# OKYC Terminal

# Information and Regulations

(A-TQI-3007-01 [Rev. 12])

Oilhub Korea Yeosu Co., Ltd.

# INTRODUCTION

**" Welcome your visiting of OKYC(Oilhub Korea Yeosu Co.) Terminal ! "**

The purpose of this handbook is intend to provide for the ship's master, owner, operator and agent with general informations, regulations and requirements regarding to facilities and services available at the OKYC terminal. It may be useful to the safety operation of ships in making plan to minimize the possibility of accident and to control the consequence of accident which might be occurred while a ship is alongside at the OKYC marine terminal and within port limits, but does not supercede or replace official publications, charts, laws, local regulations covering waters and areas. Although these informations contained in this handbook is thought to be accurate at the date of issue, but is in no way under guarantee. All of these informations in handbook can not be held responsible for any errors or omissions contained there in. It means that OKYC terminal assumes no responsibility for the accuracy of this handbook or for the consequences of using it for any purpose whatsoever.

These stipulations shall apply to all ships calling on the OKYC terminal for loading or unloading. Especially your attention is drawn to the instructions to ship regarding safety regulations which control and govern while you stay at the our terminal. All of the other legal formalities and safety regulations excluded in this booklet are to be under the control of the "Yeosu/GwangYang Port Operation Manual" and "Port Regulations" correspondingly.

The master or person in charge of any ship while at the our terminal, shall have adequate knowledge of these conditions, regulations and requirements and ensure that his crew members are fully informed of them.

Yours sincerely,

Terminal Representative of OKYC Terminal

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# Chapter 1. Condition for Use of Terminal Facilities

## Safety Letter (Appendix-1.)

**Dear the Master,**

Responsibility for the safe conduct of operations while your ship is at this terminal rests jointly with you, as Master of the ship, and with the responsible Terminal Representative. We wish, therefore, before operation start, to seek your full co-operation and understanding on the safety requirements set out in the Ship/Shore Safety Check-List, which are based on safe practices that are widely accepted by the oil and tanker industries.

We expect you, and all under your command, to adhere strictly to these requirements throughout your ship's stay alongside this terminal and we, for our part, will endure that our personnel do likewise, and co-operate fully with you in the mutual interest of safe and efficient operations.

Before the start of operations, and from time to time thereafter, for our mutual safety, a member of the terminal staff, where appropriate together with a Responsible Officer, will make a routine inspection of your ship to ensure that elements addressed within the scope of the Ship/Shore Safety Check-List are being managed in an acceptable manner. Where corrective action is needed, we will not agree to operations commencing or, should they have been started, we will require them to be stopped.

Similarly, if you consider that safety is being endangered by any action on the part of our staff or by any equipment under our control, you should demand immediate cessation of operations.

**There can be no compromise with safety.**

# Chapter 2. Berth Information

## 2.1 Location

( Located in just south of KNOC terminal near Gwangyang port limit )


(Geographical Jetty Position)

| Jetty No. | Latitude | Longitude |
|---|---|---|
| Jetty - 1 | 34° 50′ 09″ N | 127° 46′ 49″ E |
| Jetty - 2 | 34° 49′ 56″ N | 127° 46′ 50″ E |
| Jetty - 3 | 34° 49′ 43″ N | 127° 46′ 52″ E |
| Jetty - 4 | 34° 49′ 43″ N | 127° 46′ 48″ E |

※ DIRECTION : LYING on NNNE~SSSW(175°~355°) DIRECTION

## 2.2 Jetty Specification and the Target Vessel

| 1 | Berth Name | Unit | Jetty-1 | Jetty-2 | Jetty-3 | Jetty-4 |
|---|---|---|---|---|---|---|
| 2 | Depth | m | 17.0 | 18.0 | 19.5 | 12.0 |
| 3 | Date latest Sounding | | Dec. 2020 | | | |
| 4 | Max. allowable Draft | m | 14.7 | 15.5 | 17.7[1)] | 10.4 |
| 5 | Max. allowable DWT | Ton | 80,000 | 120,000 | 320,000[2)] | 30,000 |
| 6 | Max. allowable Disp. | Ton | 104,000 | 154,000 | 393,000 | 40,000 |
| 7 | Max. LOA | m | F.O 295 | C.P. 321 | C.P. 382 | F.O 147<br>C.P. 169 |
| 8 | Min. LOA | m | 130 | CPP : 85<br>DPP : 75 | 193 | 25 |
| 9 | Min. PBL (ballast) | m | 60.5 | 16.0 | 95.0 | 16.0 |
| 10 | Min. PBL (ballast)<br>manifold ~ fwd | m | F.O: 37.8<br>C.P: 34.8 | 8.0 | FO/CO: 49.0<br>C.P: 60.0 | F.O: 8.0<br>C.P: 11.5 |
| 11 | Min. PBL (ballast)<br>manifold ~ aft | m | F.O: 22.8<br>C.P: 25.8 | 8.0 | FO/CO: 46.0<br>C.P: 35.0 | F.O: 8.0<br>C.P: 4.5 |
| 12 | Min. manifold height | m | LLWL +2.5 | LLWL +2.5 | LLWL +6.1 | LLWL +1.5 |
| 13 | Max. manifold height | m | HHWL +15.7 | HHWL +17.4 | HHWL +22.2 | HHWL +10.2 |
| 14 | Min. Distance<br>between Manifold | m | 2.0 | (C.P)2.0<br>(FO/CO)2.5 | 2.5 | 1.5 |
| 15 | Max. Terminal Factor<br>(Length×Breadth×Depth) | cbm | 393,040<br>(340×68×17) | 519,840<br>(380×76×18) | 755,040<br>(440×88×19.5) | 96,000<br>(200×40×12) |
| 16 | Fender Touch Limit Speed<br>(As per operation guide) | ㎝/s | 5 | 5 | 5 | 5 |
| 17 | Mooring Arrangement<br>(each fwd/aft) | EA | 3-3-2 | 3-3-2<br>(SR 3-2or4-2) | 4-2-2<br>(VLCC 4-4-2) | 2-2-2 |

1) VLCC vessels with a draft greater than 15.8m should have a tide margin equal to the exceeded draft and are only accessible during times when the tidal current is below 0.5 knot.

2) J-3 jetty is built to handle 320,000 DWT class vessels, but as the depth of the adjacent sailing route is 18.2 m and of turning area is 19.5 m, VLCC and other large vessels should follow operational regulations set by the Port Authority. [This regulation will be applied after the revised announcement of the operation regulations of the Port Authority, until then the existing regulations will be followed.]

## 2.3 Jetty Layout and Loading Arm arrangement

(1) Jetty Layout : Refer to the attached Appendix-2.

