Lower Columbia Region Harbor Safety Committee

Harbor Safety Plan | Chapter 4

COLUMBIA RIVER BUNKERING GUIDELINES

CHANGE LOG:

Changes Made	Sub-Committee	Date Approved
Chapter was reviewed and no changes required.	Harbor Safety committee	5/11/22
Update USCG information.		5/15/25

A. Bunkering Guidelines

1. Purpose

The waters of the Columbia River system are environmentally sensitive, and are both a precious environmental and economic resource. Bunkering operations, while routine in many parts of the country, do in fact pose risks different than those normally expected of standard shore to ship refueling operations.

Some bunkering operations are conducted while vessels are at berth and may be conducted simultaneously with cargo operations. This adds some additional risk to a bunkering operation and the personnel involved, for which additional precautions are necessary. The procedures associated with bunkering operations are covered below.

Bunkering Guidelines:

- Cooperatively were drafted by regulators and industry representatives. They provide information unique to this river system, its operations, and are required in order to bunker safely.
- Are to be implemented in accordance with all International, Federal, State and Local regulations, and the normal practices of good seamanship.
- Constitute the Minimum Standards of Care (SOC) to be used in all bunkering operations on the Lower Columbia Region.

2. Authorities

Bunkering operations are subject to U.S. Coast Guard regulations, Title 33 Code of Federal Regulations (CFR) Parts 153, 155, 156 and Title 46 CFR Sub Chapter D Tank Vessels. If bunkering operations are conducted within Washington waters, Washington State regulations addressing oil transfer operations also apply. Vessels intending to conduct bunkering operations while at anchor should also carefully review the guidance in the anchorage chapter of this Harbor Safety Plan (HSP).

Regulators frequently monitor fuel/oil transfer operations in the Columbia River system based on the level of risk, amount of fuel/oil, familiarity with company operations, procedures and track records. Regulating agencies may stop any bunkering operation or prohibit planned operations due to safety concerns or unacceptable risk.

3. Definitions

- **Bunkering** is a bulk oil transfer operation to replenish a self-propelled vessel with fuel or lubricating oil.
- **Delivering Vessel** is the vessel delivering the fuel or lube oil in a bunkering operation.
- Designated Anchorages are those anchorages listed in 33 CFR 110.228 and detailed in the Anchorage chapter of the HSP.
- Heavy weather is sustained winds from 34 to 47 knots or higher gusts (Gale Warnings).
- Lightering is the transfer of cargo in bulk from one vessel to another vessel while at anchor.
- Receiving Vessel is the vessel receiving the fuel or lube oil in a bunkering operation.
- Zone of Concern (ZOC) encompasses the delivering vessel and that portion of the receiving vessel adjacent to the location of the bunker barge and/or transfer manifold. The ZOC is different for every bunkering operation since it takes into account the particular bunkering barge, where it is secured to the receiving vessel, and where the transfer hoses will be rigged.

4. References

- 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
- 317-40 Washington Administrative Code (WAC) Bunkering Operations
- 173-184 WAC Vessel Oil Transfer Advance Notice and Containment Requirements

5. Applicable Industry Standards

The following references contain worldwide industry standards, and should also be consulted for applicability to bunkering operations:

- Oil Companies International Marine Forum Guidelines (OCIMF) Ship to Ship Transfer Guide

- Oil Spill Risks from Tank Vessel Lightering - published by the Commission on Engineering and Technical Systems (CETS)

B. General Guidelines for Bunkering Operations

1. Heavy Weather

a. **Wind**: Vessels will not come alongside in preparation for bunkering at anchor or pier side if sustained winds are at or exceed 30 knots or if wind gusts exceed 40 knots. If bunkering operations have already begun when sustained winds reach 30 knots or gusting over 40 knots, personnel in charge of bunkering operations will continuously monitor environmental conditions and take any additional measures necessary to reduce risk of injury, vessel damage or pollution, and prepare for worsening weather. When sustained winds reach 40 knots, bunkering operations will cease and hoses will be drained and disconnected. Personnel should consult separate guidance issued by Coast Guard Sector Columbia River and the Harbor Safety Committee regarding anchoring procedures relevant to all vessels.

