

# **PART 4**

  

# **MANAGEMENT OF THE TANKER AND TERMINAL INTERFACE**



## Chapter 22

# COMMUNICATIONS

This Chapter deals with communications required between the tanker and the shore, including pre-arrival communications between the tanker and local authorities and between the tanker and the terminal. It addresses communication exchanges between the tanker and the terminal before berthing and before and during cargo, ballast or bunkering operations, including emergency communication procedures.

### 22.1 Procedures and Precautions

#### 22.1.1 Communications Equipment

Telephone and portable VHF/UHF and radiotelephone systems should comply with the appropriate safety requirements.

The provision of adequate means of communication, including a backup system between tanker and shore, is the responsibility of the terminal.

Communication between the Responsible Crew Member and the Terminal Representative should be maintained in the most efficient way.

When telephones are used, they should be continuously manned by persons, on board and ashore, who can immediately contact their superior. Additionally, it should be possible for that superior to override all calls.

When VHF/UHF systems are used, units should preferably be portable and carried by the Responsible Crew Member on duty and the Terminal Representative, or by persons who can contact their respective superior immediately. Where fixed systems are used, they should be continuously manned.

The selected system of communication, together with the necessary information on telephone numbers and/or channels to be used, should be recorded on an appropriate form. This form should be signed by both tanker and shore representatives.

#### 22.1.2 Communications Procedures

To ensure the safe control of operations at all times, it should be the responsibility of both parties to establish, agree in writing and maintain a reliable communications system.

Before loading or discharging commences, the system should be tested. A secondary standby system should also be established and agreed. Allowance should be made for the time required for action in response to signals.

Signals should be agreed for:

- Identification of tanker, berth and cargo.
- Stand by.
- Start loading or start discharging.
- Slow down.
- Stop loading or stop discharging.
- Emergency stop.

Any other necessary signals should be agreed and understood.

When different products or grades are to be handled, their names and descriptions should be clearly understood by the tanker and shore personnel on duty during cargo handling operations.

The use of one VHF/UHF channel by more than one tanker/shore combination should be avoided.

Where there are difficulties in verbal communication, these can be overcome by appointing a person with adequate technical and operational knowledge and a sufficient command of a language understood by both tanker and shore personnel.

### 22.1.3 Compliance with Terminal and Local Regulations

Terminals should have security, safety and pollution regulations, which must be complied with by both tanker and terminal personnel. All tankers at the terminal should be made aware of such regulations, together with any other regulations relating to the safety of shipping, which the appropriate port authority may issue.

## 22.2 Pre-Arrival Exchange of Information

Before the tanker arrives at the terminal, there should be an exchange of information on matters such as the following:

### 22.2.1 Exchange of Security Information

Security protocols need to be agreed between the tanker and the port or terminal security officer. Pre-arrival communications should establish who performs these functions and how they will be carried out.

### 22.2.2 Tanker to Appropriate Competent Authority

The tanker should provide information as required by international, regional, and national regulations and recommendations.

### 22.2.3 Tanker to Terminal

Wherever possible, the following information should be provided prior to arrival:

- Name and call sign of tanker.
- Country of registration.
- Overall length and beam of tanker and draught on arrival.
- Estimated time of arrival at designated arrival point, for example pilot station or fairway buoy.
- Tanker's displacement on arrival. If loaded, type of cargo and disposition.
- Maximum draught expected during and upon completion of cargo handling.
- Any defects of hull, machinery or equipment that could adversely affect safe operations or delay commencement of cargo handling.
- If fitted with an inert gas system, confirmation that the tanker's tanks are in an inert condition and that the system is fully operational.
- Any requirement for tank cleaning and/or gas freeing.
- Tanker's manifold details, including type, size, number, distance between centres of connections to be presented. Also products to be handled at each manifold, numbered from forward.
- Advance information on proposed cargo handling operations, including grades, sequence, quantities and any rate restrictions.
- Information, as required, on quantity and nature of slops and dirty ballast and of any contamination by chemical additives. Such information should include identification of any toxic components, such as hydrogen sulphide and benzene.
- Quantities and specifications of bunkers required, if applicable.