(2) Loading Arm Arrangement (Arrangement: North → South)

| Jetty | MAL No. | Fluid | Dia (inch) | Capacity ($M^3$/h) | Pressure ($Kg/cm^2$) | |
|---|---|---|---|---|---|---|
| | | | | | Safety | Ops. |
| J-1 | LA-J101 | F.O | 12 | 2,000 | 12.1 | 9.0 |
| | LA-J102 | F.O | 12 | 2,000 | 12.1 | 9.0 |
| | LA-J103 | VOC | 10 | 3,750 Nm3/h | 7.0 | 0.2 |
| | Hose | VOC | 10 | 3,750 Nm3/h | 0.4 | 0.2 |
| | LA-J111 | Product | 10 | 1,500 | 11.0 | 8.2 |
| | LA-J112 | Product | 10 | 1,500 | 11.0 | 8.2 |
| J-2 | LA-J212 | Product | 10 | 1,500 | 11.0 | 8.2 |
| | Hose | Product | 6 | 550 | 11.9 | 8.9 |
| | LA-J211 | Product | 10 | 1,500 | 11.0 | 8.2 |
| | LA-J203 | VOC | 16 | 20,000 Nm3/h | 7.0 | 0.2 |
| | Hose | VOC | 10 | 3,750 Nm3/h | 0.4 | 0.2 |
| | LA-J202 | Crude/F.O | 16 | 4,000 | 12.1 | 9.0 |
| | LA-J201 | Crude/F.O | 16 | 4,000 | 12.1 | 9.0 |
| | Hose | Crude/F.O | 4 | 250 | 11.9 | 8.9 |
| J-3 | LA-J305 | Product | 16 | 4,000 | 12.1 | 9.0 |
| | LA-J304 | Product | 16 | 4,000 | 12.1 | 9.0 |
| | LA-J306 | VOC | 16 | 20,000 Nm3/h | 7.0 | 0.2 |
| | ~~Hose~~ | ~~VOC~~ | ~~12~~ | ~~6,100 Nm3/h~~ | ~~0.4~~ | ~~0.2~~ |
| | LA-J303 | Crude/F.O | 16 | 4,000 | 12.1 | 9.0 |
| | LA-J302 | Crude/F.O | 16 | 4,000 | 12.1 | 9.0 |
| | LA-J301 | Crude/F.O | 16 | 4,000 | 12.1 | 9.0 |
| J-4 | Hose | F.O | 6 | 500 | 11.9 | 8.9 |
| | LA-401 | F.O | 10 | 1,200 | 12.1 | 9.0 |
| | LA-J405 | VOC | 6 | 1,500 Nm3/h | 7.0 | 0.2 |
| | ~~Hose~~ | ~~VOC~~ | ~~6~~ | ~~1,500 Nm3/h~~ | ~~0.4~~ | ~~0.2~~ |
| | LA-J402 | Product | 8 | 1,200 | 11.2 | 8.2 |
| | LA-J403 | Product | 8 | 1,200 | 11.2 | 8.2 |
| | LA-J404 | Product | 8 | 1,200 | 11.2 | 8.2 |
| | Hose | Product | 4 | 250 | 11.9 | 8.9 |

* MLA Max. Operation Pressure : Used by applying 85% of the design safety limit
* Working Zone J-1 : Vertical (HHWL+15,685 ~ LLWL+2,505) / Horizon (+/-2,365)
  J-2 : Vertical (HHWL+17,395 ~ LLWL+2,505) / Horizon (+/-2,115)
  J-3 : Vertical (HHWL+22.200 ~ LLWL+6,105) / Horizon (+/-2,115)
  J-4 : Vertical (HHWL+10,195 ~ LLWL+1,503) / Horizon (+/-1,503)
* Horizontal Warning Zone : left/right each 1 meter wider than Working Zone
* 16 inch dia MLA : Emergency Release Couplers (ERC) Installed

# Chapter 3. Terminal Safety Regulation

## 3.1 Definition

(1) Age of Vessel

Age of vessel means present date (mm/yy) minus vessel delivery date (mm/yy) (month should be converted to a decimal)

(2) VPR (Vessel Performance Report)

The report made by the Loading Master and evaluated as one of five ratings like Excellent(5), Good(4) Fair(3) Poor(2) Bad(1) after checking the vessel operation management condition, the maintenance of cargo-handling equipments, and cargo operation ability of crew and officers including chief officer.

(3) Oil Major Inspection

Oil Major Inspection is a kind of SIRE(Ship Inspection Report Programme) inspection as standard of oil majors (BP, Shell, ExxonMobil, ChevronTexaco, Total, etc.)

(4) TSI (Terminal Safety Inspection)

TSI means a safety inspection performed by the berth master or the loading master or an inspector(approved and notified by OKYC terminal) before berthing to prove and ensure ship's safe cargo operation capability according to the terminal regulations

(5) VSM (Vessel Safety Manager)

VSM is hired by the ship-owner in order to supervise and support the vessel's safe cargo operation in cooperation with terminal according to the terminal regulations.

VSM should attend on board all the time of cargo operation (from L/A on to L/A off) to enhance efficiency of cargo operation and handle complicated problems may arise during staying at terminal.

OKYC terminal sets standards of qualification for VSM to ensure VSM's eligibility according to regular familiarization and training course for them.

## 3.2 Ship's(Vessel) Vetting Regulation

3.2.1 limitation of berthing

(1) Limitation to Age of Vessel

| | Oil Tanker | Domestic Oil Tanker |
|---|---|---|
| Limitation to Age of Vessel | above 23 years | above 25 years |
| Conditional Vessel | Over 23 years and under 30 years | 26 to 30 years |

※ Additional conditions for Oil tanker review

A. Conditions for ships of 23 years or more and less than 25 years of old

(i) When vessel vetting, submit and inspect the latest SIRE or IACS classification report (Vetting can be rejected when checking the problem on the report)

(ii) Conduct OKYC Terminal Safety Inspection before berthing

(iii) The vessel's max. loading q'ty shall be limited to 95% of tank capacity.

(iv) Be equipped with 2 sets of UTIs that is calibrated on the ship in case of failure of the level alarm device or the LEVEL GAUGING system and Comply with '4.2.2 Tank Inspection, Section 4)'

(v) Requires 3 months (minimum) of experience on board the ship of C/Officer

(vi) Cargo Safety Supervisor to be on board and requires supervision from the safety meeting to the end of an operation [Payment of cost: ship owner]

B. Conditions for Vessel of 25 years old

(i) The above "A. Conditions for ships of 23 years or more and less than 25 years of old" is satisfied, and the age of the ship must not exceed 30 years from the date of berthing of OKYC Terminal

(ii) The vessel's max. loading q'ty shall be limited to 90% of tank capacity

※ Additional conditions for Conditional Vessel

Vessels subject to the conditional review age must undergo a Terminal Safety Inspection (TSI) every 1 year after first berthing at the OKYC terminal.

(2) Criteria for limitation of berths due to other reasons for disqualification

A) A Vessel recorded less than two points in one of the VPR items due to serious problems during ship berthing, unberthing, and During cargo operations

However, after completion of supplementary measures for problem items

on VPR , it can be lifted from ships subject to berth regulation when passing OKYC TSI(Terminal Safety Inspection) and reflecting additional safety Options of OKYC Terminal

B) Violation of OKYC regulations/agreements (e.g., guidelines related to OKYC, ISPS regulations, Cargo Operation Agreement, etc.)

