

Communication Procedures to Improve Safety During Bunker Barge Transfer Operations Alongside Container Vessels

Container Vessel Bunker Barge Safety Program and Delivery Notice. This document outlines the process for essential communication between the agents, bunker barge operators (tankermen) and terminal's Marine Department to ensure a safe and productive work environment. The Container Operator has adopted this Best Management Practices Program and has instituted it to assist all parties involved in the vessel operations when vessel bunkering is involved in the operation.

The "Bunker Delivery Notice" appears at the end of this section. The Agent will e-mail the notice to the Ship, Terminal and the Bunker Barge operator prior to the stevedoring operation. The terminal, ship and barge operator will reply to the E-mail by including the contact phone/cell number of the person working that vessel/shift. This will be the cross check that all parties are aware of during a planned bunkering operation.

Essential Communications: Contact between the Tankerman and Terminal

- The Bunker Barge Operator (Tankerman/Person in Charge (PIC)) must contact the Designated Facility Contact prior to beginning the barge operation.
- This will allow the Tankerman/PIC to learn the planned stevedore operation in the CFS/CLO and highlight any possible conflicts. (A Check Sheet shall be used for this function.)
- The Bunker Barge representative (Tankerman/PIC) must communicate with the Designated Facility Contact, and Chief Engineer/Chief Mate, (vessel PIC) prior to beginning the barge operation. This will allow the Tankerman to learn the planned stevedore operation and highlight any possible conflicts so they may be eliminated.

Essential Communications: Tankerman Check Sheet

- a. What are the bay designations directly forward and aft of the house on this vessel that overlap the bunker barge?
- b. Is there any planned loading, discharging, or lashing in these bays?
- c. When does the terminal plan to work these bays?
- d. Is any of the work in these bays going to extend into the two or three offshore positions?
- e. Can these positions be worked in a specific time frame so possible conflicts are avoided?
- f. What time periods is the stevedore going to shut down cargo operations for breaks, lunch, etc.?

Understanding the Bunkering Process #1

- 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

Understanding the Bunkering Process #2

- Vessel Arrives for Cargo Operations
- Agent Coordinates bunker barge arrival
- Terminal plans operations
- Cargo Flow Sheet or Crane letter of Operations (CFS or 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/PIC and Tankerman/PIC

Understanding the Bunkering Process #3

- Bunker Barge Arrives for Bunker Ops
 - Optimal placement to minimize exposure.
 - Vessel insures BUNKER OPERATION SIGN is posted.
 - DOI is signed by Chief Engineer/PIC and Tankerman/PIC.
 - Tankerman/PIC /Chief Mate/Chief Engineer/PIC will have a copy of Cargo Flow Sheet or Crane letter (CFS/CLO).
- Tankerman/PIC should understand what cargo adjacent to the barge is to be handled and when.
- Tankerman/PIC shall have contact with the vessel Superintendent at all times.

Understanding the Bunkering Process #4

- Vessel cargo operations commence.
 - Lashers sent aboard to unlash containers.
 - Crane lowered over hold/hatch to be worked.
- Work commences in accordance with CFS/CLO
 - Lashers sent aboard to re-lash containers
- Bunker operations could start before, during or after cargo operations
 - Tankerman/PIC, Chief Mate & Superintendent must understand where the stevedore operator is relative to the Cargo Flow Sheet or Crane letter and the bunkering process.

Area or Zone of Concern

- Tankerman/PIC, Terminal Personnel, (Superintendents, Foremen, Lashers, Crane Operators) and Vessel Personnel (Chief Mate and Engineer/PIC) all must be mindful of and take particular care when lashing or cargo operations take place in the outer three stacks of containers in bays adjacent to the bunker barge if the transfer is in progress.

Essential Communications: Bunker Delivery Notice

- To inform all concerned parties of the planned bunkering operations, the Vessel Agent (or other carrier assigned representative), will complete a “Bunker Delivery Notice”.
- The Agent will forward the notice by E-mail to BOTH the terminal and the bunker barge operator prior to the start of any stevedoring operation.

Post Incident Response

- It is expected that the Tankerman will be alert to the crane working near the barge and the cargo flow that has been planned.
- It is expected that the Tankerman/PIC will determine the proper action to take regarding oil transfer process should any incident occur which affects the safety of the operation.
- 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.

