

3.06 Dry Cargo Pollution Prevention & Response

Purpose

To minimize the potential of releasing dry cargo products into the marine environment by identifying and controlling the risks associated with vessel transfers. Additionally, this procedure outlines response and reporting protocols in the event of such a release. This procedure applies to Sprague terminals where dry cargo products (Herein referred to as cargo) are transferred between vessels and the facility.

Responsibility

The Terminal Manager is responsible for ensuring cargo transfers are subject to the risk assessment process explained by this procedure and may delegate aspects of this process to appropriately experienced terminal personnel.

Dry Cargo Persons in Charge (PIC) are responsible for adhering to additional safeguards described by a Risk Control Plan and shall report a discharge of cargo to the marine environment as required by this procedure.

Reference

- Form 19 – Dry Cargo Risk Assessment
- TOM 3.02 – Cargo Operations for Dry Bulk, Breakbulk, and Project Cargo

Definitions

Risk – For the purposes of this procedure, risk is defined as the combined likelihood of occurrence and the severity of consequences resulting from, or expected to result from, a cargo release into the marine environment.

Controls – Safeguards enacted to prevent conditions that could have the potential to result in a cargo release.

Dry Cargo Products – Non-petroleum, non-liquid cargos including but not limited to dry bulk cargos (E.g. salt, gypsum, coal, pet coke, fly ash, Portland cement, etc.), break bulk cargos (E.g. bailed solid recovered fuel, paper pulp, rolled paper, seaweed, bagged bulk, etc.), intermodal containers (I.e. TEU, FEU), and project cargos (E.g. windmill components, heavy lifts, etc.).

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Procedure

Risk Assessment - To determine the level of risk associated with a cargo transfer to or from a vessel, prior to the transfer Terminal Management shall assess the likelihood and consequence of releasing the cargo into the waters surrounding the dock and vessel using [Form 19 – Dry Cargo Risk Assessment](#).

The result of the assessment will be used to determine the appropriate control measures that may be needed to reduce the risk to as low as reasonably practicable (ALARP). This risk assessment may involve the following four phases: frequency assessment, severity assessment, risk factor determination, and a documented Risk Control Plan when required by this procedure.

- 1) Frequency Assessment - To estimate the frequency with which a release may occur, i.e. the *likelihood*, Terminal Management must account for a history of release at each of Sprague's terminals where the cargo to be transferred has been handled in the past. The following methods should be applied:
 - a) For cargos that are new to Sprague, the likelihood may be estimated by contacting the cargo's owner, industry partners, cargo surveyors, underwriters, or other resources that provide knowledge as to unique hazards associated with handling the cargo.
 - b) For cargos that are familiar to Sprague but without a history of release, the likelihood should be based on an objective analysis of the known hazards associated with the transfer.
 - c) Terminal Management shall account for the following conditions, as applicable to the cargo, when estimating the likelihood of a release during transfer:
 - i) For cargo being discharged from a vessel:
 - (1) The reported condition, from the load port and/or the vessel, regarding its stowage, packaging, and
 - (2) Damaged sustained when loaded or while in transit, if any.
 - ii) For cargo being loaded onto a vessel and already present at the terminal:
 - (1) Its condition, and
 - (2) Observable damage, if any.

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- iii) Lifting apparatus to be used for the transfer including slings, spreader bars or other lifting gear including its condition and working capacity.
 - iv) For pre-slung cargos, the adequacy of the sling as to how it secures the loads to be lifted and associated reliability.
 - v) Expected time needed to swing the cargo between lifting and setting down.
 - vi) The estimated number of picks needed to transfer the entirety of the cargo.
 - vii) The distance between the vessel's rail and the dock that the load must pass over. This is dependent on both the dock's design and the width of its fenders.
 - viii) Forecasted weather conditions for the duration of the cargo operation.
 - ix) The Terminal's level of experience with the cargo.
 - x) Previous loss history with the cargo, regardless of whether it resulted in a release into the marine environment.
- 2) Severity Assessment - To estimate the consequence *severity* of a release, Terminal Management should account for the following factors:
- a) The amount of cargo that could be released. For transfer operations utilizing shore based or shipboard cranes, this is estimated as the amount of cargo transferred in one lift.
 - b) The forecasted currents at the dock for the duration of the cargo operation and their effect on the distribution of the cargo in the marine environment.
 - c) The state and federal reportable quantity in the event the cargo is released into the marine environment.
 - d) The expected response complexity to a release of the cargo including the time and resources needed to mitigate such a release. Resources should account for both internal resources located at the terminal and external resources such as contracted responders and equipment.

