Best Practices for Western Alaska Tanker Lightering Operations

2026 Season

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Contributions from:

Ocean Conservancy®

Western Alaska Tanker Lightering Best Practices Committee

Prologue

This document has been developed by the **Western Alaska Tanker Lightering Best Practices Committee** [Committee] to capture the Best Practices of the Marine Fuel Distributers that operate in Western Alaska. Millions of gallons of oil are transferred from ship to ship and ship to barge in the offshore Western Alaska marine environment during the ice-free season for delivery to the many coastal communities in Western Alaska. Protecting Alaska's marine environment through a comprehensive oil spill prevention, preparedness, and response program is paramount for the mutual benefit of all tanker lightering operators. Developing a process to continually review lightering operations and develop mutually accepted best practices and standards of care as appropriate, will enhance safe, efficient and environmentally sound tanker fuel transfer maritime operations in Western Alaska.

The current three principal Marine Fuel Distributers (Operators) are Crowley Fuel, Delta Western, and Vitus Energy. All of the Operators are committed to meeting and exceeding rigorous environmental and safety standards, as well as the ensuring that Western Alaska communities receive fuel in a safe and timely manner. The Committee will meet a minimum of twice per year as determined by the Committee Chair and as circumstances dictate, usually prior to the start of the lightering season and after the lightering season.

Annual Update

The Committee will take lessons learned from each lightering season including additions/revisions to lightering locations, addressing changes in regulations, shifts in commercial operations, stakeholder concerns, incidents, or any other relevant topics to the full Committee to discuss, appropriately address, and ultimately update the Best Practices document. The Committee will formally adopt and release updated Best Practices each year no later than April 1st. Along with the adopted Best Practices, exportable KMZ files for all primary and secondary lightering areas will be sent out for consistent review and reference.

Involvement & Outreach

The Committee's united voice reflects its strong commitment to enhance safe, efficient and environmentally sound tanker fuel transfer maritime operations in Western Alaska by fostering a productive exchange of information among tanker owners and operators and other stakeholders, establishing and promoting best practices and standards of care. The Committee has representatives involved in various committees, groups, associations, and relevant industry & regulatory meetings to ensure the Committee's voice is heard and work is aligned with current and future projects, tasks, and other undertakings. The following list includes some of the groups the Committee commonly exchanges information and works with:

- Alaska Chaduχ Network
- Alaska Department of Environmental Conservation
- Alaska Marine Pilots
- Alaska Native Organizations:
    - Arctic Slope Regional Corporation
    - Afognak Native Corporation.
    - Aleut Corp.
    - Kodiak Island Borough
    - Southwest Alaska Municipal Conference
    - Alaska Native Village Corporation Association
- Alaska Petroleum Distributors & Transporters (APD&T)
- Alaska Power Association (APA):
    - Alaska Village Electric Cooperative
    - Kotzebue Electric Association
    - Naknek Electric Association
    - Nome Joint Utility System
    - Nushagak Electric & Telephone Cooperative
    - Unalakleet Valley Electric Cooperative
- Aleutian and Bering Sea Islands Landscape Conservation Cooperative (ABSI LCC)
- Aleutian Islands Waterways Safety Committee (AIWSC)
- American Salvage Association (ASA)
- American Waterways Operators (AWO)
- Arctic Domain Awareness Center (ADAC)
- Arctic & Western Alaska Area Committee – (GRS) Subcommittee
- Arctic Waterways Safety Committee (AWSC)
- International Group of P&I Clubs
- Intertanko
- NOAA Office of Coast Survey
- North American Marine Environment Protection Association
- Ocean Conservancy
- Spill Control Association of America (SCAA)
- U.S. Coast Guard

Western Alaska Lightering Background

Common Terms Defined

- **Alternative Planning Criteria [APC]:** When the owner or operator of a vessel believes that national planning criteria contained elsewhere in this part are inappropriate to the vessel for the areas in which it is intended to operate, the owner or operator may request acceptance of alternative planning criteria by the Coast Guard. The alternative planning criteria request should detail all elements of the Vessel Response Plan where deviations from the requirements in this subpart are being proposed or have not been met.
- **Lightering**: Lightering means the transfer of liquid cargo in bulk from one tank to another tank, including all phases of the operation from the beginning of the mooring operation to the departure of the service vessel from the vessel to be lightered.
- **Non-Persistent or Group I Oil:** means a petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:
    - At least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F); and
    - At least 95% of which by volume, distill at a temperature of 370 degrees C (700 degrees F).
- **MR Product Tanker**: Traditionally the work horse in the trade of Clean Petroleum Products (CPP) products. Range in size between 35,000 and 55,000 DWT; the former being older, first generation IMO class III tonnage and the latter being modern IMO class II/III tonnage [more versatile in terms of the slate of cargoes they can carry, more versatile COT coating types, greater number of cargo segregations; if IMO class III only, typically equipped only with a flue gas system to inert COTs; if IMO class II/III, either equipped with an IGS inert gas system or a nitrogen plant. Vessel lengths ~600 feet.
- **Handy Tanker**: Historically between 15,000 and 35,000 DWT; almost always both, IMO class II and IMO class III type tonnage [for increased cargo grade versatility]; almost always with IGS or N2 plant [if individual COT capacity > 2K cbm / vessel DWT > 20K [SOLAS requirement]. Vessel lengths ~475 feet.
- **Tank Barge**: Non self-propelled tank vessel.

Overview Summary

For an overview of tank vessel lightering operations in Western Alaska, please read *OVERVIEW of Tanker Lightering in ARCTIC ALASKA,* which was released on February 27, 2019. Ocean Conservancy contracted Nuka Research to provide an overview of tanker lightering activity in Arctic Alaska and applicable regulations.

Why We Do This?

Fuel is vital to the communities of Western Alaska. Heat, Energy and Transportation support life in the harsh climate of the austere Western Alaska. Over the last decade, changes to Environmental Regulation, Transportation Infrastructure, and Pacific Refining Capacity have made fuel from historical supply points unable to meet the demand of Western Alaska. As a result, Fuel Distributor's modified the logistics of sourcing the fuel required by the region.

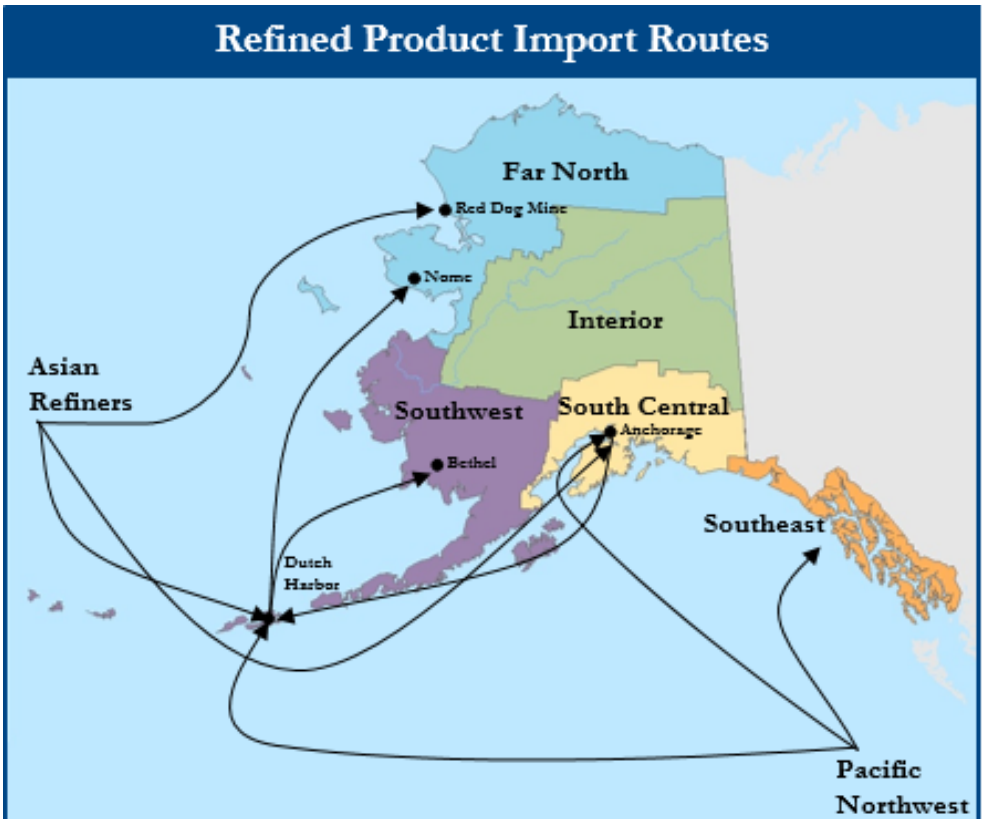
Lightering has always been required to supply the largely undeveloped ports and village locations of Western Alaska. The last mile to any village is unique, uncharted, and reliant on specially built equipment. That same equipment has always received fuel for distribution from vessels commonly available on the market and at the best economy of scale. That market of availability is now served by Tankers that can transport fuel at the best economies of scale from available sources of fuel and now Tankers lighter to the special purpose Tugs and Tank Barges built to supply Western Alaska.

The Best Practices adopted herein, are derived from years of experience in the lightering of fuel and adapted to ensure that Fuel is delivered in the safest possible manner.

General Information

- Lightering operations conducted throughout Western Alaska serves approximately 160+ communities and villages in Western Alaska, including approximately 75,000 Alaskans.
- The following groups receive fuel via lightering for commercial and military operations: 6 USAF Long Range RADAR Stations, Bristol Bay, Yukon River and Norton Sound commercial fisheries, Prudhoe Bay oil & gas extraction, Red Dog Mine, Regional Economic Development Corporations, all Western Alaska Utilities, School Districts and Health Corporations, Regional Passenger and Cargo Airlines (Alaska, Grant, RAVN, Bering, Ryan, NAK, Lynden).
- Bulk fuel delivery via tank vessel is both safe and efficient due to economies of scale and is on par with what the developed U.S. operators in the Lower 48 do for lightering.
    - An example of the efficiency of fuel delivery via barge was demonstrated in 2018, when one barge delivered fuel to Prudhoe Bay, which took over 150 tanker trucks trips off the haul road (Dalton Highway).
- Operators that conduct lightering operations on the North Slope are in contact with the Alaska Whaling Commission during transits/operations but are not current signatories of the Conflict Avoidance Agreement.
- Transportation Costs (dependent upon market, vessel size, and cargo parcel size carried)
    - Asia to Alaska $0.10-$0.21 per gallon
    - West Coast to Alaska $0.15-$0.29 per gallon
- With the new IMO emissions requirements that went into effect on January 1, 2020, owners/operators will either run on distillate fuel, i.e. ISO 8217:2010 LS MGO [DMA] or VLSFO RMG 380 or the most current version of ISO standard 8217, or operate vessels equipped with sulfur scrubbers to extract sulfur to reduce the residual content to less than 0.5%, or modern vessels with dual fuel M/E's and A/E's may rely on alternate, clean fuel resources, such as MeOH, LPG, et cetera; assuming re-supply logistics support this.

- In Western Alaska, tank vessels conducting lightering operations commonly carry between 4 to 5 different cargo grades, somewhat dependent upon point of product sourcing [some of the products sources can be marketed as more than one fuel product].
    - A typical MR tanker is 320-360MB capacity and is capable of carrying 5-6 different cargo grades [double-valve segregation] if they have 5-6 pairs of cargo tanks. Very modern MR tankers, classed as IMO II/III vessels, occasionally have 10-12 cargo grade segregations [if 10-12 COTs] to increase marketability into the easy chemicals markets.
    - Handy Tankers built specifically for the chemicals trade almost always have as many cargo tank segregations as they have cargo tanks, i.e. if 12 COTs, then 12 cargo segregations; if 14 COTs, then 14 cargo segregations; a more versatile cargo coating system; an IGS or N2 plant [if DWT and/or individual COT size makes it mandatory]; et cetera. More rudimentary, mainstream Handy Tankers may only have as many cargo segregations as the average, common MR tanker.



Western Alaska Lightering History

1950-1989

- Lightering an integral part of Western Alaska Freight and Fuel operations since the 1950's
- Fuel was brought in by Tanker and Barge and lightered to specialized river fleets
- Fuel was primarily sourced from West Coast Refineries

- Alaska uses Jet Fuel as the Arctic solution for Transportation, Heating and Power Generation
- Gasoline is conventional, ethanol blends are not suitable for Arctic use

1990-1994

- Exxon Valdez Spill led to OPA 90
    - Double Hull Construction Standards
    - Planning Standard VRP National
      *Increased Response Capabilities and Planning Standards
- Alaska Exemptions to Double Hull Standards
- Single Hull Tank Barge Exemption for vessels under 1500 GRT
- West Coast market demand for Double hulls prolonged single usage in Western Alaska
- Avenue for the acceptance of Alternate Planning Criteria

1995-2010

- 2007 Tankers began to be utilized in Western Alaska to satisfy demand as West Coast Refineries were reconfigured for ULS/CARB Diesel Production
- West Coast Refineries Optimized Production and Storage for more ratable demand and available transportation of their local regions: LA, SF, PNW
- 2010 Full ULS Implementation
    - Storage Capacity Limitations in Western Alaska Villages
    - Before: 1 Product serves 3 purposes
    - After: 2-3 products for 3 Purposes
- Refining Capacity in Alaska reduced (Flint Hills North Pole)

2011-Present

- Virtually all seasonal re-supply is imported from Far East and Canadian Refineries
- Reduced refining capacity has led to increased volatility on the West Coast
- Barge Fleets have been adapted to distribute fuel instead of haul
- Supply Economics have improved
- Tankers utilize Network Group I Tank Vessel APC to operate in Alaska

Regulations

Lightering operations must be conducted in strict accordance with the letter and intent of all regulations. Operators use the current version of all regulations. The practices highlighted in this document are meant to create a spill prevention mindset during lightering operations. These practices do not replace the vessel's procedures, State of Alaska requirements, or the federal oil transfer requirements of the U.S. Coast Guard.

State of Alaska Regulations

State of Alaska statutes and regulations apply when a vessel is in state waters (inside 3 nautical miles from the coast). Alaska requires tankers and tank barges to have state-approved Oil Discharge Prevention and Contingency Plans ("C-plans"). Marine pilotage is compulsory in Alaska's inland and coastal waters per Marine Pilot Statutes (AS 08.62) and Marine Pilot Regulations (12 AAC 56). These waters generally extend three nautical miles from the coastline if specific boundaries are not otherwise specified.

- 18 AAC 75.025 (Transfer Requirements)
- 18 AAC 75.448 (Oil discharge prevention and contingency plan contents)
- 18 AAC 75.440 (Response planning standards for noncrude oil tank vessels and barges)

Every time a foreign flagged tank vessel intends to undertake cargo operations within Alaska State Waters (inside 3 nautical miles), such vessel must carry an Alaska State Certificate of Financial Responsibility [CoFR], in addition to the Federal CoFR. The Alaska State CoFR is issued by Alaska Department of Environmental Conservation once the additional insurance has been taken out.

International and Federal Regulations

In addition to state regulations, vessel owners and operators must also comply with the following U.S. Code of Federal Regulations (CFR) requirements:

- 33 CFR 151 (MARPOL implementation)
- 33 CFR 153 (Notice of Discharge and Removal of Discharged Oil)
- 33 CFR 155 (Oil or Hazardous Material Pollution Prevention Regulations for Vessels)
- 33 CFR 156 (Oil and Hazardous Material Transfer Operations)
- 46 CFR 30-40 (Tank Vessels)

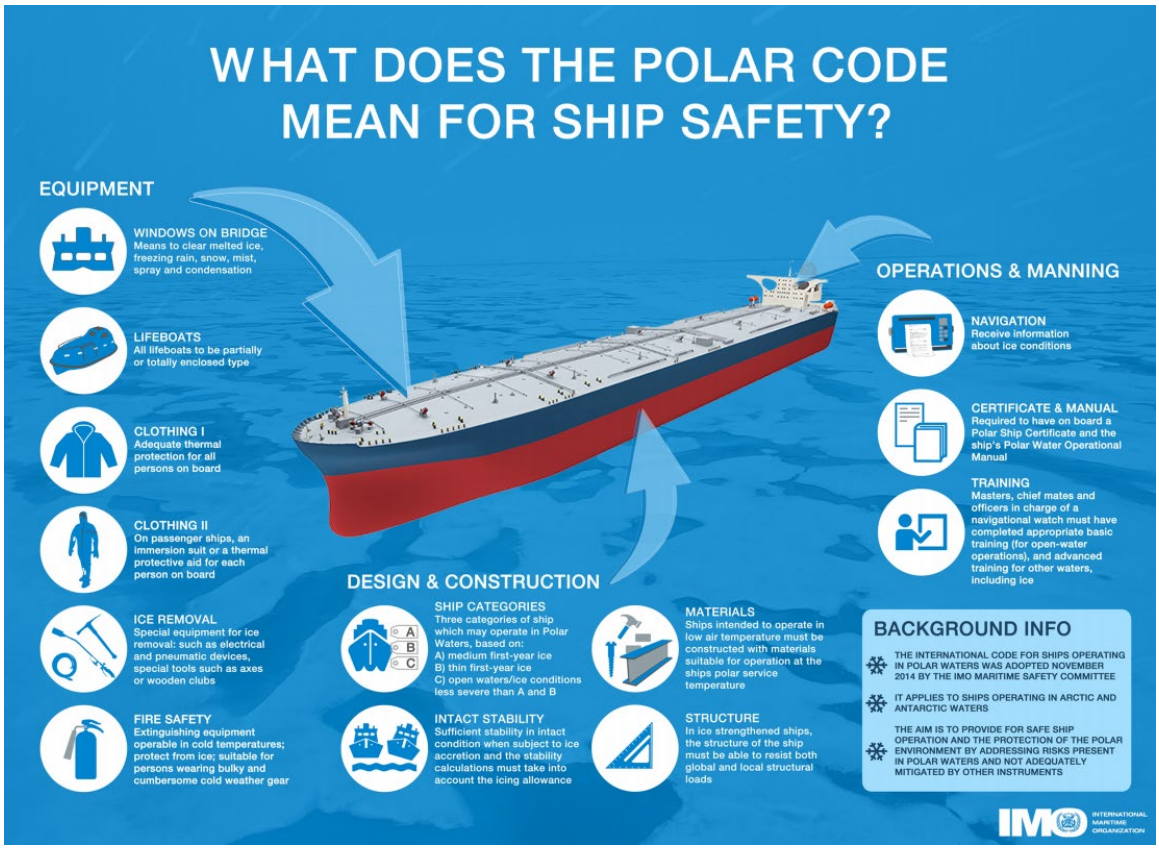
Industry Guidelines

The Oil Companies International Marine Forum Guidelines (OCIMF) Ship to Ship Transfer Guide for Petroleum, Chemicals and Liquefied Gases should be consulted for applicability to Western Alaska lightering. The OCIMF is an association of oil companies with an interest in the shipment and terminaling of crude oil, oil products, petrochemicals, and gas. OCIMF addresses safe and environmentally responsible operation of oil tankers, terminals and offshore support vessels, promoting continuous improvement in standards of design and operation.

Polar Code Regulations

IMO's International Code for Ships Operating in Polar Waters (Polar Code) is mandatory under both the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). The Polar Code covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles. The Polar Code entered into force on 1 January 2017.

All tank vessels that are chartered conduct lightering operations in Western Alaska above 60 degrees North Latitude shall be compliance with Polar Code Regulations. Tank vessels will only operate in open-waters where ice is not a threat to navigation and shall not force or break ice, nor follow ice breakers. Polar Code compliance primarily depends on when the last vessel inspection occurred and after 2020, all vessels that intend to operate North of 60 degrees North Latitude will have inspections that are current with Polar Code requirements. Vessels time-chartered in by the three primary operators in offshore Alaska are only deployed in offshore Western Alaska during the ice-free months of the season.