Long Term Incident Resolution

- It is expected that the Operations Department’s management personnel, vessel representative, and the barge operator will discuss mutually agreeable adjustments to minimize Tankerman exposures that may be determined as the result of the incident and the post incident investigation.
- Ideas and lessons learned will be shared among all parties including the other Port Terminals.

Adopted February 2009.

Bunker Delivery Notice

Date:	Port:	
Vessel:	Voyage:	
Reference #:		
Bunker Barge Co.		
& Phone:		
Name of Bunker Barge:		
Name of Bunker Barge PIC:		
Contact Phone # of Barge PIC:		
Bunker Barge Emergency Contact #:		
Amount and type to be bunkered:		
Delivery Time of Bunkers:		
Location of Delivery of Bunkers:		
Bunker Barge to Land Side to as Vessel (select Port or Starboard):	Port	Or Starboard
Estimated duration of bunker delivery:		
Designated Facility Contact:		
Terminal Emergency Phone #:		
Name of Vessel PIC for bunkers:		
Telephone number of vessel:		
Location of Bunker Manifold/Riser:		
Agent for Vessel:		
Agent Cell Phone #:		
Agent 24 Hour Contact #:		

SAFE BUNKERING OPERATIONS ALONGSIDE OAKLAND BERTHS 35, 37 and 55-59

The following best practices are in addition to “Recommended Best Practices for Safe Bunkering Operations Alongside Cargo Vessels”.

1. Prior to arrival of the bunker barge alongside the receiving vessel, the tug captain or mate will contact the Marine-Exchange for arrival and departure information for all vessels transiting OOH (Oakland Outer Harbor) or OIH (Oakland Inner Harbor) over the intended duration of the transfer.
2. Following arrival, the tug captain or mate will notify Vessel Traffic to request all vessels to proceed slowly and with caution when passing the bunker barge. (Not to be confused with a minimum wake).
3. The tug will monitor VHF channels 13 and 14 and the channel agreed to in paragraph 6 at all times during the transfer.
4. Tug will remain made fast to the barge at all times during the bunker transfer. The tug will be standing-by with engines running and with a licensed officer in the (operating) wheelhouse when vessels are transiting the immediate area.
5. A minimum of 2 headlines, 2 spring lines and 2 stern lines will be used to secure the tug/barge unit to the vessel. One bow and one stern line will be from the offshore cleat, bitt or chock of the barge.
6. In order to provide direct communications with the barge and tug, the barge or tug will provide the receiving vessel with a walkie talkie for the ship’s watch stander who will be stationed at the manifold area to tend the hose and lines.
7. Tug Captain or Mate will obtain from the Pilot Dispatcher the name and unit number of each pilot on vessels transiting the area for possible direct communications. (Pilot list is a useful tool for gathering transit information).
8. Bunker transfer operations will cease when vessels are transiting the immediate area in OOH and OIH.
9. A second man will be stationed on the barge when vessels are transiting the immediate area in OOH and OIH.
10. The pilot of the vessel transiting the area of concern will contact the tug standing by the barge on VHF channel 13 to confirm that the measures noted above have all been met and that the tug is standing by.

BUNKERING -- BEST MARITIME PRACTICES FOR THE STATE OF CALIFORNIA

A. GENERAL INFORMATION

1. The marine waters of California are environmentally sensitive and 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 oil transfer operations. The California Department of Fish and Game (DFG), Office of Spill Prevention and Response (OSPR), and representatives of the shipping and petroleum industry have jointly developed the following guidelines to address those risks and ensure safe bunkering operations in the State of California. They recognize that the *safe* transfer of fuel oil into a vessel requires diligence, safety consciousness and the use of proper procedures. Safe bunkering is the product of good communication, proper crew training and compliance with international, federal, state and local laws including but not limited to;

