I have received a copy of the TERMINAL INFORMATION ON FACILITY, SAFETY, SECURITY AND POLLUTION PREVENTION REGULATIONS.

Name : ________________________________

Signature : ____________________________

Designation : __________________________

Company : ______________________________

Date : ________________________________
OCEAN TANKERS PTE LTD – TUAS TERMINAL

TERMINAL INFORMATION ON FACILITY, SAFETY, SECURITY AND POLLUTION PREVENTION REGULATION
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<td>d) Conductivity</td>
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This Information booklet contains a total of 45 pages (Incl. Cover & Content page)
FOREWORD

This handbook has been compiled for your information and guidance. It contains the relevant terminal regulations and information essential for safe and efficient operations while your vessel is alongside at OCEAN TANKERS TUAS TERMINAL.

We would appreciate your full co-operation during your stay at our terminal, in particular on matters concerning health, safety and environment.

The following directions are intended to supplement and reiterate requirements under other applicable regulations, e.g. The International Safety Guide for Oil Tankers and Terminals (I.S.G.O.T.T.), regulations as required *by the vessel’s country of registry, by international law and by the MARITIME AND PORT AUTHORITY OF SINGAPORE (MPA) all of which should continue to be complied with in full at all times.

Please do not hesitate to contact the Terminal’s Management on any query you may still have after reading the information or regarding other items that is not included.

This booklet is updated from time to time. You do not have to return this handbook. It is for your use and ready reference prior to future visits to OCEAN TANKERS TUAS TERMINAL (This Terminal is also known as BST 2).

We look forward to receiving your full co-operation particularly to matters concerning safety, security and pollution prevention during your port stay at OCEAN TANKERS TUAS TERMINAL.

Your acceptance of this document constitutes acceptance of the terms and conditions contained therein.
TERMINAL INFORMATION

General

TUAS TERMINAL is wholly owned by OCEAN TANKERS PTE LTD, was established in 1995. It is designed for the handling & storage of liquid petroleum products.

- Berths facing Tuas Southern Basin (BST 2).
- 97,680 m³ storage capacity.
- With a wharf 200 m long marked equally for 4 berths and draft of 8m (zero tide)
- Consists of 4 jetties
- 24 loading & discharging connections, 10 pumps sets (5 x 520 cbm, 2 x 300 cbm & 3 x 195 cbm) allow simultaneous cargo operations.
- 8 inch cargo hoses with a maximum shore pumping rate up to 1,000MT/hr.
- Operational 24/7, 365 days/year.
- The terminal is able to supply Marine Gasoil, Ultra Low Sulfur Diesel, Marine Lubricants and fresh water ex-pipeline basis.
- Segregated tanks and individual pipelines devoted to different grades of oil products to prevent the risk of cargo contamination.
- ISPS – Port Facility Security certified by Maritime Port Authority of Singapore.

General Information

1. The controlling depth of the approaching channel is 5.6m at chart datum.
2. Capable of receiving up to 13,500 DWT vessel with LOA of 112 m. Vessel LOA more than 112m need confirmation from the terminal for berthing.
3. The terminal does not handle the treatment of slops and effluents from vessels calling at the jetties.
4. Berthing wind speed < 25 kts
5. Approaching speed is at 0.14 meter/second for all jetties.
6. Maximum flow rates for various sizes of loading lines Cubic Meter per hour (m³/hour)

<table>
<thead>
<tr>
<th>Vessel/Barge Pipeline Size</th>
<th>Velocity (1m/sec)</th>
<th>Flow rate (m³/hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Diameter, Inch (mm)</td>
<td>Inner Diameter (Ins)</td>
<td></td>
</tr>
<tr>
<td>3 (80)</td>
<td>3</td>
<td>80 – 120</td>
</tr>
<tr>
<td>4 (100)</td>
<td>4</td>
<td>120 – 240</td>
</tr>
<tr>
<td>6 (150)</td>
<td>6</td>
<td>450 – 550</td>
</tr>
<tr>
<td>8 (200)</td>
<td>8</td>
<td>500 – 1000</td>
</tr>
</tbody>
</table>
### Pump No. SL 1
Volute Casing Centrifugal
- **Capacity**: 300 m³/h
- **N**: 1450 rpm

### Pump No. SL 2
Twingeared Screw
- **Q**: 520 m³/h
- **Visc**: 500 mm²/s
- **N**: 1480 rpm
- **Pressure**: 7 bar

### Pump No. SL 3
Twingeared Screw
- **Q**: 520 m³/h
- **Visc**: 500 mm²/s
- **N**: 1480 rpm
- **Pressure**: 7 bar

### Pump No. SL 4
Volute Casing Centrifugal
- **Capacity**: 300 m³/h
- **N**: 1450 rpm

### Pump No. SL 5
Twingeared Screw
- **Q**: 195 m³/h
- **Visc**: 380 mm²/s
- **N**: 1800 rpm
- **Pressure**: 8 bar

### Pump No. SL 6
Twingeared Screw
- **Q**: 195 m³/h
- **Visc**: 380 mm²/s
- **N**: 1800 rpm
- **Pressure**: 8 bar

### Pump No. SL 7
Twingeared Screw
- **Q**: 195 m³/h
- **Visc**: 380 mm²/s
- **N**: 1800 rpm
- **Pressure**: 8 bar

### Pump No. SL 8
Twingeared Screw
- **Q**: 527 m³/h
- **Visc**: 380 mm²/s
- **N**: 1500 rpm
- **Pressure**: 6.5 bar

### Pump No. SL 9
Twingeared Screw
- **Q**: 527 m³/h
- **Visc**: 380 mm²/s
- **N**: 1500 rpm
- **Pressure**: 6.5 bar

### Pump No. SL 10
Twingeared Screw
- **Q**: 527 m³/h
- **Visc**: 380 mm²/s
- **N**: 1500 rpm
- **Pressure**: 6.5 bar
8. Berth Information

<table>
<thead>
<tr>
<th>Berth No.</th>
<th>Depth (Zero Tide)</th>
<th>Approach (Zero Tide)</th>
<th>LOA Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8m</td>
<td>5.6m</td>
<td>112m</td>
</tr>
<tr>
<td>2</td>
<td>8m</td>
<td>5.6m</td>
<td>30m</td>
</tr>
<tr>
<td>3</td>
<td>8m</td>
<td>5.6m</td>
<td>30m</td>
</tr>
<tr>
<td>4</td>
<td>8m</td>
<td>5.6m</td>
<td>80m</td>
</tr>
</tbody>
</table>

9. Crane Services

- Tower crane SWL at 45 MT
- Mobile crane SWL at 55 MT

10. Pre-berthing questionnaire for vessel proceeding to OCEAN TANKERS TUAS TERMINAL

Masters of tanks or its agents shall provide pre-arrival information (Appendix VI) to Bunker Dept and to the terminal via fax. (Please noted that the information must be made available at least 72 hours prior vessel’s tendering N.O.R.)

Bunker Department –
Tel No: 6863 2202
Fax No: 6512 2592
E-mail: marine@hinleong.com.sg

Terminal Office –
Tel No: 6861 3227
Fax No: 6897 9921
E-mail: terminal@oceantankers.com.sg

11. Communication

OCEAN TANKERS TUAS TERMINAL maintains a 24 hour listening watch on the following communication facilities:

i) VHF Channel 17
ii) Tel No: 6861 3227
iii) Fax No: 6897 9921

When approaching from seaward, at anchor or in Singapore waters, the terminal can be contacted via any of the above means by the call sign “TUAS TERMINAL CONTROL”.

Frequently used telephone numbers and can sign for VHF/Walkie-Talkie for the convenience of ship’s personnel are:-

(a) Ocean Tankers - Tel No: 6863 2022 (Main Line)
(b) Terminal Office - Tel No: 6861 3227
(c) Bunker Department - Tel No: 6512 2588
(d) Police Coast Guard - Tel No: 6444 0000
(e) Marine Port Authority - Tel No: 6325 2488 / 2489
(f) Singapore Police Force - Tel No: 999
(g) SCDF (Fire/Ambulance) - Tel No: 995
(h) VHF Channel 17 Call Sign “Tuas Terminal Control”
PILOTAGE GUIDELINES

The pilotage guidelines are intended to assist terminal users when booking pilots for their vessels.

