TRUONG SON
JOINT OPERATING COMPANY

**OPERATIONS DEPARTMENT**

# SITE OPERATING PROCEDURE
# MARINE

Procedure Number: TS-GEN-PR-O-9-006

Procedure Title: **Terminal Information, Regulations and Conditions of Use for Song Doc Marine Terminal**

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| | | | | | | File | 5 |

# TERMINAL INFORMATION, REGULATIONS AND CONDITIONS OF USE FOR SONG DOC MARINE TERMINAL

**CONTROLLED DOCUMENT**

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# INTRODUCTION

The Song Doc Marine Terminal is operated by Truong Son Joint Operating Company (**"TSJOC"**), who has subcontracted the operation and maintenance of the Terminal to MODEC MANAGEMENT SERVICES (MMS). TSJOC is also the operator of the oil and gas production facilities and pipelines in Block 46/02. The crude oil exported from the Terminal is called "Song Doc Crude Oil".

The purpose of this Terminal Handbook is to outline for the Export Tankers Owners and Export Tanker Masters calling at the Terminal the general nature of conditions, facilities, services and regulations at the Terminal. It does not replace other more detailed regulations and requirements for which callers at the Terminal remain responsible. Moreover, although reasonable care has been taken in its preparation, TSJOC neither warrants the accuracy of information herein, nor assumes responsibility for the consequences of any party using it regardless of purpose. Regarding any matter in question, it is the responsibility of callers at the Terminal to request and obtain the necessary clarification(s).

Export Tankers calling at the Terminal, at anchor, waiting to berth, berthing or moored to the Terminal, shall prominently display the national flag of Vietnam during daylight hours.

Information furnished in this Terminal Handbook may be revised by TSJOC from time to time. Further, it is the responsibility of users to ensure that they are using the most current version of this Terminal Handbook.

At the date of this Terminal Handbook, the production license for Block 46/02 is held by the following corporations, which have jointly designated TSJOC as the operator:

TALISMAN (VIETNAM 46/02) LTD
Suite 3400, 888 3rd Street SW,
Calgary, Alberta
Canada
T2P 5C5

PETROVIETNAM EXPLORATION PRODUCTION CORPORATION
1ST Floor, Block G1, Thanh Da Hotel
Binh Thanh District
Ho Chi Minh City
Vietnam

PETRONAS CARGALI OVERSEAS SDN BHD
Tower 1 Petronas Twin Towers,
Kuala Lumpur City Center,
50088
Kuala Lumpur
Malaysia

**THE BASIC PRINCIPLE UNDERLYING THIS DOCUMENT IS TSJOC'S COMMITMENT TOWARDS THE PROTECTION OF LIFE, THE HEALTH AND SAFETY OF PERSONNEL, THE ENVIRONMENT AND PROPERTY.**

**EXPORT TANKER MASTER'S RECEIPT**

**OF SONG DOC TERMINAL INFORMATION, REGULATIONS**

**AND CONDITIONS OF USE HANDBOOK**

TO: THE EXPORT TANKER MASTER

S/S - M/V: _____ Time/Date: _____

A copy of the Terminal Handbook entitled "TERMINAL INFORMATION, REGULATIONS AND CONDITIONS OF USE FOR SONG DOC MARINE TERMINAL" is enclosed for your guidance.

You are requested to study the Terminal Handbook and to acquaint your crew with the regulations in force at the Terminal, which will be strictly enforced throughout your stay at the Terminal. By acknowledging receipt of the Terminal Handbook, you agree to accept, observe, perform and comply with the provisions of these regulations, including any appendices thereto for and on behalf of the Export Tanker Owner.

The Mooring Master will be onboard your Vessel throughout the period your Vessel is in the berth and is empowered to stop operations should there be any contravention of the regulations.

For and On Behalf of
Truong Son Joint Operating Company

By: _____

Title: _____

**Acknowledgement:**

I, _____ being the Master of Export Tanker MT/SS_____ hereby acknowledge receipt of a copy of the Terminal Handbook entitled "Terminal Information, Regulations and Conditions of Use for Song Doc Marine Terminal" including any Appendices thereto, and agree to comply with the same.

I hereby also represent that I have the authority to accept, observe, perform and comply with the provisions of the Terminal Handbook for and on behalf of the Export Tanker Owner.

By:

Signature: _____ Time/Date: _____

Name: _____

For and on behalf of

Export Tanker Owner: _____

## SECTION 1

## DEFINITIONS

In all that follows, and in regards to all Terminal information, regulations and conditions of use, the following terms shall have the following meanings:

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| **"Affiliate"** | means any company or other entity that directly or indirectly through one or more intermediary, controls or is controlled by or is under common control with a party referred to herein this Terminal Handbook. "Control" means ownership of more than fifty (50) percent of the voting stock of the controlled company or the direct or indirect right to determine its actions by contract or otherwise. |
| **"Anchorage Area"** | means the area designated for Export Tanker(s) to anchor while waiting for berthing as specified in Section 3 (Anchorage Area). |
| **"Breakaway Coupling"** | means the double closure breakaway coupling fitted between the 3rd and 4th sections of the floating hose at the Export Tanker's end, which in the case of mooring failure during loading operations, that coupling is designed to part, sealing off the two (2) hose sections by means of self closing valves, thus prevent the hose rupturing and avoidance of a pollution incident. |
| **"Camlock Coupling"** | means the quick connect and disconnect coupling mounted on the end of the floating hose connecting the floating hose flange to the Export Tanker's manifold. |
| **"CAP"** | means "Condition Assessment Plan". |
| **"Co-Venturers"** | means the persons, from time to time, entitled to participate under the Block 46/02 Petroleum Contract, at the date of this Terminal Handbook being Talisman (Vietnam 46/02) Ltd ("**TV46/02"**), Petronas Carigali Overseas Sdn. Bhd. (**"PCOSB"**), and PetroVietnam Exploration and Production Corporation (**"PVEP"**). |
| **"Dead Weight Tonnes"** or **"DWT"** | means the total cargo plus bunkers and stores that a ship can carry up to her plimsoll line or marks, stated in metric tonnes. |
| **"Early Departure Procedures"** or **"EDP"** | shall have the meaning set forth in Section 13. |
| **"ETA"** | means estimated date and time of arrival. |
| **"Export Tanker"** | means a tanker nominated and accepted to load a cargo of Song Doc Crude Oil at the Terminal |
| **"Export Tanker Master"** | means the master of the Export Tanker. |

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| **"Export Tanker Owner"** | means any registered, disponent or beneficial owner, part owner, charterer, operator, manager, mortgagee in possession and agent of an Export Tanker. |
| **"Field"** | means the Song Doc field located in Block 46/02, off the east coast of Peninsular Malaysia and the southwest coast of Ca Mau, Vietnam. |
| **"FPSO"** | means the floating production storage and offloading Vessel SONG DOC PRIDE MV 19 and all its associated equipment and facilities. |
| **"Facility Manager"** or **"FM"** | means the MODEC MANAGEMENT SERVICES (MMS) manager with immediate and overall responsibility for all FPSO and offshore lifting operations. |
| **"Facility Security Officer"** or **"FSO"** | means the MODEC MANAGEMENT SERVICES (MMS) employee in charge of FPSO security as defined in the ISPS Code. |
| **"IALA"** | means the "International Association of Lighthouse Authorities". |
| **"ICS"** | means the "International Chamber of Shipping". |
| **"IMO"** | means "International Marine Organization". |
| **"Indemnified Parties"** | means each of the Co-Venturers and their respective Affiliates, the Mooring Master(s), the owners, disponent owners, operators, master, officers and crew of the Terminal and all Support Vessels or other craft rendering services at the Field, and the subcontractors, directors, officers, employees, servants, and agents of each of them. |
| **"IOPPC"** | means an "International Oil Pollution Prevention Certificate". |
| **"ISGOTT"** | means the "International Safety Guide for Oil Tankers and Terminals". |
| **"ISPS Code"** | means the "International Ship and Port Facility Security Code". |
| **"Marine Supervisor"** | means the person appointed by TSJOC to coordinate all vetting and lifting related activities and complete all lifting documentation. |
| **"MARPOL"** | means the "International Convention for the Prevention of Pollution from Ships 1973" as modified by the protocol of 1978 relating thereto (MARPOL73/78) and any amendments thereto and current such as 1992 amendments to annex l. |

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| **"Mooring Master"** | means a person whose services are provided to Export Tankers by the Terminal and who advises and assists Export Tanker Masters in navigation, maneuvering, pilotage, mooring, loading and unmooring of Export Tankers at the Terminal; the term "Mooring Master" shall include the employer of any such Mooring Master, or the agent of any such employer. |
| **"OCIMF"** | means the "Oil Companies International Maritime Forum". |
| **"Offshore Installation Manager"** or **"OIM"** | means any person appointed and provided by TSJOC and based on the FPSO who has immediate responsibility for all facilities activities in the Field. |
| **"Pilot Embarkation Area"** | means the location where Pilot and Mooring Master board the Export Tanker before mooring operations take place. It can be either at the Anchorage Area or another location which is determined by the Mooring Master as safe for personnel transfer. |
| **"Restricted Zone"** | means an area extending two (2) nautical miles around the offshore installations as shown in Appendix 8 and declared in the Marine Notice issued on [ ], 2008 by the Vietnam Ministry of Transportation/Maritime Administration. |
| **"Safety Zone"** | means an area extending five hundred (500) meters around the offshore installations as shown in Appendix 8. |
| **"shall"** | means a mandatory instruction. |
| **"should"** | means a recommended instruction. |
| **"SIRE"** | means "Ship Inspection Report Program". |
| **"SOLAS"** | means the International Convention for the Safety of Life at Sea 1974 and its subsequent protocol. |
| **"Song Doc Marine Terminal**" or **"Terminal"** | means the FPSO, including the Restricted Zone located in Block 46/02 offshore Vietnam. |
| **"SOPEP"** | means "Shipboard Oil Pollution Emergency Plan". |
| **"Static Tow"** | means the Support Vessel made fast to the stern of the Export Tanker before mooring in tandem to the Terminal, whilst moored to the Terminal and until the Export Tanker casts off and clears all facilities in the Field. |
| **"STCW"** | means the "International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers". |

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| **"Support Vessel"** | means a Vessel provided by TSJOC and is used to assist in the berthing or unberthing of an Export Tanker, providing a Static Tow, the handling of the mooring hawser and/or floating hose, or other support services at the Field. |
| **"SWL"** | means safe working load, herein expressed in metric tonnes. |
| **"Surveyor"** | means an independent cargo surveyor appointed by TSJOC or relevant lifting parties to observe the lifting operation. |
| **"Terminal Handbook"** | means the most current version of this document entitled, "Terminal Information, Regulations and Conditions of Use for Song Doc Marine Terminal" including all the appendices and diagrams, which are attached hereto and any amendments, made from time to time**.** |
| **"Terminal Contractor "** | means the party contracted by TSJOC to operate and maintain the Terminal being, at the date of this Terminal Handbook, i.e. MODEC MANAGEMENT SERVICES (MMS). |
| **"Terminal Services"** | means all and any services, facilities, berth(s), equipment, property, craft, personnel, assistance, advice, directions or instructions given or tendered (whether compulsorily, voluntarily or otherwise and whether or not for consideration) by or on behalf of the Indemnified Parties at or in relation to the Terminal, the Export Tanker or the Field directly or indirectly in connection with the offtake of crude oil from the Terminal by an Export Tanker, including but not limited to pilotage, navigational assistance, berthing services, the provision of navigational facilities (including buoys or other channel markings), mooring, towage, tug or Support Vessel services, personnel and equipment transfer via Support Vessel or other means, custody transfer of cargo and communication facilities. |
| **"Vessel"** | means every description of water craft, including non-displacement craft, used or capable of being used as means of transportation on water. |
| **"Well Head Platform"** or "**WHP**" | means the four (4) pile, nine (9) slot platform located approximately thirty (30) meters from the FPSO within the Safety Zone. |

## SECTION 2

## CONDITIONS OF USE OF THE SONG DOC MARINE TERMINAL

Terminal Services of any sort provided by or on behalf of TSJOC whether or not any charge is made by TSJOC, are provided subject to the following conditions:

1. The Indemnified Parties or any of them shall not be responsible to the Export Tanker Owner or to any other person whatsoever for:

   1.1 any death, injury or illness of any person visiting the Terminal, loss of, damage or delay to the Export Tanker or to any property of any person visiting the Terminal arising directly or indirectly from any cause (including negligence or breach of duty (statutory or otherwise) of the Indemnified Parties or any of them) in consequence of the provision or performance or failure to provide or perform any Terminal Services; or,

   1.2 any loss, damage or delay, directly or indirectly caused by, or arising from, strikes or labour disputes or disturbances, whether or not the Indemnified Parties or any of them are parties thereto.

2. In all circumstances the Export Tanker Owner and the Export Tanker Master shall remain solely responsible for the safety, condition, operation and proper navigation of the Export Tanker, its property and cargo (including but not limited to ensuring the safety of maneuvering, berthing, mooring and unmooring to and from the Terminal; avoiding physical contact between the Export Tanker and the Terminal; connecting, handling and disconnecting tow or mooring lines and the Terminal's floating hose to and from the Export Tanker; safe and effective supervision of cargo operations on board the Export Tanker; and prevention, control and remediation of pollution or contamination).

3. While TSJOC endeavors to ensure that the Terminal Services provided are safe and suitable for Export Tankers permitted or invited to use them, no warranty or representation of such safety or suitability, or of the competence, skill, experience or qualifications of personnel providing the Terminal Services is given and any warranties or representations implied hereunder or otherwise at law are hereby expressly excluded.

4. The services of the Mooring Master(s) and all personnel who perform or provide Terminal Services are supplied on the condition that in so providing or performing Terminal Services, each acts in an advisory capacity to assist the Export Tanker Master, and to such extent and during those periods when they are providing such assistance shall be regarded as servants of the Export Tanker whilst acting in such capacity and not as servants, contractors or agents of the Indemnified Parties. The presence of the Mooring Master(s) and such personnel in or about the Export Tanker and the provision or performance of Terminal Services in no way relieves the Export Tanker Owner or the Export Tanker Master of any obligation, responsibility or liability in connection with the safety, condition, operation or proper navigation of the Export Tanker, its property and cargo.

5. The Export Tanker Owner shall be responsible for and shall hold harmless and indemnify each of the Indemnified Parties on demand from and against all damages, claims, liabilities, losses, costs (including legal costs), expenses, penalties, delay, demurrage and demands whatsoever, arising directly or indirectly as a consequence of the performance or provision of Terminal Services, in relation to:

    5.1 any death, injury or illness of any person (including third parties);

    5.2 any loss of, damage or delay to the Export Tanker (including its equipment and cargo) and any other property belonging to the Export Tanker Owner, the Export Tanker Master, its officers, crew, passengers, onboard contractors, or any other persons assisting the Export Tanker;

    5.3 any loss of, damage or delay to or destruction of the Terminal, its facilities, all or any installations, equipment, facilities, vessels and craft at the Field, and all crude oil or other property stored at the Terminal (in all cases whether owned by any of the Indemnified Parties or any third parties); or

    5.4 actual or threatened pollution and/or contamination (of or by crude oil, bunkers or other fluids, materials or substances of whatever description) and all direct and indirect consequences of such pollution and contamination (including but not limited to liability for loss, damage, death, personal injury, penalties, prevention, control and cleanup costs) where such pollution and/or contamination arises:

        5.4.1 as a result of the actual or threatened escape or ingress of pollutants or contaminants from or into any part of the Export Tanker (for whatever reason); and/or

        5.4.2 as a result of the actual or threatened escape or ingress of pollutants or contaminants from or into the Terminal or any other facilities or installations at the Field but only to the extent caused directly or indirectly by any act or omission of the Export Tanker Owner, the Export Tanker Master, the officers, crew, servant or deemed servant of the Export Tanker;

    5.5 salvage, wreck and debris removal, additional loading or discharging costs and other expenses incurred however caused and (but with the exception of Clause 5.4.2 above) regardless of whether the same arose solely or partially by any negligent act or omission or breach of duty (statutory or otherwise) on the part of the Indemnified Parties or any of them.

6. If, in connection with, or by reason of the use by any Export Tanker of the Terminal Services, any part of the Terminal, its facilities, any installations, equipment, facilities, vessels and craft at the Field, and any crude oil or other property whatsoever stored on or in or associated therewith is damaged or lost, irrespective of whether the damage or loss was caused or contributed to directly or indirectly by the negligent acts or omissions or breach of duty (statutory or otherwise) of the Indemnified Parties or any of them, the Export Tanker Owner agrees not to invoke any statutory right of a ship owner to limitations of civil liability with respect to any call against the indemnities agreed to herein.

7. If any vessel owned, chartered, hired or contracted by the Export Tanker Owner sinks, grounds, or otherwise becomes in the opinion of TSJOC an obstruction or danger to any part of the Terminal, or the approaches thereto, and the Export Tanker Owner or the Export Tanker Master fails to remove or remedy the obstruction or danger within such reasonable time as may be specified by TSJOC, then TSJOC (or any of the other Indemnified Parties acting on instructions from TSJOC) shall be empowered to take any actions it deems necessary to remove the obstruction or danger, and the expense of such removal shall be recoverable from the Export Tanker Owner.

8. Any Export Tanker causing pollution in the Terminal area will employ its SOPEP plan as contained in its IOPPC. TSJOC may, but is not obliged to, provide a first tier response to assist the Export Tanker Master and will charge a commercial rate (such rate to be reasonable and based on market rates applying at that time) for this service. In this context the Offshore Installation Manager will act as on scene coordinator and will via his oil spill response plan and to the extent of the facilities available at the Terminal and in the Field, either provide services required by the Export Tanker Master or those required by the Vietnamese authorities in the event of a large spill occurring.

9. The Export Tanker Master shall place, transport or remove the Export Tanker at or from the berth as per the OIM, FM, Marine Supervisor or Mooring Master request for the proper and efficient use of the Terminal.