"Any owner, operator, or person-in-charge of an onshore or offshore facility or vessel over which the U.S. has jurisdiction (i.e., a U.S. vessel or a facility or foreign vessel in U.S. waters) from which oil or an EPA designated hazardous substance is discharged in "such quantities as may be harmful" into navigable waters of the U.S., upon the adjoining shorelines, into contiguous zone waters, in connection with activities under the OSCLA or the DPA, or that may affect natural resources under exclusive U.S. management authority, is subject to a civil penalty assessment separate from any other civil or criminal penalty or liability imposed by the Federal Water Pollution Control Act (FWPCA) (except in the case of certain EPA permit related discharges). This act prescribes that a civil penalty of not more than \$5,000 for each offense shall be assessed. The FWPCA also requires that the person-in-charge of the vessel or facility must, as soon as acquiring knowledge of any discharge of "such quantities as maybe harmful" of oil or reportable quantity of hazardous substance, immediately notify the appropriate agency (the Coast Guard). The NRC has been identified as the primary location for receiving reports of oil discharges or hazardous substances releases. When the NRC cannot be contacted, 33 CFR 153.203 lists other agencies that may be notified. Failure to give immediate notice makes the responsible person subject to criminal penalties of not more than \$10,000 or a year's imprisonment, or both. Masters, licensed officers and operators, and other persons certificated by the Coast Guard may also be subject to suspension and revocation (S&R) proceedings conducted under the authority of 46 U.S.C. Chapter 77 and 46 CFR 5. Discharges may also result in other civil penalty and criminal fine provisions under Section 309 of the FWPCA, the Rivers and Harbors Act 99 (the Refuse Act), and the APPS 1980."

(Marine Safety Manual COMDTINST M16000.6, 1.E.7 p. 1-24-25)

2. Bunkering Operations within California waters are subject to U.S. Coast Guard regulations, Title 33 Code Federal Regulations, Parts 155 and 156, and California Code of Regulations (CCR) *, Title 14, Chapter 3, Subchapter 6. These regulations are listed in paragraph 7 below. Beyond the regulations, the guidelines below represent the cooperative efforts of OSPR and stakeholders to develop the best way to further mitigate risks to the environment during bunkering operations. As such, it is expected that industry members follow them, educate and enforce them among industry groups and make recommendations to OSPR, and the appropriate local Harbor Safety Committees as changes are needed. Vessels intending to conduct bunkering operations while at anchor should also carefully review the guidance in the following additional best maritime practice.
3. Some bunkering operations are conducted alongside vessels at berth and, in the case of container vessels, may be conducted simultaneously with container operations. This adds some additional risk to bunkering operations and the personnel involved for which additional precautions are necessary. The procedures associated with these bunkering operations are covered in the Harbor Safety Plans.
4. The OSPR and the U.S. Coast Guard inspectors frequently monitors fuel/oil transfer operations throughout all of California's harbors and bays based on the level of risk, amount of fuel/oil, familiarity with company operations, procedures and track records. Either agency may stop any bunkering operation or prohibit planned operations due to safety concerns or unacceptable risk.
5. The OSPR will periodically review the safety record of bunkering operations and work with the Harbor Safety Committees to determine if changes are needed to promote safety. Changes could include additional best maritime practices or a formal regulatory initiative.
6. **Definitions:** In addition to the terms defined in applicable federal regulations, the following definitions apply:
 - a. Bunkering: The transfer of petroleum base products from one vessel to another vessel for the purpose of replenishing fuel for vessel propulsion, hotel services or machinery lubrication while at anchor or dockside.
 - b. Receiving Vessel: The vessel receiving the fuel or lubes in a bunkering operation.
 - c. Delivering vessel: The vessel delivering the fuel or lubes in a bunkering operation.
 - d. Moderate Weather: Sustained winds from 21 to 33 knots or higher gusts (Small Craft Advisory).
 - e. Heavy Weather: Sustained winds from 34 to 47 knots or higher gusts (Gale Warnings).
7. **Regulations:** Bunkering operations must be conducted in strict accordance with the letter and intent of all regulations. If there is a conflict, real or perceived, between the regulations and the guidelines in this document, then the regulations shall take precedence. However, any such

conflict should be reported to the applicable Harbor Safety Committee. In the state of California Bunkering operations fall under following regulations:

- a. 33 CFR 152 Notice of Discharge and Removal of Discharged Oil*
- b. 33 CFR 155 Oil or Hazardous Material Pollution Prevention Regulations for Vessels*
- c. 33 CFR 156 Oil and Hazardous Material Transfer Operations*
- d. 46 CFR 30-40 Tank Vessels*
- e. CCR Title 14, Chapter 3, Subchapter 6 Oil Transfer and Vessel Operations*

Additionally, bunkering activities may also be subject to local regulations and terminal requirements and or guidelines. As laws and regulations may change from time to time, a vessel operator should check with their agent and/or local authorities for the most current regulations and requirements.

