




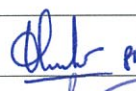

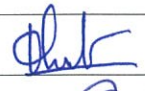


JOINT OPERATING COMPANY

**THANG LONG – DONG DO FIELD
BLOCK 01/97 – 02/97**

**THANG LONG – DONG DO
TERMINAL REGULATIONS**

Document Number

LSJOC-OPE-PRO-00-0001

Rev	Date	Purpose of Issue	Prepared By	Checked By	Approved By
04	15 Aug 14	Revised for Use	Tien TN 	Kiet DT  Thuan NA 	Hai PD  Zubaidi A.Z 
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REVISION MODIFICATION LOG

Revision	Section	Description
01		Issued for use
02		Revised as Mr Zubaidi's comments
03	3	Revised Thang Long crude oil specifications
03	4	Revised MEZ
03	5	Revised FPSO PTSC LAM SON communications.
03		Revised appendix 2: pre-arrival requirement
04	4	Inserted FPSO mooring spread
04	5	Revised Inmarsat phone/fax number
04	6	Revised limited tanker size 50,000 – 120,000 DWT loading cargo at Thang Long – Dong Do terminal.
04	7	Revised terminal charge is 35,000 USD/ Lift inclusive of VAT
04	9	Inserted vessel approaching speed into item 9.1
04	9	Inserted mooring hawser quick release hook into item 9.10
04	9	Inserted tandem mooring hawser into item 9.11
04	10	Inserted offloading hose into item 10.8
04	10	Inserted lifting support vessel into item 10.9
04	12	Inserted export tanker safe station keeping procedure during loading cargo into item 12.6

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INTRODUCTION

The conditions of use, port information, and regulations contained in this booklet are intended to give information on the general conditions and facilities of the Thang Long - Dong Do Terminal located in the Thang Long - Dong Do oil field (the "Thang Long - Dong Do Field") at Block 01&02/97, offshore Vietnam (the "Terminal").

Lam Son Joint Operating Company (Lam Son JOC) was established following a Petroleum Contract being signed between PetroVietnam (PVN) and Petronas Carigali Overseas Sdn. Bhd (PCOSB) on 7th January 2003, providing for Lam Son JOC to conduct petroleum exploration within Blocks 01/97 & 02/97 in the Cuu Long Basin, offshore southern Vietnam.

The original contract area of Blocks 01/97 & 02/97 was 11,900 Sq. km. At the end of the exploration phase Lam Son JOC relinquished area where commercial oil and gas were not discovered (about 98.9% of original contract area). The remaining areas were 115.81 sq.km for TL- DD field and 13.88 Sq.km for Ho Xam South Field.

Thang Long - Dong Do oil field is geographically located in the north-eastern part of the Cuu Long Basin and lies approximately 160 km East of Vung Tau City. Water depths across the development are around 70m.

Block 01&02/97 is operated by Lam Son Joint Operating Company (the "Company"). The Thang Long - Dong Do Terminal comprises a berthing facilities for export of crude oil (referred to as a "Facility" in this booklet):

- FPSO PTSC LAM SON (the "FPSO") owned by Pertovietnam Technical Services Corporation. ("FPSO Owner"), who performs technical and operational activities in relation to the FPSO on behalf of the Company.

This booklet is not intended to take the place of any official publications with respect to the waters and areas to which it pertains, but the data contained herein is believed to be accurate at the time of issue.

The Company does not accept any responsibility for errors, omissions, or for the consequences of using the booklet, irrespective of the purpose for which the booklet is used. Specifically, the plans and diagrams contained herein are NOT to be used for navigation of ships approaching, leaving, or transiting the Terminal area.

RECEIPT OF THANG LONG - DONG DO TERMINAL REGULATIONS

TO: THE MASTER

S/S - M/V: _____

DATE:

A copy of the "Thang Long - Dong Do Terminal Regulations" booklet is enclosed for your guidance.

You are requested to study the booklet and to acquaint your crew with the regulations in force at the terminal, which will be strictly enforced throughout your stay in the port. By acknowledging receipt of the booklet, you agree to comply with the provisions of these regulations, including appendices.

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.

Lam Son Joint Operating Company

By: _____

Title: _____

Acknowledgement:

I acknowledge receipt of "Thang Long - Dong Do Terminal Regulations" booklet.

(Signature)

Master's name: _____

SS/MV _____

SECTION 1: DEFINITIONS AND INTERPRETATION

In this booklet, the following words have the following meanings:

“Anchorage Area”	means an one nautical mile radius area formed by the centre point with coordinates: 10°04'00"N - 108°37'00"E.
“LSJOC” or “Company”	Lam Son Joint Operating Company which operates the Terminal as Operator under the Petroleum Contract and Operating Agreement in respect of Block 01&02/97 offshore Vietnam and as Lifting Coordinator under the Crude Oil Lifting Agreement (LA) and Joint Marketing Agreement (JMA) in respect to Block 01&02/97 offshore Vietnam.
“DWT”	means total cargo plus bunkers and stores that a ship can carry up to her Plimsoll Line or Marks, here stated in metric tons (tonnes).
“ETA”	means the estimated date and time of arrival at the Terminal and/or Mui Vung Tau or other place safe for Lifting Crew embarkation/disembarkation of the Export Tanker in question.
“Export Tanker”	means the oil tanker which requires the Terminal's services to be provided or performed in connection with the lifting of crude oil from the Terminal by that oil tanker.
“Export Tanker Owners”	means jointly and severally the Export Tanker, its owners, charterers (demise or otherwise), owners of cargo and/or bunkers aboard the Export Tanker, and their respective directors, officers, employees, servants (including Master and Crew), agents and contractors, as applicable.
“Facility”	means the FPSO Terminal.
“Facility Security Officer”	the persons in charge of security on board the FPSO and the FSO.
“FPSO”	means the Floating Production Storage and Offloading System named PTSC LAM SON.
“FPSO Master”	means the Master of the FPSO, a person appointed by the FPSO Owner to take the overall charge of the FPSO.
“FPSO Owner”	means Pertovietnam Technical Services Corporation as owner of the FPSO and includes its project manager, manager, operator, directors, officers, employees, servants (including master and crew) agents and contractors engaged in technical and operational activities of the FPSO on behalf of the FPSO Owner.

“ICS”	means the International Chamber of Shipping.
“Inspector”	means an independent inspector appointed by Seller and/or relevant Buyers/Lifting Parties to observe the lifting operation.
“ISGOTT”	means the International Safety Guide for Oil Tankers and Terminals.
“ISPS Code”	International Ship and Port Facility Security Code
“Lifting Coordinator”	The Lifting Coordinator is appointed and authorized by the Operator to act on behalf of the Lifting Parties pursuant to the terms and conditions of the Lifting Agreement, responsible for scheduling, monitoring and controlling all Crude Oil Lifting in accordance with the Lifting Agreement.
“Lifting Party”	means the Party who has provided a Vessel for a Designated Lifting, the nomination of which has been accepted in accordance with the Block 01&02/97 Lifting Agreement and Joint Marketing Agreement.
“Marine Coordinator”	means the person appointed by the Company to conduct vetting of tankers proposed to call at Thang Long - Dong Do Terminal, to coordinate of lifting-related activities and complete all lifting documentation.
“Master”	means the Master of the Export Tankers
“MEZ”	“Marine Exclusion Zone” means a marine restricted area surrounding offshore installations of an oil field, comprised of safety- zone waters of each installation and waters prone to navigational risk existing among such installations due to the physical and/or operational features of the oil field; and the MEZ for the Thang Long - Dong Do Field is shown in Appendix 6.
“Mooring Master(s)”	means the person(s) contracted by LSJOC, who is in overall charge of mooring/un-mooring the Export Tankers in tandem with the FPSO, act as the Terminal Representative on board the Export Tanker.
“OCIMF”	means the Oil Companies International Marine Forum.
“OIM”	means Offshore Installation Manager(s) based on the Facilities and/or CPP and having immediate responsibility for all Facilities activities in Thang Long - Dong Do field.
“FPSO”	Port Facility Security Officer – a person appointed by the Company in charge of Terminal security as defined in ISPS Code.

“Safety Zone”	Area extending 500 metres from outer edge of around offshore facilities at the Thang Long - Dong Do Field and prohibits unauthorized entry.
“Shall”	a mandatory instruction.
“Should”	a recommended instruction.
“Standby Vessel”	means the vessel supplied by the Company to fulfill the functions as determined by the Terminal and which may assist in the mooring and offloading operations as the “Towing Vessel”
“SOLAS”	means the International Convention for the Safety of Life at Sea 1974 and its subsequent Protocol.
“STCW”	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.
“SWL”	means Safe Working Load, herein expressed in tonnes.
“Terminal Booklet”	means this Thang Long - Dong Do Terminal Regulations booklet and all the Appendices and diagrams, which are attached hereto and made a part of the Terminal Booklet, including any amendments, made from time to time.
“Terminal Representative”	means the LSJOC Marine Coordinator or in his absence the Mooring Master who stays onboard the Export Tanker during a lifting operation.
“Terminal”	means the Thang Long - Dong Do Terminal located in Block 01&02/97, offshore Vietnam the FPSO named PTSC LAM SON located at the Thang Long - Dong Do Field.
“Terminal Services”	means all and any services (with or without goods) of any description provided by or on behalf of the Company or the Terminal Service Providers to Export Tankers at or on or about the Terminal and/or the Export Tanker at the Thang Long - Dong Do Field directly or indirectly in connection with the offtake of crude oil from the Terminal, (including, without limitation, pilotage, navigation, berthing, mooring, towage, line handling, tug services, personnel and equipment transfer, cargo surveying, supervision of loading or discharge, communications, observation and other services, assistance, directions, advice, instructions and conduct whatsoever).
“Terminal Service Providers”	means jointly and severally LSJOC, the FPSO Owner, the Mooring Master(s), the owner and charterers (demise or otherwise) or any Standby Vessel or other craft providing Terminal Services and their respective directors, officers, employees, servants (including FPSO Master and Crew), agents

and contractors, as applicable.