10. The Export Tanker Owner acknowledges having received, or has access to a copy of the most current edition of this Terminal Handbook, and shall:

    10.1 at all times observe, perform and comply with, the provisions and requirements of the most current edition of this Terminal Handbook, and relevant OCIMF and ISGOTT standards; and

    10.2 monitor and inspect the cargo systems, moorings and other facilities and conditions onboard the Export Tanker at regular intervals throughout the provision or performance of Terminal services to ensure that the requirements of this Terminal Handbook, and OCIMF and ISGOTT standards are complied with at all times.

11. The OIM, FM, Marine Supervisor and Mooring Master are entitled to suspend provision or performance of Terminal Services and/or to require the Export Tanker to unberth from the Terminal if in the sole opinion of the OIM, FM, Marine Supervisor or Mooring Master:

    11.1 the Export Tanker fails or ceases, or is likely to fail or cease, to comply with the provisions and requirements of this Terminal Handbook or OCIMF or ISGOTT standards;

    11.2 the Export Tanker is not at any time during the provision of the Terminal Services, fit in all respects to berth, load or unberth at the Terminal;

    11.3 suspension is necessary due to the arrival or departure from the Terminal of a helicopter, Support Vessel or other craft;

11.4 suspension is necessary due to an emergency situation develops on board the Export Tanker whilst, at the Terminal or in any other facilities or installations at the Field;

11.5 weather or sea conditions exceed, or are likely to exceed, safe operational limits; or

11.6 any other circumstances arise which render it unsafe to continue provision or performance of Terminal Services, or circumstances in which this Terminal Handbook provides for Terminal Services to be suspended.

12. The terms of this Terminal Handbook are not intended to be enforceable by any person other than the Indemnified Parties and the Export Tanker Owner.

13. The terms and conditions herein shall be construed according to the laws of Vietnam. If there shall be any dispute arising between TSJOC or any of the other Indemnified Parties (for whose benefit the indemnities contained in these conditions of use apply and each of whom shall be entitled to enforce these conditions of use), the Export Tanker and/or the Export Tanker Owner, the dispute shall be finally and exclusively settled in accordance with the UNCITRAL Arbitration Rules under the auspices of the Regional Centre for Arbitration, Hochiminh City, Vietnam. The number of arbitrators shall be three (3). The language of the arbitration shall be English.

14. The Export Tanker Master hereby warrants his authority to accept, observe, perform and comply with these conditions of use and the other provisions of this Terminal Handbook for and on behalf of the Export Tanker Owner by signing the "Export Tanker Master's Receipt of Song Doc Terminal Information, Regulations and Conditions of Use Handbook".

Nothing contained in this Terminal Handbook shall relieve the Export Tanker Master calling at this Terminal of his responsibility for observing the normal precautions to prevent:

- fire;
- oil spillage or other environmental damage;
- tank over-pressurization or vacuum;
- damage to the Terminal or any of its facilities;
- collision with the Terminal or fixed structures within the Field;

The Export Tanker Master remains at all times wholly and fully responsible for the Export Tanker and its officers and crew.

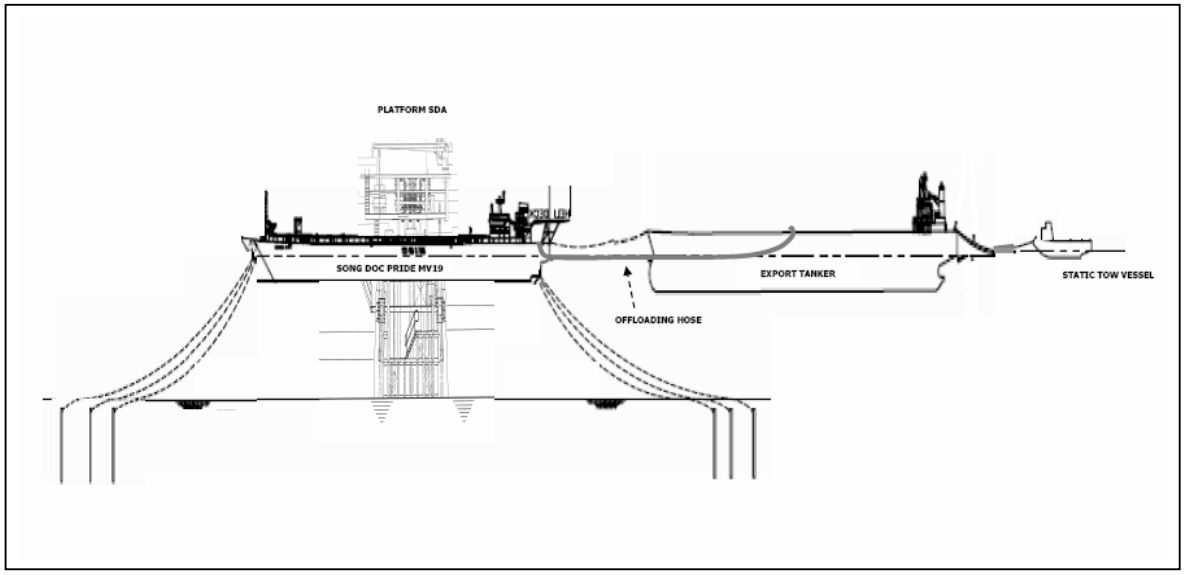
## SECTION 3

## DESCRIPTION AND OPERATIONAL LIMITS OF THE TERMINAL

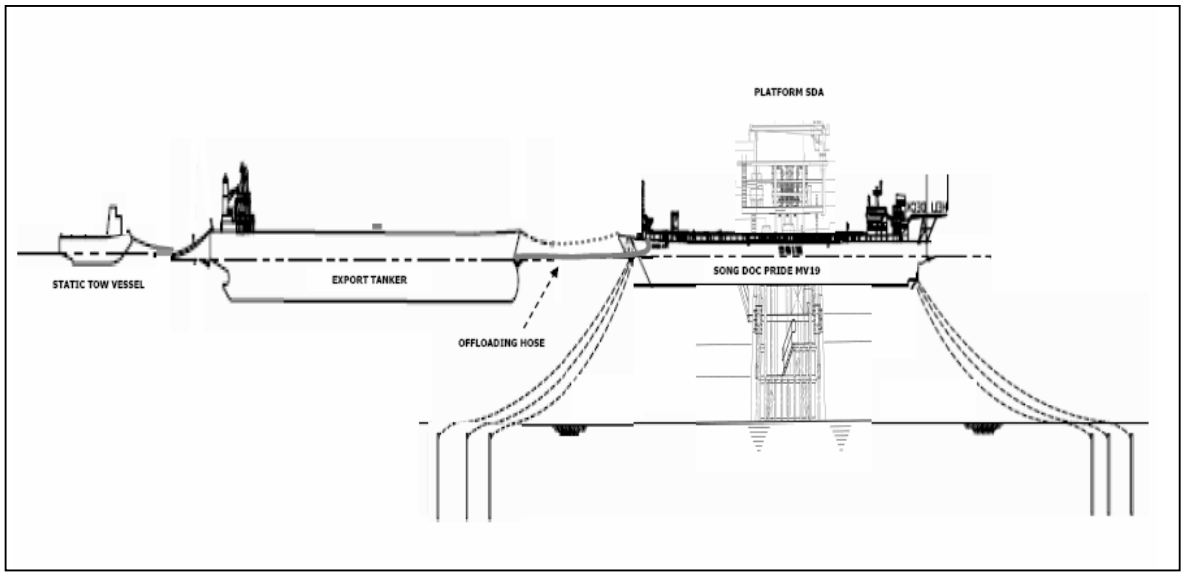
### Description

Block 46/02 is located approximately 205 km offshore south of Ca Mau, the southernmost land fall of mainland Vietnam.

The Terminal consists of the FPSO SONG DOC PRIDE MV 19, a Panama registered tanker of 62,482 summer dead weight metric tones converted to an FPSO, moored to the sea floor by twelve (12) chains and anchors in a spread mooring configuration. Production from the WHP is routed via umbilical connections to the FPSO. Total gross crude oil storage capacity of the FPSO is 382,617 barrels. The amount of crude oil available for a single lifting to an Export Tanker is approximately 200,000 – 330,000 barrels. Export Tankers will be moored in tandem bow to bow/stern, and loaded by means of a floating hose from the bow/stern of the FPSO to the port midship manifold of the Export Tanker. Static Tow on the Export Tanker will hold any attached Export Tanker in a straight line bow/astern of the FPSO.




Case 1: Stern – Bow Mooring at FPSO Stern during NE Monsoon Season




Case 2: Bow – Bow Mooring at FPSO Bow during SW Monsoon Season

The FPSO is equipped with a fast rescue boat for emergency use. In addition, the Support Vessels are equipped with anti-pollution equipment and Class Fi-Fi 1/2 fire fighting equipment. In the event that the Export Tanker experiences a pollution incident, a Support Vessel will provide the first tier response to that incident.

TSJOC and the Terminal Contractor maintain in respect of the Field a comprehensive oil spill response plan as well as an emergency response plan. These are tied into major facilities and administrative back-up onshore. In any oil spill or emergency TSJOC may supply these services to the Export Tanker Master with charges being made according to the usage.

APPENDIX 7 - "Contingency Plan in the Event of Fire during Lifting Operations" - shall be implemented during the Export Tanker's time at the Terminal mooring.

The main Field facilities are comprised of the following:

- a floating production storage and offloading facility;
- a well head platform;
- FPSO/WHP flowline umbilical connections; and
- two (2) anchor mooring buoys (for support vessels to stay during standby mode).

**Nautical Charts**

British Admiralty Chart numbers 3542 and 2414.

**Crude Oil Specification**

Song Doc Crude Oil is expected to have the same properties within the range provided in APPENDIX 2 "Song Doc Crude Oil Specification".

**THE CRUDE OIL REQUIRES HEATING DURING TRANSPORTATION!**

## Terminal Limits

The Field facilities are located at the following co-ordinates:

| | | | |
|---|---|---|---|
| WHP | 07° 09’ 39.81” N<br>104° 03’ 21.06” E | FPSO | 07° 09’ 39.80” N<br>104° 03’ 21.09” E |

The mooring system for the FPSO consists of a twelve (12) anchor chain configuration connected to deck chain stoppers. The anchors are located at the following co-ordinates:

| Anchor | Latitude | Longitude |
|---|---|---|
| Anchor No 1 | 7°9'56.0"N | 104°3'17.7"E |
| Anchor No 2 | 7°9'55.6"N | 104°3'16.6"E |
| Anchor No 3 | 7°9'55.1"N | 104°3'15.6"E |
| Anchor No 4 | 7°9'44.9"N | 104°3'5.2"E |
| Anchor No 5 | 7°9'43.7"N | 104°3'5.3"E |
| Anchor No 6 | 7°9'42.7"N | 104°3'4.4"E |
| Anchor No 7 | 7°9'6.2"N | 104°3'26.4"E |
| Anchor No 8 | 7°9'7.4"N | 104°3'29.2"E |
| Anchor No 9 | 7°9'8.3"N | 104°3'32.4"E |
| Anchor No 10 | 7°9'28.7"N | 104°3'52.3"E |
| Anchor No 11 | 7°9'31.6"N | 104°3'53.2"E |
| Anchor No 12 | 7°9'34.4"N | 104°3'54.4"E |

The anchor mooring buoys are located at the following co-ordinates:

| Anchor Mooring Buoys | Latitude | Longitude |
|---|---|---|
| Buoy No 1 | 07° 10’ 45.00” N | 104° 02’ 15.00” E |
| Buoy No 2 | 07° 08’ 40.00” N | 104° 04’ 20.00” E |

The Safety Zone encompasses the following area:
an area within a radius of five hundred (500) meters from the WHP and the FPSO. (No Vessels shall enter this area without a Mooring Master on board.)

The Restricted Zone encompasses the following area:
an area within a radius of two (2) nautical miles surrounding the WHP and the FPSO.

**ANCHORAGE OF VESSELS WITHIN THESE ZONES IS STRICTLY PROHIBITED.**

### Anchorage Area

For Export Tankers requesting to anchor, the designated anchorage area is located Eastern of the Terminal at:

Latitude: 07° 09’ 39.80” N
Longitude: 104° 07’ 21.09” E

This position represents the center of a circle with a radius of One (1) nautical mile.

### Navigational Aids

Both the FPSO and the WHP are provided with navigation lights Morse code with specification in full compliance with IALA (International Association of Lighthouse Authorities) recommendations for offshore installation.

WHP: Code set to flash Morse Code “U” 15 seconds at 0.4 sec. ON 0.5 sec OFF; 0.4 sec ON 0.5 sec OFF; 1.2 sec ON 12 sec OFF.

FPSO: Colour: Acrylic Clear Lens, range 10 miles, signal Morse code “U”

## Export Tanker Operational Conditions

### Vessel Loading

Export Tankers loading at the Terminal must comply with the latest SOLAS and MARPOL conventions and protocols. Export Tankers found to be deficient or substandard in safety requirements will not be permitted to moor and load.

### Deballasting

Export Tankers must arrive at the Terminal with clean ballast. Export Tankers should be able to deballast concurrently with loading. Export Tankers unable to do so will be allowed six (6) hours to complete this operation. Prolonged deballasting will necessitate either removal from the berth or the commencement of loading. The Terminal is not responsible for any free water or dead freight.

### Deadweight and Trim

Each Export Tanker must arrive with and at all times have sufficient ballast or cargo onboard:

- to maintain at least thirty (30) percent of its summer dead weight;
- to keep its propeller submerged;
- to ensure that it is not trimmed more than three (3) meters by the stern; and
- to ensure that its forward draft is such that the loading hose cannot be caught under the Export Tanker’s bow.

## Inert Gas System

All Export Tankers must be equipped with an inert gas system conforming to SOLAS regulations. This must be operational throughout the Export Tanker's operations at the Terminal and the Export Tanker's cargo tanks shall be inerted so that the oxygen content of the tanks is below eight (8) percent at all times. Tanks are to be monitored by the Export Tanker's crew, and the Mooring Master will check tanks at random, to ensure that the correct atmosphere is maintained on arrival and throughout the operations. The Export Tanker's crew must co-operate to provide access for the Mooring Master or the Terminal Operator to test tank atmospheres upon request.

If the tank atmosphere (as measured by a recently calibrated oxygen monitor) is found to have oxygen content in excess of eight (8) percent the Export Tanker will be rejected for loading and/or (if berthed) removed from the Terminal until the oxygen content of the tank atmosphere is reduced below eight (8) percent. Any time thus used shall not count as laytime and an Export Tanker may lose her berthing priority.

## Air Conditioning

Due to the climatic conditions of the area, Export Tankers without a working air conditioning system pose a threat to the safety of loading operations. All doors and portholes must be kept closed during loading of Song Doc Crude Oil. Only in exceptional circumstances, and when an Export Tanker has demonstrated its ability to comply with all conditions of the ISGOTT safety check list, will an Export Tanker without air conditioning be accepted for loading.

## Crew

Export Tanker crew must be qualified to the requirements of the "International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers 1995". If any infringement of safety regulations or the inability of Export Tanker's crew to operate safely and efficiently is observed, then the Export Tanker will be removed from the berth.

## Closed Loading

Only Export Tankers that can perform closed loading will be accepted at the Terminal.

## Mooring Equipment

Export Tankers calling at the Terminal are to be equipped with the correct mooring equipment for their size as specified in the OCIMF "Standards of Equipment Employed in the Mooring of Ships at a Single Point Mooring". The minimum acceptable dimensions of the centre bow fairlead are six hundred (600) mm wide by four hundred and fifty (450) mm, set low in the bulwark as per OCIMF guidelines. The Export Tanker must be fitted with an approved chain stopper. Smit brackets or other devices to secure chains are not permitted. In addition to the above, it is compulsory to use a winch storage drum to handle and stow the entire length of the pick-up rope that is attached to the mooring assembly. The use of a warping drum is not permitted. The Export Tanker will be secured to the mooring hawser using a seventy-six (76) mm chafe chain.

## Certificate of De-ratization and General Cleanliness

Export Tankers are to be in possession of a valid certificate of de-ratization or de-ratization exemption and other de-infestation measures as appropriate. If a vessel is infested with rats, vermin or insects that could be a threat to the health or well being of the Terminal personnel, the Export Tanker will not be accepted.

## Loading Rates

The Terminal can load at a maximum rate of fourteen thousand (14,000 BPH) barrels per hour through one 16-inch/12-inch floating hose string fitted with 12-inch tail and rail hoses.

## Terminal Closed

The Terminal will be closed when weather or other conditions make unsafe either berthing or remaining moored to the Terminal. A Notice of Readiness will not be accepted during periods when the Terminal is closed. All decisions regarding the opening and closing of the Terminal are at the discretion of the Terminal Operator. If the Terminal is closed the Export Tanker Master will be given written notice of the estimated time and duration of the closure.

The Terminal Operator reserves the right to refuse to berth a specific Export Tanker if the conditions of its facilities are unsafe for berthing or loading, even though the berth may be open to other Export Tankers. Various combinations of wind, sea and tidal conditions in combination with the size, length, ballasted trim and handling characteristics of an Export Tanker can affect the decision to berth at the Terminal. All these factors will be evaluated before a final berthing decision is made. In the event an Export Tanker is rejected for any of the aforesaid reasons the Terminal will supply the Export Tanker Owner with written reasons for non-acceptance.

The decision of the Terminal Operator to permit an Export Tanker to berth shall be final. On receipt of such permission, berthing will be at the discretion of the OIM and the FM in agreement with the Mooring Master and the Export Tanker Master.

## A Guide to the limiting Weather Conditions is as follows:

- Wave Height 3.5m
- Significant wave height 2.4m
- Surface current 1.2m/s (2.3 knots)
- Wind speed (one (1) minute sustained) 15.4m/s (30 knots)

This guideline is for the Terminal user. Conditions more severe than those listed immediately above may be acceptable for berthing, loading and unberthing.

## Lightning

In some rain squall conditions, severe lightning is experienced. If this condition prevails over time the Terminal will be closed. The Export Tanker may remain in the berth, however all cargo and ballast operations will cease.