B. Best Maritime Practices – BUNKERING

Maritime safety is a people process. Virtually every marine accident or oil spill is the result of human error. The below Best Maritime Practices have been developed to further mitigate the risk of spills to deck and or water. It is well-trained people working conscientiously together that make safe seamanship a reality.

1. Prior to Arrival of the Receiving Vessel

a. Pre-Arrival Information (Receiving Vessel)

Prior to bunkering, the following information will be provided to the delivering barge company by the receiving vessel:

- Estimated time of arrival.
- Location in port where bunkering will take place.
- Name and Contact information for the vessel's QI (Qualified Individual).
- Copy of California Vessel Oil Spill Contingency Plan Approval Letter.
- Confirmation of Federal and State Certificates of Financial Responsibility ('COFR').
- Verification of the OSPR required spill kit onboard the ship.
- Location of bunker station
 - distance forward from the vessel's stern.
 - distance of bunker connection from water line to rail.
 - distance of bunker connection from rail.
 - bunker manifold flange size and bolt configuration.
 - Side of vessel, port or starboard.
- Complete the Pre-Arrival Check List.
- Acknowledgement that Hot Work and other restricted activity will not be conducted until the delivering vessel has departed.

b. Notifications *

The ship should make notifications to their OSRO and their twenty-four hour shoreside QI in the event they are contracted through 3rd party services.

c. Identify Person-In-Charge*

The first step in safe bunkering is to identify the vessel's Person-In-Charge ('PIC'), who is responsible for the bunkering operation. They must be a licensed or authorized master, mate or engineer.

d. Identify the Oil Transfer Procedures

The PIC must identify and be familiar with the vessel's oil transfer procedures.

Oil Transfer Procedures shall be prominently posted for easy reference!

▪ **Transfer Procedures shall include;**

- The location of pipelines, valves, vents and overflows,
- The numbers and duties of people assigned to the transfer operation,
- All relevant procedures before, during and following oil transfer,
- Detail critical steps for communication,
- Steps for topping off tanks, and
- Steps for initiating an emergency shutdown.
- Weather and sea state limits that require transfer shutdown.

e. Designate Key Transfer Personnel *

The Person-In-Charge is responsible for ensuring an adequate number of personnel are ready and available to safely execute the transfer process. While the number may vary with the ship, weather, and port there shall be no less than 3 individuals on the receiving vessel assigned to the operation, and these individuals shall have no other assigned duties during the transfer process.

f. Develop a Pre-Loading Plan (Receiving Vessel) Pre-Loading Plan Includes;

- **Tanks and Capacities**
- **Oil Level and Type**
- **Expected Final Tank Gauges and Percentage of Tank Capacity**
- **Tank Loading Sequence**

- **Monitoring Procedures**
monitoring includes the fuel oil transfer as well as tank levels and valve alignments.
- **Post a Completed Load Plan**
- **Max pressure at ships manifold**

- **Max rate of transfer**
- Personnel shall include:
 - Person-In-Charge (PIC) – Responsible for the transfer operation.*
 - Point-of-Transfer Watch – This person remains at the connecting point between the transferring and receiving vessels throughout the transfer process.
 - Deck Rover Watch – Responsible for monitoring the deck and over the sides for spills; should be aware of all the source locations for a potential release of oil.
 - Additional Personnel – Good seamanship dictates that there will be circumstances that require the receiving vessel to assign additional personnel. They may include but are not limited to the following.
 - Monitoring of multiple tank levels at different locations.
 - Topping of tanks.
 - Need for an anchor watch.
 - Rain or other environmental circumstances that affect the operation.
- The PIC will ensure that all personnel on their vessel assigned to the transfer operation are well rested and within their work hour limitations. Even a crewmember within their work hour limitations can be fatigued due to a number of circumstances. A fatigued crewmember should be relieved by a rested crewmember.

g. Pre-Arrival Training

A good bunkering operation begins with proper preparation. Everybody who is involved in the training session should be told everything about the bunker operation. Not more than 48 hours prior to arrival, all members of the crew that may be called upon to participate in the loading operation shall attend a training session. Training shall include:

- Review Bunkering -- Best Maritime Practices (BMP)
- Review Vessel Specific Transfer Procedures
- Review Crew Roles and Responsibilities
- Review Pre-Loading Plans
- Communication Procedures
- Stop the Transfer Responsibility

Ensure everyone involved in the bunkering operation knows he or she has the responsibility to stop the transfer process at any time, should anything appear to be out of order.