All vessels calling at Tuas Terminal have to follow MPA guideline (http://www.mpa.gov.sg).

For Under Keel Clearance (UKC), please find as below:
- For the manoeuvring of vessels greater than 3000 GT, the pilotage requirement is 1.0 meter UKC for all locations
- For the manoeuvring of vessels of 3000 GT or less, a 0.6 meter UKC is required.
- For vessels alongside, a 0.3 meter UKC would be required for emergency manoeuvres.

The minimum UKC for each category is to be calculated from the controlling depth or the depth alongside, whichever is the lesser. Minus tides are to be allowed for accordingly. (Extracted From MPA Pilotage Guidelines @: http://www.mpa.gov.sg)

Berthing and unberthing for pilot exempted vessels is subjected to Terminal approval.

For non-pilot exempted vessels, MPA provides both Pilotage and Tug services. Ordering of pilotage and tugs service is the responsibility of the ship’s agent.

Note: Master to acknowledge/endorse the Vessel’s Checklist for Assisted Movement by Mooring Master in Page 7.

TOWAGE GUIDELINES

The towage guidelines are intended to assist the terminal user to determine the number of tugs required for a vessel’s movement within the port waters of Singapore.

The number of tugs required is determined, among other factors, by the size and ship handling characteristics of the vessel, the peculiarities of the berth and its approaches, and the prevailing conditions e.g. tidal streams, weather. The pilot upon boarding may thus, in consultation with the master, cancel or order additional tugs if required.

Tug Requirements for movements

1. The table provides for the number of tugs to be assigned to a vessel when berthing/unberthing at Tuas Terminal. It is for Pilot-Exempted vessel only. For non-Pilot-Exempted vessel is at the discretion of the pilot.

2. The terminal may arrange with its own tugs for the movement. Please consult the terminal for advice when ordering tugs.

<table>
<thead>
<tr>
<th>LENGTH OVERALL OF VESSEL</th>
<th>NUMBER OF TUGS FOR VESSELS WITH ENGINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 100 meters LOA</td>
<td>1 small tug</td>
</tr>
<tr>
<td>101 to 112 meters LOA</td>
<td>2 small tugs</td>
</tr>
</tbody>
</table>

MOORINGS

Ranging of the ship is to be prevented. Attention should be given to the movement of the ship caused by currents or tides and the cargo operation in progress. Mooring should be adjusted throughout the vessel’s stay. It is essential that wire ropes and fiber ropes should not be used together in the same direction. All moorings should be in good condition. The minimum moorings required at each end of a vessel berthed alongside are as follows:

Vessels LOA less than or equal to 60 meters = 1 breast, 1 springs
Vessels LOA more than 60 meters = 2 breasts, 2 springs

Ships fitted with automatic winches should not use winches on “automatic”. The manual winch brakes should be applied and the moorings lines are to be made fast on bitts and not on drum ends and being attended to frequently.
SAFETY REQUIREMENTS

To: The Master

Name of Vessel:

Port: OCEAN TANKERS TUAS TERMINAL

Dear Sir,

Responsibility for the safe conduct of operations on board your ship while alongside our Terminal rests with you as the Master. Nevertheless, our personnel, property and other ships may suffer serious damage in the event of accident on board your ship, hence we request your full co-operation with the safety requirements set out in the Ship/Shore Check List (Appendix I) before operations start.

IT IS ESSENTIAL THAT ALL PERSONNEL UNDER YOUR COMMAND STRICTLY ADHERE TO THE REQUIREMENTS LAID DOWN IN THE INTERNATIONAL SAFETY GUIDE FOR OIL TANKERS AND TERMINALS.

Should there be an infringement for any of these safety requirements, we shall not hesitate to bring the matter to your immediate attention (or your deputy) for corrective action (See ‘Notice of Protest’ Appendix II). If appropriate action is not taken in a reasonable time, we shall take such measures as may be necessary to deal with the situation and will notify you subsequently. This could include suspension of your vessel’s operations at the vessel’s owner/charterer’s cost until the appropriate corrective action has been taken.

Similarly if you observe any safety infringement by our terminal staff, whether on the jetty or on board your ship, please notify our representative at once. If you consider there is an immediate threat to the safety of your ship as a result of action on our part, or equipment under our control, you should demand an immediate cessation of operations.

Our Duty Terminal Representative is: ________________________

Telephone Number: **6861 3227**

He can be contacted at the Central Control Room by walkie – talkie at channel: **17**

IN THE EVENT OF CONTINUED OR FLAGRANT DISREGARD OF THESE SAFETY REQUIREMENTS BY ANY SHIP, WE RESERVE THE RIGHT TO STOP ALL OPERATIONS AND ORDER THAT SHIP OFF THE JETTY FOR APPROPRIATE ACTION TO BE TAKEN BY THE CHARTERES AND OWNERS CONCERNED. ALL RESULTANT EXPENSES INCURRED WILL BE BORNE BY THE SHIP.

Please acknowledge receipt of this letter by countersigning and returning the attached copy.

Date & Time Received: __________________

Signature: __________________

_____________________________                              Name: __________________

Terminal Representative
# VESSEL’S CHECKLIST FOR ASSISTED MOVEMENT BY MOORING MASTER

<table>
<thead>
<tr>
<th>Name of Vessel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>Beam</td>
</tr>
<tr>
<td>Draft</td>
<td></td>
</tr>
<tr>
<td>Forward:</td>
<td>___ m</td>
</tr>
</tbody>
</table>

## DECLARATION

I, _____________________________ (name) Master of _____________________________ (vessel) declared

1. That the vessel’s machinery and equipment are in good order for safe navigation;

2. There is no defect, and/or any matter peculiar to the ship.

## NOTE:

1. The Master shall at all times bear the full responsibility of the vessel’s movements in and out the terminal and any liability arising in connection therewith. The Mooring Master shall act only as a navigation adviser to the Master of the vessel for movements of the vessel in and out of the terminal. At all times, the Master remains solely and entirely responsible for any and all steps, action and omission connected with such movements. Where a tug is engaged to assist in the berthing and unberthing of the vessel, the tug, her owners and/or the charterers shall not be liable for any loss or damage whatsoever and howsoever caused by the acts and omissions (including any act or omission of a negligent nature) on the part of her Master and crew, the Pilot on board, her owners and charterers. It is further understood that this provision is intended for the benefit of the tug, her owners and charterers, for the purposes of the Contracts (Rights of Third Parties) Act, even if these parties may not be in any contractual relationship with the vessel, her owners or charterers, cargo interests or any other party interested in the shipment.

2. The vessel owners or charterers, cargo interests or any other party interested in the ship shall be responsible for, pay for and indemnify Ocean Tankers (the Company) against and in respect of any loss or damage and any claims of whatsoever nature or howsoever arising or caused, whether covered by the the provision of Point 1 hereof or not, suffered by or made against the Company, the Mooring Master, the Company’s servants, agents and/or sub-contractors which shall include, without prejudice to the generality of the foregoing, any loss or damage to the Vessel even if the same arises from or is caused by the negligence of the Company, the Mooring Master, the Company’s servants, agents, and/or sub-contractors.

I hereby declare that the information provided above is to the best of my knowledge true and correct.
These Regulations are to be strictly complied with and the Master of the vessel will be held responsible for any accident that may result from non-compliance with the following.

SAFETY PRECAUTIONS

S1) TANK PREPARATION

Tank cleaning, gas-freezing and butterworth washing of tanks are not allowed whilst alongside.

S2) IMMOBILIZATION OF MAIN ENGINES

The immobilization of main engines is only permitted after permission has been given in writing.

S3) VHF RADIOS

Only VHF radios which are of an approved design and intrinsically safe are permitted.