(3) Vessels listed on the OKYC, Yeosu Regional Office of Oceans and Fisheries, and YEOSU GWANGYANG Port Authority (YGPA) as black lists

(4) Ships that have experience in major accidents (fire, explosion, sea pollution, etc.) within the past 3 years, or accidents occurred in OKYC terminals

(5) Vessel of single hull structure (including double bottom and double shell), not double hull

(6) Ships with one or more bad ratings among TSI inspection evaluation items

3.2.2 Criteria for restriction on vessel access by international organizations & domestic / international governments (OFAC, US Coast Guard)

(1) In order for OKYC to comply with internationally agreed laws and regulation, in case of the vessel sanctioned/restricted/suspended by international organization (UN security council, IMO, etc.) and domestic/foreign governments, the vessels shall be regulated to berth at OKYC's jetties.

(2) OKYC periodically checks the vessels that are sanctioned / restricted / suspended through international organization and domestic/foreign government and shall manage the sanctioned / restricted / suspended vessel announced & designated by international organizations and domestic/foreign government with the checklist as shown in appendix 12.

(3) The sanctioned/restricted/suspended vessels shall be notified in advance by telephone, e-mail, etc. to the customers in order to prevent chartering or hiring of the vessel.

(4) In the event that customer requests to berth sanctioned / restricted / suspended vessels, OKYC shall inform the customer of the sanctioned / restricted / suspended vessels again and could take appropriate measures such as restriction on the vessel access.

(5) If the sanctioned/restricted/suspended vessels is removed from the management list of international organizations and domestic/foreign governments and it's confirmed on a clear basis that the vessel has been returned to normal and legal, it is released under the control of Appedix 12 of OKYC. Accordingly, the customer is notified of the released vessels and the vessels are allowed to enter and berth at OKYC's jetties.

3.2.3 VSM (Vessel Safety Manager)

(1) All oil tankers loading/un-loading at OKYC terminal should employ VSM to work on board to secure safe cargo operation during the whole cargo operation hours under owner's or charterer's expense.

(2) Qualifications for VSM

1) The VSM or VSM company for working on board at OKYC terminal should contract with OKYC for registration and accomplish the OKYC on-job training program every years.

2) The qualification of VSM should be in accordance with OKYC terminal guideline and the Maritime Law of Korea.

3.2.4 TSI (Terminal Safety Inspection)

Terminal requires safety inspection before berthing for the following vessels under owner's time/expense.

The safety inspector(company) should be approved by OKYC.

(1) All vessels of age 16 years or more

(2) Maiden voyage / Vessel, which is the port of operation immediately after dry-dock repair

(3) Following vessels below 16 year age

1) In case of first voyage just after change of owner/technical operator
2) Lay-up less than 3 months during recent one year.
3) Vessel on OKYC black-list and Vessels operated by the owners/operators on OKYC black-list

(4) The vessel of VPR evaluation at the recent OKYC terminal rated one or more items less than 4 points or 5 points on average. Upon re-entry, TSI should check for improvement

(5) Domestic vessels corresponding to the age of conditional review shall be inspect to the Terminal Safety Inspection(TSI) every one year in accordance with the OKYC standard regulation.

3.2.5 Vetting checklist

The person in charge of vetting should check the detailed information by receiving the latest Q88 of the relevant vessel during vessel vetting at the customer company, and request and confirm additional required documents from the customer(Vessel) side.

Vessels that do not fall under the IACS or KOMSA classification among vetting vessels in the customer company can additionally check the port state control (PSC) inspection performance and Oil Major Inspection Report, add necessary safety measures, and notify the customer.

Note: Ship/owner related information search

1) Port State Control (PSC) inspection performance inquiry
   - EQUASIS (www.equasis.org), Tokyo MOU (www.tokyo-mou.org)
2) Search Oil Major Inspection Report
   - SIRE Program (Ship Inspection Report Exchange Program, http://www.ocimf.org/sire)
   - Search/inquiry cost is £50 per report. Deposit in units of £5000 is required.

3.2.6 Berthing Regulations Vessel Exceptions

If a vessel subject to berthing regulation unavoidably needs berthing at OKYC pier at the request of a customer, the vetting person in charge can request a re-examination of the vessel through a terminal/marketing related meeting. notify the customer.

## 3.3 Berthing/Un-berthing Safety Regulation

All Vessels berthing or un-berthing must meet the following operational criteria.

### 3.3.1 Standard for boarding a pilot

Berthing/Un-berthing of the following vessels must be piloted by the ship agent.

1) Oil tanker more than 500 G/T
2) Vessel subject to the Pilotage Act and enforcement

### 3.3.2 Nighttime Berthing/Un-berthing Regulations

Nighttime Berthing/Un-berthing standards are subject to the Yeosu Harbor Pilots' Associations regulations.

### 3.3.3 Regulation for Vessel Approaching to Jetty Fender

(1) Lateral approaching angle

This is an angle formed by jetty fenders line and ship's lateral side. Vessel should be berthed parallel to jetty fenders face as far as possible.

| within 30 m range from jetty | when touch jetty fender |
|---|---|
| 6° or less | 3° or less |

(2) Approaching speed (within 30 m range from fender)

Vessel's lateral approaching speed to jetty fender is defined as follows;

| | |
|---|---|
| 5 cm/sec or less | allowable speed (Green Light) |
| 6 ~ 10 cm/sec | warning speed (Yellow Light) |
| over 11 ~15 cm/sec | critical (Red Light) |

※ the master & pilot will be black-listed and held accountable if in case of fender damage

### 3.3.4 Allowable maximum tidal current speed : 0.5 knot or less

In case of un-berthing with draft of under 15m, un-berthing is permissible within 1.0 knot of the tidal current by berth master's decision in considering of

other circumstances alright.

3.3.5 Allowable height of wave and swell (in case of 10sec. or less of cycle period)

| | |
|---|---|
| Vessels more than 30,000 DWT | 1.0 m meter or less |
| Vessels 10,000 ~ 30,000 DWT | 0.7 m meter or less |
| Vessels 10,000 DWT or less | 0.5 m meter or less |

3.3.6 In Dense Fog (visibility)

(1) The instruction of VTS(Vessel Traffic Service) should be followed.

(2) Before / After ships operation control is released, it can be determined by self-judgement considering visibility near the jetty and traffic conditions. (when there's more than 1.0 mile of visibility or the shape of GS Caltex crude oil jetty is recognizable)

3.3.7 Criteria on Wind Velocity (Based on average wind speed over 30 minutes)

| | |
|---|---|
| 14 m/sec. (27 knots) or more | Restrict berthing |
| 16 m/sec. (31 knots) or more | Stop cargo operation |
| 18 m/sec. (35 knots) or more | Disconnect loading arms |
| 20 m/sec. (39 knots) or more | Un-berth |
| 26 m/sec. (50 knots) or more | Close terminal |

* For oil tankers less than 10,000 DWT, the standard “2 m/sec” less than the above wind speed is applied.
* In the case of SJS Operation, if even one ship is applicable, can be taken accordingly
* When a typhoon arrives, Follow the Terminal instructions of the 'Typhoon Emergency Response Guide' or the port authority or the competent authority, but it is judged that even wind speeds below the control standard may interfere with the safe mooring and safe unloading of the ship. In this case, the control can be enforced on its own.
* Even if it is within the above standards such as wind speed and wave height, necessary safety measures may be taken in advance if deterioration of weather is expected.

