

## TERMINAL REGULATIONS AND INFORMATION



### EXXONMOBIL REFINERY ROTTERDAM

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	External line	Terminal
<b>In event of a fire</b>	<b>+31 10 4874444</b>	<b>4444</b>
<b>In case of a medical emergency</b>	<b>+31 10 4874222</b>	<b>4222</b>
Main Control Room	+31 10 4874887	4887
Jetty Control Room	+31 10 4874530	4530
Main gate / Security	+31 10 4874104	4104
Phone operator	+31 10 4875911	9
Refinery Shipping Inspector	+31 10 4874302	4302
Ship Operations Inspector	+31 10 4874499	4499
	+31 10 4875116	5116
Harbor Coordination Center	+31 10 2521000	
	VHF channel 14	
	<a href="mailto:hcc@portofrotterdam.com">hcc@portofrotterdam.com</a>	
Botlek Stores	+31 10 4161133	
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## 1. INTRODUCTION

The Esso Refinery Terminal is equipped with two Ocean Tanker Jetties (no. 1 and 2), a combined Barge/coaster Jetty (no. 3), a Barge pier, a Sulphur pier, a RO-RO pier and a LPG pier (no.4).

On the jetties final products and raw materials are shipped or received for the ESSO Nederland Refinery and the EXXONMOBIL Aromatics Plant.

The objective of this booklet is to give a summary of terminal rules and regulations for the use of Captains and ship-owners or charterers.

the basis for these regulations are the Rotterdam port regulations, I.S.G.O.T.T. and terminal rules.

17<sup>th</sup> edition, June 2014

Shipping Inspector / SOI team

Esso Nederland and its employees are not to be held responsible for any misinterpretation or misjudgment or accident whatsoever arising from the summarized information contained in this booklet. Any question or conflictive interpretation of this information against your own knowledge, instructions or judgment should be discussed with the terminal representative before any dubious or potential unsafe operation or action is undertaken.

## 2. DEFINITIONS

### 2.1. Master

The appointed master of a seagoing vessel or his authorized deputy or any other person who for that being is in charge of the vessel

2.2. **Refinery Site Manager or Shift Team Leader.** The employee appointed by Esso who is responsible for all activities at the terminal.

2.3. **Loading master.** The employee appointed by Esso Nederland to supervise all activities on the jetty and onboard of ships moored at the jetty.

### 2.4. Ship Operations Inspector.

The employee appointed by Esso Nederland, who is responsible for coordinating a safe and pollution free berthing of ships and who shall check and demand that all conditions for a safe, pollution free operation are fulfilled by the ship and shore.

## 3. SAFETY REGULATIONS

### 3.1. Fire and firefighting

Alarm: 1 minute interrupted siren sound – all safe: 1 minute continuously siren sound.

Test alarm: 1 minute continuously – 1 minute interrupted – 1 minute continuously siren sound.

In event of an emergency at the refinery or terminal an alarm will be sounded by means of a siren.

Every first Monday of the month at 12:00 hours the fire-alarm will be tested.

#### Alarm in case of a fire on board or the jetty:

a: Raise alarm, if not done before

b: All cargo transfer operations must be stopped immediately

c: Prepare the vessel for immediate departure

d: Wait for instructions from the terminal representative

Alarm in case of fire on board / or the jetty:

a: Sound the alarm by means of a succession of long blasts on ship's whistle.

b: Inform Esso Control by shore radio or dial 0031104874444 with ship's telephone or 4444 from the shelter on the jetty.

c: Stop all cargo transfer operations.

In case of a fire on board a vessel in the 3th Petroleum Harbour the responsibility for fire-fighting rests with:

a) Vessels on stream or moored to buoys: Duty officer of the joined fire-brigade

b) Vessels moored at the jetties: Duty officer of the joined fire-brigade in collaboration with Port Authorities.

Generally the terminal fire-brigade will be on scene first and will, upon request of the master, assist in combating the fire.

d: Prepare vessel for immediate departure.

### 3.2. Fire precautions

Vessels firefighting equipment, including main and emergency fire pumps and 2 portable international approved extinguishers provided at the manifold, shall be kept ready for immediate use.

Fire hoses on fore and aft and also near the manifold shall be uncoiled and connected to the fire mainline with at least one fire pump maintaining pressure on the mainline.

The master is responsible for ensuring the shore firefighting arrangements are understood on board.

For firefighting purposes each jetty is equipped with:

a: A remote controlled water / foam monitor

b: Water monitors with hose connections on the pier deck

c: A number of portable fire extinguishers

d: An international shore fire connection

e: On the jetties 1 and 2 a remote controlled sprinkler installation for hard arm protection purposes

f: Evacuation masks equipped with pressurized air bottles at the entrance to the jetty

g: Escape bridge on the west side of jetty 1

#### Fire Wires (ETOPS)

Steel fire wires are not required

### 3.3. Mooring of boats / barges alongside tankers

Barges, tugboats and other small crafts are prohibited to approach within 25 meters distance of the vessel cargo compartments or remain alongside.

Except under the following conditions:

allowance to come alongside for the provision of bunkers, stores, freshwater, garbage and disposals					
Hazard Class	during loading	during discharging	during sampling	all operations stopped	remarks
Liquefied gas	no	no	no	yes*	only when loading arm is disconnected and ships equipment is closed *
Chemical products and products with a flashpoint $\leq 60\text{ C}^\circ$	no	no	no	yes*	only with all tanks and ships equipment closed *
Products with a flashpoint $> 60\text{ C}^\circ$	yes	yes	yes	yes	

### 3.4. Accidents

Any accident observed by a member of the ship's crew, either on board or on the terminal area, should be reported to the control center at once.

### 3.5. Smoking

Smoking on the jetty, ashore and on all open decks is strictly prohibited.

On vessels moored alongside the terminal, smoking is only allowed in those closed compartments as permitted by the master in consultation with the loading master. (see smoking notice)

### 3.6. Use of naked lights, torches, cell phones, radio and TV sets etc.

The use of naked lights, open fires, unapproved torches, radio and TV sets is prohibited in hazardous areas. Portable electric cables in above mentioned areas must be disconnected from power sources.

The use of cell phones, tablets, net- and notebooks is prohibited at the terminal, jetties and open decks of the vessel.

### 3.7. Ship's crew

During operations an adequate number of crew members must remain on board under continuous supervision of a responsible ships officer in order to deal with emergencies. One English or Dutch speaking crew member should continuously be in attendance on deck and in contact with the duty officer. He will report any abnormality to the duty officer.

### 3.8. Conditions to be observed during operations

All doors, portholes and openings leading from the main deck to the accommodation or technical rooms (other than the pump room) shall be kept closed, and doors, portholes and openings at any deck above the main deck which overlook the main deck shall be kept closed.

All ventilators where through gas can enter shall be suitable trimmed and mechanical ventilation and air-conditioning units shall be stopped, is gas is drawn into the accommodation.

All cargo hatches shall be kept closed and secured.

Venting vessels cargo tanks has to be carried out according to the IMO or BCH / IBC code regulation, except benzene containing products, see 3.11.

Loading shall be stopped or the loading rate to a particular tank shall be reduced at the discretion of either the loading master or the responsible ships officer, in case of an undesired accumulation of gasses on deck.

**Flame arrestors** are to be fitted to all appropriate places during loading, discharge or ballast operations.

### Thunderstorms and / or stormy weather conditions

During local thunderstorms all cargo operations will be suspended and all tank must be kept closed. All cargo operations will be stopped at wind force 8 and the loading arm will be disconnected at wind force 9. The final decision rests with the Refinery site manager or the shift team leader.

### 3.9. Static electricity

The following rules have to be observed strictly in order to eliminate the risk of static electricity during and after loading the following products:

All Aromatic products (benzene, toluene and xylenes) and all petroleum products (crud, fuel oil, LPG excluded).

- 1) No metallic or conductive objects such as sample cans, ullage tapes and thermometers should be lowered in to the vessel vessel cargo tanks during loading or for a period of 30 minutes after total completion of the loading.
- 2) The presence of floating foreign objects must be avoided at all times.
- 3) Contamination of the cargo with water must be avoided at all times.
- 4) As hard arms are equipped with isolation flanges, the use of bonding wires is forbidden under all circumstances.
- 5) The use of a "restricted device" as mentioned in the BCH- or IBC code is allowed:
  - a) under inerted conditions
  - b) when loading is completed and 30 minutes of relaxation time
  - c) if sounding pipes are installed which extend the full depth of the tank and are effectively bonded.

- 3.10. **Benzene or benzene containing products**  
Special precautionary measures are to be taken when loading or discharging these hazardous products.  
A special checklist has to be filled out. The threshold limit for a product to be handled as benzene is > 5% benzene.
- 3.11. **Benzene free status**  
When the previous cargo contained > 5% benzene, the vessel has to show a "benzene free certificate", indicating the vapor space in the tanks to be loaded or inspected at this terminal contains < 0.5 ppm benzene vapor.  
Otherwise the vessels tanks can't be inspected and the vessel may be rejected.
- 3.12. **Repairs**  
Performing repairs is prohibited on any vessel unless permission from terminal management and port authorities has been requested and granted in writing.
- 3.13. **Gas freeing, tank cleaning and drying tanks**  
Gas freeing, tank cleaning and drying tanks of vessels compartments alongside the terminal is not allowed.  
By exception the terminal shift team leader can allow such after approval of the port authorities, to be requested by the vessels agent. On a case by case basis, the terminal can decide to do a check by an independent surveyor to attend for tests and compliance to the safety regulations.  
The surveyor will be on vessels account.
- 3.14. **Prevention of sparking**  
Opening and closing hatches, connecting and disconnecting hard arms and any other operation on deck involving metal tools shall be carried out in such a manner to avoid generation of sparks.  
During operations, no maintenance activities are allowed on deck.
- 3.15. **Safety and environmental inspections**  
The Ship Operation Inspector will visit the vessel prior or during the operating. During his inspection he will be guided by the I.M.O. Recommendations or the Safe Transport, Handling and Storage of Dangerous Substances in Port Areas.  
Resolution MSC A.716 (17)
- 3.16. **Tank entry**  
Tank entry is not allowed. When tank entry is imperative, this is only acceptable under the following conditions:  
1) Charterer (buyer) has to ensure the necessity the cargo surveyor has to enter the vessels tank for inspection prior loading.  
2) Charterer (buyer) has to inform the terminal about the requirements for inside tank inspection by a surveyor accompanied with background information.  
3) Tank entry has to be carried out according the ISGOTT 5<sup>th</sup> edition, chapter 10 procedures and tank entry permit.  
4) If ISGOTT tank entry procedure can't be used, the master has to supply terminal ship tank entry procedure to be including relevant documents.  
5) Urgent repairs or inspection (no "hot work")  
6) Final approval for tank entry to be given by the terminal!
4. **LOAD AND DISCHARGE PROCEDURES**
- 4.1. **Notice of readiness**  
Notice of readiness will be tendered at the end of the vessels sea passage. Any time used thereafter for ships purposes e.g. awaiting pilot, moving to berth, mooring, de ballasting etc. shall not count as used "running hours", unless other conditions are agreed.  
The loading master will undersign this Notice of Readiness for receipt only.  
In general, the Esso loading master will connect the shore hard arm onto the vessel manifold direct after filling out the standard ship / shore safety checklist. This approach doesn't mean the vessel or its cargo has been finally accepted by the terminal after connection.
- 4.2. **Tanker lay-time**  
the vessels turnaround should be as short as possible. Lay-time shall commence after completion of mooring and shall end upon loading arms disconnected. Any time used for vessels purpose ea. (de)ballasting, bunkering, repairs et. shall not count as lay-time, any other lay-time solely used for tankers owners or charterers purposes may be charged to the owner or charterers at a rate per hour applicable for outsiders.
- 4.3. **Cargo handling procedure**  
Immediately after arrival, vessels staff shall cooperate with the terminal loading master to establish actual operation. Checklists and other formalities such as, safety rules, loading or discharge rates, communications and emergency stop procedures shall be discussed. In case of serious shortcomings the cargo transfer operations will be stopped and only resumed after efficient measures have been taken. Serious shortcomings will be reported to the ship owners or charterers.