If watches will change during the bunkering operation, include relief personnel in training session and the pre-loading plan.

A log entry shall be made of the crewmembers, their rating and the time of the training session.

2. Bunkering Operations *

a. Prepare Deck and Receiving Areas

To include, but may not be limited to the following:

- Close and secure all required hatches, doors and portholes.
- Seal all scuppers and drains from which overflowing oil might spill over the side of the vessel.
- Ensure a well-lit receiving area to provide for efficiency, safety and crew alertness.
- Post all proper warning signs and signals.
- Make a visual inspection of all the applicable equipment on both the receiving and delivering vessels.

b. Mooring Equipment *

The delivering vessel shall be responsible for the safe mooring of their vessel alongside the receiving vessel. They shall 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 the maximum expected tidal, wave, and wind conditions.

c. Provide Safe Access Between Vessels

The receiving vessel must provide safe access to and from the barge utilizing a gangway or an appropriate accommodation ladder, in order to facilitate face to face communications between the receiving and the delivering vessels for purposes for a pre-transfer conference and other required communications.

Where safe access cannot be provided an alternate method of facilitating a face to face conference must meet the following guidelines and a notification will be made to OSPR and USCG by the delivering vessel;

- Both the receiving vessel and delivering vessel's PICs will still execute a conference in sight of each other with a clear method of communication in order to cover all items outlined in the pre-transfer document as well as the Declaration of Inspection.*
- Direct communications between PIC's will be made in order to alert the delivering vessel when the receiving vessel is topping off, or switching between tanks.*
- Reiterate the need for a 10 minute standby notice before any tank switches.
- Direct communications between both PICs no less than every 20 minutes.

d. Establish Communications *

The receiving vessel and delivering vessel shall agree on the communications to be used during the process. These include:

- Coordinating radio frequencies,
- Common English phrases,
- Proper hand signals, and
- Use of air horns.

Ensure everyone involved knows he or she has the responsibility to stop the transfer process at any time, should anything appear to be out of order

e. Conduct a Pre-Transfer Conference

Each pre-transfer conference is unique. Different people, different languages, different fuel requirements, different conditions all play a role in determining the content and structure of the conference. Out of these differences, a common understanding must be established and a common process used. The pre-transfer conference must include the following:

- Be conducted in English.
A vessel agent can arrange for a translator or interpreter. If one is necessary they must remain for the duration of the transfer operation.
 - Be conducted face to face. (Except as allowed for in Section c.)
 - Thoroughly review the Declaration of Inspection (DOI) and Load Plans, with both PICs discussing and initialing each item including:*
- Products, Sequence and Flow rate of Oil*
 - Key Procedures*
 - Identify Key Personnel*
 - Watch Changes*
 - MSDS information for the product(s) to be transferred*
 - Notification of Shutdown or topping off procedures.*

f. Connect Oil Transfer Hose*

Be sure to handle the hose carefully. It may still contain oil from a previous transfer.

The receiving vessel shall:

- Check the hose for obvious defects.
- Check the hose support and lead. The weight of the hose should not put undue strain on the manifold, rail or other fittings.
- Use a new unused gasket.
- Tighten all bolts, evenly, with a matching bolt in every hole.
- Double check alignment of all valves.
- Ensure containments are kept free and clear of debris and rain water.

g. Complete and Sign the Declaration of Inspection (DOI)*

Both vessels must keep a copy of the DOI for 30 days, along with a copy of the vessels load plan.