* Even if it is within the above standards, such as wind speed and wave height, safety measures may be taken under consultation if requested by the ship for safety measures such as evacuation of the ship

3.3.8 Criteria for Use of Tugboats when berthing/un-berthing

The master shall comply with the following criteria for use of tugboat additional to the Reg. of Tug Operation for Yeosu and Gwangyang Port requirements;

(1) All Vessels of 1,000 G/T or more should use tugboat

(2) At least two(2) tugboats should be used for vessels of 1,500G/T or more.
* when master of vessels which available bow-thruster inform to terminal, only one tugboat can be used for un-berthing.

(3) For vessels of berthing/un-berthing at J-4 with her summer draft 8.5m or more, one(1) more tugboat of 2,500H.P. than the above regulation should be used.

(4) Vessels laden dangerous cargo over 10,000 G/T should use one more tugboat with 2,000H.P.

(5) Numbers of tugboats required shall be increased depending upon weather, sea conditions, or terminal request as safety reason. (Based on average wind speed over 30 minutes)
1) For average wind speed of 8m/sec or higher, use of tug is required for vessel of under 1,000 G/T.
2) For average wind speed of 8m/sec or higher, Two of tugs shall be used for berthing, if required by terminal for vessel of 1,000 G/T to 2,000 G/T

(6) Vessel of less than 1,000 G/T is berth in OKYC at first or is requested to be used as necessary for safe operation.

(7) Whenever following conditions exist or are expected, the master should arrange additional tugboats to maintain ship's condition;
* Significant increase in wind speed or change in wind direction, particularly if the vessel have high freeboard
* Expecting her bottom touch by significant swell, or period of maximum tidal flow, or her limited UKC, or close passing of big ship.

3.3.9 Other safety matters related to ship Berthing/Un-berthing

(1) Main Engine Stand-by
Vessels at the berth should prepare her main engine all the times for emergency un-berthing with short notice. (Within 15min)

(2) Main Engine Test before Un-berthing
Vessels should carry out the main engine test before un-berthing, but only after checking if loading arms, gangway and oil boom are in a safe condition.

(3) Vessels approaching and leaving the OKYC Jetty must secure a UKC at least 15% of Draft upon arrival and departure. (Draft 10% or more UKC secured during dock anchoring)

(4) Overdraft Ban
1) Ships to be berthing/un-berthing at the OKYC Jetty must be checked so that they do not berthing/un-berthing in the Overdraft condition after confirming the draft.
2) When berthing at the OKYC Jetty, berthing may not be possible if Over draft of the berthing vessel is confirmed with the naked eye.

(5) In case where a vessel comes alongside without any help of tugboats, both anchors should be ready to use (to prevent damaging jetty structure with excessive approaching speed; or for emergency anchoring due to main engine failure).

(6) When vessel has berthing problems with her main engine failure or bad weather conditions, the master should anchor promptly near the anchoring basin with reporting the situation to VTS.

(7) All the cargo tank hatch should be closed during berthing and un-berthing operations.

(8) Flame arrester of the engine room funnel should be kept closed during the berthing/un-berthing and cargo operation.

(9) Berthing/un-berthing operations basically should be carried out around slack

water time.

(10) For un-berthing, all the vessels should check removal of oil-boom around her before her main engine test (Ahead/Astern).

3.3.10 Limitation of berthing/unberthing for OverDraft Vessel

(1) Vessels scheduled to be berth at OKYC Terminal shall proceed not to berth in the OverDraft state. If the Over Draft of the berth vessel is visually confirmed when berthing at OKYC Terminal, berthing may be denied.

(2) When ship/shore Safety Meeting, the ship's loading quantity can be adjusted in case of expect Overdraft state by checking the ship's Stowage Plan.

(3) If the overdraft is confirmed after loading Operation completed, the unberthing of the ship is prohibited and measures such as backloading may be taken. The ship(ship owner) are responsible for any delays and losses caused by this.

## 3.4 Moorings management Regulation

3.4.1 Numbers and the Thickness of Mooring Ropes

1) Vessels berthing at OKYC terminal should have appropriate numbers and size of mooring ropes as OCIMF 'Mooring Equipment Guideline 3rd Edition'.

2) Minimum requirements for small vessels:
   * Head Line / Stern Line: 2 lines each
   * Breast Line / Spring Line: 1 line each on fwd and aft

3) Criteria for Mooring Winch:
   * Vessels coming alongside at OKYC jetty should have an appropriate number of mooring winches as vessels' size.
   * Criteria for numbers of rope and drum directly operated by mooring winch are as follows:

| DWT | Mooring Rope (including spare) | Powered Rope Drum |
|---|---|---|
| | Min. Numbers (fwd + aft) | Min. Numbers (fwd + aft) |
| less than 2,000 | 4 + 4 | 1 + 1 |
| 2,000 ~ 10,000 | 5 + 5 | 2 + 2 |
| 10,000 ~ 30,000 | 6 + 6 | 4 + 4 |
| 30,000 ~ 80,000 | 8 + 8 | 6 + 6 |
| 80,000 or more | 10 + 10 | 8 + 8 |

4) It is recommended that all mooring lines of the same size and material. In case of using wire ropes, tail ropes and certified shackles must be used.
In order to manage mooring ropes and prevent accidents due to breakage, the technical matters of the "Mooring Line" section of the OCIMF "Mooring Equipment Guidelines" must be observed (applies the latest revision).

3.4.2 Standard Mooring Plan According to Terminal

※ Refer to Appendix-12 Mooring Plan

※ Important: This standard Mooring Plan can be changed depending on the manifold location of the ship, and the responsibility for the Mooring Plan

is not responsible for OKYC.

3.4.3 Handling of mooring line at the Jetty when the ship is in contact with the Jetty

(1) In principle, it should be performed by a professional line handling part.

(2) It is absolutely forbidden for Ship's craws on the main line to go to the Jetty and handle mooring line during Berthing/Un-Berthing Operation.
(For ships under 500 G/T, mooring rope can be handled by the ship's crews)

3.4.4 Mooring Management during Berthing

1) The vessel is responsible for consistent monitoring and careful tending of the mooring ropes. Mooring ropes should not become slack or too taut and the tension of the ropes should be equal and appropriately controlled so that the ropes are not cut or do not allow the vessel to move or break away from the berth.

2) The vessel shall increase the ropes when appropriate requests are made from the terminal.

3) When the mooring ropes do not match with the location and size of the QRH/bollard arrangement of the jetty, terminal's direction should be followed.

4) The vessel should be ready to un-berth with her main engine start whenever necessary, even during the cargo operation.