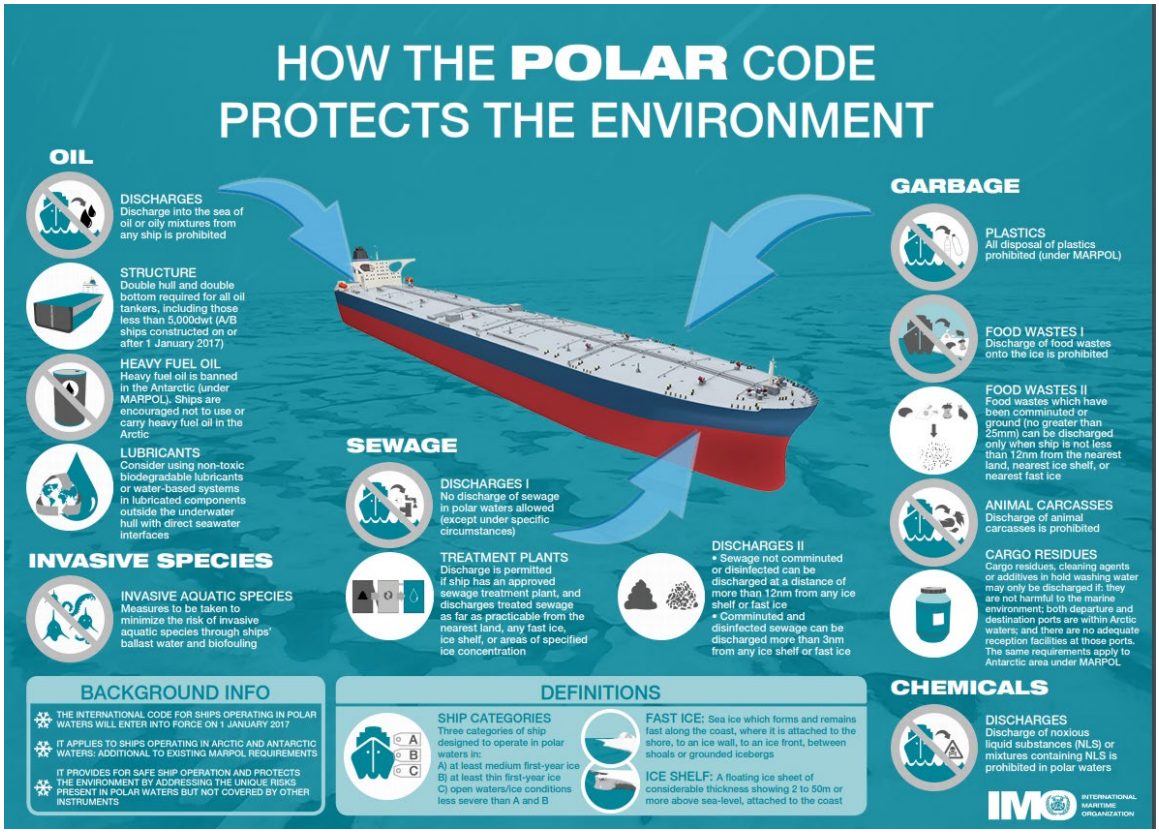
The Code will require ships intending to operating in the defined waters of the Antarctic and Arctic to apply for a Polar Ship Certificate, which would classify the vessel as Category A ship - ships designed for operation in polar waters at least in medium first-year ice, which may include old ice inclusions; Category B ship - a ship not included in category A, designed for operation in polar waters in at least thin first-year ice, which may include old ice inclusions; or Category C ship - a

ship designed to operate in open water or in ice conditions less severe than those included in Categories A and B.

The issuance of a certificate would require an assessment, taking into account the anticipated range of operating conditions and hazards the ship may encounter in the polar waters. The assessment would include information on identified operational limitations and plans or procedures or additional safety equipment necessary to mitigate incidents with potential safety or environmental consequences.

Ships will need to carry a Polar Water Operational Manual, to provide the Owner, Operator, Master and crew with sufficient information regarding the ship's operational capabilities and limitations in order to support their decision-making process.

The chapters in the Code each set out goals and functional requirements, to include those covering ship structure; stability and subdivision; watertight and weathertight integrity; machinery installations; operational safety; fire safety/protection; life-saving appliances and arrangements; safety of navigation; communications; voyage planning; manning and training; prevention of oil pollution; prevention of pollution form from noxious liquid substances from ships; prevention of pollution by sewage from ships; and prevention of pollution by discharge of garbage from ships.



Under the Polar Code ships are encouraged not to use or carry heavy fuel oil in the Arctic. IMO's Sub-Committee on Pollution Prevention and Response (PPR) is developing measures to reduce the risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters.

Marine Pilotage

As summarized in the *Overview of Tanker Lightering in Arctic Alaska*, Foreign-flagged vessels are required to have a licensed marine pilot on board when navigating mandatory pilotage waters. This generally includes coastal water within three nautical miles from shore and some areas encircled by headlands (12 AAC 56.090). Marine pilots are licensed by a state board and undergo both testing and training specific to the area in which they are licensed to serve. Licenses also require a specific level of previous experience and, for renewals, a sustained level of pilotage activity. The duty of a marine pilot is to safely navigate vessels under the pilot's direction and control and to protect life property and the marine environment. (Sec. 08.62.157). Marine pilots do not oversee the actual lightering and oil transfer operations. Every time a foreign flagged tank vessel intends to undertake cargo operations within Alaska Marine Pilots Waters, it is a mandatory requirement of Alaska Marine Pilots that the tank vessel gains access/egress from Alaska Marine Pilots Waters with the assistance of a marine pilot. For further information on marine pilotage requirements, please see *Coast Pilot, Volume 9 Alaska: Cape Spencer to Beaufort Sea* (Starting on Page 119)

Best Practices for Western Alaska

General

In general, when planning STS and STB operations, the following shall describe the best practices that have been employed to promote safe and consistent operations to reduce risk exposure and maximize response resources and capabilities.

Nothing in these Best Practices is intended to control or limit the ultimate authority of the tank vessel master in the safe navigation of his or her vessel or constrain the authority of the U.S. Coast Guard Captain of the Port where these Best Practices apply.

Notification Time Requirements

The below table provides the time requirements for notifications and entities to be notified.

Type	Timing (Hours)	Required to Notify
EEZ Advance NOA	+96	USCG Sector Western Alaska & U.S. Arctic
Arrival Notice	+96	USCG Sector Western Alaska & U.S. Arctic
USCG Lighter Notification	+48	USCG Sector Western Alaska & U.S. Arctic
Notice of Transit	+24	APC Monitoring Center
Incident	Immediate	National Response Center and USCG Sector Western Alaska & U.S. Arctic

- **Please communicate any sightings of Walrus to FW7_MMM@fws.gov**
- **Please communicate plain language weather observations to larry.hubble@noaa.gov using below format**:

VESSEL NAME:
DATE/TIME:
LAT/LON:
AIR TEMP:
SEA TEMP:
WIND DIRECTION AND SPEED:
BAROMETER READING:
WEATHER:
SEA/SWELL:

Vessels can also submit observations directly via https://vos.noaa.gov/shipob/
Vessels equipped with Turbowin software can send observations to: shipobs@noaa.gov

Common Distribution Email Group

For tank vessels conducting lightering operations, the following distribution group shall be used for the below EEZ Advance NOA, Arrival Notice, USCG Lighter Notification, and Notice of Transit notifications to ensure all appropriate parties are notified per regulation and per APC requirements.

Email address: waklightering@AlaskaOSRO.org

The above email group includes the following parties:

- U.S. Coast Guard Sector Western Alaska & U.S. Arctic
    - Command Center, Port State Control, Waterways
- Alaska Chadux̂ Network Vessel Monitoring Center
- Alaska Chadux̂ Network Operations Department
- Alaska Department of Conservation

Lightering Notification Expectations

Per regulatory requirements, lightering notifications are to be made to U.S. Coast Guard Sector Western Alaska & U.S. Arctic at least 48 hours in advance. The Committee worked with U.S. Coast Guard Sector Western Alaska & U.S. Arctic on a consistent process and advance notice of lightering template. The Committee will ensure expectations are clear for all parties sending and receiving these notices and the template is updated prior to each lightering season based on feedback from Committee participants. This will allow for consistent data to be captured and all notifications to have set expectations for all parties.

Routing

- Tank vessels operating under the Alaska Chadux̂ Network APC shall adhere to the APC Operating Procedures for Tank Vessels. The Operating Procedures detail information about AIS, reporting hazardous conditions, activating a VRP, notice of transit notification requirements, routing measures, and fuel switching procedures. For the most updated version of the Operating Procedures, please click HERE.
- The vessel shall always operate at a safe and prudent speed and in consideration for the prevailing weather conditions and traffic when entering territorial seas while entering or departing port or lightering area.
- When a vessel is transiting from a lightering location in Western Alaska to another lightering location in Western Alaska, the vessel must remain a minimum of 12 miles from offshore. If the vessel is transiting through the Bering Strait, the vessel shall follow the two-way routes, precautionary areas, and avoid Areas to be Avoided (ATBA) in the Bering Sea and Bering Strait, adopted by IMO and in effect December 1, 2018 (IMO NCSR 5/3/7 dated 17 November 2017).
- The vessel shall not proceed to closer than 12 miles from the oil transfer port/facility until confirmation is received that a towing vessel is immediately available to get underway and capable to assist if needed.
- The vessel shall not proceed to closer than 3 miles from the oil transfer port/facility until an escort towing vessel is available and in the immediate vicinity of the tank vessel. The escort vessels must be capable to assist as needed to ensure a safe transit. Emergency towing gear on the oil tanker shall be made ready to deploy and personnel shall be standing by to the deploy towing gear or receive a line from the tug as the situation dictates.

Response Equipment

- Prior to conducting a transfer to a vessel or facility the, Tank Vessel will verify with the receiving facility or vessel that on water storage capacity is available, containment boom deployment vessel(s) and personnel are immediately available to initiate a response in the event of an oil spill. Compliance with the above may be demonstrated by:
    - Facility Transfer: Conducting the transfer at a facility regulated by 33 Code of Federal Regulations Part 154 and completing a Declaration of Inspection prior to conducting the transfer.
    - Vessel: Submitting a "lightering plan" to the Captain of the Port and completing a Declaration of Inspection prior to conducting the transfer and provides information on the on-scene response capabilities and,
        - Ensuring a vessel meeting the Alaska Petroleum Distributors and Transporters (APD&T) "Agreement for Compliance" is present, or
        - A vessel with the following capabilities:
            - Transfer hoses and portable pumps sufficient to off-load the largest cargo tank in 24 hours of continuous operation,
            - Containment:
                - For STS transfers, containment (including boom, tank vessel, and fenders) in a quantity equal to two times the length of the largest tank vessel
                - For STB transfers, containment (including boom, tank vessel, and fenders) in a quantity equal to three times the length of the Barge
            - Oil recovery devices with an effective daily recovery capacity (EDRC) equal to 50% of the MMPD (the lesser of 1,250 barrels per day or 5% of the cargo capacity), and
            - Temporary storage reserved in the barge capacity or through use of voids and ballast tanks equal to 10% of the two largest cargo compartments.
- When transferring to a facility, the vessel shall ensure a single containment boom is deployed around the vessel unless tides, currents and weather preclude this from being done safely and or from being effective.
- The master of the vessel transferring oil to a facility or vessel shall not conduct oil transfer operations when weather conditions preclude the ability to conduct a safe oil spill response.
- If oil transfer operations at a facility are conducted at night, operations will only be conducted if lighting meets requirements of 33 CFR §156.118.
- The vessel will not engage in simultaneous multiple vessel transfer to or from two cargo recipients (i.e. vessel and facility).

Ship to Ship [STS] Lightering Operations

STS Checklists

- Vessels shall use OCIMF Checklists in preparing for STS Operations
- Any party to the operation is expected to call "All Stop" for any reason that creates or contributes to a hazardous situation, effects safety of personnel, equipment and/or environment.

Designated Person in Overall Charge [POAC]

- One of the Vessel Masters with person overall in charge shall be appointed as the Person in Overall Charge of Operations

Mother Vessel

- Provides Cargo
- The Mother Vessel is always brought to anchor.

Daughter Vessel

- Receives cargo
- Generally, the maneuvering vessel

Docking Master

- Masters, if employed, are vetted and accepted based on their experience with ship to ship operations

Assist Tug

- Use of assist tugs should be considered on a case by case basis for maneuvering operations but are not a requirement

Primary Fendering (Maneuvering Vessel)

- Adequate Fendering shall be provided based on OCIMF guidelines or mutual acceptance by the Masters of each ship
- Fenders shall be inspected prior to deployment
- Fendering and mooring plans developed prior to operations and Pre-STS Checklists utilized
- Secondary Fenders should be utilized at the main deck to prevent rolling damage

Cargo Hose

- Cargo Hoses shall be inspected prior to use
- Cargo hose shall be of sufficient length to connect manifolds without strain during all stages of freeboard
- Hoses shall be supported and protected against chaffing and Kinking

Crane Use

- Due to freeboard Mother Vessel (Generally) will use its crane to handle hoses as they are mated to the mothership or dropped down to the daughter vessel.

Vapor Balancing

- Not applicable

Flow rate, topping off and gauging procedures

- In accordance with OCIMF Ship to Ship Transfer Guide

Personnel Transfers

- All operators must follow safety programs that minimize the risk of personnel transfers

Response Equipment On Scene

- Response barge will always be on scene and available for immediate response
- Response Barge is equipped with:
    - Boom of at least 2 times the length the largest tank vessel
    - Skiff
    - Skimmer

Daylight Limitations

- Maneuvering (Docking/Undocking) shall only take place during daylight
- Cargo transfers shall only be conducted if proper lighting is available per 33 CFR §156.118

Visibility Requirements

- At the time of approach to the mooring vessel and during mooring, operations should not be attempted unless a minimum of 1 mile of visibility exists

Weather Limitations

- Operations should not be attempted unless a favorable forecast exists for the expected duration of the transfer
- Forecast shall be considered prior to STS operations
- Operations shall be suspended if a response operation cannot be affected
    - Approximate winds in excess of 30 knots
    - Approximate seas in excess of 2 meters

Cargo Orders (Load or discharge)

- Cargo orders will be issued to both vessels.

Tide and Current Considerations

- Vessel shall follow under keel clearance requirements specified by vessel owner/operator

- Ensure tidal fluctuations have been considered and confirmed to not affect lightering operations
- Ensure currents have been considered and confirmed to not affect lightering operations or potential response operations

Ship to Barge [STB] Lightering Operations

Mother Vessel

- Provides Cargo
- Generally, the larger of two vessels participating in the transfer.
- The Mother Vessel is always brought to anchor.

Designated Person in Overall Charge [POAC]

- Master of the Tug (Daughter Vessel)

Daughter Vessel (Barge)

- Receives cargo
- Always the maneuvering vessel

Primary Fendering

- Adequate Fendering shall be provided based on OCIMF guidelines or mutual acceptance by the Masters of each ship
- Fenders shall be inspected prior to deployment
- Fendering and mooring plans developed prior to operations
- Secondary Fenders should be utilized at the main deck to prevent rolling damage

Cargo Hose

- Cargo Hoses shall be inspected prior to use
- Cargo hose shall be of sufficient length to connect manifolds without strain during all stages of freeboard
- Hoses shall be supported and protected against chaffing and Kinking

Crane Use

- Due to freeboard Mother Vessel will use its crane to handle hoses as they are mated to the mothership or dropped down to the daughter vessel.

Vapor Balancing

- Not applicable

Flow rate, topping off and gauging procedures

- In accordance with OCIMF Ship to Ship Transfer Guide

Personnel Transfers

- All operators must follow safety programs that minimize the risk of personnel transfers

Response Equipment On Scene

- Response barge will always be on scene and available for immediate response
- Response Barge is equipped with:
  - Boom of at least 3 times the length the barge
  - Skiff
  - Skimmer

Daylight Limitations

- Maneuvering (Docking/Undocking) shall only take place during daylight
- Cargo transfers shall only be conducted if proper lighting is available per 33 CFR §156.118

Visibility Requirements

- At the time of approach to the mooring vessel and during mooring, operations should not be attempted unless a minimum of 1 mile of visibility exists

Weather Limitations

- Operations should not be attempted unless a favorable forecast exists for the expected duration of the transfer
- Forecast shall be considered prior to SBS operations
- Operations shall be suspended if a response operation cannot be affected
  - Approximate winds in excess of 30 knots
  - Approximate seas in excess of 2 meters

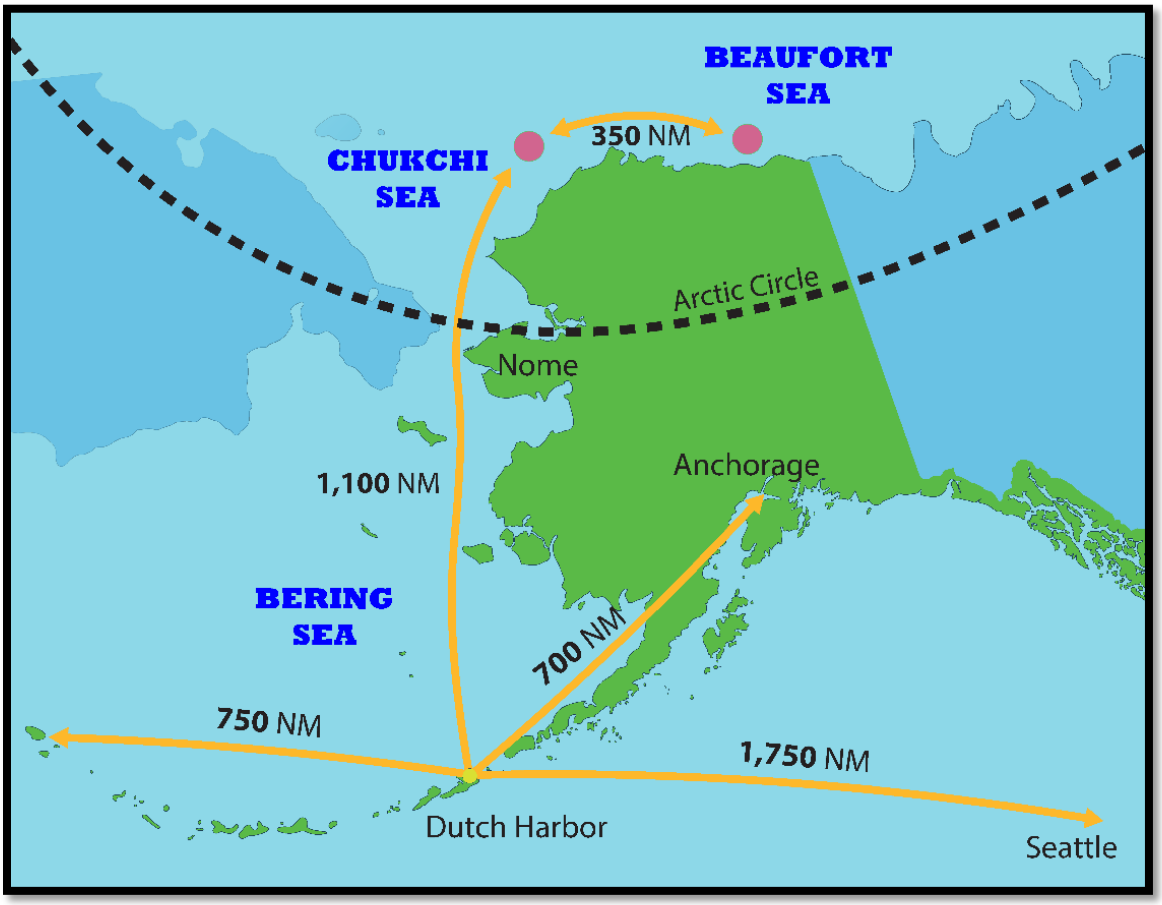
Tide and Current Considerations

- Vessel shall follow under keel clearance requirements specified by vessel owner/operator
- Ensure tidal fluctuations have been considered and confirmed to not affect lightering operations
- Ensure currents have been considered and confirmed to not affect lightering operations or potential response operations

Lightering Areas

Justification of Lightering Areas

There are lightering locations identified by the Committee as the primary and secondary areas used by tank ships conducting lightering operations, including both STS (Ship to Ship) and/or STB (Ship to Barge). The tank vessel lightering areas in Western Alaska serve over 160 communities and villages in Western Alaska, with the average distance between lightering areas of over 110 nautical miles. In the Western Alaska Captain of the Port Zone, outside of Kodiak and Cook Inlet, only Unalaska and Nome currently have facilities where smaller tank ships can transfer oil cargo at the dock. All remaining communities in Western Alaska receive their annual fuel supplies via specialized barge delivery. Over the years, the lightering areas have been refined to maximize the efficiency and safety of fuel delivery to the communities by using "temporary distribution hubs" (stationary tank vessels) and barges delivering the fuel from the "temporary distribution hub" to the shoreside facility.