S4) GANGWAYS

Gangways shall be provided by the terminal. Ship’s gangway with safety net may be required if the terminal’s gangway is not available.

S5) BONDING WIRES

These are not to be used at OCEAN TANKERS TUAS TERMINAL jetties. Insulating flanges are provided at shore’s manifolds if loading hoses are use.

S6) GANGWAYS AND HOSES

Gangways and hoses are vulnerable to damage when the vessels range along the berth. To prevent accidents of such nature, moorings should be adjusted throughout the vessel’s stay alongside.

S7) TANK INSPECTION, TAKING OF ULLAGES, ETC

Ship tank inspection, taking of ullages etc. are carried out by loading master and witnessed by Chief Officer or by his representative either before or after cargo handling except in special circumstances.

S8) SYNTHETIC FIBRE CORDS

Synthetic fiber cords should not be used for sounding rods or sampling cans.

S9) SPARK ARRESTORS

Spark arrestors are to be fitted to all vent pipes and ullage ports connected to the cargo and bunker tanks. These should be kept clean and free of residue and the mesh must not be larger than 0.5mm².
S10) TANK HATCHES

Tank hatches must not be opened under any circumstances.

S11) BALLASTING

Vessels are not allowed to take in ballast at OCEAN TANKERS TUAS TERMINAL.

S12) TENSION WINCHES

Automatic rendering devices which are commonly known as tension winches must not be used when alongside. The brakes of tension winches should be applied and the mooring tended manually.

S13) REPAIRS

Maintenance involving “HOT WORK” such as gas cutting, chipping, welding and scraping are not allowed when vessels are alongside. Other repairs/maintenance must be agreed between the responsible ship’s officer and the terminal representative.

S14) PORTABLE TRANSISTOR RADIOS, PAGERS AND MOBILE PHONES

Portable transistor radios, pager and mobile phones are prohibited outside the accommodation on all vessels at all times.

S15) STORES

Vessels are not allowed to deliver stores by small craft alongside unless the request is on humanitarian ground, if that is allowed, whenever possible the store derricks/cranes on the after end of the vessel should be used.

S16) UNAUTHORISED PERSONNEL

No unauthorized persons are allowed on board at any time during the vessel stay alongside. This regulation particularly applies to local traders and other persons who illegally attempt to board vessels from sampans and other small crafts. Masters is reminded that it is their responsibility to keep unauthorized person off their vessels.

S17) TUGS, BOATS AND OTHER CRAFT ALONGSIDE MOORED TANKERS

Except in an emergency or when ordered to assist in mooring, unmooring or maintaining a ship alongside, tugs are forbidden to lie alongside any tanker berthed at OCEAN TANKERS TUAS TERMINAL except approval has been given by OCEAN TANKER Management. Throughout the period when a tug is alongside, all cargo tank lids, ullage ports and other tank openings must be securely closed.

S18) STATIC ELECTRICITY (HIGH / LOW FLASH POINT CARGOES)

EXCEPTIONS:

If a low vapour pressure static accumulator oil is being loaded, none of the precautions described above are necessary when the tank is gas-free and the temperature of the cargo is more than 8°C (15°F) below its flashpoint.

If the cargo being loaded has a high vapour pressure, as gasoline does, the precautions described above are unnecessary except for the grounding of metal equipment. Used for sampling and measurement must be
grounded prior to being put into the tank and remain grounded until after withdrawal to prevent sparks from occurring at the deck opening, where the mixture of oxygen and cargo vapours may be flammable.

Where sampling, ullaging, and/or temperature taking are done within a stilling pipe or well and the bottom of the pipe or well is covered, no precautions are necessary.

The following Table, extracted from I.S.G.O.T.T, provides information on the typical conductivity value and classification for a range of products.

<table>
<thead>
<tr>
<th>Product</th>
<th>Typical conductivity (PicoSiemens/meter)</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Conductive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diesel (ultra low sulphur)</td>
<td>0.1 to 2</td>
<td>Accumulator</td>
</tr>
<tr>
<td>Lube oil (base)</td>
<td>0.1 to 1,000*</td>
<td>Accumulator</td>
</tr>
<tr>
<td>Diesel</td>
<td>1 to 100*</td>
<td>Accumulator</td>
</tr>
</tbody>
</table>

* Some additives used for performance improvement can increase conductivity significantly

In view of the complex nature of Static Electricity and the wide range of precautions necessary to prevent ignition, this subject is covered at some length as follows:

a. **EXPLANATION** – Static electricity consists of electrical charges, which have built-up – become static – on adjacent materials so that one accumulates a negative charge and the other a positive charge. This is an unstable state in which the positive and negative charges are trying desperately to re-combine in order to produce a stable, neutral situation.

This neutral situation is achieved either by the charges leaking slowly away to zero or earth potential or, like a spark plug, by jumping the gap between the materials when this gap is small enough and/or the charge is large enough. It is this sparking which can create hazardous conditions in, for example, a flammable atmosphere.

b. **FORMATION** – The movement of petroleum or chemical products in a pipeline results in the generation of an electrostatic charge (static electricity). Particularly large electro-static charges are developed by splash filling, by high liquid flow velocities, by water contamination, by air-blowing and through the use of filters, mixers or indeed, any form of agitation.

c. **PREVENTION** – The aim, therefore, is to eliminate situations where a product handling operation can lead to an electrostatic sparking in a flammable atmosphere. This is to achieve by ensuring adequate relaxation time in order to prevent static build-up, by providing a hydrocarbon gas free atmosphere, which allows sparking to take place safely by avoiding operations, which create large electrostatic charges.

d. **CONDUCTIVITY** – Liquid petroleum or chemical products are classified as conductors (i.e. Non-accumulators) or non-conductors (i.e. Accumulators). The lower conductivity, the higher the accumulation of static electricity and thus the greater risk of electrostatic sparking. Petroleum or chemical products with a low conductivity (i.e. With a conductivity less than 50 picoSiemens per meter (pS/m) or, as sometimes defined, with a Conradson Carbon below 1%) are considered to be accumulators. Petroleum products, such as clean oils (distillates), frequently fall into this category with conductivity typically below 10pS/m. Chemical solvents and highly refined fuels can have conductivities of less than 1pS/m.

e. **VAPOUR PRESSURE** – When considering the flammability of an atmosphere, the vapour pressure of the product must be determined. The higher the vapour pressure, the higher the volatility, the more vapour will be given off by the liquid at normal temperatures. Low vapour pressure oils normally present no significant risk as the amount of vapours given off is too low to form a flammable mixture with air. It is important to remember, however, that if a low vapour pressure oil becomes contaminated with lighter oil (i.e. high vapour pressure) it must be re-classified as an intermediate vapour pressure product.
High vapour pressure liquids generate considerable vapours at all times so that the mixture with air is usually too rich to burn.

SO GREAT CARE MUST BE TAKEN WITH THE INTERMEDIATE VAPOUR PRESSURE DISTILLATE AND MOST OF PRECAUTIONS ARE AIMED AT THESE.

The following table lists the volatility and electrostatic classification of typical petroleum products and crude and shows where static precautions are required when loading, ullaging, dipping and sampling.

<table>
<thead>
<tr>
<th>Volatility Classification</th>
<th>Electrostatic Classification</th>
<th>Example</th>
<th>Additional Factors</th>
<th>Are Static Precautions needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tank gas free</td>
</tr>
<tr>
<td>Non-volatile</td>
<td>Non-accumulators</td>
<td>Hard asphalts (bitumen)</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Black diesel oils</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Residual fuels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point 60°C (140°F)</td>
<td>Accumulators</td>
<td>Heavy gas oils</td>
<td>Oil temperature Significantly below flash point</td>
<td>No</td>
</tr>
<tr>
<td>or above</td>
<td></td>
<td>Clean diesel oils</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High flash jet fuels 1</td>
<td>Oil temperature Near or above flash point</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lubricating oils</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S19) PRECAUTIONS WHEN SAMPLING AND MEASURING

During loading of static accumulator products and for 30 minutes (settling time) after the completion of loading, no metal equipment for dipping, ullaging, or sampling should be put into the cargo tanks unless they are confirmed to be totally inert. Equipment with no metal parts may, in general, be used at anytime. However, ropes used to lower equipment into the tank should always be made of natural fibers, not synthetic polymers.