5) Should the vessel move unduly in the berth, the terminal may call for the assistance of tugs to secure the vessel.

## 3.5 General Safety Regulation

### 3.5.1 Fire/Explosion Prevention

(1) Naked light (Open Flame)

On vessels at the berth, any operations using machines that could set off sparks or any use of flammable machines such as steel process operations including grinding, servicing and repairs including welding, incineration and chipping & scraping are prohibited.

In addition, handling materials such as the combustion of magnesium - composed alloy, which could set off sparks even if people cannot catch it with the naked eye.

The use of galley stoves and other cooking appliances must be non-flammable such as electric hot plates.

(2) Smoking

No smoking is allowed on board and at jetty while the ship is at the berth except in places which have been jointly approved by the Master and the Loading Master and named as 'Smoking Room'.

When such violations are found, sanctions including suspension of cargo operation and/or un-berthing can be imposed until Master's statement is submitted or other related effective measures are taken.

(3) Closed loading/unloading and IGS (Inert Gas System)

1) On vessels without inert gas system, the precautions highlighted in ISGOTT section 11.8.2 (Measuring and Sampling Non-Inerted Tanks) should be complied.
2) Vessels operating with inert gas should be equipped with proper venting system and the following two independent systems should be fully operational.
   i) Closed gauging system that allows the tank contents to be monitored without opening tank apertures.
   ii) Overfill alarm arrangement that providing audible and visual indication.
3) Gas freeing or tank cleaning shall not be permitted at berth.

(4) Handling of Electric Equipment including Hand Torch, Transceiver

The use of electric appliances near or in the area where there is a danger of gas leakage or gas residue such as on deck, ballast tanks, pump room

and cargo tanks is strictly prohibited.
Only hand torches or transceivers of intrinsically safe approved types for use in flammable atmosphere can be used.

(5) Radio Transmitting Aerials and Radar
The vessel's main radio transmitting aerials and radar must be switched off when the vessel is in the process of cargo operation at the berth.

(6) Boiler (Sparks from Funnel)
Boiler tubes must not be blown while the vessel is at the berth.
Every precaution must be taken so that sparks and soot are not emitted from the stack.

(7) Prohibited Use of Mobile Phone
While oil tanker alongside on board, the use of non-explosion-proof mobile phones and electronic communication devices at the jetty is strictly prohibited.

(8) Toxic gas Precautions including $H_2S$ & Benzene gas
To prevent exposure phase of high toxic gas (including $H_2S$ & Benzene) concentrations more than 5 ppm by volume, special precautions should be arranged through the cargo operation.
Personnel should always carry personal gas monitor when working in enclosed spaces, gauging, sampling, entering a pump room, connecting and disconnecting loading arms, cleaning filters, draining to open containments and mopping up spills if toxic gas concentrations could exceed the TLV-TWA.
Refer to the attached Appendix-9. for the details of safety guideline

3.5.2 Oil Pollution Prevention

(1) Prohibit Dumping Oil and Garbage into the Sea
It is strictly prohibited to discharge all kind of waste including oily waste into the sea.

(2) Sea and Overboard Discharge Valves
Before entering port, overboard valve/line connected to cargo lines should be shut and lashed and must be closed with blind plates inside.
Spool pieces of ballast lines connected to cargo lines should be separated

and then shut down with blind plates.

(3) Scuppers

Before Berthing, all deck scuppers must be plugged and be checked for leakage with pouring water when necessary.

When there is necessity of draining through scuppers due to rain and so on, firstly make sure there is no oil on the surface with reporting it to terminal and drain it. Duty crew must watch closely the whole process.

(4) Blind Plate for Manifolds

All unused cargo line manifolds and ballast line manifolds must be fully closed and fitted with blind flanges with full bolt tightening.

(5) Oil Pollution Prevention from Engine Room

The bilge separator in engine room must be shut and lashed, and should post a warning notice by chief engineer.

(6) Ballasting/De-ballasting

Before ballasting or de-ballasting, the vessel should notify the terminal for checking if it is necessary to adjust the time of ballasting/de-ballasting due to expecting bad weather or any change of cargo operation procedure

Before de-ballasting, the vessel should check any oil film in the ballast tank. If any oil film is found on the surface at the beginning or during the de-ballasting, the operation must be immediately stopped and notify the terminal. And can only be resumed after it is investigated that there is no problem after the cause identification.

The de-ballasting operation must be legally discharged through BWTS.

(7) Shipboard Oil Pollution Emergency Plan (SOPEP)

In accordance with item 26 of International Convention for the Prevention of Marine Pollution from Ships (Marpol) 73/78 Annex I, Oil tankers of G/T 150 or more should have SOPEP on board approved by classification society or the authorized agency, and utilize it when needed.

3.5.3 Other Safety Regulations

(1) Repairs & Inspection

1) When a vessel needs repairs, maintenance services at the berth as follows, it should be permitted by Loading Master or terminal

representative prior to ship arrival through agent.

* Simply replacement of equipment not related to cargo operation
* Simply maintenance of equipment not related to cargo operation

2) The following operations are not allowed basically at the berth.

* Work or inspection carried out inside of the tank of vessel
* Work carried out outside of the gunwale (=gutter bar) of vessel
* High-Place work without a fixed platform
* All kind of work that could hinder vessel's sailing ability including main engine maintenance
* All kind of work that can be a source of ignition to explosive gas
* Gas removal operations from tank, Tank/Boiler cleaning operations
* Oil transfer of ships not agreed with the terminal (including fuel and lubricant transfer)
* De-ballasting of oily ballast water
* Drinking on the ship and working on the ship while drinking or moving inside and outside the ship
* Leisure activities not permitted by the terminal, such as fishing

3) All inspections should be carried out before cargo operation or after completion of cargo operation. And The inspection should be granted permission by Loading master. The inspection is allowed during daytime and All of Inspection are not allowed during cargo operation. Exceptionally, the Oil Major inspection may be allowed if the CSS(Cargo Safety Supervisior) is on board during cargo operation to ensure stability.

(2) Lashing Ropes

Lashing ropes are to be ready and fitted with every manually operated valves on cargo line.

(3) Supply

1) While cargo operation, any type of supply or discharge materials is prohibited.
2) When loading and unloading of essential materials for the vessel is needed, vessel should request the loading master's permission through agent in advance.

   This operation can be carried out before or after the cargo operation
3) Bunker can be supplied from OKYC Terminal on jetty No.2 &4. However, in principle, It is supplied after the cargo operation is completed and the

cargo documents work and loading arm(hose) are disconnected. If you are willing to receving bunker, Must be notify the agent a week before arrive the port.

(4) Safety Regulations according to the International laws and conventions.
Almost safety regulations and customs commonly applied to other marine terminals, such as ISGOTT(International Safety Guide for Oil Tanker/Terminal) of OCIMF(Oil Companies International Marine Forum), Mooring Equipment Guideline and etc. are also applied to OKYC terminal safety regulation.