## Darkness

The Terminal will be closed from 1700 hours until 0600 hours during the hours of darkness. Export Tankers already in the berth by 1700 hours can continue operations and may also unberth at night.

Sole discretion for mooring outside of these hours will be with the OIM and FM in consultation with the Marine Supervisor, Mooring Master and Master of Export Tanker.

**THE DECISION TO BERTH OR UNBERTH THE EXPORT TANKER, OR FOR THE EXPORT TANKER TO REMAIN AT THE BERTH, LIES WITH THE MOORING MASTER, OIM, FM AND THE EXPORT TANKER MASTER.**

## SOPEP Manual

The Export Tanker must have on board an up to date SOPEP manual approved by the Export Tanker's certifying authority. The Mooring Master will check for this manual. Any oil spill from the Export Tanker will follow the procedures in this manual. TSJOC may assist in containment of an oil spill when requested to do so by the Export Tanker Master, to the extent of TSJOC's response facilities available at the Terminal. TSJOC maintains in respect of the Field an Oil Spill Response Plan approved by the Vietnamese authorities and has access to additional oil spill equipment.

**THE EXPORT TANKER IS NOT PERMITTED TO USE OIL SPILL DISPERSANTS UNLESS THE MOORING MASTER HAS GIVEN APPROVAL.**

## SECTION 4

## VESSEL VETTING

### Vessel Vetting

Vessel Questionnaire is normally completed by Vessel Owners/Operators/ Master. In any case, the Vessel Master must be furnished with one copy of the completed questionnaire.

Acceptance of Export Tankers

All Export Tankers shall be vetted by TSJOC Ship Vetting or a third party Ship Vetting Service as appointed by TSJOC for their suitability or otherwise for:

- the carriage of equity produced hydrocarbon, sold on a FOB sales contract basis,
- loading hydrocarbons at a TSJOC operated terminal, or
- the transportation of crude oil from offshore loading facilities by shuttle tanker.

A nomination for an Export Tanker to berth and load at the Terminal will not be accepted unless the Export Tanker has been cleared through TSJOC Ship Vetting. Notwithstanding prior approval, all Export Tankers shall be subject to final inspection and approval by the Mooring Master on boarding.

The TSJOC vessel vetting process includes technical review of the completed Vessel Questionnaire and submitted plans as described within this section. A detailed Vessel database is maintained and Vessel management review is also performed.

Upon arrival at the Terminal, the Marine Supervisor and Mooring Master shall jointly conduct a pre-lifting inspection to confirm the Vessel's acceptability. This final acceptance by TSJOC is a condition which shall be satisfied before the Vessel may approach, berth and load crude oil at the Terminal.

If the particulars given in the Vessel Questionnaire change in any respect or otherwise become inaccurate, the Export Tanker Master or the Export Tanker Owner shall promptly notify the Marine Supervisor in writing. Without prejudice to any other consequence of such inaccuracy or change, failure to so notify may cause delay or rejection at the Terminal. All cost/time incurred shall be to the account of the Export Tanker.

### Vessel Questionnaire

As Attached in APPENDIX 5.

### Contact Information

| TSJOC contact details for lifting schedule, crude oil sale contract issues: **Lifting Coordinator** | TSJOC contact details for tanker vetting and offshore lifting activities: **Marine Supervisor** | **FPSO SONG DOC PRIDE MV 19 :** Contacts details for FPSO security interfaces**: Facility Security Officer (FSO)** |
|---|---|---|
| Phone:(84)-8- 8247260 (Ext. 108) | Phone:(84)-8- 8247260 (Ext. 210) | See Section 5 |
| Fax: (84)-8-8248223 | Fax: (84)-8-8248223 | See Section 5 |

| | | |
|---|---|---|
| Email: TBA@TSJOC.com.vn | Email: nqdoanh@TSJOC.com.vn | Email: [ ] |

## SECTION 5

## COMMUNICATION

Effective and efficient communications are essential to safe operations. Breakdowns in communications both by radio at a distance and in interpersonal communications face to face can and do lead to accidents. Every care shall be taken to ensure that communication equipment is in good working order and that all spoken communications are received and understood. All orders and instructions shall be repeated back, so that the person giving the order or instruction knows that what is in his mind has been passed correctly to the person receiving the order or instruction. The language of the Terminal in all communications, including written, transmitted and oral, shall be English.

### Initial Message

All incoming Export Tankers must advise the Terminal of their best ETA at the anchorage area on departure from their last port of call and 72 hours, 48 hours and 24 hours before arrival. Time to be used for ETA is local time, which is GMT + 7 hours throughout the year. Any appreciable change of ETA shall be advised accordingly.

### Frequencies for HF/SSB

In the event that incoming Export Tankers are unable to contact the Terminal by any of the following methods, the Terminal also maintains a continuous watch on the following HF/SSB frequencies:

| | |
|---|---|
| Call Sign: | to be advised |
| Working Channel: | to be advised |
| VHF Secondary Channel: | to be advised |
| SSB: | to be advised |
| Fax/Telephone: | to be advised |

The Terminal may also be reached by facsimile, or telephone via the Inmarsat Satellite or telephone landline connection by dialing one of the following numbers:

| | |
|---|---|
| INMARSAT | to be advised |

### Addresses

All communications concerning all other matters other than operational matters shall be addressed to:

TRUONG SON JOINT OPERATING COMPANY

| | |
|---|---|
| Mailing Address: | Suite 601, 8th Floor, The Metropolitan,<br>235 Dong Khoi Street, District 1,<br>HoChiMinh City, Vietnam |
| Attention: | Operations Manager |
| Phone: | to be advised |

Fax: (84-8) 824 7250

**VHF/FM Radio Communications**

The Terminal maintains a continuous watch on VHF Channel 16 (156.8 MHz) and Masters are to establish radio contact when they are within range. After initial contact, the Terminal is able to select any of the available public VHF channels for use as a working channel, but channel xx (to be advised) will normally be used as the working channel. Communications shall be in the English language.

Masters of Export Tankers are reminded that if Export Tankers are requested to anchor to await berthing, it is their responsibility to maintain a CONSTANT listening watch on Channel 16 to receive Terminal instructions.

In the event of a total breakdown of communications on either the Terminal or the Export Tanker the agreed emergency signal (to be advised) must be sounded and all operations in progress must be suspended immediately. If the breakdown occurs during approach operations the maneuver will be aborted and any action taken by the Export Tanker will be indicated by the appropriate sound signals prescribed in the International Regulations for Preventing Collisions at Sea. Operations must not be resumed until satisfactory communications are re-established.

## SECTION 6

## MINIMUM STANDARDS FOR EXPORT TANKERS AT THE TERMINAL

In determining whether a Vessel will be approved for loading at the Terminal, the following acceptance criteria will be considered:

### Vessel Particulars

The following guidelines govern Vessel acceptance:

- Vessel size of 80,000 – 120,000 DWT (Aframax Size) is normally acceptable. Vessels outside this range (less than 80,000 DWT or more than 120,000 DWT) may be considered on vessels' individual merits and can be accepted at the sole discretion of the Terminal.
- CBT tankers and tankers without a closed gauging system shall not be accepted. Combination carriers are not preferred, but can be utilized if:
  - Vessel is double hull or equivalent technology;
  - In ballast and void spaces, Vessel must be equipped with inert gas system and gas detection systems (either manual or permanent); and
  - The previous three (3) cargos must have been oil.
- Any combination carrier having operated in dry mode falls within the scope of combination carrier for the rest of its life.

### Cargo Hose Handling Crane

Due to severe northeast and southwest monsoons experienced at the Terminal during the period from the beginning of November to the end of March and from the beginning of August to the end of September, the Vessels equipped with derricks, including crane-type derricks for hose handling are not acceptable.

The approximate weight of the loading hose to be lifted by Export Tankers with a high freeboard is ten (10) tones.

The crane used to lift the hose shall:

- have a certified SWL of at least fifteen (15) tones;
- be able to plumb over the port side at the manifold;
- be able to lift the hose ten (10) meters above the deck;
- be fitted with a safety hook complete with a safety latch or self-locking hook; and
- be fitted with a stinger to keep the block clear of personnel.

## Vessel Age

The following guidelines govern Vessel acceptance:

- Vessels up to fifteen (15) years may be approved on the basis of a current SIRE report.
- Double-hull Vessels between fifteen (15) and twenty (20) years may be approved on the basis of a current SIRE report.
- Single-hull Vessels between the ages of fifteen (15) to twenty (20) years will only be accepted if vessel has successfully passed physical inspection within one (1) year by qualified surveyors acceptable to TSJOC and only if **ALL** applicable TSJOC guidelines are met.
- Combination carriers over fifteen (15) years of age are not acceptable.
- Vessels over 20 years of age are not acceptable.

## Vessel Owner Information/Vessel Performance History

The following guidelines govern Vessel acceptance:

- Vessels shall be reviewed using the following information although other relevant sources of data or documentation may be utilized:
  - completed Song Doc Marine Terminal Vessel Questionnaire;
  - valid SIRE inspection report;
  - physical inspection by qualified Surveyors acceptable to TSJOC;
  - port state control reports;
  - casualty and detention history; and
  - terminal operational feedback.
- The Marine Supervisor shall maintain a directory of data and documentation resources that are available. Export Tanker Owners and operators may be audited to review and evaluate operating policy, personnel standards, safety policy, emergency response procedures and Vessel maintenance management.
- Where casualty or detention history documented by a port state authority results in a "targeted owner" or "targeted Vessel" or similar designation by that authority, this designation will be considered in the review process.

## Classification Society

The following guidelines govern Vessel acceptance:

- A list of approved classification societies shall be maintained by the Marine Supervisor;
- Enhanced special survey results will be reviewed for applicable Vessels over five (5) years of age;
- Single-hull Vessels of fifteen (15) to twenty (20) years of age with DWT of more than 80,000 MT as well as double-hull Vessels up to twenty (20) years of age with DWT of more than 80,000 MT must have passed the approved CAP. A current minimum CAP rating of two (2) is required for Vessel approval.

- Combination carriers of ten (10) to fifteen (15) years of age will be acceptable only if the enhanced survey executive hull summary has been reviewed satisfactorily and is enrolled in a TSJOC approved CAP if DWT is more than 80,000 MT. A minimum CAP rating of two (2) is required for vessel approval.
- A list of acceptable CAP programs shall be maintained by the Marine Supervisor.

**Insurance**

The following guidelines govern Vessel selection:

- Vessel shall be insured with a member of the International Group of P & I Clubs;
- A list of acceptable P & I Clubs shall be maintained by the Marine Supervisor;
- Clubs not included on this list may be reviewed and approved on a case-by-case basis; and
- Vessels shall carry the highest standard oil pollution coverage available under the "Rules of the International Group of Protection & Indemnity Clubs, with a P & I Club that is a member of the "International Group of Protection and Indemnity Clubs" for oil pollution legal liability up to the maximum amount being offered by the "International Group of P & I Clubs" (currently US$ 1 billion).

The Export Tanker Owner must have insurance covering the liabilities under the "International Convention of Civil Liabilities for Oil Pollution Damage 1969 or 1992" as applicable from time to time in Vietnam.

**Manning and Certification**

The following guidelines govern Vessel selection:

- Vessel officers shall hold a current license/certificate of rank, including STCW endorsement/certificate;
- All officers shall have either "Dangerous Cargo Endorsements" or the satisfactory training specified in STCW. In addition, the four (4) senior officers shall have completed the approved specialized training program and hold an advanced certificate, as per STCW;
- Crew members (ratings) shall have sufficient knowledge and experience to carry out their duties and must hold relevant certificates as per STCW;
- Vessel manning and certification shall comply with minimum "Flag State Safe Manning and Certification" requirements. However, operational circumstances may require additional manning;
- All deck officers shall communicate effectively in English and shall be able to communicate effectively with crew members in a common language. Multinational crews should only be considered if all are fluent in a common language; and
- A preferred level of experience is to have the master and chief officer to have a combined minimum of fifteen (15) years of seagoing experience and a combined minimum of five (5) years in rank.

## Compliance with Local and International Conventions and Regulations

Export Tanker Owners must be in compliance with all local and international conventions/regulations, as far as can be determined. Vessels trading internationally must have a Shipboard Oil Pollution Emergency Response Plan.

## Drug & Alcohol Policy

Tanker Owners/operators shall have in effect a drug and alcohol policy, complying with OCIMF "Guidelines for the Control of Drugs and Alcohol Onboard Ship."

## Flag State

While it is recognized that individual vessels should not be overly burdened by their flag, where casualty or detention history documented by a port state authority results in a "targeted flag" designation by that authority, this designation will be considered in the review process.

## Compliance with ISPS Code

The following guidelines govern Vessel selection:

- Vessel must possess a valid "International Ship Security Certificate";
- Vessel security system equipment must be in working condition;
- Vessel must be capable of interfacing with offshore terminal at required security level; and
- Full details of Export Tanker Owner's Security Officer and Ship Security Officer must be provided in Song Doc Marine Terminal Vessel Questionnaire sent to the Marine Supervisor.

Approvals become invalid with any change of ownership of the Vessel, change of classification society, change in P & I Club, change of technical or operational management, technical or procedural changes on board the Vessel, or defects that would affect meeting the acceptance criteria. Additionally, incidents, port state detentions, unsatisfactory reports from marine terminals, and any other factors judged relevant, may affect whether a Vessel is approved or maintains approved status.

## Hose Connecting Equipment

Export Tankers are to be equipped with a loading manifold in accordance with the OCIMF "Standards for Ships Manifolds". Flanges are to be prepared to accept twelve (12) inch ANSI 150 raised face (RF) flanges.

## SECTION 7

## ARRIVAL PROCEDURES

### Hours of Operation

Conditions permitting, the Terminal will operate twenty-four (24) hours a day, seven (7) days a week. Export Tankers will only be berthed during daylight hours. Unmooring will be carried out at any hour, weather and other circumstances permitting.

### Notice of Readiness

Arrival time will be considered as the time when the Mooring Master boards the Vessel, or the time the Export Tanker arrives at Pilot Embarkation Area or the time the Export Tanker arrives at the Anchorage Area, if not berthing immediately. The anchorage area is shown at APPENDIX 8.

Provided the Marine Supervisor is satisfied that the Export Tanker is in all respects ready to moor and load, the Marine Supervisor will act on behalf of TSJOC to sign acknowledgement of the Export Tanker's notice of readiness. Such notice of readiness shall be in the English language.

Notice of readiness will not be accepted during a period when the Terminal is closed due to adverse weather.

### Approach to the Anchorage/Pilot Embarkation Area

When within VHF communication range, the Export Tanker Master shall confirm berthing prospects with the Terminal. Should it be necessary to anchor, the vessel should proceed to the recommended Anchorage Area – see the APPENDIX 8.

Transit time from Terminal to the Pilot Embarkation Area and back to the Terminal is classified as sea passage and not be counted as laytime.

### Arrival at Anchorage/Pilot Embarkation Area

Means of access to the Export Tanker by the Marine Supervisor and lifting operations personnel shall be provided in accordance with the requirements of SOLAS. Early advice will be given by the Terminal to confirm the side of the Export Tanker that access should be provided. At night the access area shall be adequately illuminated to provide for the approach and boarding of the Marine Supervisor and lifting operations personnel.

### Port Closure due to Bad Weather/Interruption of Loading/Berthing

Vessels required to leave the Terminal area due to bad weather should keep in contact with the Terminal via VHF and or radio telephone in order that they may be available when the weather is fit for resumption of operations. The Terminal reserves the right to berth and load Export Tankers out of turn following the return of good weather. The Terminal also reserves the right to decline to moor a specific Export Tanker if its condition or facilities are unsafe for mooring or loading even though the Terminal may be open to other Vessels. Should an Export Tanker be

rejected for any reason, the Terminal will inform the Export Tanker with written reasons for non-acceptance. The decision of TSJOC OIM and the FPSO FM in consultation with the Mooring Master to permit an Export Tanker to berth shall be final.

**Foul Weather Mooring/Unmooring**

Via a recognized forecasting service and local observation, the Terminal continually monitors weather conditions. In the event of deteriorating weather or the approach of a typhoon, mooring may be delayed or if the Export Tanker is already moored, shut down operations shall be implemented in a timely manner and the Export Tanker unmoored.

**Vietnamese Flag**

The national flag of Vietnam shall be prominently displayed by the Export Tanker at all times while at the Terminal.

**Vietnamese Government Regulations**

- Signals to be displayed on arrival:

  In accordance with regulations for Vietnamese ports, quarantine, pilot and call sign flag must be displayed by all vessels approaching the Terminal. These signals shall be displayed continuously until clearance is granted. The signals are to be in accordance with "International Code of Signals 1969".

- Compliance with Vietnamese Laws:

  The Terminal is located in Vietnamese territorial waters and has been classified by the Vietnamese authorities as a "non-seaport" export terminal over which the Vung Tau Port Authority has jurisdiction. Export Tankers visiting the Terminal shall comply with the provisions of the Vietnamese maritime laws, as they apply to the Terminal in this context, and other applicable Vietnamese laws and regulations including not entering the Restricted Zone as shown at APPENDIX 8 unless requested to do so or permission has been given by the Terminal. Where there is no specific regulation in Vietnamese law, Export Tankers shall follow good international practices

# SECTION 8

# MOORING OPERATIONS

## Pre-berthing conference

Export Tankers due for mooring must have a pilot ladder securely rigged on the side requested by the Mooring Master. Export Tankers with a freeboard of more than thirty (30) feet shall have an accommodation ladder rigged so that the lower platform is not more then ten (10) feet above the water level with a short pilot ladder for access to the platform. Upon the approach of the Mooring Master in the Support Vessel, the Export Tanker must provide a good lee on the appropriate side. The Export Tanker shall also have their port crane rigged and crew on deck standing by.