There are over 1,175 nautical miles between Unalaska/Dutch Harbor and Utqiaġvik, with an approximate population of Coastal Western Alaska totaling 75,000 residents. In comparison of

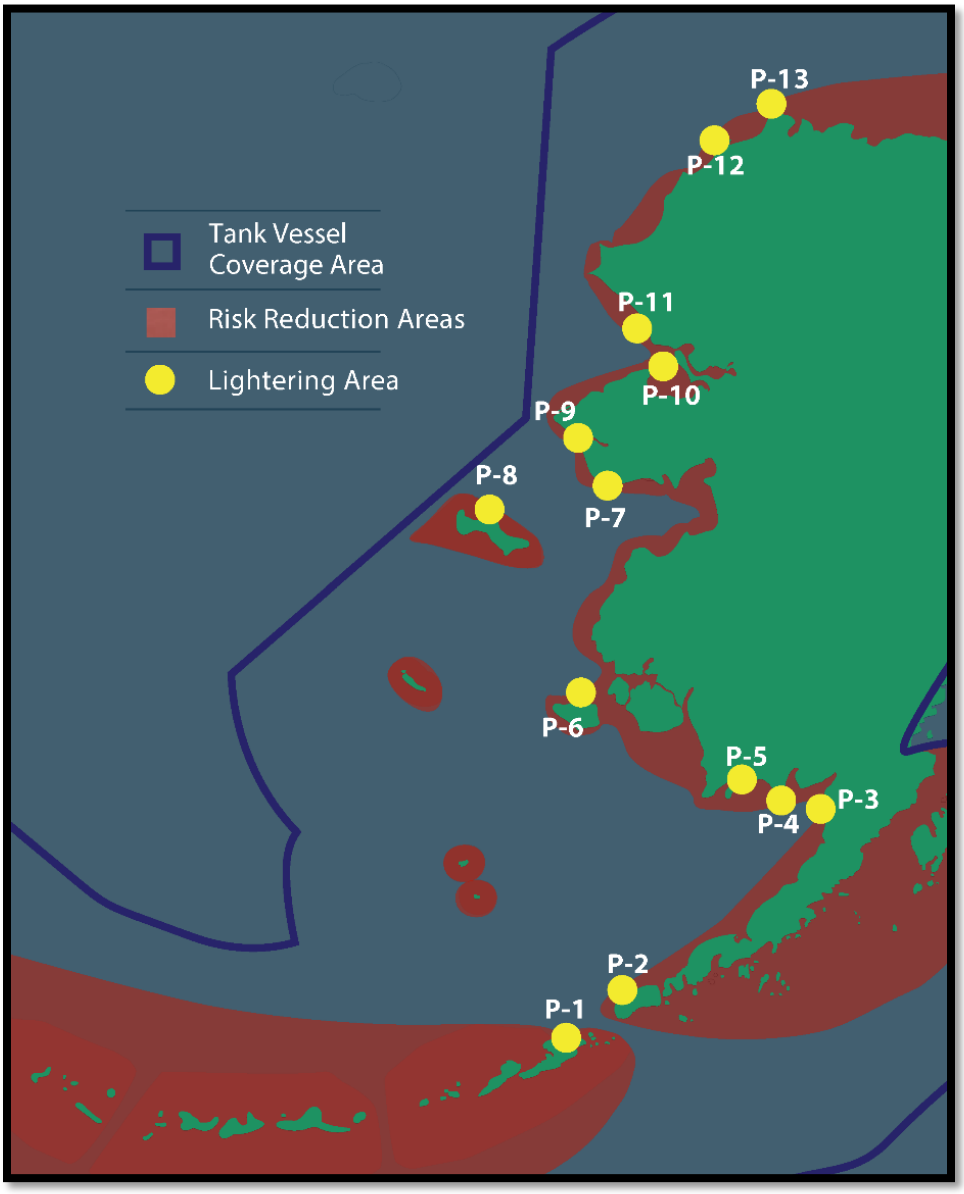
similar distance, there is an approximate population for the West Coast of the contiguous Lower 48 States of 50,000,000 residents between Long Beach, California and Seattle, Washington. The West Coast of the lower 48 States has hundreds, if not thousands of shoreside facilities where fuel can be delivered, not even considering roads, pipelines, or railroads that can move fuel around and ultimately to its destination. In Western Alaska, there are no economies of scale for transportation, as each delivery is unique in the destination, draught restrictions, fuel type, facility capacity, environmental factors, and seasonality of ice.

The limitations of fuel delivery in Western Alaska are reflected in the following graphic of the road system in Alaska and shows how fuel delivery occurs in each region. Without road systems connecting refinery's and/or fuel storage facilities or adequate dockside facilities for most of Western Alaska, the delivery of bulk fuel through tank vessels and tank barges is the most practical, efficient, and safest method for delivery of essential fuel to the many communities and villages in Western Alaska.

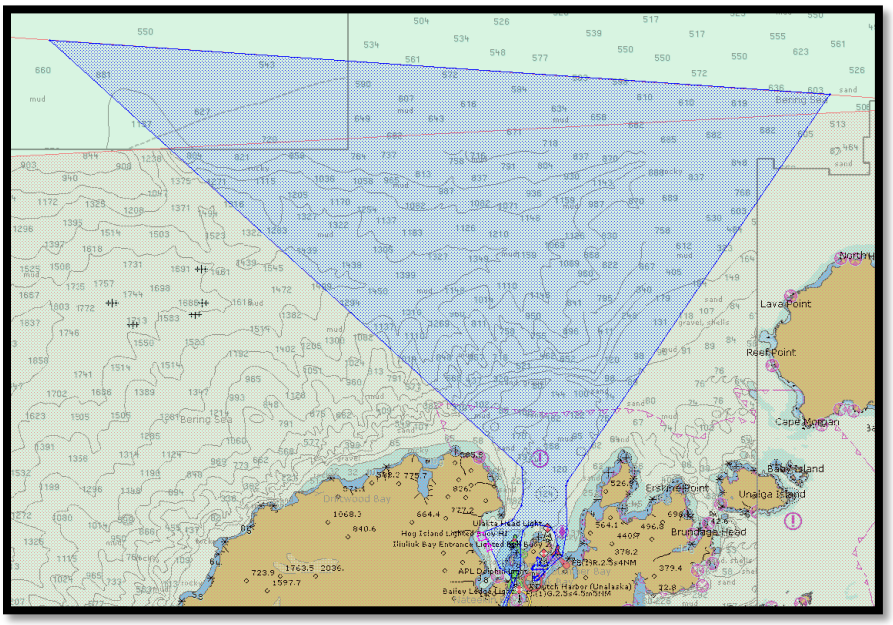
Beaufort Sea
Barrow
Wainwright
Prudhoe Bay
Kaktovik
Point Lay
Atqasuk
Nuiqsut
Russia
Point Hope
Noatak
Kivalina
Kotzebue
Shungnak
Fort Yukon
Circle
Rampart
Fairbanks
Chena Hot Springs
Nome
Unalakleet
Healy
Denali National Park
Delta Junction
Kotlik
Emmonak
Cantwell
McGrath
Palmer
McCarthy
Stuyahok
Anchorage
Wasilla
Valdez
Mekoryuk
Bethel
Tyonek
Cordova
Nikiski
Skagway
Haines
Juneau
Koliganek
Whittier
Chenega Bay
Yakutat
Dillingham
Homer
Girdwood
Twin Hills
Seldovia
Seward
Saint Paul
Manokotak
King Salmon
Naknek
Saint George
Sitka
Wrangell
Pilot Point
Kodiak
Port Heiden
Ketchikan
Metlakatla
Chignik
Cold Bay
Sand Point
Unalaska
King Cove
False Pass
Adak
Atka
Akutan
Bering Sea
Gulf of Alaska
Canada
Alaska
Legend
Major Roads
Alaska Marine Highway
Fuel Distribution Regions
Region 1 - Marine Access
Region 2 - Road/Rail Access
Region 3 - Rural
0 50 100 200 Miles

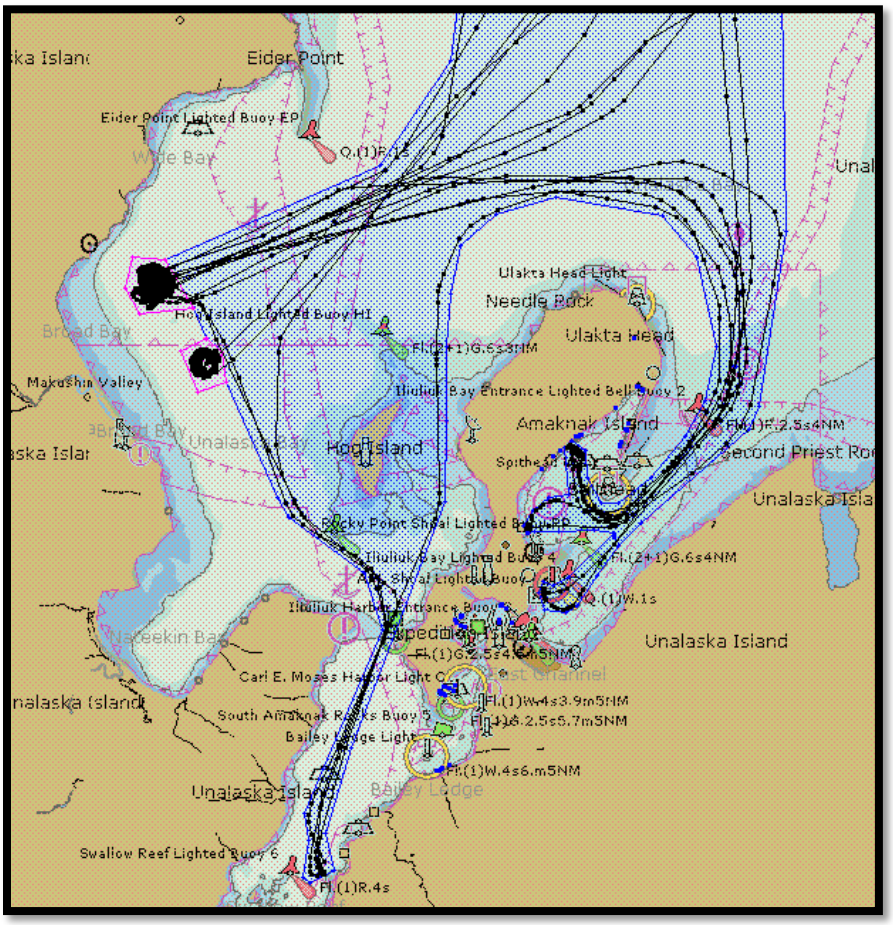
Primary Lightering Areas

The Western Alaska Tanker Lightering Best Practices Committee has identified specific areas where lightering operations are conducted and the safe approach areas to those locations. In establishing each lightering area, a risk assessment, an analysis of historical track lines, and an evaluation of weather and other environmental factors have been completed. The Committee has refined and reduced the number of overall lightering areas significantly to allow for better response planning and analysis. There are 13 primary lightering areas and 13 secondary lightering areas. Each season will deliver more data and information that will continue the refinement and adjustment of these lightering areas to ensure their accuracy and ability to be flexible based on real world circumstances. Each lightering location includes information on the types of operations that occur in each area, pilotage requirements, air and sea miles from nearest Chadux response hub with certain capabilities, types of vessels that conducting operations, and Geographic Response Strategies (GRS) within an approximate 25 to 50 nm radius of each lightering area. Click HERE for more information on GRS. In the following screenshot of charts, the areas filled in blue are designated at approach areas out to 12nm from shore and the areas filled in magenta are designated at areas where lightering operations occur.



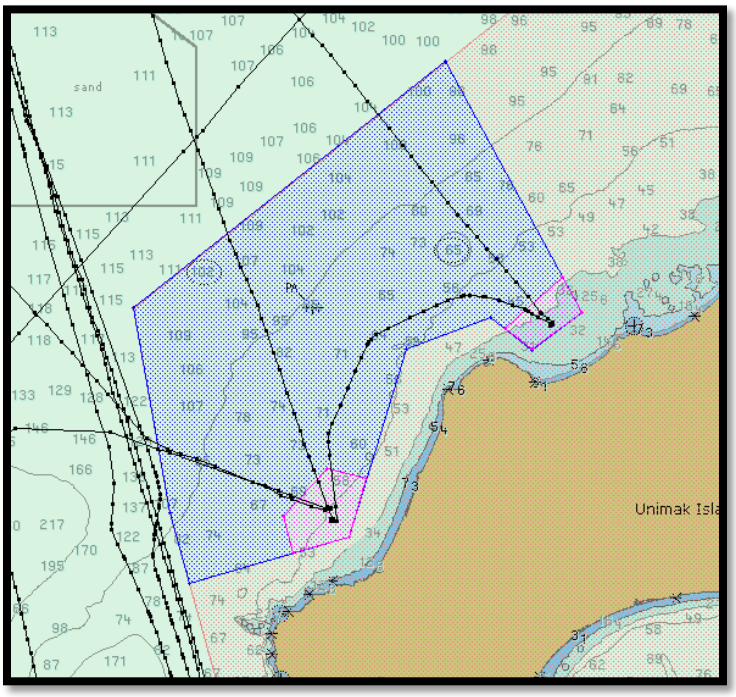
P-1 – Unalaska


Lava Point
Reef Point
Cape Morgan
Erskine Point
Unalga Island
Bruntons Head
Ulakta Head Light
Hog Island Light
Illiuluk Bay Entrance Lighted Bell Buoy
APL Dashin
Dutch Harbor (Unalaska)
Bailey Ledge Light


Eider Point
Eider Point Lighted Buoy EP
Q.(1)F.1s
White Bay
Broad Bay
Ulakta Head Light
Needle Rock
Ulakta Head
Hog Island Lighted Buoy HI
Fl.(2+1)G.6s3nM
Illiuluk Bay Entrance Lighted Bell Buoy 2
Amaknak Island
Fl.(1)F.2.5s4NM
Hog Island
Second Priest Rock
Unalaska Island
Illiuluk Bay Lighted Buoy 4
Fl.(2+1)G.6s4NM
Q.(1)W.1s
Unalaska Island
Carl E. Moses Harbor Light C
Fl.(1)W.4s3.9m5NM
South Amaknak Rocks Buoy 5
Fl.(1)G.2.5s5.7m5NM
Bailey Ledge Light
Fl.(1)W.4s6.m5NM
Unalaska Island
Bailey Ledge
Swallow Reef Lighted Buoy 6
Fl.(1)R.4s

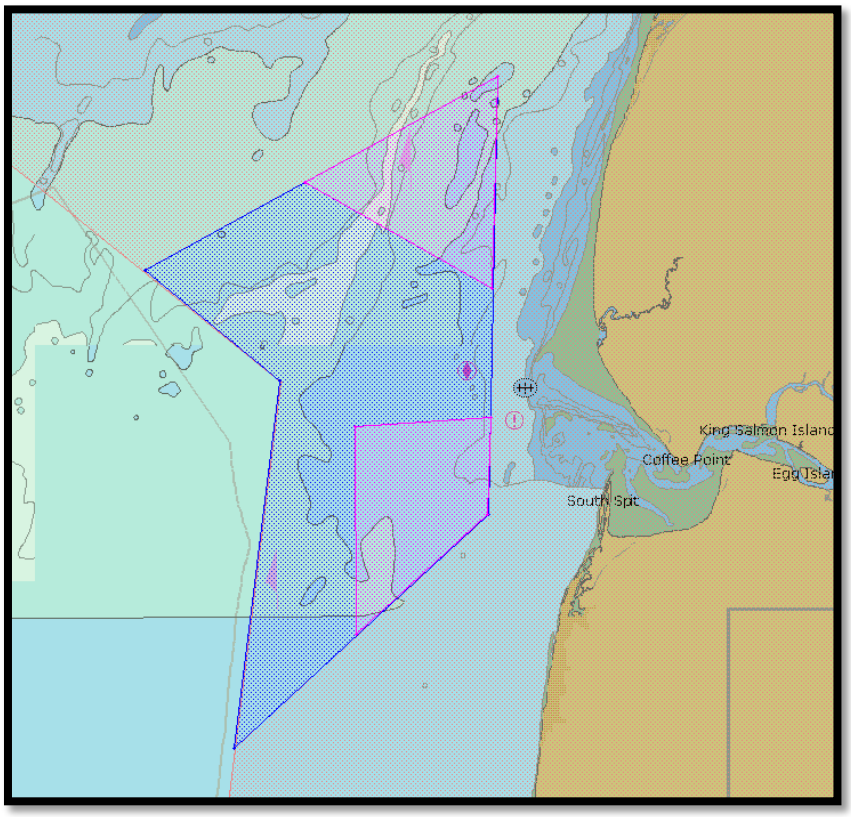
- The Unalaska lightering area sees year-round transfers from the Broad Bay anchorage location.
    - Broad Bay – 53.927290 -166.624489 – 80 fathoms
- Unalaska is unique for Western Alaska, as it supports one of the only shoreside facilities outside of Nome, Kodiak and Cook Inlet, where tank vessels can transfer oil cargo at the dock.
    - Dock - Ballyhoo Road (Container Dock) – 53.903861 -166.524818
    - Dock - Biorka Drive (Delta Western Dock) – 53.892118 -166.535016
    - Dock - Captains Bay Road (Aleutian Fuels South Reef Dock) – 53.843153 -166.583998
- Lightering operations requires pilotage
- The Unalaska lightering area is:
    - 0 air miles from the nearest Alaska Chadux̂ Network Response Hub in Unalaska
    - 0 nautical miles from the nearest Alaska Chadux̂ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
    - Aleutians Geographic Response Strategies: East B Zone
        - AEB-12 Reese Bay/Cape Wislow
        - AEB-13 Broad Bay/Wide Bay
        - AEB-14 Nateekin Bay
        - AEB-15 Head of Captains Bay
        - AEB-16 Pyramid Creek & Obernoi Point
        - AEB-17 Iliuliuk River
        - AEB-18 Hog Island
        - AEB-19 Summer Bay