# Chapter 4. Cargo Operation Procedure

## 4.1 Procedure and Preparations before Cargo Operation for Vessels

### 4.1.1 Berthing Acceptability Clearance;

Vessels want to visit OKYC terminal have to request her berthing acceptability from terminal with the following informations at least 2 weeks before her calling OKYC. (Refer to the Appendix-11. Vessel Nomination Procedure)

1) Q88
2) Cargo details to load/unload
3) DDR(Due Date Range) of cargo operation at OKYC
4) Mooring equipments diagram on deck (ex, General Arrangement)

### 4.1.2 Additional informations and submittance of documents from the Contracted Vessel;

Vessels proceeding to OKYC terminal for cargo operation shall inform and/or submit the following items;

1) 'The master's declaration' (Appendix-1.)
2) 'Check list before arrival OKYC terminal' (Appendix-8.)
3) Cargo documents, crew List, port of call, and other documents if requested
4) International Tonnage Certificate, Ship Security Information
5) Stowage plan or discharging plan
6) Arrival draft and estimated sailing draft
7) Agent name in Korea, and other informations if requested
8) Other documents requested by the terminal

### 4.1.3 Notice of ETA;

Vessels shall confirm her ETA at OKYC terminal as the following time and occasions:

1) 14/7/4 days before its ETA at the terminal as the case may be.
2) 48/24/12 hours before such ETA
3) In the event of any variation of more than one(1) hour after 48 hours ETA, vessels shall advise immediately the terminal of its ETA.

4.1.4 All vessels proceeding to OKYC terminal have to take following actions prior to arrival at OKYC terminal

(1) For loading VOC cargo oil

1) Vessel have to take appropriate action to observe 'OKYC Vapour Emission Control Plan' (Appendix-4) and inform the result to OKYC through 'Check List Before Arrival at OKYC Terminal' (Appendix-8) to prevent clog from terminal VRS(Vapour Return System) by ship's rusty dust and condensate water.

2) In case of inadequate condition by inspection, terminal can reject loading operation and vessel is responsible for all consequences arising from this result.

3) All ships for VOC cargo loading shall deactivate the corresponding tank for loading (less than 8% oxygen content)

(2) Before approaching pilot station, vessel should carry out sufficient preparations to prevent emission of black soot from funnel exhaust and/or scrubber/deck-seal water discharge outlet.

(3) During approaching, vessel should have all cargo handling system on standby for immediate loading/unloading operation upon completion of cargo safety meeting.

(4) Manifold Arrangement should conform to OCIMF 'Recommendations for Oil Tanker Manifolds and Associate Equipment' and vessel should prepare proper reducers to fit with shore loading arm arrangement (described in Chapter 2, 4.2) and the Mooring Plan (to be presented before berthing).

1) Manifold flanges to connect shore loading arms should have proper thickness conforming to ANSI 150 Lbs flange.

2) For small tankers under 16,000 dwt : the manifolds should have sufficient space that required on 'Check List Before Arrival at OKYC Terminal' (Appendix-8)

## 4.2 Loading Operation

### 4.2.1 Switch Loading and Static Electricity

"Switch loading" means that a previous loaded cargo was much high vapourable liquid and a present cargo to load into same tank is relatively low vapourable liquid.

In this case (switch loading), there are much possible generated 'static electricity/ electrostatic field' throughout the tank both in the liquid surface and in the ullage space at initial/during loading.

Static electricity presents fire and explosion hazards during handling of petroleum, and tanker operations are no exception. Certain operation can give rise to accumulations of electric charge which may be released suddenly in electrostatic discharge with sufficient energy to ignite flammable hydrocarbon gas/air mixtures.

To avoid any possible ignition of static electricity, vessels in case of switch loading are strongly requested to fully inerted condition if fitted with IGS and/or gas free means previous flammable gas content shall be less than 15%LEL before commencement of present cargo loading, and others than above, requested linear velocity in the branch line to each individual cargo tank shall not exceed 1m/sec. until loading bell mouth levels are sufficiently filled and immersed with oil.

And also to release smoothly human static electricity, crew must be earthed properly with physical hand-touch using metals/discharge plates located onboard before turn to their cargo work on deck. Refer to the Appendix-3.

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### 4.2.2 Tank Inspection

1) Only as the approval by cargo surveyor and/or loading master after tank inspection, cargo loading operation can be started to carry out.
2) Random checks of oxygen contents should be carried out for IGS tanker, and the switch Loading clause (defined 2.1) should be observed for non-inerted tanker.
3) All the gauging and sampling operation should be carried out by closed system like using vapour-lock gauging point to prevent exposure of toxic

gas.

To prevent high $H_2S$ or Benzene concentrations, personal gas detector and special precautions should be arranged.

4) If there is a problem with the operation of the level measurement equipment and the level alarm device in the ship cargo tank the storage capacity of the tank can be limited.

| level measurement equipment & the level alarm device if all trouble | level measurement equipment & the level alarm device only one trouble |
|---|---|
| Loading up to 90%<br><br>Regular placement of the tank watcher | Loading up to 95%<br><br>Regular placement of the tank watcher |

4.2.3 Loading of VOC Cargo

1) When loading VOC cargo, ship/shore VRS(vapour return system) should be operated to prevent VOC emission to air.
2) Terminal loading master should inspect the inside condition of ship's vapour return line by visual and/or blowing method before L/Arm connection.
3) In case of inadequate condition by loading master's inspection, terminal can reject loading operation and vessel is responsible for all consequences arising from this result.
4) During normal loading operation, vessel should check the condition of VRS regularly and report to terminal immediately when tank pressure reaches beyond of parameter which ship/shore discussed and agreed.
5) When loading VOC Cargo, refer to the 'Appendix-4. Vapour Emission Control Plan' to control the VOC's atmosphere discharge and Connect the Vapour Return Line for recovering the VOC. In addition, the VOC cargo loading tank should be make oxygen concentration of less than 8% by inerting. Vessels without inert gas systems must also have an oxygen concentration in the tank of 8%.

4.2.4 Cargo Safety Meeting

1) Before having cargo safety meeting, terminal loading master can inspect her mooring condition, cargo equipments on deck & CCR, safety managing condition, and etc.

2) Unless loading master's comment otherwise, cargo safety meeting basically should be held together with the master, chief officer, and chief engineer.
3) Vessel and terminal have to confirm the following items and declare 'Cargo Operation Agreement' (Appendix-5.) with both signature.
   * Explanation and correct action for non-conformity items during safety inspection and/or safety round on deck
   * Major items of Terminal Informations and Regulations
   * Cargo name, cargo quantity, cargo specification, ship's stowage plan
   * MSDS hand over and explanation of the important content (ex.: $H_2S$, Benzene)
   * Method of ship/shore communication during cargo operation (cargo operation to be stopped when communication failure)
   * Initial/Max./Topping-off loading rate
   * Emergency Shut-down Procedure to prevent possible danger of pressure surge which exceed the agreed pressure limit including explanation of loading arm envelope and ERC(Emergency release Coupling) operating condition
   * Tank condition for loading(previous cargo, oxy./gas contents etc.)
   * Arrival draft, de-ballasting hours, expected sailing draft
   * Special ship's condition that terminal have to be acknowledged.
4) Following documents have to be declared with signature.
   * 'Ship/Shore Safety Check List' (Appendix-6)
   * Notice of Readiness
5) In case small tankers that have no CCR installed should prepare Cargo Operation Display Board at ship's manifold area, and this board display the important contents of cargo operation agreement.