The Mooring Master and his assistants, if any, will normally board Export Tankers from the Support Vessel which will also be used for the purpose of providing a Static Tow throughout the loading operation. Immediately upon the boarding of the Mooring Master and his assistant, the Support Vessel will proceed to the port side crane area of the Export Tanker where mooring and hose connection equipment will be lifted aboard. The following equipment, provided by the Export Tanker, shall be ready for use when the Mooring Master boards:

- On the forecastle head:
  - one (1) buoyant mooring rope, ten (10) inches in circumference;
  - two (2) messenger lines, of a minimum of three (3) inches in circumference by three hundred (300) feet; and
  - a selection of shackles, wire strops and tools (sledge hammer, crowbar, etc).

- On the poop deck:
  - two (2) messenger lines, of a minimum of three (3) inches in circumference by three hundred (300) feet; and
  - two (2) buoyant mooring ropes, ten (10) inches in circumference.

Mooring Master will board incoming Export Tankers at the anchorage area or another agreed location. Before proceeding to the berth, the Mooring Master will discuss with the Export Tanker Master and brief the Export Tanker's officers on the procedures to be followed in berthing and mooring.

This pre-berthing conference shall be in sufficient detail to enable the Export Tanker Master to monitor the berthing and mooring operation so that he or she will be aware if a departure from the agreed plan is taking place. The Export Tanker Master will advise the Mooring Master of the Export Tanker's handling characteristics and ensure that the Mooring Master is given the Export Tanker's pilot information card to study. The Mooring Master will personally observe the engines being tested ahead and astern and the helm being put hard over to each side. Before commencing berthing operations, the Pre-Berthing Safety Check List in the form set out in APPENDIX 3 shall be completed and signed by the Export Tanker Master and the Mooring Master. Two Support Vessels are provided to assist with berthing..

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The Mooring Master will advise the Export Tanker Master on approach to the Terminal, mooring and unmooring, connection and disconnection of hoses, and all other operations within

the Terminal area, including all maneuvering of the Export Tanker. The Export Tanker Master must be on the bridge at all times while the Export Tanker is being maneuvered.

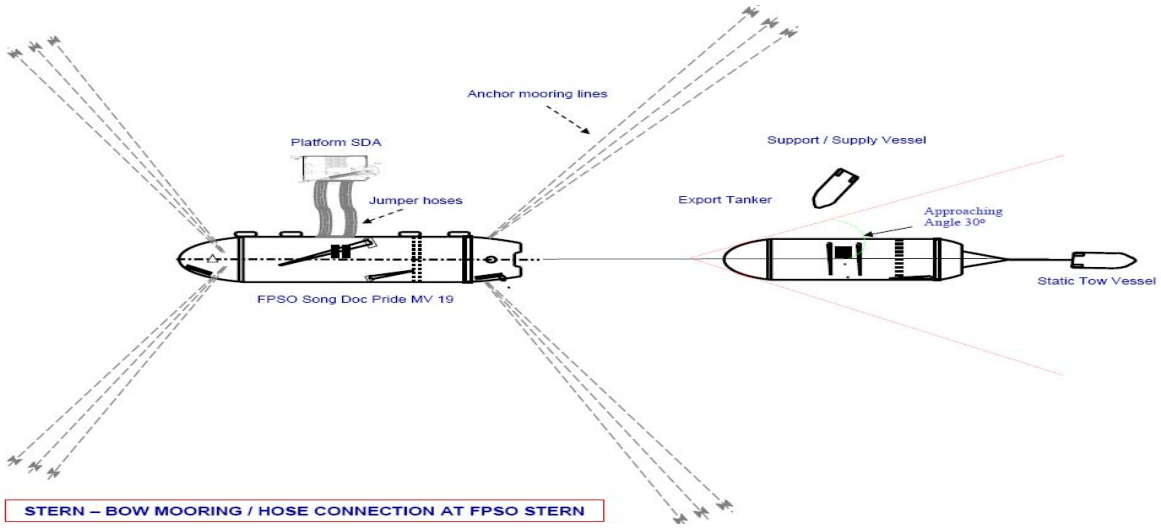
Support Vessels that assist in the mooring of the Export Tanker are under the direct control and supervision of the Mooring Master.

When the approach to the Terminal commences, the Support Vessel will be in attendance to assist if necessary. Approach to the Terminal involves maneuvering within close quarters. It is therefore imperative that all measures are taken to ensure that there is no loss of power or steering during these maneuvers. The Export Tanker's anchors will only be used in case of emergency and upon express permission of the Mooring Master.

On the final approach and at a distance of approximately two (2) to two and one half (2.5) nautical miles, the Support Vessel towing pennant will be made fast on the stern bollard of the Export Tanker for Static Tow purposes. On approaching the berth, the hawser messenger line will be passed from the FPSO bow/stern by either:

- a rocket from a pneumatic line throwing apparatus when the Export Tanker's bow is at a distance of approximately one hundred and fifty (150) meters from the FPSO. The Mooring Master will then instruct the crew to heave in the ropes successively until the mooring hawser chafe chain is drawn through a fairlead and in a position to be secured to a chain stopper (At least three (3) chafe chain links must be passed beyond the chain stopper tongue/hinged bar in a "made fast" condition);
- allowing the messenger rope to float free and drift aft of the FPSO bow/stern to a distance of approximately three hundred (300) meters. The Export Tanker's crew on the forecastle will use a grapnel to pick up the messenger line from sea surface then use the windlass or mooring winch to heave it in further; or
- a Support Vessel will maneuver alongside to the port shoulder and attach the mooring pick-up rope to the Export Tanker's messenger line. The Export Tanker will then heave up the messenger and pick-up rope.

For safety reason, recommended Export Tanker Approaching Angle to stern/bow of FPSO is proximately within $30^{o}$ from FPSO center line depending on the direction of wind and current during mooring.




The eighty (80) mm diameter pick-up rope is secured to seventy-six (76) mm chafing chains, which in turn are secured to the sixty (60) m finish length twenty-one (21) inch circular grommet type hawser which is connected to a seventy-six (76) mm chafing chain at the FPSO bow/stern.

During the approach of the Export Tanker towards the bow/stern of the FPSO, the ship's crew, under the advice of the Mooring Master will prepare the forecastle for the mooring operation. Sufficient crew members must be present to handle the mooring line.

The Export Tanker will then heave up the messengers and pick-up rope, carefully picking up the slack as the tanker approaches the bow/stern of the FPSO.

The distance between the Vessels will be continuously relayed to the Mooring Master on the bridge from the forecastle.

**ENGINES MUST BE MAINTAINED IN A CONSTANT STATE OF READINESS AND AT NO TIME DURING THE EXPORT TANKER'S STAY AT THE TERMINAL MAY THE ENGINES BE IMMOBILIZED.**

In cases when there is a failure of an Export Tanker's main propulsion machinery or steering gear, which renders the vessel incapable of instant maneuverability, the Mooring Master shall be informed immediately. Loading operations will be suspended and cargo hose will be disconnected. All charges incurred as a result of this failure shall be for the Export Tanker Owner's account.

Emergency towing wires (fire wires) should be rigged, one on the port bow and one on the port quarter. These lines must be maintained with the eye one (1) meter above the waterline with "no slack on deck".

# SECTION 9

## HOSE HANDLING

### Duties of Mooring Master and Tanker Crew

Upon completion of the mooring operation, the loading hose will be connected to the Export Tanker starboard manifold which must be prepared to accept one (1) twelve (12) inch one hundred and fifty (150 lb) ANSI RF flange prior to berthing. The Export Tanker's crew, who must be under the supervision of a responsible deck officer will make the hose connection. The Mooring Master or his assistant will advise on the correct procedures to be adopted.

The hose string is made of 23 lengths hoses, comprising of a combination of 16-inch and 12-inch hoses. The tail and rail hoses are 12-inch. A single closure breakaway coupling is fitted between the third and the forth 12-inch hoses off the Export Tanker end.

### SWL of the Hose Handling Crane

Depending on the freeboard of the Export Tanker, the weight of the hose string to be lifted could reach ten (10) tones. All Export tankers calling at the Terminal must have their starboard crane rigged with SWL of not less than fifteen (15) tones.

### Hose Transfer

The end of the export hose will be transferred to the Export Tanker manifold area by utilizing a buoyant rope or the use of a work boat.

### Crane versus Derrick

Vessels equipped with a derrick will not be accepted for loading at the Terminal.

### Hose Lifting and Connection

The hose will be lifted to a position above the main deck so that the "hang off chain" can be made fast to the hose bitts using a snubbing chain, such that the hose flange will closely align with the required manifold flange. As the hose being lifted swings widely in rough sea conditions, restraining ropes of a sufficient strength must be readily available at the manifold area. The hose end will then be lowered to the deck and the blind flange will be removed. The hose flange will normally be connected to the manifold by a quick release Camlock Coupling.

### Tanker Rail Hose Support

When the hose is connected, the length between the manifold and rail will be supported by a nylon web sling to ensure that there is no undue strain on any part of the manifold or hose string.

### Hose Disconnection

Prior to completion of loading, the Export Tanker's crew and one deck officer should be placed

on standby at the cargo manifold, ready for hose disconnection. When the Export Tanker is informed by Terminal that all flow has ceased, the hose end butterfly valve will be closed, followed by the Export Tanker's manifold valve. Once the spool piece has been drained into the tanker drip tray, the hose will be disconnected from the manifold. The hose support slings will be removed, and the blind flange will be attached and bolted.

**Accidental Release of Mooring Hawser**

In the event of an accidental release of the mooring hawser during loading operations the following sequence of events will occur:

- the Terminal cargo pumps will trip and stop discharging; and
- the breakaway coupling will be released.

## SECTION 10

## BALLAST OPERATION

There are no ballast or slop reception facilities at the Song Doc Marine Terminal; therefore, all Export Tankers must arrive with clean ballast suitable for discharging directly to sea in accordance with the standards set by MARPOL and local regulations. Export Tankers arriving with ballast unsuitable for discharge to sea will be rejected for loading. Any Export Tanker rejected because of contaminated ballast or sea pollution will automatically invalidate her Notice of Readiness and will lose any priority of loading. Export Tankers discharging contaminated ballast overboard will be subject to the anti-pollution laws of Vietnam.

Export Tankers arriving at the Terminal should maintain not less than thirty (30) percent of summer DWT, to ensure safe handling and maneuverability in the prevailing weather and sea conditions and in accordance with the good practice of seamanship.

**Propellers must be immersed** a minimum of three quarters (3/4) of the diameter of the propeller.

Whenever possible, loading procedures should be so arranged as to allow for concurrent deballasting and loading operations, provided that at minimum of a two (2) valve separation can be maintained. Ballast should not be discharged before the Export Tanker has loaded at least the equivalent amount of cargo.

The Mooring Master and Marine Supervisor may accompany the independent Surveyor in witnessing the tank inspection prior to loading, but will not sign certificates attesting to the emptiness or cleanliness of tanks for loading. The ullaging of the slop tank and determination of oil content will also be witnessed.

Before commencement of the cargo tank inspection, proper draining of all cargo pipe work contents shall be carried out in witness of the Marine Supervisor/Mooring Master.

# SECTION 11
# LOADING OPERATIONS

## Pre-Loading Conference

Before commencing loading operations, the Mooring Master will discuss with the Export Tanker Master or his designated deck officer the procedures to be followed throughout the loading/de-ballasting operations. This pre-loading conference shall be in sufficient detail to enable the Mooring Master to monitor the operations so that he or she will be aware if a departure from the agreed loading plan is taking place. A record that the meeting took place shall be recorded in the cargo log. At this time, the Pre-Loading Operations Export Tanker/Terminal Safety Check List set out in APPENDIX 3 hereof shall be completed and signed by the Mooring Master and Export Tanker Master or his designated deck officer. The Export Tanker/Terminal Safety Check List is based on recommendations contained in ISGOTT. From time to time thereafter random inspections shall take place to verify continuous compliance. The Export Tanker shall provide the Mooring Master with a detailed loading plan and de-ballasting plan, providing the stress limitations never to be exceeded and indicating any critical times when the deadweight and trim may approach the limits mentioned in Section 3 – "Description and Operational Limits of Song Doc Marine Terminal".

The time of commencement of de-ballasting shall be agreed between the Export Tanker Master and the Mooring Master prior to the commencement of loading.

## Communications and Coordination of Loading

The amount of cargo loaded onboard the Export Tanker shall be continuously monitored. Loaded quantity and loading rate shall be reported to the Terminal hourly. In order to test communications during loading, the Export Tanker shall call the Terminal at 15 minutes past each hour and report the total quantity of cargo loaded and the loading rate in the last hour. Quantities shall be recorded in gross barrels. Except for the hourly radio checks or in emergencies (e.g. when the Mooring Master is occupied elsewhere), all communications from the Export Tanker to the Terminal relating to loading shall be made by the Mooring Master.

## Tank Inspections and Dry Certificates

Neither the Terminal nor the Mooring Master shall carry out tank inspections or issue dry certificates. If an independent surveyor is required to carry out tank inspections prior to loading, gauging, water dips and/or temperature measurements on board the Export Tanker, these operations shall be conducted in accordance with the procedures and taking the precautions mentioned in ISGOTT 7.2. If Export Tankers not fitted with vapor locks to enable the above operations to be undertaken with the tanks under pressure, the procedures outlined in ISGOTT 7.2.3 shall be followed.

## Lining Up and Readiness to Load

Provided that the Pre-Loading Export Tanker/Terminal Safety Check List has been satisfactorily completed, the loading hose is connected and the butterfly valve at the tail/rail hose end is open,

the Export Tanker will be advised that the Terminal is ready to commence loading and requested to open the tank valves and manifold valve in readiness to receive cargo.

**Commencing Loading**

During the commencement of loading and until the full loading rate is achieved, the Mooring Master shall remain at the Export Tanker's cargo control room to coordinate with the FPSO control room on loading operations.

When the Export Tanker confirms that its tank valves and manifold valves are open, the Mooring Master will request the Terminal to start the loading pumps at slow rate. The Export Tanker will observe the flow of oil into the Export Tanker's tanks and once satisfied that the oil is flowing into the designated tanks, will advise the Terminal that the Export Tanker is ready to receive cargo at full rate.

During the period of slow loading and build up to full rate, the area around the floating hose shall be under constant observation. The Mooring Master will request the Terminal to increase the loading rate to full rate. The maximum loading rate is normally 14,000 barrels per hour. Export Tankers are cautioned not to shut valves against the flow of oil at any time during the loading. Unless arrangements are made with the Mooring Master and the loading rate is reduced to slow, there shall be at least two (2) of the Export Tanker's cargo tanks open at all times during loading.

**During Loading**

The following conditions shall be observed on the Export Tanker throughout the loading operations:

(a) The Export Tanker's cargo control room shall be manned at all times and shall be under control of a responsible English speaking Export Tanker's officer. An efficient and continuous deck watch shall be maintained so that the mooring condition (i.e. the status of the mooring assembly and the distance and direction of the Export Tanker in relation to the Terminal), the loading hose and the manifold are under constant observation.

(b) The Export Tanker shall always have her engines available for immediate use and be ready to leave the berth, and consequently adequate coverage of the engine room by qualified personnel is required at all times.

(c) Emergency towing off wires (fire wires) shall be made fast to bitts as far forward and aft as possible on the starboard side. The wire shall be in good condition and of adequate strength (see ISGOTT 3.7.2) and secured with at least five turns or have the eye on the bitts. The outboard eye shall be maintained at a height of between 1 and 2 metres above the water at all times using a small diameter heaving line for this purpose.

(d) All doors, portholes and openings leading to accommodation, machinery spaces and forecastle but excluding the pump room shall be kept closed. Cargo control room doors opening on to or above the main deck may be opened momentarily for access.

(e) There shall be adequate lighting to illuminate the cargo deck and forecastle area.

(f) Central air-conditioning or mechanical ventilation shall be adjusted to prevent the intake of

petroleum vapor, if possible by re-circulation of air within enclosed spaces so that a vacuum is not created. Intakes within the range of possible petroleum vapor release shall be closed. If at any time it is suspected that petroleum vapor is being drawn into the accommodation, the central air-conditioning and mechanical ventilating systems shall be stopped and the intakes closed.

(g) The Export Tanker's whistle shall be kept at instant readiness at all times.

(h) The Export Tanker shall fly the flag "B" by day and at night exhibit a red all round light.

(i) The loading rate may be reduced at any time by the Export Tanker requesting the Terminal to reduce the loading rate.

(j) One (1) hour prior to completion of loading, the Terminal will check the discharged figures with the Export Tanker and confirm the approximate completion time. Whether completion of loading is to be by Terminal "stop" or Export Tanker "stop", both parties shall confirm notice at 1 hour, 30 minutes, 15 minutes and 5 minutes before completion of loading.

To ensure optimum accuracy of the FPSO custody transfer meter and prover unit, the loading rate should be maintained as stable as possible throughout the loading operation with the exception of start-up, topping-off, or in the case of operational necessity. The duration of deviations from the stable loading rate should be minimized. Loading rates below forty-two hundred (4,200) bbls per hour (i.e. sixty (60) percent of throughput) through one stream are not recommended.

**NOTE: A REQUEST FOR THE TERMINAL TO STOP THE FLOW OF OIL AT A PREDETERMINED TONNAGE MUST BE MADE IN WRITING. THE REQUEST MUST INCLUDE THE STATEMENT BY THE EXPORT TANKER MASTER THAT; TSJOC WILL NOT BE HELD RESPONSIBLE FOR ANY ERROR, AND THAT IN THE CASE OF THE EXPORT TANKER BEING LOADED IN EXCESS OF THE PRE-DETERMINED TONNAGE, THE EXPORT TANKER MASTER RECOGNIZES THAT THE EXCESS CARGO CANNOT BE PUMPED BACK TO THE TERMINAL**

**Quantity and Quality Measurement**

The Terminal is equipped with a lease automatic custody transfer unit and meter prover system. The quality and quantity of crude oil shall be determined at the Terminal by Terminal Operator and verified by an independent Surveyor.

The volume of crude oil loaded is accurately available at all times from the Terminal, and periodic comparisons should be made between the tanker and Terminal figures.