P-2 – Unimak Island



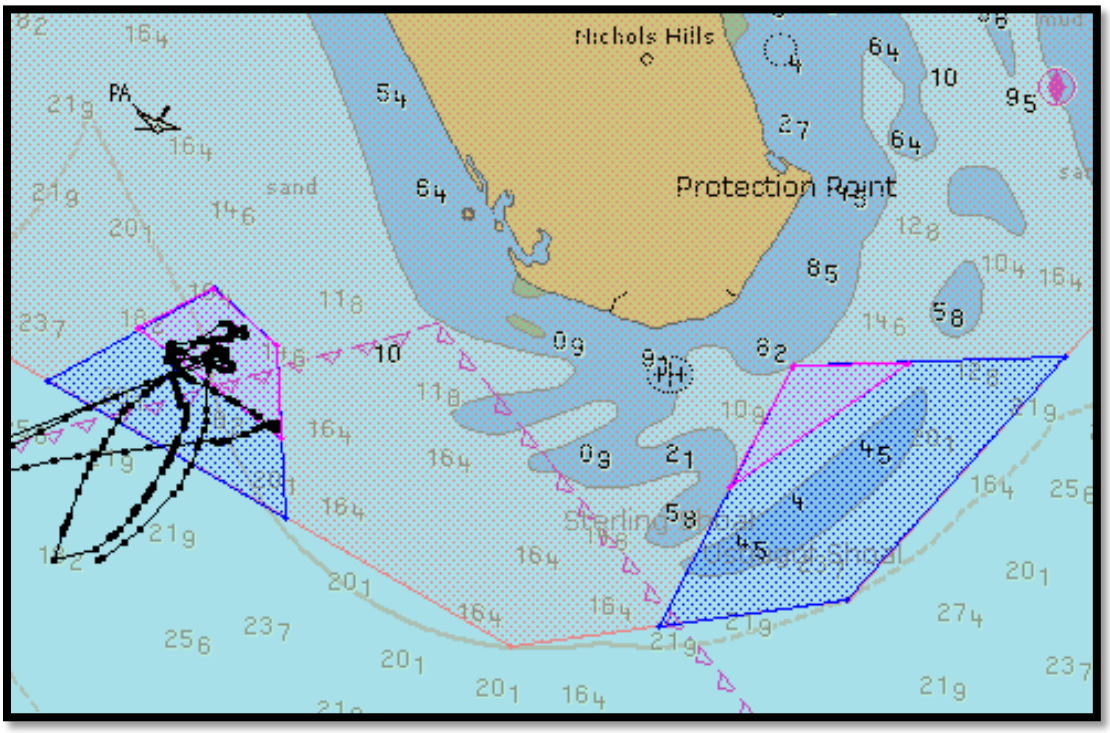
- The Unimak Island lightering area sees seasonal STS and STB.
  - Urilla Bay – 54.981554 -164.310150, Depth – 32 fathoms
  - Dublin Bay – 54.720456 -164.805908, Depth – 45 fathoms
- Lightering operations do not require pilotage
- The Unimak Island lightering area is:
  - Urilla Bay
    - 101 air miles from the nearest Alaska Chaduŷ Network Response Hub in Unalaska
    - 103 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
    - 161 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in King Cove
  - Dublin Bay
    - 78 air miles from the nearest Alaska Chaduŷ Network Response Hub in Unalaska
    - 80 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
    - 137 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in King Cove
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Aleutians Geographic Response Strategies: East A Zone
    - None

P-3 – Egegik



- The Egegik lightering area sees seasonal STB.
  - Egegik North – 58.389477 -157.722473, Depth – 10 fathoms
  - Egegik South – 58.187357 -157.727966, Depth – 8 fathoms
- Lightering operations do not require pilotage
- The Egegik lightering area is:
  - Egegik North
    - 46 air miles from the nearest Alaska Chaduˆ Network Response Hub in Dillingham.
    - 401 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
  - Egegik South
    - 57 air miles from the nearest Alaska Chaduˆ Network Response Hub in Dillingham.
    - 392 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Bristol Bay Geographic Response Strategies: Northern Zone
    - N-12 Egegik Bay
    - N-13 South Spit

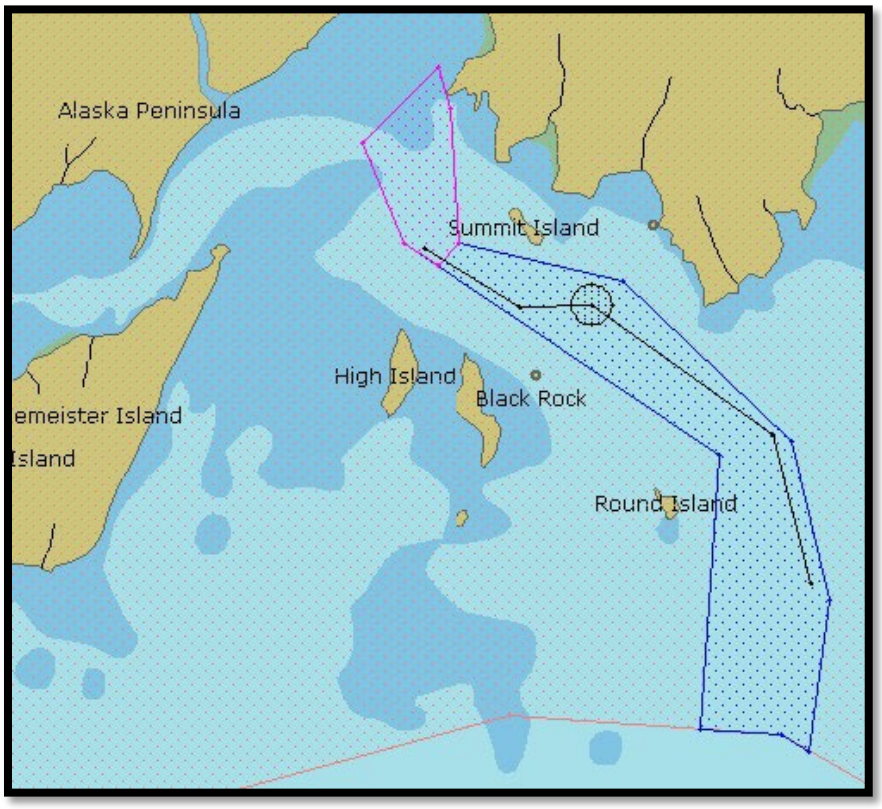
P-4 – Bristol Bay North



- The Bristol Bay North lightering area sees seasonal STB and STS.
  - Cape Constantine West – 58.386058 -159.427071, Depth – 32 fathoms
    - ***Note: Seasonal commercial fishing activities occur in the Cape Constantine West lightering area between April 1 and June 15, a period during which anchoring may intersect with fishing operations.***
    - ***For tanker information in the area, contact the ACN Monitoring Center at 907-348-2300.***
  - Cape Constantine East – 58.359953 -158.715363, Depth – 15 fathoms
- Lightering operations do not require pilotage
- Consider tidal currents prior to operations
- The Bristol Bay North lightering area is:
  - Cape Constantine West
    - 48 air miles from the nearest Alaska Chaduˆ Network Response Hub in Dillingham
    - 360 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
  - Cape Constantine East
    - 42 air miles from the nearest Alaska Chaduˆ Network Response Hub in Dillingham
    - 375 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: Handy Tanker, Barge

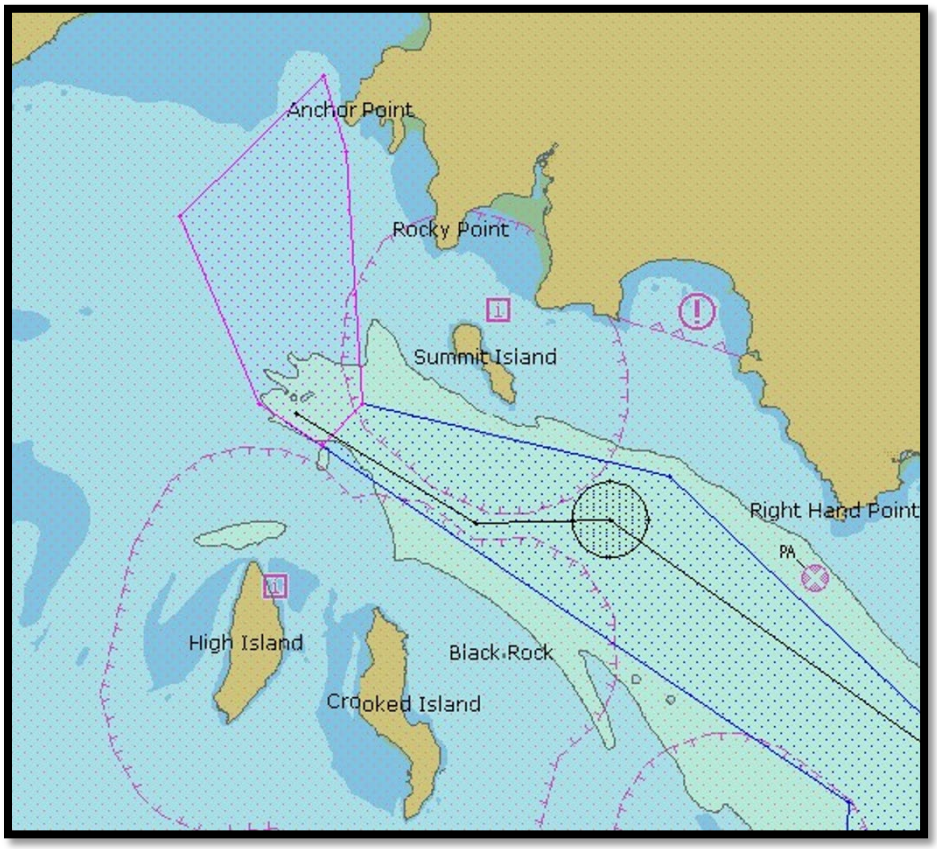
- **Geographic Response Strategies**
    - Bristol Bay Geographic Response Strategies: Northern Zone
        - N-07 Round Island
        - N-08 Kulukak & Qaniq River
        - N-09 Igushik River

P-5 – Togiak Bay



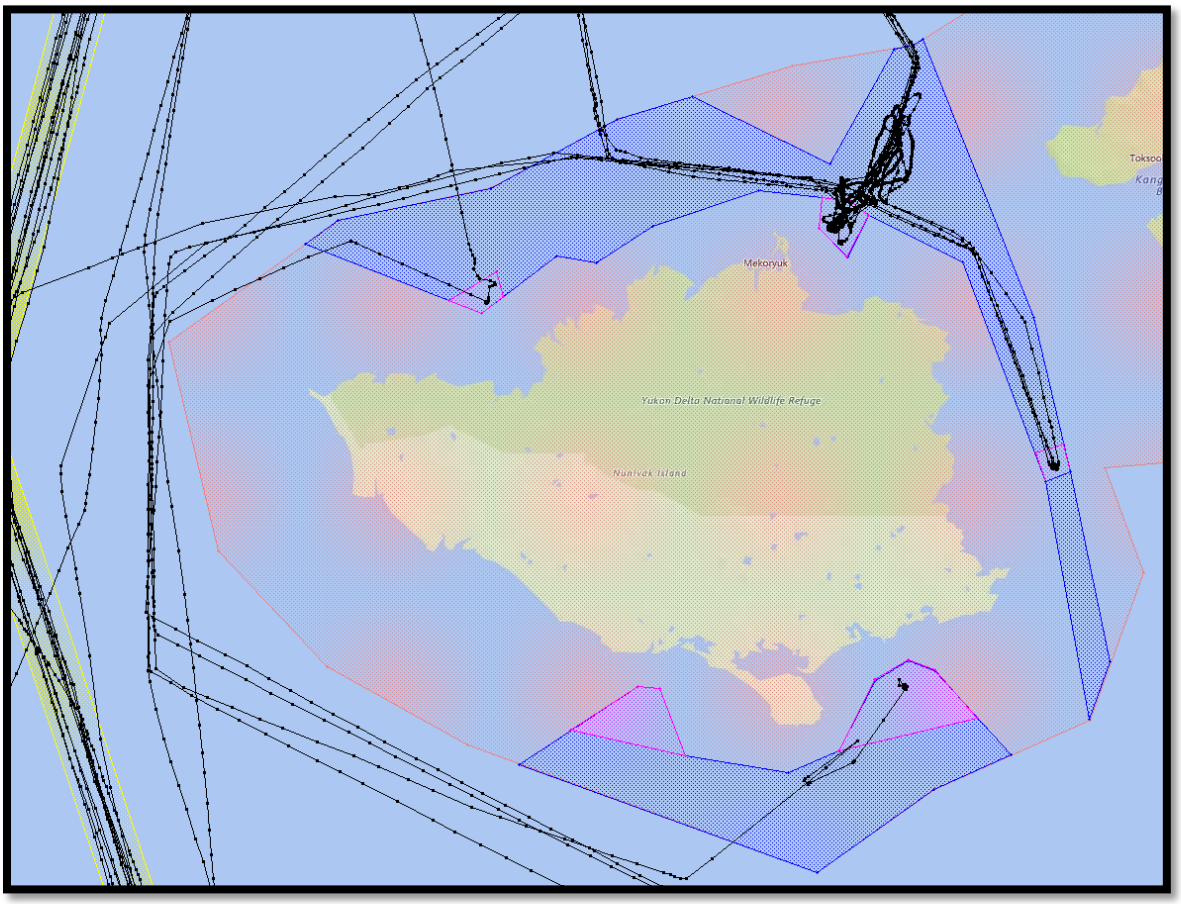
- The Togiak/Summit Island area location sees seasonal STS and STB.
  - Togiak/Summit Island – 58.830671 -160.348635 – 20 fathoms
- Lightering operations requires pilotage
- Tank vessel Masters shall not proceed inbound to Pilot Station without prior approval from the vessel charterer or pilot.
- Togiak Bay Pilot Station: 4.1nm, 140 degrees from Summit Island, 58.766667 -160.1
  - Recommended approach to pilot station:
    - 58.535583 -159.750000 (346°T @ 7.67nm)
    - 58.659120 -159.811250 (306°T @ 11.1nm)
    - 58.766667 -160.1
  - Recommended route from pilot station to lightering area:
    - 58.766667 -160.100000 (269°T @ 3.58nm)
    - 58.765213 -160.214680 (301°T @ 5.56nm)
    - 58.813333 -160.366700
- Vessels shall not proceed inbound beyond the Pilot Station unless under the direction of an Alaska Marine Pilot.
- Pilotage waters for Togiak Bay include all waters inside a line extending from Cape Pierce to Cape Constantine
- Tank vessels awaiting permission to proceed to the Pilot Station shall not anchor inside of pilotage waters

- When weather and/or sea conditions preclude pilot vessels from reaching the tank vessel, tugs will be available to deliver pilots to the tank vessel.
- See below chart with route approach in black and new pilot location located at the center of the black circle at 58.766667 -160.1



- Consider tidal currents prior to operations
- The Togiak Bay lightering area is:
  - 57 air miles from the nearest Alaska Chaduĥ Network Response Hub in Dillingham.
  - 390 nautical miles from the nearest Alaska Chaduĥ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Bristol Bay Geographic Response Strategies: Northern Zone
    - N-01 Osviak River
    - N-02 Matugaq (Matogak) River
    - N-03 Kuigmi (Quigmy) River
    - N-04 Kurtluk River
    - N-05 Togiak River
    - N-06 Unagalaqliq Bay
    - N-07 Round Island
    - N-08 Kulukak & Qaniq River

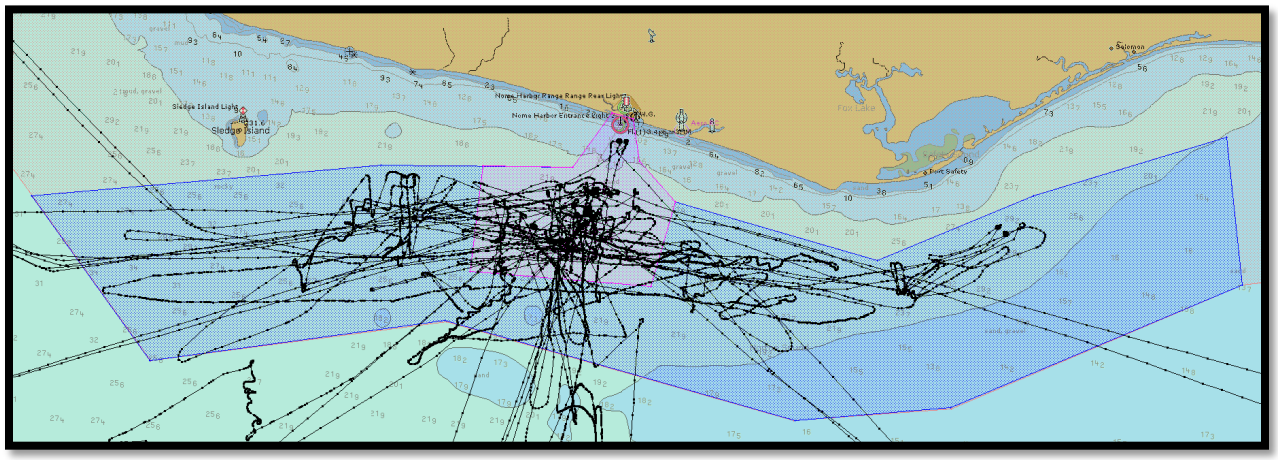
P-6 – Nunivak Island



- The Nunivak Island lightering area sees seasonal STB.
    - Nunivak Island Northwest – 60.330166 -166.964722 – 20 fathoms
    - Nunivak Island Northeast – 60.448414 -165.982819 – 7 fathoms
    - Nunivak Island East – 60.106617 -165.389557 – 12 fathoms
    - Nunivak Island South/Cape Mendenhall – 59.799598 -165.804291 – 13 fathoms
- Lightering operations do not require pilotage
- No M.R. tank vessels conduct lightering operations in Nunivak Island East
- Special restrictions: For tank vessels accessing the Nunivak Island East lightering location, transit to this location may only occur from the North or the South. If the tank vessel transits from the North to access the Nunivak Island East lighter location, the tank vessel must depart to the North. The same goes for tank vessels accessing from the South. There are no transits permitted through Etolin Strait to access other lightering locations.
- The Nunivak Island lightering area is:
    - Nunivak Island Northwest
        - 154 air miles from the nearest Alaska Chaduŷ Network Response Hub in Bethel

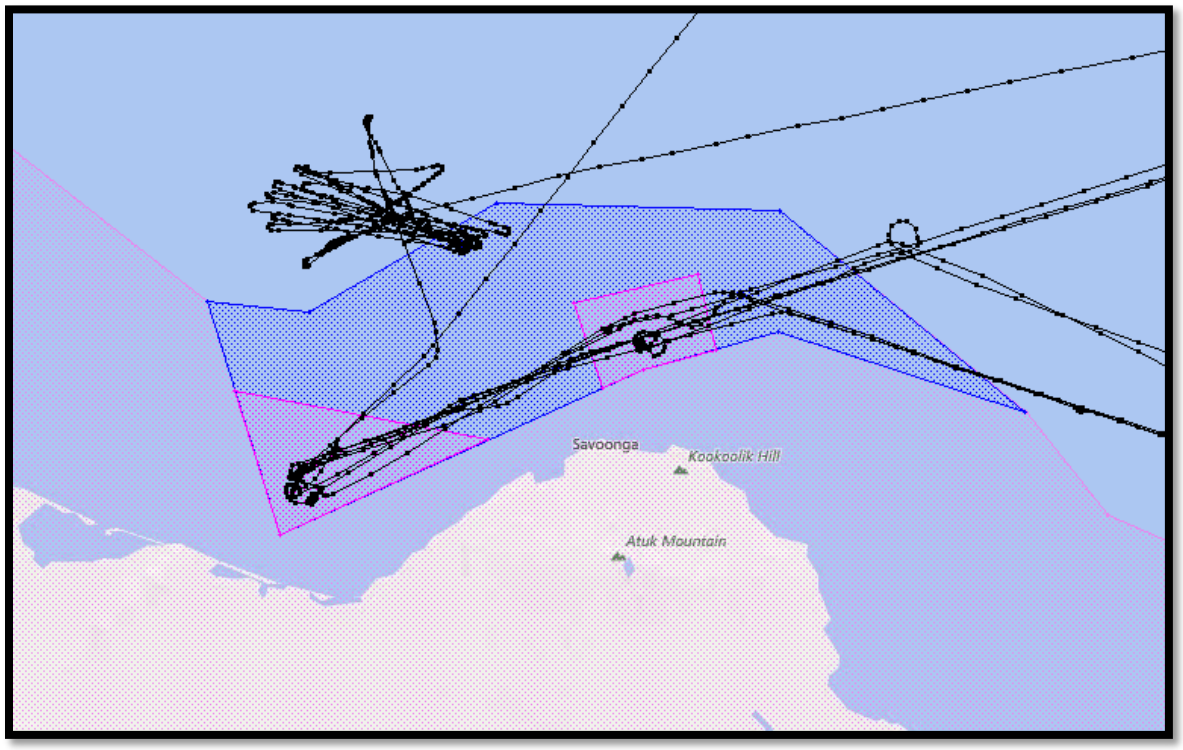
        - 428 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
        - 253 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in Nome
    - Nunivak Island Northeast
        - 123 air miles from the nearest Alaska Chaduŷ Network Response Hub in Bethel
        - 465 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
        - 248 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in Nome
    - Nunivak Island East
        - 112 air miles from the nearest Alaska Chaduŷ Network Response Hub in Bethel
        - 380 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
        - 272 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in Nome
    - Nunivak Island South/Cape Mendenhall
        - 132 air miles from the nearest Alaska Chaduŷ Network Response Hub in Bethel
        - 355 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
        - 332 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Western Alaska Geographic Response Strategies: Island Zone
        - I-03 Shoal Bay/Mekoryuk River
        - I-04 Iookswarat Bay/Jewoak Creek/Anluk Creek
        - I-05 Nariksmiut/Ahding River
        - I-06 Nash Harbor
        - I-07 Duchikthluk Bay
        - I-08 Nunarriugarmiut Lagoon
        - I-09 Kaliksneethnook River Area
        - I-10 Koweejoongak River/Vakeekalik Creek
    - Western Alaska Geographic Response Strategies: Southern Zone
        - S-01 Kangirlvar Bay
        - S-02 Kolavinarak River
        - S-03 Kinia River
        - S-04 Kinak Bay
        - S-05 Kikegtek & Pingurbek Island

