



Cook Inlet Pipelines

PROJECT REPORT

September 2019





Prepared by Nuka Research and Planning Group, LLC for the Cook Inlet Regional Citizens Advisory Council and funded by the Pipelines and Hazardous Materials Safety Administration (Award No. 693JK31840001PTAG).

Executive Summary

Pipelines play an important role in Cook Inlet oil production. This project engaged the public to identify their questions and concerns regarding the Cook Inlet oil and gas industry and offered an opportunity for face-to-face communication with operators, regulators, and industry experts.

Over the course of the project, the facilitation team collected questions, comments, and concerns from the public through various means, including a website, online survey, webinar, and a public meeting with the opportunity to submit questions to industry and agency presenters.

This report is a deliverable for the Technical Assistance Grant awarded to the Cook Inlet Regional Citizens Advisory Council (CIRCAC) by the Pipeline and Hazardous Materials Safety Administration (PHMSA). This report includes materials and background information found on the website, an overview of the public webinar and public meeting, including participants, and a comprehensive list of questions received from the public.

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SCOPE MAP

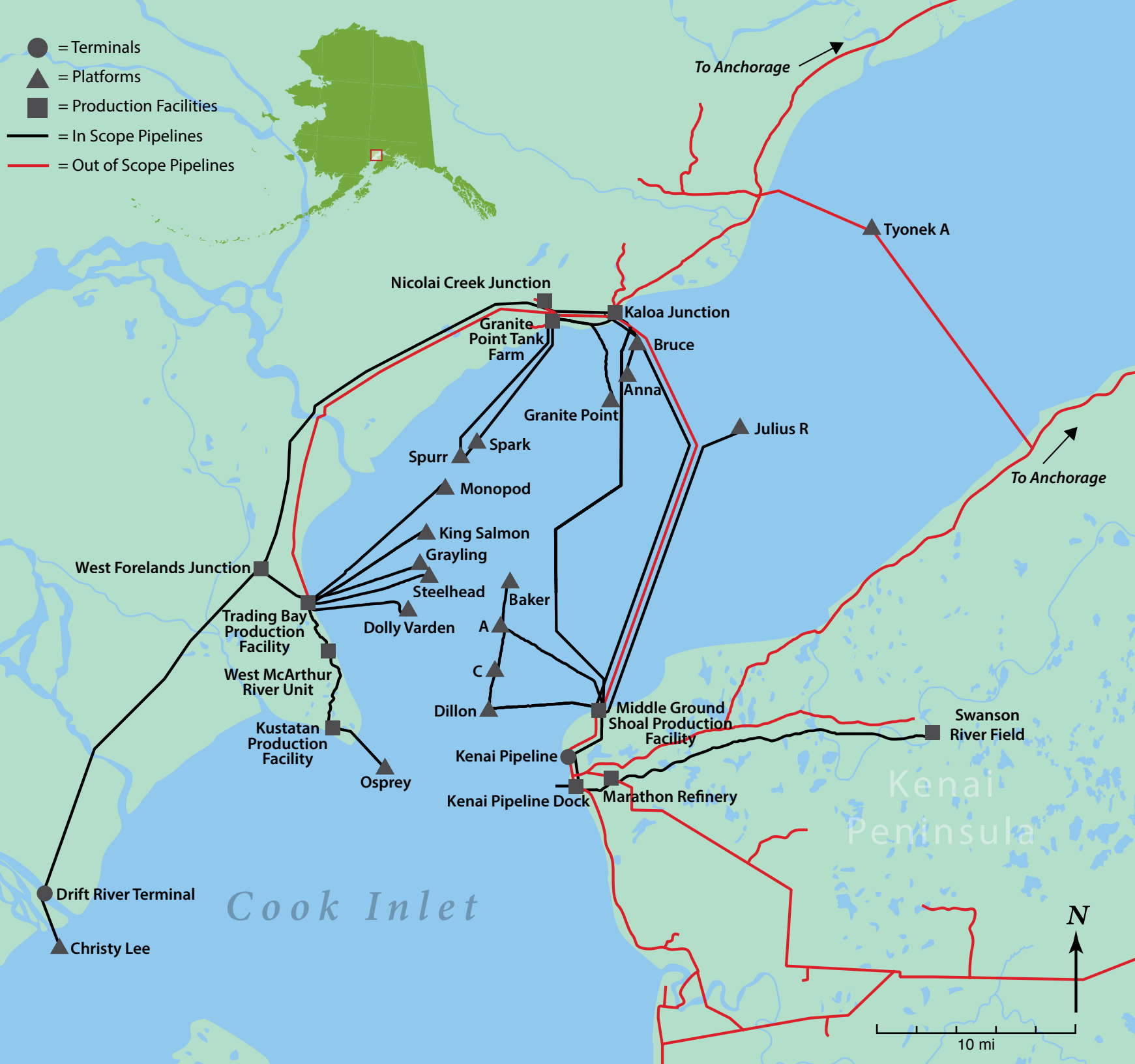


Figure 1.
Project scope.