4.2.5 De-ballasting

1) Vessel officer have to confirm ship's ballast tank condition not contaminated with any oily contents and record it accordingly.
2) On start de-ballasting, vessel report this to terminal and arrange deck crew to watch around overboard sea area.
3) Terminal can request vessel to suspend de-ballasting because such situation of un-berthing would be expecting due to bad weather & etc.
4) Ballast water discharge operation must be properly treated and discharged through BWTS.

4.2.6 Comparing Loading Rate & Loaded Q'ty

1) Loading rate and loaded quantity should be checked and recorded every hour and reported to terminal when requested.
2) In case the hourly loaded quantity is too different from previous one, vessel should report to terminal and confirm again its reason by re-check and/or calculation.

4.2.7 Topping-Off and Completion of Loading

1) Before topping-off ship's cargo tanks, vessel should request to reduce loading rate for safe topping-off operation with sufficient pre-notice like 30 minutes as agreed on Cargo Operation Agreement .
2) Even though shore-stop, vessel should request to stop loading when expecting dangerous situation like over-flow.
3) On completion of loading, vessel should close manifold valves after that confirm the loading arm valves have been closed.

4.2.8 Cargo Gauging, Calculation and Documentation

1) Cargo gauging and calculation should be carried out by the appointed surveyor, and loading master should attend unless any special reason.
2) In case that ship's figure differs from terminal figure 0.3% or more, ship/shore staff and surveyor should carry out re-gauging and report to terminal.
3) Shipping Documents are basically as follows unless additional D/I(document instruction) requested.
   * B/L --- Issued by Vessel(Master/Agent)
   * Certificate of Quantity --- Issued by Terminal(Surveyor)
   * Certificate of Quality --- Issued by Terminal(Surveyor)
   * Certificate of Origin --- Issued by Terminal(Surveyor)
   * Cargo Manifest --- Issued by Vessel(Master/Agent)
   * NOR --- Issued by Vessel(Master/Agent)
   * Time Statement of Fact --- Issued by Vessel(Master/Agent)
   * Protest (if any) --- Issued by Vessel(Master) and/or Terminal

## 4.3 Discharging Operation

### 4.3.1 Gauging and Sampling

1) Before discharging operation, the appointed cargo surveyor should carry out exact gauging and calculation.
   This gauging hours are not included in contract cargo operation time.
2) In case that ship's figure differs from B/L figure 0.3% or more, the result should be reported to terminal and wait for instruction to start discharging commence.
3) Vessel should hand over the loading port cargo documents and samples.
4) Vessel have to help sampling work as per terminal and/or surveyor's request.
5) All the gauging and sampling operation should be carried out by closed system like using vapour-lock gauging point to prevent exposure of toxic gas.
   To prevent high $H_2S$ concentrations more than 5 ppm, personal gas detector and special precautions should be arranged.

### 4.3.2 Cargo Safety Meeting

1) Vessel should present following documents to terminal loading master and/or surveyor.
   * Discharging Plan
   * Ship's Particulars
   * Bill Of Lading
   * Quantity/Quality Certificate
   * Cargo documents of loading port
   * MSDS
   * Etc.
2) The same items as cargo safety meeting of loading operation (defined 2.4) are almost applicable.

### 4.3.3 Commencement of Discharge

1) In almost case that gas & vapour are filled in cargo pipe line on deck and pump room, the gas and vapour should be extracted by close-circulation of cargo. Loading master may advise the appropriate method.
2) When start centrifugal pump, vessel should prevent pressure surge caused by

excessive start RPM. The pump delivery valve should be closed position until the pump stabilized with minimum RPM.

3) If there are severe vibration on loading arm and/or pipeline at the start of discharging, vessel should stop or reduce the discharge flow until confirming the reason and remedy it completely.
4) The start and control discharge operation by pump delivery valve should be carried out very carefully with loading master's direction to prevent damage on terminal equipments by pressure surge or back-flow from shore.
5) In the cases of IGS failures, the discharging operation should be suspended immediately to prevent air coming into the tanks.

4.3.4 Report Discharge Rate & Q'ty and Change of Pump Operation

1) Vessel should check and calculate the discharging quantity periodically (hourly) and report to terminal when requested.
2) Except emergency case and stripping stage, the considerable change of pump operation should be notified to terminal in advance.
3) For stop cargo pump operation, notification should be given step-by-step like 30 minutes, 10minutes, 5 minutes, 1 minute to stop, or otherwise 2,000 ㎘, 1,000 ㎘, 500 ㎘, 100 ㎘, 50 ㎘, 10 ㎘ to stop.

4.3.5 Caring for Mooring Line & Gangway

1) In discharging tanker docked at the jetty, Mooring takes excessive tension easily caused by tide and changing of draft. In this case sometimes Vessel has lose the position due to damaged mooring, so duty sailors often adjust the entire mooring to maintain proper tension.
2) Vessel have responsibility to maintain mooring management 'Not Too Tight, Not Too Loose' within mooring rope permissible tension and never away from the berth.
3) Vessel crew have to watch shore gangway not to face dangerous situation by ship's height change and notify to terminal to adjust it if in need.

4.3.6 Crude Oil Washing (COW)

1) COW operation strictly restricted in performing only within 25% volume of tank capacity of laden tank. This is to be declared when cargo safety meeting and recorded on 'Cargo Operation Agreement' (Appendix-5.)
2) Vessel should check as the related safety check-list before COW operation,

and for the oxygen content of tank, notify terminal for grant. Never carry out COW operation in case of over 8% of oxygen content.

3) COW operation should be carried out as 'Closed Cycle' and the washed oil should be discharged at final stage of discharging unless otherwise decided by terminal.

4.3.7 Stripping

When stripping stage, the pump RPM and delivery valve opening should be carefully controlled to prevent severe vibration and/or pressure surge from sucking vapour.

4.3.8 Final Discharging and Tank Dry Inspection

1) Vessel should notify her ETC(Estimated Time of Completion) to terminal at least 1 hour before completion.
2) At the end of discharging stage, all the cargo pipe line including loading arm(s) should be fully drained and accomplished stripping except the small diameter discharging line (Marpol line) and one loading arm to use at final discharging.
3) Only one loading arm should be used at the final discharging stage.
4) Before tank dry inspection, cargo surveyor and loading master should check the following items.
   * All the ship's cargo pipe line were drained and stripped.
   * Whole cargo discharging operation have been completed and pumps been finished.
   * All the important cargo valves were closed.
   * Vessels is afloat with up-right condition without any list.
5) Tank dry inspection is basically carried out with dipping method using vapour-lock inspection hole to prevent VOC emission.

# Chapter 5. Emergency Plan

## 5.1 Emergency Procedure

### 5.1.1 Emergency Signal

In the event of fire or other emergency, series of long blast should be sounded by whistle or siren.