- 4.4. **Ship gangway**  
Every vessel must provide, rig and tend a safe gangway for access to and from the vessel, if the terminal gangway is not available or doesn't fit properly. A life-buoy with no less than 30 meters of lifeline attached shall be positioned on the main deck near the gangway. A safety net shall be rigged under the gangway.
- 4.5. **State of readiness**  
The main engines and other essential machinery must be maintained in a state of readiness to vacate the jetty on short notice, unless otherwise agreed.
- 4.6. **Loading arms**  
The lowering, heaving and (dis)connection of loading hard arms, will be done by the loading master.  
After connection, the power drive of the hydraulic arms is disengaged and the hard arms will freely move with the (limited) movements of the vessel.
- 4.7. **Preparation of manifold (also see 7.7 / 7.8 / 7.9 / 7.11)**  
The manifold should be prepared to connect to the appropriate size of the hard arm. The quick release couplings require a clear working area.  
The clamps of the hydraulic quick release couplings may damage the flanges of a cast-iron manifold, therefore cast-steel presentation flanges are required. "Rotating" type manifold flanges will not be connected.  
The manifold flange must be vertical and equipped with a manifold valve which not may interfere with the hard arm.
- 4.8. **Cargo hoses**  
The use of hoses is not allowed for ship / shore connection.  
In case the use of hoses for interconnection of cargo lines onboard is unavoidable, connection should be done in such a way no leakage will occur. Hoses to be used for interconnections must be accompanied by a valid certificate.
- 4.9. **Quantity measurement and sampling**  
Ullaging, sampling, temperature and water finding activities will be carried out by an independent surveyor. A vessel representative for assist and witness activities is mandatory. Sampling of inerted tanks is not allowed, unless a closed sampling system is used. Special attention has to be given to the static electricity rules (see 3.9.)
- 4.10. **Vessel's cargo pumps**  
reciprocating pumps are not allowed.
- 4.11. **Communication**  
A shore radio to communicate with the terminal control room will be handed to the duty officer upon arrival. The duty officer should always be in possession of this shore radio in order to maintain communications with the terminal control room.  
The loadingmaster will instruct the ship's officer how to operate the shore radio and change the battery when needed. In case no radio contact is possible the control room can be contacted by telephone. In this case dial +314874887 on the telephone in the jetty shelter. Alternative communication (cellphone) will be provided by the loadingmaster.
- 4.12. **Conversational language**  
All officers in charge of cargo, ballast or bunker operations, must have a conversational proficiency in English or Dutch.
- 4.13. **Emergency stop procedure (red button)**  
Whenever an emergency stop is necessary – USE THE EMERGENCY SWITCH – installed on the ship's deck or those installed on the jetties. See 8.0. / 8.1.  
After activating the emergency switch, cargo pumps will be stopped and motor operated valves on the pier manifold will close automatically.  
Do inform the Esso control room by radio or telephone. For situation of the emergency switches, see 8.1.
- 4.14. **Attendance of operation**  
The terminal has assigned a loadingmaster to handle all ship / shore activities at jetty nr. 1, 2 and 3.  
In case of an emergency or corrective actions, the control room always have to be contacted by means of the shore radio.
- 4.15. **Overside operations**  
Except for bunkers, load fresh water or supply of stores, overside operations are not permitted unless permission of the terminal management is obtained.  
After the terminal is informed, the vessel has permission to test lifeboats. If the vessel wants to manoeuvre with the lifeboats it has to be reported to the port authorities prior to the actual test. (VHF ch. 14 or tel. +31102521000). Lifeboats equipped with gasoline engines are not allowed to be started, only lifeboats with gasoline or diesel engines.  
Lifeboats must stay in the proximity of the vessel.
- 4.16. LPG vessels will be requested to blow the shore equipment with warm gas.



- 4.17. **Vigilance alarm** (green button)  
All jetties are equipped with a vigilance alarm, operational during all operations and has to be accepted within a regular time sequence. The parameters of the vigilance alarm are set as follows:  
a – 15 minutes work time. After 15 minutes the alarm will be activated, recognizable by a white flashlight and claxon.  
After reset the timer will restart at zero minutes.  
b – 5 minutes reset time before loading will be automatically stopped (not applicable for discharge operations).
- 4.18. **Cargo acceptance**  
In some cases the hardarm will be connected directly after the ship is accepted. The cargo will be accepted after product quality agreement.
5. **AVOIDANCE OF POLLUTION**
- 5.1. **Pollution of harbour water**  
No hydrocarbons or ballast water containing hydrocarbons or chemicals shall be discharged or allowed to escape from any vessel in to the harbour.  
  
No leakage or spill on board shall be allowed to flow overboard. Scupper plugs must be in place and tightly sealed at all times. Any leakage into the harbour must be reported to the terminal control room at once.
- 5.2. **Discarding material overboard**  
It's strictly prohibited to throw any material, litter, waste or goods either solid or liquid, overboard. The master of the vessel in conjunction with the ship's agent, should make arrangements for disposal of such material if required. Litter from ship's left behind on the jetty or its surroundings will be removed on ship's account.
- 5.3. **Ballast water, Bilge water, Wash water, Slops and garbage**  
The terminal has no facilities to receive ship's ballast water, bilge water, wash water, slops or garbage.
- 5.4. **Oilspills and booms**  
In order to contain oilspills, all jetties are provided with a permanent oil boom, stored on a platform near the jetty.
- 5.5. **Excessive smoke**  
Excessive smoke from vessel's funnel and soot blowing is strictly prohibited by local authorities. Heavy fines could be imposed.
- 5.6. **Ballasting into cargo tanks**  
If ballast water has to be taken into cargo tanks of which previous cargo was a toxic product, ballasting of these tanks is not allowed.
6. **SHIP'S DOMESTIC MATTERS**
- 6.1. **Bunkers, water, stores, garbage and slop disposal by barge**  
Should the vessel require any bunker or other barges alongside, these barges should be ordered by the master either via the agent or the relevant charterer / owner of the vessel.  
These products will be supplied by barge only and is subject to restrictions of the Rotterdam Port regulation.  
In case of bunkers etc, ExxonMobil refinery has to be informed at least 2 hours prior to arrival of the vessel. Bunkers and/or stores may not interfere with cargo related operations and need terminal approval. (see 3.3.)
- 6.2. **Supply of stores, spareparts, victuals etc.**  
Stores, spareparts, victuals etc should be ordered by the ship's agent.  
No truck is allowed on the jetties and therefore it's advisable heavy parcels are delivered by barge, however subject to restrictions (6.1.). Materials and goods should be unloaded from the truck at the parking near the jetty entrance and transported to the ship by a "pallet truck".  
When a fork-lift is inevitable a permit, issued by the terminal shift team leader, must be obtained. The jetty and gangway may never be blocked by parcels, drums or any other object.  
Gas or oxygen cylinders have to be transferred from the jetty to the vessel in a special rack.  
The ship's crane is only to be used after consultation with the loadingmaster.  
Restrictions for the ship's crane; the crane boom and/or load may not cross the loadingarm and may not be above any piping involved in cargo handling.
- 6.3. **Fresh water**  
Fresh water is not available at our jetties, but can be ordered by barge. Terminal approval necessary (see 3.3.)

6.4. **Telephones**

The use of portable phones and/or cellphones outside the accomodation is prohibited at all time.

6.5. **Access to the terminal and refinery area's for crewmembers and visitors**

The ship's agent is responsible to provide the terminal security department with a complete crew list and a list of expected visitors. Only people whose name appear on this list and who is able to indentify themselves will be admitted to the refinery areas.

Taxi's used for transport of crewmembers and visitors will be admitted under the same conditions.

Movement to and from the main gate is only allowed by car or taxi(van).

6.6. **Dogs and other domestic animals.**

Dogs and other domestica animals shouls allways be kept on a lead.

7. **MARINE FACILITIES**

7.1. **Mooring**

It is the masters responsibility the vessel is safely moored under all circumstances. However in order to ensure safe cargo handling and avoid damage to the terminal installation, the ship operations inspector will check vessels and when found unsatisfactory, he will request the master to correct or adjust moorings. In extreme cases the loadingmaster may decide to suspend cargo handling. The following should be taken in consideration:

- a) The location of the terminal is rather sheltered, however there might be a possibility cargo handling has to be suspended due to extreme weather conditions. (to the discretion of the shift teamleader or site shift manager)
- b) Vessel's moorings should meet the requirements as indicated in the mooring diagram.
- c) The use of anchors is prohibited by Port Authorities.

7.2. **Mooring lines**

All mooring lines must be on self-stowing winch drums (split type preferred) fitted with brakes or required holding power. It's strongly preferred synthetic mooring lines are fitted on similar drums. Mooring wires and synthetic lines must be reeled on their drums in the direction which enhances brake holding force. It's strongly preferred winch brakes are tested periodically and proper settings are recorded.

Synthetic mooring tails, although not required and if used, have to meet OCIMF guidelines i.e. maximum length 11 meters, minimum breaking strength of 125% of the breaking strength of the wire to which they are attached and have to be connected to the wire with Mandel or Tongsberg shackels.

7.3. **Mooring criteria**

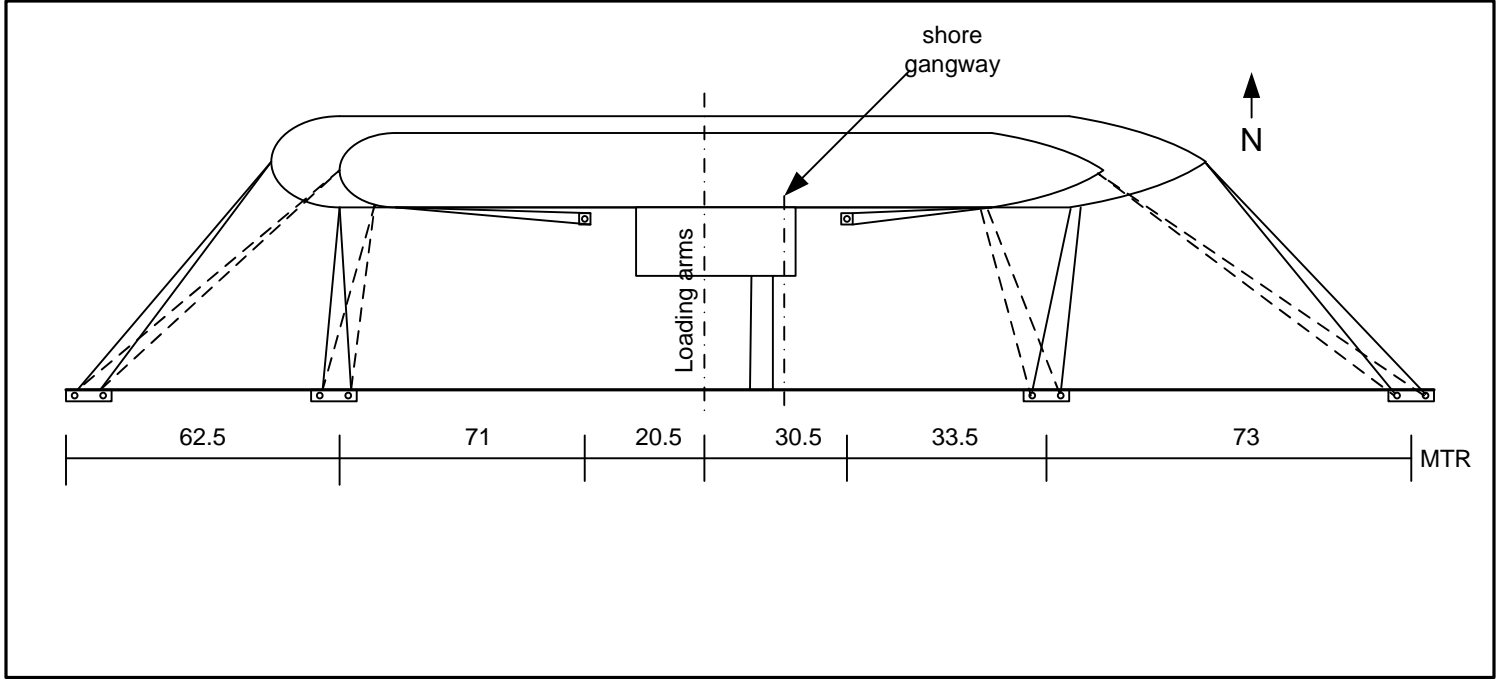
<b>VESSEL SIZE</b>	<b>MOORING RETENTION RANGE</b>
<b>below 5.1 kDWT</b>	<b>120 – 280 tons</b>
<b>5.1 – 10 kDWT</b>	<b>280 – 350 tons</b>
<b>10.1 – 17 kDWT</b>	<b>350 – 400 tons</b>
<b>17.1 – 45 kDWT</b>	<b>400 – 600 tons</b>