“UTC” means Universal Coordinated Time.

“Vessel” means every description of water craft, including non-displacement craft, used or capable of being used as means of transportation on water. In specific cases, a vessel coming to the Terminal to load crude oil is referred to as the Export Tanker.

“WHP” means a fixed platform named Well Head Platform consists of piles and slots to facilitate the well control, located within the Safety Zone at the Thang Long - Dong Do Field.

SECTION 2: CONDITIONS OF USE OF THANG LONG - DONG DO TERMINAL

The "Conditions of Use of Thang Long - Dong Do Terminal", will be presented to the Master of the Export Tanker and must be signed by him on behalf of himself, the Export Tanker and Export Tanker Owners, prior to departure from the Pilot Station/Anchorage and commencement of berthing operations.

2.1 All services, facilities and assistance provided by or on behalf of the Company and the Terminal Service Providers in or in connection with the Terminal, whether or not any charge is made by the Company therefore, are provided subject to all applicable laws, by-laws and harbor regulations, safety regulations and any other requirement of law for the time being in force and to the following further conditions:

- a. The services of the Mooring Master(s) and all personnel employed or contracted by the Terminal Service Providers are provided on the express understanding and condition that when any such Mooring Master or personnel furnished by the Company or Terminal Service Providers goes on board an Export Tanker or takes other action for the purpose of assisting such Export Tanker, he becomes for such purposes the servant of the owner or charterer of the Export Tanker; and the Company, including its parent Companies, subsidiaries, and affiliates, and Terminal Service Providers shall in no way be liable for any damage or personal injury, including death, of any nature whatsoever, incurred by any person whomsoever, in any way connected with, contributed to by, or resulting from the advice or assistance given or for any action taken by such Mooring Master or personnel, whether negligent or otherwise, while on board or in the vicinity of such assisted Export Tanker.
- b. Similarly, the services of mooring launches and mooring personnel, if any, and furnishing of mooring lines and hosing-up gear are under the supervision and control of the Mooring Master(s), and the Company, including its parent companies, subsidiaries, and affiliates, and Terminal Service Providers shall in no way be liable for any damage or personal injury, including death, of any nature whatsoever, incurred by any persons whomsoever, in any way connected with, contributed to by, or resulting from the performance of, or failure to perform, the Terminal Services, whether any of which was negligent or otherwise, during the period in which they are utilized by any Export Tanker.

- 2.2 In addition, neither the Company, its parent companies, subsidiaries, or affiliates, nor the Terminal Service Providers, nor their servants, agents or contractors (in whatever capacity they may be acting), shall be in any way whatsoever responsible for (or liable for any contribution with respect to) any loss, personal injury, including death, damage or delay, from whatsoever cause, including the negligence of the Company, the Terminal Service Providers or their servants, agents, or contractors, arising whether directly or indirectly in consequence of any Terminal Services whatsoever given or tendered, or the failure to give or tender Terminal Services, in respect of any Export Tanker, whether by way of tugs, pilotage or berthing services, the provision of navigational facilities, including buoys or other channel markings, or otherwise howsoever. In all circumstances the Master of any Export Tanker shall remain solely responsible on behalf of the Export Tanker Owners for the safety and proper navigation of his Vessel.
- 2.3 While the Company exercises due care to ensure that the berths, premises facilities, property, gear, craft, storage vessel, and equipment provided by the Company are safe and suitable for Export Tankers permitted or invited to use them, no guarantee, express or implied, of such safety or suitability is given by the Company or the Terminal Service Providers, nor do the Company or the Terminal Service Providers guarantee that such berths, premises, facilities, property, gear, craft, storage vessel, and equipment are devoid of defects or fit for the service or use to which it is put, and every Export Tanker shall be and remain at the sole risk of the Export Tanker Owners and the Master thereof; and the Company, including its parent companies, subsidiaries, and affiliates, and Terminal Service Providers shall not be responsible (or liable for any contribution) with respect to any loss, personal injury, including death, damage, or delays, of any sort whatsoever, that may be sustained whether directly or indirectly by, or occur to, any Export Tanker or her Owners or her crew or cargo or for any part thereof (whether such cargo is on board or in the course of loading or discharging) by whomsoever and by whatsoever cause such loss, injury, damage, or delay is occasioned, and whether or not it is caused, occasioned, or contributed to, in whole or in part, to any act, neglect, omission or default on the part of the Company, the Terminal Service Providers or any servant, agent or contractor of them, or by any fault or defect in any berth, premises, facilities, property, gear, craft, storage vessel, or equipment of any sort of the Company, the Terminal Service Providers or their servants, agents or contractors.
- 2.4 The Company and Terminal Service Providers will not be responsible for any loss, damage or delay directly or indirectly caused or contributed to by or arising from strikes, lock-outs, or labor disputes or disturbances whether the Company, the Terminal Service Providers or their servants, agents contractors are parties thereto or not.
- 2.5 If in connection with or by reason of the use by any Export Tanker of any berth, or of any part of the Company's premises or the Facilities, or of any gear or equipment provided by or on behalf of the Company or Terminal Service Providers, or of any craft, storage vessel, or of any other facility or property, of any sort whatsoever, belonging to or provided by or on behalf of the Company or Terminal Service Providers, any damage, delay, loss or injury is caused to such berth, premises, Facilities (including loss of crude oil or damage to property stored on or associated with the Facilities), gear or equipment, craft, storage vessel, or other facility or property, or any third party, or any Vessels (including their Owners or crew), or if any injury, including death, is caused to any personnel of the Company or any Terminal Service Providers, from whatsoever cause such damage or injury may arise, and irrespective of whether

or not such damage or injury has been caused, occasioned or contributed to, in whole or in part, by the negligence of the Company, the Terminal Service Providers or of their servants, agents or contractors, and irrespective of whether there has been any neglect or default on the part of the Export Tanker or the Export Tanker Owners, in any such event the Export Tanker and the Export Tanker Owners shall hold the Company, its parent companies, subsidiaries and affiliates and the Terminal Service Providers harmless from and indemnified without limitation against all such damage, delay, loss and injury and against all loss sustained by the Company, its parent companies, subsidiaries or affiliates, and the Terminal Service Providers consequent thereon.

2.6 The Export Tanker and Export Tanker Owners shall hold the Company, its parent companies, subsidiaries, and affiliates, the Terminal Service Providers and their servants, agent and contractors, harmless from and indemnified without limitation against the following whether or not caused, contributed to, or due, in whole or in part, to any act, neglect, omission or default on the part of the Company, the Terminal Service Providers, its servants, agents or contractors:

- a. All and any action, liabilities, claims, damages, costs, awards and expenses arising whether directly or indirectly out of any loss, damage, personal injury, including death, or delay, of whatsoever nature, occasioned as a result of or arising in connection with or in the course of the Terminal Services to any third party or any Vessel (including its owners and crew), including the Export Tanker and Export Tanker Owners and crew, including but not limited to, that caused or contributed to, whether directly or indirectly, by the Export Tanker or any part thereof or by any substance or material leaking or escaping therefrom or by her Master or crew or by any other servant or agent of the Owners.
- b. All or any damage, personal injury, including death, delay or loss, of whatsoever nature, occasioned to the Company, its parent companies, subsidiaries and affiliates, Terminal Service Providers or their servants, agents and contractors, arising, as a result of or in connection with or in the course of the Terminal Services, out of any cause whatsoever including but not limited to, that caused or contributed to, whether directly or indirectly, by the Export Tanker or any part thereof or by any substance or material leaking or escaping therefrom or by her Master or crew or by any other servant or agent of the Export Tanker Owners.

2.7 Sinking, Grounding, and Obstructions to Navigation

Should any Vessel or craft sink or become an obstruction in any part of the Terminal, the MEZ or approaches thereto, or the area of the submarine pipelines, the Company 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 of such Vessel.

All expenses for such removal shall be borne by the Vessel or craft and/or by those owning it at the time of the accident, and the Company shall be entitled to reimbursement by them for any such expenses incurred by it.

2.8 Pollution

For any oil pollution caused directly or indirectly (and whether or not involving negligence) by the Export Tanker, her Master or crew, or emanating from the Export Tanker, the Export Tanker and Export Tanker Owners shall protect, defend, indemnify and hold harmless the Company and Terminal Service Providers from and against any loss, damage, liability, suit, claim or expense arising therefrom. The Mooring Master may suspend operations or may unberth any Export Tanker, if there is suspicion that the Export Tanker is causing oil pollution. Any time lost as a result of suspicion, delay or unberthing arising from an oil spill incident attributable to the Export Tanker, shall not count as used laytime.

2.9 Laws and Arbitration

- a. The Company and all parties using or providing Terminal Services pursuant to these Conditions of Use (the “Parties”) shall use all reasonable efforts to settle amicably, through negotiations, all differences and disputes related to or arising under these Conditions of Use or the breach, termination or validity thereof.
- b. Except with respect to disputes referred to an Independent Expert or provided in sub-clause 2.09(e) below, in the event such differences or disputes cannot be settled through amicable negotiations within ninety days (90) of any Party’s issuance of notice of a dispute, and any of the Parties to these Conditions of Use are involved in such disputes, such differences or disputes shall be finally settled by arbitration before three (3) arbitrators. The Parties on either side of the dispute shall each appoint an arbitrator and the two arbitrators so appointed shall appoint a third arbitrator by mutual agreement who shall act as chairman of the tribunal; provided, however, that in the event the two Party-appointed arbitrators cannot agree to the appointment of a third arbitrator within thirty (30) days of the appointment of the second of the Party-appointed arbitrators, the chairman of the tribunal shall be appointed by the International Arbitration Centre (“SIAC”) in Singapore. The arbitrators shall act in accordance with the Rules of Arbitration of the SIAC. The place of arbitration shall be in Singapore. Any award of the arbitrators shall be final and binding.
- c. For purposes of arbitration, these Conditions of Use shall be construed and interpreted in accordance with the laws of Singapore without regard to Singapore’s conflict of law rules. The arbitral proceedings shall be conducted in the English language, the arbitrators shall render their award in the English language and the English language version of these Conditions of Use shall be referred to in construing and interpreting these Conditions of Use.
- d. Prior to the commencement of the arbitral proceedings, the Parties and the arbitrators shall use their best efforts to establish a time schedule which shall provide for the rendering of an award within no more than eighteen (18) months of the commencement of the arbitral proceedings.

