

CHAPTER 21

Communications

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This chapter provides guidance for communications between the tanker and terminal and pre-arrival communications between the tanker and local authorities. It addresses communication exchanges between tanker and terminal before berthing and mooring and before and during cargo, ballast or bunkering operations, including emergency communication procedures.

21.1 Procedures and precautions

21.1.1 Communications equipment

Telephone and portable Very High Frequency/Ultra High Frequency (VHF/UHF) and radiotelephone systems should comply with the appropriate safety requirements.

The terminal is responsible for providing the means of communication, including a backup system.

When dedicated telephones are used between the tanker and terminal, they should be continuously monitored by personnel on board and ashore, allowing immediate communication according to agreed procedures. Most mobile telephones and pagers are not intrinsically safe and are only considered safe for use in non-hazardous areas (see section 4.12.5 on mobile telephones and pagers).

When VHF/UHF systems are used, units should, preferably, be portable and carried by the Responsible Officer on duty and the Terminal Representative, or by personnel who can contact them immediately. When fixed systems are used, they should be continuously monitored by tanker and terminal personnel.

The system of communication, together with the necessary information on telephone numbers and/or channels to be used, should be agreed and documented during the pre-transfer conference. Representatives of both parties should sign the agreement form.

21.1.2 Communications procedures

To ensure operations are safely controlled, both parties are responsible for establishing, agreeing in writing and maintaining a reliable communications system. Exchange information in English and/or the common working language.

The primary system should be tested before loading or discharging starts and at intervals, as agreed, during the pre-transfer conference throughout cargo transfer operations.

A secondary standby system, that is separate and independent of the primary system, should also be established, agreed and tested. Allowance should be made for the time required for action in response to signals.

Emergency signals, and any other necessary signals, should be agreed during the pre-transfer conference before the start of cargo transfer.

When handling different products or grades, their names and descriptions should be clearly understood by tanker and terminal personnel assigned to cargo handling.

Avoid using a single VHF/UHF channel for more than one tanker/terminal combination.

English is the international language of the sea and should be used for verbal communication between the tanker and terminal. Any difficulties can be overcome by appointing a person with adequate technical and operational knowledge and a command of a language understood by tanker and terminal personnel (refer to the International Maritime Organization's (IMO) *Standard Marine Communication Phrases*, Resolution A.918(22)).

21.1.3 Compliance with terminal and local regulations

Tanker and terminal personnel must comply with the terminal's security, safety and pollution regulations. Terminals should make tankers aware of regulations by transmitting the Terminal Information Booklet (TIB) well in advance of arrival, together with any regulations issued by the port authority.

OCIMF's Marine Terminal Information System (MTIS) database provides terminal and ship operators, charterers and associated stakeholders with a single, central storage of terminal specific data in a consistent format (see chapter 15).

21.2 Pre-arrival exchange of information

Before the tanker arrives at the terminal, it should provide any information demanded by local, regional, national and international requirements.

The pre-arrival exchange of information between the tanker and terminal should cover items required in the Ship/Shore Safety Checklist (SSSCL) (see section 25.4), including the following detailed information.

21.2.1 Security information

Security protocols need to be agreed between the tanker and the port or terminal security officer. They should establish these during pre-arrival communications.

In addition to International Ship and Port Facility Security (ISPS) requirements, the tanker should provide the terminal with a list of approved visitors, including Agents, Surveyors and Loading Masters. Stores delivery, bunker barges and garbage disposal should be communicated before arrival and agreed at the pre-transfer conference and the details recorded.

21.2.2 Terminal to tanker

The terminal should ensure that the tanker is provided with the facility's TIB and advise the tanker of any defects to terminal equipment. The information that should be contained in the TIB is detailed in the latest edition of OCIMF's *Marine Terminal Information Booklet: Guidelines and Recommendations*.