1. Project Overview

This project was sponsored by Cook Inlet Regional Citizens Advisory Council (CIRCAC) with funding from the Pipeline and Hazardous Materials Safety Administration (PHMSA) to provide an opportunity for Cook Inlet communities and the public to learn about Cook Inlet's pipeline infrastructure.

The project also included an online survey to elicit concerns, questions, or suggestions from interested members of the public. This report documents information exchanged over the course of the project.

1.1 Project Objectives

The objectives for this project were the following:

1. Increase public awareness about Cook Inlet's pipeline infrastructure.
2. Directly engage Cook Inlet operators and representatives of communities and other stakeholder interests.
3. Elicit recommendations generated through operator/public dialogue to enhance pipeline safety and response.

1.2 Project Scope

Pipelines are an integral part of the oil production and distribution system in Cook Inlet.

This project focused on pipelines associated with oil production, including sales grade crude oil pipelines, pipelines that transport fuel gas to offshore platforms, and unprocessed gas, oil, and water mixtures from platforms (also known as "three-phase" liquid). The pipelines included in this scope are concentrated in the central Inlet area on both the east and west sides as well as within Cook Inlet itself.

The scope of this project was determined based on CIRCAC's mission to promote environmentally safe marine transportation and oil facility operations in Cook Inlet. Because of this scope, only pipelines associated with oil production facilities are included in this project. The extensive network of gas production and distribution lines is also shown in Figure 1. (This infrastructure extends farther south on the east side of the Inlet than shown in the figure as well.)

PRODUCT MAP



Figure 2.
Map of pipelines by
product carried.

2. Background on Cook Inlet Pipelines

Pipelines move both gas and liquids through Cook Inlet’s oil production infrastructure. The products moved through the pipelines included in this project are:

- Produced oil, gas, and water from wells to processing facilities;
- Crude oil from processing facilities to terminals, docks, or the Marathon refinery;
- Natural gas used to power production on some offshore platforms.

Pipeline use may change over time as the infrastructure changes. Sometimes this means a change in the product moved through a pipeline, or a pipeline may be abandoned, idled, put out of service, or “shut-in.” See Figure 2 (previous page) for pipelines by product carried.

Although some oil and gas exploration occurred prior to Alaska being a part of the United States, exploration and production increased substantially following discovery of offshore oil in 1962 with 14 offshore production platforms constructed by the end of that decade (ADNR, 2009). Additional platforms were installed in 1986 (Steelhead), 2000 (Osprey), and 2015 (Julius R). (See Figure 3.)

2.1 Pipeline Operators

Today, five companies operate pipelines within the project scope in Cook Inlet. Those companies include Hilcorp, LLC; Marathon (formerly Tesoro); Furie, LLC; Glacier Energy, LLC; and Harvest Alaska, LLC (a subsidiary of Hilcorp). BP also owns two abandoned pipelines. Ownership has transitioned over the years, with several changes in the past decade. Previous operators have included Amoco, Arco, Cross Timbers (XTO), Exxon, Forest Oil, Mobil, Pacific Energy Resources Inc., Phillips Petroleum, Shell, Unocal, Tesoro, and Texaco (Rothe, 2005).