- e. Where a dispute arises as to matters relating to quality, quantity, or in the event of there being any other dispute between the Parties, or among any of them, and all the Parties in dispute agree that such dispute may be settled by utilising the services of an Independent Expert, such disputes shall be submitted for determination by an Independent Expert, and any Party may do so by written notice to all Parties stating the matter for determination in reasonable detail. "Independent Expert" means a suitably qualified expert having no direct or personal interest in the outcome of the decision he is requested to make and being appointed by agreement of the disputing Parties, or failing agreement, being appointed by the President of the Institute of Petroleum of the United Kingdom. The language of choice shall be English. The place of such expert determination shall be decided by a majority of the Parties in dispute. The Independent Expert shall be requested to give his decision as promptly as practicable. The Parties shall do everything reasonably requested by the Independent Expert to assist him to reach a decision. The Independent Expert shall act as an expert and not as an arbitrator and his decision shall be final and binding on the Parties in the absence of manifest error. The costs and expenses of the Independent Expert shall be for the account of the Party against whom the matter is decided.
- f. All notices to be given in connection with the arbitration shall be in writing.

2.10 Execution by Master

It is a requirement hereof that the Master or other person issuing Notice of Readiness on behalf of an Export Tanker sign a copy of these "Conditions of Use", on behalf of the Export Tanker Owners. The Master or other person issuing Notice of Readiness on behalf of an Export Tanker hereby warrants his authority to accept, observe, perform and comply with these Conditions of Use for and on behalf of the Export Tanker Owners. In the event that such "Conditions of Use" are not so signed then the Company will be under no obligation whatsoever to perform or provide any service or services referred to in these conditions, or elsewhere, but any Terminal Services which are provided in these circumstances shall nevertheless be provided subject to these Conditions of Use.

EXECUTED as an agreement on

ACCEPTED by the Master for and on behalf of the Export Tanker Owners	ACKNOWLEDGED by the Terminal Representative for and on behalf of LSJOC and the Terminal Service Providers
Signature:	Signature:
Name:	Name:

SECTION 3: LAM SON JOINT OPERATING COMPANY & THANG LONG CRUDE OIL SPECIFICATIONS

3.1 Lam Son Joint Operating Company

("LSJOC"), a special purpose, non-profit, limited liability company established as a joint operating company under the laws of the Socialist Republic of Vietnam by PetroVietnam (PVN) and Petronas Carigali Overseas Sdn. Bhd (PCOSB) on 7th January 2003.

The Company, produces crude oil from the Thang Long - Dong Do Field, known as "Thang Long Crude Oil" and delivers the crude oil to tankers for export to world markets.

3.2 Thang Long Crude Oil Main Specifications

Property	Units	Thang Long
Gravity	°API	35.7-38.1
Pour Point	°C	25-33
Wax Appearance Temp	°C	49
Wax Dissolution Temp	°C	57 – 60
Wax Content	wt%	6 – 25
Sulfur Content	wt%	0.03 – 0.14
GOR (stcond)	Scf/bbl	160 – 2500
Viscosity @ 50°C	cSt	1.4 – 19.8
TAN	mgKOH/100g	0.45-0.55
Asphaltene Content	wt%	0.33 – 5.38
H ₂ S Content	%mol	0

NOTE: Above specifications based on the results of the latest crude assays report No. 201 on 26th April 2014. Actual cargo specifications may differ from the above.

THE CRUDE OIL REQUIRES HEATING DURING TRANSPORTATION!

SECTION 4: DESCRIPTION AND OPERATIONAL LIMITS OF THANG LONG - DONG DO TERMINAL

4.1 Description

The Cuu Long Basin has several important fields with production from Bach Ho, Rang Dong, and Ruby, as well as further oil and gas discoveries as Rong, Emerald and Topaz.

FPSO particulars:

The Terminal consists of the FPSO PTSC-LAM SON, with the major particulars as follows:

No	Description	Information
1	IMO number	9071806
2	Name of ship	PTSC Lam Son
3	Owner	PTSC Asia Pacific
4	Call sign	9V6691
5	Flag	Singapore
6	MMSI	566888000
7	Gross tonnage	53829 T
8	DWT	96125.7 T
9	Cargo Tank capacity exc Slops	104416.5 Cu. Meters (98%)
10	Length overall	243.25 m
11	Breadth moulded	41.8 m
12	Depth moulded	20 m

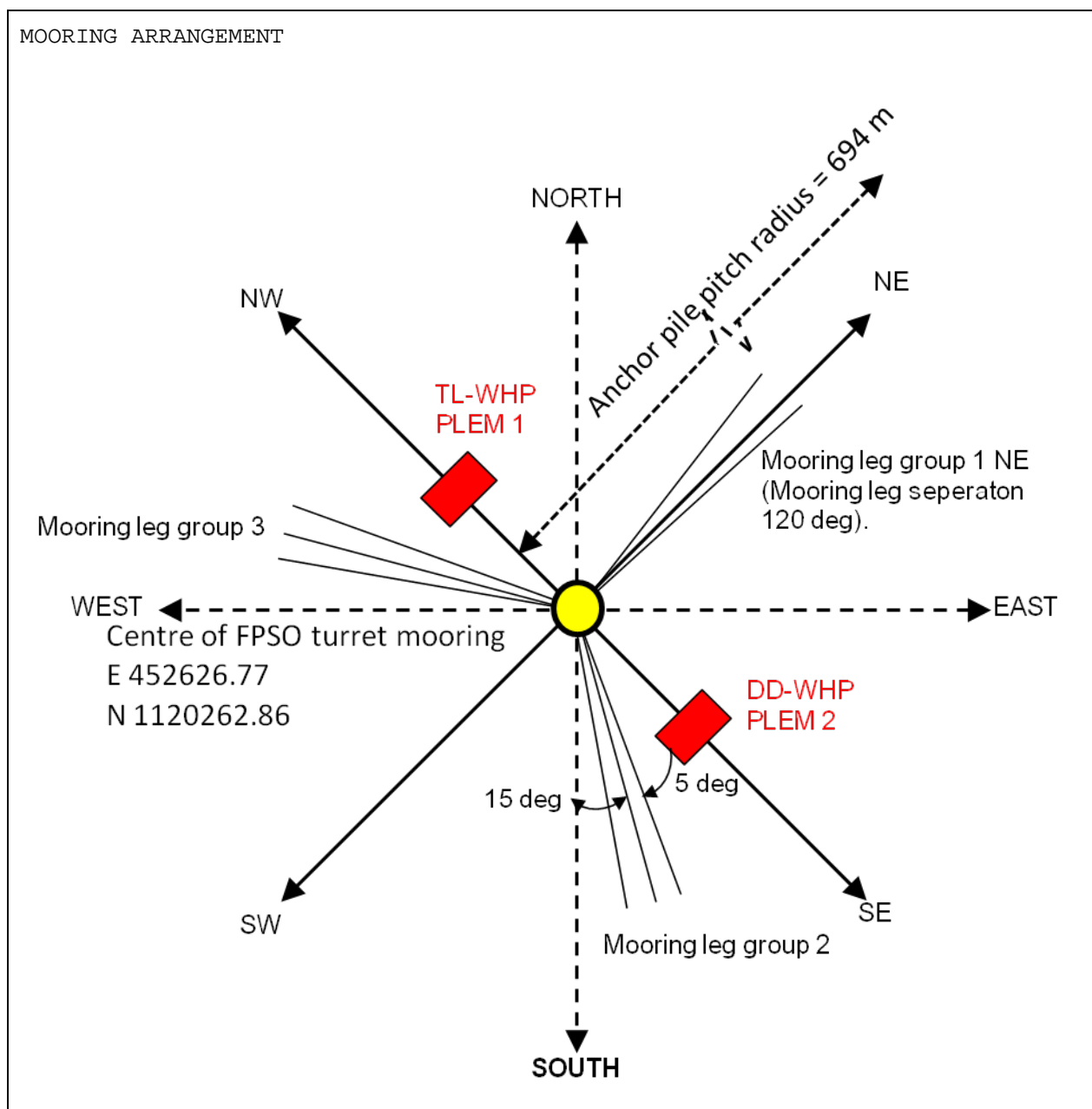
FPSO Mooring spread

The FPSO is (Weather vane) moored to the sea floor by the turret mooring system which consists of 09 lines of chain in a 3 x 3 arrangement (120 degree). The line makeup is 800m of 114mm RC4 Studless chain and ended at the piles.

Design Values of this mooring system are as follows:

- Analysis of proposed mooring system in design scenario of 1 year operational, 10 year operational shutdown and the 100 year survival storm condition + 1 broken chain for each of the above conditions;
- Assessment of mooring clashing (riser integrity) and of the excursion envelopes associated with the 1 year operational, 10 year operational shutdown sea state and the 100year survival storm conditions;
- Forecast lead time for proposed mooring system / equipment;
- Environmental hazards;
- Shuttle tanker export system interaction;
- Turret Preliminary design;

Turret bearing system choice;



FPSO Mooring spread

Gas Export Pipeline:

The gas export pipeline will Export sales quality gas via the FPSO DD-PLM to PLET and connecting to point-P13 of planned PLET-PD (JVPC) 19 km pipeline.