In the event of custody meter failure during a lifting, the quantity, to be included in cargo documents, shall be determined by Terminal Operator in the manner customary at the Terminal and verified by the independent Surveyor. FPSO ullaged figures are the first option and Export Tanker ullaged figures are the second option taking into consideration the relevant factors contributing the reliability of these figures such as vessel movements during ullagings, size of the Export Tanker, Export Tanker's experience factor, quantity of free water found on board FPSO before and on board the Export Tanker after cargo transfer, status of FPSO cargo tank segregation valves, Export Tanker's discharging ratio for the last cargo, COW history, etc. The failure of custody meter shall be reported and acknowledged by the independent Surveyor who

witnesses the lifting. The determination shall be conclusive and binding on the parties.

**Smoking**

Smoking on board the Export Tanker shall ONLY be allowed in places that have been jointly approved, in writing, by the Export Tanker Master and the Mooring Master. Designated "Smoking Area" notices, which state the conditions under which smoking is permitted in these rooms, shall be posted.

**Matches and Lighters**

The carrying of matches and lighters is PROHIBITED on board the Export Tanker whilst in the berth or approaching thereto, except under controlled conditions in the designated Smoking Areas.

**Galley Cooking Equipment**

The use of all galleys cooking equipment on board the Export Tanker is permitted EXCEPT oil-fired stoves. If the Export Tanker Master considers that the galley equipment fitted in his Export Tanker presents an unusual risk, its presence shall be drawn to the Mooring Master's attention prior to berthing.

**Portable VHF/UHF Radios, Lamps and Flashlights**

Portable VHF/UHF radios, lamps, flashlights or other electrical devices, shall not be used unless approved as intrinsically safe. The use of portable electrical lamps and equipment on extension cords or wandering leads is prohibited in any cargo space or adjacent ballast space, pump room, cofferdam, forecastle, bunker compartment, hold or anywhere over the cargo tanks.

Portable domestic radios, photographic flash equipment, portable electronic calculators, tape recorders, video/digital cameras, mobile phones and any other battery powered equipment not approved as intrinsically safe shall not be used on the tank deck area of the Export Tanker nor in any place where hazardous vapors may be encountered.

**Movement of Support Vessels, Workboats and other Craft**

During cargo transfer operations, no craft shall be allowed alongside the Export Tanker unless approval has been given by the Mooring Master and agreed by the Master of the Export Tanker. It is the duty of the Export Tanker's personnel to see that the surroundings are kept clear by unauthorized craft at all times.

**Repair Work**

An Export Tanker secured to the Terminal shall be maintained in a state of readiness to leave the berth immediately, under full engine power. Therefore, no repairs will be permitted. The testing of any electrical equipment, including radar and radio is prohibited unless the permission of the Mooring Master has been granted. Tank cleaning and gas freeing shall not be carried out while in the berth. Chipping and scraping on the deck or hull is not permitted.

**NO WELDING IS PERMITTED IN ANY LOCATION ON BOARD WHILE THE EXPORT TANKER IS BERTHED AT THE TERMINAL.**

**Prevention of Sparks from Funnels/Stacks and Excessive Smoke**

Excessive smoke from funnels/stacks and soot blowing is prohibited. Immediate steps shall be taken to eliminate any sparks from funnels/stacks. All Export Tankers shall be fitted with funnel/stack flame arresters. The use of incinerators when the Export Tanker is at the Terminal, maneuvering within Terminal limits or at anchor at the designated area is prohibited.

**Transmitting Aerials**

Prior to berthing, all radio transmitting equipment, including secondary and emergency transmitters shall have their aerials earthed. VHF radio equipment shall be switched to low power transmission. Satellite communications equipment may be used provided the approval of the Mooring Master is obtained.

**Impressed Hull Cathodic Protection Systems**

Export Tankers fitted with an impressed hull cathodic protection system should leave the system switched on while berthed at the Terminal.

**Sea valves and Overboard Discharge Valves**

Except when discharging ballast, in strict accordance with this Section of the handbook, the abovementioned valves shall remain closed and shall be sealed. The area around the Export Tanker in the vicinity of the overboard discharge points shall be kept under observation in order to detect any leakage. At night, the sea area referred to above shall be adequately illuminated.

**Tank Openings**

Only Export Tankers that can perform closed loading will be accepted at the Terminal.
All openings into cargo and ballast tanks shall be secured prior to berthing. Except with the approval of the Mooring Master, no cargo, void space or ballast tank opening shall be opened during cargo loading and deballasting.

**Manifold Connections**

The Export Tanker's manifold on the port side shall have ready a 12-inch ANSI 150 presentation flange and comply with OCIMF recommendations.

Except for the manifold connection to be used for loading all other cargo and bunker connections shall be blanked off and full bolted shut.

Stern discharge lines, if fitted, shall be isolated forward of the bridge by being blanked off.

**Emergency Stops during Loading**

If for any reason the Export Tanker requires an immediate stop to the loading, the Terminal shall be called as follows “SONG DOC MARINE TERMINAL”, this is “[Export Tanker Name]”. When the Terminal responds, repeat the words “STOP LOADING” 3 times. The Terminal will activate the pump emergency shutdown procedure and advise the Export Tanker when the pumps are stopped.

In the event of an oil spill, the same procedure as for an emergency stop shall be followed, except in place of the words “STOP LOADING”, the words “OIL SPILL STOP LOADING” spoken 3 times is to be substituted. In this case the Terminal will activate the pump emergency shutdown procedure and initiate the Terminal oil spill contingency plan.

In either case if radio communication fails, continuous sounding of the Export Tanker’s whistle will initiate an Emergency Stop.

## SECTION 12

## CARGO COMPLETION, DOCUMENTATION AND INSPECTION

### Completion of Loading

The Export Tanker will advise the Mooring Master when to stop cargo loading unless the nominated quantity has been delivered by the Terminal, in which case the Terminal will stop the cargo transfer. On completion of loading, when the Export Tanker is informed by the Terminal that all flow has ceased and that the Terminal loading pumps are stopped, the Export Tanker's tank valves can be closed slowly, followed by the Export Tanker's manifold valve shut the loading hose end butterfly valve shall be closed LAST.

### Hose Disconnection

The hose will then be disconnected from the manifold (sufficient drip trays must be available to contain any oil remaining in the spool pieces and reducer) and the blind flange will be replaced on the hose. The weight of the hose will be taken on the crane and pick up chain. The hang off chain will then be released from the hose bitts. Before lowering the hose into the water, the pick up buoy must be attached to the hose end assembly. The hose end assembly pick up chain shall be connected to the provided wire sling with a tripping hook. Once the hose is lowered into the water the tripping hook shall be pulled to release the hose. The Support Vessel in attendance will pick up the hose end buoy and clear the hose away from the Export Tanker.

### Documentation and Inspection

Documents such as bills of lading, certificates of quality, certificates of quantity, time loading reports, certificates of origin, cargo manifests and master's receipt for documents/samples etc. are prepared at the Terminal. When the Export Tanker has completed loading, the documents will be completed and taken aboard the Export Tanker for the Export Tanker Master's signature. Signing of these documents by the Export Tanker Master will take place at the same time as the final departure clearance formalities are being carried out.

In the event of a dispute regarding cargo figures, the Export Tanker will be requested to recheck the measurement and calculations of the quantity, and the Marine Supervisor and Mooring Master will witness such measurement and calculations. After both the Terminal's and the Export Tanker's figures have been verified, should a difference of more than zero point three (0.3%) percent still exist, receipt of a letter of protest will be acknowledged by the Marine Supervisor or in his absence by the Mooring Master. In order to maintain "clean documents", Export Tanker Masters shall not include any notes or protests on the official cargo documents.

Letters of protest, if any, should be given to the Marine Supervisor.. The Marine Supervisor will acknowledge receipt of the note of protest only, and is not authorized to acceptance the validity of such protest.

From time to time Export Tanker Owners, charterers, consignees, or other interested parties may appoint a third party Surveyor to survey the loading operation on their behalf. Any delays caused by such survey(s), shall be considered "vessel delays" and shall be for the account of the Export Tanker.

The bill of lading date is the date appearing on the bill of lading when the loading has been completed and the loading hoses have been disconnected from the Export Tanker.

## SECTION 13

## DEPARTURE PROCEDURES

Immediately after the loading hose is disconnected and cargo tank survey is completed, unmooring of the Export Tanker will commence. The Support Vessel at the stern of the tanker will be released at Mooring Master discretion, but will remain on location to assist. Upon advice from the Mooring Master, the mooring hawsers will be heaved in by the Export Tanker and the mooring connections will be released. In some cases it may be necessary to briefly run the engines ahead to relieve the weight on the moorings. As soon as the moorings are released, the engines will be run astern and the vessel will back away from the FPSO. During the move astern, the mooring hawsers will be lowered into the water by easing back on the pick up ropes.

When the Export Tanker is safely cleared of the FPSO, the Terminal mooring and lifting operation equipment will be back loaded to the Support Vessel for return to Terminal.

Any remaining cargo calculations and paperwork will be completed prior to the disembarkation of the Mooring Master. Upon completion of all formalities, the Export Tanker will make a good lee to disembark Terminal personnel and government officials. Upon disembarkation of all such personnel, the Export Tanker must clear the Terminal area as directed by the Mooring Master before his departure.

### Early Departure Procedures

For operational and safety reasons, TSJOC may require the Export Tanker which has completed its loading operations to depart prior to completion and delivery of the following documents:

- bill of lading
- certificate of origin
- certificate of quantity
- certificate of quality
- cargo manifest
- tanker loading time report
- notification of departure
- receipt for documents and samples
- notice of protest (if applicable)

In the event that Early Departure procedures are required, the Export Tanker Master shall make a written request for EDP and present this to the Marine Supervisor on arrival of the Export Tanker.

The Export Tanker Master shall issue a letter of authorization to its agent, with a copy to the Marine Supervisor, authorizing its agent to sign the bill of lading and other cargo documentation for and on behalf of the Export Tanker Master once the bill of lading and other cargo documentation has been completed.

After departure of the Export Tanker, the final density, sediment and water content of the cargo

shall be determined by TSJOC and witnessed by an independent Surveyor. This shall be derived from the analysis of the representative sample taken from the metering unit. A sealed portion of this sample shall be placed on board the Export Tanker before departure.

The Marine Supervisor shall inform the Export Tanker Master of the gross and net cargo quantity loaded at sixty (60) degrees Fahrenheit. This will usually be in the form of a faxed, unsigned, non-negotiable bill of lading pro forma. The Export Tanker Master shall as promptly as possible inform the agent to sign cargo documentation on his behalf or give such other instructions, as he deems necessary.

When all the cargo documentation has been signed by the Marine Supervisor and the agent acting on behalf of the Export Tanker Master, a complete set of cargo documents shall be faxed to the Export Tanker Master by its agent.

It should be noted that the Terminal custody meter's figures are normally those which shall be inserted on the bill of lading and other cargo documentation. However, an independent survey shall still be conducted on board the Export Tanker to act as back-up should a technical fault occur in the metering unit.

## SECTION 14

## GENERAL

### Lifting Support Vessels

Lifting support Vessels are anchor handling, towing, supply types. These boats will assist the Export Tanker in in-field personnel transfer, mooring, unmooring and hose handling. These boats are directed by the Mooring Master, to whom requests by the Export Tanker for action or assistance must be directed.

**SERVICES AND FACILITIES PROVIDED BY TSJOC INCLUDING THE SERVICES OF THE COMPANY MOORING MASTER, RIGGERS, BOATS OR BERTHING EQUIPMENT, ARE AT THE EXPORT TANKER'S RISK.**

### Removal of Wrecks

Should any Vessel or craft sink or become an obstruction in any part of the Terminal or approaches thereto, or the area of the submarine pipelines, TSJOC shall be empowered and shall have the right to take any steps it may deem necessary to remove the obstruction without notice to the owners. All expenses of such removal shall be borne by the Vessel or craft and/or by those owning it at the time of the accident, and TSJOC shall be entitled to reimbursement by them for any such expenses incurred by it.

### Services & Supplies

Should it be necessary to supply boats, materials, equipment or labor, to carry out repair work to enable the Export Tanker to continue loading, any time and costs involved will be charged to the Export Tanker's account at a rate to be established at that time. These services will only be provided in emergencies.

There are no bunkers, no fresh water, no small boat hire, no shore leave or shore services, and no medical assistance (except in cases of emergency) available at the Terminal. Information on port services in the area should be obtained from the Export Tanker's agent.

Crew members cannot leave the Export Tanker at the Terminal except in cases of emergency. Even in an emergency it should be noted that seamen's books may not be valid under local government law, and a valid passport may be required. Caution should be taken during crew changes in the Terminal area.

Swimming in the sea around the Terminal is prohibited.

### High Flow Rate and Valve Closing

Export Tanker Masters are reminded of the serious consequences of totally or partially closing valves against the flow of oil from the Terminal. Should damage to the Terminal equipment result from such malpractice, time and costs of all direct and consequential damage shall be for the account of Export Tanker Owners, and any persistently offending Export Tanker will not be

subsequently accepted for loading.

**Alcoholic Drinks**

Export Tanker Masters are advised that offering alcohol to Terminal lifting operations personnel who may board their Vessels is strictly forbidden.

**Accommodation**

Marine Supervisor, the Mooring Master and or his assistants, if any, will require accommodation throughout the Export Tanker's stay at the Terminal. These personnel shall be accommodated in the officer's quarters.

Export Tanker shall be required to provide accommodation, where available, for the following additional personnel:

- one (1) pilot;
- one (1) independent Surveyor;
- one (1) shipping agent;
- one (1) Mooring Master;
- one (1) assistant to the Mooring Master; and
- other persons as may be required by the Marine Supervisor.

**Personnel Transfer**

- in-field personnel transfer by boat;
  - This method of transfer is carried out when weather conditions permit. Operational limits for this method are specified in Section 3.
- alternative methods;
  - to avoid delays in waiting time at the Terminal for suitable weather for in-field personnel transfer, the Marine Supervisor in consultation with the Mooring Master may, at his option, for safety reasons request the Export Tanker to come to the nearest designated safe boarding area for embarkation/disembarkation of lifting personnel. Export Tanker time and cost are for account of the Export Tanker Owner.

## SECTION 15

## TERMINAL SAFETY AND SECURITY REQUIREMENTS

### General

Export Tankers visiting the Terminal must comply with the minimum safety requirements specified in ISGOTT. Operations at the Terminal and on board Export Tankers shall be conducted in accordance with ISGOTT, a copy of which shall be available on board the Export Tanker when calling at the Terminal.

Terminal operations are of a special nature in that Export Tankers must soft-moor in tandem to the Terminal. As a consequence, Terminal requirements may be more stringent than those specified in ISGOTT. These requirements will be enforced.

When the Mooring Master boards the Export Tanker, he will present to the Master a copy of the Terminal Handbook including all Appendices. After the Terminal Handbook is completely read and understood, and the safety check lists completed, the Export Tanker Master's Receipt of Song Doc Terminal Information, Regulations and Conditions of Use Handbook will be signed by both the Mooring Master and the Export Tanker Master prior to the commencement of berthing operations. Full details of these safety and fire regulations are given in the Appendices of this Terminal Handbook.

Safety, fire and security regulations will be strictly adhered to, and Mooring Master will make periodic checks to ensure that they are being enforced. If any infringements of these regulations are observed, they will be brought to the attention of the Export Tanker Master for corrective action. If such action is not taken immediately, the Mooring Master will take such measures as appear most appropriate to deal with the situation, and shall advise the Export Tanker Master accordingly.

Responsibility for the safe conduct of operations onboard the Export Tanker whilst berthed at the Terminal rests with the Export Tanker Master. Nevertheless, since the Terminal personnel or property and other shipping may also suffer serious damage in the event of an accident on board the Export Tanker, the Terminal Operator requires the Export Tanker Master's full co-operation and understanding regarding safety requirements as set out in the Pre-Berthing Safety Check List set out in APPENDIX 3 and the Pre-Loading Safety Check List set out in APPENDIX 4 of this Terminal Handbook.

The Terminal safety requirements are based on sound practices customary in the oil and tanker industry. The Export Tanker Master and crew of the Export Tanker are to adhere strictly to these safety requirements throughout the time spent at the Terminal. Terminal personnel are required to do likewise and will co-operate fully with the Export Tanker Master, in conducting safe, secure and efficient operations.

Before commencement of loading and thereafter from time to time the Mooring Master will join one of the Export Tanker officers in a routine inspection of decks and accommodation spaces of the Export Tanker. If any infringement of safety or security requirements is observed, it will be bought to the attention of the Export Tanker Master or his deputy. If corrective action is not taken

within a reasonable time the Terminal Operator will take such action as it deems most appropriate for dealing with the situation, and the Export Tanker Master will be notified accordingly.

If the Export Tanker Master observes any infringements of the safety or security requirements by the Terminal staff, whether on the Terminal or the Export Tanker, he must bring this immediately to the notice of the Mooring Master who is designated as the contact person. If at any time the Export Tanker Master believes that there is an immediate threat to the safety of the Export Tanker arising from Terminal activities, the Export Tanker Master shall have the right to demand an immediate cessation of operations.

In the event of continued flagrant disregard of safety or security requirements by any Export Tanker, the Terminal Operator, the OIM and the FM reserves the right to stop all operations and to order the Export Tanker off the berth and out of the Field.

**Fire Precautions**

The Export Tanker's fire fighting appliances, including main and emergency fire pumps, shall be kept ready for immediate use and pressure shall be maintained at all times on the fire main while the Export Tanker is berthed at the Terminal.

Before operations commence, at least two fire hoses with jet/fog nozzles shall be laid out on the tank deck, one forward and one aft of the manifold in use, connected to the fire main and tested as required by the Mooring Master. The two monitors immediately adjacent to the manifold shall be set at the appropriately effective position and made ready for immediate use.

Two portable fire extinguishers, preferably of the dry chemical type, shall be available in the proximity of the manifold area.