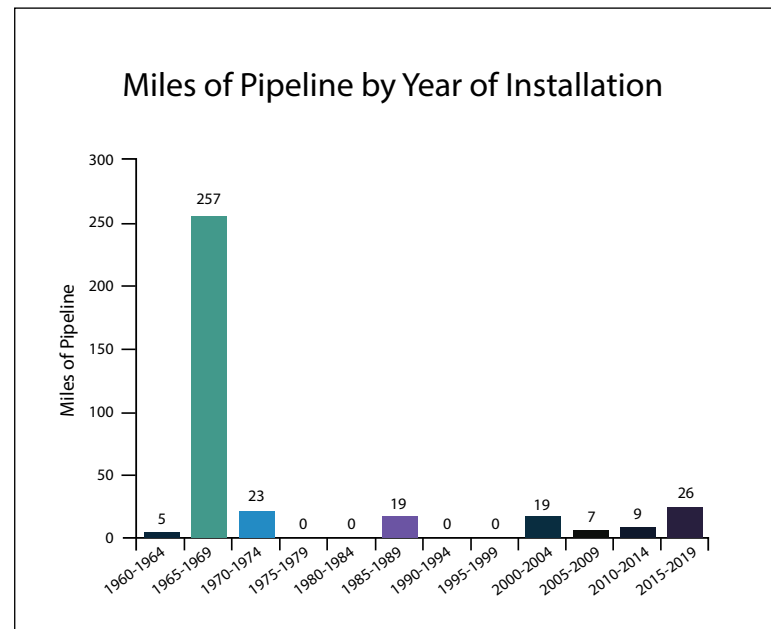


Figure 3. Years of pipeline installation in Cook Inlet

OPERATOR MAP

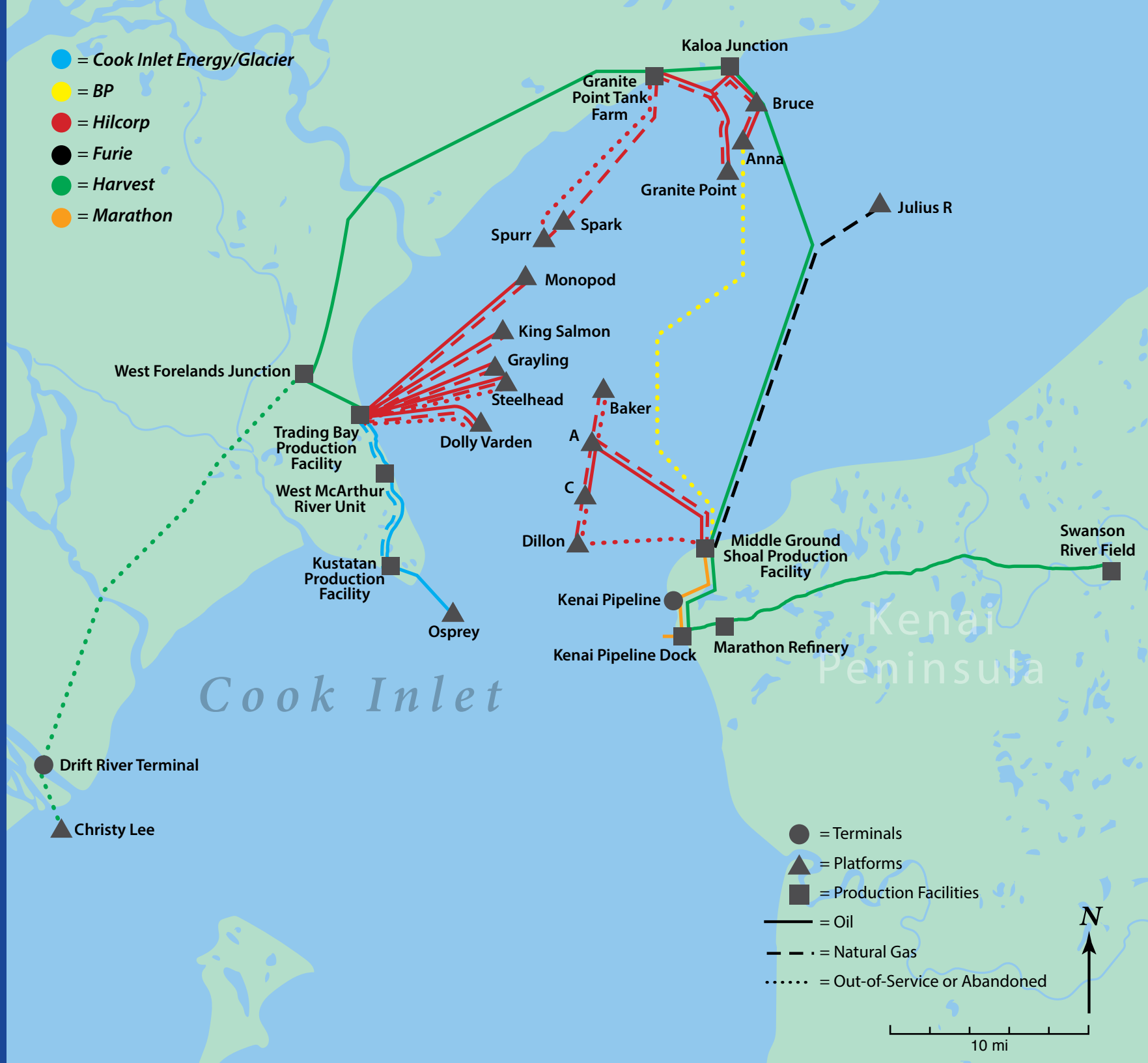
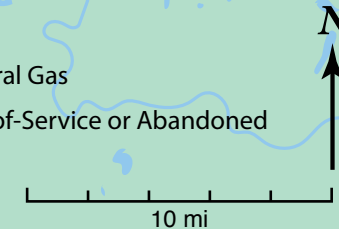


Figure 4.
Ownership of pipelines
in Cook Inlet.



2.2 2018 Changes to Pipeline Infrastructure

In 2018, Harvest Alaska significantly updated its pipeline system to accommodate the closing of the Drift River Terminal. This transition shifted the flow of oil produced on the west side of the Inlet so that it flows to the east via a re-purposed subsea pipeline between Kaloa Junction on the west side of the Inlet and Middle Ground Shoal production facility on the east.

Before the installation of the Cross Inlet pipeline, the Drift River Terminal stored oil produced on the west side of Cook Inlet to facilitate it being loaded onto tankers via the Christy Lee platform terminal and taken to the refinery in Nikiski. The new pipeline configuration eliminates both oil storage at the Drift River Terminal and the associated cross-Inlet tanker traffic (Hilcorp, 2018).