Infield pipelines:

There are four subsea pipelines and an umbilical running between the FPSO and the WHP:

- DD-PLM to WHP-DD (2000m): 10" multiphase production, 8" water injection flow-line, 6" Gasliftflow-line, umbilical (power & control cable)
- DD-PLM to WHP-TL(2840m): 12" multiphase production, 8" water injection
- TL-PLM to WHP-TL (2775 m): 6" gas-lift
- TL-PLM to PLET (1000 m): 6" gas export pipeline

4.2 Terminal Limits

The Thang Long - Dong Do Field facilities are in the following co-ordinates:

THANG LONG WHP	10°09'31.212" N 108°34'30.412" E
DONG DO WHP	10°07'00.194" N 108°33'44.176" E
FPSO PTSC LAM SON	10°08'02.508" N 108°34'03.253" E

Safety Zones :

There are Safety Zones established in principle:

- 1/ A prohibited area has been established 200 meter either side of subsea pipelines
- 2/ Areas formed by extending 500m from outer edges of THANG LONG WHP, DONG DO WHP.
- 3/ Areas formed by 1,200 m radius from the mooring turret

Vessels shall not enter these areas without the permission of OIM.

Marine Exclusion Zone:

The area has been closed zone by three circles with 2 nautical miles radius and centrals at FPSO PTSC LAM SON, THANG LONG WHP, DONG DO WHP:

Facility	Latitude	Longitude
FPSO PTSC LAM SON	10°08'02.508" N	108°34'03.253" E
THANG LONG WHP	10°09'31.212" N	108°34'30.412" E
DONG DO WHP	10°07'00.194" N	108°33'44.176" E

Anchoring of Vessels in this area is strictly prohibited.

4.3 Anchorage Area

For Export Tankers requesting to anchor, the recommended area is located southeast of the field and formed circular by the centre point with coordinates: 10°04'00"N - 108°37'00"E:

This area represents a circled shape with one nautical mile radius. Holding/anchoring ground within this

predetermined area is considered good. Anchoring within the Marine Exclusion Zone is strictly prohibited. The sea water depth around the area is approximately 68 m or 223 feet.

4.4 Aids To Navigation

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

On WHP

- Navigation Lights: 02 white lights with a minimum effective intensity of 1400 candelas. The lights shall be operated in unison with a flashing character according to Morse letter « U » (- · -) and with a maximum period of 15 seconds.
- The Fog Horn with a range of at least 2 nautical miles. The character shall be rhythmic blasts corresponding to Morse letter « U » every 30 seconds.

On FPSO

- Navigation Lights: 02 white lights ; range: 10 miles, flash: signal Morse code “U” with a maximum period of 15 seconds
- The Fog Horn with a range of at least 2 nautical miles. The character shall be rhythmic blasts corresponding to Morse letter « U » every 30 seconds.
- RACON (Radar Beacon) Morse Code “U” is installed on FPSO

4.5 Export Tanker Operational Conditions

On occasion, there may be circumstances or a combination of circumstances, which may prevent or delay mooring and/or loading/deballasting operations. In these circumstances, good judgment should be exercised by the Master, under the Mooring Master's advice in consultation with Master of the Lifting Support Vessel, the OIM and the relevant FPSO Master as to the precise action to be taken.

A/ The Export Tanker should normally only approach within 3 nautical miles of a Facility after obtaining clearance from the FPSO OIM.

provided the maximum wind speed, Hs, Hmax, visibility, and FPSO motions and yaw rate are within safe limits.

10 min mean wind < 35 knots,

Hs < 3.5 m, Hmax < 5.5m,

Visibility > 1000 m,

FPSO heading stable (+/- 5 degrees).

{Note if the FPSO heading changes more than 15 degrees during approach then Export Tankers may have to abort and recommence approach on the new heading. If either FPSO or Export Tanker rolls or pitches excessively on the approach heading then the offtake may have to be postponed to avoid excessive hawser loads on connection.}

B. Safe Export Tanker Offtake Limits

1) The *Export Tanker* should normally only continue the offtake provided the maximum wind speed, Hs, Hmax, visibility, and FPSO motions are within safe limits.

10 min mean wind < 45 knots,

Hs < 4.0 m, Hmax < 7.5m,

Visibility > 100 m

FPSO/ Export Tanker roll and pitch not leading to snatch loads on hawser.

2) Tandem Hawser Load: As *the* FPSO is equipped with the Hawser Tension Monitoring System,:

2.1. Loading to be suspended when a single load reaches 100 tonnes force.

2.2. Export Tanker to be unberthed if there is 02 loads of more than 100 tonnes in less than 30 minutes or a single occurrence of a peak tandem hawser tension greater than 150 tonnes force.

When the FPSO hawser tension meters are not functioning reliably, weather conditions to be taken as weather limit for offloading operation.

C. Operational limit for in-field personnel transfer by service boat:

Wave: Significant wave height of 2.0 meters.

10-minute mean wind speed: 20 knots.

In case of weather conditions exceeding the above limit for in-field personnel transfer, the Export Tanker should be instructed to proceed to Vung Tau Tanker Boarding Ground in area an one nautical mile radius area formed by the centre point with coordinates: 10°14'30"N - 107°05'00"E. (4.5 n.m south of Mui Vung tau point) or other alternative boarding ground which is safer and closer to the Terminal than Vung Tau is. Time and cost to be on crude oil buyer's/charterer's/shipowner's account in accordance with relevant Export Tanker charter party.

4.6 Terminal Conditions

a. Calm:

Extreme still conditions with no surface air movement may allow the accumulation of hydrocarbon vapors at deck level. The Terminal will close temporarily. The Export Tanker may berth (or remain in the berth if already berthed). Cargo and ballast operations may be suspended.

b. Lightning:

In some rain squall conditions, severe lightning is experienced. The Terminal will close temporarily. The Export Tanker may remain in the berth (or undertake berthing operations). All cargo and ballast operations will cease.

c. Darkness:

The Terminal will normally be closed from 16.00 hrs (15.00 hours from November 1 to February

28/29) until 06.00 hrs during the hours of darkness. Export Tankers already in the berth by 16.00 hrs (15.00 hours from November 1 to February 28/29) can continue operations and may also unberth at night.

Discretion for night mooring will be considered by the OIM, relevant Marine Coordinator, FPSO Master and Mooring Master if weather is permitting.

d. Nautical Charts:

British Admiralty Chart Numbers 3986, 1261 and 2660A. China Sea Pilot Volume 1.

Masters are to ensure that they have onboard the latest editions of all relevant navigation charts and that they are of a suitable scale for a safe navigational approach to the terminal, pilot boarding area, and anchorage. Navigational publications and charts onboard are to be the latest edition and corrected with the latest information contained in Notices to Mariners.

e. Terminal Status

The OIM of FPSO shall bear the sole responsibility to declare the facility status, the following table provides a general guide to the status of the facility subject to the sea and weather conditions and is applicable for lifting tanker berthing

Status	Sig. Wave HT	10 Min Mean Wind
Open	< 3.5m	< 35kts
Close	> 3.5m	> 35kts

Open: No limitations to berthing or un-berthing

Close: No attempt of berthing or un-berthing carried out

SECTION 5: VESSEL VETTING, QUESTIONNAIRE AND COMMUNICATIONS

5.1 Vessel Vetting:

The Lifting Party shall, at its own risk and expense, make arrangements to provide an Export Tanker to accept delivery of the oil and shall at least ten (10) days prior to the first day of the loading range nominate in writing an Export Tanker capable of loading the oil at the Thang Long - Dong Do Terminal

The Lifting Party shall be responsible for transmitting the completed Tanker Questionnaire to the LSJOC Operations Department to attention of Marine Coordinator – please refer to 5.03 below.

The Vessel Questionnaire is normally completed by the Export Tanker Owners/operators or Master. In any case, the Export Tanker Master must be furnished with one copy of the completed questionnaire.

The LSJOC 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.

Within 24 hours of receipt of an Export Tanker nomination for a lifting which includes a properly completed Vessel Questionnaire and the required plans, the Marine Coordinator shall advise the Lifting Party whether LSJOC accepts or rejects the Export Tanker. Upon arrival at the Terminal, the Terminal Representative and Mooring Master shall jointly conduct a pre-lifting inspection to confirm the Export Tanker's acceptability. This final acceptance by LSJOC is a condition which shall be satisfied before the Export Tanker may approach, berth and lift crude oil from the Terminal. The scope of this inspection is normally limited to verifying the accuracy of the crucial information declared by the Export Tanker Owners, charterer or Master in the Thang Long - Dong Do Vessel Questionnaire during the vetting process for this vessel.

If the particulars given in the Vessel Questionnaire change in any respect or otherwise become inaccurate, the Master or Export Tanker Owner shall promptly notify the Marine Coordinator 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, and all and any cost and time incurred shall be to the Export Tanker Owners' account.

5.2 Vessel Questionnaire

Please see the Appendix 3

5.3 Communications

LSJOC contact details for lifting schedule, crude oil sale contract issues: Lifting Coordinator	LSJOC contact details for Export Tanker vetting and offshore lifting activities: Marine Coordinator	LSJOC PFSO contact details for security issues:	FPSO PTSC LAM SON: Contacts details for FPSO security interfaces: Facility Security Officer (FPSO)
Phone (84) 8 5416 0581 Ext.422	Phone (84) 8 5416 0581 Ext.422	Phone (84) 8 5416 0581 Ext.422	Phone : (84) 8 541 61407 Inmarsat phone: +870 773 162 851
Fax: (84) 8 5416 0580	Fax: (84) 8 5416 0580	Fax: (84) 8 5416 0580	Fax: (84) 8 541 61407 Inmarsat fax: +870 783 903.302
Email: tientn@lsjoc.com.vn	Email: tientn@lsjoc.com.vn	Email: tientn@lsjoc.com.vn	mail: fpso.master@ptsc.com.vn

5.4 FPSO Communication facilities:

<u>FPSO Inmarsat Numbers:</u>	<u>FPSO VSAT Numbers:</u>
Phone: +870 773 162 851	Fax number: +84 8 54161408
Fax: + 870 783 903 302	Telephone: +84 8 54160581 Ext. 813

5.5 VHF/FM Radio communications:

Name of FPSO: PTSC LAM SON

Call sign : 9V6691

VHF Channel : 67

The Terminal maintains a continuous watch on VHF channel 67 (156.375 MHz) ; and Masters of in-bound Export Tankers are recommended to use this when they are within range. The Terminal is able to select any public VHF channel for use as a working channel after initial contact on channel 67. Attention to early VHF communication will assist in avoiding delays in berthing and vessel turn around time.