**Note:** mooring retention = number of mooring lines x line breaking strength if fittend on bolders  
mooring retention = number of mooring lines x winch brake holding capacity if fitted on drums

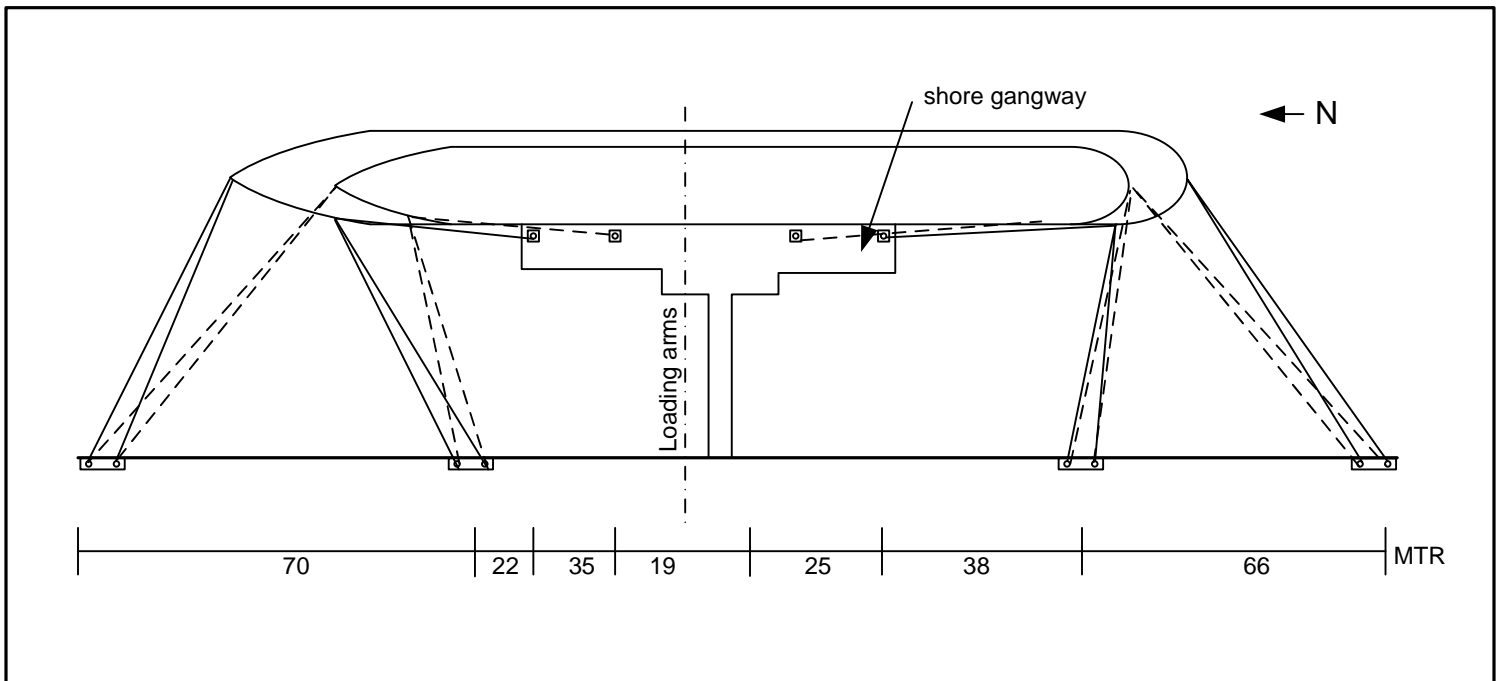
7.4. **Mooring position**

All vessel's should be moored bow out. Exceptions can be made, but permission by the Port Authorities as well as the refinery shift manager is obligatory. Gas ships are to be moored bow out whitout exception.

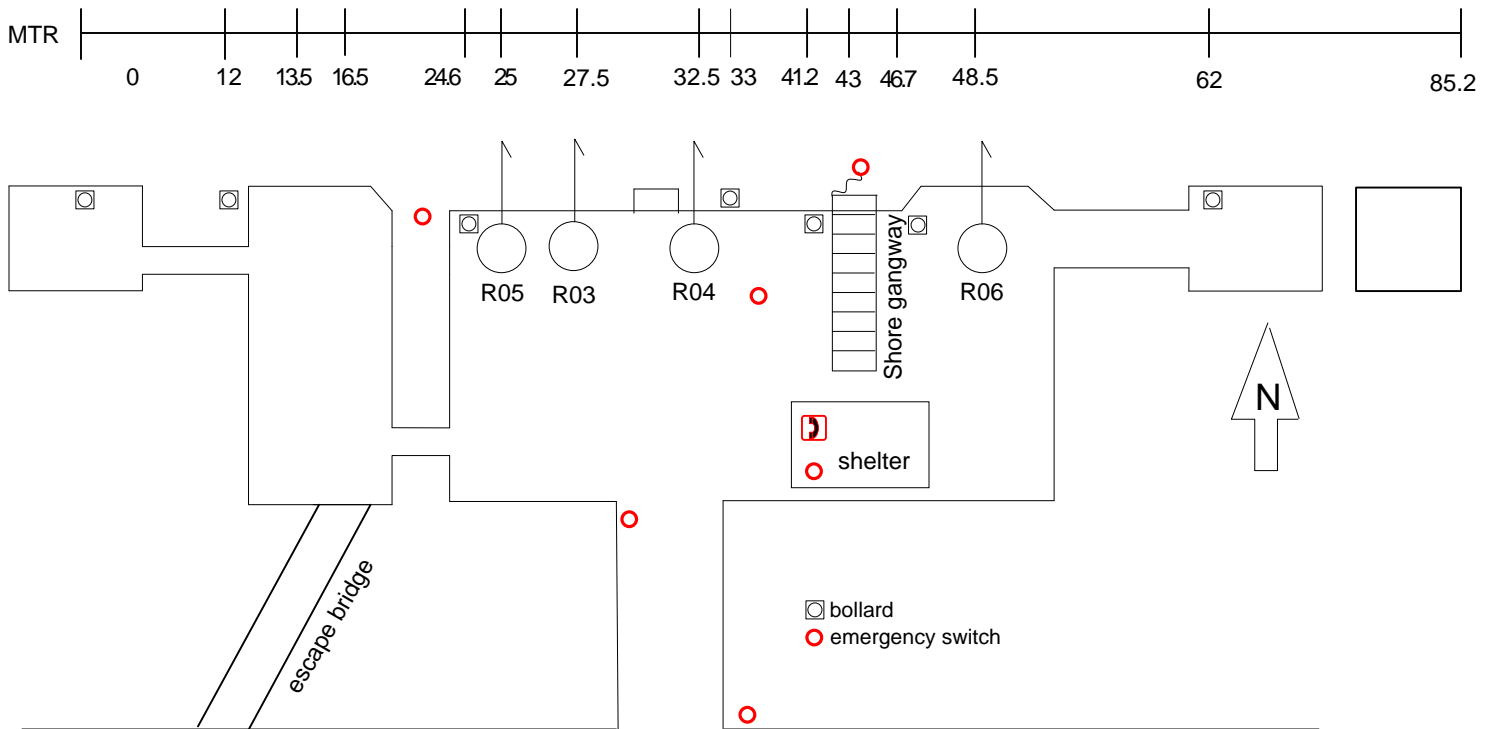
3<sup>rd</sup> Petroleum Harbour  
 Botlek Rotterdam  
 ExxonMobil Refinery Jetty I  
 General mooring arrangement



3<sup>rd</sup> Petroleum Harbour  
 Botlek Rotterdam  
 ExxonMobil Refinery Jetty 2  
 General mooring arrangement



## Jetty no I (harbour 4078)



Loadingmaster tel : 0031 10 4874530

Max. Draft : 38' (11.58 m)  
 Max. vessel freeboard for shore gangway : 13 m  
 Max. length overall : 755' (230 m)  
 Max. DWT : 47000 tons  
 Max. arrival displacement : 62000 tons  
 Max. moulded breadth : none

### State of tide required for berthing:

- to 33' (10.06 m) no restrictions
- from 33' (10.06 m) to 37' (11.28 m) not allowed during ebbtide
- from 37' (11.28 m) to 38' (11.58 m) berth at slack of HW
- Vessels with length over 720' (219.5 m) only berth at slack of LW or HW depending above drafts

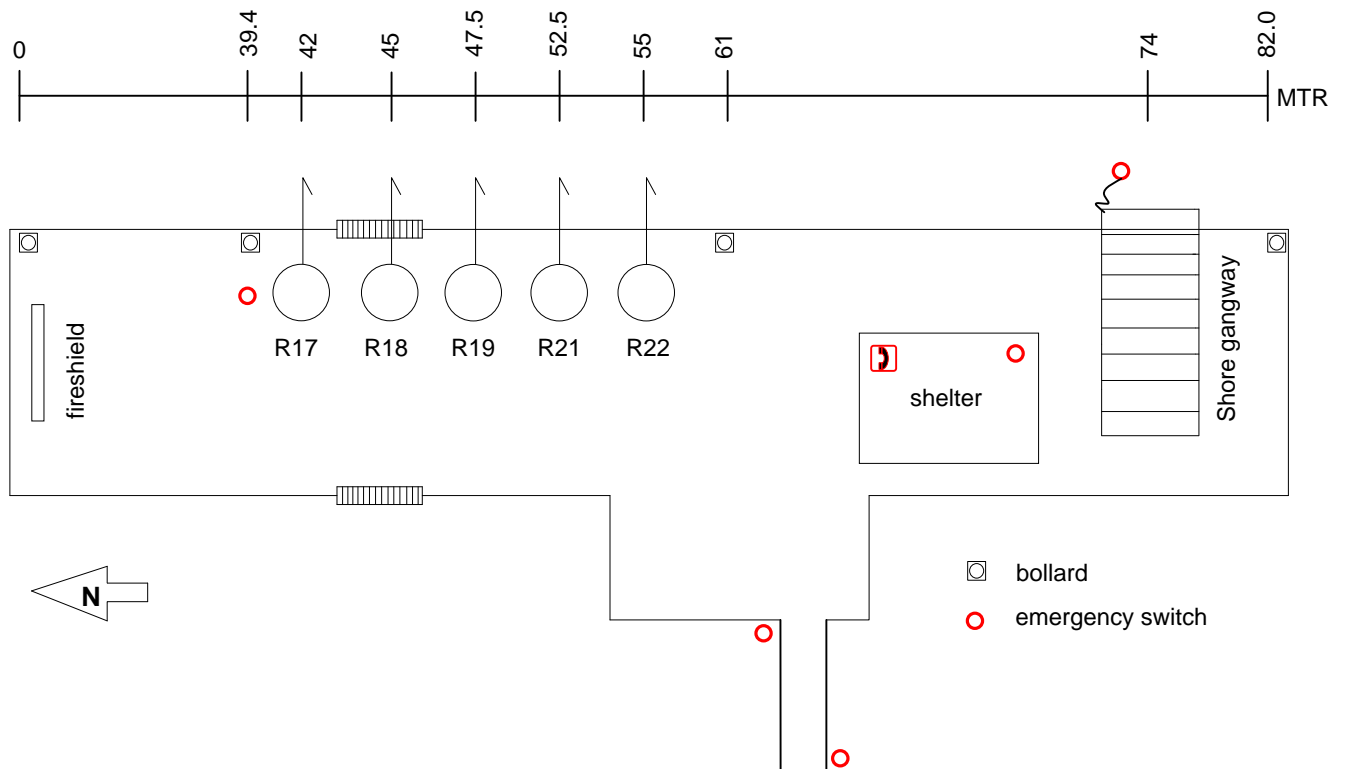
Mooring required : see diagram  
 Bunkers : by barge  
 Dirty ballast facilities : not available  
 Fresh water : by barge

R03 HYDROCRACKATE, FLEXFEED, CATFEED : 10" FMC quick coupling  
 R04 FAWLEY XYLENES, PARAXYLENE : 10" FMC quick coupling  
 R05 RBHC, SCN, NAPHTHA, GASOIL, GASCONDENSATE, SRAFF, IC5/HPF, ADOB0/ADOBX, PFF : 10" FMC quick coupling  
 R06 PROPANE, BUTANE : Emco Wheatson 10" ASA 300#  
 Vapour connection only by hoses