Glacier/Cook Inlet Energy has also modified their infrastructure at onshore facilities on the west side of the Inlet. Their systems have been modified to bypass the aging West McArthur River Unit processing equipment and instead use the Kustatan facility for fluids produced from their offshore Osprey platform.

2.3 Pipeline Integrity Measures

Pipeline operators are required to have procedures or systems in place to protect their lines from failure or detect and address problems if they occur. While these practices may vary by pipeline, they typically include:

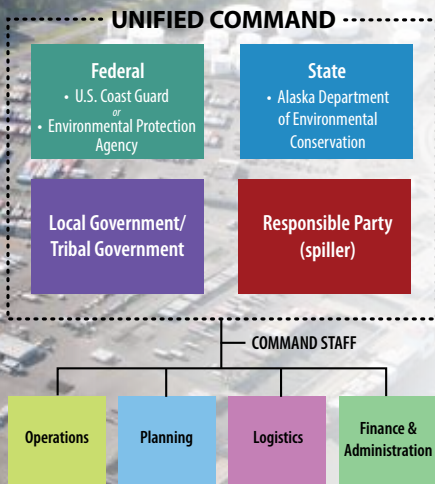
- Running “pigging” devices through a pipeline to clean it and detect damage or metal loss, also known as In-line Inspection (ILI);
- Inspections done by land or aircraft to detect leaks, damage, or changes in the surrounding environment that may impact the pipeline;
- Routine inspection and maintenance on valves, relief devices, measurement devices, and other pipeline system components;
- Emergency response and oil spill response procedures and exercises;
- Public Awareness notifications;
- Using “cathodic protection” - a system based on an electrical current to prevent corrosion;
- Applying corrosion inhibitor coatings to the pipeline to reduce corrosion;
- Systems that identify changes in pipeline flow or pressure to detect whether a leak has occurred;
- Systems used to shut down the flow of a pipeline if a leak has occurred.

2.4 Regulation of Pipelines

The Alaska Department of Environmental Conservation (ADEC) and the Pipeline and Hazardous Materials Safety Administration (PHMSA) administer and enforce pipeline safety regulations, including regulations concerning design, construction, operations, and maintenance, for the pipelines related to oil production and transportation activities.

Regulatory requirements vary depending on what a pipeline carries, how and when it was constructed, its location, and general operations (such as flow rate) among other factors. As part of their regulatory oversight, agencies may:

- Require specific routes or construction specifications;
- Require mandatory compliance to the Code of Federal Regulations, Title 49, Parts 191, 192, 194, and 195 as well as state regulations under 18 AAC 75;
- Conduct emergency response and oil spill response drills;
- Require specific standards be met, such as those set by the American Society of Mechanical Engineers, National Association of Corrosion Engineers, the American Petroleum Institute, or other standard-setting bodies;
- Review and approve operators' integrity management plans which document the protective and maintenance measures implemented;
- Review and approve operators' spill response plans, including spill prevention measures as well as response if a leak occurs;
- Consider whether the pipeline traverses environmentally sensitive areas or passes close to populated areas; and
- Conduct on-site inspections.



Several other state and federal agencies contribute to decisions regarding pipeline siting, response planning, or an actual spill response. These are the Alaska Department of Fish and Game (ADFG), Alaska Oil and Gas Conservation Commission (AOGCC), the Environmental Protection Agency (EPA), the U.S. Coast Guard, NOAA Fisheries, and the U.S. Fish and Wildlife Service (USFWS). Some Cook Inlet gas pipelines outside the scope of this project are overseen by the Joint Pipeline Office. The Bureau of Safety and Environmental Enforcement (BSEE) regulates offshore pipelines outside state waters; however, these do not currently exist in Cook Inlet.

In the event of a large oil spill from a Cook Inlet pipeline (or any other source) a Unified Command of on-scene coordinators will direct the response. The Unified Command will include a federal and state on-scene coordinators, the spiller (referred to as the "responsible party") and possibly local or tribal on-scene coordinators as well. The command system encompasses all functions related to the implementation and management of the response, including communications with the public. These roles are described in the Alaska Regional Contingency Plan and, for Cook Inlet, the Arctic and Western Alaska Area Contingency Plan.

3. Public Engagement

This project sought to initiate a public dialogue and elicit questions or concerns regarding pipeline safety and management, which was conducted both through on-line and in-person meetings with the public, as well as through a publicly available online survey.

3.1 Public Website

The first public engagement opportunity for this project involved creating a website providing information about the project and about Cook Inlet pipelines, including the history of pipelines in Cook Inlet, pipeline safety measures, and the regulatory requirements for the pipelines (see Figure 5). The website was launched March 2019 in advance of the public meeting.



Figure 5. Project website.



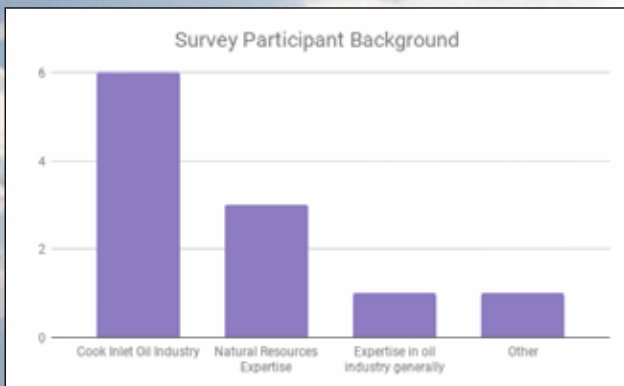


Figure 6. Background of survey participants.