Underway bunkering is not allowed under any conditions within the Lower Columbia River system.

b. **Seas**: For bunkering operations from one vessel to another vessel while at anchor, operations will cease, with hoses drained and disconnected when waves or swells reach 3 ft. The wind and sea conditions criteria have been developed with industry input and are used by operating companies in the area. These standards are based on historical observations and experience in handling these vessels under prevalent conditions.

c. **Sheltered Waterway**: The foregoing wind and sea guidelines may not be applicable when a receiving vessel is being bunkered at a wharf or pier in a sheltered waterway. A waterway is considered to be sheltered when area around the ZOC is protected from the prevailing wind or seas. The criteria for securing a bunkering operation in these types of locations would be dependent upon adverse movement of either the receiving vessel or delivering vessel caused by the prevailing wind or sea conditions.

2. Personnel/Safe Access between Vessels

The delivering vessel and receiving vessel shall each have a designated Person in Charge (PIC) that is responsible for the transfer on their respective vessels. The receiving vessel shall provide safe access in order to facilitate face to face

communications between the receiving and delivering vessels for purposes of a pre-transfer conference and other required communications. The accommodation ladder should be the first choice, but if the ladder is inaccessible from the delivering vessel, a SOLAS approved pilot's ladder should be used instead. A "Jacob's ladder" is not an appropriate means of access between vessels.

3. Mooring Equipment

All parties will use fenders of sufficient size and type to prevent steel to steel contact between the two vessels. Mooring lines will be of sufficient size and type to hold the delivering vessel alongside the receiving vessel during expected tidal, wave, and wind conditions.

4. Tug Availability

During bunkering operations in moderate to heavy weather conditions involving vessels at anchor, at least one tug will remain on scene and ready to render assistance until bunkering is completed, and all hoses are disconnected and returned aboard their respective vessels. The attending tug(s) must have sufficient horsepower to maneuver and control at least the delivering vessel involved in the bunkering operation under all conditions. Bunkering operations may take place without direct tug assistance, once the mooring portion of the operation has been completed. The attending tug or a designated tug must be on immediate standby in the area to render assistance in less than 30 minutes. This standard does not apply to delivering vessels that are self-propelled.

5. Number of Vessels Involved

A vessel may receive bunkers and lubricating oils from two separate delivering vessels at the same time, provided:

a. Each transferring vessel has a separate PIC unless otherwise approved by the **Captain of the Port (COTP)**.

b. That each system is completely separate from the other or is otherwise affirmatively isolated or segregated by means of blank (spectacle) flanges which may be visually verified.

c. Bunkering will not take place simultaneously with Lightering operations.

6. Flow Rate, Topping Off and Gauging Procedures

Flow rates, topping off and gauging procedures should be conducted in accordance with OCIMF Ship to Ship Transfer Guide and if in Washington waters, with Washington State Bunker and Oil Transfer Rules.

7. Declaration of Inspection (DOI)

A Declaration of Inspection (DOI) must be filled out and signed by both PICs prior to the start of a bunkering if either vessel has a total capacity of 250 barrels (10,500 U.S. gallons) or more. The DOI must include the information required by the references in Section A.4 of this guideline.

8. Watch keeping

A qualified PIC shall be on watch and monitor the oil transfer operation on the receiving and delivering vessels of which they are in charge at all times. A qualified deck officer shall maintain a navigation/anchor watch on the bridge of a vessel that is anchored. The receiving vessel and the attending PIC of the delivering bunkering barge/tank vessel will ensure the monitoring and maintaining of sufficient mooring for all conditions as required by the DOI.