**Ships presentation flange must be ANSI standard B 16.5/150#**  
**Exception for R06 (gas-arm), which is 300#**

7.8

## Jetty II (harbour nr. 4069)



Loadingmaster tel : 0031 10 4874530

Max. Draft : 38' (11.58 m)  
 Max. vessel freeboard for shore gangway : 13 m  
 Max. length overall : 755' (230 m)  
 Max. DWT : 47000 tons  
 Max. arrival displacement : 62000 tons  
 Max. moulded breadth : none

**State of tide required for berthing:**

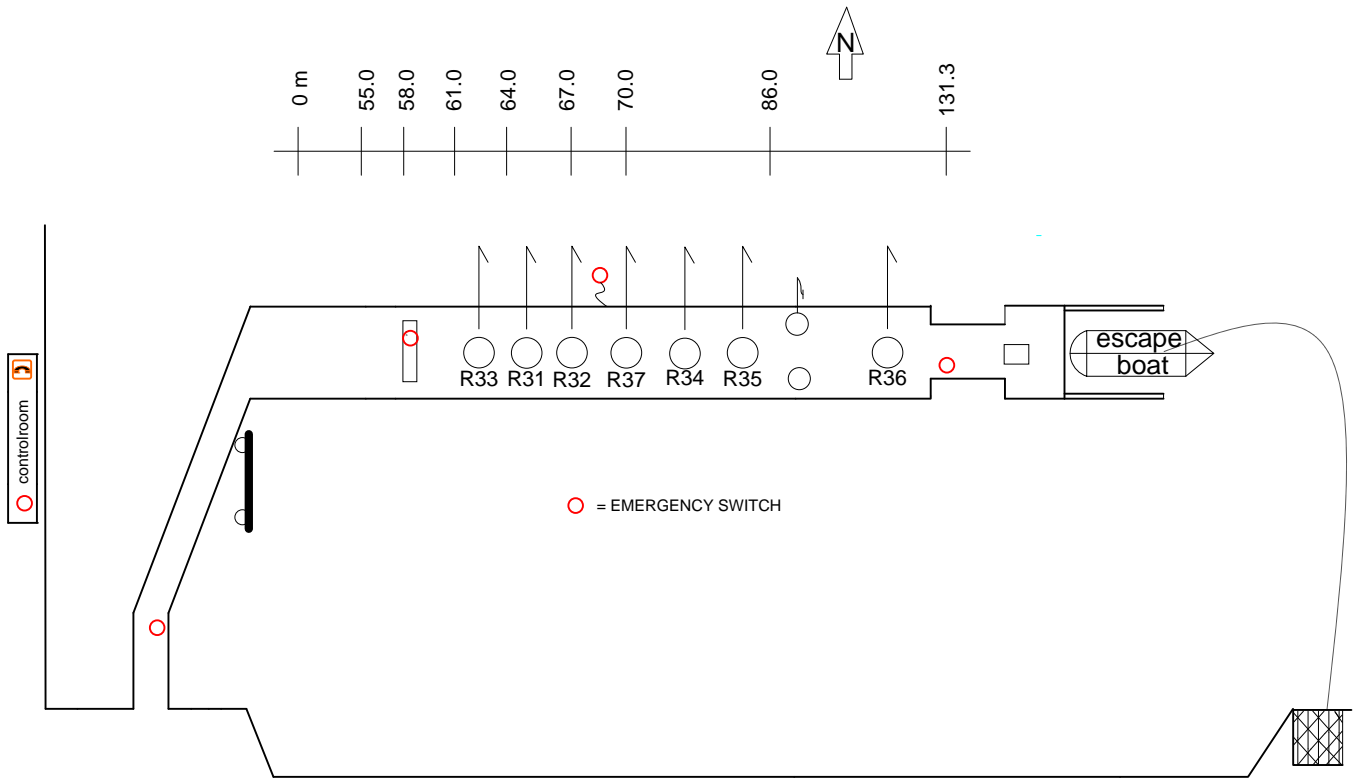
- to 33' (10.06 m) no restrictions
- from 33' (10.06 m) to 37' (11.28 m) not allowed during ebtime
- from 37' (11.28 m) to 38' (11.58 m) berth at slack of HW
- Vessels with length over 720' (219.5 m) only berth at slack of LW or HW depending above drafts

Mooring required : see diagram  
 Bunkers : by barge  
 Dirty ballast facilities : not available  
 Fresh water : by barge

R17 HYDROCRACKATE, CRACKATE, FLEXFEED, CATFEED : 10" FMC quick coupling  
 R18 BENZENE, CYCLOHEXANE : 10" FMC quick coupling  
 R19 FAWLEY XYLENES : 10" FMC quick coupling  
 R21 RBHC, SCN, TFA-1 : 10" FMC quick coupling  
 R22 VAPOUR RETURN : 10" FMC quick coupling

**Ships presentation flange must be ANSI standard B 16.5/150#**

## Jetty 3 (harbour nr. 4082)



loadingmaster tel	: 0031-104874530
Max. draft	: 5.7 mtr (18'08") temporary
Max. length overall	: 115 mtr. (only for seagoing vessels)
Max. D .W.T.	: 5200 tons
Max. arrival displacement	: 7600 tons
Max. moulded breadth	: none
State of tide required for berthing	: no restrictions
Bunkers	: by barge
Ballast facilities	: NOT available
Fresh water	: by barge
Vapour vent system	: between R 35 en R 36

R33 PARAXYLENE	BOLTED FLANGE 6" ANS/B 16.5/lbs 150
R31 NAPHTHA, RBHC, CONDENSATE, UNLOADING	BOLTED FLANGE 8" ANS/B 16.5/lbs 150
R32 ORTHOXYLENE	BOLTED FLANGE 6" ANS/B 16.5/lbs 150
R37 PARAXYLENE	BOLTED FLANGE 8" ANS/B 16.5/lbs 150
R34 OTHC DISTILATE, ADO B0	BOLTED FLANGE 8" ANS/B 16.5/lbs 150
R35 BUTANE, PROPANE	BOLTED FLANGE 150 mm - DIN / ND40
R36 PFFD, LVN, S-RAFFINATE,LOADING	BOLTED FLANGE 6" ANS/B 16.5/lbs 150

## LOAD / DISCHARGE INFORMATION

	PRODUCT	LOAD / DISCH	HARDARM	NORMAL FLOW t/hr	MAX PRESS	CONNECTION IN INCHES
Jetty 1	Vapor hose	L	R02	NA		8
	LPG refr. (deepsea vessels)	L+D	R06	C3 L 400 / D 800 C4 L 460 / D 800		10 (ASA 300#)
	Xylene Rich	D	R04	D 900	6.5 bar	10 ANSI B16.5 150#
	Paraxylene	L+D	R04	L 900 / D 700	6.5 bar	10 ANSI B16.5 150#
	Naptha's	L+D	R05	L 750 / D 1700	6.5 bar	10 ANSI B16.5 150#
	Gasoiils	L+D	R05	L2000 / D 1000	6.5 bar	10 ANSI B16.5 150#
	Condensate	D	R05	D 750	6.5 bar	10 ANSI B16.5 150#
	Hydro crackate	L+D	R03	L 2200	6.5 bar	10 ANSI B16.5 150#
	Dark products	D	R03	D 1500	6.5 bar	10 ANSI B16.5 150#
	RBHC/SCN naptha	D	R05	D 1300	6.5 bar	10 ANSI B16.5 150#
Jetty 2	Vapor return	L	R22	L 350 (m <sup>3</sup> /h)	6.5 bar	10 ANSI B16.5 150#
	Turbuo fuel A1	L	R21	L 550	6.5 bar	10 ANSI B16.5 150#
	RBHC/SCN naptha	D	R21	D 750	6.5 bar	10 ANSI B16.5 150#
	Heavy fuels	L+D	R17	L 2200 / D 2200	6.5 bar	10 ANSI B16.5 150#
	Cyclohexane	L+D	R18	L 350 / D 350	6.5 bar	10 ANSI B16.5 150#
	Xylene Rich	D	R19	D 1000	6.5 bar	10 ANSI B16.5 150#
Jetty 3	LPG press.	L+D	R35	L 100 / D 100		<b>150 mm DIN / ND 40</b>
	RBHC / Condensates / Naptha's import	D	R31	D 700		8 ANSI B16.5 150#
	Naptha's export	L	R36	L 500		6 ANSI B16.5 150#
	Gasoiils	L	R34	L 600		8 ANSI B16.5 150#
	Orthoxylene	L+D	R32	L 250 / D 250		6 ANSI B16.5 150#
	Paraxylene	L+D	R33	L 300 / D 300		6 ANSI B16.5 150#
	Paraxylene	L	R37	L 450 / D 450		8 ANSI B16.5 150#

## SHIP MANIFOLD REQUIREMENTS (figures are in meters)

hardarm	Jetty	distance from ship manifold to waterline		distance from ship presentation flange to fender / railing		longitudinal swing to each side of centre loadingarm.		distance from heart of loading line to deck or drippan platform.		cantilever length		max. force on manifold (tonnes)	
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	Vertical	horizontal
<b>LPG hardarm "Emco Wheation"</b>	1	1,5	19,8	1,85	5,75		3	0,65	1,45		1,2	3	1
<b>FMC loading hardarms</b>	1+2	0,5	17,5	1,5	8,0		3,5	0,65	1,45		1,2	3	1
<b>LPG hardarm</b>	3	1,0	6,00	1,10	4,50		2,80	0,45	1,45		1,2	3	1
<b>Gasoil</b>	3 north / south	0,6 0,6	5,77	1,5 0,9	4,0 4,0		3 3	0,45 0,45	1,50 1,50		1,2 1,2	3 3	1 1
<b>Clean petroleum products and Xylene</b>	3 north / south	0,6 0,6	5,79	1,5 0,9	4,0 4,0		3 3	0,45 0,45	1,50 1,50		1,2 1,2	3 3	1 1
<b>Para-Xylene (r37)</b>	n	0,6	7,00	0,9	4,0		3	0,50	1,50		1,2	3	1



## 8.1.2. Use of shore radio and emergency cell phone.

### Procedure for the use of a shore radio.

To be used for all business communication between vessel and Esso Control Room. The duty officer will keep this radio with him during the entire stay along the jetty. The radio is to be used in all emergency situations. The loadingmaster will give instructions how to operate the radio. The loadingmaster will change batteries when needed.

### RADIO CHECK:

- The radio is on channel "console F".
- Conduct radio checks by calling "ESSO BOTLEK" every two hours.
- If there is no answer, use your mobile or the telephone at the jetty to warn the terminal operator
- call +31 104874530 or +31 104874888



### Procedure for the use of a cell phone as a second back-up phone as agreed in the Ship Shore Safety Check List.

You receive a cell phone in a closed orange box.

You need to sign a receipt for the "Loan emergency cell phone" which document is in our Terminal Information and Regulation Booklet.

The use of the emergency cell phone is only allowed if you can't contact the control room in a different way. Our normal system is the shore radio on channel "Console F".

If the shore radio fails, you can use the telephone in our shelter ashore.

You can call the numbers as mentioned at the inside of the cover of our terminal regulation booklet.

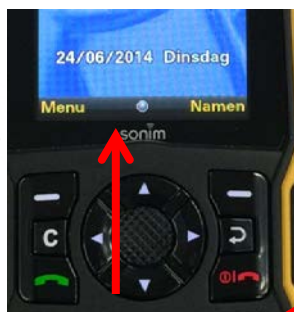
- If there is an emergency
  - **and** the shore radio fails
  - **and** it's also not possible to go to the shelter ashore
  - **then** you can use the loan mobile telephone.
- This emergency cell phone is in a orange box.

### PROCEDURE:

- Break the seal of the orange box.
- Take the phone out of the box.



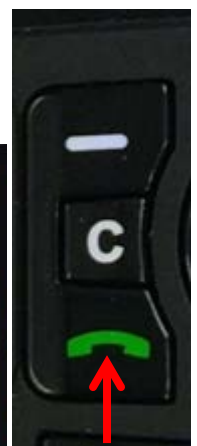
Main Screen



choose NAMES



Go to number with this button



Start call with green button

1 for Main Control Room	0031-10-4874887
2 for Jetty Control Room	0031-10-4874530
3 for Fire Emergency	0031-10-4874444
4 for Medical Emergency	0031-10-4874222
5 for the Main gate Security	0031-10-4874104

## 8.2 The Ship/Shore Safety Check-List

### 8.2.1 General

The responsibility and accountability for the safe conduct of operations while a ship is at a terminal are shared jointly between the ship's Master and the Terminal Representative. Before cargo or ballast operations commence, the Master, or his representative, and the Terminal Representative should:

- Agree in writing on the transfer procedures, including the maximum loading or unloading rates.
- Agree in writing on the action to be taken in the event of an emergency during cargo or ballast handling operations.
- Complete and sign the Ship/Shore Safety Check-List.