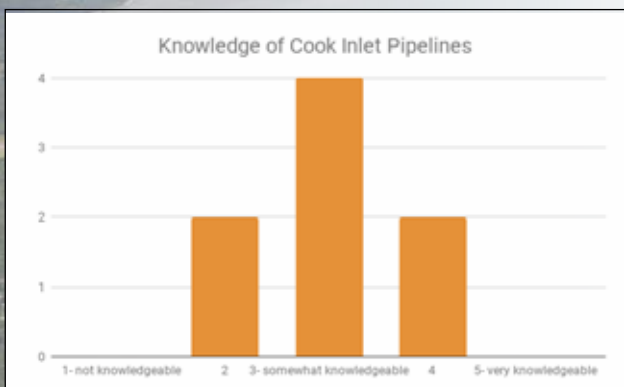


Figure 7. Participant knowledge of pipelines.

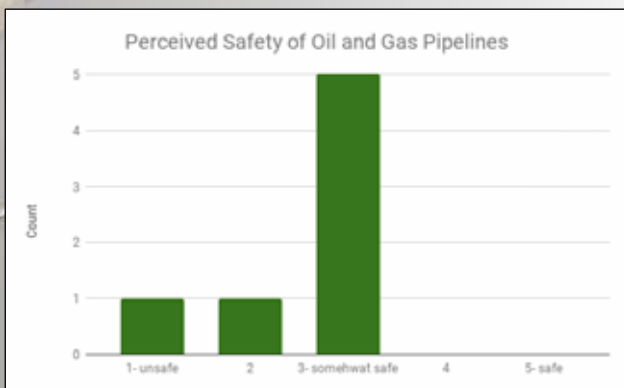


Figure 8. Survey participants' perception of pipeline safety.

3.2 Public Survey

The survey was distributed via the project website, CIRCAC's email distribution list, and an email list developed for this project. The purpose of this survey was not to quantitatively assess knowledge of or interest in Cook Inlet pipeline operations, but to provide another opportunity for those interested to share questions, concerns, or suggestions. The survey included eight questions and resulted in eight responses, many from people who identified themselves as having a background in Cook Inlet industry (see Figure 6).¹

Survey participants primarily rated themselves as "somewhat knowledgeable" about Cook Inlet pipelines. This result indicates the survey reached the appropriate audience. This also gives context to the additional responses to the survey as well as the questions that came from the survey participants. See Figure 7.

While the participants indicated some uncertainty, they overall indicated that they believe Cook Inlet pipelines are "somewhat" safe, with five of the eight participants choosing that answer. See Figure 8 for a breakdown of survey responses.

3.3 Public Webinar Overview

A webinar was held on April 25, 2019 via Meetingsphere with 13 participants. Similar to the survey, the purpose of the webinar was to provide a chance for the public to submit questions or comments, which ranged from agency jurisdiction to scope of the project, responsibility for abandoned lines, and additional outreach activities. Nuka Research compiled these questions from the webinar and survey into a list that was provided to the presenters at the public meeting with answers provided in this report. (See Section 5.)

¹ See Appendix A for survey questions.

4. Public Meeting

The public meeting was held on May 8, 2019 at the University of Alaska Anchorage. The agenda for the meeting can be found in Appendix B of this report. Twenty-two people participated in the public meeting either in-person or via a webinar option. Participants included members of the public, industry, and regulators. The public meeting also featured a webinar option for remote participation. There were five presentations during this meeting from Nuka Research, CIRCAC, the regulating agencies, and Hilcorp.

Tim Robertson from Nuka Research opened the meeting with a welcome, introduction of the presenters and a brief project overview, which included background information on Cook Inlet pipelines and an inventory of pipelines by product, by operator, and by production system. Mr. Robertson then described common integrity management practices conducted by operators (some required by regulation). He then introduced the next speakers from CIRCAC, ADEC, PHMSA, and Hilcorp Alaska, LLC.

4.1 Cook Inlet Regional Citizens Advisory Council Presentation

VINNIE CATALANO, DIRECTOR OF OPERATIONS

CIRCAC is a federally mandated organization based in Kenai that represents the citizens of Cook Inlet, one of the regions that was affected by the Exxon Valdez Oil Spill. The Oil Pollution Act of 1990 specifically mandates the funding of two citizens' advisory councils in Alaska: one in Cook Inlet and one in Prince William Sound. The mission of the council is to represent the citizens of Cook Inlet in promoting environmentally safe marine transport of crude oil and safe crude oil facility operations. The basic structure of the organization is a 13-member board representing municipalities and towns in Cook Inlet as well as special interests such as recreational, aquaculture, tourism, environmental groups, Alaska Natives, and commercial fishing. CIRCAC works with many agencies and organizations with interests in or concerns about crude oil production and transport. CIRCAC runs several programs including ones concerning oil spill prevention and response, coastal habitat protection, technical review, physical oceanography, oil behavior, and biological and chemical monitoring.