Metal equipment used after the 30-minutes waiting period must be bonded and firmly grounded to the structure of the ship before it is put into the tank. It should remain grounded until after its removal.

A metal-float level gauge that has been permanently installed does not present a static electricity hazard provided both the following conditions are met:

- The metal float must have electrical continuity through the tape to the structure of the ship, AND
- The metal guide wires must be intact
S20) TANK ENTRY

As long as the vessel is alongside OCEAN TANKERS TUAS TERMINAL jetty, Ship and Shore personnel are prohibited from entering a ship’s tank or similar enclosed space without permission, written if so required, to do so from a responsible ship’s officer who has ascertained immediately before entry that the atmosphere in the compartment is in all respects satisfactory for entry.

Entry is for inspection purposes only and a member of the ship’s crew must be assigned to be in constant attendance outside the compartment equipped with life lines, body harness, self-contained breathing apparatus and communicate with CCR.

The ship’s officer must satisfy OCEAN TANKERS TUAS TERMINAL representative that:

a) The hydro-carbon gas content as determined by a combustible gas indicator is 0% LEL
b) The benzene content does not exceed the threshold limit value of 1 part per million (ppm)
c) The hydrogen sulphide (H2S) level does not exceed the threshold limit value of 10 parts per million (ppm).
d) The normal oxygen-in-air level of 21% volume is present.

If any of these requirements cannot be satisfied or any doubt exists, entry must not be undertaken until the space has been rendered safe. Only in exceptional circumstances and when there is no practical alternative will entry into spaces, which are not gas free or are oxygen deficient be permitted. In this highly hazardous situation, self-contained breathing apparatus must be worn, the inspection carried out by highly trained personnel and ALL THE CONDITIONS AND PRECAUTIONS SET OUT IN I.S.G.O.T.T. CHAPTER 10 OBSERVED. The authority of both the Ship’s Master and the Terminal Manager or his authorized representative must be obtained before entry in these circumstances is undertaken.

S21) SOUNDING OF SHIP’S WHISTLES, SIRENS ETC

Except in an emergency, ship’s whistles, siren, etc, must not be used when a ship is moored alongside.

S22) SMOKING AND NAKED LIGHTS REQUIREMENTS

Smokings on board may only take place in rooms specified by the Master in consultation with the terminal. No smoking is allowed on the jetty. Notices specifying the Approval Smoking Places shall be conspicuously exhibited on the door of the approved smoking places when vessel is alongside. Open fire cooking (gas cylinder) is banned. Maintenance or repairs involving welding, burning, the use of abrasive tools, chipping or scraping, is prohibited.

S23) PROHIBITION OF USE OF JETTY LANDING STEPS

Except in the case of an emergency the launches of ships’ agents are prohibited from using the landing steps at OCEAN TANKERS TUAS TERMINAL jetties to pick-up or land ships’ crew / agents. The vessel’s gangway at the seaward side should be used for this purpose.

S24) INTOXICATED PERSONS

Person who appears to be in an intoxicated condition will NOT be allowed on OCEAN TANKERS TUAS TERMINAL. Masters are advised that operations will cease, when a person or persons involved in operations whose actions are not under proper control as a result of the use of alcohol/drugs and or fatigue. Operations will not resume until the matter has been reported to and fully investigated by relevant authorities and the Terminals considers it safe to do so and delay or cancellation in a vessel’s departure could result as a result of that.
S25) MUSTER POINTS
In the event of an emergency, all personnel who may evacuate the ship and the berth must immediately proceed in an orderly manner to the muster points as indicated on attached plan where the senior officer present will make a head count of his own ship’s personnel. (Please refer to page 13 for the muster points).

S26) CREW CHANGE AND SHORE LEAVE
For security reason to minimize movement of other activities except for cargo operations, ship’s agent is not allowed to arrange for crew change and shore leave throughout the period when ship is alongside any berth at OCEAN TANKERS TUAS TERMINAL.

S27) STOP OF CARGO HANDLING
- In the event of the loading hoses being unduly stressed.
- Possible damages of cargo hoses by accident.
- Any oil leaking/spill from vessel/Terminal.
- Occurrence of fire on or explosion onboard.
- Difference greater than ± 10% between ship and shore hourly rate.
- Difference greater than 5% of total cargo transferred.
- Excessive difference between ships’ manifold and shore pressure.
- Observation of oil leaks in pump room, ballast water tank and cofferdam.
- Observation of damages on ship’s hull/cargo handling system.
- As instructed by Sales Department or Customers.

S28) MISCELLANEOUS INFORMATION
- The Terminal may appoint an independent qualified ship inspector to audit the ship to ensure that the ship and crew meet the minimum standards required for ships to operate at OTTT.
- Masters are advised that operations will cease, when a person or persons invoiced in operations whose actions are not under proper control as a result of the use of alcohol/drugs and or fatigue. Operations will not resume until the matter has been reported to and fully investigated by relevant authorities and the Terminals considers it safe to do so and delay or cancellation in a vessel’s departure could result as a result of that.
- Prohibited operations while alongside:
  - Any operations without permission by Terminal Representative.
  - Boiler cleaning in addition to soot blow / excessive funnel smoke.
  - Chipping and painting.
  - Overboard discharge of any oily water.
  - Internal transfer of any bilges / oils.
  - Any operations which cause possible fire and / explosion.
  - To utilize shore appliances without permission.
  - Fishing.
  - No garbage, hot ashes or other hazardous materials nor shall any other objectionable materials, either solid or fluid, be throw overboard or discharge from the vessel at terminal.
FOLLOW UP ON CHECK LIST

It should be understood that although this safety list is jointly checked by ship and shore personnel on the ship’s arrival, it will nevertheless be necessary to carry out “follow up inspections” during the vessel’s stay alongside. This action is essential to ensure that acceptable safety standards are being maintained.

As a result representatives from the terminal are liable to visit your vessel at any time.

Master is reminded that a responsible ship’s officer must be on listening watch (VHF Channel 17) at all times and that sufficient personnel must be retained on board the vessel to handle cargo operations efficiently and deal with any emergency.

FIRE & EMERGENCY PROCEDURES

Alarm Signal

The alarm signal for a fire or other emergency on the Ocean Tanker Tuas Terminal is a continuous pitch note on the electric sirens.

The terminal evacuation signal is a variable pitch note on the electric siren for 2 minutes duration.

Ship Operations

When the fire or evacuation alarm is sounded, ships should stand by for any emergency operations shut-down. Ships’ staff must not initiate any action on their own concerning shutting down of valves etc. Unless the fire is on board their ship or directly endangering the vessel. Ships must await instructions from shore before taking action regarding cargo or bunkering operations.

Masters will be advised by the Duty Loading Master regarding the movement of their ships. No attempt should be made to unmoor and leave the jetty without instructions from any one of them.

Communications

On hearing the fire or evacuation alarm, a member of the vessel should liaise with the Jetty Crew personally for further information and action (VHF Channel 17).

Ship’s Personnel

Ship’s personnel ashore on the Terminal should endeavour to return to their ships on hearing the alarm signal and remain on board until the “all clear” signal has declared.

Man Overboard

In the event a person falls into the sea, the Jetty crew must be informed immediately and he will in turn alert the Central Control Room (CCR). The CCR will then dispatch any available boats to the scene to assist in the rescue operations.

Life buoys and lines are available on the jetties. These should be deployed as soon as possible.
INSTRUCTIONS IN CASE OF FIRE & ALARM SYSTEM
DO NOT HESITATE TO RAISE THE ALARM

SHIP’S FIRE ALARM

At this terminal the alarm signals are:
Fire: A continuous pitch note on electric siren lasting for 45 seconds.
Evacuation: A variable pitch note on the electric siren lasting for 2 minutes.