21.2.3 Tanker to terminal

Whenever possible, the following information should be sent at least 24 hours before arrival:

- Tanker's name, call sign and IMO number.
- Country of registration.
- Length Overall (LOA).
- Beam.
- Arrival draught (fwd, mid and aft).
- Estimated time of arrival.
- Deadweight/displacement.
- If loaded, the type and quantity of cargo and disposition, including any toxic properties.
- Maximum draught expected during cargo handling and when completed.
- Any defects in the hull, machinery or equipment.
- Inert Gas (IG) system, if fitted, is operational and where applicable the tanker's cargo tanks are inert (oxygen content less than 8% volume).
- If an alternative fuel system is used, e.g. Liquefied Natural Gas (LNG), confirmation that the control systems are operational.
- Any need for tank cleaning and/or gas freeing.
- Whether Crude Oil Washing (COW) is to be used and that the pre-arrival checklist has been completed.
- Tanker manifold details, including type, size, number, distance between centres of connections to be presented and the products to be handled at each manifold, numbered from forward.
- Proposed cargo handling, including grades, sequence, quantities and any rate restrictions.
- Quantity and nature of slops and dirty ballast and any contamination by chemical additives. Identification of any toxic components, such as hydrogen sulphide (H₂S) or benzene.
- Quantities and specifications of any bunkers required, including delivery method.
- Ballast on board and individual tank quantities.
- Last calibration certificate of the gas detection system and gas meters, including the IG system.
- Security level currently in effect for the tanker.
- Winterisation procedure, if applicable.
- Contracted Oil Spill Response Organisation (OSRO).
- Any specific additional requirements detailed in the TIB.

21.3 Pre-berthing exchange of information

The pre-arrival exchange of information between the tanker and terminal should cover pre-berthing checks required by the SSSCL (see section 25.4), including the following information detailed below.

21.3.1 Tanker to terminal and/or pilot

On arrival at the designated position and/or pilot station, the Master should establish direct communications with the terminal and/or pilot station. After the Pilot has boarded, the following information should be exchanged:

- Master/Pilot information exchange documentation (see ICS' *Bridge Procedures Guide*).
- Location of the chocks, bollards and strong points that can be used for towing.
- Safe Working Load (SWL) of towing equipment.
- Number and location of areas on the tanker's hull that are strengthened or suitable for pushing, and details of the identification marks.
- Summary of up-to-date critical information for the port call.
- Details of the tanker's mooring system (see OCIMF's *Mooring Equipment Guidelines*).

21.3.2 Terminal and/or pilot to tanker

Before mooring, the Master and Pilot should verify they have received details of the mooring plan, safe access plan, e.g. gangway placement, and the terminal's operating limits. The mooring plan and communications during mooring should be specified. The Master should review these and agree them with the terminal and/or Pilot or Mooring Master.

Any deviation from the agreed mooring plan required by changing weather conditions should be communicated to the Master as soon as possible.

Information should include:

For all types of berth:

- Plan for approaching the berth, including turning locations, environmental limits and maximum speeds.
- The characteristics and number of tugs, mooring boats and other external facilities, including Minimum Breaking Load (MBL) of towlines.
- Any special conditions, e.g. weather, depth of water, tidal currents and marine traffic, that may be expected during the passage.
- Tanker's mooring requirements (number, type, length).
- Safe access arrangements.

For quay and/or jetty berths:

- Information on mooring arrangements.
- Number, SWL and position of bollards or quick release hooks.
- Number and location of jetty manifold connections or Marine Loading Arms (MLAs).
- Limitations of the fendering system and of the maximum displacement, approach velocity and angle of approach for which the berth and fendering system have been designed.
- Details of any berthing aids, such as Doppler radar or laser equipment.
- Any feature of the berth that is considered essential to bring to the prior notice of the Master.

For all offshore terminals, the:

- SWL of the tanker's hose handling equipment.
- Number and flange size of the hoses to be connected and details of any equipment that the tanker should provide to help with hose handling.

For Multi Buoy Moorings (MBMs), (All Buoy Moorings (ABMs) and Conventional Buoy Moorings (CBMs)):

- Minimum number of shackles of cable required on each anchor that may be used during mooring.
- Number and position of mooring lines, shackles and other mooring equipment likely to be needed.

For Single Point Moorings (SPMs):

- Diameter of the chafe chain links used in the mooring.
- Weight of each of the moorings to be lifted on board.
- Length and size of any messenger lines to be used to pick up the moorings.
- Minimum dimension of bow chock or lead required.
- Method to make the SPM fast to the tanker and details of any equipment the tanker should provide.

Further information is in OCIMF's *Guide for Offshore Tanker Operations, Guidelines for the Design, Operation and Maintenance of Multi Buoy Moorings* and *Single Point Mooring Maintenance and Operations Guide*.