In 2002, CIRCAC facilitated an offshore and onshore oil pipeline forum that reviewed a technical workgroup's findings, and disseminated industry and agency information concerning pipelines status and conditions in Cook Inlet. They also requested Cook Inlet pipeline operators gather information or conduct surveys to determine the present location of subsea pipelines to ascertain any movement, bridging or bottom scouring that had occurred. Since 2002, CIRCAC has had multiple projects focused on pipeline management. In 2012, the Council endorsed a cross-Inlet crude oil pipeline to replace tanker traffic which has now been completed by Hilcorp. CIRCAC is also collaborating with the ADEC to conduct an infrastructure assessment with an expert panel. CIRCAC also continues to participate in operator drills and exercises and provides reviews and comments on the Inlet's operators' state-mandated Oil Discharge Prevention and Contingency Plans.



4.2 Prevention, Preparedness & Response Program Regulatory Oversight in Cook Inlet

GRAHAM WOOD, PROGRAM MANAGER, ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC)

The mission of ADEC's Prevention, Preparedness and Response (PPR) program is to protect human health and the environment by preventing and mitigating oil and hazardous substance releases. There are five offices with 66 staff around the state. Under 18 AAC 75, ADEC oversees specific regulations related to flow lines, crude oil transmission lines, and facility oil piping. They conduct compliance reviews for flow lines including program audits, line specific reviews and reporting. They also conduct program audits, which include review of written guidance, policies, and procedures associated with corrosion control programs, preventative maintenance programs, quality assurance programs, and data management systems. Additionally, the program conducts line-specific record reviews and line-specific field inspections.

Since the program's inception, PPR staff have completed reviews for 91% of flow lines in Cook Inlet and have reviewed 100% of North Slope flow lines.

4.3 PHMSA Overview

TOM JOHNSON, SENIOR GENERAL ENGINEER/PROJECT MANAGER

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is an agency under the Department of Transportation. Its mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials. According to a study conducted in 2013, pipelines are the safest mode of transport for hazardous materials (Furchtgott-Roth, 2013). PHMSA regulates more than 2.7 million miles of pipeline nationwide. Challenges with pipelines include corrosion (including general, pitting, microbe, and stress), excavation damage, and ground movement. PHMSA provides grants including state damage prevention grants, one call grants available to state pipeline safety offices, and technical assistance grants available to communities and non-profits.

4.4 Hilcorp Energy Company

CINDY MONNIN, ALASKA INTEGRITY MANAGER

Hilcorp Alaska, LLC and its midstream operation, Harvest Alaska, employ 535 full-time employees in Alaska. Both entities have invested in affordable energy, increasing jobs, and extending the life and integrity of the Cook Inlet infrastructure. Their operational goals are to ensure responsible operations, provide affordable energy for Alaskans, invest in oil and gas production, create efficiencies that extend the life of infrastructure, and expand their footprint in Alaska since their initial purchase here in 2012. As described above, in 2018 Hilcorp's Cook Inlet infrastructure underwent a significant change which replaced cross-Inlet tanker traffic from the Drift River Terminal to the refinery in Nikiski with shipment via re-purposed subsea lines.

Hilcorp implements a four-stage integrity management program which includes asset knowledge management, regulatory compliance, integrity and risk management, and implementation of planned work. Asset knowledge management includes documentation and processes such as mapping, equipment inspection data, piping and instrument diagrams, and change management. Regulatory compliance falls under many agencies including those at the federal, state, and local level. They also interact with stakeholders like CIRCAC, Cook Inlet Spill Prevention and Response, Inc., land owners, and affected members of the public. Integrity & Risk Management includes pipeline risk assessment and threat analysis, facility process hazards analysis, corrosion control programs, and internal and external auditing. Implementation of the inspection program includes executing activities such as inline inspection, multibeam sonar bathymetry, on-bottom and span stabilization, vibration monitoring, and leg inspection and repair.



5. Answers to Public Questions

Questions from the public collected through the survey, webinar, and meeting are organized below by topic category. Answers are based on these responses to the questions in the meeting with some additional information added.

TABLE 1. EMERGENCY RESPONSE QUESTIONS

PUBLIC QUESTION	ANSWER
<i>In the case of an emergency is it operational practice to shut down the flow of oil escaping into the environment?</i>	Yes, triggering the shut-off valve system is the first step in the case of an emergency.
<i>What kind of spill response and prevention plans are in place?</i>	The State of Alaska requires oil production facilities to have approved an Oil Discharge Prevention and Contingency Plan to operate in the state. This plan must include a response action plan, a discharge prevention plan, supplemental information including facility diagrams and adjacent environments, a best available technology review, and response planning standards. Federal regulations include preparing a plan which includes general maintenance and normal operations, abnormal operations, emergencies, and safety-related condition reports.