ACTION-SHIP:
Fire on your ship
- Raise alarm
- Fight fire and prevent fire spreading
- Inform terminal
- Cease all cargo operations and then close all valves.
- Stand by to disconnect hoses or arms
- Bring engines to standby

NOTE: IN CASE OF SHIP FIRE, OCEAN TANKERS TUAS TERMINAL RESERVES THE RIGHT TO REQUEST FOR MPA FIRE BOAT ASSISTANCE AND ALL COST INCURRED SHALL BE BORNE BY SHIP’S OWNER.

Fire on other ship or terminal
- YOU WILL BE ADVISED AND IF NECESSARY WHEN INSTRUCTED TO:
  - Cease all cargo operations and then close all valves
  - Fight fire and prevent fire spreading
  - If required stand by to disconnect hoses
  - Inform all ships
  - Terminal Emergency Procedure is immediately effective

ACTION-SHORE
Fire on terminal jetty
- Raise alarm
- Cease all cargo operations and then close all valves.
- Fight fire and prevent fire spreading
- If required stand by to disconnect hoses
- Inform all ships
- Terminal Emergency Procedures is immediately effective

IN CASE OF FIRE, TERMINAL WILL DIRECT MOVEMENT OF TRAFFIC
Note: This notice to be displayed on ship’s notice boards by Chief Officer.

EMERGENCY CONTACTS

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Telephone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walkie – Talkie</td>
<td>VHF Channel 17</td>
</tr>
<tr>
<td>Terminal Office</td>
<td>6861 3227</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Agencies</th>
<th>Telephone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Port Authority</td>
<td>6325 2488 / 6325 2489</td>
</tr>
<tr>
<td>Singapore Police Force</td>
<td>999</td>
</tr>
<tr>
<td>Singapore Civil Defence Force</td>
<td>995</td>
</tr>
<tr>
<td>(Fire and Ambulance Service)</td>
<td></td>
</tr>
</tbody>
</table>
INTERNATIONAL SHIP AND PORT FACILITY SECURITY (ISPS) CODE

The ISPS Code is mandatory under the International Convention for the Safety of Life at Sea (SOLAS), which came into force on 1 July 2004. The code applies to all ships of 500 GT and above engaged on international voyages, and to all port facilities serving these ships. It requires ships and ports to have counter-terrorist contingency plans, appoint security officers, keep security records and comply with the security requirements set out in the ISPS Code. OCEAN TANKERS TUAS TERMINAL is Certified by Marine Port Authority of Singapore to be in compliance with the ISPS Code.

MS1) DECLARATION OF SECURITY (DOS)

DOS (see Appendix IV) is a document on agreement reached between a ship and either a port facility or another ship with which it interfaces specifying the security measures each will implement.

MS2) SECURITY INCIDENT

Any suspicious act or circumstance threatening the security of a ship, including a mobile offshore drilling unit and a high speed craft, or of a port facility or of any ship/port interface or any ship to ship activity.

MS3) SECURITY LEVEL

Qualifications of the degree of risk that a security incident will be attempted or will occur. There are 3 Security Levels:

i) Security Level 1: The level for which minimum appropriate security protective measures shall be maintained at all times.

ii) Security Level 2: The level for which additional security protective measures shall be maintained for a period of time as a result of heightened risk of a security incident.

iii) Security Level 3: The level for which further specific protective security measures shall be maintained for a limited period of time when a security incident is probable or imminent, although it may not be possible to identify the specific target.

MS4) REQUIREMENT FOR DOS

i) Port facility will request for DOS if:
   a. The port is operating at a higher security level than the ship.
   b. There has been a request or instruction from the Contracting Government, Marine Port Authority.
   c. There has been a security threat involving the ship or involving the port facility.
   d. A security incident has occurred involving the ship or the port facility.
   e. The ship is not ISPS compliant that there is no Ship Security Plan and no Ship Security Officer.

ii) Ship will request for DOS if:
   a. The ship is operating at a higher security level than the port facility.
   b. The ship has been instructed by the ship’s company or owner.
   c. There has been a security threat involving the ship or involving the port facility.
   d. A security incident has occurred involving the ship or the port facility.
   e. The ship is at a port, which is not compliance with ISPS Code.

iii) DOS shall be completed by:
   a. The Master or the Ship Security Officer (SSO) on behalf of the ship.
   b. The Port Facility Security Officer (PFSO) or MPA appointed shore representative.

MS5) ACTIONS REQUIRED AT THE THREE SECURITY LEVELS

A ship is required to act upon the security levels set by the Contracting Governments as set out below.

i) At Security Level 1, the following activities shall be carried out through appropriate measures on all ships. In order to identify and take preventive measures against security incidents:
a. Ensuring the performance of all ship security duties.
b. Controlling access to ship.
c. Controlling the embarkation of persons and their effect.
d. Monitoring restricted areas to ensure that only authorized persons have access.
e. Monitoring of deck areas and areas surrounding the ship.
f. Supervising the handling of cargo and ship’s store.
g. Ensuring that security communication is readily available.

ii) At Security Level 2, the additional protective measures, specified in the Ship Security Plan shall be implemented for each activity detailed in (MS5) (i) above.

iii) At Security Level 3, further specific protective measures, specified in the Ship Security Plan shall be implemented for each activity detailed in (MS5) (i) above.

POLLUTION PREVENTION

P1) CAUSES OF POLLUTION

Experience has shown that the majority of the causes of pollution by ships are as follows:
a. Overflow of cargo, bunkers and/or ballast during loading, bunkering or ballasting.
b. Discharge of dirty ballast / bilge-water over-side.
c. Leakage of oil through sea valves at commencement of ballasting.
d. Failure of flanges and joints in manifolds and deck pipe-work.
e. Overflow of cargo from tanks during discharge (e.g. Open drop line valves, change of trim, slop tank overflow).
f. Spillage of oil after fire / explosion.

Consequently, Masters is required to draw the special attention of deck crews to these causes.

P2) EMERGENCY OIL POLLUTION CLEAN-UP

Whenever oil is spilled and pollution of the sea occurs or may occur, immediate action must be taken to prevent further spillage and to minimize clean-up operations. The Maritime and Port Authority of Singapore (MPA) will be informed by OCEAN TANKERS TUAS TERMINAL and in the event of large spills, clean-up facilities will be brought into action to supplement those of the terminal. No sound signal is to be made by ships in the event of an oil spill.

P3) REPORTING OIL SPILLS

All oil spills must be reported to the Central Control Room through the Jetty Crew. In order to prevent or minimize pollution, the following requirements are in force at OCEAN TANKERS TUAS TERMINAL:

P4) POLLUTION PREVENTION CHECKLISTS

The checklist shown in the Appendix V, while primarily used as a joint ship and shore check-out prior to commencing operations, should also be used by Ship’s officers to self-examine their ship for pollution control as an on-going basis.

P5) POLLUTION PREVENTION REQUIREMENTS

THE FOLLOWING REQUIREMENTS MUST BE CLEARLY UNDERSTOOD AND OBSERVED. AS APPLICABLE BEFORE START OF CARGO OPERATIONS.

P6) SCUPPERS

Scuppers must always be closed and made oil tight before operations commence. Those ships which have wooden scupper plugs must have plugs cemented over.
P7) WATER FREEING DECKS

All surplus rainwater or clean water spilling on deck from such as ballasting operations must be drained off periodically and scupper plugs replaced and resealed immediately after the water has been run off. Continuous monitoring during this time is required.

P8) UNUSED CARGO/BUNKER CONNECTIONS

All unused cargo and bunker connections shall be closed and blanked off using a fully bolted blank flange.

P9) OVERBOARD VALVES AND SEA VALVES

All overboard valves and sea valves not being used shall be closed and lashed or sealed. Overboard discharge lines which have swing-blind arrangement shall be blinded.