### 22.2.4 Terminal to Tanker

The terminal should ensure that the tanker has been provided with relevant port information as soon as practicable. For example:

- Depth of water at chart datum and range of salinity that can be expected at the berth.
- Maximum permissible draught and maximum permissible air draught.
- Availability of tugs and mooring craft together with any terminal requirements on their usage.
- Details of any shore moorings that will be provided.
- Which side to be moored alongside.
- Number and size of hose connections and manifolds.
- Whether a Vapour Emission Control (VEC) system is in use.
- Inert gas requirements for cargo measurement.
- Closed loading requirements.
- For jetty berths, arrangement of gangway landing space or availability of terminal access equipment.
- Advance information on proposed cargo specification, handling operations or changes in existing plans for cargo operations. Such information should include identification of any toxic components, such as hydrogen sulphide and benzene.
- Any restrictions on tank cleaning and gas freeing, that are applicable.

- Advice on environmental and load restrictions applicable to the berth.
- Facilities for the reception of slops, oily ballast residues and garbage.
- Security levels in effect within the port.

## **22.3 Pre-Berthing Exchange of Information**

### **22.3.1 Tanker to Terminal and/or Pilot**

On arrival at the port, the tanker's Master will establish direct communications with the terminal and/or the pilot station. The Master should advise the terminal of any deficiencies or incompatibilities in the tanker's equipment that might affect the safety of the mooring.

### **22.3.2 Terminal and/or Pilot to Tanker**

Before berthing, the terminal should provide the tanker's Master, through the pilot or Berthing Master, with details of the mooring plan. The procedure for mooring the tanker should be specified and this should be reviewed by the Master with the pilot or Berthing Master and agreed between them.

Information should include:

#### **For all Types of Berth**

- The plan for approaching the berth, including turning locations, environmental limits and maximum speeds.

#### **For Jetty Berths**

- Minimum number of tanker's moorings.
- Number and position of bollards or quick release hooks.
- Number and location of jetty manifold connections or hard arms.
- Limitations of the fendering system and of the maximum displacement, approach velocity and angle of approach, for which the berth and the fendering system have been designed.
- Any particular feature of the berth which it is considered essential to bring to the prior notice of the tanker's Master.

Any deviation from the agreed mooring plan made necessary by changing weather conditions should be communicated to the tanker's Master as soon as possible.

## **22.4 Pre-Transfer Exchange of Information**

Completion of safe and efficient cargo, ballast and bunkering operations is dependent upon effective co-operation and co-ordination between all parties involved. This Section covers information that should be exchanged before those operations begin.

## 22.4.1 Tanker to Terminal

Before transfer operations commence, the Responsible Crew Member should inform the terminal of the general arrangement of the cargo, ballast and bunker tanks, and should have available the information listed below:

### 22.4.1.1 Information in Preparation for Loading Cargo and Bunkers:

- Details of last cargo carried, method of tank cleaning (if any) and state of the cargo tanks and lines.
- Where the tanker has part cargo on board on arrival, grade, volume and tank distribution.
- Maximum acceptable loading rates and topping-off rates.
- Maximum acceptable pressure at the tanker/shore cargo connection during loading.
- Cargo quantities acceptable from terminal nominations.
- Proposed distribution of nominated cargo and preferred order of loading.
- Testing overfill and emergency equipment.
- Maximum acceptable cargo temperature (where applicable).
- Maximum acceptable True Vapour Pressure (where applicable).
- Proposed method of venting.
- Quantities and specifications of bunkers required.
- Distribution, composition and quantities of ballast together, if relevant, with time required for discharge and maximum light freeboard.
- Quantity, quality and distribution of slops.
- Quality of inert gas (if applicable).
- Communication system for loading control, including the signal for emergency stop.