Should a fire occur on the Export Tanker, the Export Tanker Master or responsible officer shall make an immediate signal by **a continuous blast on the Export Tanker's whistle**, sound the general alarm and place the Export Tanker's engines on standby. The Terminal shall be informed and all loading operations will cease immediately, manifolds shut and preparations made to disconnect hoses and vacate the berth if required. The Support Vessel shall then be on standby for fire fighting / rescue operations.

**The Export Tanker shall be solely responsible for and shall be capable of fighting any fire onboard the Export Tanker without assistance from the Terminal.**

**Contingency Plans**

The Export Tanker Master and the Mooring Master shall discuss and agree on the action to be taken if the following circumstances occur:

- fire on board the Export Tanker;
- fire on board the Terminal;
- oil spillage from the Export Tanker;
- oil spillage from the Terminal;

- sudden onset of adverse weather, including electrical storms;
- forecast adverse weather or electrical storms;
- breakdown of the Static Tow or any other circumstances that may lead to the Export Tanker riding up on the Terminal;
- excessive loads on the tandem mooring hawser;
- failure or serious damage to the tandem mooring hawser;
- excessive fishtailing or loss of safe alignment;
- stern lines made fast to the mooring buoys parted.
- loss of power and/or ability to maneuver on the part of the Export Tanker.

The Export Tanker Master shall provide the Mooring Master with a copy of the Export Tanker's emergency response and contingency plans.

**Emergency Escape**

Prior to berthing, means of emergency escape shall be discussed and agreed by the Export Tanker Master and the Mooring Master. The means of emergency escape shall be advised to the Terminal and the Support Vessels prior to berthing.

**Suspension of Loading and Unberthing in Emergencies**

In any of the following conditions, the Export Tanker Master in consultation with the Mooring Master, OIM and FM shall ensure that loading and/or deballasting operations are stopped and, if the circumstances require, the hose disconnected and the Export Tanker unberthed:

- fire on board the Export Tanker;
- fire on board the Terminal;
- oil spillage from the Export Tanker;
- oil spillage from the Terminal;
- sudden onset of adverse weather, including electrical storms;
- forecast adverse weather or electrical storms;
- breakdown of the Support Vessel providing the service of Static Tow or any other circumstances that may lead to the Export Tanker riding up on the FPSO;
- excessive loads on the tandem mooring hawser;
- failure or serious damage to the tandem mooring hawser;
- excessive fishtailing or loss of safe alignment;
- loss of power and or ability to maneuver on the part of the Export Tanker;
- any other conditions which in the opinion of the Master of the Terminal, the Mooring Master or the Terminal Representative present a risk to life, the environment or property.

**Drug and alcohol policy**

The Terminal operates a ZERO TOLERANCE drug and alcohol policy, which must be strictly adhered to. No alcoholic beverages shall be consumed by the Export Tanker Master, any officer or crew of the Export Tanker during its stay at the Terminal or offered by the Export Tanker Master, any officer or crew of the Export Tanker to any Terminal personnel. If at any time anyone involved in or connected with the mooring, loading or unmooring operation is found to be under the influence of drugs or alcohol, the operation will be stopped immediately. Penalties

in Vietnam for illegal drug usage and trafficking are severe, up to and including the death penalty.

## Security Requirements

Terminal operations will be conducted in accordance with security regulations from time to time in force at the Terminal and notified to be Export Tanker. If applicable, the Export Tanker may be required to provide copies of its International Ship Security Certificate, enter into a Declaration of Security defining the security responsibilities of the parties involved in the operations, and/or provide any other data or documents required by the Terminal as contemplated by the International Ship and Port Facility Security Code.

## SECTION 16

## ENVIRONMENTAL PROTECTION

It is strictly against the laws to pollute the waters of Vietnam. The Export Tanker Master and the Export Tanker Owner may be subject to prosecution by the Vietnamese authorities if such pollution does occur.

No materials shall be thrown overboard.

Discharge of oily slops into the sea is strictly prohibited. The Terminal has no facilities for receiving any oil residues or oily ballast water. Export Tankers that release oil, or oily ballast water either at the Terminal location or at the anchorage area will be held responsible for all cleanup costs.

During cargo loading operations, all Export Tanker scuppers shall be effectively plugged. Fixed and portable manifold oil containment shall be in place and no leakage or spillage of oil or water that can possibly contain oil shall be allowed to escape over board.

Scupper plugs shall be removed to drain off accumulation of water periodically but must be replaced immediately after the water has been drained off. Manifold containment shall be drained before loading operations commence.

**Any spillage or leakage must be reported immediately to the Marine Supervisor and the Mooring Master.**

Should oil spillage occur during the loading or de-ballasting operations, then all such operations shall cease immediately and action shall be taken to control and contain the spillage. Cleaning up operations shall start immediately and loading operations will not be resumed until remedial action has been completed to the satisfaction of the Mooring Master.

Without prejudice to the Conditions of Use of the Terminal, the Export Tanker is solely responsible for any oil spill or other pollution from the Export Tanker and is required to take full financial responsibility and command of the oil spill clean-up and pollution abatement activities. Any first responder activities by TSJOC, whether conducted independently or directed by the Export Tanker, do not relieve the Export Tanker of this responsibility.

The Terminal Operator maintains at the Field an inventory of oil spill response equipment, which may be made available as a “first response” capability to an Export Tanker pollution incident.

Export Tankers entering the Terminal area, by virtue of such entry, authorize the Terminal Operator to undertake an initial response, as described below, to any discharge or threat of a discharge of oil from the Export Tanker in the area. This authorization does not make the Terminal Operator or the Terminal an agent of the Export Tanker or otherwise subject the Terminal Operator or the Terminal to the direction or control of the Export Tanker or any other person. Rather, in carrying out any initial response the Terminal Operator will act independently in accordance with its own judgment and discretion. The Export Tanker’s authorization is not exclusive and does not preclude the Export Tanker from carrying out or contracting for initial oil

cleanup.

Pursuant to this authorization, and for the purpose of expediting the clean-up operation and minimizing environmental impact, the Terminal Operator may, but shall not be obliged to, provide the initial response to the discharge or threatened discharge of oil from any vessel within the Terminal area. Any such initial response shall be conducted in accordance with the Terminal Operator's license, TSJOC's oil spill contingency plan, and in a manner acceptable to and on the instructions, if any, of the Vietnamese authorities. TSJOC's initial response will be limited, both in time and in scope. It will terminate 48 hours after the response effort is initiated, unless other arrangements acceptable to TSJOC are made. The response will be limited to that "best effort" which is practical and feasible in consideration of all existing conditions and within the limits of the personnel, materials, and equipment maintained at or near the Terminal under TSJOC's oil spill contingency plan. Any Export Tanker Master, the Export Tanker and the Export Tanker Owner is obligated to repay promptly to TSJOC any cost incurred in, or attributable to, the response effort in accordance with current fee schedules maintained by TSJOC.

## SECTION 17

## TIDES, CURRENTS, WIND, WEATHER AND SEAS

The navigator is referred to up-to-date published sailing instructions for this area in the following publication for information on winds, tides and currents:

- British Admiralty: China Sea Pilot Vol.1 Published by the Hydrographer of the Navy.

### Currents

The Terminal is north-east of the Peninsular Malaysian coast and south-west of Ca Mau, Vietnam and the currents are wind generated. Currents therefore will be in the direction of the prevailing monsoon. These currents will generally exceed one (1) knot, and on occasion exceed two (2) knots.

### Tides

A tidal range of 1.8 metres can be expected between the lowest and highest astronomical line.

### Winds

The northeast monsoon becomes established during November. During this period, the wind direction over the open sea is predominantly northeasterly and the average force when fully developed is about force five (5).

The winds tend to blow in successive pulsations, periods of comparatively fresh winds followed by periods when the wind is less strong. At times, the wind freshens to force six (6) or seven (7), while at other times it does not exceed force three (3). The frequency of force seven (7) winds is estimated to be about one (1) percent in most of the monsoon season, probably reaching two (2) or three (3) percent during December, the month of greatest frequency. From May to October the winds are predominantly southwesterly, mainly at force three (3) or four (4).

### Waves

Except during tropical storms, or during other isolated, severe storms, seas are generally mild. Seas of two (2) meters or less can be expected ninety-five (95) percent of the time, larger seas are more prevalent during the northern winter months when swells as high as four (4) meters can be generated during easterly gales.

Predominant swell periods are between five (5) and eleven (11) seconds although longer period swells are possible. Most of the swells come from the west southwest with some shorter swells from the east and northwest during winter.

### Relative Humidity

Humidity ranges from ninety (90) to ninety-five (95) percent in all months at 0700 hours falling to seventy (70) to seventy-four (74) percent by 1300 hours.

## Temperature

The average air temperature is high throughout the year. April is the warmest month with a mean daily air temperature of about eighty-eight (88) degrees Fahrenheit January is the coldest month with a mean daily temperature of eighty –six (86) degrees Fahrenheit.

## Fog and Visibility

Visibility is good throughout the year. Fog is rare throughout the area. Heavy showers are the most frequent visibility obstruction.

## Rainfall

Total rainfall is about one hundred (100) inches per year. Precipitation is mainly from October through January, i.e. at the onset and in the early part of the northeast monsoon. However, thunderstorms and heavy squalls occur frequently throughout the southwest monsoon.

## Sea surface Temperature

Sea surface temperatures range between twenty-four (24) to thirty-two (32) degrees Celsius with maximum and minimum temperatures approximately two (2) degrees Celsius higher and lower.

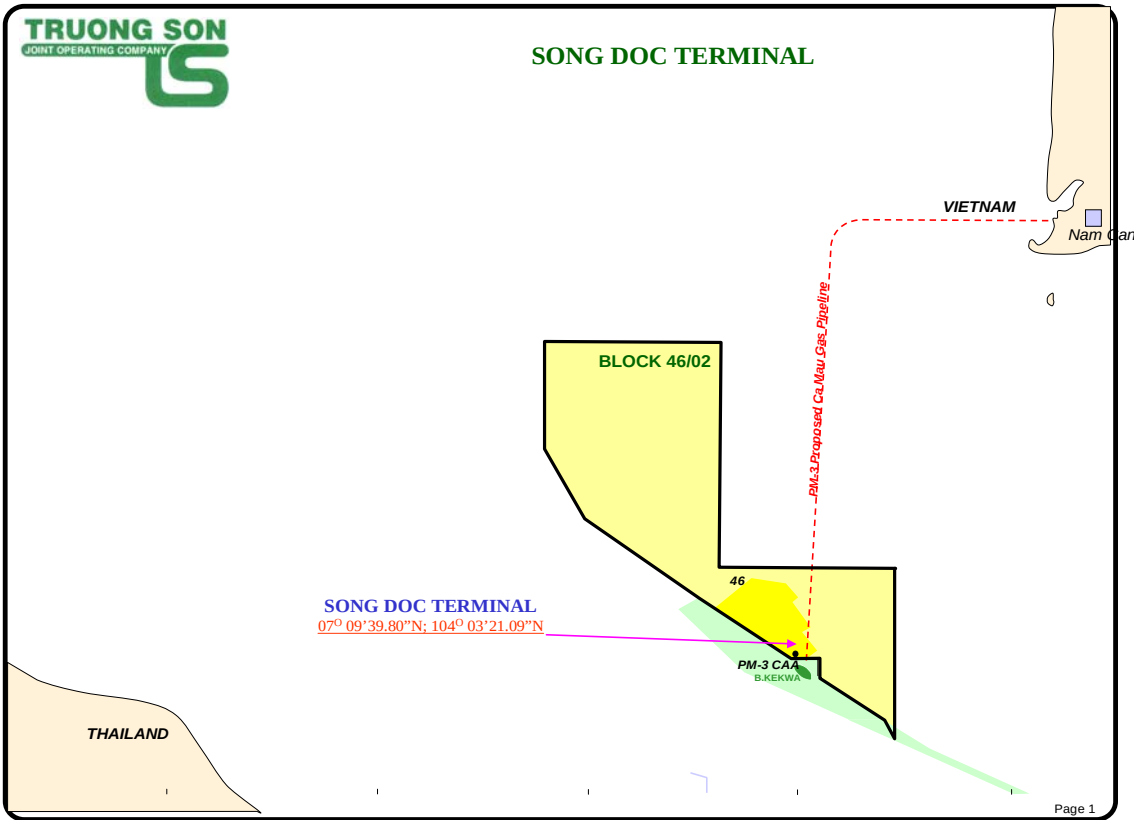
## Subsurface Temperature

Water temperature near the seabed is between twenty-five (25) and twenty-eight (28) degrees Celsius.

**Because the Terminal is an open, unsheltered mooring, there may be times when mooring operations will be inadvisable. Under these circumstances, the Terminal will be closed until conditions improve.**

**APPENDIX 1 (A)**

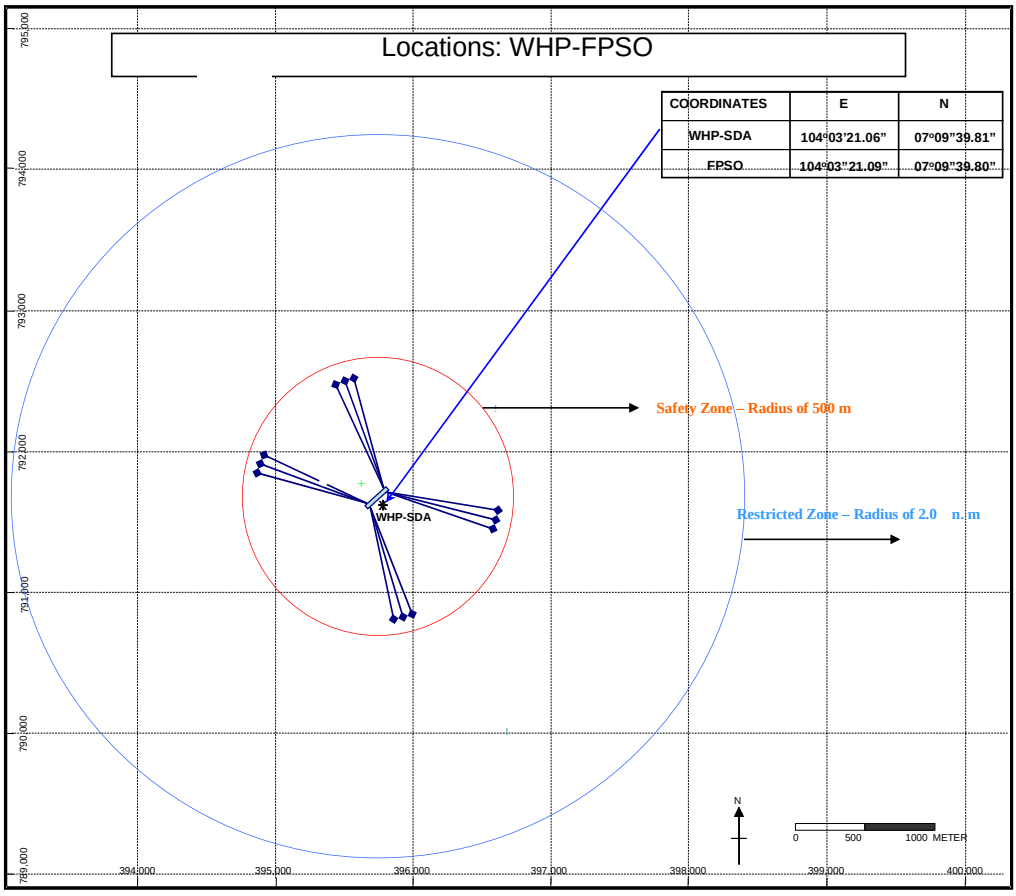
# SONG DOC MARINE TERMINAL AND FIELD LOCATION MAP




**Note : Map is not in correct scale**

# APPENDIX 1 (B)

## SONG DOC MARINE TERMINAL AND FIELD LAYOUT: WHP & FPSO



# APPENDIX 2

## SONG DOC CRUDE OIL SPECIFICATION

1. Physico-chemical Properties of Crude Oil

| No | TEST ITEMS | UNIT | METHODS | RESULTS |
|---|---|---|---|---|
| 1 | Density at 15 deg. C<br>Specific Gravity @ 60/60$^0$F<br>API Gravity | g/mL<br>-<br>$^0$API | ASTM D1298-99 | 0.8454<br>0.8458<br>35.8 |
| 2 | Viscosity at 40 deg. C<br>Viscosity at 50 deg. C | cSt | ASTM D 445-03 | 6.750<br>5.292 |
| 3 | Ash content | mass % | ASTM D 482-03 | 0.01 |
| 4 | Asphalthenes | mass % | IP-143-90 | 0.12 |
| 5 | Conradson Carbon residue | mass % | ASTM D 189-01 | 0.630 |
| 6 | Pour point | $^0$C | ASTM D 97-96 a | 36 |
| 7 | Total acid number | mg KOH/g | ASTM D 664-01 | 0.259 |
| 8 | Sulphur - Total | mass % | ASTM D 4294-03 | 0.047 |
| 9 | Total Nitrogen | mass % | ASTM D 3228-01 | 0.012 |
| 10 | Gross heating value | Kcal/kg<br>MJ/kg | ASTM D 4809-00 | 10769<br>45.08 |
| 11 | Copper | ppm | ASTM D 1548 | 0.085 |
| 12 | Nickel | ppm | ASTM D 1548 | 0.280 |
| 13 | Vanadium | ppm | ASTM D 1548 | 0.030 |
| 14 | C1-C4 | mass % | ASTM D 1945 | 0.0036 |

2. True Boiling Point Distillation of Crude Oil (By ASTM D 2892)

| No. | Temp. ($^0$C) | % mass | Cumulative % mass | % volume | Cumulative % volume | Density @ 15$^0$C | API Gravity |
|---|---|---|---|---|---|---|---|
| 1 | C1-C4 | 0.0036 | 0.0036 | 0.0066 | 0.0066 | - | - |
| 2 | C5 - 80 | 1.6264 | 1.63 | 2.2934 | 2.30 | 0.7237 | 64.0 |
| 3 | 80-120 | 2.98 | 4.61 | 3.89 | 6.19 | 0.7799 | 49.8 |
| 4 | 120-160 | 2.24 | 6.85 | 2.84 | 9.03 | 0.8029 | 44.6 |
| 5 | 160-190 | 2.05 | 8.90 | 2.16 | 11.19 | 0.8027 | 44.7 |
| 6 | 190-230 | 3.92 | 12.82 | 4.05 | 15.23 | 0.8172 | 41.6 |
| 7 | 230-260 | 5.22 | 18.04 | 5.21 | 20.44 | 0.8472 | 35.4 |
| 8 | 260-300 | 10.68 | 28.72 | 10.66 | 31.11 | 0.8463 | 37.6 |
| 9 | 300-330 | 7.60 | 36.32 | 7.66 | 38.77 | 0.8389 | 37.1 |
| 10 | 330-360 | 10.68 | 47.00 | 10.81 | 49.57 | 0.8352 | 37.8 |
| 11 | 360-400 | 15.36 | 62.36 | 14.81 | 64.38 | 0.8773 | 29.7 |
| 12 | 400-450 | 21.57 | 83.93 | 20.90 | 85.28 | 0.8724 | 30.6 |
| 13 | 450-500 | 8.66 | 92.59 | 8.23 | 93.51 | 0.8898 | 27.4 |
| 14 | 500-540 | 2.29 | 94.88 | 2.12 | 95.63 | 0.9129 | 23.4 |
| 15 | >540 | 5.12 | 100.00 | 4.37 | 100.00 | 0.991 | 11.2 |

Note: The above mentioned information are from Pre-production Crude Oil Sample Assay.