Terminals may wish to issue an explanatory letter to the Masters of visiting ships advising them of the terminal's expectations regarding the joint responsibility for the safe conduct of operations, and inviting the co-operation and understanding of the tanker's personnel. An example of the text for such a letter is in ISGOTT Section 26.3.4.

While the Ship/Shore Safety Check-List is based upon cargo handling operations, it is recommended that the same practice is adopted when a tanker presents itself at a berth for tank cleaning.

### 8.2.2 Guidelines for Use

Guidelines for completing the Check-List and to assist in responding to each individual statement are included in ISGOTT Section 26.4. They have been produced to assist berth operators and ship's Masters in their joint use of the Ship/Shore Safety Check-List.

The Master and all under his command should adhere strictly to these requirements throughout the ship's stay alongside. The Terminal Representative and all shore personnel should do likewise. Each party will be committed to co-operate fully in the mutual interest of achieving safe and efficient operations.

Responsibility and accountability for the statements within the Ship/Shore Safety Check-List are assigned within the document. The acceptance of responsibility is confirmed by ticking or initialling the appropriate box and finally signing the declaration at the end of the Check-List. Once signed, the Check-List details the minimum basis for safe operations as agreed through the mutual exchange of critical information.

Some of the Check-List statements are directed to considerations for which the ship has sole responsibility and accountability, some to considerations for which the terminal has sole responsibility and accountability, and there are others which assign joint responsibility and accountability. Shaded boxes are used to identify statements that generally would be applicable to only one party, although the ship or terminal may tick or initial such sections if they so wish.

The assignment of responsibility and accountability does not mean that the other party is excluded from carrying out checks in order to confirm compliance. It is intended to ensure clear identification of the party responsible for initial and continued compliance throughout the ship's stay at the terminal.

The Responsible Officer should personally check all considerations lying within the responsibility of the tanker. Similarly, the Terminal Representative should personally check all considerations that are the terminal's responsibility. In fulfilling these responsibilities, representatives should assure themselves that the standards of safety on both sides of the operation are fully acceptable. This can be achieved by means such as:

- Confirming that a competent person has satisfactorily completed the Check-List.
- Sighting appropriate records.
- Joint inspection, where deemed appropriate.

For mutual safety before the start of operations, and from time to time thereafter, a Terminal Representative and, where appropriate, a Responsible Officer, should conduct an inspection of the ship to ensure that the ship is effectively managing its obligations, as accepted in the Ship/Shore Safety Check-List. Similar checks should be conducted ashore. Where basic safety requirements are found to be insufficient, either party may require that cargo and ballast operations are stopped until corrective action is implemented satisfactorily.

### 8.2.3 Composition of the Check-List

The Ship/Shore Safety Check-List comprises four parts, the first two of which (Parts A and 'B') address the transfer of Bulk Liquids. These are applicable to all operations. Part A identifies the required physical checks and Part 'B' identifies elements that are verified verbally

Part 'C' contains additional considerations relating to the transfer of Bulk Liquid Chemicals and Part 'D' contains those for Bulk Liquefied Gases.

The safety of operations requires that all relevant statements are considered and the associated responsibility and accountability for compliance are accepted, either jointly or singly. Where either party is not prepared to accept an assigned accountability a comment must be made in the 'Remarks' column and due consideration should be given to assessing whether operations can proceed.

Where a particular item is considered not to be applicable to the ship, the terminal or to the planned operation, a note to this effect should be entered in the 'Remarks' column.

#### **8.2.4. Coding of Items**

The presence of the letters A, 'P' or 'R' in the column entitled 'Code' indicates the following:

**A** ('Agreement'). This indicates an agreement or procedure that should be identified in the 'Remarks' column of the Check-List or communicated in some other mutually acceptable form.

**P** ('Permission'). In the case of a negative answer to the statements coded 'P', operations should not be conducted without the written permission from the appropriate authority

**R** ('Re-check'). This indicates items to be re-checked at appropriate intervals, as agreed between both parties, at periods stated in the declaration.

The joint declaration should not be signed until both parties have checked and accepted their assigned responsibilities and accountabilities.

**8.2.5 ISGOTT The SHIP / SHORE SAFETY CHECK-LIST**  
**Esso Botlek Refinery**

Ship's Name.....

Berth..... Port.....

Date of Arrival..... Time of Arrival.....

**PART 'A' – BULK LIQUID GENERAL**

**PHYSICAL CHECKS**

		SHIP	Code	TERMINAL	REMARKS
1	There is safe access between ship and shore.		R		
2	The ship is securely moored.		R		
3	The agreed ship/shore communication system is operative.		A R		System: Shore radio Back Up: Jetty telephone / ship's cell phone / emergency cell phone  Ship's Mobile:
4	Emergency towing-off pennants are correctly rigged and positioned and ready for immediate use.				not applicable in the port of Rotterdam
5	The ship's fire hoses and fire-fighting equipment is positioned and ready for immediate use.		R		
6	The terminal's fire hoses and fire-fighting equipment is positioned and ready for immediate use.		R		
7	The ship's cargo and bunker hoses/pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.				
8	The terminal's cargo and bunker hoses/arms are in good condition, properly rigged and appropriate for the service intended.				
9	The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.				
10	Scuppers and 'save alls' on board are effectively plugged and drip trays are in position and empty.		R		
11	Temporarily removed scupper plugs will be constantly monitored.		R		
12	Shore spill containment and sumps are correctly managed.		R		
13	The ship's unused cargo and bunker connections are properly secured with blank flanges fully bolted.				
14	The terminal's unused cargo and bunker connections are properly secured with blank flanges fully bolted.				
15	All cargo, ballast and bunker tank lids are closed				
16	Sea and overboard discharge valves, when not in use, are closed and visibly secured.				
17	All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open.		R		
18	The ship's emergency fire control plans are located externally.				Location .....

If the ship is fitted, or required to be fitted, with an Inert Gas System (IGS) the following points should be physically checked:

		SHIP	Code	TERMINAL	REMARKS
19	Fixed IGS pressure and oxygen content recorders are working.		R		
20	All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.		P R		

**PART 'B' – BULK LIQUID GENERAL**

**VERBAL VERIFICATION**

		SHIP	Code	TERMINAL	REMARKS
21	The ship is ready to move under its own power.		P R		
22	There is an effective deck watch in attendance on board and adequate supervision of operations on the ship.		R		
23	There are sufficient personnel on board to deal with an emergency.		R		
24	The procedures for cargo and ballast handling have been agreed		A R		See operation arrangement
25	The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood.		A		see 3.1
26	Material safety data sheets (MSDS) for the cargo transfer have been exchanged.				
27	The hazards associated with toxic components in the cargo being handled have been identified.				H <sub>2</sub> S content : ..... Benzene content: .....
28	An International Shore Fire Connection has been provided.				
29	The agreed tank venting system will be used.		A R		Method .....
30	The requirements for closed operations have been agreed.		R		
31	The operation of the P/V system has been verified.				
32	Where a vapour return line is connected, operating parameters have been agreed.		A R		
33	Independent high level alarms, if fitted, are operational and have been tested.		A R		Ship 95% High Level % 98% High High Level
34	Adequate electrical insulating means are in place in the ship/shore connection.		A R		Isolating flange in hardarm
35	Shorelines are fitted with a non-return valve or procedures to avoid 'back filling' have been discussed.		P R		

		SHIP	Code	TERMINAL	REMARKS
36	Smoking areas have been identified and requirements with regard to smoking are observed.		A R		Nominated smoking areas: See 3.5
37	Naked light regulations are being observed.		A R		see 3.6
38	Ship/shore telephones, mobile phones and pager requirements are being observed.		A R		
39	Hand torches (flashlights) are of an approved type.				
40	Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.				
41	Portable VHF/UHF transceivers are of an approved type.				
42	The ship's main radio transmitter aerials are earthed and radars are switched off.				
43	Electric cables to portable electrical equipment within the hazardous area are disconnected.				
44	Window type air conditioning units are disconnected.				
45	Positive pressure is maintained inside the accommodation if applicable.				
46	Measures have been taken to ensure sufficient mechanical ventilation in the pump room.		R		
47	There is provision for an emergency escape.		A		
48	The maximum wind and swell criteria for operations has been agreed.		A		Stop cargo at: 8 Bft. Disconnect at: 9 Bft. Unberth at: Decision Supervisor
49	Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate		A		Shore: ISPS level Ship: ISPS level D.o.S. YES/NO
50	Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging ship's tanks, or for line clearing into the ship		A P		

**If the ship is fitted, or is required to be fitted, with an Inert Gas System (IGS), the following statements should be addressed:**

		SHIP	Code	TERMINAL	REMARKS
51	The IGS is fully operational and in good working order.		P		
52	Deck seals, or equivalent, are in good working order.		R		
53	Liquid levels in pressure/vacuum breakers are correct.		R		
54	The fixed and portable oxygen analysers have been calibrated and are working properly.		R		
55	All the individual tank IGS valves (if fitted) are correctly set and locked.		R		
56	All personnel in charge of cargo operations are aware that in the case of failure of the Inert Gas Plant, discharge operations should cease, and the terminal be advised.				
57	The Pre-Arrival COW check-list, as contained in the approved COW manual, has been satisfactorily completed.				
58	The COW check-list for use before, during and after COW, as contained in the approved COW manual, are available and being used.		R		

If the seagoing vessel is planning to carry out tank cleaning operations alongside, the following statements should be addressed:

		SHIP	Code	TERMINAL	REMARKS
59	Tank cleaning operations are planned during the ship's stay alongside the terminal.	YES NO*		YES NO*	
60	If 'yes' the procedures and approvals for tank cleaning have been agreed.				
61	Permission has been granted for gas-freeing operations.	YES NO*		YES NO*	

\*Delete Yes or No as appropriate

**PART 'C' – BULK LIQUID CHEMICALS**

**VERBAL VERIFICATION**

		SHIP	Code	TERMINAL	REMARKS
1	Material Safety Data Sheets are available, providing the necessary data for the safe handling of cargo.				
2	A manufacturer's inhibition certificate, where applicable, has been provided.		P		
3	Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the product being handled.				
4	Counter measures against accidental personal contact with the cargo have been agreed.				
5	The cargo handling rate is compatible with the automatic shutdown system, if in use.		A		
6	Cargo system gauges and alarms are correctly set and in good working order.				
7	Portable vapour detection instruments are readily available for the products being handled.				
8	Information on fire-fighting equipment and procedures has been exchanged.				
9	Transfer hoses are of suitable material, resistant to the action of the products being handled.				
10	Cargo handling is performed using the permanently-installed pipeline system.		P		

**PART 'D' – BULK LIQUEFIED GASES**

**VERBAL VERIFICATION**

		SHIP	Code	TERMINAL	REMARKS
1	Material Safety Data Sheets are available, providing the necessary data for the safe handling of cargo.				
2	A manufacturer's inhibition certificate, where applicable, has been provided.		P		
3	The water spray system is ready for immediate use.				
4	Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the product being handled.				