9. Required Notifications

If the receiving or delivering vessel has a total capacity of 250 barrels (10,500 U.S. gallons) or more, the delivering vessel or facility operator will ensure notification is made to the USCG of the time and place of each transfer operation at least 4 hours before it begins

For bunkering operations in Washington State waters, the delivering vessel or facility operator must submit in advance a notice of oil transfer (ANT) to the Washington State Department of Ecology (DOE) via fax (see Enclosure 1) or through the Ecology ANT website (see Enclosure 2). This notice must be sent at least 4 hours prior to commencement of each transfer operation of more than 100 gallons. Providing advance notice using the Washington State website will also fulfill the USCG advance notice requirements.

10. Washington State Requirements for Response Equipment

In addition to the individual Vessel Response Plan requirements, the following pollution prevention and mitigation measures must be met for bunkering operations in Washington State waters:

a. When bunkering operations at a rate exceeding 500 gallons per minute take place, and when it is safe and effective to do so, containment boom capable of encircling the entire operation must be in place with at least a five foot stand-off from the vessel; or boom must be positioned to provide for the maximum containment of any oil potentially spilled. Each vessel or facility that delivers oil at a rate exceeding 500 gallons per minute is obligated to have developed and implemented pre-booming strategies using safe and effective thresholds under WAC 173-180 or 173-184. These thresholds are approved by DOE.

b. Where it is not safe and effective to pre-boom transfer operations, a length of boom will be made available on scene and ready for immediate deployment such that the boom could be completely in place within 1 hour of detection of a spill, unless the vessel has an equivalent compliance plan approved by Washington DOE and accepted by the USCG COTP.

c. The standby booming requirement can be met by the equipment normally carried by barge, by a dedicated response vessel, or both.

d. If this requirement is met without a response vessel, then a small boat capable of deploying the boom in a timely fashion must be on scene and immediately available.

e. If both the barge and the response vessel contribute toward this requirement, the equipment must be compatible.

f. Adequate personnel shall be on scene to take appropriate actions on the vessels while simultaneously deploying boom.

g. Personnel shall be trained in deploying boom and the boom and response equipment shall be prepared so it can be deployed without delay.

11. Anchorage Management

Vessels desiring to bunker in designated anchorages in the Columbia River are reminded to consult the Columbia River Pilots on securing anchorage reservations. When bunkering at anchor, the preferred side for the delivering barge/vessel will be the lee side or side away from the main shipping channel. For example: Willow Bar anchorage will receive bunkers on port side of anchored vessel and Hayden Island will be on starboard. Both examples are during ebb tide conditions.

Bunkering operations are normally permitted in: Astoria North Anchorage, Astoria South Anchorage, Longview Anchorage, Kalama Anchorage, Woodland Anchorage, Henrici Bar Anchorage, and Kelley Point Anchorage. Bunkering may occur in the Willow Bar and Hayden Island anchorages.

C. Guidelines for Bunkering Operations during Cargo Operations

1. Overview

This section outlines the process for essential communication between the agents, bunker barge operators (tankermen), the designated vessel contact for cargo operations (e.g. Chief Mate), the terminals Marine Department, and shoreside cargo personnel to ensure a safe and productive work environment when bunkering a vessel at the same time as cargo operations are being conducted. A quick reference guide is provided as Enclosure 3.

2. Initial Agreement

The agent will ensure notice of bunkering operations is given to the vessel crew, terminal operator, and the bunkering company. If there is a potential interaction with shoreside cargo operations, the vessel's master will notify the shoreside cargo personnel prior to the bunkering. In the event of a spill, the vessel's contact for cargo operations will immediately notify any cargo personnel operating in the area.

Points of contact and contact information (e.g., phone/cell numbers) will be shared among the terminal, vessel, and bunkering company personnel who will be working during that bunkering operation. Having this contact information serves as the cross check that all parties are aware of the planned bunkering operation.