P-7 – Nome



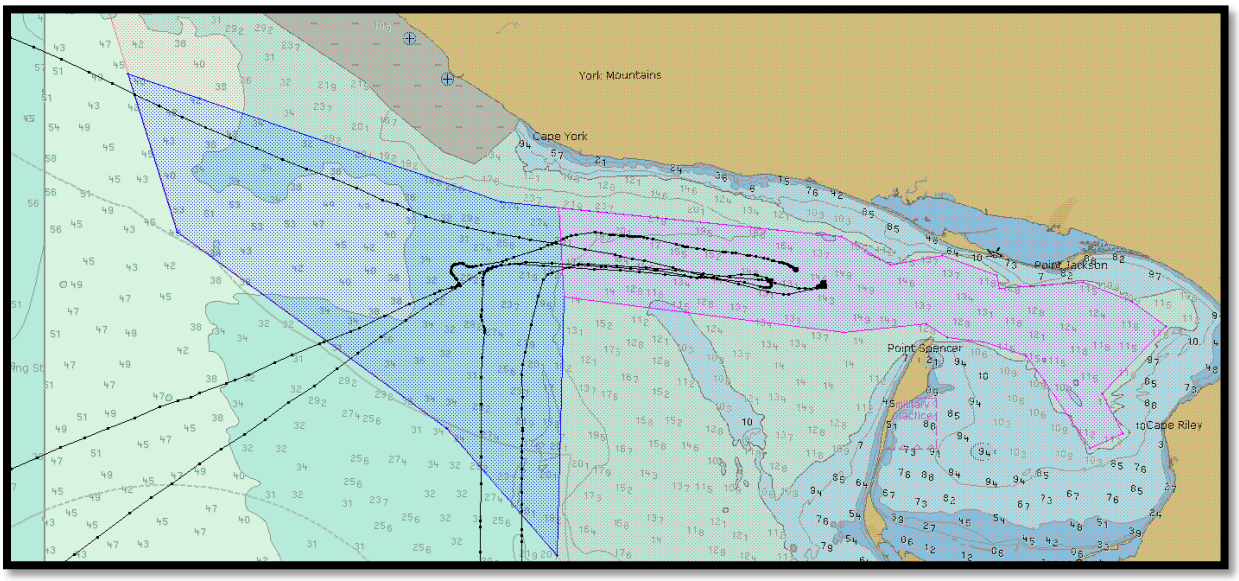
- The Nome lightering area sees seasonal STS and STB.
  - Nome Lightering – 64.433707 -165.488262 – 13 fathoms
- Lightering operations requires pilotage
- Vessel masters should be aware of small vessels conducting gold miner operations that frequent the waters around Nome.
- The Nome lightering area is:
  - 0 air miles from the nearest Alaska Chaduχ Network Response Hub in Nome
  - 645 nautical miles from the nearest Alaska Chaduχ Network Response Hub with VOO capabilities in Unalaska
  - 0 nautical miles from the Alaska Chaduχ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Northwest Arctic Geographic Response Strategies: Southern Zone
    - S-12 Sinuk River
    - S-13 Cripple Creek Penny River
    - S-14 Snake River & Nome Harbor
    - S-15 Nome River
    - S-16 Safety Sound
    - S-17 Solomon & Bonanza Rivers
    - S-38 Hastings Creek
    - S-39 Topkok Head & River

P-8 – Saint Lawrence Island North



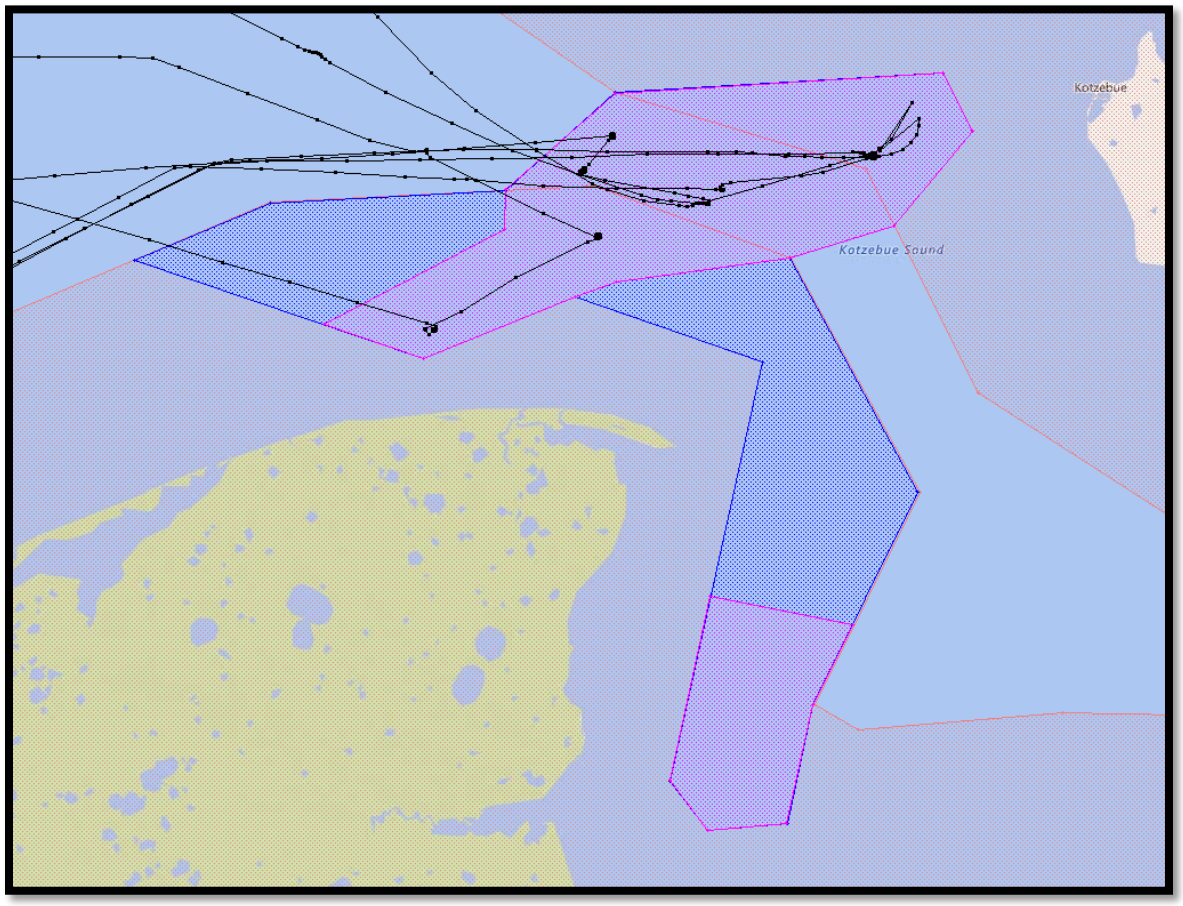
- The Saint Lawrence Island North lightering area sees seasonal STB and STS.
  - Saint Lawrence Island North– 63.650526 -170.995331 – 22 fathoms
- Lightering operations do not require pilotage
- The Saint Lawrence Island North lightering area is:
  - 154 air miles from the nearest Alaska Chaduҳ Network Response Hub in Nome
  - 675 nautical miles from the nearest Alaska Chaduҳ Network Response Hub with VOO capabilities in Unalaska
  - 155 nautical miles from the Alaska Chaduҳ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Northwest Arctic Geographic Response Strategies: Saint Lawrence Island Zone
    - SL-05 Kentanga Bay
    - SL-06 Kangii Bay Lagoon
    - SL-07 Nayghapak & Aghnak Lagoon
    - SL-08 Northwest Cape/Gambell
    - SL-15 Stolbi Rocks
    - SL-16 Kukulek Cape/Savoonga

P-9 – Port Clarence/Wales



- The Port Clarence/Wales lightering area sees seasonal STB.
  - Port Clarence/Wales– 65.314124 -167.016907 – 14 fathoms
  - Port Clarence Bay– 65.280550 -166.604233 – 11 fathoms
- Lightering operations requires pilotage and State Plan Approval inside Port Clarence Bay
- The Port Clarence/Wales lightering area is:
  - 63 air miles from the nearest Alaska Chaduŝ Network Response Hub in Nome
  - 696 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 104 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
  - Northwest Arctic Geographic Response Strategies: Southern Zone
    - S-06 Brevig Lagoon
    - S-07 Grantley Harbor
    - S-08 Cape Riley
    - S-09 Jones Point
    - S-34 Wales/Cape Prince of Wales
    - S-35 Port Clarence Beach
    - S-36 King Island

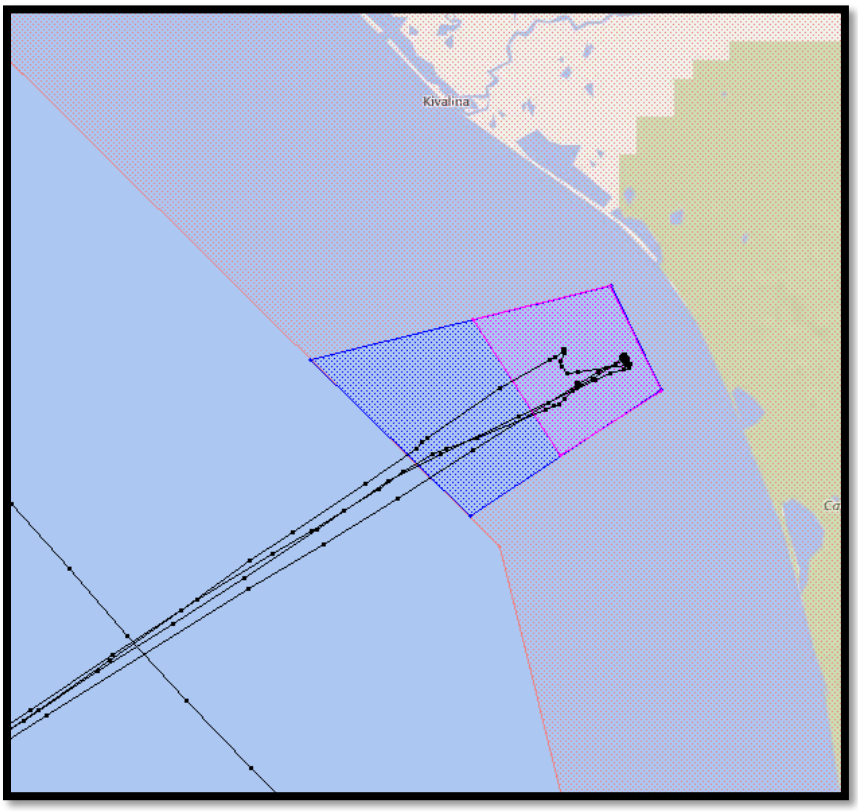
P-10 – Kotzebue Sound



- The Kotzebue Sound lightering area sees seasonal STB and STS.
  - Kotzebue – 66.836246 -163.144226 – 12 fathoms
  - Good Hope Bay – 66.331441 -163.410645 – 7 fathoms
- Lightering operations requires pilotage and there are draught restrictions in the Good Hope Bay lightering area only.
- The Kotzebue Sound lightering area is:
  - Kotzebue
    - 14 air miles from the nearest Alaska Chaduˆ Network Response Hub in Kotzebue
    - 875 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
    - 255 nautical miles from the Alaska Chaduˆ Network Response Hub with additional VOO capabilities in Nome
  - Good Hope Bay
    - 39 air miles from the nearest Alaska Chaduˆ Network Response Hub in Kotzebue

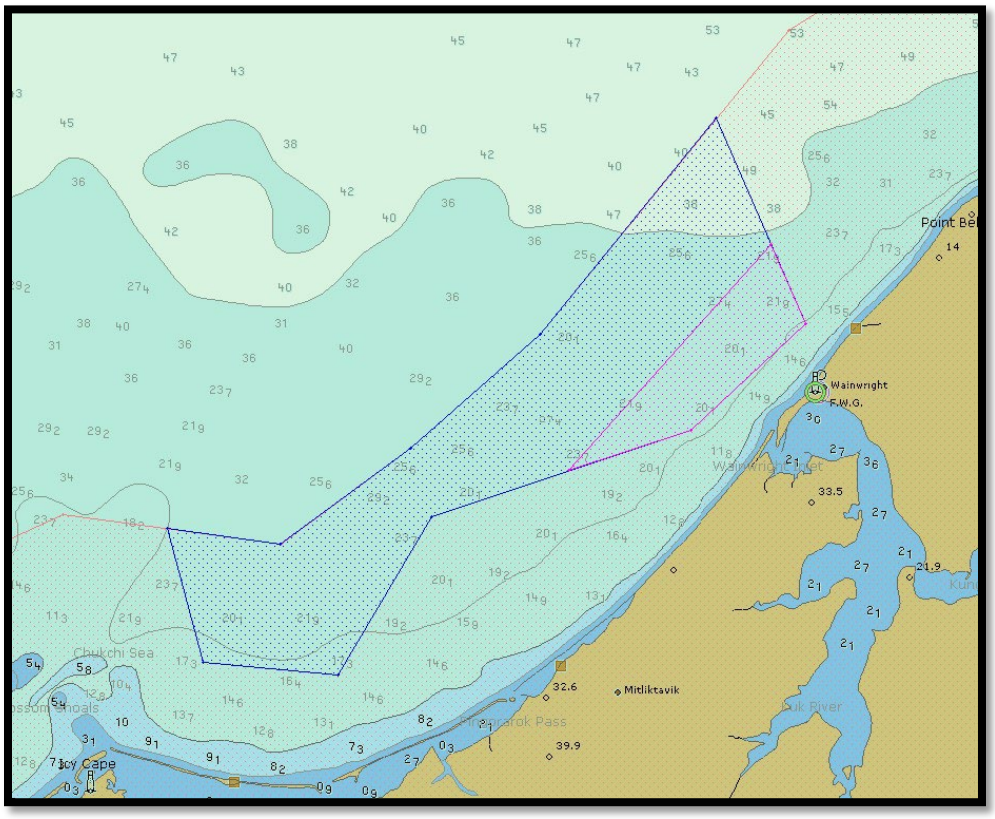
        - 906 nautical miles from the nearest Alaska Chaduŷ Network Response Hub with VOO capabilities in Unalaska
        - 291 nautical miles from the Alaska Chaduŷ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
    - Northwest Arctic Geographic Response Strategies: Northern Zone
        - N-01 Singoalik Lagoon
        - N-02 Taksikpak Lagoon
        - N-03 Asipak River Lagoon
        - N-04 Kivalina River/Wulik River
        - N-05 Ipiavik Lagoon
        - N-06 Rabbit Creek & Imik Lagoon
        - N-07 Jade Creek & Kotlik Lagoon
        - N-08 Krusenstern & Aukulak Lagoons
        - N-09 Sheshalik Spit
        - N-10 Noatak River Delta
        - N-11 Little Noatak Slough
        - N-12 Ekichuk Lake
        - N-13 Kobuk River Delta
        - N-14 Mukuksok Channel
        - N-15 Selawik River Delta
        - N-16 Mangoak Creek
        - N-17 Kotzebue/Pipe Spit
        - N-18 Eschscholtz Bay/Buckland River
        - N-19 Chamisso & Puffin Islands
        - N-20 Kiwalik Lagoon
        - N-21 Inmachuk River/Cape Deceit
        - N-22 Nugnugluktuk River & Kougachuk Creek
        - N-23 Cape Espenberg
        - N-24 Tasaychek Lagoon
        - N-25 Nelson Creek
        - N-26 Melvin River
        - N-27 Lewis Rich Channel
        - N-28 Riley Wreck
        - N-29 Choris Peninsula
        - N-30 Willow Bay
        - N-31 Goodhope River
        - N-32 Kitluk River

P-11 – Red Dog Mine



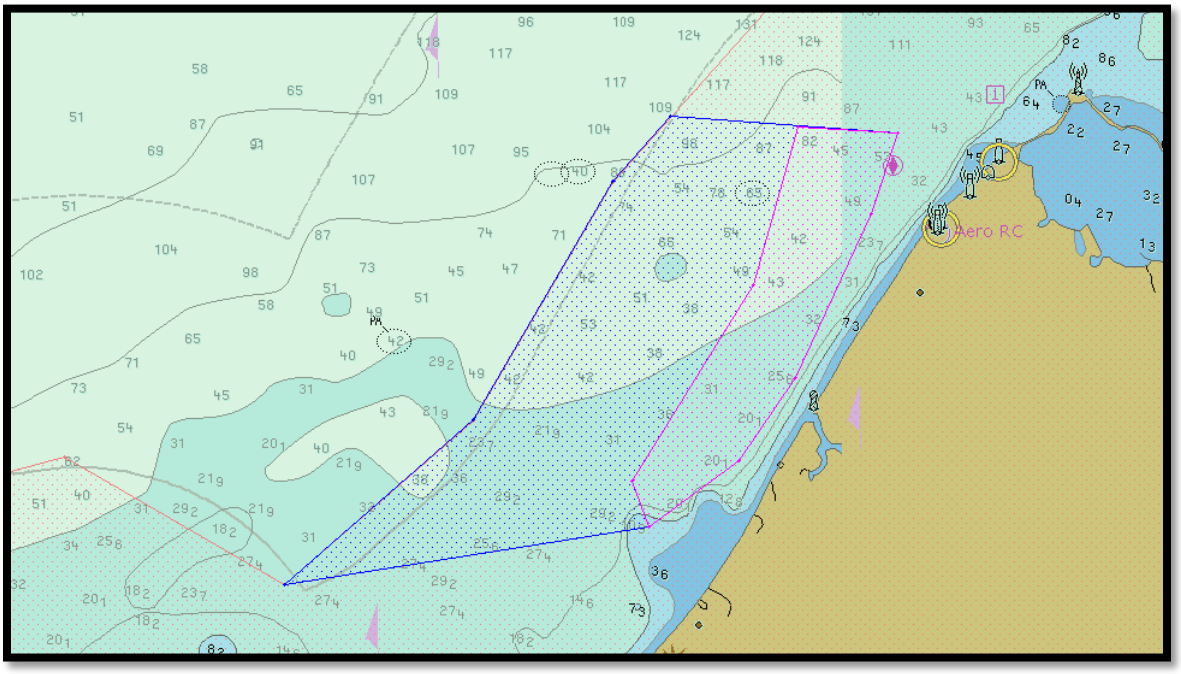
- The Red Dog Mine lightering area sees seasonal STB.
  - Red Dog Mine – 67.532722 -164.207153 – 17 fathoms
- Lightering operations requires pilotage
- The Red Dog Mine lightering area is:
  - 56 air miles from the nearest Alaska Chaduŝ Network Response Hub in Kotzebue
  - 870 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 290 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
  - Northwest Arctic Geographic Response Strategies: Northern Zone
    - N-01 Singoalik Lagoon
    - N-02 Taksikpak Lagoon
    - N-03 Asipak River Lagoon
    - N-04 Kivalina River/Wulik River
    - N-05 Ipiavik Lagoon
    - N-06 Rabbit Creek & Imik Lagoon
    - N-07 Jade Creek & Kotlik Lagoon
    - N-24 Tasaychek Lagoon