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- 3) Risk Factor Determination – Once the *likelihood* and *severity* of a release has been estimated, Terminal Management should determine the *risk factor* using the risk factor matrix on [Form 19](#) and take the action required.
 - a) For cargo transfers with an estimated *tolerable* risk factor, cargo operations must still adhere to existing dry cargo safeguards including those required by [TOM 3.02 – Cargo Operations for Dry Bulk, Breakbulk, and Project Cargo](#).
 - b) For cargo transfers with an estimated *moderate* risk factor, the operation should be monitored for factors that could increase the likelihood of occurrence or consequence severity of a release. A loss event resulting from the transfer requires a reassessment of the risk level.
 - c) For cargo transfers with an estimated *substantial* risk factor, the operation is unacceptable and requires additional controls to lower the risk to an acceptable level. *Substantial* risk should result in a documented Risk Control Plan that is implemented before the commencement of cargo operations where practicable.
 - d) For cargo transfers with an estimated *intolerable* risk factor, the operation is unacceptable and the transfer operation should not begin until controls are introduced to lower the risk to an acceptable level. *Intolerable* risk should result in a documented Risk Control Plan that is implemented before the commencement of cargo operations where practicable.
- 4) Risk Control Plan - For a cargo operation resulting in a *substantial* or *intolerable* risk factor, Terminal Management must complete [Form 19](#) to document a Risk Control Plan describing the improved or additional safeguards needed to reduce the risk of release to as low as reasonably practicable.
 - a) For a cargo that is being handled for the first time at a Sprague owned terminal, Terminal Management shall confer with other dry cargo terminals at Sprague to determine if the cargo is also new to the company overall.
 - i) If it is not new to Sprague, then the experienced terminal shall share their best practices and lessons learned when handling that cargo with the terminal handling it for the first time.
 - ii) If the cargo is overall new to Sprague, Terminal Management must complete [Form 19](#) to document a Risk Control Plan.

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- b) Should the risk factor determination result in a required Risk Control Plan, the Managing Director of Terminal Operations shall be notified for review and approval of the RCP.
- c) Upon arrival of the vessel and prior to the commencement of cargo operations, Terminal Management shall verify that the planned safeguards are in place and validate the results of the [Dry Cargo Risk Assessment](#). If a new condition or factor is discovered that increases the likelihood or consequence severity of a release, the risk assessment shall be updated and controls improved and/or introduced accordingly.
- i) Risk Controls may include the following and are only provided here as examples:
 - (1) Suspending operations during periods of high or heavy winds.
 - (2) Netting around a load when secured to a hook.
 - (3) Netting, tarpaulins, or steel plates between the vessel's rail and dock face as show below.



- ii) The actual safeguards needed to prevent a release of cargo are terminal, vessel, and cargo specific and vary widely.

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- 5) Release Response and Reporting – While a release of cargo into waters around the dock and vessel may not always constitute an emergency, it is recommended that a release of cargo to the marine environment be treated in a similar manner as the release of a petroleum product. The goal of doing so is to provide an equal level of prioritization, resources, and internal support as an oil spill receives so that the impact of the dry cargo release is minimized.
- a) In the event that a reportable quantity of dry cargo is released, the response should follow the steps outlined in the terminal's Emergency Response Action Plan (ERAP) when responding to an emergency release of petroleum. They are:
 - i) Notify all onsite personnel including the vessel's officer in charge.
 - ii) Suspend the transfer operation if doing so will lessen the impact of the release.
 - iii) If there is an immediate hazard created by the release, contact emergency services. If the hazard is immediately dangerous to life or health, evacuate the dock and/or vessel as appropriate.
 - iv) If not immediately hazardous, an initial Incident Commander should be designated. This is typically the Dry Cargo PIC or senior most onsite employee.
 - v) The safety of the scene, dock and/or vessel should be assessed and response efforts only taken if safe to do so.
 - vi) The source of the release should be controlled if possible.
 - vii) The release should be contained if possible.
 - viii) Internal notifications beginning with the Terminal Manager.
 - ix) Internal notification of the Managing Director, Terminal Operations.
 - x) External notifications to the appropriate response contractors and regulatory agencies should be made at the direction of the Terminal Manager as listed in the Terminal's ERAP.
 - xi) The above actions, as well as ongoing response actions, should be documented in a response log.

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Records

- The Terminal Manager shall maintain all completed Dry Cargo Risk Assessments, in hardcopy or electronic format, for cargo transfers estimated to present a *substantial* or *intolerable* level of risk for a period of **10 years**.