h. Begin Fuel Delivery

- Fuel flow should commence at a slow rate.
- *All tanks should be sounded to ensure fuel is loading into the designated tanks and not into the wrong tanks.*
- The pressure should be monitored on the delivering and the receiving vessel's manifold. A high pressure reading could signal a blockage or improper alignment.
- Receiving vessel must alert barge crew at least 10 minutes before changing tanks, topping off tanks, or securing the loading operation.
- The delivering vessel and receiving vessel should compare the amount of fuel transferred between each vessel and at regular intervals. If upon comparison in the amount of fuel transferred, a discrepancy of concern is identified, the transfer should be secured until the discrepancy is rectified.
- Bunker transfer rate should be compared at regular intervals. This practice will help to avoid tank overfills and enable a PIC to estimate the time for topping off tank(s) or stripping of tank(s), tank switching and time of completion.
- Maintain constant communication. A regular schedule of communications should be established. Not to exceed 20 minute intervals, a status report exchange between the receiving vessel and delivering vessel shall take place*. This is in addition to the notifications above. **Failure to receive a response from any effort to communicate shall result in an immediate shutdown of operations.**
- Verify operation and accuracy of gauging systems.
- Test and verify bunker tanks alarm, settings and overflow alarm units.*
- Bunker tanks which have been secured should be checked frequently during the remaining loading operations to avoid an overflow.

i. Securing Bunker Operations and Disconnecting Transfer Hose

Upon securing of bunker operations;

- Check to make sure there is no flow at the manifold before closing the bunker manifold valve.
- The PIC's on both vessels should check fuel tank levels and verify all valves are securely closed.
- The receiving and delivering vessel's crews should verify that the hose is depressurized and drained back into the barge.

- The hose connection shall be blanked and bolted with a matching bolt in every hole. * It should be cleaned of any surface oil before being passed back to the delivery vessel.
- Hot Work and other restricted activity should remain secured until the delivering vessel has departed.

j. Number of Vessels Involved

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

- Each transfer has a separate Person in Charge ('PIC') unless otherwise approved by the Coast Guard Captain of the Port.
- That each system is completely separate from the other or is otherwise effectively isolated or segregated by means of blank (spectacle) flanges which may be visually verified.

3. Should a Spill Occur

a. STOP THE PRODUCT FLOW

- **Notify the barge immediately to Shut Down and inform the barge of what happened and whether or not the flow has been stopped.**
- Delivery vessel to inform receiving vessel when transfer is stopped.
- Bunker manifolds to be shut.
- When shut down, advise delivery vessel if outflow has stopped.
- Barge to commence deploying boom. (Even if release is not believed to have reached the water).

b. WARN PERSONNEL

- Ensure the personnel on the ship, barge and shore are aware of the spill and are taking the necessary precautions to remain safe and secure the vessel.

c. SHUT OFF IGNITION SOURCES

- Motors, electrical circuits, open flames, welding, etc.

d. CONTAIN / CONTROL SPILL

- Ensure the barge is deploying their boom
- Check ship's containment to ensure it is effective and sufficient

e. MAKE APPROPRIATE NOTIFICATIONS AS PER VESSEL OIL SPILL CONTINGENCY PLAN*

- CCR, Title 14, Chapter 3, §817.03(g) and §827.02(d), Shall make notification within 30 minutes, after discovery of a discharge or threatened discharge of oil into marine water. Required notifications shall not be construed as requiring notification before response.
- Communicate the incident to your company QI/OSRO*
 - Injuries
 - Damage
 - Extent of release

- Resources required
- State of California's CalEMA*
- National Response Center*

f. **Notify U.S. Coast Guard Vessel Traffic Service (VTS)**

4. **Port Specific Items**

a. **Heavy Weather**

- **Wind**: Vessels will not come alongside in preparation for bunkering at anchor or pier side if sustained winds are at or exceed 34 knots. If bunkering operations have already begun when sustained wind reach 28 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 34 knots bunkering operations will cease and hoses will be drained and disconnected.
- **Seas**: For bunkering operations from one vessel to another vessel while at anchor, operations will cease, and hoses drained and disconnected when waves or swells reach 5 ft. The wind and sea conditions criteria have been developed with industry input and are used by operating companies in California. These standards are based on historical observations and experience in handling these vessels under the above prevailing conditions. Heightened safety and precaution should be taken during short interval wave periods.
- **Electrical Storm**: When an electrical storm is anticipated in the vicinity of a bunker transfer, shutdown and secure transfer operations. All tank openings and ventilation valves must be closed, including any bypass valve fitted on the tank venting system.*
- **Sheltered Waterway**: The aforementioned wind and sea guidelines may not be applicable when a receiving vessel is being bunkered at a wharf or pier in a sheltered waterway. 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.
- **Tug Availability**: During bunkering operations with the potential to have adverse weather conditions involving vessels at anchor, at least one tug will remain ready to render assistance during the entire bunkering operation. 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.