TABLE 2. INFORMATION QUESTIONS

PUBLIC QUESTION	ANSWER
<i>Who manages locational information on the infrastructure - is there one master dataset? How accessible is this information to others planning projects in the area and to the public?</i>	There are multiple locations where this information is stored, including on the National Pipeline Management System (NPMS as hosted by PHMSA) and Alaska Department of Natural Resources Right of Way permit database.
<i>Will agencies be able to receive a copy of the pipelines, facilities, etc., in GIS format? If so, what attributes will be included in the GIS data?</i>	The GIS data used for this project is publicly available through the NPMS and Alaska Department of Natural Resources (ADNR) as explained above.

TABLE 3. INFRASTRUCTURE QUESTIONS

PUBLIC QUESTION	ANSWER
<i>Which undersea oil lines have/ don't have shut off valves?</i>	All of Hilcorp's undersea oil lines have shut off valves.
<i>What is the relative proportion of pipeline ownership by company?</i>	For pipelines within the scope of this study, Hilcorp, Alaska LLC owns the majority of these lines (about 200 miles of pipelines). Harvest Alaska (a subsidiary of Hilcorp) owns another 100 miles of pipelines. Glacier Energy owns 30 miles of pipelines. BP owns 28 miles of abandoned pipeline in the inlet. Furie owns 16 miles of pipeline, and Marathon owns less than 15 miles of pipeline.
<i>What kinds of products do Cook Inlet Pipelines hold?</i>	Cook Inlet pipelines hold three phase fluid (water, gas, and crude oil), sales grade crude oil, wet gas (natural gas that has not been cleaned and made sales ready), and sales grade natural gas.

TABLE 4. INSPECTION/MAINTENANCE QUESTIONS

PUBLIC QUESTION	ANSWER
<i>What lines, and what proportion of lines, are smart piggable? When were they last smart pigged? Status? What's the frequency of pigging?</i>	For Hilcorp owned lines, all of the oil lines are piggable, and most gas lines are also piggable. Frequency of pigging is determined on a case by case basis.
<i>For lines not smart piggable, what is the line condition, and how was that determined?</i>	For lines that cannot be pigged, they are hydrotested and use cathodic protection and monitoring/visual inspection of the line to ensure adequate protection from integrity loss.
<i>What is the integrity of the old pipes and the emergency closure valves?</i>	Condition of infrastructure is assessed on a case by case basis. Flow lines are required to be inspected as described in ADEC regulations. If the line is regulated by an integrity management program as required by PHMSA, then the line is inspected every five or seven years depending on the type of line and is also case specific.
<i>How often are these pipes inspected? How? With cameras? By diving on them? Is the steel tested for integrity? Is there pitting?</i>	Pipes are inspected multiple ways, including pigging, visual inspection (for non-subsea pipes), and hydrotesting. The integrity of the pipes is protected by cathodic protection and the best way to inspect for pitting is through pigging.

PUBLIC QUESTION	ANSWER
<i>How often is the condition of infrastructure assessed? Does the state assess the condition or receive assessments?</i>	Condition of infrastructure is assessed on a case by case basis. Flow lines are required to be inspected as described in ADEC regulations. If the line is regulated by an integrity management program as required by PHMSA, then the line is inspected every five or seven years depending on the type of the line. This is also case specific.
<i>Pipelines should undergo regular testing.</i>	Pipelines are required to be tested on varying timescales dependent on their location and the product it holds.
<i>Are best management practices being used to operate, maintain and assess Cook Inlet oil/gas infrastructure?</i>	CIRCAC is currently working with ADEC on a separate project to review integrity management practices with an expert panel to provide recommendations on how to best maintain Cook Inlet pipelines for sustained use. ²
<i>Can integrity testing and visual inspection be done by subsea submersible?</i>	No, this is not possible due to limited visibility conditions within the Inlet. However, subsea pipelines are inspected by divers.
<i>If there is an issue found in a line while doing maintenance, how are agencies alerted?</i>	Changes in line condition are reported to PHMSA for lines they regulate. ADEC does not require notification of issues (unless a leak results), though most operators do share condition information with the state on a regular basis.
<i>It would be better if more smart pig inspections are conducted.</i>	No response is required for this comment.
<i>What are the routine maintenance activities for each line and is there access to those reports through the company or regulatory agencies?</i>	Maintenance activities include inspections, corrosion control, cleaning, routine maintenance on valves, relief devices, and measurement devices, and repairing or replacing damaged components.
<i>What measures are being used to protect against corrosion?</i>	The primary method to deter corrosion on pipelines within Cook Inlet is an impressed current cathodic protection system. This type of system uses an electric current between two metals to minimize corrosion of the metal used in the pipeline. Some pipelines that have had corrosion or are at higher risk are also wrapped to protect them from the elements.
<i>Are we seeing additional integrity management issues related to warmer weather patterns?</i>	ADEC reports that they are not seeing any unique integrity management issues in Cook Inlet related to warmer weather patterns. Any impacts that may be caused by altered weather patterns are being taken care of through current maintenance practices.