3. Essential Communications: Contact between Tankerman, Vessel and Terminal

The designated facility will be notified of planned bunkering operations by the agent, bunker supplier or vessel's master. The designated vessel contact for cargo operations (e.g. Chief Mate) will meet with the bunker barge representative (tankerman) and vessel contact for bunkering operations (e.g. Chief Engineer) prior to beginning the bunkering operation. This will allow the tankerman to learn the details of the planned cargo operation that might present possible conflicts. The designated facility contact will then give notice to the cargo personnel that bunkering operations are about to begin. These

contacts may be in addition to or simultaneous with the required pre-transfer conference with the person in charge of receiving bunkers.

4. Zone of Concern (ZOC)

Tankermen, terminal personnel, and vessel personnel all must be mindful of and take particular care when cargo operations take place anywhere in the vicinity of the ZOC. On container vessels, particular care must be taken when working the outer three stacks of containers adjacent to the ZOC and bunker barge when the transfer is in progress, and immediately before and after the bunkering operation.

Since virtually all bunker oil transfer operations in Washington waters require the vessel(s) and facilities involved to be surrounded by oil containment boom prior to oil transfer commencing, all personnel involved in cargo loading/lashing operations need to be particularly alert for small vessel boom deployment and retrieval operations adjacent to the ship both immediately before and after the bunkering operation takes place. If at any time in the judgment of the tankerman the bunkering operation is at risk due to ongoing cargo operations, he will secure the fuel transfer to the ship and contact the vessel representative.

5. Tankerman Check Sheet

In making contacts with the designated facility and vessel points of contact, the tankerman needs to identify the following:

a. Where possible the bunkering barge should be secured to the receiving vessel such that there is no overlap between the Zone of Concern (ZOC) and any areas in which cargo operations will take place. If this is not feasible, then any overlap should be minimized.

b. What is the ZOC for this bunkering operation, taking into account the particular bunkering barge, where it is secured to the receiving vessel, and where the transfer hoses will be rigged?

c. Are there any loading, discharging, lashing, or other cargo operations planned within or near the ZOC?

d. When does the terminal or wharf plan to work within or near the ZOC?

e. Can the cargo be worked in a specific time frame so possible conflicts with the ZOC are avoided?

f. When do shoreside personnel plan to shut down cargo operations for breaks, lunch, etc.?

6. Incident Response

The Tankerman shall be alert to the crane and cargo operations that have been planned to work near the barge.

The Tankerman shall determine the proper action to take regarding oil transfer process should any incident occur which affects the safety of the operation including the safety of the boom deployment personnel and vessels.

Any incident will require direct communications between the parties involved who shall be readily available. This will allow for adjustments to working plans to correct conflicts.

7. Long-Term Incident Resolution

The Port/Terminal Operations Department's management personnel, vessel representative, and the barge operator will discuss mutually agreeable adjustments in the cargo and bunkering operations to minimize tankerman exposures that may be determined as the result of an incident and the post incident investigation. Ideas and lessons learned will be shared between all parties including the other port terminals.

8. Bunkering Best Practices

Please note the reference manual for safe bunkering operations in Washington State Department of Ecology.

Copy/paste or type into your browser the following:

PDF Manual: Bunkering Best Practices Manual - WA Dept. of Ecology

Video: http://oilspilltaskforce.org/products/bunkering-video/watch-bunkering-video/

D. Enclosure 1: Washington State Advance Notice of Oil Transfer Form

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Advance Notice of Oil Transfer

To: Prevention Section
Dept. of Ecology, Spills Program
FAX: **1-800-664-9184** or **E-mail** to OilTransferNotifications@ecy.wa.gov