5. **Ongoing Compliance and Continual Improvement**

a. **Drills and Exercises**:*

Equipment deployment drills shall be conducted twice a year by each bunker delivery company in each port. . These drills shall be conducted in an environment and under

conditions similar to those that would be encountered during an actual oil transfers operation.

- The ability to deploy oil spill boom shall be drilled to demonstrate proficiency to the Administrator.
- At least one of these drills will be monitored by OSPR staff, and any documentation generated, including the list of the crew participating in the drill, will be submitted to OSPR. OSPR's Drills and Exercises Unit must be contacted in advance to schedule these monitored equipment deployment drills.
- If oil spill boom has been successfully deployed during a transfer operation, this may be counted toward the twice a year equipment deployment requirement. Any relevant documentation generated, including the list of the crew participating in the deployment, will be submitted to OSPR.
- Vessel transfer units that utilize the services of an OSRO for standby booming, that have been rated to deploy the containment equipment, are not required to meet the twice yearly equipment deployment drills.
- In addition to these scheduled equipment deployment drills, the Administrator may also require the successful completion of an announced or unannounced equipment deployment drill.

The vessel owner/operator shall maintain adequate records of drills and exercises, for a period of at least three years, to include records of any off-vessel drills and exercises (i.e., drills and exercise not held aboard the vessel) of the spill response organization and resources identified in the contingency plan. These records shall be maintained at the United States location of either the Qualified Individual or the vessel owner/operator. Contingency plans should indicate the location of these records. All exercises conducted aboard the vessel shall be documented in the vessel's log.

When the owner/operator possess like boom deployment systems on their vessels, it is adequate to run a drill on one system, as a representative of the entire company.

b. **Inspections and Monitoring:***

The OSPR Administrator should carry out an inspection program which shall include the following:

- The Administrator shall conduct a system safety inspection of each delivery vessel engaged in transfer operations in the marine waters of California. Such an inspection should determine whether the vessel is in compliance with equipment, procedures, and other requirements as specified in this Plan.
- Monitoring transfer operations at the transfer site, including monitoring pre-booming requirements.
- Additionally, twice a year equipment deployment drills shall be conducted by the bunker delivery companies in each port to meet the booming requirements.
- The bunker company has successfully demonstrated to the Administrator their ability to deploy and maneuver boom through deployment drills demonstrating the following: sufficient boom, trained personnel and equipment, maintained in

a stand-by condition at the point of transfer, such that at least 1200 feet of boom, or an amount sufficient to meet the containment requirements, whichever is greater, can and will be deployed for the most effective containment immediately, but no longer than 30 minutes, after discovery of a spill.

Prior to each transfer operation, the transfer unit shall provide, for the duration of the entire transfer operation, either pre-booming or standby booming if the aforementioned requirements are not met. These standards may not reflect the exigencies of actual spill response. However, these standards must be used to determine the amount of equipment and personnel that must be available, in such cases pre-booming may be required.

c. **Pre-Booming**.*

Transfer units must carry or provide at the point of transfer appropriate equipment and supplies for the containment and removal of both persistent oil, and #1 and #2 grade oil spills in water adjacent to the transfer site. For pre-booming, the transfer unit shall deploy boom so as to enclose the water surface area adjacent to the receiving unit which will provide common containment area for:

- Either of the following:
 - The entire receiving unit and the point of transfer; or
 - Those portions of the receiving unit or seawall from which oil may spill into the water.
- Where the hull of the transfer unit or seawall is capable of acting as an effective barrier on the side of the receiving unit, the boom on that side may be deployed so that it provides containment of the receiving unit and the transfer unit or seawall.
- The boom shall be periodically checked and the boom position shall be adjusted as necessary throughout the duration of the transfer; especially during tidal changes and significant wind or wave events, to maintain maximum containment in the event that oil is spilled into the water.