Masters 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 67 to receive Terminal instructions. Any delay due to a failure to maintain a constant listening watch on channel 67 will be for the Export Tanker's account.

When the Export Tanker is at the anchorage, communication between the FPSO and the Export Tanker will be established on a mutually agreed VHF channel. When moored to the FPSO, communication between the Facility and the Export Tanker will be maintained by VHF equipment, supplemented as necessary by UHF walkie-talkies.

SECTION 6: MINIMUM STANDARDS OF ACCEPTANCE FOR TANKERS LOADING AT THANG LONG - DONG DO TERMINAL

In determining whether an Export Tanker will be approved for crude oil lifting at Thang Long - Dong Do Terminal, the following acceptance criteria will be considered:

- Vessel Particulars
- Vessel Age
- Vessel Owner Information/Vessel Performance History
- Classification Society
- P & I Club
- Manning and Certification
- Compliance with Local and International Conventions/Regulations
- Drug & Alcohol Policy
- Heli-winch capability
- Flag State

Approvals become invalid with any change of ownership of the Export Tanker, 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 post offtake reports made by the Mooring Master and/or Terminal Representative, and any other factors judged relevant, may affect whether a vessel is approved or maintains approved status.

6.1 Vessel Particulars

The following guidelines govern Export Tanker acceptance:

- Vessel size of 50,000 – 120,000 DWT is normally acceptable. For vessel size of less than 50,000 DWT or more than 120,000 DWT, acceptance should be subject to case- by - case basis with special pre-arrangement.
- Double Hull Tankers with permanent Gas Detection Systems in ballast and void spaces are preferred over manually operated systems.
- CBT Tankers and tankers without a closed gauging system shall not be used for Crude Oil or Dirty Petroleum Product service.
- Combination carriers are not preferred, but can be utilized if:
 - + Vessel is double hull or equivalent technology and,
 - + In ballast and void spaces, vessel must be equipped with Inert Gas System and Gas Detection Systems (either manual or permanent) and,
 - + Previous three 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.

- Vessel shall be able to maintain at loading rate of at least 2800m³ or 17,600 bbls equivalent per hour through one 12" manifold, exceptional rate shall only be accepted on case by case basis.
- *Cargo Hose Handling Crane: Due to severe NE and SW monsoons experienced at the Terminal during period from the beginning of November to the end of March and from the beginning of August to the end of September, the tanker equipped with derrick for hose handling is not accepted. Note: Crane-type derrick is considered as crane.*

6.2 Vessel Age:

The following guidelines govern Export Tanker acceptance:

- Double Hull vessels up to 20 years may be approved on the basis of a current SIRE Report.
- Single Hull vessels are not accepted for loading at Thang Long – Dong Do Terminal.
- Combination carriers over 15 years of age are not acceptable.

6.3 Vessel owner information/Vessel performance history

The following guidelines govern Export Tanker acceptance:

Vessels shall be reviewed using the following information although other relevant sources of data or documentation may be utilized e.g. IMO “white pages” for STCW.

- Completed Thang Long - Dong Do Terminal Vessel Questionnaire
- Valid SIRE Inspection Report
- Physical Inspection by qualified surveyors acceptable to LSJOC
- Port State Control Reports
- Casualty and Detention History
- Terminal Operational Feedback

The Marine Coordinator shall maintain a directory of data and documentation resources that are available. Owners and ship 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.

6.4 Classification Society

The following guidelines govern Export Tanker acceptance:

- A list of approved Classification Societies shall be maintained by the Marine Coordinator.
- Enhanced Special Survey results will be reviewed for applicable vessels over 5 years of age.
- Double hull vessels of 20 to 25 years of age and DWT of more than 50,000 MT MUST have passed the approved Condition Assessment Plan (CAP). A current minimum CAP rating of 2 is required for vessel approval.
- Combination carriers 10 to 15 years of age will be acceptable only if the Enhanced Survey Executive Hull Summary has been reviewed satisfactorily and is enrolled in a LSJOC approved Condition Assessment Plan (CAP) if DWT is more than 50,000 MT. A minimum CAP rating of 2 is required for vessel approval.
- A list of acceptable CAP programs shall be maintained by the Marine Coordinator.

6.5 P & I Club

The following guidelines govern Export Tanker selection:

- The 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 Coordinator.
Clubs not included on this list may be reviewed and approved on a case-by-case basis.
- Vessels shall carry the highest standard oil pollution coverage available under the Rules of the International Group of Protection & Indemnity (P&I) clubs, with a P & I club that is a member of the International Group of P & I 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).

6.6 Manning and certification

The following guidelines govern Export Tanker 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 Senior Officers shall have completed the approved specialized training program and hold an advanced certificate, as per STCW.
- Crewmembers (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 crewmembers in a common language. Multinational crew should only be considered if all are fluent in a common language.
- On board training programs are required, with training manuals available to the crew and inspector.
- A preferred level of experience is to have the Master and Chief officer to have a combined minimum of 15 years of seagoing experience and a combined minimum of 5 years in rank provided that Master and Chief Officer shall perform at least 0.5 year (six months) in rank

6.7 Compliance with local and international conventions and regulations

The following guidelines govern Export Tanker selection:

- Owner 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 (SOPEP).

6.8 Drug & Alcohol policy

The following guidelines govern Export Tanker selection:

- Owner/operator shall have in effect a Drug and Alcohol Policy, complying with OCIMF “Guidelines for the Control of Drugs and Alcohol Onboard Ship.”

6.9 Flag state

The following guidelines govern Export Tanker selection:

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.

6.10 Helicopter Winching facilities

As weather conditions sometime are not safe for personnel transfer to Export Tanker by Standby Vessel, but conditions are acceptable for berthing operation, helicopter winching would be utilized. The Export

Tanker should be equipped with: winching area marking; communications; firefighting and rescue equipment should be provided and crew should have been trained in accordance with ICS Guide to Helicopter/Ship Operations.

6.11 Compliance with ISPS Code:

The Export Tanker should possess a valid International Ship Security Certificate.

Its security system and equipment must be in working condition.

The Export Tanker must have the capability to interface with the Facility at the required Security Level..

Full details of CSO (Company Security Officer) and SSO (Ship Security Officer) should be provided in Thang Long - Dong Do Vessel Questionnaire sent to LSJOC Marine Coordinator for the Export Tanker vetting process.

SECTION 7: TERMINAL CHARGES, AGENCY FEES AND TANKER CLEARANCE

Terminal charge:

A nominal fee shall be charged by LSJOC for berthing/air transportation/infield boat transfer, etc. services supplied by the Terminal. This charge is currently US\$ 35,000.00 per lifting inclusive of VAT. The terminal charge shall be paid by Shipping Agent to Company's account within thirty (30) calendar days since the receipt of Company's invoice, such amount will be calculated on the selling exchange rate of Vietnam Commercial Bank (Vietcombank) at the time of payment. After the deadline, Company will further charge 0.05% as each day interest on the late payment amount.

Other port charges, agency charges and clearance formalities will be notified directly to Export Tanker Owners or charterers by their shipping agents

SECTION 8: ARRIVAL PROCEDURES

Export Tankers will normally be accepted and berthed in chronological order of arrival, provided such vessels have a current nomination for cargo valid at the time of tender, carry clean ballast, if any, and have cargo tanks in a fit condition to receive cargo. Also, they must be in all respects properly equipped, manned and ready to moor. Should berthing be delayed on account of bad weather, Export Tankers will keep their position in line.

8.1 Hours of Operation

The Thang Long - Dong Do Terminal operates 24 hours a day, seven days a week. Export Tankers will normally be berthed during daylight hours, weather and other circumstances permitting.

Berthing normally starts not later than :

15:00 hrs for period from the November 1 to the February 28, 29

16:00 hrs for period from the March 1 to the October 31

Provided that the Export Tanker should be in position not more than 1.5 nautical miles behind the Facility stern by the above time limits.

Unmooring will be carried out at any hour, weather and other circumstances permitting providing it is considered safe and practical to do so. If un-berthing during the hours of darkness, then an agreement shall be made between the tanker master, the Mooring Master that they are satisfied it is safe to undertake the unberthing operation. The Company will make every effort to moor Export Tankers upon arrival in daylight, weather permitting.

8.2 Estimate time of arrival (ETA) & Tendering Notice of Readiness notification

The Export Tanker shall notify the Company's Marine Coordinator of NOR tendering time and ETA of 72 hours, 48 hours, 24 hours, 12 hours, and again 04 hours prior to the Export Tanker's arrival at the Terminal and at any other time when ETA changes more than one hour.

The 24 hour, 12 hour and 04 hour message should, in addition, be transmitted directly to the FPSO.

8.3 Pre-arrival requirement:

The Company's Marine Coordinator shall send the pre-arrival requirement which indicated in appendix 2 to Export Tanker by email / fax. The Master of Export Tanker shall comply/ confirm the pre-arrival requirement and send it back to company's Marine Coordinator before arrival Thang Long – Dong Do terminal

8.4 Notice of Readiness

Arrival time will be considered as the time when the Mooring Master boards the Export Tanker, or the time the Export Tanker arrives at the Mooring Master Boarding Area or the time the Export Tanker arrives in the Terminal's designated deep water Anchorage Area, if not berthed immediately.