P-12 – Icy Cape/Wainwright



- The Icy Cape/Wainwright lightering area sees seasonal STB.
    - Icy Cape/Wainwright – 70.333333 -161.333333 – 8 fathoms
- Lightering operations do not require pilotage
- The Icy Cape/Wainwright lightering area is:
    - 116 air miles from the nearest Alaska Chaduĥ Network Response Hub in Utqiaġvik
    - 1,100 nautical miles from the nearest Alaska Chaduĥ Network Response Hub with VOO capabilities in Unalaska
    - 512 nautical miles from the Alaska Chaduĥ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR, Handy, Barge
- **Geographic Response Strategies**
    - North Slope Geographic Response Strategies: Chukchi Zone
        - C-6 Seahorse Islands
        - C-7 Kugrua Bay
        - C-8 Wainwright Inlet/Kuk River
        - C-9 Nokotlek River
        - C-10 Avak River
        - C-11 Kasegaluk Lagoon
        - C-12 Icy Cape Pas

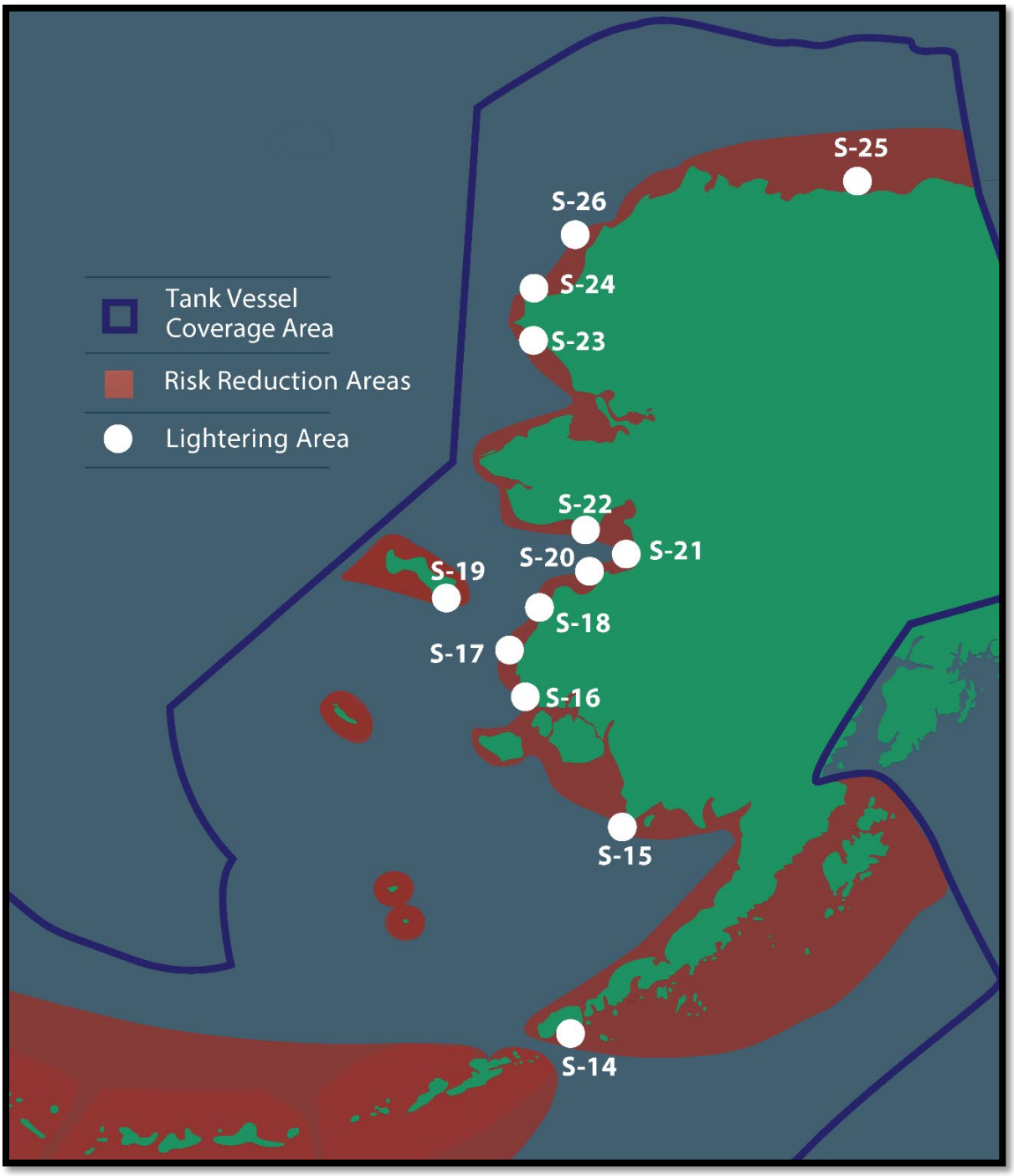
P-13 – Utqiaġvik



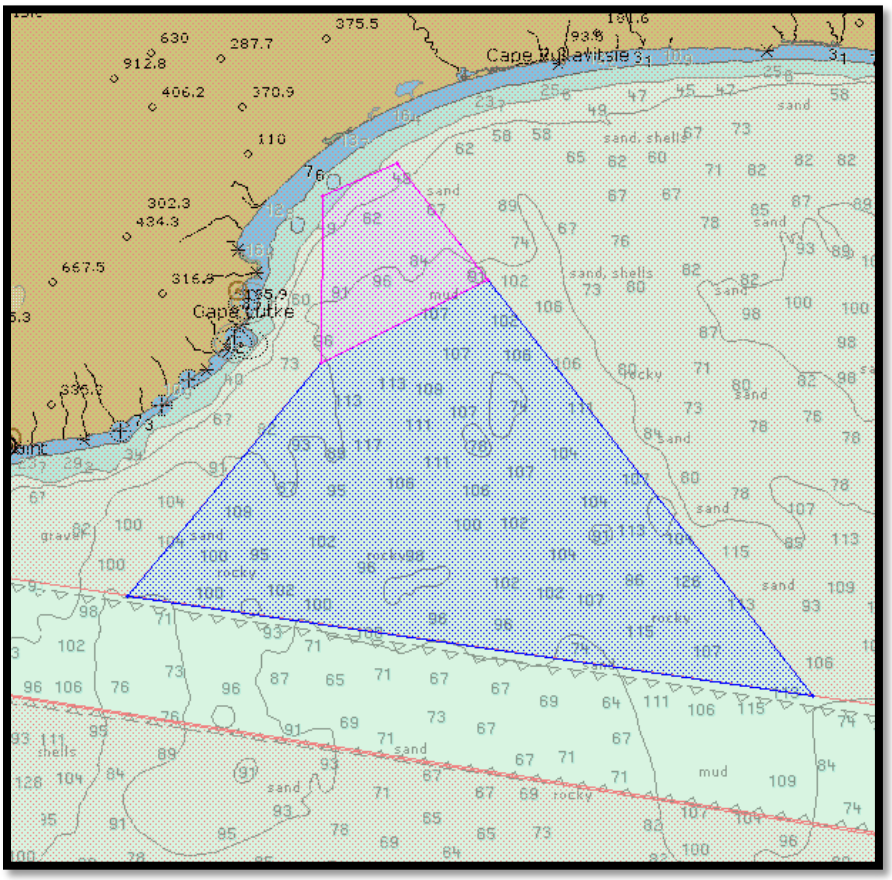
- The Utqiaġvik lightering area sees seasonal STB and STS.
  - Utqiaġvik – 71.295614 -157.003899 – 45 fathoms
- Lightering operations do not require pilotage
- The Utqiaġvik lightering area is:
  - 0 air miles from the nearest Alaska Chaduχ Network Response Hub in Utqiaġvik
  - 1,175 nautical miles from the nearest Alaska Chaduχ Network Response Hub with VOO and VOO capabilities in Unalaska
  - 583 nautical miles from the Alaska Chaduχ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR, Handy, Barge
- **Geographic Response Strategies**
  - North Slope Geographic Response Strategies: Chukchi Sea Zone
    - C-1 Avak Creek
    - C-2 Mayoeak River
    - C-3 Ikpik Slough
    - C-4 Nunavak Bay
    - C-5 Walakpa River

Secondary Lightering Areas

The following areas are defined as secondary lightering areas, ones to be used when weather and sea conditions do not allow primary lightering areas to be used. These lightering areas have gone through the same review and risk assessment process as all primary lightering areas and the establishment of new secondary lightering areas will follow the same process as defined in the subsequent section titled *Establishing A New Lightering Area*.

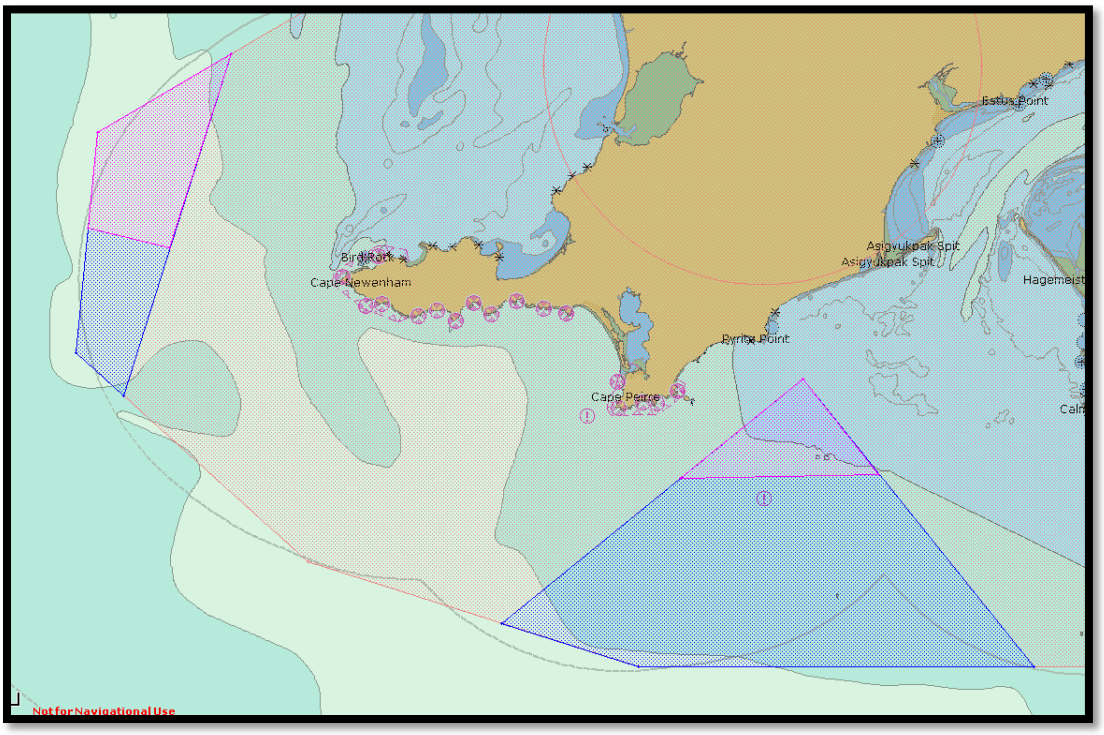


S-14 – Unimak Bight



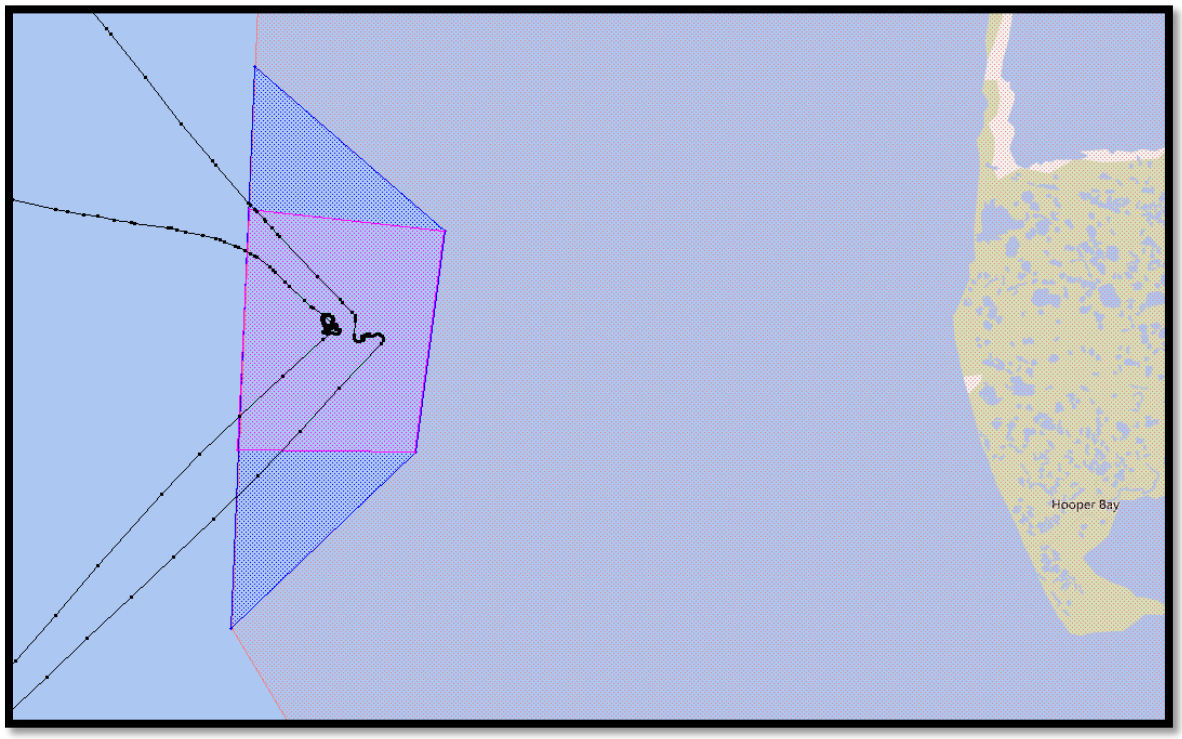
- The Unimak Bight lightering area sees seasonal STS and STB.
    - Unimak Bight – 54.5241667, -164.2083333 – 22 fathoms
- Lightering operations do not require pilotage
- The Unimak Bight lightering area is:
    - 90 air miles from the nearest Alaska Chaduˆ Network Response Hub in Unalaska
    - 108 nautical miles from the nearest Alaska Chaduˆ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Aleutians Geographic Response Strategies: East A Zone
        - None

S-15 – Security Cove



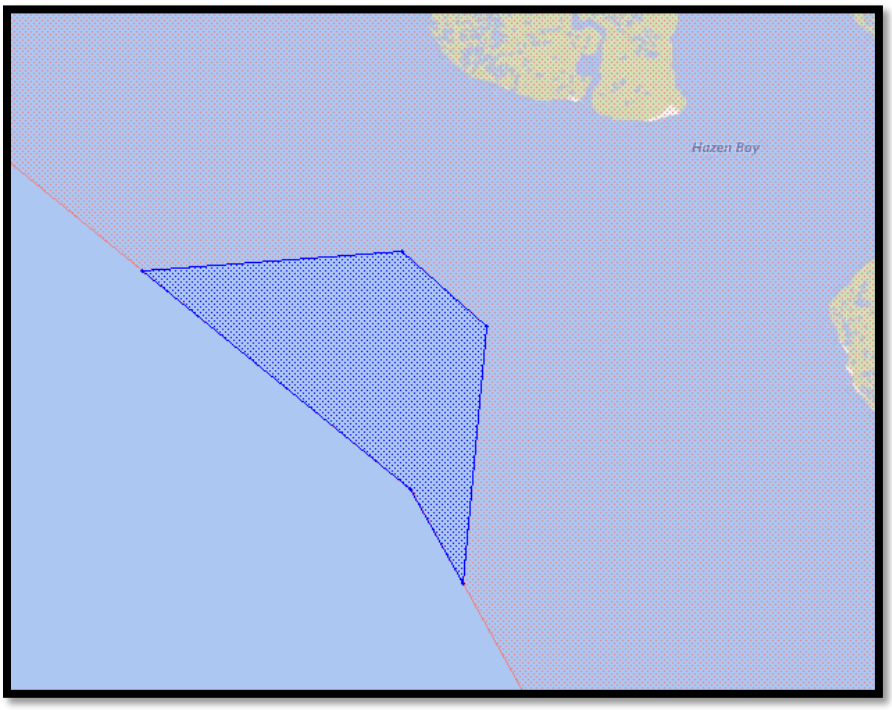
- The Security Cove lightering location sees seasonal STB.
  - Platinum – 58.738994 -162.455521 – 45 fathoms
  - Pyrite Point – 58.546045 -161.552582 – 8 fathoms
- Lightering operations do not require pilotage
- The Security Cove lightering location is:
  - Platinum
    - 48 air miles from the nearest Alaska Chaduĥ Network Response Hub in Dillingham
    - 322 nautical miles from the nearest Alaska Chaduĥ Network Response Hub with VOO capabilities in Unalaska
  - Pyrite Point
    - 100 air miles from the nearest Alaska Chaduĥ Network Response Hub in Dillingham
    - 325 nautical miles from the nearest Alaska Chaduĥ Network Response Hub with VOO capabilities in Unalaska
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
  - Western Alaska Geographic Response Strategies: Southern Zone
    - S-13 Salmon River
    - S-14 Chagvan Bay
    - S-15 Security Cove
    - S-16 Nanvak Bay