### 5.1.2 Emergency Shutdown(Stop)

In case the following circumstances, ship and terminal should take emergency shutdown(stop) cargo operation. Due regard should be given to the possible dangers of pressure surge associated with any emergency shutdown procedure.

(1) When the wind speed increases to 20 m/sec or more (In case of reaching the criteria for Stop Cargo Operation of '3.3.7 Criteria on Wind Velocity') or wave (including swell) is higher than 1m.
(2) In the event of a fire on or near the ship.
(3) When a pressure surge occurs and the loading arm vibrates violently or the noise is severe.
(4) When communication agreements such as radio are not observed between ships/terminals
(5) When an accident is occurred on board.
(6) In the case of thunderstorms in nearby sea areas (especially in the case of unloading VOC cargo)
(7) When a part of ship's mooring is damaged or broken
(8) When the vessel in operation is moved by external force (weather, tide, etc.), and it is feared that the Loading Arm Working Envelope deviates.
(9) When terminal representative or VSM has determined that it is too dangerous to continue cargo operation due to breach of safety regulation or other matters.

### 5.1.3 Emergency Loading Arm Disconnection

ERC(Emergency release coupling) is equipped on crude/F.O. loading arms of Jetty-2 and all loading arms of Jetty-3.

ERC makes possible to disconnect loading arms from the vessel in a short period on emergency case such as vessel over-drifting from berth, earthquake, fire, and etc.

(1) When the hull leaves the Jetty beyond the warning envelope range of the loading arm
(2) When an emergency such as an earthquake, fire or tsunami occurs or is urgently forecast
(3) When it is necessary to block the other from the occurrence of a large fire on a ship or Jetty
(4) In case of reaching the criteria for Loading Arm Disconnection of '3.3.7 Criteria on Wind Velocity'

5.1.4 Emergency Un-berthing Operation

In case the following circumstances, the master and terminal representative take emergency action to un-berth after discuss the situation.

1) When weather forecast typhoon approaching or In case of reaching the criteria for Un-Berth of '3.3.7 Criteria on Wind Velocity' or wave (including swell) is higher than 1m.
(When the master and terminal representative conclude the situation dangerous even though the wind speed is less than 20m/sec., emergency un-berthing should be taken.)
2) When a fire breaks out vessel(s) around.
3) If loading work delay under the bad weather condition, the master should be agree to un-berthing.
4) When terminal representative has determined that it is too dangerous to have vessel alongside berth due to weather condition or other matters.
5) When an accident is occurred on board.
6) When VTS and/or related authority declares special direction.

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5.1.5 Emergency Evacuation

When a emergency case of big fire or explosion of vessel/terminal have been occurred or foreseen, all the people on jetty/vessel must escape from the danger place through appropriate route as 'OKYC Jetty Layout & Emergency Evacuation Plan' (Appendix-2) with consideration of following measures.

1) To request help like rescue boat from out-jetty using portable radio and emergency contact list.

2) Use appropriate PPE like as life-jacket, life-ring, EEBD, breathing apparatus, etc.
3) In case of presence of toxic gas at the scene, refer to 'Toxic Gas Safety Guideline' (Appendix-9.)

5.1.6 Emergency Measures and Notifications

When a fire of oil spill accident have been occurred on board, the master must take appropriate initial emergency measure to control the emergency and inform the situation to terminal representative without delay.

All the cargo, ballasting and bunkering operation must be stopped immediately and oil in the loading arms should be drained out to prepare disconnection. Main engine, steering gear, and all mooring equipments also should be ready to use.

5.1.7 Assistance of the Boats by the Terminal

In case that terminal representative has found an emergency situation and/or judges that situation is imminent, he may request help directly from the assist boats without prior agreement of the master.

In these cases, all mobilization cost of the boats must be charged on the vessel or the owner.

5.1.8 Notification for Emergency and Summoning of Assistance

An emergency situation must be reported to the competent authority and the concerned organizations using 'Emergency Contact System' (Appendix-10).

If either the master or terminal representative judges that the resources of the vessel and terminal are not enough to overcome the emergency situation, assistance from assisting organizations will be requested by terminal representative.

In this case, Emergency Contact System' (Appendix-10) shall also be referred to.

5.1.9 Indemnification

The master of any vessel and its owner shall remain solely responsible for, and shall hold the terminal indemnified against, damage of terminal and expenses for third party from whatever cause arising in consequence of all act and/or omissions of the vessel's personnel.

## 5.2 Emergency Plan of Vessel

### 5.2.1 Preparation

The master must have emergency procedures ready for immediate implementation in the event of various type of emergencies such as a fire in cargo tanks/engine room/living quarter, personnel injury, and oil spillage. All shipboard personnel must be familiar with the procedures, be adequately trained and clearly understand the action they would be required to take when responding to an emergency.

### 5.2.2 Fire-Fighting Equipment

Before commencement of cargo operation, fire-fighting equipment on the vessel must be made ready for immediate use. A least two fire hoses (fwd and aft of manifold) should be uncoiled and laid out and fire monitor should be aimed to the manifold of jetty-side.

### 5.2.3 Readiness to Move under Own Power

While the vessel is alongside at berth, her boiler, main engine, steering gear, and other equipments essential for maneuvering must be maintained in a state of readiness. With short notice, the vessel can move away from berth.

### 5.2.4 Materials for Oil Disposal

While the vessel is alongside at berth, materials for oil disposal must be ready for immediate use. The use of chemicals requires permission of the authority.

# Chapter 6. Appendix

Appendix-1. Safety Letter (For Use of Terminal Facilities) (A-TQI-3007-01-01)
Appendix-2. OKYC Jetty Layout & Evacuation Plan (A-TQI-3007-01-02)
Appendix-3. Switch Loading Guideline (A-TQI-3007-01-03)
Appendix-4. Vapour Emission Control Plan (A-TQI-3007-01-04)
Appendix-5. Cargo Operation Agreement (F-TQI-3007-01-05)
Appendix-6. Ship Shore Safety Check-List (F-TQI-3007-01-06)
Appendix-7. Safety Review and Confirmation (A-TQI-3007-01-07)
Appendix-8. Check List before Arrival at OKYC (F-TQI-3007-01-08)
Appendix-9. Toxic Gas Safety Guideline (A-TQI-3007-01-09)
Appendix-10. Emergency Contact System (A-TQI-3007-01-10)
Appendix-11. Vessel Nomination Procedure (A-TQI-3007-01-11)
Appendix-12. OKYC Mooring Plan (A-TQI-3007-01-12)
Appendix-13. OKYC LETTER OF PROTEST (A-TQI-3007-01-13)
Appendix-14. Bunkering Operation Agreement (A-TQI-3007-01-14)
Appendix-15. Bunkering Ship Shore Safety Check List (A-TQI-3007-01-15)
Appendix-16. Bunkering Safety Review and Confirmation (A-TQI-3007-01-16)
Appendix-17. Bunkering Statement Sheet for BSS (F-TQI-3007-01-17)