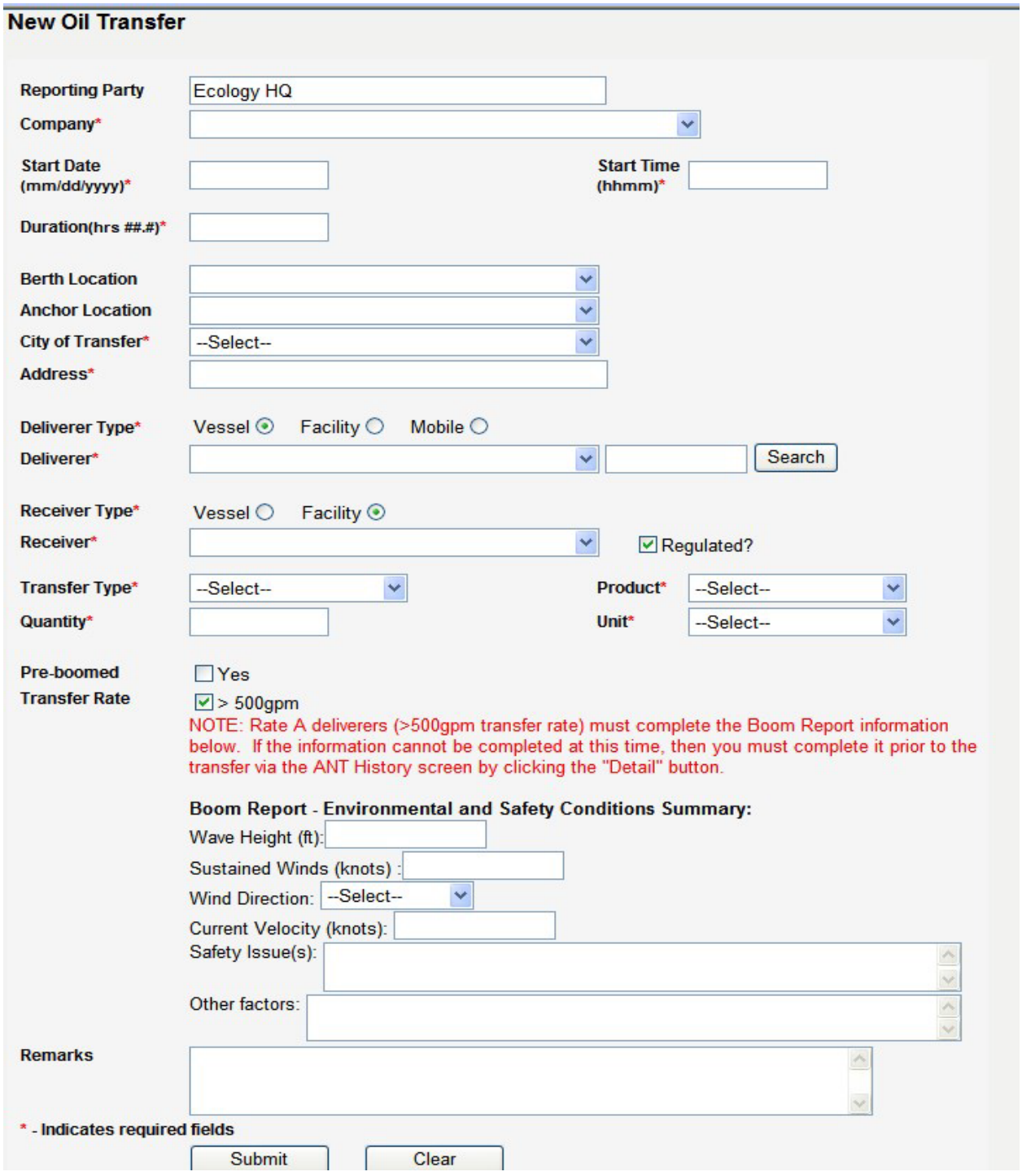
* - **Indicates required fields by rule** Questions about Advance Notice of Transfers can be answered by calling 360-407-7390		
*Delivering Company Name:		
*Company Address:		
*Company Contact Name:		*Contact Phone Number: ( )
*Start Date: (mm/dd/yy)		*Start Time: (hhmm)(24-hr clock)
*Duration (hh.mm): (decimal hours)		
Deliverer Type: (Check one)	Vessel ☐ Fixed Facility ☐ Mobile ☐	
*Name of Deliverer:		
Receiver Type: (Check one)	Vessel ☐ Fixed Facility ☐	
*Name of Receiver:		
Berth Location:	Anchor Location:	
*Address or Location of Transfer:		
*City of Transfer:		
*Product or Type of Oil(s): 1 2 3 / /	*Quantity: Gallons ☐ or Barrels ☐ 1 2 3 / /	
Purpose of Transfer: ☐ Cargo ☐ Fueling ☐ Lube/Hydraulic ☐ Waste Oil ☐ Bilges		
*Pre-boomed? Yes: ☐ No ☐		
Comments:		