S-16 – Hooper Bay



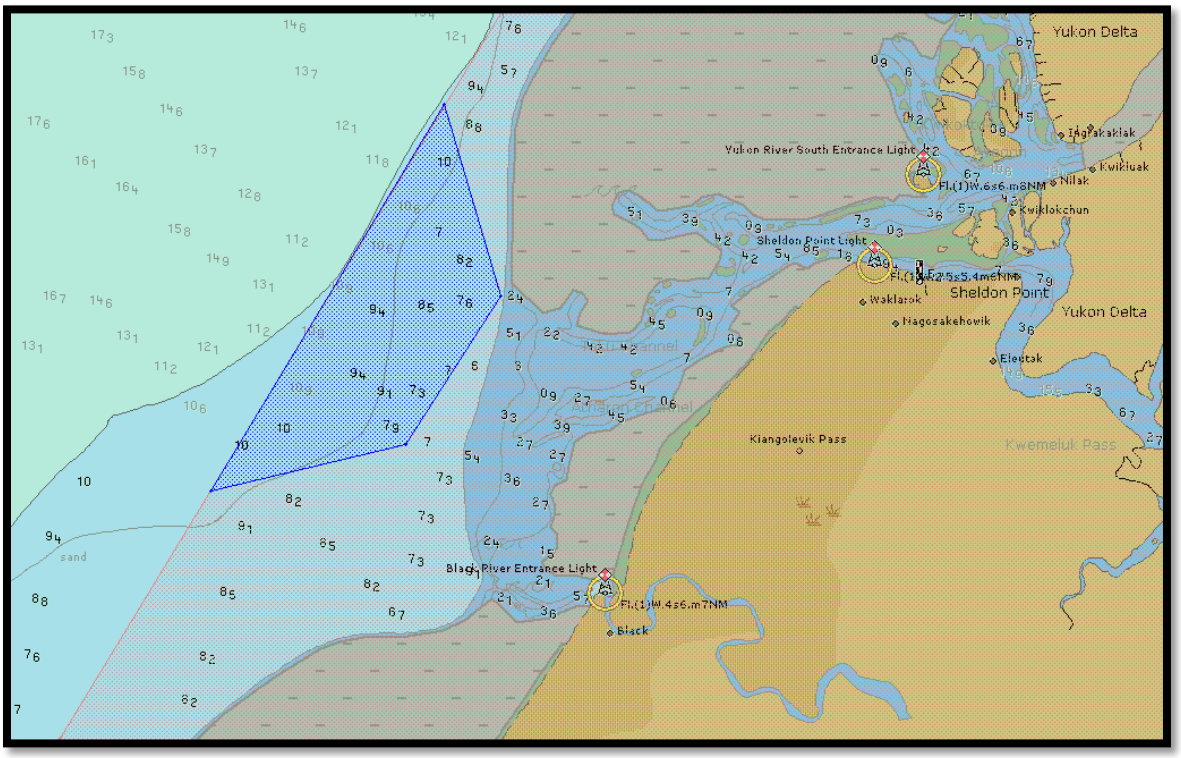
- The Hooper Bay lightering area sees seasonal STB.
  - Hooper Bay – 61.586636 -166.578484 – 30 fathoms
- Lightering operations do not require pilotage
- The Hooper Bay lightering area is:
  - 145 air miles from the nearest Alaska Chaduŝ Network Response Hub in Bethel.
  - 466 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 225 nautical miles from the Alaska Chaduŝ Network Response Hub with VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
  - Western Alaska Geographic Response Strategies: Northern Zone
    - N-05 Kun River
    - N-06 Kokechik Bay
    - N-07 Hooper Bay
    - N-08 Angyoyaravak Bay

S-17 – Hazen Bay



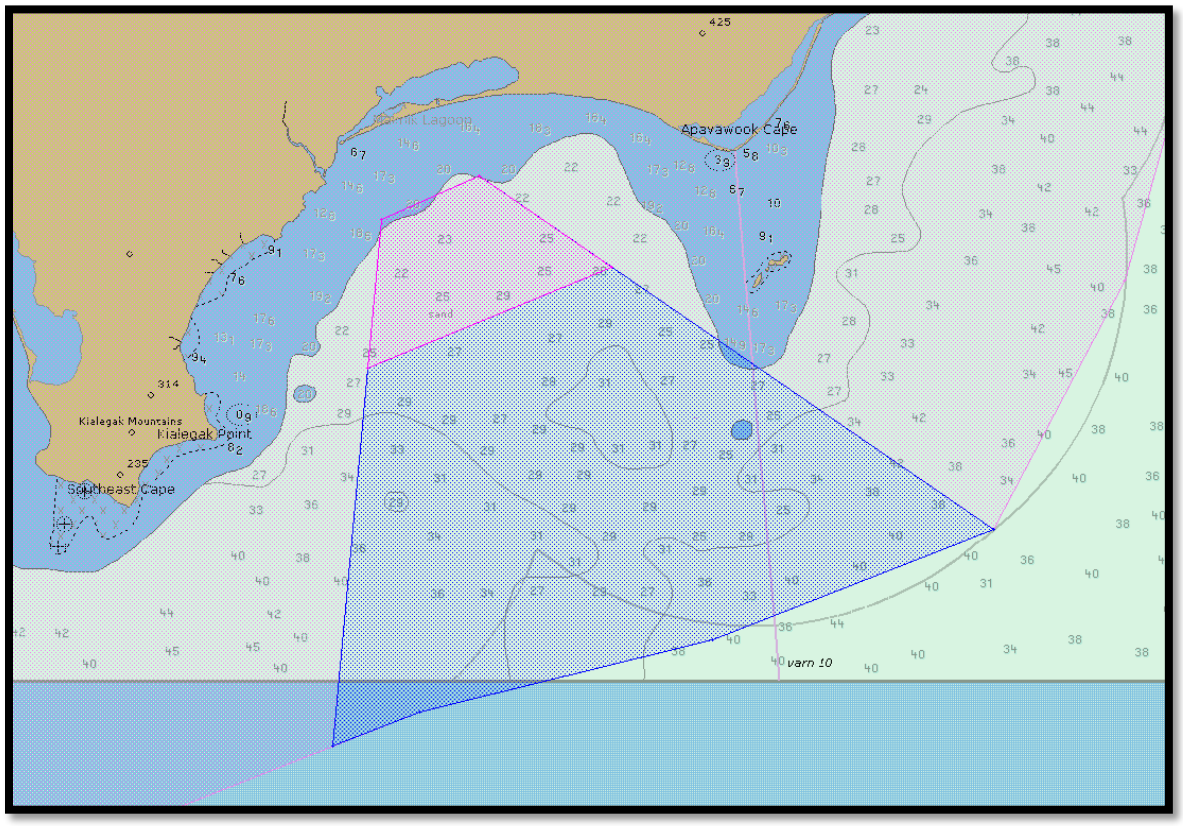
- The Hazen Bay lightering area sees seasonal STB.
  - Hazen Bay – 60.943107 -165.693054 – 16 fathoms
- Lightering operations do not require pilotage
- The Hazen Bay lightering area is:
  - 115 air miles from the nearest Alaska Chaduŝ Network Response Hub in Bethel
  - 475 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 227 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
  - Western Alaska Geographic Response Strategies: Northern Zone
    - N-08 Angyoyaravak Bay
    - N-09 Northern Hazen Bay
    - N-10 Anerkochik/Azun Rivers
    - N-11 Ninglick River
    - N-12 Ikalugtulik River
    - N-13 Tanunak River
    - N-14 Cape Vancouver

S-18 – Yukon Delta



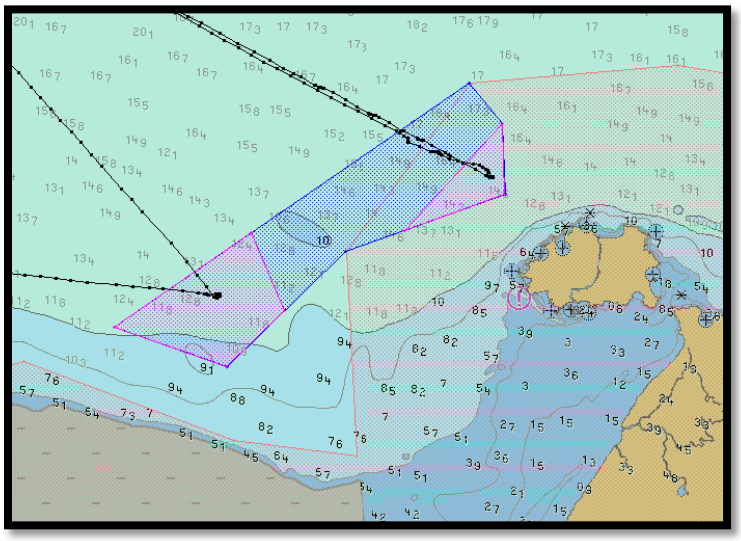
- The Yukon Delta lightering area sees seasonal STB.
    - Yukon Delta – 62.493931 -165.644989 – 10 fathoms
- Lightering operations do not require pilotage
- The Yukon Delta lightering area is:
    - 120 air miles from the nearest Alaska Chaduŝ Network Response Hub in Nome
    - 538 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
    - 120 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Western Alaska Geographic Response Strategies: Northern Zone
        - N-02 Bugomowik Pass & Emmonak Slough
        - N-03 Kwiguk Pass & Kawkhawik Slough
        - N-04 Kwemeluk Pass

S-19 – Saint Lawrence Island SE



- The Saint Lawrence Island SE lightering area sees seasonal STB.
    - Saint Lawrence Island SE – 63.0833333, -169.2283333 – 13 fathoms
- Lightering operations do not require pilotage
- The Saint Lawrence Island SE lightering area is:
    - 132 air miles from the nearest Alaska Chaduŝ Network Response Hub in Nome
    - 561 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
    - 136 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Northwest Arctic Geographic Response Strategies: Saint Lawrence Island Zone
        - SL-01 Petngeghyak Lagoon & River
        - SL-11 Punguuk Islands
        - SL-12 Qilugnaak Lagoon
        - SL-20 Southeast Cape/Sekeunak Lagoon

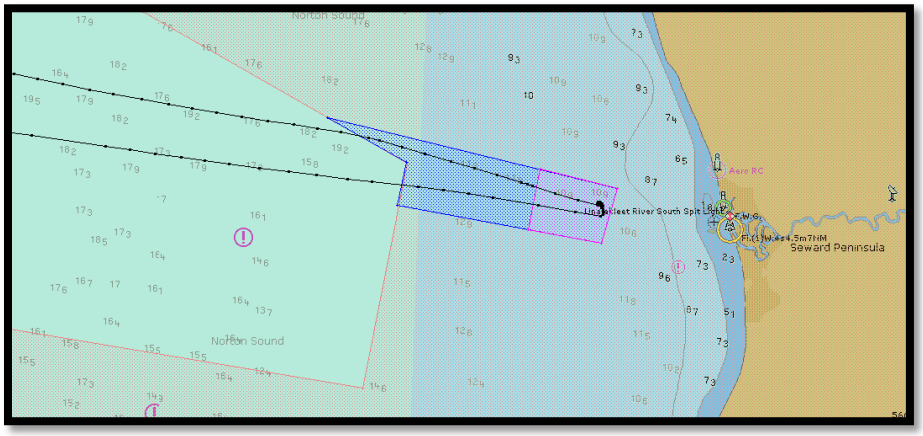
S-20 – St. Michael



- The St. Michael lightering area sees seasonal STB. This is a secondary location if weather does not allow for lightering operations in Nome.
    - St. Michael West – 63.550000 -163.500000 – 12 fathoms
    - St. Michael East – 63.693770 -162.792664 – 14 fathoms
- Lightering operations do not require pilotage
- The St. Michael lightering area is:
    - St. Michael West
        - 75 air miles from the nearest Alaska Chaduŝ Network Response Hub in Nome
        - 634 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
        - 75 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
    - St. Michael East
        - 77 air miles from the nearest Alaska Chaduŝ Network Response Hub in Nome
        - 654 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
        - 84 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Western Alaska Geographic Response Strategies: Northern Zone
        - N-01 Pastolik River/Apoon Mouth
    - Western Alaska Geographic Response Strategies: Southern Zone
        - S-10 Golsovia River
        - S-28 St. Michael Bay

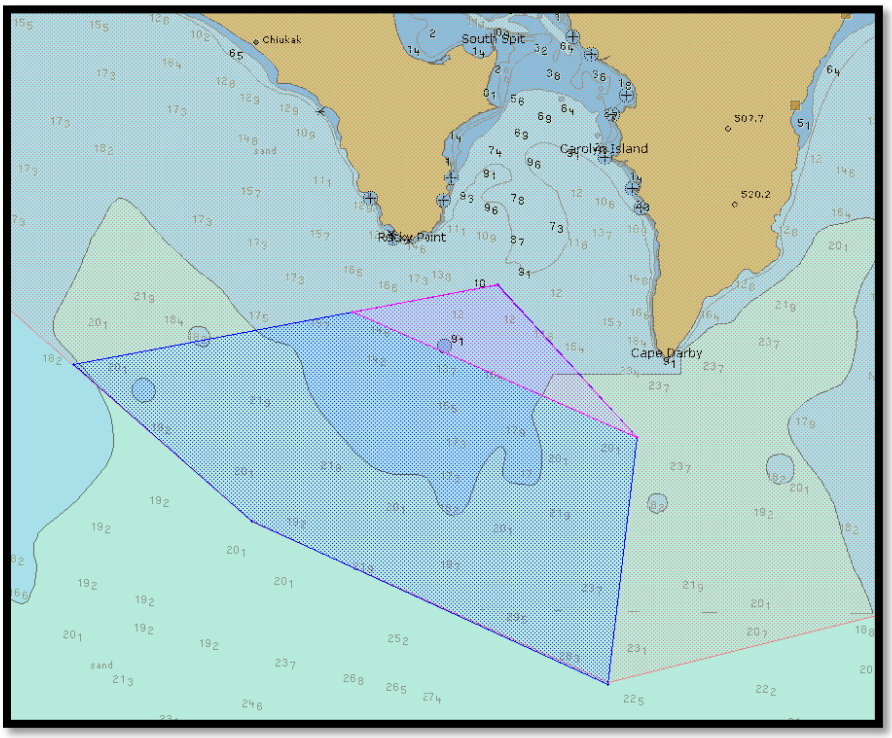
- S-29 St. Michael Canal & Kuiak River
- S-30 Kogok & Pikmiktalik Rivers
- S-51 Klikitarik Bay
- S-52 Egg Island
- S-53 Stuart Island

S-21 – Unalakleet



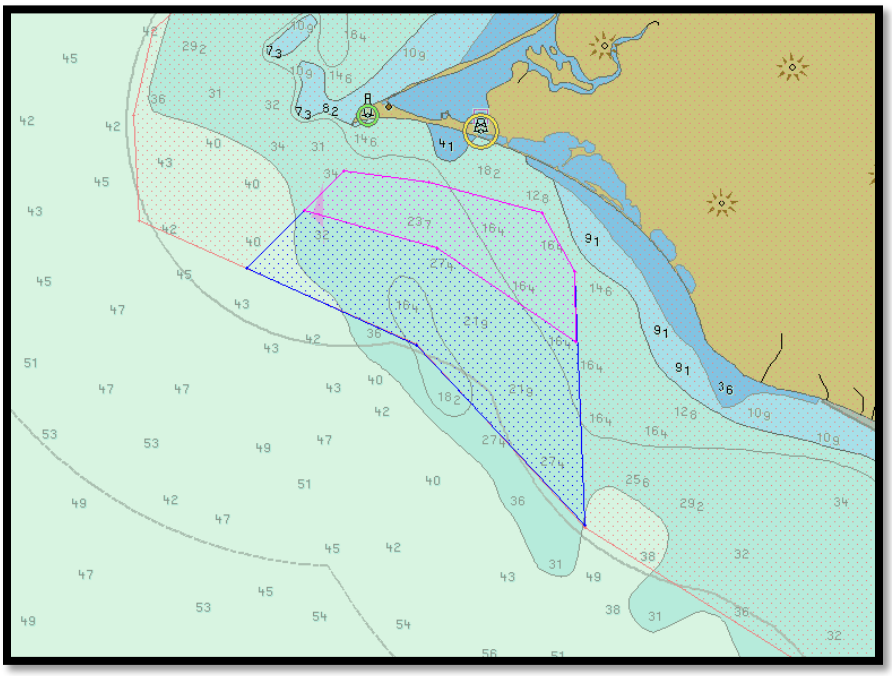
- The Unalakleet lightering area sees seasonal STB. This is a secondary location if weather does not allow for lightering operations in Nome.
    - Unalakleet Lightering – 63.886191 -160.999489 – 10 fathoms
- Lightering operations requires pilotage
- Operators that conduct lightering operations in Unalakleet are to avoid Critical Spectacled Eider Habitat in Eastern Norton Sound. The Memorandum of Understanding was agreed to minimize disturbance and threats to the Spectacled Eider during summer migration, staging, and molting periods within the vicinity of Eastern Norton Sound.
- The Unalakleet lightering area is:
    - 118 air miles from the nearest Alaska Chaduû Network Response Hub in Nome
    - 710 nautical miles from the nearest Alaska Chaduû Network Response Hub with VOO capabilities in Unalaska
    - 122 nautical miles from the Alaska Chaduû Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Western Alaska Geographic Response Strategies: Southern Zone
        - S-10 Golsovia River
        - S-27 Unalakleet
        - S-48 Besboro Island
        - S-49 Egavik River
        - S-50 Spruce & Point Creek
        - S-51 Klikitarik Bay
        - S-52 Egg Island

S-22 – Norton Sound North



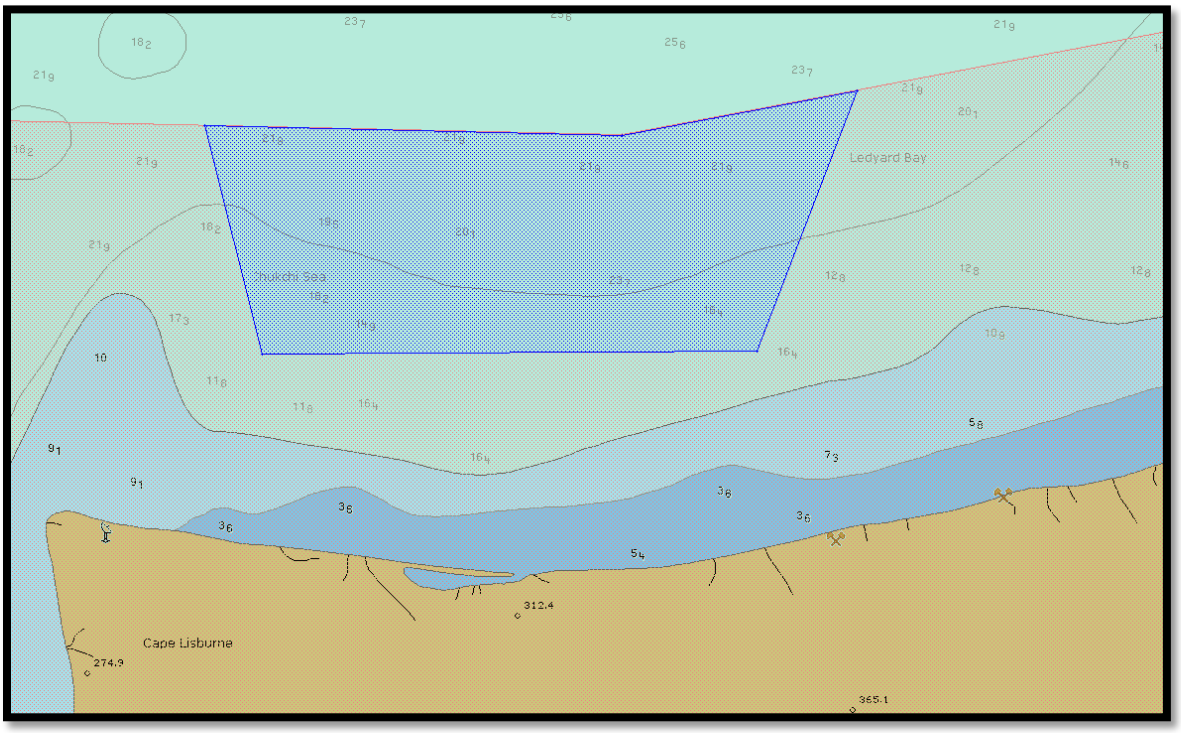
- The Norton Sound North lightering area sees seasonal STB. This is a secondary location if weather does not allow for lightering operations in Nome.
    - Norton Sound North Lightering – 64.031038 -163.315887 – 19 fathoms
- Lightering operations do not require pilotage
- The Norton Sound North lightering area is:
    - 62 air miles from the nearest Alaska Chaduҳ Network Response Hub in Nome
    - 672 nautical miles from the nearest Alaska Chaduҳ Network Response Hub with VOO capabilities in Unalaska
    - 64 nautical miles from the Alaska Chaduҳ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
    - Northwest Arctic Geographic Response Strategies: Southern Zone
        - S-18 Golovnin Lagoon
        - S-40 Bluff Point Sites & Square Rock
        - S-41 Rocky Point
        - S-42 Head of Golovin Lagoon
        - S-43 Cape Darby