P10) DRIP PANS OR TRAYS

It is the ship’s responsibility to provide drip pans or trays under the manifold connections and to keep these pans/trays emptied or drained.

P11) OIL ABSORBING MATERIAL

The ship shall keep an adequate supply of sawdust or other oil absorbing material at or near the manifold.

P12) ADEQUATE DECK WATCH, COMMUNICATION WITH SHORE

The ship shall have an adequate deck to watch during all cargo, bunkering and ballasting operations. The Emergency Stop procedure must be clearly understood and agreed by ship and shore.

P13) MAXIMUM ALLOWABLE PRESSURE AT MANIFOLD

Never exceed the maximum allowable backpressure at ship’s rail. Make sure the loading rate is fully understood and agreed.

P14) TOPPING-OFF OPERATIONS

When topping-off cargo and bunker tanks, the ship’s officer in charge shall be in control of the operation, have adequate assistance from his crew and have the berth operator standing by to reduce the loading rate or stop loading as required.

P15) CHECK ON TANKS AFTER TOPPING OFF

Cargo and bunker tanks that have been topped up must be checked frequently during the remainder of the loading or bunkering operation to avoid an overflow due to an improperly shut or leaking valve.

P16) DRAINING HOSES

Always allow sufficient ullage in final tanks to accept the stripping and draining of shore loading hoses. This requirement also applies to bunker fuel tanks. Air blowing may be used by the Terminal in some cases to clear fuel from cargo or bunker hoses. (NB. Only heavy, high flash stocks are air blown.) Particular care must be taken when the ship has a significant trim. This is to guard against the danger of “blow-back” from wedge-shaped ullage spaces created by the trim of the ship.

P17) BALLASTING THROUGH CARGO SYSTEM, OPENING SEA VALVES

When commencing ballast through the cargo system, ensure that oil is not allowed to flow out through the sea valves. Do not open the outer sea valves until it is sure the pumps have suction. Beware of the pump cutting out due to sudden load.
P18) ULLAGE OF BALLAST TANKS

When ballasting into cargo tanks (and into permanent ballast spaces if these have a rust inhibitor or oil in them) the ullage should not be brought to less than 1.83m (6 feet) in each tank.

P19) CLEAN UP OPERATIONS, USE OF OTTT CRAFT, AND COST OF CLEAN UP

If a spillage occurs, all cargo, bunker and ballast operations must be stopped and full attention given to cleaning up and minimizing pollution of the sea, OCEAN TANKERS TUAS TERMINAL craft has dispersant spraying equipment and will be called to clean up any pollution of the sea. The cost of the clean up of pollution emanating from a ship will be payable by that ship.

P20) DEBALLASTING

Vessels are requested to arrive with clean ballast. Only clean, oil free ballast should be discharged over-side. It must be clearly understood that the responsibility for avoiding oil pollution rest with the ship. Even segregated ballast needs to be visually inspected prior de-ballasting.

P21) GOVERNMENT REGULATIONS

We draw your attention to the following Government Regulations.

QUOTE:

Masters, agents, owners and operators of harbour craft of every description are hereby reminded of the provisions of THE PREVENTION OF POLLUTION OF THE SEA ACT 1990 and THE PREVENTION OF POLLUTION BY OIL REGULATION 1991. They are therefore to strictly observe by the following:

i) No oil or mixture containing oil shall be discharged into Singapore waters from any vessel. The Master or person in charge of the vessel committing such an offence shall be liable on conviction to a fine or to imprisonment or to both such fine and imprisonment.

ii) No refuse, garbage, waste matter, substance of a dangerous or obnoxious nature or trade effluent is to be discharged from any vessel into Singapore waters. The Master or the person in charge of the vessel committing such an offence shall be liable on conviction to a fine or imprisonment or both such fine and imprisonment.

iii) Any person who puts, throws, casts or deposits into Singapore waters, or causes to be put, thrown cast or deposited there-into, any oil or mixture containing oil, refuse, garbage, waste matter, car-case, substance of a dangerous or obnoxious nature, or trade effluent, shall be guilty of an offence and shall be liable on conviction to a fine or to imprisonment or both such fine and imprisonment.

iv) If any oil or mixture containing oil is discharged into waters-

(a) For the purposes of securing the safety of the vessel or of preventing damages to the vessel or her cargo, or of saving life: OR

(b) Is found to be escaping, or to have escaped, into Singapore waters from a vessel in consequence of damage to the vessel, or by reason of leakage, the Master or the person in charge of the vessel shall report the occurrence(s) to the Director of Marine and the Port Master. Failure to do so shall be an offence and shall be liable on a conviction to a fine.

UNQUOTE

In the event of any spillage of oil from a vessel, irrespective of reasons or source, the Master and Owners shall be held responsible for all expenses involved in the cleaning up such spillage.
Ocean Tankers Pte Ltd

SHIP/SHORE SAFETY CHECKLIST

Vessel: ______________________________ 
Jetty: _______________________________ Date / Time: _____________________________

INSTURCTIONS FOR COMPLETION
The safety of operations requires that all questions should be answered affirmatively by clearly ticking in the columns “Ship” and “Terminal”. If an affirmative answer is not possible, the reason should be given and agreement reached upon appropriate precautions to be taken between the ship and the terminal. Where any question is considered to be not applicable, then a note to that effect should be inserted in the remarks column.

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

A (‘Agreement’) – This indicates that the referenced consideration should be addressed by 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’, no operations are to 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 and stated in the declaration.

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

PART ‘A’ – BULK LIQUID GENERAL – PHYSICAL CHECKS

<table>
<thead>
<tr>
<th></th>
<th>Bulk Liquid - General</th>
<th>Ship</th>
<th>Terminal</th>
<th>Code</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>There is safe access between the ship and shore.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>The ship is securely moored.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The agreed ship/shore communication system is operative.</td>
<td></td>
<td></td>
<td>A</td>
<td>R</td>
</tr>
<tr>
<td>4.</td>
<td>Emergency towing-off pennants are correctly rigged and positioned.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The ship’s fire hoses and fire-fighting equipment is positioned and ready for immediate use.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>The terminal’s fire-fighting equipment is positioned and ready for immediate use.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>The ship’s cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>The terminal’s cargo and bunker hoses are in good condition, properly rigged and appropriate for the service intended.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Scuppers and ‘save-alls’ on board are effectively plugged and drip trays are in position and empty.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

System: ……………………….
Back up system: ………………………
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. R
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: ..........................................

PART 'B' - BULK LIQUID GENERAL - VERBAL VERIFICATION

<table>
<thead>
<tr>
<th>Bulk Liquid - General</th>
<th>Ship</th>
<th>Terminal</th>
<th>Code</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. The ship is ready to move under its own power.</td>
<td></td>
<td></td>
<td>P</td>
<td>R</td>
</tr>
<tr>
<td>20. There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in terminal.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>21. There are sufficient personnel on board and ashore to deal with an emergency.</td>
<td></td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>22. The procedures for cargo, bunker and ballast handling have been agreed.</td>
<td></td>
<td></td>
<td>A</td>
<td>R</td>
</tr>
<tr>
<td>23. The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood.</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>24. Material safety data sheets (MSDS) for the cargo transfer have been exchanged where requested</td>
<td></td>
<td></td>
<td>P</td>
<td>R</td>
</tr>
</tbody>
</table>
| 25. The hazards associated with toxic substances in the cargo being handled have been identified and understood. | | | | H₂S Content: ..........................  
Benzene Content: .......................... |
| 26. An international Shore Fire Connection has been provided. | | | | |
| 27. The agreed tank venting system will be used. | | | A | R |
| 28. The requirements for closed operations have been agreed. | | | R | |
| 29. The operation of the P/V system has been verified. | | | | |
| 30. Independent high level alarms, if fitted, are operational and have been tested. | | | A | R |
| 31. Adequate electrical insulation means are in place in the ship/shore connection. | | | A | R |
| 32. Shore lines are fitted with a non-return valve, or procedures to avoid 'back filling' have been discussed. | | | | |
33. Smoking rooms have been identified and smoking requirements are being observed.  