21.4 Pre-transfer conference

Safe and efficient cargo, ballast and bunkering operations depend on effective cooperation and coordination between all the parties involved. This section covers information that they should exchange before operations begin to ensure completion of the SSSCL, including pre-transfer agreements as per section 25.4.3.

In addition to the pre-transfer conference, the responsible parties from the tanker and the terminal should continue the additional checks required in other relevant parts of the SSSCL.

21.4.1 Tanker to terminal

Before transfer operations start, the Responsible Officer should inform the terminal of the general arrangement of the cargo, ballast and bunker tanks.

Information in preparation for loading cargo and bunkers:

- Details of the last cargo carried, method of tank cleaning (if any) and state of the cargo tanks and lines.
- Grade, volume and tank distribution of any part-cargo on board on arrival.
- Maximum acceptable loading and topping-off rates.
- Maximum acceptable pressure at the cargo manifold.
- Cargo quantities verified and agreed by tanker and terminal.
- Proposed cargo distribution and preferred order of loading.
- Maximum acceptable cargo temperature (where applicable).
- Proposed method of venting.
- Quantities and specifications of bunkers required.
- Quantity, quality and distribution of slops.
- Where applicable, the quality of any IG.
- Communication system for loading control, including the signal for emergency stop.

Information in preparation for cargo discharge:

- Cargo specifications.
- Any toxic components (H₂S, benzene, lead additives or mercaptans).
- Any cargo characteristics requiring special attention, e.g. pour point and True Vapour Pressure (TVP).
- Flashpoint of any relevant products and their temperatures on arrival.
- Distribution of cargo on board by grade and quantity.
- Quantity and distribution of slops.
- Any unaccountable change of ullage in the tanker's tanks since loading.
- Any water dips in cargo tanks.
- Preferred order of discharge.
- Maximum discharge rates and pressures.
- Whether tank cleaning, including COW, is required.
- Approximate start time and duration of ballasting into permanent ballast tanks and cargo tanks.

21.4.2 Terminal to tanker

The following information should be provided to the Responsible Officer.

Information in preparation for loading cargo and bunkers:

- Cargo specifications and the preferred order of loading.
- Any toxic components (H₂S, benzene, lead additives or mercaptans).
- Tank venting requirements.
- Any cargo characteristics requiring special attention, e.g. pour point or high TVP.
- Flashpoints of products and their estimated loading temperatures, particularly when the cargo is non-volatile.
- Bunker specifications.
- Proposed bunker loading rate.
- Nominated quantities of cargo to be loaded.
- Maximum shore loading rates.
- Standby time for normal pump stopping.
- Maximum pressure available at the tanker/terminal cargo connection.
- Number and sizes of hoses or arms available and manifold connections required for each product or grade of the cargo and any Vapour Emission Control Systems (VECSs).
- Limitations on the movement of hoses or/and arms.
- Communication system for loading control, including the signal for emergency stop.
- Safety Data Sheets (SDSs) for each product to be handled.

Information in preparation for cargo discharge:

- Terminal's acceptable order of discharge.
- Nominated quantities of cargo to be discharged.
- Maximum acceptable discharge rates.
- Maximum pressure acceptable at the cargo manifold.
- Number and sizes of hoses or arms available, the manifold connections required for each product or grade of the cargo and whether these arms are common with each other.
- Any limitations on the movement of hoses and/or arms.
- Any other limitations at the terminal.
- Communication system for discharge control, including the signal for emergency stop.
- Details of any booster pump(s) to be used during discharge.

21.5 Agreed loading plan

On the basis of the information exchanged, the Responsible Officer and Terminal Representative should draw up a written operational agreement that covers:

- Tanker's name, berth, date and time.
- Names of tanker and terminal representatives.
- Cargo distribution on arrival and departure.
- For each product:
 - Quantity.
 - Tanker's tanks to be loaded.
 - Shore tanks to be discharged. Lines to be used tanker/terminal.
 - Cargo transfer rate.
 - Operating pressure.
 - Maximum allowable pressure.
 - Temperature limits.
 - Venting system.
 - Sampling and gauging procedures.
- Any restrictions because of:
 - Electrostatic properties.
 - Emergency Shutdown (ESD) valve closing times.