S-23 – Point Hope



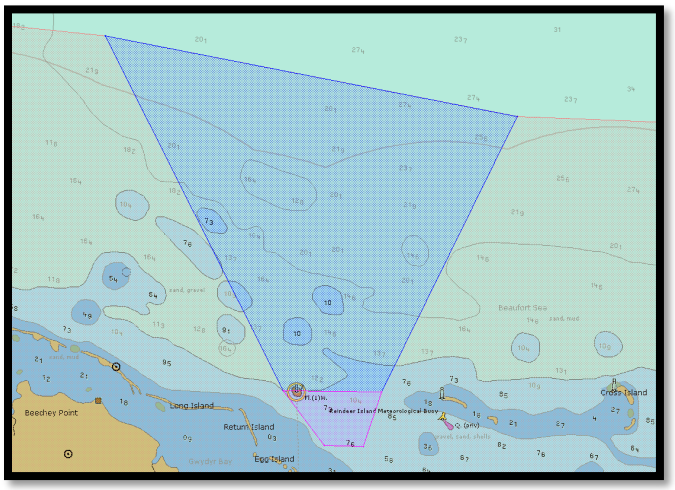
- The Point Hope lightering area sees seasonal STB.
    - Point Hope– 68.285000 -166.726660 – 10 fathoms
- Lightering operations do not require pilotage
- The Point Hope lightering area is:
    - 126 air miles from the nearest Alaska Chaduŝ Network Response Hub in Kotzebue
    - 885 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
    - 299 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: MR Tanker, Handy Tanker, Barge
- **Geographic Response Strategies**
    - North Slope Geographic Response Strategies: Chukchi Zone
        - C-20 Kukpuk River
        - C-21 Marryat Inlet
        - C-22 Cape Thompson

S-24 – Cape Lisburne



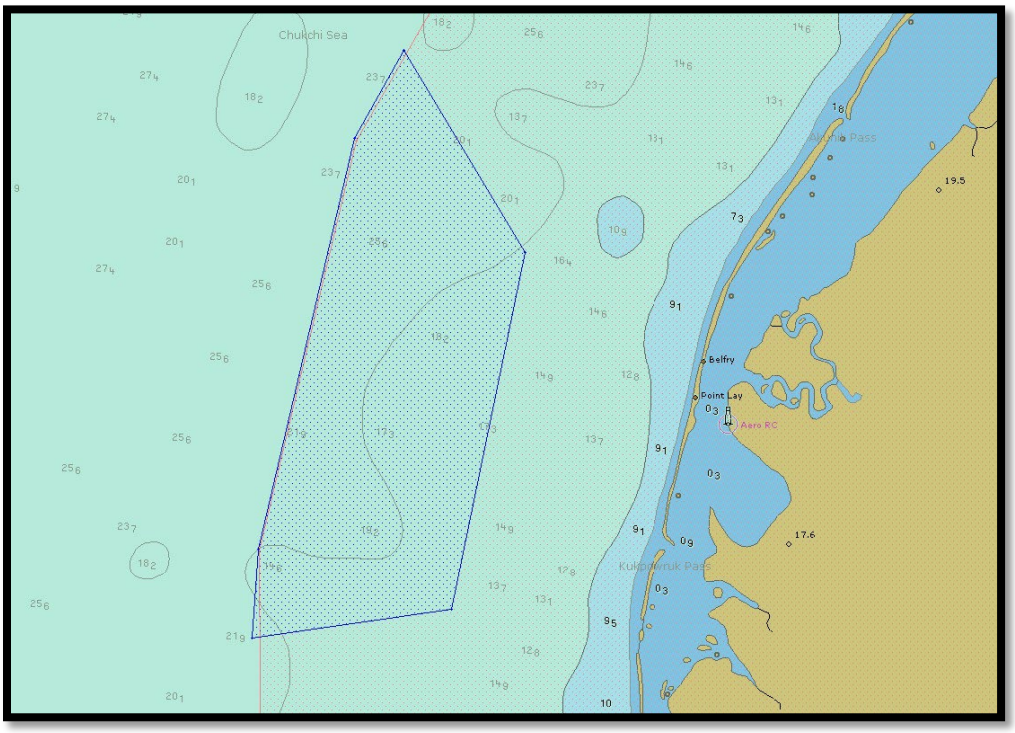
- The Cape Lisburne lightering area sees seasonal STB.
  - Cape Lisburne/Point Lay – 68.928333 -165.717500– 9 fathoms
- Lightering operations do not require pilotage
- The Cape Lisburne lightering area is:
  - 141 air miles from the nearest Alaska Chaduŝ Network Response Hub in Kotzebue
  - 940 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 354 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- Special Restriction: Operators arriving and departing Point Lay on an East West route shall stay offshore as far as practical to avoid walrus haul out areas. Please communicate any sightings of Walrus to **FW7_MMM@fws.gov**
- **Geographic Response Strategies**
  - North Slope Geographic Response Strategies: Chukchi Sea Zone
    - C-17 Pitmegea River
    - C-18 Ayugatak Creek
    - C-19 Cape Lisburne

S-25 – Prudhoe Bay



- The Prudhoe Bay lightering area sees seasonal STB.
  - Prudhoe Bay – 70.46916667 -148.601944444– 5.5 fathoms
- Lightering operations do not require pilotage
- The Prudhoe Bay lightering area is:
  - 167 air miles from the nearest Alaska Chaduĥ Network Response Hub in Utqiaġvik
  - 1,352 nautical miles from the nearest Alaska Chaduĥ Network Response Hub with VOO capabilities in Unalaska
  - 774 nautical miles from the Alaska Chaduĥ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- **Geographic Response Strategies**
  - North Slope Geographic Response Strategies: Beaufort Sea Zone
    - B-26 Stockton Islands
    - B-27 Mikkelsen Bay
    - B-28 Tigvariak Island
    - B-29 Shaviovik River Delta
    - B-30 Foggy Island Bay
    - B-31 Sagavanirktok River Delta
    - B-32 Sagavanirktok River
    - B-33 Midway Islands
    - B-34 Heald Point
    - B-35 Putuligayuk River
    - B-36 Return Islands
    - B-37 Kuparuk River
    - B-38 Sakonowyak River
    - B-39 Jones Islands
    - B-40 Kavearak Point-Milne Point
    - B-41 Ugnuravik River

S-26 – Point Lay



- The Cape Point Lay lightering area sees seasonal STB.
  - Point Lay – 69.77895178 -163.47518921 – 9 fathoms
- Lightering operations do not require pilotage
- The Point Lay lightering area is:
  - 174 air miles from the nearest Alaska Chaduŝ Network Response Hub in Kotzebue
  - 1,013 nautical miles from the nearest Alaska Chaduŝ Network Response Hub with VOO capabilities in Unalaska
  - 425 nautical miles from the Alaska Chaduŝ Network Response Hub with additional VOO capabilities in Nome
- Vessel type(s) conducting operations: Handy Tanker, Barge
- Special Restriction: Operators arriving and departing Point Lay on an East West route shall stay offshore as far as practical to avoid walrus haul out areas. Please communicate any sightings of Walrus to **FW7_MMM@fws.gov**
- **Geographic Response Strategies**
  - North Slope Geographic Response Strategies: Chukchi Sea Zone
    - C-13 Utukok River
    - C-14 Kokolik River
    - C-15 Kukpowruk River
    - C-16 Kuchiak Creek

Establishing A New Lightering Area

When a tank vessel operator recognizes the need to establish a new location, outside of the currently established lightering areas, to conduct lightering operations including STS and/or STB due to new clients, new facility locations, safety reasons, new regulatory requirements, and/or other suitable reasons, the below risk assessment must be completed in order to comply with the recommendations of the Lightering Committee.

1. The following information on a proposed lightering location shall be evaluated and submitted for formal review by the Lightering Committee:
    a. Vessel type(s) conducting operations (MR Tanker, Handy Tanker, Barge)
    b. Proposed lightering operation type(s) – STS or STB
    c. Lightering area water depth and draft restrictions
    d. Latitude and Longitude
    e. Closest point to land
    f. Air miles to nearest hub
    g. Nautical miles to nearest response hub with VOO capabilities
    h. Identify Geographic Response Strategies within 25nm
    i. Distance to nearest established lightering area
    j. Predominant weather patterns
    k. Wildlife Concerns or Special Conditions
    l. Special Regulatory Requirements
        i. Pilotage Required?
        ii. State Approval Required?
2. A consultation with Alaska Chaduxˆ Network must be completed to evaluate response posture for the newly proposed lightering area.
3. Written justification of new lightering area

Incidents and Lessons Learned

After Incident Protocol

If an incident occurs with tank vessels while conducting operations in Western Alaska that results in pollution discharge, threat of a pollution incident, or an incident that could affect future STS and/or STB lightering operations, an incident brief shall be given to the Committee. The incident brief will provide an open venue for an operator to share details of the incident and lessons learned to all the operators in effort to prevent future incidents similar in nature. The brief will result in collaborative incident summary, additions to the below lessons learned section, and if applicable, changes and/or additions to the Best Practices and/or Operating Procedures.

Historical Incidents

Date	Incident type	Incident Summary	Product Type/Amount	Vessels	STS/STB	Corrective Action	Lesson Learned
Sept 2018	Spill to Water	Hose connection parted during hose drain. Air applied to hose made it jump. Contact with dome lid fractured fitting	RUL/ Less than 1 gal	Tanker Citrus Express/ Barge DBL 1651-1	STB		-Properly secure hoses against inadvertent movement
July 2016	Structure damage	During maneuvering the Nordisle anchor snagged a wire on the bottom. The ships stern swung into the Glenda Meryl where the ships houses made contact	None	Tanker Nordisle, Tanker Glenda Meryl	STS	-Increase fenders size -Introduced additional secondary fendering -Identified potential fowling area	-Reinforced use of STS Checklists. -Reviewed the capability of the assist tugs available
June 2016	Hull Touching	Vessel touched bottom on entry into known lightering area off Nunivak Island. Vessel refloated	None	Tanker Champion Ebony	STB	-Shallow area was unknown, uncharted, and unmarked -Advocate for more NOAA surveying	-Some areas have outdated charts that do not reflect shallow areas
July 2007	Spill to water	During hose disconnect, improperly supported hose was dropped, product in the hose spilled to water	ULSD2/Less than 1 gal	Tanker Energy Power, Barge Klamath	STB	-Best Practice of having mothership provide crane support.	-Consider freeboard change and Ensure enough hose is available for the expected completion change in freeboard. -Taller vessel usually the mothership can better support and control the hose at her manifold -Visibility from the barge to the tanker becomes difficult as the barge loads, ensure proper crane spotter

Corrective Actions Implemented

- Increased fenders size
- Introduced additional secondary fendering
- Identified potential fouling area
- Implement Best Practice of having mothership provide crane support
- Closer collaboration with NOAA to identify STS/STB lightering locations and/or their approaches which require priority hydrographic surveys

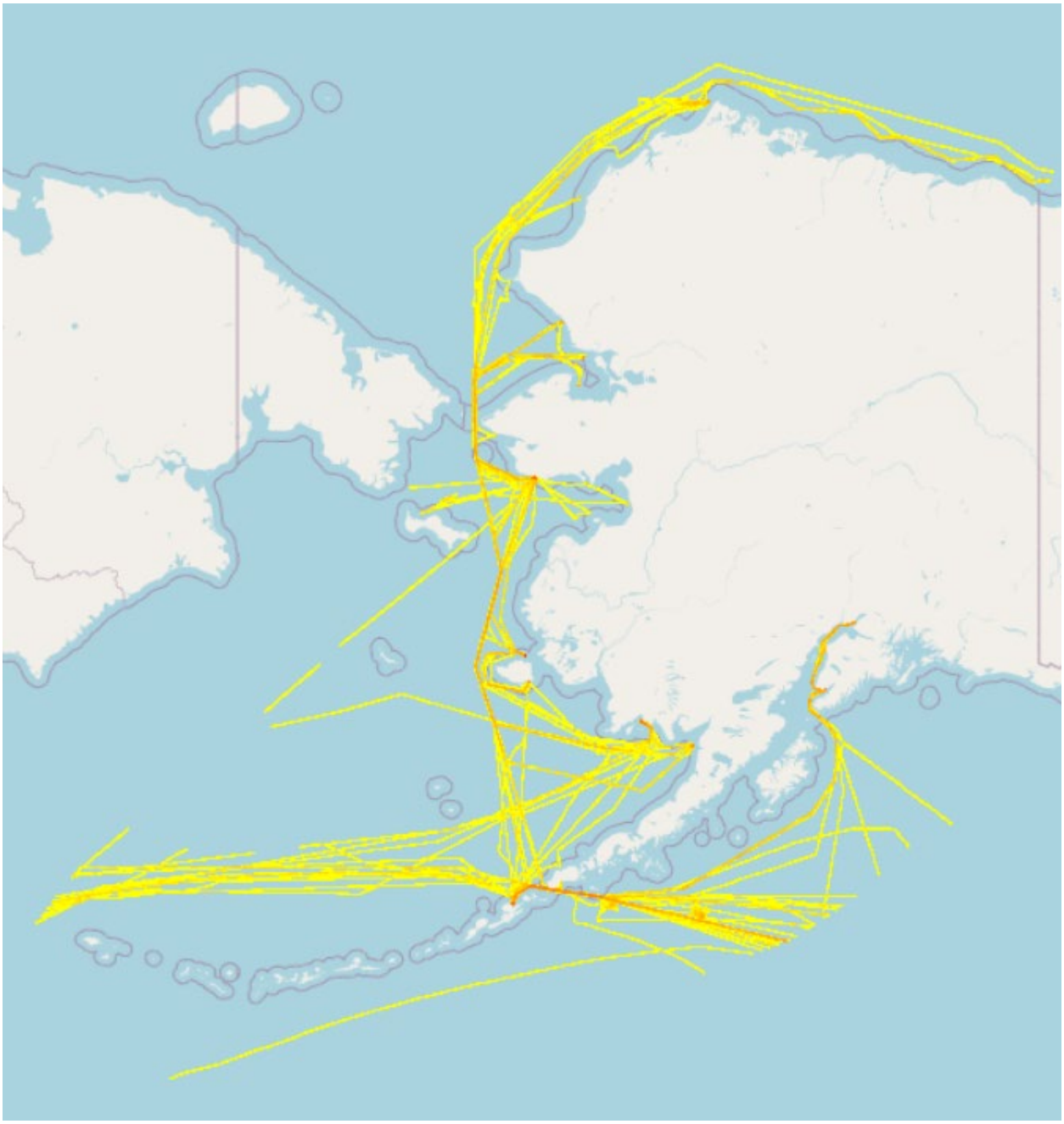
Prioritized Lightering Areas for Hydrographic Surveys

The Committee remains dedicated to working with the NOAA Office of Coast Survey to provide industry and stakeholder input to assist in evaluations of potential future surveys to enhance safe shipping in Western Alaska. The Committee has identified that one of the areas where hydrographic surveys would be beneficial are the areas from the STS/STB lightering areas to the shoreside communities. At the request of NOAA Office of Coast Survey, the Committee identified and prioritized areas where hydrographic surveys would best support STS/STB lightering operations in Western Alaska as follows:

- P-10 – Kotzebue Sound (2024 survey)
- P-9 Port Clarence/Wales (2024 survey)
- P-8 Saint Lawrence Island North
- S-18 Yukon Delta

Historical Lightering Tank Vessel Tracks

2020



Best Practices Vision

The Committee will continue to enhance the lightering operations best practices and strengthen the standards of routing, reporting, and implementation of effective risk mitigation and response measures. Some of these future tasks that the Committee looks to undertake include:

- Refine identified lightering areas coordinates
- Review Operating Procedures annually
- Implement the ISO 14001 model determining the aspects & impacts
    - Any stakeholder or Committee member may raise a topic or area of concern with environmental or safety factors that should be addressed by the Committee
    - This model ensures continued improvement process
- Add section to Best Practices discussing new technology and equipment being implemented in Western Alaska
    - New generation of barges and ATB currently being built
    - Improved fenders and better sized for the tank vessels serving Western Alaska
- Create a response plan for each of the identified primary and secondary lightering areas including:
    - Prioritization of GRS in each area
    - Formalize distinct response strategies for different fuel types (i.e. no pre booming for gasoline transfers)
- Evaluate feasibility of new response hub location
    - Potentially in Togiak and/or Toksuk (Nunivak Island)
- Implement enhanced geofencing and notification technology
    - Enhance situational awareness of lightering operations to increase response readiness posture through dynamic geofencing zones
    - Assist Coast Guard decision-makers to rapidly distill, analyze, and prioritize potential threats to allocate resources, energies, and partnerships using triggered “watch-dog” alarms by using geofencing technology based on specified criteria and parameters.

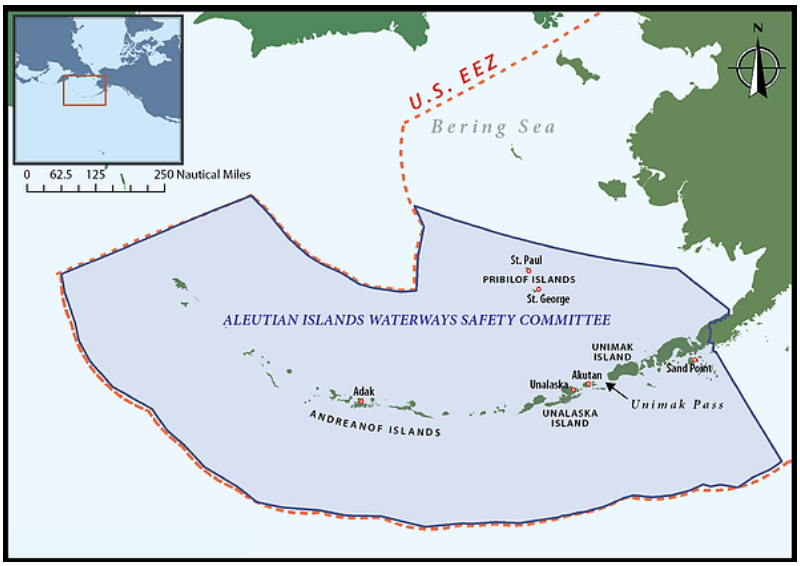
References and Partner Websites

Website Links

- www.AlaskaOSRO.org
- www.pacificarea.uscg.mil/Our-Organization/District-17/17th-District-Units/Sector-Anchorage/
- www.dec.alaska.gov
- www.dec.alaska.gov/spar/ppr/response-resources/grs
- www.oceanconservancy.org/wp-content/uploads/2019/03/190306-OC-Lightering-Report-vFINAL.pdf
- www.crowley.com/what-we-do/alaska-fuel-sales-and-distribution/western-alaska-marine-delivery/
- www.deltawestern.com
- www.vitus-energy.com

Aleutian Islands Waterways Safety Plan

The *Aleutian Islands Waterways Safety Plan* provides valuable information on Dutch Harbor Fairway Management, Potential Places of Refuge for Storm Avoidance, Areas To Be Avoided, (ATBA), Notice to Mariners, Oil Spill Response and Preparedness, Marine Mammal Conflict Avoidance, Priority Areas for Bottom Survey, **Ship-To-Ship Transfers (Lightering)**, Abandoned & Derelict Vessels, and Medical Transfers. The Standards of Care include information on Automatic Identification System (AIS), Severe Weather Guidelines, Communication: Emergency & Response, Emergency Towing Systems, Historical Information, and Ecological Issues of Concern. To access the *Aleutian Islands Waterways Safety Plan*, please visit www.aleutianislandswsc.org



Aleutian Islands Waterways Safety Committee Geographic Scope

Arctic Waterways Safety Plan

The *Arctic Waterways Safety Plan* provides important information on Communication and Conflict Resolution Procedures, Partnerships with Local Experts, Operating in Proximity to Marine Mammals, and Marine Mammal Sighting Data. The Standards of Care include information on ways to promote safety and communication for the maritime community in the Arctic. To access the *Arctic Waterways Safety Plan*, please visit www.arcticwaterways.org

Arctic Waterways Safety Committee Geographic Scope