### 22.4.1.2 Information in Preparation for Cargo Discharge:

- Cargo specifications.
- Whether or not the cargo includes toxic components, for example H<sub>2</sub>S, benzene, lead additives or mercaptans.
- Any other characteristics of the cargo requiring special attention, for example high True Vapour Pressure (TVP).
- Flashpoint (where applicable) of products and their temperatures upon arrival, particularly when the cargo is non-volatile.
- Distribution of cargo on board by grade and quantity.
- Quantity and distribution of slops.
- Any unaccountable change of ullage in tanker's tanks since loading.
- Water dips in cargo tanks (where applicable).
- Preferred order of discharge.
- Maximum attainable discharge rates and pressures.

- Whether tank cleaning is required.
- Approximate time of commencement and duration of ballasting into permanent ballast tanks.
- Testing pump emergency system.
- Testing overflow and emergency equipment.

## 22.4.2 Terminal to Tanker

The following information should be made available to the Responsible Crew Member:

### 22.4.2.1 Information in Preparation for Loading Cargo and Bunkers:

- Cargo specifications and preferred order of loading.
- Whether or not the cargo includes toxic components, for example H<sub>2</sub>S, benzene, lead additives or mercaptans.
- Tank venting requirements.
- Any other characteristics of the cargo requiring attention, for example high True Vapour Pressure.
- Flashpoints (where applicable) of products and their estimated loading temperatures, particularly when the cargo is non-volatile.
- Bunker specifications including H<sub>2</sub>S content.
- 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/shore cargo connection.
- Number and sizes of hoses or arms available and manifold connections required for each product or grade of the cargo and Vapour Emission Control (VEC) systems, if appropriate.
- Limitations on the movement of hoses or arms.
- Communication system for loading control, including the signal for emergency stop.
- Material Safety Data Sheets or similar for each product to be handled.
- Testing overflow and emergency equipment.

### 22.4.2.2 Information in Preparation for Cargo Discharge:

- Order of discharge of cargo acceptable to terminal.
- Nominated quantities of cargo to be discharged.
- Maximum acceptable discharge rates.
- Maximum pressure acceptable at tanker/shore cargo connection.
- Any booster pumps that may be on stream.
- Number and sizes of hoses or arms available and manifold connections required for each product or grade of the cargo, and whether or not these arms are common with each other.

- Limitations on the movement of hoses or arms.
- Any other limitations at the terminal.
- Communication system for discharge control including the signal for emergency stop.
- Testing overfill and emergency equipment.

## 22.5 Agreed Loading Plan

On the basis of the information exchanged, an operational agreement and a tanker/shore safety checklist should be made in writing between the Responsible Crew Member and the Terminal Representative covering the following, as appropriate:

- Tanker's name, berth, date and time.
- Names of tanker and shore representatives.
- Cargo distribution on arrival and departure.
- The following information on each product:
  - Quantity.
  - Tanker's cargo tank(s) to be loaded.
  - Shore tank(s) to be discharged.
  - Lines to be used tanker/shore
  - Cargo transfer rate.
  - Operating pressure.
  - Maximum allowable pressure.
  - Temperature limits.
  - Venting system.
  - Sampling procedures.
- Restrictions necessary because of:
  - Electrostatic properties.
  - Use of automatic shutdown valves.

This agreement should include a loading plan indicating the expected timing and covering the following:

- The sequence in which the tanker's cargo tanks are to be loaded, taking into account:
  - Deballasting operations.
  - Tanker and shore tank change over.
  - Avoidance of contamination of cargo.
  - Pipeline clearing for loading.
  - Other movements or operations that may affect flow rates.
  - Trim and draught of the tanker.
  - The need to ensure that permitted stresses will not be exceeded.

- The initial and maximum loading rates, topping-off rates and normal stopping times, having regard to:
  - The nature of the cargo to be loaded.
  - The arrangement and capacity of the tanker's cargo lines and gas venting system.
  - The maximum allowable pressure and flow rate in the tanker/shore hoses or arms.
  - Precautions to avoid accumulation of static electricity.
  - Any other flow control limitations.
- The method of tank venting to avoid or reduce gas emissions at deck level, taking into account:
  - The True Vapour Pressure of the cargo to be loaded.
  - The loading rates.
  - Atmospheric conditions.
- Any bunkering or storing operations.
- Emergency stop procedure.