## APPENDIX 3

## SONG DOC MARINE TERMINAL

## PRE-BERTHING SAFETY CHECK LIST

Export Tanker's name: _____

Date of arrival: _____

Time of arrival: _____

**Instructions for completion:**

1. The safety of operations requires that all answers should be answered affirmatively.

2. If an affirmative answer is not possible, the reason should be given and agreement reached upon appropriate precautions taken between the Export Tanker and the Terminal.

3. Where any question is not considered to be applicable, a note to that effect should be inserted in the remarks column.

4. The presence of this symbol in the columns S (Export Tanker) and T (Terminal) indicates that the checks shall be carried out by the party concerned.

5. The presence of the letters A or P in the column 'Code' indicate the following:

   - A - the mentioned procedures and agreements shall be in writing and signed by both parties; and
   - P - in the case of a negative answer, the operation shall not be carried out without the permission of the Terminal.

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| A1 | Are radio communications well established? | | | P | |
| A2 | Is Export Tanker's mooring arrangement in accordance with OCIMF Recommendations for Equipment Employed in the Mooring of Ships at Singled Point Mooring? | | | P | |
| A3 | Is Export Tanker's manifold arrangement in accordance with OCIMF Recommendations for Oil Tanker Manifolds and associated Equipment? | | | P | |
| A4 | Is Export Tanker's lifting equipment in accordance with OCIMF Recommendations | | | P | |

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| | for Oil Tanker Manifolds and Associated Equipment? | | | | |
| A5 | Are rope messengers, stoppers and heaving lines ready for use? | | | | |
| A6 | Is a spoon prepared on the forward winch for lifting the hawser pick-up rope on board? | | | | |
| A7 | Are all cargo tanks atmospheres eight (8) percent or less oxygen content by volume and with positive pressure? | | | P | |
| A8 | Has “Vessel/Pilot” information card been exchanged? | | | P | |
| A9 | Are berthing and mooring procedures agreed? | | | | |
| A10 | Are the crew briefed on the mooring procedure? | | | | |
| A11 | Has the Support Vessel been briefed on the berthing and mooring procedure? | | | | |
| A12 | Are engines, steering gear and navigational equipment tested and found in good order? | | | P | |
| A13 | Are both anchors secured? | | | | |
| A14 | Is a proficient helmsman at the wheel? | | | | |

**Declaration:**

We have checked, where appropriate jointly, the items on this checklist, and have satisfied ourselves that the entries we have made are correct to the best of our knowledge.

For Export Tanker

Name: _____

Rank: _____

Signature: _____

Date / Time: _____

For Export Tanker

Name: _____

Position: _____

Signature: _____

Date / Time: _____

## APPENDIX 4

## SONG DOC MARINE TERMINAL

## PRE-LOADING SAFETY CHECK LIST

Export Tanker's name: _____

Date of arrival: _____

Time of arrival: _____

**Instructions for completion:**

1. The safety of operations requires that all answers should be answered affirmatively.

2. If an affirmative answer is not possible, the reason should be given and agreement reached upon appropriate precautions taken between the Export Tanker and the Terminal.

3. Where any question is not considered to be applicable, a note to that effect should be inserted in the remarks column.

4. The presence of this symbol in the columns S (Export Tanker) and T (Terminal) indicates that the checks shall be carried out by the party concerned.

5. The presence of the letters A, P and R in the column 'Code', indicate the following:

   - A - the mentioned procedures and agreements shall be in writing and signed by both parties;
   - P - in the case of a negative answer, the operation shall not be carried out without the permission of the Mooring Master; and
   - R - indicates items to be re-checked at intervals not exceeding that agreed in the declaration

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| 1 | Is the Vessel securely moored? | | | R | Stop cargo at:____ T hawser tension<br>Disconnect at_____T hawser tension<br>Unberth at_____ T hawser tension (To be Confirmed) |
| 2 | Are emergency towing wires correctly positioned? | | | R | |
| 3 | Is there safe access between FPSO and Export Tanker? | | | R | |
| 4 | Is the Vessel ready to move under its own | | | PR | |

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| | power? | | | | |
| 5 | Is there an effective watch in attendance on board and adequate supervision on the Terminal and the Ship? | | | | |
| 6 | Is the agreed Ship/Terminal communication system operative? | | | AR | |
| 7 | Has the emergency signal to be used by the ship and Terminal been explained and understood? | | | A | |
| 8 | Have the procedures for cargo and ballast handling been agreed? | | | AR | |
| 9 | Have the hazards associated with toxic substances in the cargo being handled been identified and understood? | | | | |
| 10 | Has the emergency shutdown procedure been agreed? | | | A | |
| 11 | Are fire hoses and fire fighting equipment on board positioned and ready for immediate use? | | | R | |
| 12 | Are scuppers effectively plugged and drip trays in position? | | | | |
| 13 | Are unused cargo and bunker connections properly secured with blank flanges fully bolted? | | | | |
| 14 | Are the sea and overboard and discharge valves closed and visibly secured? | | | | |
| 15 | Are all cargo and bunker tank lids closed? | | | | |
| 16 | Is the agreed tank venting system being used? | | | AR | |
| 17 | Has the operation of P/V valves and/or high velocity vents been verified using the checklift facility, where fitted? | | | | |
| 18 | Are all hand held torches of an approved type? | | | | |
| 19 | Are portable VHF/UHF transceivers of an approved type? | | | | |
| 20 | Are the Ship's main radio transmitter aerials earthed, the VHF on low power and radars switched off? | | | | |
| 21 | Are all electric cables to portable electrical equipment disconnected from power? | | | | |

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| 22 | Are all external doors and ports in the accommodation closed? | | | R | |
| 23 | Are window type air conditioning units disconnected? | | | | |
| 24 | Are all air conditioning intakes which may permit the entry of cargo vapors closed? | | | | |
| 25 | Are requirements for use of galley equipment and other cooking appliances being observed? | | | R | |
| 26 | Are smoking requirements being observed? | | | R | |
| 27 | Are naked light requirements being observed? | | | R | |
| 28 | Is there provision for an emergency escape? | | | | |
| 29 | Have measures been taken to ensure sufficient pump room ventilation? | | | | |
| 30 | Are ship emergency fire control plans located externally? | | | | |
| 31 | Are all cargo tank atmosphere at positive pressure with an oxygen content of 8% or less by volume | | | PR | |
| 32 | Is the inert gas system fully operational and in good working order? | | | P | |
| 33 | Are deck seals in good working order? | | | R | |
| 34 | Are liquid levels in P/V breakers correct? | | | R | |
| 35 | Have the fixed and portable oxygen analysers been calibrated and are they working properly | | | R | |
| 36 | Are fixed IG pressure and oxygen content recorder working? | | | R | |
| 37 | Are all the individual tank IG valves (if fitted) correctly set and locked? | | | R | |
| 38 | Are all the persons in charge of cargo operations aware that in the case of failure of the Inert Gas Plant, discharge operations should be cease, and the terminal be advised | | | | |
| 39 | Are life-buoys available near the accommodation ladder? | | | R | |
| 40 | Are dry chemical extinguishers in place near | | | R | |

| | Questions | S | T | Code | Remark |
|---|---|---|---|---|---|
| | the manifold | | | | |
| 41 | Are the general Safety and Security Regulations received, clearly understood, and posted? | | | | |

**Declaration:**

We have checked, where appropriate jointly, the items on this checklist, and have satisfied ourselves that the entries we have made are correct to the best of our knowledge and arrangements have been made to carry out repetitive checks as necessary and agreed that those items with letter "R" in the column "Code" should be re-checked at intervals not exceeding [ ] hours.

For Export Tanker

Name: _____

Rank: _____

Signature: _____

Date / Time: _____

For Export Tanker

Name: _____

Position: _____

Signature: _____

Date / Time: _____

# APPENDIX 5

## SONG DOC MARINE TERMINAL

## VESSEL QUESTIONNAIRE

### PART 1: INTERTANKO'S STANDARD TANKER VOYAGE CHARTERING QUESTIONNAIRE 1988 (Version 2)

**(Metric system to be applied, HVPQ reference specified where applicable)**

***Complete Questionnaire and answer questions as appropriate and attach a legible copy of the forecastle deck mooring arrangement plan***

| **GENERAL INFORMATION** | | **HVPQ Ref** |
|---|---|---|
| Date Updated: | | |
| Vessel's name: | | **1.2** |
| IMO number: | | **1.3** |
| Vessel's previous name(s): | | **1.4-1.7** |
| Flag: | | **1.8** |
| Port of Registry: | | **1.9** |
| Call sign: | | **1.11** |
| Inmarsat phone number: | | **1.12** |
| Fax number: | | **1.13** |
| Email address: | | **1.16** |
| Type of vessel: | | **1.17** |
| Type of hull: | | **1.19** |
| | | |
| **OWNERSHIP & OPERATION** | | |
| Registered owner - Full Style: | | **1.20** |
| Technical operator - Full Style: | | **1.22** |
| Commercial operator - Full Style: | | **1.25** |
| Disponent owner / Bareboat charterer - Full Style: | | |
| Number of vessels in Disponent owner's fleet:: | | |
| | | |
| **BUILDER** | | |
| Where Built : | | **1.26** |
| Date Delivered: | | **1.31** |
| | | |
| **CLASSIFICATION** | | |
| Vessel's classification society: | | **1.34** |
| Class notation: | | **1.35** |
| If Classification society changed, name of previous society? | | **1.36** |
| If Classification society changed, date of change? | | **1.37** |
| Last dry-dock: | | **1.38** |
| Last special survey: | | **1.41** |
| Latest CAP Rating (if applicable) | | **1.44** |
| Last annual survey: | | **1.45** |
| Does the vessel have a statement of compliance issued under the provisions of the Condition Assessment Scheme (CAS)? | Yes ☐ No ☐ N/A ☐ | |
| **DIMENSIONS** | | |

| | | | | | |
|---|---|---|---|---|---|
| LOA (Length Over All): | | | | Metres | **1.49** |
| Extreme breadth: | | | | Metres | **1.51** |
| KTM (Keel to Masthead): | | | | Metres | **1.54** |
| BCM (Bow to Center Manifold): | | | | Metres | **1.57.1** |
| Lightship parallel body length: | | | | Metres | **1.57.3** |
| Normal ballast parallel body length: | | | | Metres | **1.57.6** |
| Parallel body length at Summer DWT: | | | | Metres | **1.57.9** |
| | | | | | |
| **TONNAGES** | | | | | |
| Net Tonnage: | | | | | **1.59** |
| Gross Tonnage: | | | | | **1.60** |
| Suez Net Tonnage: | | | | | **1.61** |
| Panama Net Tonnage: | | | | | **1.62** |
| | | | | | |
| **LOADLINE INFORMATION** | Freeboard (Metres) | Draft (Metres) | Deadweight (Tonnes) | Displacement (Tonnes) | |
| Summer: | | | | | **1.63** |
| Winter: | | | | | **1.64** |
| Tropical: | | | | | **1.65** |
| Lightship: | | | | | **1.66** |
| Normal Ballast Condition: | | | | | **1.67** |
| | | | | | |
| TPC on summer draft: | | | | Tonnes | **1.70** |
| Does vessel have Multiple SDWT? | | | Yes ☐ | No ☐ | **1.72** |
| If yes what is the maximum assigned Deadweight? | | | | Tonnes | **1.73** |
| Air draft (sea level to top of mast/highest point) in normal SBT condition? | | | | Metres | **1.74** |
| | | | | | |
| **RECENT OPERATIONAL HISTORY** | | | | | |
| Has vessel been involved in any collision, grounding or pollution incident the past 12 months, full description: | | | | | **1.77-1.79** |
| | | | | | |
| **CERTIFICATION** | | | | | |
| Owners warrant following certificates to be valid throughout the Charter Party period: | | | | | |
| SOLAS Safety Equipment: | | | | | **2.2** |
| SOLAS Safety Radio: | | | | | **2.3** |
| SOLAS Safety Construction: | | | | | **2.4** |
| Load line: | | | | | **2.5** |
| IOPPC: | | | | | **2.6** |
| Safety Management (ISM): | | | | | **2.8** |
| USCG COC: | | | | | **2.11** |
| CLC: | | | | | **2.13** |
| US COFR: | | | | | **2.15** |
| Certificate of Fitness (Gas/Chemicals): | | | | | **2.16 & 2.17** |
| Certificate of Class: | | | | | |
| ISPS ISSC: | | | | | |
| | | | | | |
| **DOCUMENTATION** | | | | | |
| Does the vessel have the following documents on board? | | | | | |
| International Safety Guide for Oil Tankers & Terminals (ISGOTT): | | | Yes ☐ | No ☐ | **2.28** |
| OCIMF/ICS Ship to Ship Transfer Guide (Petroleum): | | | Yes ☐ | No ☐ | **2.31** |
| Is the vessel entered with ITOPF? | | | Yes ☐ | No ☐ | |
| | | | | | |
| **CREW MANAGEMENT** | | | | | |
| Nationality of Master | | | | | |
| Nationality of Officers: | | | | | **3.1** |

| | | |
|---|---|---|
| Nationality of Crew: | | **3.2** |
| If Officers/Crew employed by a Manning Agency - Full Style: | | **3.1 & 3.2** |
| What is the common working language onboard? | | **3.1** |
| Do key officers understand English? | Yes ☐ No ☐ | |
| In case of Flag Of Convenience (FOC), is the ITF Special Agreement on board? | Yes ☐ No ☐ | |
| | | |
| **STRUCTURAL CONDITION** | | |
| Are cargo tanks coated? | | **7.1** |
| If Yes, specify type of coating: | | **7.1.1** |
| If cargo tanks are coated, specify to what extent: | | **7.1.3** |
| Are slop tanks coated? | | |
| If slop tanks are coated, specify to what extent: | | |
| | | |
| **CARGO & BALLAST SYSTEMS** | | |
| If double hull, is vessel fitted with centreline bulkhead in all cargo tanks? | | **8.2** |
| Groups / Tank Capacities | | **8.3** |
| Total cubic capacity 98% ex slop tank: | | **8.4 & 8.6** |
| Slop tank(s) capacity 98%: | | **8.5 & 8.7** |
| SBT or CBT? | | |
| If SBT, what percentage of SDWT can vessel maintain with SBT only? | | **8.14.2** |
| If SBT, does vessel meet the requirements of MARPOL Reg 13(2)? | | **8.14.3** |
| Number of natural segregations with double valve: | | **8.15** |
| | | |
| **CARGO PUMPS** | | |
| Type: | | **8.18-8.25** |
| Number: | | **8.18-8.25** |
| Capacity: | Cu. M/Hour | **8.18-8.25** |
| | | |
| **GAUGING AND SAMPLING** | | |
| Can tank innage/ullage be read from the CCR? | Yes ☐ No ☐ | **8.48** |
| Can vessel operate under closed conditions in accordance with ISGOTT 7.6.3? | Yes ☐ No ☐ | **8.51** |
| Type of tank gauging system (radar / floating / other) | | **8.51.1** |
| Are high level alarms fitted and operational in cargo tanks? | | **8.54** |
| | | |
| **VAPOUR EMISSION CONTROL AND VENTING** | | |
| Is a vapor return system fitted? | Yes ☐ No ☐ | **8.65** |
| State what type of venting system is fitted: | | **8.67** |
| Max loading rate per midships connection for homogenous cargo? | Cu. M/Hour | **8.79** |
| | | |
| **CARGO MANIFOLDS** | | |
| Does vessel comply with the latest edition of the OCIMF 'Recommendations for Oil Tanker Manifolds and Associated Equipment'? | Yes ☐ No ☐ | **8.80** |
| What is the number of cargo connections per side? | | **8.83** |
| What is the size of cargo connections? | Millimetres | **8.84** |
| What is the material of the manifold? | | **8.86** |
| Distance between cargo manifold centres: | Millimetres | **8.93** |
| Distance ships rail to manifold: | Millimetres | **8.95** |
| Distance main deck to centre of manifold: | Millimetres | **8.97** |
| Height of manifold connections above the waterline at loaded (Summer Deadweight) condition? | Metres | **8.101** |
| Height of manifold connections above the waterline in normal ballast? | Metres | **8.102** |
| Is vessel fitted with a stern manifold? | Yes ☐ No ☐ | **8.104** |
| Number / size reducers: | | **8.106-8.110** |