This agreement should include a loading plan that indicates the expected timing and covers:

- The loading sequence for the tanker's tanks, taking into consideration:
 - De-ballasting operations.
 - Tanker and shore tank change over.
 - Avoiding cargo contamination.
 - Pipeline clearing for loading.
 - Other operations that may affect flow rates.
 - Trim and draught of the tanker.
 - Need to ensure that permitted stresses will not be exceeded.
- The initial and maximum loading rates, topping-off rates and normal stopping times, including:
 - Nature of the cargo to be loaded.
 - Arrangement and capacity of the tanker's cargo lines and gas venting system or vapour return, if applicable.
 - Maximum allowable pressure and flow rate in the tanker/terminal hoses or MLAs.
 - Precautions to avoid static electricity.
 - Any other flow control limitations.
- The method of tank venting to avoid or reduce gas emissions at deck level, accounting for:
 - TVP of the cargo to be loaded.
 - Loading rates.
 - Atmospheric conditions, including wind speed (see section 2.1.3.2) and electrical storms.
- Bunkering or storing operations.
- Emergency stop procedure.

Once the loading plan has been agreed, it should be signed by the Responsible Officer and Terminal Representative.

21.6 Agreed discharge plan

On the basis of the information exchanged, the Responsible Officer and Terminal Representative should draw up a written operational agreement that covers:

- Tanker's name, berth, date and time.
- Names of tanker and terminal representatives.
- Cargo distribution on arrival and departure.
- For each product:
 - Quantity.
 - Shore tanks to be filled.
 - Tanks to be discharged.
 - Lines to be used tanker/terminal.
 - Cargo transfer rate.
 - Maximum allowable pressure.
 - Temperature limits.
 - Venting system.
 - Sampling and gauging procedures.
- Any restrictions because of:
 - Electrostatic properties.
 - ESD valve closing times.

The discharge plan should include the details and expected timings of:

- The discharge sequence for the tanker's tanks, including:
 - Tanker and terminal tank change over.
 - Avoiding cargo contamination.
 - Pipeline clearing for discharge.
 - Any COW or other tank cleaning.
 - Any other movements or operations that may affect flow rates.
 - Trim and freeboard of the tanker.
 - Need to ensure that permitted stresses will not be exceeded.
 - Ballasting operations.
- The initial and maximum discharge rates, accounting for:
 - Specification of the cargo to be discharged.
 - Arrangements and capacity of the tanker's cargo lines, shore pipelines and tanks.
 - Maximum allowable pressure and flow rate in the tanker/terminal hoses or MLAs.
 - Precautions to avoid static electricity.
 - Any other limitations.
- Bunkering or storing operations.
- The ESD procedure.

Once the discharge plan has been agreed it should be signed by the Responsible Officer and the Terminal Representative.

21.7 Agreement to carry out repairs

21.7.1 Repairs on the tanker

The Responsible Officer should seek permission from the Terminal Representative and port authorities for any repair or maintenance work needed on a tanker moored at a berth. Agreement should cover the safety precautions, based on the nature of the work.

21.7.1.1 Immobilisation of the tanker

While a tanker is moored at a terminal its boilers, main engines, steering machinery and other equipment essential for manoeuvring should be kept ready so that the ship can move away from the berth in an emergency.

Repairs and other work that may immobilise the tanker should not be undertaken at a berth without written agreement from the terminal and port authority.

Any unplanned situation that causes the tanker to lose any operational capability, particularly to safety systems, should be immediately communicated to the terminal.

21.7.1.2 Hot work on the tanker

Hot work on the tanker should be prohibited until all applicable regulations and safety requirements have been met and a permit to work has been issued (see chapter 4). This process may involve the Master, operator, chemist, shore contractor, Terminal Representative and port authority.

21.7.2 Repairs on the terminal (communication)

When a terminal is set to build, repair, maintain, modify or dismantle facilities on or next to the berths, any tanker operating at the terminal needs to confirm that it agrees with the work before it starts. A risk assessment should be carried out (see chapter 4) and the risks managed to be As Low As Reasonably Practicable (ALARP).

21.7.3 Using tools while a tanker is alongside a terminal

Hammering, chipping, grit blasting or any power tools should be prohibited outside the engine room or accommodation on a tanker, or on a terminal where a tanker is moored, without the joint agreement of the Responsible Officer and the Terminal Representative and unless a permit to work has been issued.

In all cases, the Responsible Officer and the Terminal Representative should be satisfied that the area is and remains gas free when tools are being used, while observing the precautions in section 4.6.