## 8.2.6 Guidelines for Completing the Ship/Shore Safety Check-List

### Part 'A'- Bulk Liquid General - Physical Checks

- 1. There is safe access between the ship and shore.**  
The access should be positioned as far away from the manifolds as practicable. The means of access to the ship should be safe and may consist of an appropriate gangway or accommodation ladder with a properly secured safety net fitted to it. Particular attention to safe access should be given where the difference in level between the point of access on the ship and the jetty or quay is large, or is likely to become large. When terminal access facilities are not available and a ship's gangway is used, there should be an adequate landing area on the berth so as to provide the gangway with a sufficient clear run of space and so maintain safe and convenient access to the ship at all states of tide and changes in the ship's freeboard. Near the access ashore, appropriate life-saving equipment should be provided by the terminal. A lifebuoy should be available on board the ship near the gangway or accommodation ladder. The access should be safely and properly illuminated during darkness. Persons who have no legitimate business on board, or who do not have the Master's permission, should be refused access to the ship. The terminal should control access to the jetty or berth in agreement with the ship.
- 2. The ship is securely moored.**  
When considering this item, due regard should be given to the need for adequate fendering arrangements. Ships should remain adequately secured in their moorings. Alongside piers or quays, ranging of the ship should be prevented by keeping all mooring lines taut. Attention should be given to the movement of the ship caused by wind, currents, tides or passing ships and the operation in progress. Wire ropes and fibre ropes should not be used together in the same direction (i.e. as breast lines, spring lines, head or stern lines) because of the difference in their elastic properties. Once moored, ships fitted with automatic tension winches should not use such winches in the automatic mode. Means should be provided to enable quick and safe release of the ship in case of an emergency. In ports where anchors are required to be used, special consideration should be given to this matter. Irrespective of the mooring method used, the emergency release operation should be agreed, taking into account the possible risks involved. Anchors not in use should be properly secured.
- 3. The agreed ship/shore communication system is operative.**  
Communication should be maintained in the most efficient way between the Responsible Officer on duty on the ship and the Terminal Representative. When telephones are used, the telephone both on board and ashore should be continuously manned by a person who can immediately contact his respective supervisor. Additionally, the supervisor should have a facility to override all calls. When radio systems are used, the units should preferably be portable and carried by the supervisor or a person who can get in touch with his respective supervisor immediately. Where fixed systems are used, the guidelines for telephones should apply. The selected primary and back-up systems of communication should be recorded on the check-list and necessary information on telephone numbers and/or channels to be used should be exchanged and recorded. The telephone and portable radio systems should comply with the appropriate safety requirements.
- 4. Emergency towing-off pennants are correctly rigged and positioned.**  
Unless the terminal specifically advises to the contrary, emergency towing-off pennants (fire wires) should be positioned on both the off-shore bow and quarter of the ship. At a buoy mooring, emergency towing-off pennants should be positioned on the side opposite to the hose string. There are various methods for rigging emergency towing-off pennants currently in use. Some terminals may require a particular method to be used and the ship should be advised accordingly.
- 5. The ship's fire hoses and fire-fighting equipment are positioned and ready for immediate use.**  
See Question 6 below.
- 6. The terminal's fire-fighting equipment is positioned and ready for immediate use.**  
Fire-fighting equipment on board and on the jetty should be correctly positioned and ready for immediate use. Adequate units of fixed or portable equipment should be stationed to cover the ship's cargo deck and the jetty area, having due regard to the presence of both the ship and nearby shore tanks. The shore and ship's fire-main systems should be pressurised or be capable of being pressurised at short notice. Both ship and shore should ensure that their fire-main systems can be inter-connected in a quick and easy way utilising, if necessary, the International Shore Fire Connection (see Question 28).
- 7. The ship's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.**  
See Question 8 below.
- 8. The terminal's cargo and bunker hoses or arms are in good condition, properly rigged and appropriate for the service intended.**  
Hoses should be in a good condition and properly fitted and rigged so as to prevent strain and stress beyond design limitations. All flange connections should be fully bolted and any other types of connections should be properly secured. Hoses and pipelines and metal arms should be constructed of a material suitable for the substance to be handled, taking into account its temperature and the maximum operating pressure. Cargo hoses should be indelibly marked so as to allow the identification of the products for which they are suitable, specified maximum working pressure, the test pressure and last date of testing at this pressure. If to be used at temperatures other than ambient, maximum and minimum service temperatures should be marked.

**9. The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.**

A positive means of confirming that both ship and shore cargo systems are isolated and drained should be in place and used to confirm that it is safe to remove blank flanges prior to connection. The means should provide protection against pollution due to unexpected and uncontrolled release of product from the cargo system and injury to personnel due to pressure in the system suddenly being released in an uncontrolled manner.

**10. Scuppers and save-alls on board are effectively plugged and drip trays are in position and empty.**

Where applicable, all scuppers on board should be properly plugged during the operations. Accumulation of water should be drained off periodically. The ship's manifolds should ideally be provided with fixed drip trays in accordance with OCIMF recommendations, where applicable. In the absence of fixed containment, portable drip trays should be used. All drip trays should be emptied in an appropriate manner whenever necessary but always after completion of the specific operation. When only corrosive liquids or refrigerated gases are being handled, the scuppers may be kept open, provided that an ample supply of water is available at all times in the vicinity of the manifolds.

**11. Temporarily removed scupper plugs will be constantly monitored.**

Scuppers that are temporarily unplugged, in order to drain clean rainwater from the cargo deck for example, must be constantly and closely monitored. The scupper must be re-sealed immediately in the event of a deck oil spill or any other incident that has the potential to cause pollution.

**12. Shore spill containment and sumps are correctly managed.**

Shore containment facilities, such as bund walls, drip trays and sump tanks, should be properly maintained, having been sized for an appropriate containment volume following a realistic risk assessment. Jetty manifolds should ideally be provided with fixed drip trays; in their absence, portable drip trays should be used. Spill or slop transfer facilities should be well maintained and, if not an automatic system, should be readily available to deal with spilled product or rainwater.

**13. The ship's unused cargo and bunker connections are properly secured with blank flanges fully bolted.**

See Question 14 below.

**14. The terminal's unused cargo and bunker connections are properly secured with blank flanges fully bolted.**

Unused cargo and bunker connections should be closed and blanked. Blank flanges should be fully bolted and other types of fittings, if used, properly secured.

**15. All cargo, ballast and bunker tank lids are closed.**

Apart from the openings in use for tank venting (see Question 29), all openings to cargo, ballast and bunker tanks should be closed and gas tight. Except on gas tankers, ullaging and sampling points may be opened for the short periods necessary for ullaging and sampling, which activities should be conducted taking account of the controls necessary to avoid electrostatic discharge. Closed ullaging and sampling systems should be used where required by international, national or local regulations and agreements.

**16. Sea and overboard discharge valves, when not in use, are closed and visibly secured.**

Experience shows the importance of this item in pollution avoidance on ships where cargo lines and ballast systems are interconnected. Remote operating controls for such valves should be identified in order to avoid inadvertent opening. If appropriate, the security of the valves in question should be checked visually.

**17. All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open.**

External doors, windows and portholes in the accommodation should be closed during cargo operations. These doors should be clearly marked as being required to be closed during such operations, but at no time should they be locked. This requirement does not prevent reasonable access to spaces during operations, but doors should not be left open when unattended. Engine room vents may be left open. However, consideration should be given to closing them where such action would not adversely affect the safe and efficient operation of the engine room spaces served.

**18. The ship's emergency fire control plans are located externally.**

A set of fire control plans should be permanently stored in a prominently marked weather-tight enclosure outside the accommodation block for the assistance of shoreside fire-fighting personnel. A crew list should also be included in this enclosure.

**If the ship is fitted, or is required to be fitted, with an inert gas system (IGS), the following points should be physically checked:**

**19. Fixed IGS pressure and oxygen content recorders are working.**

All recording equipment should be switched on, tested as per manufacturer's instructions and operating correctly.

**20. All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.**

Prior to commencement of cargo operations, each cargo tank atmosphere should be checked to verify an oxygen content of 8% or less by volume. Inerted cargo tanks should be kept at a positive pressure at all times.

## **PART 'B'- BULK LIQUID GENERAL -VERBAL VERIFICATION**

**21. The ship is ready to move under its own power.**

The ship should be able to move under its own power at short notice, unless permission to immobilise the ship has been granted by the port authority and the Terminal Representative. Certain conditions may have to be met for permission to be granted.

**22. There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in the terminal.**

The operation should be under constant control and supervision on the ship and in the terminal. Supervision should be aimed at preventing the development of hazardous situations. However, if such a situation arises, the controlling personnel should have adequate knowledge and the means available to take corrective action. The controlling personnel on the ship and in the terminal should maintain effective communications with their respective supervisors. All personnel connected with the operations should be familiar with the dangers of the substances handled and should wear appropriate protective clothing and equipment.

**23. There are sufficient personnel on board and ashore to deal with an emergency.**

At all times during the ship's stay at the terminal, a sufficient number of personnel should be present on board the ship and in the shore installation to deal with an emergency.

**24. The procedures for cargo, bunker and ballast handling have been agreed.**

The procedures for the intended operation should be pre-planned. They should be discussed and agreed upon by the Responsible Officer and Terminal Representative prior to the start of the operations. Agreed arrangements should be formally recorded and signed by both the Responsible Officer and Terminal Representative. Any change in the agreed procedure that could affect the operation should be discussed by both parties and agreed upon. After both parties have reached agreement, substantial changes should be laid down in writing as soon as possible and in sufficient time before the change in procedure takes place. In any case, the change should be laid down in writing within the working period of those supervisors on board and ashore in whose working period agreement on the change was reached. The operations should be suspended and all deck and vent openings closed on the approach of an electrical storm. The properties of the substances handled, the equipment of ship and shore installation, and the ability of the ship's crew and shore personnel to execute the necessary operations and to sufficiently control the operations are factors which should be taken into account when ascertaining the possibility of handling a number of substances concurrently. The manifold areas, both on board and ashore, should be safely and properly illuminated during darkness. The initial and maximum loading rates, topping-off rates and normal stopping times should be agreed, having regard to:

- The nature of the cargo to be handled.
- The arrangement and capacity of the ship's cargo lines and gas venting systems.
- The maximum allowable pressure and flow rate in the ship/shore hoses and loading arms.
- Precautions to avoid accumulation of static electricity.
- Any other flow control limitations. A record to this effect should be formally made as above.

**25. The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood.**

The agreed signal to be used in the event of an emergency arising ashore or on board should be clearly understood by shore and ship personnel. An emergency shutdown procedure should be agreed between ship and shore, formally recorded and signed by both the Responsible Officer and Terminal Representative. The agreement should state the circumstances in which operations have to be stopped immediately. Due regard should be given to the possible introduction of dangers associated with the emergency shutdown procedure.

**26. Material Safety Data Sheets (MSDS) for the cargo transfer have been exchanged where requested.**

An MSDS should be available on request to the receiver from the terminal or ship supplying the product. As a minimum, such information sheets should provide the constituents of the product by chemical name, name in common usage, UN number and the maximum concentration of any toxic components, expressed as a percentage by volume or as ppm.

**27. The hazards associated with toxic substances in the cargo being handled have been identified and understood.**

Many tanker cargoes contain components that are known to be hazardous to human health. In order to minimise the impact on personnel, information on cargo constituents should be available during the cargo transfer to enable the adoption of proper precautions. In addition, some port states require such information to be readily available during cargo transfer and in the event of an accidental spill. This is particularly relevant to cargoes that could contain H<sub>2</sub>S, benzene or lead additives.

**28. An International Shore Fire Connection has been provided.**

The connection must meet the standard requirements and, if not actually connected prior to commencement of operations, should be readily available for use in an emergency.