Notice of Readiness shall not be tendered at the time of arrival unless the Export Tanker is in all respects ready to load including having signed the Conditions of Use of Thang Long - Dong Do Terminal in the form incorporated in this booklet.

The Terminal Representative will act on behalf of the Company to sign acknowledgement of the Export Tanker's Notice of Readiness. Notice of Readiness shall be in the English language.

Notice of Readiness shall only be accepted once the Export Tanker is securely moored to the Facility provided that the Terminal Representative is satisfied that the Export Tanker is in all respects ready to moor and load. Notice of Readiness will not be accepted during a period when the Terminal is closed on account of adverse weather.

8.5 Approach to the Anchorage Area/Mooring Master Boarding Area

When within VHF communication range, Masters of Export Tankers should confirm berthing prospects with the Terminal. Should it be necessary to anchor, the Export Tanker should proceed to the recommended Anchorage Area

Transit time from the Mooring Master Boarding Area to the Terminal and back to the Mooring Master

Boarding Area is classified as sea passage and not be counted as laytime.

8.6 Arrival at Anchorage Area / Mooring Master Boarding Area

Means of access to the Export Tanker by the Terminal Representative or Mooring Master shall be provided in accordance with the requirements of SOLAS. Early advice will be given by the Thang Long - Dong Do 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 the approach and boarding of the Terminal Representative, Mooring Master and other offtake personnel..

8.7 Terminal Closure due to Bad Weather Interruption of Loading/Berthing

Export Tankers required to leave the Thang Long - Dong Do Terminal area on account of bad weather should keep in contact with the Thang Long - Dong Do Terminal via VHF and or radio telephone in order that they may be available when the weather is fit for resumption of operations. The Thang Long - Dong Do Terminal reserves the right to berth and load Export Tankers out of turn following the return of good weather. The Thang Long - Dong Do 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 Thang Long - Dong Do Terminal will inform the Export Tanker with written reasons for non-acceptance. The decision of the LSJOC OIMs in consultation with Mooring Master and relevant Facility Manager 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.

8.8 Vietnamese Flag

The national flag of Vietnam shall be prominently displayed by the Export Tanker at all times at Thang Long - Dong Do Terminal.

8.9 Vietnamese Government Regulations

a. 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 Thang Long - Dong Do Terminal. These signals shall be displayed continuously until clearance is granted. The signals are to be in accordance with International Code of Signals 1969.

b. Compliance with Vietnamese laws

The Terminal is located in Vietnamese territorial waters, within a Marine Exclusion Zone as indicated in [Appendix 6](#). Sea traffic shall keep clear of this Zone.

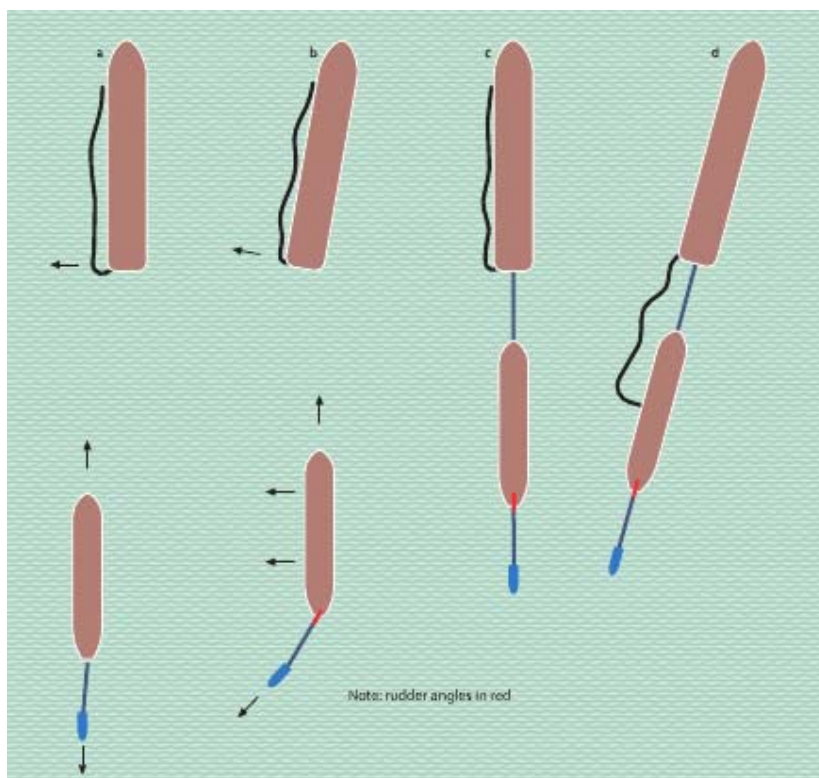
Export Tankers shall only enter the MEZ at the request or permission of the Terminal with the presence of Mooring Master on board.

The Terminal has been classified by the Vietnamese authorities as a “non-seaport” export terminal over which the Binh Thuan 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. Where there is no specific regulation in Vietnamese law, Export Tankers shall follow good international practices

SECTION 9: MOORING OPERATIONS

9.1 The Mooring Master will board incoming Export Tankers at the Anchorage Area or another agreed location. The Mooring Master will advise the ship's Master on approach to the Thang Long - Dong Do 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 Master of Export Tanker must be on the bridge at all times while the Export Tanker is being maneuvered. For purpose of guidance, Vessel approach speed should normally be reduced to

- ☐ - < 12 knots @ 10 nautical miles from the FPSO
- ☐ - < 5 knots @ 3 nautical miles from the FPSO
- ☐ - < 0.5 knot @ 1000 meters from the FPSO



Tanker mooring steps

- 9.2 Support vessels assist in Export Tanker mooring. These are under the direct control and supervision of the Mooring Master.
- 9.03 Export Tankers due for mooring shall have a pilot ladder securely rigged on the side requested by the Mooring Master. Vessels with a freeboard of more than thirty feet shall have an accommodation combined ladder rigged so that the lower platform is not more than ten feet above the water level with a short pilot ladder for access to the platform. Upon the approach of the Mooring Master in the Lifting Support Vessel, the Export Tanker shall provide a good lee on the appropriate side. The Export Tanker shall also have their crane rigged and crew on deck standing by.
- 9.04 The Mooring Master and his assistants, if any, who will advise the Export Tanker crew during mooring and hose connection, will normally board Export Tankers from the Lifting Support Vessel which also serves as static tow boat (a tug boat utilized for keeping the Export Tanker at a safe distance off the FPSO stern) throughout the loading operation. Immediately the Mooring Master and his assistant have boarded, the Lifting Support Vessel will proceed to the Starboard/Port side crane area of the Export Tanker where mooring and hose connection equipments will be lifted aboard (An additional messenger line connected to the tandem mooring hawser will be provided to the export tanker. This messenger will be secured to the export hose and will be used for hose retrieval onboard the export tanker.)

The following equipments, provided by the Export Tanker, shall be ready for use when the Mooring Master boards:

On the forecastle head:

- (1)
- (2) 2 messenger lines, minimum 3" circumference x 300 feet.
- (3) A selection of shackles, wire strops and tools (sledge hammer, crowbar, etc).

On the poop deck:

- (1) 2 messenger lines, minimum 3" circumference.
- (2)
- (3) 1 chain stopper and two heaving lines

The Mooring Master, along with an Export Tanker officer, shall inspect the mooring equipment provided by the Export Tanker before the start of the approach to the Terminal, and will advise if any additional mooring gear is required for safe mooring to the Terminal.

When the approach to the Terminal commences, the Lifting Support Vessel will be in attendance to assist if necessary. Approach to the Thang Long - Dong Do Terminal (FPSO) 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 Mooring Master will test-run the Export Tanker engines and steering gear before commencing the approach run. The Export Tanker's

anchors will only be used in case of emergency and upon express permission of the Mooring Master.

- 9.5 On the final approach (at a distance about 1 – 1.5 nautical miles from the stern of the Facility), the Lifting Support Vessel towing pennant will be made fast on the stern bollard of the Export Tanker for static tow purpose in way of stern to stern connection. A bow to stern method is optional, subject to the agreement and satisfaction of Mooring Master and Master of Lifting Support Vessel. On approaching the Facility, the hawser messenger line will be passed from the FPSO stern by either:

a/ By means of a rocket from a pneumatic line throwing apparatus when the Export Tanker bow is at a distance of approximately 200 meters,. 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 3 chafe chain links must be passed beyond the chain stopper tongue/hinged bar in “made fast” position).

b/ Alternatively, when the current and wind are favorable, the messenger rope is let float free and drift aft of the FPSO stern to a distance of about 350 meters. The Export Tanker crew on the forecastle shall use grapnel to pick it up from sea surface then use the windlass or mooring winch to heave in further.

The 80mm dia. PP pick-up rope is connected to 76 mm chafing chains, which in turn are secured to the 21 inch circ. grommet type hawser connected to a 76 mm chafing chain at the FPSO stern.

- 9.6 During the approach of the Export Tanker towards the stern of the Thang Long - Dong Do Terminal, 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.
- 9.7 The Export Tanker will then heave up the messengers and pick-up rope, carefully picking up the slack as the Export Tanker approaches the stern of the FPSO.
- 9.8 The distance between the vessels will be continuously relayed to the Mooring Master on the bridge from the forecastle.
- 9.9 **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 shall be suspended, cargo hose will be disconnected. All charges incurred shall be for the Export Tanker Owners' account.

- 9.10 **Mooring Hawser Quick Release Hook**
- Function: for emergency release of tandem mooring hawser on FPSO side
 - QRH is installed on the FPSO poopdeck

- SWL: 200T
- Load Monitoring: Visual Local and Remote Load Monitoring in CCR.
- Alarms: high and low load audible and visual alarms;
 - Low (5T) – warning of slack hawser,
 - High (100T) – 1st trigger load for cast off decision and
- high-high (120T) – trigger for immediate stop of pumping, hose disconnection and cast off loads
- Release Points: Local and remote release points in CCR.