34. Naked light regulations are being observed.  

35. Ship/shore telephones, mobile phones and pager requirements are being observed.  

36. Hand torches (flashlights) are of an approved type.  

37. Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.  

38. Portable VHF/UHF transceivers are of an approved type.  

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

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

41. Window type air conditioning units are disconnected.  

42. Positive pressure is being maintained inside the accommodation.  

43. Measures have been taken to ensure sufficient mechanical ventilation in the pump room.  

44. There is provision for an emergency escape.  

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

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

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>Smoking rooms have been identified and smoking requirements are being observed.</td>
<td></td>
<td>A R</td>
<td>Nominated smoking rooms:</td>
</tr>
<tr>
<td>34</td>
<td>Naked light regulations are being observed.</td>
<td></td>
<td>A R</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Ship/shore telephones, mobile phones and pager requirements are being observed.</td>
<td></td>
<td>A R</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Hand torches (flashlights) are of an approved type.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Portable VHF/UHF transceivers are of an approved type.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>The ship's main radio transmitter aerials are earthed and radars are switched off.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Electric cables to portable electrical equipment within the hazardous area are disconnected from power.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Window type air conditioning units are disconnected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Positive pressure is being maintained inside the accommodation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Measures have been taken to ensure sufficient mechanical ventilation in the pump room.</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>44</td>
<td>There is provision for an emergency escape.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>The maximum wind and swell criteria for operations have been agreed.</td>
<td></td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate.</td>
<td></td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

**Declaration:** We, the undersigned, have checked the above items in Parts A and B, in accordance with the instructions and have satisfied ourselves that the entries we have made are correct to the best of our knowledge.

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items coded ‘R’ in the Check List should be re-checked at intervals not exceeding _______ hours.

If to our knowledge the status of any item changes, we will immediately inform the other party.

**Note:** All ship’s personnel are not permitted to go onto the jetty or terminal premises unless prior approval has been obtained from the Terminal’s Shift Team Leader.

<table>
<thead>
<tr>
<th>For Ship</th>
<th>For Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: ___________________</td>
<td>Name: ___________________</td>
</tr>
<tr>
<td>Rank: ___________________</td>
<td>Rank: ___________________</td>
</tr>
<tr>
<td>Signature: ___________________</td>
<td>Signature: ___________________</td>
</tr>
<tr>
<td>Date / Time: ___________________</td>
<td>Date / Time: ___________________</td>
</tr>
</tbody>
</table>
Record of repetitive checks:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time:</th>
<th>Initials for Ship:</th>
<th>Initials for Terminal:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NOTICE OF PROTEST

Date: __________________

Master
MT ______________________

Dear Sir,

SAFETY REQUIREMENTS

Responsibility for the safe conduct of operations on board your ship whilst alongside our terminal rests with you as Master. We hereby serve you Notice of Protest as follows:

You vessel was observed to violate the Safety Requirements of the International Safety Guide for Oil Tanker and Terminal Ship/Shore Check-List with regards to the following items:

We hereby hold you fully responsible for the consequences arising from such violation(s) and reserve the right to stop the vessel’s cargo operation and/or order the ship off the berth, unless immediate remedial action is taken.

This notice will be brought to the attention of your Owners.

Yours faithfully,

_______________________
Terminal Representative

Acknowledged:

_______________________
Master
DECLARATION OF SECURITY

Name of ship: 

Port of registry: 

IMO Number: 

Name of port facility: 

This Declaration of Security is valid from ________________ until ________________ for the following activities: 

(List the activities with relevant details)

Under the following security levels

Security level for the ship: 

Security level for the port facility: 

This port facility and ship agree to the following security measures and responsibilities to ensure compliance with the requirements of part A of the International Code for the Security of Ships and of Port Facilities.

This form of Declaration of Security is for use between a ship and a port facility. If the Declaration of Security is to cover two ships, this model should be appropriately modified.

The affixing of the initials of the SSO or PFSO under these columns indicates that the activity will be done, in accordance with the relevant approved plan, by

<table>
<thead>
<tr>
<th>Activity</th>
<th>The port facility:</th>
<th>The ship:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring the performance of all security duties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring restricted areas to ensure that only authorized personnel have access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlling access to the port facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlling access to the ship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Monitoring of the ship, including berthing areas and areas surrounding the ship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling cargo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery of ship's stores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling unaccompanied baggage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlling the embarkation of persons and their effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensuring that security communication is readily available between the ship and the port facility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The signatories to this agreement certify that security measures and arrangements for both the port facility part A of the Code, that will be implemented in accordance with the provisions already stipulated in their approved plan or the specific arrangements agreed to and set out in the attached annex.

Dated at __________________________ on the ____________________________

Signed for and on behalf of

<table>
<thead>
<tr>
<th>The port facility:</th>
<th>The ship:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Signature of Port Facility Security Officer)</td>
<td>(Signature of master or ship security officer)</td>
</tr>
</tbody>
</table>

Name and title of person who signed

<table>
<thead>
<tr>
<th>Name:</th>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Title:</td>
</tr>
</tbody>
</table>

Contact details

(To be completed as appropriate)

(Indicate the telephone numbers or the radio channels or frequencies to be used)

<table>
<thead>
<tr>
<th>For the port facility:</th>
<th>For the ship:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port facility:</td>
<td>Master:</td>
</tr>
<tr>
<td>Port facility security officer:</td>
<td>Ship Security officer:</td>
</tr>
<tr>
<td>Company:</td>
<td>Company Security officer:</td>
</tr>
</tbody>
</table>
Appendix IV

# OCEAN TANKERS PTE LTD

## Ship / Shore Pollution Prevention Check – List

It is the Master’s responsibility at all time to ensure that every precaution is taken to prevent pollution.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Vessel</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jetty Number</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Operation:**
- ☐ Discharging
- ☐ Loading
- ☐ Ballast
- ☐ Bunkering

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.* Are main and poopdeck scupper plugs in place and oil tight?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are main decks free of rain/sea water?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a. Are you aware this is a continuing requirement alongside?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.* Has cargo manifold been drained before removing blanks?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.* Are all unused cargo / bunker manifold blanks including offshore and stern discharge on and fully bolted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.* Are pressure gauges in place and / or cocks securely closed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.* Are loading drop valves closed / Open?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.* Is all ship-side sea and overboard valves shut and sealed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.* Are drip cans or trays in position?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Are facilities available for disposal of drip can / tray contents?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Is cargo / bunker handling system adequate in the following aspects:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10a. Valve integrity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10b. Line security</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10c. Multiple valve separation between cargo, bunkers and overboard discharges?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.* Has proper co-ordination with shore been made prior to start of cargo / bunker operations?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.* Are emergency stop procedures established and understood?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.* Are segregated ballast tanks free from contamination?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q.</td>
<td>Question</td>
<td>Answer</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Do you have a plan for dealing with spillage and pollution if it occurs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Are facilities available for avoiding pollution if spillage occurs on deck?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Will deck / manifold be under proper supervision throughout cargo / bunker operations?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Has agreement been reached for controlling flow on completion of cargo / bunkers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Are sufficient men; under an officer assigned for cargo / bunker valve operation?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Do they fully understand tank changeover procedures?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Will sufficient room be left in last tanks for draining / air blowing shore hoses / arms?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Can cargo / bunker valves be closed and open readily?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Are valve indicators accurate?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Will checks be maintained on ullage and innage in all tanks during cargo / bunker operations?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Will a special watch be maintained on tank receiving cargo drainings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Are cargo pumps to be started prior to opening of manifold / sea valves?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Is there a supply of sawdust or other absorbent available?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Are engine room and pump room bilge discharge valves secured and sealed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Are bunkers to be taken in double bottoms / deep tanks?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Are there any known problems associated with ascertaining oil levels (bunker / cargo tanks)?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: ____________________________________________

Checked by
Chief Office________________________________________

OCEAN TANKERS
OCEAN TANKERS PTE LTD

LETTER OF PROTEST

Date: __________________

Master
MT ______________________

Dear Sir,

OIL POLLUTION

Your Vessel was observed to pollute the waters of Singapore with oil at ____________________________ hours on

________________________________________________________________________________________

The oil escaped __________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

On the arrival of your vessel in Singapore you were reminded of the provisions of The Prevention of Pollution of the Sea Act 1990 and The Prevention of Pollution by Oil Regulation 1991.