**29. The agreed tank venting system will be used.**

Agreement should be reached and recorded as to the venting system to be used for the operation, taking into account the nature of the cargo and international, national or local regulations and agreements. There are three basic systems for venting tanks:

1. Open to atmosphere via open ullage ports, protected by suitable flame screens.

2. Fixed venting systems which includes inert gas systems.
  3. To shore through a vapour collection system (see Question 32 below).
- 30. The requirements for closed operations have been agreed.**  
It is a requirement of many terminals that, when the ship is ballasting into cargo tanks, loading or discharging, it operates without recourse to opening ullage and sighting ports. In these cases, ships will require the means to enable closed monitoring of tank contents, either by a fixed gauging system or by using portable equipment passed through a vapour lock, and preferably backed up by an independent overfill alarm system.
- 31. The operation of the P/V system has been verified.**  
The operation of the P/V valves and/or high velocity vents should be checked using the testing facility provided by the manufacturer. Furthermore, it is imperative that an adequate check is made, visually or otherwise, to ensure that the checklift is actually operating the valve. On occasion, a seized or stiff vent has caused the checklift drive pin to shear and the ship's personnel to assume, with disastrous consequences, that the vent was operational.
- 32. Where a vapour return line is connected, operating parameters have been agreed.**  
Where required, a vapour return line will be used to return flammable vapours from the cargo tanks to shore. The maximum and minimum operating pressures and any other constraints associated with the operation of the vapour return system should be discussed and agreed by ship and shore personnel.
- 33. Independent high level alarms, if fitted, are operational and have been tested.**  
Owing to the increasing reliance placed on gauging systems for closed cargo operations, it is important that such systems are fully operational and that backup is provided in the form of an independent overfill alarm arrangement. The alarm should provide audible and visual indication and should be set at a level that will enable operations to be shutdown prior to the tank being overfilled. Under normal operations, the cargo tank should not be filled higher than the level at which the overfill alarm is set. Individual overfill alarms should be tested at the tank to ensure their proper operation prior to commencing loading unless the system is provided with an electronic self-testing capability which monitors the condition of the alarm circuitry and sensor and confirms the instrument set point.
- 34. Adequate electrical insulating means are in place in the ship/shore connection.**  
Unless measures are taken to break the continuous electrical path between ship and shore pipework provided by the ship/shore hoses or metallic arms, stray electric currents, mainly from corrosion prevention systems, can cause electric sparks at the flange faces when hoses are being connected and disconnected. The passage of these currents is usually prevented by an insulating flange inserted at each jetty manifold outlet or incorporated in the construction of metallic arms. Alternatively, the electrical discontinuity may be provided by the inclusion of one length of electrically discontinuous hose in each hose string. It should be ascertained that the means of electrical discontinuity is in place, that it is in good condition and is not being by-passed by contact with an electrically conductive material.
- 35. Shore lines are fitted with a non-return valve, or procedures to avoid back filling have been discussed.**  
In order to avoid cargo running back when discharge from a ship is stopped, either due to operational needs or excessive back pressure, the terminal should confirm that it has a positive system that will prevent unintended flow from the shore facility onto the ship. Alternatively, a procedure should be agreed that will protect the ship.
- 36. Smoking rooms have been identified and smoking requirements are being observed.**  
Smoking on board the ship may only take place in areas specified by the Master in consultation with the Terminal Representative. No smoking is allowed on the jetty and the adjacent area, except in buildings and places specified by the Terminal Representative in consultation with the Master. Places that are directly accessible from the outside should not be designated as places where smoking is permitted. Buildings, places and rooms designated as areas where smoking is permitted should be clearly marked as such.
- 37. Naked light regulations are being observed.**  
A naked light or open fire comprises the following: flame, spark formation, naked electric light or any surface with a temperature that is equal to or higher than the auto-ignition temperature of the products handled in the operation. The use of naked lights or open fires on board the ship, and within a distance of 25 metres of the ship, should be prohibited, unless all applicable regulations have been met and agreement reached by the port authority, Terminal Representative and the Master. This distance may have to be extended for ships of a specialised nature such as gas tankers.
- 38. Ship/shore telephones, mobile phones and pager requirements are being observed.**  
Ship/shore telephones should comply with the requirements for explosion-proof construction, except when placed and used in a safe space in the accommodation. Mobile telephones and pagers should not be used in hazardous areas unless approved for such use by a competent authority.
- 39. Hand torches (flashlights) are of an approved type.**  
Battery operated hand torches (flashlights) should be of a safe type, approved by a competent authority. Damaged units, even though they may be capable of operation, should not be used.
- 40. Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.**  
Fixed VHF/UHF and AIS equipment should be switched off or on low power (1 watt or less) unless the Master, in consultation with the Terminal Representative, has established the conditions under which the installation may be used

safely.

**41. Portable VHF/UHF transceivers are of an approved type.**

Portable VHF/UHF sets should be of a safe type, approved by a competent authority. VHF radio telephone sets may only operate in the internationally agreed wave bands. Equipment should be well maintained. Damaged units, even though they may be capable of operation, should not be used.

**42. The ship's main radio transmitter aerials are earthed and radars are switched off.**

The ship's main radio station should not be used during the ship's stay in port, except for receiving purposes. The main transmitting aerials should be disconnected and earthed. Satellite communications equipment may be used normally, unless advised otherwise. The ship's radar installation should not be used unless the Master, in consultation with the Terminal Representative, has established the conditions under which the installation may be used safely.

**43. Electric cables to portable electrical equipment within the hazardous area are disconnected from power.**

The use of portable electrical equipment on wandering leads should be prohibited in hazardous zones during cargo operations, and the equipment preferably removed from the hazardous zone. Telephone cables in use in the ship/shore communication system should preferably be routed outside the hazardous zone. Wherever this is not feasible, the cable should be so positioned and protected that no danger arises from its use.

**44. Window type air conditioning units are disconnected.**

Window type air conditioning units should be disconnected from their power supply.

**45. Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapours, are closed.**

A positive pressure should, when possible, be maintained inside the accommodation, and procedures or systems should be in place to prevent flammable or toxic vapours from entering accommodation spaces. This can be achieved by airconditioning or similar systems, which draw clean air from non-hazardous locations. Air conditioning systems should not be operated on 100% recirculation.

**46. Measures have been taken to ensure sufficient mechanical ventilation in the pumproom.**

Pumprooms should be mechanically ventilated and the ventilation system, which should maintain a safe atmosphere throughout the pumproom, should be kept running throughout cargo handling operations. The gas detection system, if fitted, should be functioning correctly.

**47. There is provision for an emergency escape.**

In addition to the means of access referred to in Question 1, a safe and quick emergency escape route should be available both on board and ashore. On board the ship, it may consist of a lifeboat ready for immediate use, preferably at the after end of the ship, and clear of the moorings.

**48. The maximum wind and swell criteria for operations have been agreed.**

There are numerous factors which will help determine whether cargo or ballast operations should be discontinued. Discussion between the terminal and the ship should identify limiting factors, which could include: Wind speed and direction and the effect on hard arms. Wind speed and direction and the effect on mooring integrity. Wind speed and direction and the effect on gangways. At exposed terminals, swell effects on moorings or gangway safety. Such limitations should be clearly understood by both parties. The criteria for stopping cargo, disconnecting hoses or arms and vacating the berth should be written in the 'Remarks' column of the check-list.

**49. Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate.**

In states that are signatories to SOLAS, the ISPS Code requires that the Ship Security Officer and the Port Facility Security Officer co-ordinate the implementation of their respective security plans with each other.

**50. Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging ship's tanks, or for line clearing into the ship.**

Ship and shore should agree in writing on the inert gas supply, specifying the volume required, and the flow rate in cubic metres per minute. The sequence of opening valves before beginning the operation and after completion should be agreed, so that the ship remains in control of the flow. Attention should be given to the adequacy of open vents on a tank in order to avoid the possibility of over-pressurisation. The tank pressure should be closely monitored throughout the operation. The ship's agreement should be sought when the terminal wishes to use compressed nitrogen (or air) as a propellant, either for pigging to clear shore lines into the ship or to press cargo out of shore containment. The ship should be informed of the pressure to be used and the possibility of receiving gas into a cargo tank.

**If the ship is fitted, or is required to be fitted, with an inert gas system (IGS) the following statements should be addressed:**

**51. The IGS is fully operational and in good working order.**

The inert gas system should be in safe working condition with particular reference to all interlocking trips and associated alarms, deck seal, non-return valve, pressure regulating control system, main deck IG line pressure indicator, individual tank IG valves (when fitted) and deck P/V breaker. Individual tank IG valves (if fitted) should have easily identified and fully functioning open/close position indicators.



- 52. Deck seals, or equivalent, are in good working order.**  
It is essential that the deck seal arrangements are in a safe condition. In particular, the water supply arrangements to the seal and the proper functioning of associated alarms should be checked.
- 53. Liquid levels in pressure/vacuum breakers are correct.**  
Checks should be made to ensure that the liquid level in the P/V breaker complies with manufacturer's recommendations.
- 54. The fixed and portable oxygen analysers have been calibrated and are working properly.**  
All fixed and portable oxygen analysers should be tested and checked as required by the Company and/or manufacturer's instructions and should be operating correctly. The in-line oxygen analyser/recorder and sufficient portable oxygen analysers should be working properly. The calibration certificate should show that its validity is as required by the ship's SMS.
- 55. All the individual tank IG valves (if fitted) are correctly set and locked.**  
For both loading and discharge operations, it is normal and safe to keep all individual tank IG supply valves (if fitted) open in order to prevent inadvertent under or over-pressurisation. In this mode of operation, each tank pressure will be the same as the deck main IG pressure and thus the P/V breaker will act as a safety valve in case of excessive over or under-pressure. If individual tank IG supply valves are closed for reasons of potential vapour contamination or de-pressurisation for gauging etc, then the status of the valve should be clearly indicated to all those involved in cargo operations. Each individual tank IG valve should be fitted with a locking device under the control of a Responsible Officer.
- 56. All personnel in charge of cargo operations are aware that, in the case of failure of the inert gas plant, discharge operations should cease and the terminal be advised.**  
In the case of failure of the IG plant, the cargo discharge, de-ballasting and tank cleaning operations should cease and the terminal be advised. Under no circumstances should the ship's officers allow the atmosphere in any tank to fall below atmospheric pressure.
- If the ship is fitted with a Crude Oil Washing (COW) system and intends to crude oil wash the following statements should be addressed:**
- 57. The Pre-Arrival COW Check-List, as contained in the approved COW Manual, has been satisfactorily completed.**  
The approved Crude Oil Washing Manual contains a Pre-Arrival Crude Oil Washing Check-List, specific to each ship, which should be completed by the Responsible Officer prior to arrival at every discharge port where it is intended to undertake Crude Oil Washing.
- 58. The COW check-lists for use before, during and after COW, as contained in the approved COW Manual, are available and being used.**  
The approved Crude Oil Washing Manual contains a Crude Oil Washing Check-List, specific to each ship, for use before, during and after Crude Oil Washing operations. This Check-List should be completed at the appropriate times and the Terminal Representative should be invited to participate.
- 59. If the ship is planning to tank clean alongside the following statements should be addressed:  
Tank cleaning operations are planned during the ship's stay alongside the shore installation.**  
During the pre-transfer discussion between the Responsible Officer and Terminal Representative, it should be established whether any tank cleaning operations are planned while the ship is alongside and the check-list should be annotated accordingly.
- 60. If 'yes', the procedures and approvals for tank cleaning have been agreed.**  
It should be confirmed that all necessary approvals that may be required to enable tank cleaning to be undertaken alongside have been obtained from relevant authorities. The method of tank cleaning to be used should be agreed, together with the scope of the operation.
- 61. Permission has been granted for gas freeing operations.**  
It should be confirmed that all necessary approvals that may be required to enable gas freeing to be undertaken alongside have been obtained from the relevant authorities.

## Part 'C' , - Bulk Liquid Chemicals - Verbal Verification

- 1. Material Safety Data Sheets are available giving the necessary data for the safe handling of the cargo.**

Information on the product to be handled should be available on board the ship and ashore and should include:

  - A full description of the physical and chemical properties, including reactivity, necessary for the safe containment and transfer of the cargo.
  - Action to be taken in the event of spills or leaks.
  - Countermeasures against accidental personal contact.
  - Fire-fighting procedures and fire-fighting media.
- 2. A manufacturer's inhibition certificate, where applicable, has been provided.**

Where cargoes are required to be stabilised or inhibited in order to be handled, ships should be provided with a certificate from the manufacturer stating:

  - Name and amount of inhibitor added.
  - Date inhibitor was added and the normal duration of its effectiveness.
  - Any temperature limitations affecting the inhibitor.
  - The action to be taken should the length of the voyage exceed the effective lifetime of the inhibitor.
- 3. Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the product being handled.**

Suitable protective equipment (including self-contained breathing apparatus and protective clothing) appropriate to the specific dangers of the product handled, should be readily available in sufficient quantity for operational personnel both on board and ashore.
- 4. Countermeasures against accidental personal contact with the cargo have been agreed.**

Sufficient and suitable means should be available to neutralise the effects and remove small quantities of spilled products. Should unforeseen personal contact occur, in order to limit the consequences it is important that sufficient and suitable countermeasures are undertaken. The MSDS should contain information on how to handle such contact with reference to the special properties of the cargo, and personnel should be aware of the procedures to follow. A suitable safety shower and eye rinsing equipment should be fitted and ready for instant use in the immediate vicinity of places on board or ashore where operations regularly take place.
- 5. The cargo handling rate is compatible with the automatic shutdown system, if in use.**

Automatic shutdown valves may be fitted on the ship and ashore. The action of these is automatically initiated by, for example, a certain level being reached in the ship or shore tank being filled. Where such systems are used, the cargo handling rate should be established to prevent pressure surges from the automatic closure of valves causing damage to ship or shore line systems. Alternative means, such as a re-circulation system and buffer tanks, may be fitted to relieve the pressure surge created. A written agreement should be made between the Responsible Officer and Terminal Representative indicating whether the cargo handling rate will be adjusted or alternative systems will be used.
- 6. Cargo system gauges and alarms are correctly set and in good order.**