Ecology is an equal opportunity employer. To receive this form in an alternate format, please contact the Spills Prevention Program at (360) 407-7390 (voice) or 711 and 1-800-833-6388 (TTY)

ECY 070-175 (11/06)

E. Enclosure 2: Washington State ANT Entry Form

ANT Entry Form Website: https://secureaccess.wa.gov/ecy/ants



New Oil Transfer

Reporting Party: Ecology HQ
Company*:
Start Date (mm/dd/yyyy)*:
Start Time (hhmm)*:
Duration(hrs ##.#)*:
Berth Location:
Anchor Location:
City of Transfer*: --Select--
Address*:
Deliverer Type*: Vessel ◉ Facility ○ Mobile ○
Deliverer*: Search
Receiver Type*: Vessel ○ Facility ◉
Receiver*: ☑ Regulated?
Transfer Type*: --Select--
Product*: --Select--
Quantity*:
Unit*: --Select--
Pre-boomed Transfer Rate: ☐ Yes ☑ > 500gpm

NOTE: Rate A deliverers (>500gpm transfer rate) must complete the Boom Report information below. If the information cannot be completed at this time, then you must complete it prior to the transfer via the ANT History screen by clicking the "Detail" button.

Boom Report - Environmental and Safety Conditions Summary:

Wave Height (ft):
Sustained Winds (knots) :
Wind Direction: --Select--
Current Velocity (knots):
Safety Issue(s):
Other factors:
Remarks:

* - Indicates required fields

Submit Clear

F. QUICK REFERENCE GUIDE FOR BUNKERING DURING CARGO OPS

[PDF] Bunkering Best Practices Manual - WA Dept. of Ecology

Vessels contract for bunkers

- Oil Companies notify barge operators
- Agents coordinate delivery notifications with barge operators and terminals
- Bunker Barge arrival time and duration of pumping is established

Vessel Arrives for Cargo Operations Agent coordinates bunker barge arrival

- Terminal plans operations
- Cargo Plan, Cargo Flow Sheet (CFS) or Crane Letter of Operations (CLO) is prepared
- Outlines what cargo is to be moved in what sequence
- Terminal will plan around bunker operations if possible
- Terminal gives CFS/CLO to Agent to pass to Chief Engineer and tankerman

Bunker Barge Arrives for Bunker Operations

- Optimal placement of the barge to minimize ZOC exposure
- Vessel ensures "Bunker Operation Sign" is posted at the shore side gangway.
- Vessel and bunker barge surrounded by containment boom when safe and effective to do so, or deliverer submits Boom reporting Form to WA Department of Ecology and puts alternative measures in place to mitigate impacts of any spill that may occur.
- DOI is signed by receiving vessel "PIC" and tankerman
- Tankerman/Chief Mate/Chief Engineer should have a copy of Cargo Flow Sheet or Crane letter (CFS/CLO)
- Tankerman should understand what cargo adjacent to the barge is to be handled and when
- Tankerman shall have contact with the vessel superintendent at all times

Vessel cargo operations commence

- Lashers/longshoremen sent aboard to free cargo

- Crane lowered over hold/hatch to be worked
- Work commences in accordance with CFS/CLO
- Lashers/longshoremen sent aboard to secure cargo

Bunker operations could start before, during or after cargo operations

- Tankerman, Chief Mate & vessel superintendent must understand where the stevedore operator is relative to the Cargo Flow Sheet or Crane letter and the bunkering process