As a result of operations on board your vessel, pollution has occurred and you are held fully responsible for whatever expenses are incurred by OCEAN TANKERS TUAS TERMINAL in cleaning up the spillage and any other costs which may result.

Yours faithfully,

OCEAN TANKERS PTE LTD

Terminal Representative

Acknowledged:

Master
## Pre-arrival Information by Vessel

Masters of tankers or its agents, loading or discharging at OCEAN TANKERS TUAS TERMINAL shall provide pre-arrival information by fax to __________________________ as per the following checklist:

(Please note that the information below must be made available to the Terminal at least 72 hours prior vessel's tendering N.O.R.)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vessel's Name</td>
</tr>
<tr>
<td>2</td>
<td>S.D.W.T</td>
</tr>
<tr>
<td>3</td>
<td>L.O.A</td>
</tr>
<tr>
<td>4</td>
<td>Flag</td>
</tr>
<tr>
<td>5</td>
<td>G.R.T / N.R.T</td>
</tr>
<tr>
<td>6</td>
<td>Year Built</td>
</tr>
<tr>
<td>7</td>
<td>Beam</td>
</tr>
<tr>
<td>8</td>
<td>L.P.B (Length Between Perpendicular)</td>
</tr>
<tr>
<td>9</td>
<td>T.P.C (Tons Per Centimeter immersion)</td>
</tr>
<tr>
<td>10</td>
<td>Arrival Displacement</td>
</tr>
<tr>
<td>11</td>
<td>Departure Displacement</td>
</tr>
<tr>
<td>12</td>
<td>Arrival Draft</td>
</tr>
<tr>
<td>13</td>
<td>Departure Draft</td>
</tr>
<tr>
<td>14</td>
<td>Max Freeboard</td>
</tr>
<tr>
<td>15</td>
<td>E.T.A</td>
</tr>
<tr>
<td>16</td>
<td>Lightship Condition</td>
</tr>
<tr>
<td>17</td>
<td>Any Other Terminal To Visit</td>
</tr>
<tr>
<td></td>
<td>Question</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>18</td>
<td>Conditions of Cargo Tanks on Arrival? *** Delete wherever not applicable</td>
</tr>
<tr>
<td>19</td>
<td>Is H2S concentration in cargo tanks&gt;10ppm?</td>
</tr>
<tr>
<td>20</td>
<td>How many hours of ballast / de-ballasting?</td>
</tr>
<tr>
<td>21</td>
<td>Discharging rate per line</td>
</tr>
<tr>
<td>22</td>
<td>Number &amp; Size of Manifold available and plan to use</td>
</tr>
<tr>
<td>23</td>
<td>Number of Pumps available and plan to use</td>
</tr>
<tr>
<td>24</td>
<td>Stripping if any, how many hours?</td>
</tr>
<tr>
<td>25</td>
<td>Receiving rate per manifold</td>
</tr>
<tr>
<td>26</td>
<td>Breaking Strength for Mooring lines</td>
</tr>
<tr>
<td>27</td>
<td>Security Level</td>
</tr>
<tr>
<td>28</td>
<td>Is vessel equipped with an Inert Gas System?</td>
</tr>
<tr>
<td>29</td>
<td>If Yes, is the system operational and in use? (Note: Vessels fitted with IGS are required to have tanks inerted prior berthing to UTS)</td>
</tr>
<tr>
<td>30</td>
<td>C.O.W required? (Only permitted for Crude discharge)</td>
</tr>
</tbody>
</table>

**Remarks**

This questionnaire must be completed within 72 hours prior to the ship’s arrival and fax or e-mail to the Bunker Department / Terminal Office.
IMMOBILISATION OF MAIN ENGINES FOR VESSELS BERTHED AT OCEAN TANKERS TUAS TERMINAL JETTY

GENERAL

No vessel is allowed to immobilize main engines without the permission of the Terminal Management. All requests for immobilization should be channeled through the Duty Loading Master who will inform vessels and the Terminal Manager accordingly.

It should be noted that:

1. Only one vessel on the jetty is allowed to immobilize at any one time.

2. Immobilization will only be considered when two PSA tugs OR sufficient numbers of tugs are available.

3. If permission to immobilize is granted, the Master of the vessel is to inform the Terminal Manager in writing when immobilization has commenced and also when vessel is mobilized again. The immobilization should not exceed a period of twelve hours and in any case the repairs must be completed before completion of cargo/ballasting operations.

4. No ‘Hot’ or ‘Cold Work’ to be undertaken without separate permission and necessary permit being issued.
GUIDELINES FOR COMPLETING THE SHIP/SHORE SAFETY CHECK LIST

PART ‘A’ – BULK LIQUID GENERAL – PHYSICAL CHECKS

1. There is safe access between 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 vessel 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.

In answering this question, due regard should be given to the need for adequate fendering agreements.

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 fiber 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 risk 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 VHF 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 VHF 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 both on 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 is 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 the ship’s fire main systems should be pressurized or be capable of being pressurized at short notice.

Both ship and shore should ensure that their fire main systems can be inter-connected in a quick and easy way utilizing, if necessary, the international shore fire connection. (Question 28 refers).

7. **The ship’s cargo and bunker hoses, pipelines and manifolds 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 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.
8. The terminal's cargo and bunker hoses/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 pipeline 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.
- 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 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 issues such as spilled product or rainwater.

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

Unused cargo and bunker line connections should be closed and blanked. Blank flanges should be fully bolted and other types of fittings, if used, properly secured.
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 type 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 impact on 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 shore-side fire-fighting personnel. A crew list should also be included in this enclosure.

PART ‘B’ – BULK LIQUID GENERAL – VERBAL VERIFICATION

19. The ship is ready to move under its power

The ship should be able to move under its own power at short notice, unless permission to immobilize 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.

20. 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 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.

21. 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.

22. 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 agreements 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, 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 regarded 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.

23. 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 ship 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.

24. Material safety data sheets (MSDS) for the cargo transfer have been exchange 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.

25. **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 minimize the impact on personnel, information on cargo constituents should be available during the cargo transfer to enable the adoption of proper precautions.

26. **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.

27. **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).

28. **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 open 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.

29. **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 check-lift is actually operating the valve. On occasion, a seized or stiff vent has caused the check-lift drive pin to shear and the ship’s personnel to assume, with disastrous consequences, that the vent was operational.

30. **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 back-up 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 which will enable operations to be shut down 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.

31. **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 pipe-work 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 bypassed by contact with an electrically conductive material.

32. **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 which will prevent unintended flow from the shore facility onto the ship. Alternatively, a procedure should be agreed that will protect the vessel.

33. **Smoking rooms have been indentified and smoking requirements are being observed.**

Smoking on board the ship may only take place in places 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 which 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.

34. **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 minimum 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 meters 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 specialized nature such as gas tankers.

35. **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 phones and pagers should not be used in hazardous areas unless approved for such use by a competent authority.

36. **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.

37. **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 and 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.

38. **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.

39. **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.

40. **Electric cables to portable electrical equipment within 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.

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

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

42. **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, 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 air conditioning or similar systems which draw clean air from non-hazardous locations.

Air conditioning systems should not be operated on 100% recirculation.

43. **Measures been taken to ensure sufficient mechanical ventilation in the pump room.**

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

44. **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 clear of the moorings.

45. **The maximum wind and swell criteria for operations has been agreed.**

There are numerous factors which help determine whether cargo or ballast operations should continue. 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 mooring or gangway safety.

Such limitation 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.

46. **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.