Ship and shore cargo system gauges and alarms should be checked regularly to ensure they are in good working order. In cases where it is possible to set alarms to different levels, the alarm should be set to the required level.
- 7. Portable vapour detection instruments are readily available for the products being handled.**

The equipment provided should be capable of measuring, where appropriate, flammable and/or toxic levels. Suitable equipment should be available for operational testing of those instruments capable of measuring flammability. Operational testing should be carried out before using the equipment. Calibration should be carried out in accordance with the Safety Management System.
- 8. Information on fire-fighting media and procedures has been exchanged.**

Information should be exchanged on the availability of fire-fighting equipment and the procedures to be followed in the event of a fire on board or ashore. Special attention should be given to any products that are being handled which may be water reactive or which require specialised fire-fighting procedures.
- 9. Transfer hoses are of suitable material, resistant to the action of the products being handled.**

Each transfer hose should be indelibly marked so as to allow the identification of the products for which it is suitable, its specified maximum working pressure, the test pressure and last date of testing at this pressure, and, if used at temperatures other than ambient, its maximum and minimum service temperatures.
- 10. Cargo handling is being performed with the permanent installed pipeline system.**

All cargo transfer should be through permanently installed pipeline systems on board and ashore. Should it be necessary, for specific operational reasons, to use portable cargo lines on board or ashore, care should be taken to ensure that these lines are correctly positioned and assembled in order to minimise any additional risks associated with their use. Where necessary, the electrical continuity of these lines should be checked and their length should be kept as short as possible. The use of non-permanent transfer equipment inside tanks is not generally permitted unless specific approvals have been obtained. Whenever cargo hoses are used to make connections within the ship or shore permanent pipeline system, these connections should be properly secured, kept as short as possible and be electrically continuous to the ship and shore pipeline respectively. Any hoses used must be suitable for the service and be properly tested, marked and certified.

## Part 'D' - Bulk Liquefied Gases - Verbal Verification

- 1. Material Safety Data Sheets are available giving the necessary data for the safe handling of the cargo.**

Information on each product to be handled should be available on board the ship and ashore before and during the operation. Cargo information, in a written format, should include:

  - A full description of the physical and chemical properties necessary for the safe containment of the cargo.
  - Action to be taken in the event of spills or leaks.
  - Countermeasures against accidental personal contact.
  - Fire-fighting procedures and fire-fighting media.
  - Any special equipment needed for the safe handling of the particular cargo(es).
  - Minimum allowable inner hull steel temperatures.
  - Emergency procedures.
  
- 2. A manufacturer's inhibition certificate, where applicable, has been provided.**

Where cargoes are required to be stabilised or inhibited in order to be handled, ships should be provided with a certificate from the manufacturer stating:

  - Name and amount of inhibitor added.
  - Date inhibitor was added and the normal duration of its effectiveness.
  - Any temperature limitations affecting the inhibitor.
  - The action to be taken should the length of the voyage exceed the effective lifetime of the inhibitor.
  
- 3. The water spray system is ready for immediate use.**

In cases where flammable or toxic products are handled, water spray systems should be tested regularly. Details of the last tests should be exchanged. During operations, the systems should be kept ready for immediate use.
  
- 4. There is sufficient suitable protective equipment (including self-contained breathing apparatus) and protective clothing ready for immediate use.**

Suitable protective equipment, including self-contained breathing apparatus, eye protection and protective clothing appropriate to the specific dangers of the product handled should be available in sufficient quantity for operational personnel, both on board and ashore. Storage places for this equipment should be protected from the weather and be clearly marked. All personnel directly involved in the operation should utilise this equipment and clothing whenever the situation requires. Personnel required to use breathing apparatus during operations should be trained in its safe use. Untrained personnel and personnel with facial hair should not be selected for operations involving the use of breathing apparatus.
  
- 5. Hold and inter-barrier spaces are properly inerted or filled with dry air, as required.**

The spaces that are required to be inerted by the IMO Gas Carrier Codes should be checked by ship's personnel prior to arrival.
  
- 6. All remote control valves are in working order.**

All ship and shore cargo system remote control valves and their position-indicating systems should be tested regularly. Details of the last tests should be exchanged.
  
- 7. The required cargo pumps and compressors are in good order, and the maximum working pressures have been agreed between ship and shore.**

Agreement in writing should be reached on the maximum allowable working pressure in the cargo line system during operations.
  
- 8. Re-liquefaction or boil-off control equipment is in good order.**

It should be verified that re-liquefaction and boil-off control systems, if required, are functioning correctly prior to commencement of operations.
  
- 9. The gas detection equipment has been properly set for the cargo, is calibrated, has been tested and inspected and is in good order.**

Suitable gas should be available to enable operational testing of gas detection equipment. Fixed gas detection equipment should be tested for the product to be handled prior to commencement of operations. The alarm function should have been tested and the details of the last test should be exchanged. Portable gas detection instruments, suitable for the products handled, capable of measuring flammable and/or toxic levels, should be available. Portable instruments capable of measuring in the flammable range should be operationally tested for the product to be handled before operations commence. Calibration of instruments should be carried out in accordance with the Safety Management System.
  
- 10. Cargo system gauges and alarms are correctly set and in good order.**

Ship and shore cargo system gauges should be checked regularly to ensure that they are in good working order. In cases where it is possible to set alarms to different levels, the alarm should be set to the required level.
  
- 11. Emergency shutdown systems have been tested and are working properly.**

Where possible, ship and shore emergency shutdown systems should be tested before commencement of cargo transfer.



- 12. Ship and shore have informed each other of the closing rate of ESD valves, automatic valves or similar devices.**  
Automatic shutdown valves may be fitted in the ship and the shore systems. Among other parameters, the action of these valves can be automatically initiated by a certain level being reached in the tank being loaded, either on board or ashore. The closing rate of any automatic valves should be known and this information should be exchanged. Where automatic valves are fitted and used, the cargo handling rate should be so adjusted that a pressure surge evolving from the automatic closure of any such valve does not exceed the safe working pressure of either the ship or shore pipeline systems. Alternatively, means may be fitted to relieve the pressure surge created, such as re-circulation systems and buffer tanks. A written agreement should be made between the Responsible Officer and Terminal Representative indicating whether the cargo handling rate will be adjusted or alternative systems will be used. The safe cargo handling rate should be noted in the agreement.
- 13. Information has been exchanged between ship and shore on the maximum/ minimum temperatures/pressures of the cargo to be handled.**  
Before operations commence, information should be exchanged between the Responsible Office and Terminal Representatives on cargo temperature/pressure requirements. This information should be in writing.
- 14. Cargo tanks are protected against inadvertent overfilling at all times while any cargo operations are in progress.**  
Automatic shutdown systems are normally designed to close the liquid valves, and if discharging, to trip the cargo pumps, should the liquid level in any tank rise above the maximum permitted level. This level must be accurately set and the operation of the device should be tested at regular intervals. If ship and shore shutdown systems are to be interconnected, then their operation must be checked before cargo transfer begins.
- 15. The compressor room is properly ventilated, the electrical motor room is properly pressurised and the alarm system is working.**  
Fans should be run for at least 10 minutes before cargo operations commence and then continuously during cargo operations. Audible and visual alarms, provided at airlocks associated with compressor/motor rooms, should be tested regularly.

### 8.2.7 Emergency Actions

The actions to be taken in the event of an emergency at a terminal should be contained in the terminal's emergency plan (see Chapter 20). Particular attention should be given to factors to be taken into consideration when deciding whether or not to remove a ship from the berth in the event of an emergency (see also Section 20.5).

#### 1 FIRE OR EXPLOSION ON A BERTH

##### Action by ships

Should a fire or explosion occur on a berth, the ship or ships at the berth must immediately report the incident to the terminal control room by the quickest possible method (VHF/UHF, telephone contact, sounding ship's siren etc). All cargo, bunkering, deballasting and tank cleaning operations should be shut down and all cargo arms or hoses should be drained ready for disconnection. The ship's fire-mains should be pressurised and water fog applied in strategic places. The ship's engines, steering gear and unmooring equipment must be brought to a state of immediate readiness. A pilot ladder should be deployed on the offshore side.

##### Actions by ship at other Berths:

On hearing the terminal alarm being sounded or on being otherwise advised of a fire at the terminal, a ship at a berth not directly involved in the fire should shut down all cargo, bunkering and ballasting operations. Fire-fighting systems should be brought to a state of readiness and engines, steering gear and mooring equipment should be made ready for immediate use.

#### 2 FIRE ON A TANKER AT A TERMINAL

##### Action by ship's Personnel:

If a fire breaks out on a tanker while at a terminal, the tanker must raise the alarm by sounding the recognised alarm signal consisting of a series of long blasts on the ship's whistle, each blast being not less than 10 seconds in duration unless the terminal has notified the ship of some other locally recognised alarm signal. All cargo, bunkering or ballasting operations must be stopped and the main engines and steering gear brought to a standby condition.

Once the alarm has been raised, responsibility for fighting the fire on board the ship will rest with the Master or other Responsible Officer assisted by the ship's crew. The same emergency organisation should be used as when the ship is at sea (see Section 9.9.2.2) with an additional group under the command of an Officer or Senior Rating to make preparations, where possible, for disconnecting metal arms or hoses from the manifold.

On mobilisation of the terminal and, where applicable, the civil fire-fighting forces and equipment, the Master or other Responsible Officer, in conjunction with the professional fire-fighters, must make a united effort to bring the fire under control.

##### Action by Terminal Personnel:

On hearing a tanker sounding its fire alarm, the person in charge of a berth should immediately advise the control room. The terminal control room personnel should sound the terminal fire alarm, inform the port authority and commence shutting down any loading, discharging, bunkering or deballasting operations that may be taking place.

The terminal's fire emergency plan should be activated and this may involve shutting down cargo, bunkering and ballast handling operations on ships on adjacent or neighbouring berths. All other ships at the terminal should be informed of the emergency and, where considered necessary make preparations to disconnect metal arms or hoses and bring their engines and steering gear to a state of readiness.

Where there are fire-fighting tugs, the terminal control room will summon them to assist in fighting the fire until a decision is made by the person in overall control whether or not to use them to assist in the evacuation of unaffected ships (see Section 20.5).

The terminal control room should be responsible for summoning any outside assistance, such as the civil fire brigade, rescue launches, medical aid and ambulances, police, harbour authority and pilots.



# REFINERY ROTTERDAM



### INSTRUCTIONS IN CASE OF FIRE:

- **RAISE ALARM.** By sounding a succession of long blasts on ship's whistle or rapidly and continuously ringing of ship's bell.
- **INFORM ESSO CONTROL CENTRE** by SHORE RADIO or dial 0031-10 4874444 from the ship or dial 4444 from shelter on pierdeck.
- **STOP ALL CARGO TRANSFER OPERATIONS AND START FIRE FIGHTING**
- **STAND BY TO AWAIT INSTRUCTIONS FROM TERMINAL REPRESENTATIVE**
- **PREPARE VESSEL FOR IMMEDIATE DEPARTURE**  
See also booklet.- "Terminal regulations and information".

### ACCIDENTS:

- Any accidents either on board or in the terminal area should be reported to the control centre at once by SHORE RADIO. When moored at jetty 1 or 2 dial +31 10 4874887 with ship or provided mobile phone or 4887 from the shelter on the pierdeck. When moored at jetty 3 dial +31 10 4874530 with ship or provided mobile phone.

### EMERGENCY STOP:

- Whenever an emergency stop is necessary - **DO USE THE EMERGENCY SWITCH.**  
See 8.1

### POLLUTION OF HARBOUR WATER

- Any leakage of liquid into the harbour shall be REPORTED TO THE CONTROLROOM at once.
- **DONOT** throw ANY MATERIAL solid or fluid OVERBOARD.
- **HEAVY FINES COULD BE IMPOSED IF POLLUTION OF AIR OR HARBOUR WATER OCCURS**

**TERMINAL REGULATIONS AND INFORMATION BOOK** in possession of the responsible deck-officer.

# SMOKING NOTICE

SMOKING ON BOARD:

**NO SMOKING IS PERMITTED ON DECK OR IN OTHER OPEN SPACES AT ANYTIME**

During loading, discharging, transferring cargo on board, ballasting, tankcleaning and gasfreeing smoking is only permitted in the following places:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

Note. The number of places where smoking is permitted may not exceed three

