

Ship-to-ship transfer while underway



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Increasing numbers of tankers are involved in ship-to-ship (STS) transfers and the industry has grown over the last two decades. Transfers are now being carried out at various locations around the globe and many coastal states have allocated designated areas along the coastline for transshipments.

STS transfers are cost-effective both for the operator and for the coastal state, but they present an increased risk of contact, fire and pollution.

The guidelines

The IMO has produced the guidelines *MEPC 186(59)* which are included in a new Chapter 8 to MARPOL Annex I regarding the prevention of pollution during the transfer of oil cargo between oil tankers at sea while underway or at anchor. These regulations laid the following requirements, amongst others:

- The tanker must have an approved STS plan.
- The coastal state must be notified prior to an STS operation.

Guidelines on the STS plan should be in accordance with the requirements of the *IMO Manual on Oil Pollution Prevention, amended section 1* and *Ship to Ship Transfer Guide* which is jointly published by the Chemical Distribution Institute (CDI), the International Chamber of Shipping (ICS), the Oil Companies International Marine Forum (OCIMF) and the Society of International Gas Tanker and Terminal Operators (SIGTTO).

Personnel and responsibilities

An STS plan should require that the operation is carried out under the advisory control of an individual designated as the Person in Overall Advisory Control (POAC). This could be the master of one of the ships or the mooring master in the event that an STS service provider is utilised for the operation. The POAC should be qualified as detailed in the STS guide

and the IMO Manual. The POAC is in an advisory role and their appointment does not in any way relieve ships' masters of any of their duties, requirements or responsibilities.

STS operations when both ships are underway

STS operations while both ships are underway pose a greater risk than operations with one ship at anchor.

Before undertaking an STS transfer while underway, the following requirements should be reviewed to offset this risk:

- A thorough risk assessment of the operation should be carried out.
- STS checklists Nos. 1 to 5 should be completed and complied with.
- Ship characteristics, sea room, traffic density, water depth, the availability of a safe anchorage and emergency abort conditions should be checked prior to selecting the area for the manoeuvre and the STS operation.
- 'Abort manoeuvre' action and signal should be agreed.
- Prevailing weather and current, along with weather forecast for the entire operation, should be checked.
- Fenders, mooring equipment and transfer hose should be tested and certified.

We have seen increasing numbers of operators using tugs to assist with the mooring operation when the STS manoeuvre is carried out with one ship at anchor. However, the risk is much greater when both ships are underway.

Ship-to-ship transfer while underway continued

- Crew should be experienced and trained for such operations, and a safety drill should be carried out prior to the operation.
- Contingency planning and emergency procedures should be reviewed and agreed.
- Record-keeping should be maintained.
- Extra crew should be available to manage fatigue as the operation involves navigational watch along with cargo watch.
- Dedicated support vessels should be available to respond in an emergency.
- Both ships should maintain the required speed for a minimum of two hours.
- The angle of approach between the vessel manoeuvring and the vessel maintaining constant heading should be decided based on the prevailing conditions.
- The effect of wind and swell on the manoeuvre should be established.
- A mooring plan should be discussed in advance and agreed. Mooring lines should be prepared accordingly.
- The hydrodynamic interaction between the two ships should be understood and appreciated by the bridge team. The disturbed free surface between the ships can lead to significant wave forces on the hull – a low-pressure field occurring between the hulls due to increased fluid velocity can lead to suction forces attracting the two ships.

We recommend that members seek assistance in agreement with the flag and the coastal state to engage specialised service providers that are experienced in carrying out STS operations. These service providers adhere to the flag/state requirements and provide the operator with certified equipment and expertise to ensure the safety of the ship and the environment.

