaskans. He expressed his confidence that Edison Chouest will have trained crews, and opined it will hire Alaskans and also "certainly bring in some of their own people." Mr. Barrett observed Edison Chouest has excellent training facilities.

MR. BARRETT recalled most of those who built TAPS were not Alaskans, today however, Alyeska encourages Alaska hire through its [local hire] preferences; furthermore, 70 percent of its support businesses are headquartered in Alaska, and over 20

percent of its workforce are Alaska Native. Ninety-five percent of Alyeska employees live in Alaska, some in villages, and he estimated about 40 percent are "blue collar" employees. He lauded the union-sponsored Fairbanks Pipeline Training Center that serves to train instrument, electrical, and mechanical technicians, and educational opportunities through the University of Alaska Anchorage. He advised Edison Chouest will begin hiring for the marine services contract late in 2017 [slide 12].

REPRESENTATIVE PARISH asked whether Edison Chouest currently operates in any other environment comparable to that of Valdez.

MR. BARRETT responded that Edison Chouest operates in Antarctica, is an ice-capable operation, and is a global company. However, from an ecological perspective, some aspects of Prince William Sound are globally unique, and thus "it can be tough water, and we shut down a lot." He noted that operations in Prince William Sound are different now than 25 years ago for many reasons, including an increase in activity, and he related details of the rescue of 500 cruise ship passengers. Mr. Barrett again expressed tremendous pride in Alyeska employees, and reiterated that they are mainly Alaskans.

2:02:12 PM

MR. BARRETT offered that the future of TAPS includes keeping the systems up with maintenance and addressing the declining flow, because throughput is the bottom line for TAPS. The pipeline was designed to run most efficiently at 2 million barrels, which is a much higher level than throughput today. Therefore, the future of TAPS also depends upon state and federal willingness to remove the obstacles to developing Alaska's enormous resources. He urged for making resources available for safe development, so that Alyeska can fulfil its obligation to move the resources safely to market. In addition, federal and state regulatory processes need to be simpler and better coordinated because dueling federal agencies cost money and cause frustration. Mr. Barrett said Alaska also needs a competitive business environment - which has improved - although in the last 15 years the oil and gas market has changed due to the availability of oil and shale gas in the Lower 48. Alaska is now competing with North Dakota, Oklahoma, and Texas, and not just with the Middle East and overseas sources of oil and gas. Today, the U. S. is the largest petroleum producer in the world and with Alaska's resources, there is an opportunity to create an environment wherein operators will develop its resources. He

cautioned at current oil prices, the ability to move product quickly and easily to the market is also very different than it was 15-20 years ago. He referred to a newspaper article that characterized Alaska as an owner state with the industry as its adversary, and pointed out that Alyeska has dozens of Alaska business partners, and they work to succeed together. In closing, he said, "You've got to have a vision of where you want to be long-term, and then you've got to have an action plan to get there. And, if you just act without the vision piece being right, then you've kind of got a nightmare." The challenge for Alyeska is to safely operate TAPS for the next 10-20 years. Speaking from his previous experience, he advised to plan and train for the worst cases, but hope for the best [slide 13].

REPRESENTATIVE RAUSCHER said he appreciates the fact that Alyeska is 95 percent [Alaska-] hire, and also appreciates the maintenance of TAPS, and Alyeska's safety concerns and training. He questioned whether the [owners of the] response fishing vessels volunteer their services.

MR. BARRETT responded that the vessels volunteer to participate in the program and they are qualified by Alyeska. When the vessels are working for Alyeska they are paid, and training is scheduled offseason. Although the work is voluntary, the vessels are reimbursed and crews are paid during training. He described how the training is beneficial to all.

2:11:10 PM

CO-CHAIR TARR recalled at one time when oil prices were down there was a glut of supply, and she asked how Alyeska adjusts operations when there is no buyer awaiting at the West Coast terminals.

MR. BARRETT answered that Alyeska adjusts its operations based strictly on throughput, which is driven by the producers and the markets. A change in law that indirectly affected Alyeska was that TAPS crude could always be exported as long as it was transported in U. S. flagged vessels; however, now TAPS crude can be taken globally in [foreign] flagged vessels that meet USCG standards, and that are certified and qualified. Last year some oil was transferred to non-U.S. flagged vessels, as shippers moved outside the U.S. [market]. Mr. Barrett clarified that Alyeska does not participate in where the oil is marketed; however, every barrel of TAPS throughput "counts" regardless of its price, and he restated TAPS throughput is up.

REPRESENTATIVE TALERICO referred to safety and training, and said he appreciates the safety culture at TAPS, and strongly agreed that training should not take place in an uncontrolled environment.

MR. BARRETT related that he is always interested in learning others' ideas about safety. As an aside, he said that he is a Vietnam veteran and recently saw the movie, "Hacksaw Ridge," which is a [true] story about the first conscientious objector to receive the Medal of Honor. [Corporal] Donald Sperl of Juneau was also a conscientious objector who held a Bronze Star, and is buried in a local cemetery. Mr. Barrett said Mr. Sperl was also a hero deserving of recognition.

[HB 111 was held over.]

2:16:34 PM

ADJOURNMENT

There being no further business before the committee, the House Resources Standing Committee meeting was adjourned at 2:16 p.m.