9.11 Tandem mooring hawser:

The length of tandem mooring hawser is 87.3 meters with SWL 200 T and specification as below:



SECTION 10: HOSE HANDLING

10.1 Duties of Mooring Master and Export Tanker Crew:

Upon completion of the mooring operation, the loading hose will be connected to the Export Tanker manifold which must be prepared to accept one 12 inch ANSI150 flange prior to berthing. Hose connection will be done by the Export Tanker crew under the supervision of a responsible deck officer. The Mooring Master and/or his assistant will advise on the correct procedures to be adopted.

10.2 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 10 tons. All Export Tankers calling at Thang Long - Dong Do Terminal must have their crane rigged with SWL not less than 15 tonnes and with outreach of crane at least 4m.

10.3 Hose transfer:

The Export Tanker end hose will be transferred to the Export Tanker manifold area by utilizing buoyant rope or the Lifting Support Vessel.

10.4 Crane versus derrick:

For safety reason, Export Tankers equipped with derricks are not accepted for lifting the Thang Long - Dong Do Terminal.

10.5 Hose Lifting and connection:

The hose will then 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 condition, sufficient strong restraining webbing slings 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, however the additional bolts and nuts will also be required to ensure the tightness of the connection

10.6 Export 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.

10.7 Hose Disconnection:

Prior to completion of loading, the Export Tanker 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 the FPSO that all flow has ceased, the hose end butterfly valve will be closed, followed by the Export

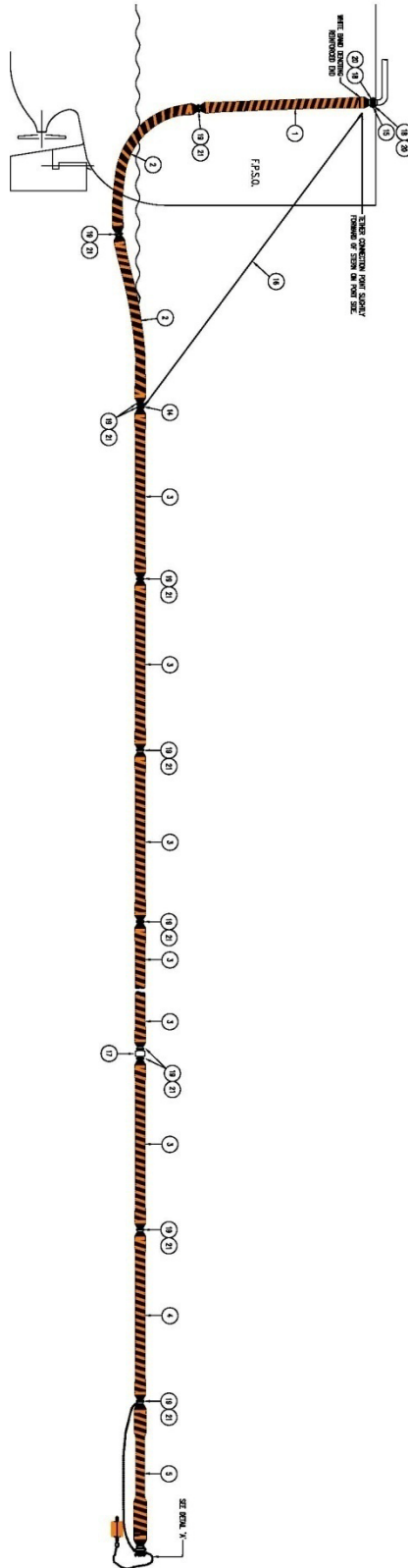
Tanker's manifold valve. Once the spool piece has been drained into the Export Tanker drip tray, the hose will be disconnected from the manifold. The hose support slings will be removed, and the blind flange will be put on and bolted.

10.8 Offloading hose:

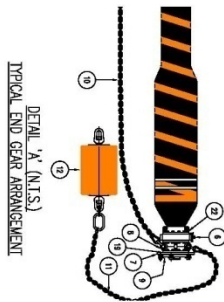
- The FPSO is equipped with a 12" OCIMF marine hose standard.
- Rated Working Pressure 15 barg (maximum)
- Proof Pressure: N/A Barg
- Operating Pressure Range up to 14 Barg
- Allowable Oil Temperature 20° C to 82° C
- Maximum Flow Velocity 21 m/sec The Tanker Rail Hose is connected to the Off-take Tanker manifold using camlock coupling and backup with bolt and nuts. Mating flange shall meet all specifications of an ANSI 150# flange with rated pressure of 15 bars.
- The length of hose string is 256.8 m with details as following:

DO NOT SCALE

IF IN DOUBT ASK



- NOTE: OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
1. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
2. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
3. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
4. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
5. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
6. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
7. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
8. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
9. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
10. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
11. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
12. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
13. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
14. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
15. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
16. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
17. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
18. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
19. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
20. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
21. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
22. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
23. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO
24. OFFSHORE SUPPLY VESSEL TO MAINTAIN HOSE LAYING OFFSHORE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO



ITEM	ITEM DESCRIPTION	W.D. (MM)	W.D. (INCH)	THICKNESS (MM)	THICKNESS (INCH)	QUANTITY
1	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
2	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
3	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
4	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
5	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
6	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
7	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
8	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
9	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
10	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
11	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
12	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
13	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
14	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
15	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
16	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
17	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
18	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
19	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
20	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
21	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
22	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
23	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1
24	1/2" AL. TYP. 500' STAINLESS STEEL HOSE (SEE SHIP) FOR FUEL, LUB OIL, AND FPSO	15	15.7	15.7	15.7	1

Continental
CONTECH
GENERAL ARRANGEMENT OF OFFLOADING HOSE
FOR P.T.S.C. LAN SON FPSO

SCALE: N.T.S.
DATE: 15 AUG 14
DRAWN: 0P3309
REV: ORIG

DESIGNER: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

DATE: 15 AUG 14
DRAWN: 0P3309
REV: ORIG

10.9 Lifting support vessel:

An Phong or the similar vessel is the lifting support vessel with specification as below



PETROLEUM TECHNICAL SERVICES COMPANY

PTSC Marine-73 Road 30/4,
Vung Tau City, S.R. Vietnam
Tel: 84. 64. 832181 (7 Lines)
Fax: 84. 64. 832180/ 839340
Email:charter@marine.ptsc.com.vn

M/v AN PHONG

TYPE:

AHTS FiFi 1 Vessel

CLASSIFICATION:

DNV +1A1 –Tug/Supply, Fire Fighter 1 EO

FLAG:

Vietnam

CALL SIGN:

3WFI

PORT OF REGISTRY:

Sai Gon Port

PLACE AND YEAR OF BUILT:

Australia, 1981, UT 704 upgraded

DIMENSION:

- Length OA: 64.65m
- Length Reg.: 56.40m
- Breadth moulded: 13.80m
- Depth to main deck: 06.90m
- Max draft: 06.00m
- G.R.T 1382 T
- N.R.T 414 T
- Deadweight: 1921T

LIQUID CARGO CAP. & DISCHARGE RATES:

Fuel oil: 881 M3 discharge 1 x 190 m³/hr – 60 m head
Potable water: 224 M3 discharge 1 x 50 m³/hr – 60 m head
Drill water: 710 M3 discharge 2 x 160 m³/hr – 60 m head
Glycol: 80 M3 discharge 1 x 40 m³/hr – 60 m head
Connections 4" WECO and 4" Camlock

DECK LOADING CAPACITIES

Deck area: 390 m² (35.45m x 11 m)
Deck strength: 5tons/m²
Max deck load: 800 tons
Cargo Rail: 1.6 m high

BULK PLANT

170 m³ – 4 tanks of 42 m³
Discharge rate: abt. 25m³/hr – 60 m head
02 x 2 grades separation compressors 420 KPA

ACCOMMODATION:

Single berth: 07
Double- berth: 04
Passenger berth: 02 x 6
Total 27 berths fully Air-Conditioned

MACHINERY/ PROPULSION

Main engine: 02 x Nohab Polar F216V-825 – 3520 BHP

Total 7040 BHP

Bollard pull: Abt. 77.5 T.

Propeller: Twin C.P.P in Kort nozzles

Rudder: Split spade rudders

Aux. engine:

- Generator: 03 x Caterpillar D3408; 01 x Caterpillar
- Electrical: 03 x 230 KW, 01 x 125 KW, 415V x 3ph x 50Hz
- Bow thruster: 01 x CPP in tunnel 150 TV–driven by 725 BHP
Caterpillar Diesel 3408 – 7.5T thrust

SPEED & CONSUMPTION:

Full speed: 13 Knots Abt: 23 tons/ 24 hrs
Cruising speed: 9 –11 knots Abt: 13 tons/24hrs
Idling: Abt: 1.2 tons/24 hrs

DECK EQUIPMENT & MOORING:

Tugger winch: 2 x15 tons SWL; 02 vertical capstans x 10 Tons SWL
Anchors: 02 hall x 1300 kg plus 01 for spare
01 Hydraulic Brattvag Pull 150 tons –break 250 tons
02 Anchor Handling Drum (500m x 64mm); 01 Tow Drum (1000m x 64mm)
Main Towing wire : 58 mm x 1000m – Spare towing wire: 58 mm x1000m
Hydraulic guide pin: 02 x Ulstein 500/300 (stroke 500mm, 300mm dia.)
Stern Roller : 250T SWL x 1830 mm x 366 mm
Wire Stopper Triplex Shark Jaws Ulstein type 300 tons SWL
Other A/handling equipment e.g Pelican Hooks, Shackles, Stretchers etc are available.