² <https://www.circac.org/expert-panel-established-for-cook-inlet-pipelines-project/>

TABLE 5. OTHER QUESTIONS

PUBLIC QUESTION	ANSWER
<p><i>Charge us - your customers - for full assurance of safe operations. Charge us at the gas tank, in our heating oil but never cut corners to save money ever. Charge us. We are the customer and you must not stress us out by taking chances. The customer is always right! Charge us for the full cost of doing business. No cheap.</i></p>	<p>No response is required for this comment.</p>
<p><i>Being in the fishing industry we live in sheer terror of damage to our fisheries. It is imperative that you remain transparent and open like this questionnaire is great! We must open the dialog and sit at the table and learn and not damage the environment that sustains us. Please please be extra extra careful. Use technology that does not cause harm. Do not dump oily water into Cook Inlet just because you have an APDES permit. Centrifuge it. Re Inject it but don't dump it....then charge us! We are the customer. We need to pay for you to do it right! Charge us please.</i></p>	<p>No response is required for this comment.</p>
<p><i>I'm curious what spurred this public engagement effort. I commend you for engaging the public. I think that knowledge of your public engagement opportunities are not widely known in my community.</i></p>	<p>This project was initiated by CIRCAC because of CIRCAC's mission to represent citizens in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet. This project was partly spurred by pipeline leaks that have occurred in Cook Inlet in recent years.</p>

PUBLIC QUESTION	ANSWER
<i>Will pipeline locations be included on NOAA Electronic Navigational Charts and Raster Navigational Charts?</i>	NOAA does have pipeline corridors on Cook Inlet charts, though not all pipelines are shown. This update could be made with sufficient information regarding pipeline location provided to NOAA.
<i>Will there be more public outreach methods outside of this project?</i>	This project consists of the website, survey, and meeting described in this report.
<i>Who is responsible for the abandoned pipeline in the inlet?</i>	BP is responsible for the abandoned pipeline in the Inlet. This pipeline has not been used in many years although the line did leak in 2001.
<i>Will abandoned pipelines be required to be removed? If so, how will they be removed without ocean contamination?</i>	There are no regulatory requirements for removal of abandoned pipelines after they are past their use life. ADNR lease and unit agreements may include provisions for abandonment or removal, though these tend to give discretionary authority to ADNR's commissioner to set requirements (Rothe, 2005) such as whether a pipeline needs to be cleaned.

TABLE 6. PROJECT QUESTIONS

PUBLIC QUESTION	ANSWER
<i>Will this analysis include pipelines that are not currently in use or have been abandoned?</i>	Yes, this project includes pipelines that are abandoned, out-of-service, or idle.



References

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Appendix A: Survey Questions

- 1. Where do you reside?**
 - a. Municipality of Anchorage
 - b. Kenai Peninsula Borough
 - c. Elsewhere in Alaska
 - d. Outside of Alaska

- 2. How do you describe yourself?**
 - a. Experience working with Cook Inlet Industry
 - b. Expertise related to pipelines or oil and gas industry generally
 - c. Expertise related to fisheries, land management, or other uses of Cook Inlet resources (besides oil and gas)

- 3. How would you rate your familiarity with Cook Inlet oil and gas activities generally?**
 - a. 1-5 scale (1 is unfamiliar, 5 is very knowledgeable)

- 4. How safe do you believe the oil and gas production pipelines in Cook Inlet are?**
 - a. 1-5 scale (1 is unsafe, 5 is very safe)

- 5. What questions do you have about the location, condition, or construction of pipeline infrastructure in the Cook Inlet area?**

- 6. What questions do you have about the ownership, operations, or maintenance of pipeline infrastructure in the Cook Inlet area?**

- 7. What suggestions do you have for ensuring the safe operation of Cook Inlet pipelines?**

- 8. Please provide any additional comments related to this topic?**



Appendix B: Agenda for Public Meeting

MAY 2019 MEETING AGENDA

- 1:00 pm Welcome & overview – Tim Robertson, Nuka Research
- 1:15 pm Activities and roles regarding pipeline operations:
- Cook Inlet Regional Citizens Advisory Council – **Vinnie Catalano**, *Director of Operations*
 - Alaska Dept of Environmental Conservation – **Graham Wood**, *Program Manager, Prevention, Preparedness and Response Program*
 - Pipeline and Hazardous Materials Safety Administration – **Dave Hassell** (*Operations Supervisor*) and **Tom Johnson** (*Senior General Engineer/Project Manager*)
 - Hilcorp Alaska, LLC and Harvest Alaska, LLC – **Cindy Moonin**, *Alaska Integrity Manager for Hilcorp Alaska, LLC*
 - Marathon – **Scott Rosin**, *Area Manager for Pipeline & Terminals, Marathon*
- 3:00 pm Questions Received from the Public – Tim Robertson
- 3:30 pm Additional questions & discussion
- Adjourn