A bar diagram may be a helpful means of depicting this plan.

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

## 22.6 Agreed Discharge Plan

On the basis of the information exchanged, an operational agreement and a tanker/shore safety checklist should be made in writing between the Responsible Crew Member and the Terminal Representative covering the following:

- Tanker's name, berth, date and time.
- Names of tanker and shore representatives.
- Cargo distribution on arrival and departure.
- The following information on each product:
  - Quantity.
  - Shore tank(s) to be filled.
  - Tanker's cargo tank(s) to be discharged.
  - Lines to be used tanker/shore.
  - Cargo transfer rate.
  - Operating pressure.
  - Maximum allowable pressure.
  - Temperature limits.
  - Venting systems.
  - Sampling procedures.
- Restrictions necessary because of:
  - Electrostatic properties.
  - Use of automatic shutdown valves.

The discharge plan should include details and expected timing of the following:

- The sequence in which the tanker's cargo tanks are to be discharged, taking account of:
  - Tanker and shore tank change over.
  - Avoidance of contamination of cargo.
  - Pipeline clearing for discharge.
  - Tank cleaning.
  - Other movements or operations which may affect flow rates.
  - Trim and freeboard of the tanker.
  - The need to ensure that permitted stresses will not be exceeded.
  - Ballasting operations.
  - Efficient stripping and discharging last of cargo's drainings.
- The initial and maximum discharge rates, having regard to:
  - The specification of the cargo to be discharged.
  - The arrangements and capacity of the tanker's cargo lines, shore pipelines and tanks.
  - The maximum allowable pressure and flow rate in the tanker/shore hoses or arms.
  - Precautions to avoid accumulation of static electricity.
  - Any other limitations.
- Bunkering or storing operations.
- Emergency stop procedure.

A bar diagram may be a helpful means of depicting this plan.

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

## **22.7 Agreement to Carry Out Repairs**

### **22.7.1 Repairs on the Tanker**

When any repair or maintenance is to be done on board a tanker moored at a berth, the Responsible Crew Member must inform the Terminal Representative. Agreement should be reached on the safety precautions to be taken, with due regard to the nature of the work.

#### **22.7.1.1 Immobilisation of the Tanker**

While a tanker is berthed at a terminal, its boilers, main engines, steering machinery and other equipment essential for manoeuvring should normally be kept in a condition that will permit the tanker to be moved away from the berth in the event of an emergency.

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

Before carrying out any repairs that may immobilise the tanker, it may also be necessary to obtain permission from the local port authority. Certain conditions may have to be met before permission can be granted.

Any unplanned condition that results in the loss of operational capability, particularly to any safety system, should be immediately communicated to the terminal.

#### 22.7.1.2 Hot Work on the Tanker

Hot Work on board the tanker must be prohibited until all applicable regulations and safety requirements have been met and a Permit to Work has been issued (see Section 9.3). This may involve the Master of the tanker, Company, chemist, shore contractor, Terminal Representative and port authority, as appropriate.

When alongside a terminal, no Hot Work should be allowed until the Terminal Representative and, where appropriate, the port authority has been consulted and approval obtained.

A Hot Work permit should only be issued after obtaining a gas free certificate from an authorised chemist.

#### 22.7.2 Repairs on the Terminal

No construction, repair, maintenance, dismantling or modification of facilities should be carried out on a tanker berth without the permission of the Terminal Representative. If a tanker is moored at the berth, the Terminal Representative should also obtain the agreement of the Master.

#### 22.7.3 Use of Tools whilst a Tanker is Alongside a Terminal

No hammering, chipping or grit blasting should take place, nor should any power tool be used, outside the engine room or accommodation spaces on a tanker, or on a terminal at which a tanker is berthed, without agreement between the Terminal Representative and the Responsible Crew Member, and unless a Permit to Work has been issued.

In all cases, the Terminal Representative and the Responsible Crew Member should satisfy themselves that the area is gas free and remains so while the tools are in use. The precautions in Section 4.5 should be observed.