| | | |
|---|---|---|
| **CARGO HEATING** | | |
| Type of cargo heating system? | | **8.120** |
| Material of heating system? | | **8.128** |
| Max load temp: | deg Celsius | |
| Max temp maintain: | deg Celsius | |
| | | |
| **IGS & COW** | | |
| Is an Inert Gas System (IGS) fitted? | Yes ☐ No ☐ | **9.1** |
| Is IGS supplied by flue gas, inert gas (IG) generator and/or nitrogen? | | **9.3** |
| Is a Crude Oil Washing (COW) installation fitted? | Yes ☐ No ☐ | **9.17** |
| | | |
| **MOORING ARRANGEMENTS** | | |
| Number / length / diameter / breaking strength of wires: | On Drums | |
| Focsle: | | **10.2** |
| Main deck fwd: | | **10.3** |
| Main deck aft: | | **10.4** |
| Poop: | | **10.5** |
| Number / length / diameter / breaking strength of ropes: | On Drums | |
| Focsle: | | **10.11** |
| Main deck fwd: | | **10.12** |
| Main deck aft: | | **10.13** |
| Poop: | | **10.14** |
| | Other Lines | |
| Focsle: | | **10.15** |
| Main deck fwd: | | **10.16** |
| Main deck aft: | | **10.17** |
| Poop: | | **10.18** |
| Number and brake holding power of winches: | | |
| Focsle: | | **10.22** |
| Main deck fwd: | | **10.23** |
| Main deck aft: | | **10.24** |
| Poop: | | **10.25** |
| How many closed chocks and/or fairleads of enclosed type are fitted on: | | |
| Focsle: | | |
| Main deck fwd: | | |
| Main deck aft: | | |
| Poop: | | |
| | | |
| **SINGLE POINT MOORING (SPM) EQUIPMENT** | | |
| Fairlead size: | Millimetres | **10.48** |
| Does vessel comply with the latest edition of OCIMF 'Recommendations for Equipment Employed in the Mooring of Vessels at Single Point Moorings (SPM)'? | Yes ☐ No ☐ | **10.60** |
| Is vessel fitted with chain stopper(s)? | Yes ☐ No ☐ | **10.61** |
| Number: | | **10.61.1** |
| Type: | | **10.61.2** |
| SWL: | Tonnes | **10.61.3** |
| Max diameter chain size: | Millimetres | **10.62** |
| | | |
| **LIFTING EQUIPMENT** | | |
| Derrick(s) - Number / SWL: | | **10.75** |
| Crane(s) - Number / SWL: | | **10.76** |
| | | |
| **ENGINE ROOM** | | |
| What type of fuel is used for main propulsion? | | **12.5** |
| What type of fuel is used in the generating plant? | | **12.14** |

| MISCELLANOUS | | |
|---|---|---|
| P & I Club name: | | |
| Last three cargoes (Last / 2nd Last / 3rd Last): | | |
| Last three charterers (Last / 2nd Last / 3rd Last): | | |
| Last three voyages (Last / 2nd Last / 3rd Last): | | |
| Date of last SIRE Inspection: | | |
| Date of last CDI Inspection: | | |
| Current Oil Major Approvals (TBOOK): | | |
| Date and place of last Port State Control: | | |
| Any outstanding deficiencies as reported by any Port State Control? | Yes ☐ No ☐ | |
| If yes, provide details: | | |

## PART 2: SONG DOC TERMINAL APPENDIX TO Q88 (VERSION 2)

| | | | |
|---|---|---|---|
| **1.** | **GENERAL** | | |
| 1.1 | Vessel's Name | | |
| **2.** | **PARTICULARS OF VESSEL** | | |
| 2.1 | Type of Vessel (Tanker, OBO, etc...) | | |
| *2.1.1* | *If OBO:* | | |
| | Has vessel carried crude oil/petroleum products within last two months?<br>Have last two cargoes been crude oil/petroleum products?<br>Is Crew experienced with crude oil/petroleum product transfers?<br>Does owner warrant that hatches are gas tight? | YES ☐<br>YES ☐<br>YES ☐<br>YES ☐ | NO ☐<br>NO ☐<br>NO ☐<br>NO ☐ |
| | What type of "gas tight" seals are the cargo hatches fitted with (I.E. DOUBLE SEAL)? | | |
| *2.1.2* | *If Double Hull:* | | |
| | Is the vessel equipped with gas detection for the double hull spaces?<br>Can double hull spaces be inerted? | YES ☐<br>YES ☐ | NO ☐<br>NO ☐ |
| **3.** | **CLASSIFICATION SOCIETY, SURVEYS, & CERTIFICATES** | | |
| 3.2 | Enhanced Survey | YES ☐ | NO ☐ |
| 3.3 | CAP Issue Date | | |
| **4.** | **MOORING ARRANGEMENTS** | | |
| 4.1<br>4.2 | Distance: Panama Fairlead to Bow Chain Stopper (m):<br>Distance: Bow Chain Stopper to Pedestal Roller (m): | | |
| 4.3 | What is the RATED PULL (Metric Tons) of the Forecastle Mooring Windlass/Winch utilized for lifting the tandem mooring chafe chain? | | MT |
| 4.4 | Does the lead of the mooring pick-up rope allow it to be hauled from the Panama fairlead via the Chain Stopper onto a mooring drum? (Not a warping drum end) | YES ☐ | NO ☐ |
| **5.** | **CARGO ARRANGEMENTS** | | |
| 5.1 | Is inert gas system fully operational?<br>If NO, explain. | YES ☐ | NO ☐ |
| 5.2 | If fitted with a closed gauging and sampling system, is system fully functional?<br>If NO, explain. | YES ☐ | NO ☐ |
| 5.3 | Is the vessel's loading and discharge equipment fully operational?<br>If NO, explain. | YES ☐ | NO ☐ |
| 5.4 | What is the maximum loading rate the vessel can receive through 1 x 16" midship manifold line? | | BBLS/HR |
| **6.** | **VESSEL MANNING** | | |
| 6.1 | Number of Deck Officers on board (excluding Master) | | |
| 6.2 | National License of Master<br>National Licenses of Deck Officers | | |
| 6.3 | Owner warrants that Master, Deck Officers, Chief Engineer and 1st Asst. Engineer have experience on tankers. If NO, Explain? | YES ☐ | NO ☐ |
| 6.4 | Owner/Operator warrants that ALL crewmembers hold the appropriate certifications as required by STCW. | YES ☐ | NO ☐ |
| 6.5 | Owner/Operator warrants that they comply with OCIMF Drug & Alcohol Policy Guidelines. | YES ☐ | NO ☐ |
| **7. ISPS CODE** | | | |
| 7.1 | Details of Tanker Owner's Security Officer (name, address, telephone/fax numbers; email) | | |
| 7.2 | Details of Ship Security Officer (name, address, telephone/fax numbers; email) | | |

| | | | |
|---|---|---|---|
| 7.3 | Has there been any security incident on board the vessel during the period through its five (05) last ports of call? | YES ☐ | NO ☐ |
| **8. GENERAL/MISCELLANEOUS INFORMATION** | | | |
| 8.1 | Details of Person in charge of emergency response (name, address, telephone/fax numbers; email) | | |
| 8.2 | Number of years vessel operated by current owner and/or operator. | | |
| 8.3 | What is Pollution Liability Insurance limit? | | |
| 8.4 | Individual to contact with questions about the information contained in this questionnaire (please print legibly):<br><br>1. Contact Name<br>2. Telephone No. (including country code & city code); Email | | |

## APPENDIX 6

## SONG DOC MARINE TERMINAL

## FIRE REGULATIONS AND SMOKING RESTRICTIONS

Export Tanker: _____

Date: _____

The following fire regulations and smoking restrictions should be posted in prominent positions and brought to the attention of all personnel on board the vessel and must be strictly enforced. Smoking is prohibited while at the loading berth except in the following two rooms in the after part of the vessel specified by the Master.

1.
2.

The Master and officers must ensure that the fire regulations and smoking restriction are strictly adhered to. Only approved electric and steam galleys in selected locations in the after part of the vessel, agreed to by the Master and the Mooring Master, are permitted, cigarette ends and hot materials must not be thrown into the water at any time. No chipping and scaling are allowed while at the loading berth. Over side hull painting is not allowed at the loading berth. All of the vessel's scuppers on the main deck must be plugged and cemented oil tight. Approved mechanical means of closing scuppers may be accepted. When the mooring operations have been completed, fire wires of at least 150 feet in length will be secured to the vessel's bitts and run out at the bow and stern of the vessel's starboard side and held in place on short stoppers with the eyes approximately six feet above the surface of the water so that they can be readily available to a tug in case of emergency.

Main engines must be available for use at all times while the vessel is at the loading berth. Fire hoses with jet/spray nozzles are to be rigged and ready for instant use. It is the responsibility of the Master to ensure that the mooring lines of his vessel are tended at all times.

### ALARM IN CASE OF FIRE

Rapid and continuous ringing of the vessel's fire alarm bell together with a succession of long blasts on the vessels whistle.

### OVERFLOW OR ESCAPE OF OIL INTO THE WATER

In the event of an overflow and/or escape of oil into the water, loading will be suspended immediately on the vessel concerned. Loading will not be resumed until the area has been cleared of oil and conditions declared safe.

## APPENDIX 7

## SONG DOC MARINE TERMINAL

## CONTINGENCY PLAN IN THE EVENT OF FIRE DURING LIFTING OPERATIONS

*(TO BE POSTED IN PROMINENT LOCATIONS ON EXPORT TANKER)*

**IN THE EVENT OF FIRE ON EXPORT TANKER:**

Tanker Fire Alarm:
Continuous sounding of the ship's whistle and sounding of the general alarm bells.

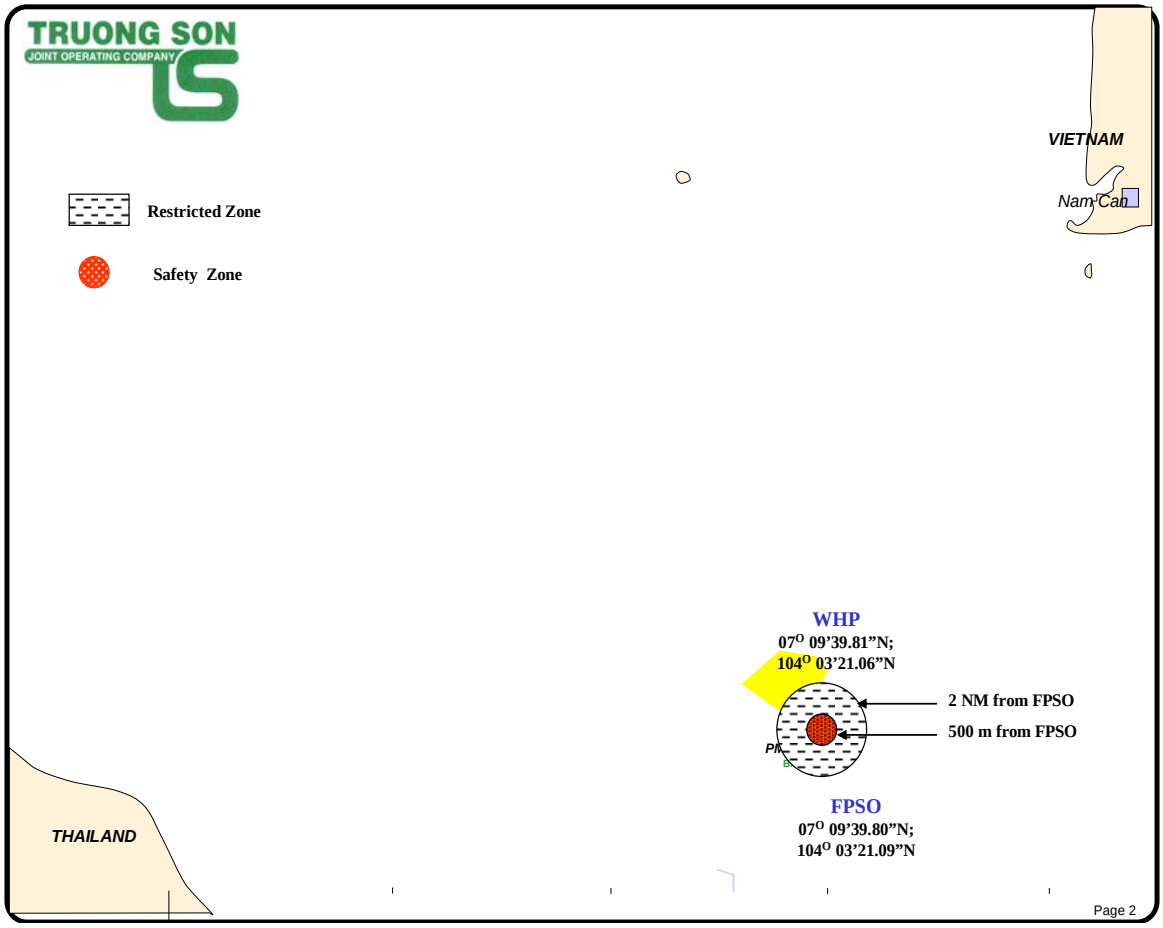
**IN THE EVENT OF FIRE ON FPSO:**

FPSO Fire & Emergency Alarm
Continuous sounding of FPSO whistle and sounding of the Fire and Emergency siren.

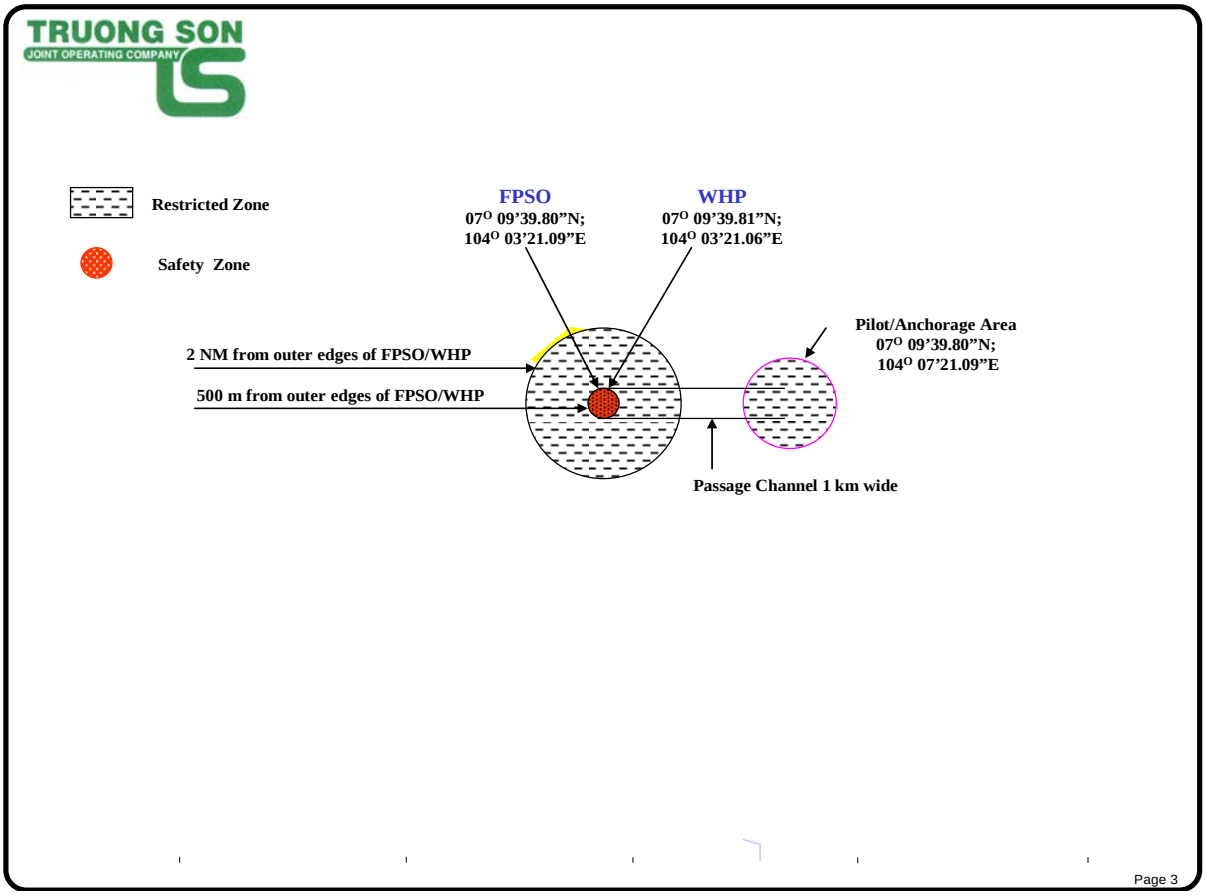
| **Action Aboard Tanker** | **Action Aboard FPSO** |
|---|---|
| - Sound alarm | - Sound alarm |
| - Inform FPSO | - Inform tanker |
| - Stop cargo operations | - Issue instruction to tanker |
| - Close loading valves on instructions from FPSO | - Stop cargo operations<br>- Close delivery valves |
| - Fight fire | - Fight fire |
| - Engines ready | - Inform all field stations of situation. |
| **Standby to:** | **Standby to:** |
| - Release tug to fire fighting duties | - Disconnect tanker mooring<br>- Take aboard fire fighting party |
| - Disconnect hoses on instruction from FPSO | - Inform standby boat<br>- |
| - Cast off mooring line | - require helicopter assistance |
| - Take aboard fire-fighting party | - Contact outside assistance |
| - Receive instructions from Mooring Master | - When possible contact TSJOC office/operation management for combined approval & efforts. |

# APPENDIX 8

## SONG DOC FIELD (BLOCK 46/02) MARINE EXCLUSION ZONE




## SONG DOC FIELD (BLOCK 46/02) PILOT/ANCHORAGE AREA


TRUONG SON
JOINT OPERATING COMPANY
Restricted Zone
Safety Zone
FPSO
07O 09'39.80"N;
104O 03'21.09"E
WHP
07O 09'39.81"N;
104O 03'21.06"E
2 NM from outer edges of FPSO/WHP
500 m from outer edges of FPSO/WHP
Pilot/Anchorage Area
07O 09'39.80"N;
104O 07'21.09"E
Passage Channel 1 km wide
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