NAVIGATIONAL EQUIPMENT:

02 x Furuno daylight display Radar, 01 Echo sounder Simrad type DP 550, 01 Autopilot, 01 Gyro compass, 01 Magnetic compass, 02 Furuno GPS, 01 ICS Nav 5 Navtex, 01 Anemometer, Sailor HF/MF SSB RE 2100, Satellite navigator, VHF, ICOM SSB, GMDSS and other equipment according to the latest SOLAS nad normal standard, class requirements.

FIRE FIGHTING EQUIPMENT:

Complies with the Classification requirement for internal fire fighting plus FiFiI system with total cap. 2400m³/hr, 50m height & 120m throw through 2 remote control monitors and deluge system (2 monitors each manually operated, 50m height & 60m throw).
Two spray boom fitted for oil dispersant with storage cap. of 15,000 liters

LIFE SAVING EQUIPMENTS:

01 x Fast Rescue Boat x 7 person with launching system; 08 lifebouy units;
48 life jacket units; Life raft: 02 x 25 person; 02 x 16 person

SECTION 11: BALLAST OPERATION

- 11.1 There are no ballast or slop reception facilities at Thang Long - Dong Do Terminal; therefore, all Export Tankers must arrive with clean ballast suitable for discharging directly to sea in accordance with the standards set by international conventions (MARPOL). Export Tankers arriving with ballast unsuitable for discharge to sea shall 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.
- 11.2 Export Tankers arriving at Thang Long - Dong Do Terminal should maintain not less than 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. Further, PROPELLERS MUST BE IMMERSED. (Minimum 3/4 diameter of propeller)
- 11.3 Whenever possible, loading procedures should be so arranged as to allow for concurrent deballasting and loading operations, provided that at least 2 valve separation can be maintained. Ballast should not be discharged before the vessel has loaded at least the equivalent amount of cargo.
- 11.4 The Mooring Master and Terminal Representative may accompany the independent inspector 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.
- 11.5 Before commencement of the cargo tank inspection, proper draining of all cargo pipework contents shall be carried out and witnessed by the Terminal Representative/Mooring Master.

SECTION 12: LOADING OPERATIONS

12.1 Start of loading:

On satisfactory completion of the pre-loading transfer conference and ship/Terminal pre-berthing/safety check list in the form set out in Appendix 2 as agreed by the Mooring Master and the Export Tanker officer in charge, the vessel will be declared ready to load. All necessary valves will be opened, the hose end butterfly valve will be opened and the Mooring Master will instruct the Thang Long - Dong Do Terminal Facility to commence loading at a slow rate agreed in advance between the Mooring Master and the Export Tanker officer in charge.

12.2 Loading watch:

Throughout the loading, a responsible deck officer must be in charge of operations, either on deck or in the cargo control room, and in continuous contact with the FPSO and Mooring Master via walkie-talkie radio. In addition, an efficient deck watch at manifold area in constant contact with the cargo control room must be maintained at all times. Additionally, one member of the Export Tanker's crew will be stationed on the forecastle at all times to observe and report to Mooring Master through deck officer on the mooring condition i.e., the state of the mooring and the distance and movement of the Export Tanker in relation to the FPSO.

12.3 Loading Rates:

The rate will not be increased until the Export Tanker has confirmed that the hose connection is tight, that cargo is being received in the selected tanks only, and that no leakage is taking place through the sea valves. The loading rate will be increased, on request by the Export Tanker, to a maximum as the Export Tanker can receive or up to 17,600 BPH whichever is the less subject to prior agreement between Mooring Master and Export Tanker's Master.

At any time during loading operations, the rates can be reduced on request. Except in an emergency, minimum 10 minutes notice (or such other period as is agreed in the ship/Terminal safety checklist) should be given to the Thang Long - Dong Do Terminal Facility from which the Export Tanker is loading when rate reduction is required. As in normal tanker practice, valves must not be closed or throttled back against the oil flow without permission from the Thang Long - Dong Do Terminal Facility. Master is specifically warned of the severe consequences of this practice, which could result in damage to Thang Long - Dong Do Terminal equipment and serious oil pollution, for which the Export Tanker Owners will be held responsible.

For high accuracy of FPSO custody transfer meter – prover unit, the loading rate should be maintained as stable and close to the proving rate as possible throughout the loading operation except start –up, topping – off or in case of operational necessity. Duration of deviation from stable loading rate should be minimized.

12.4 Communication between the Terminal and the Export Tanker:

Throughout the offtake operation, communication will be maintained between the Export Tanker and the FPSO from which it is loading, using the communication channels set out in sections 5.04, 5.05 and 5.07 of this booklet

If for any reason, radio communication between the Export Tanker and the Thang Long - Dong Do Terminal Facility are lost, the Facility will stop the loading until communication is re-established. In the absence of radio contact, oil flow can also be stopped by sounding the emergency flow stop signal, consisting of intermittent short blasts on the ship's whistle.

The volume of oil loaded is accurately available at all times from the Thang Long - Dong Do Terminal Facility, and periodic comparisons should be made between the Export Tanker and Thang Long - Dong Do Terminal figures.

12.5 Stop of loading:

The question of ship or Thang Long - Dong Do Terminal responsibility to stop cargo loading and the required quantity will be discussed and agreed before loading commences, during the pre-transfer conference.

REQUEST FOR THE TERMINAL FACILITY TO STOP THE FLOW OF CARGO AT PRE-DETERMINED QUANTITY MUST BE IN WRITING TO THE MOORING MASTER. THE REQUEST MUST INCLUDE THE STATEMENT BY THE EXPORT TANKER MASTER THAT THE COMPANY WILL NOT BE HELD RESPONSIBLE FOR ANY ERROR, AND THAT IN THE CASE OF THE EXPORT TANKER BEING OVERLOADED, THE EXCESS CARGO CANNOT BE PUMPED BACK TO THE THANG LONG - DONG DO TERMINAL FACILITY.

12.6 Export tanker safe station keeping procedure during loading cargo:

Limiting conditions for operations

Notes:

“Safe Berthing Sector”: A sector of 15° on either side of FPSO centerline

“Safe Off-take Sector”: A sector of 30° on either side of FPSO centerline

“Alert Off-take Sector”: A sector of 30° - 45° on either side of FPSO centerline

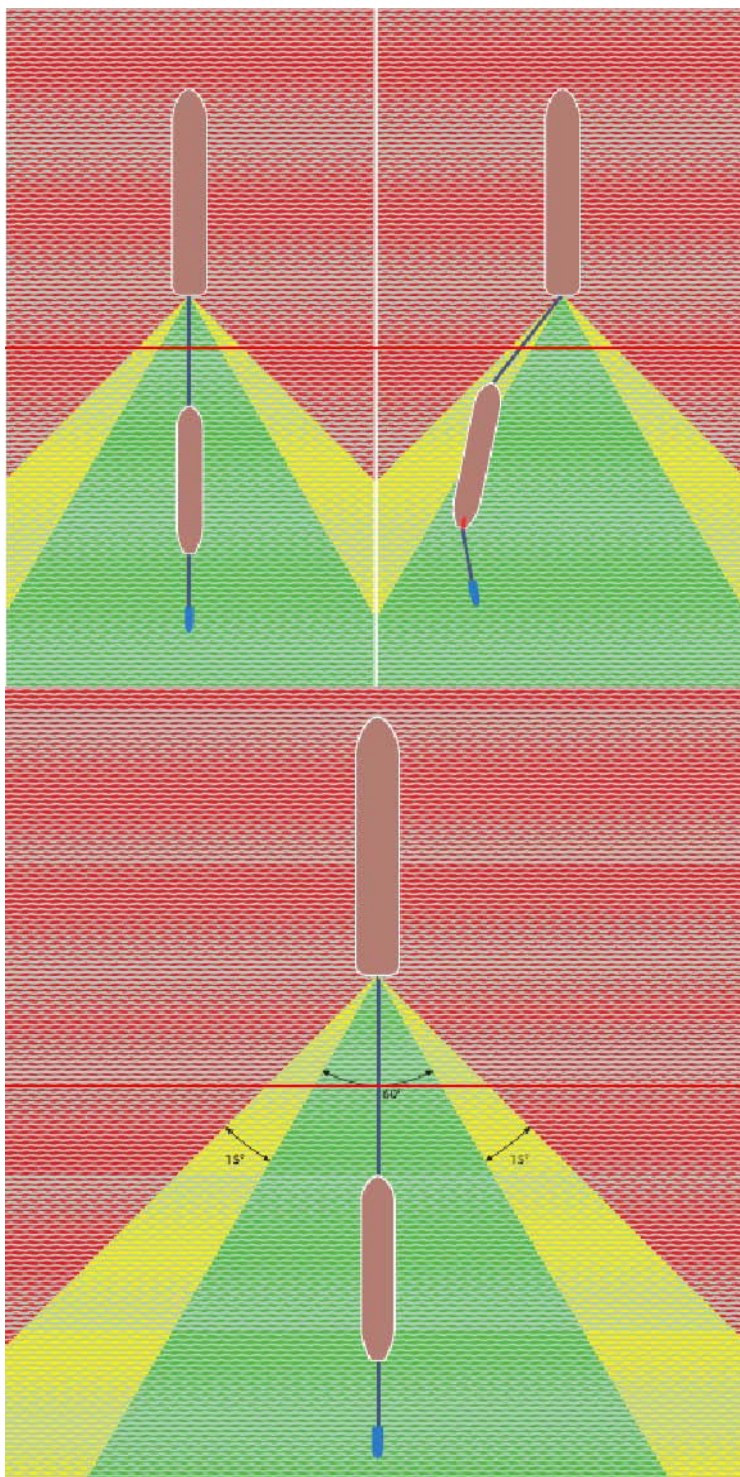
Unsafe Off-take Sector”: A sector **beyond 45°** either side of the FPSO centerline

The above criterion does not relieve the ship or Terminal from their obligation to use their best judgment when assessing the suitability of conditions for loading.

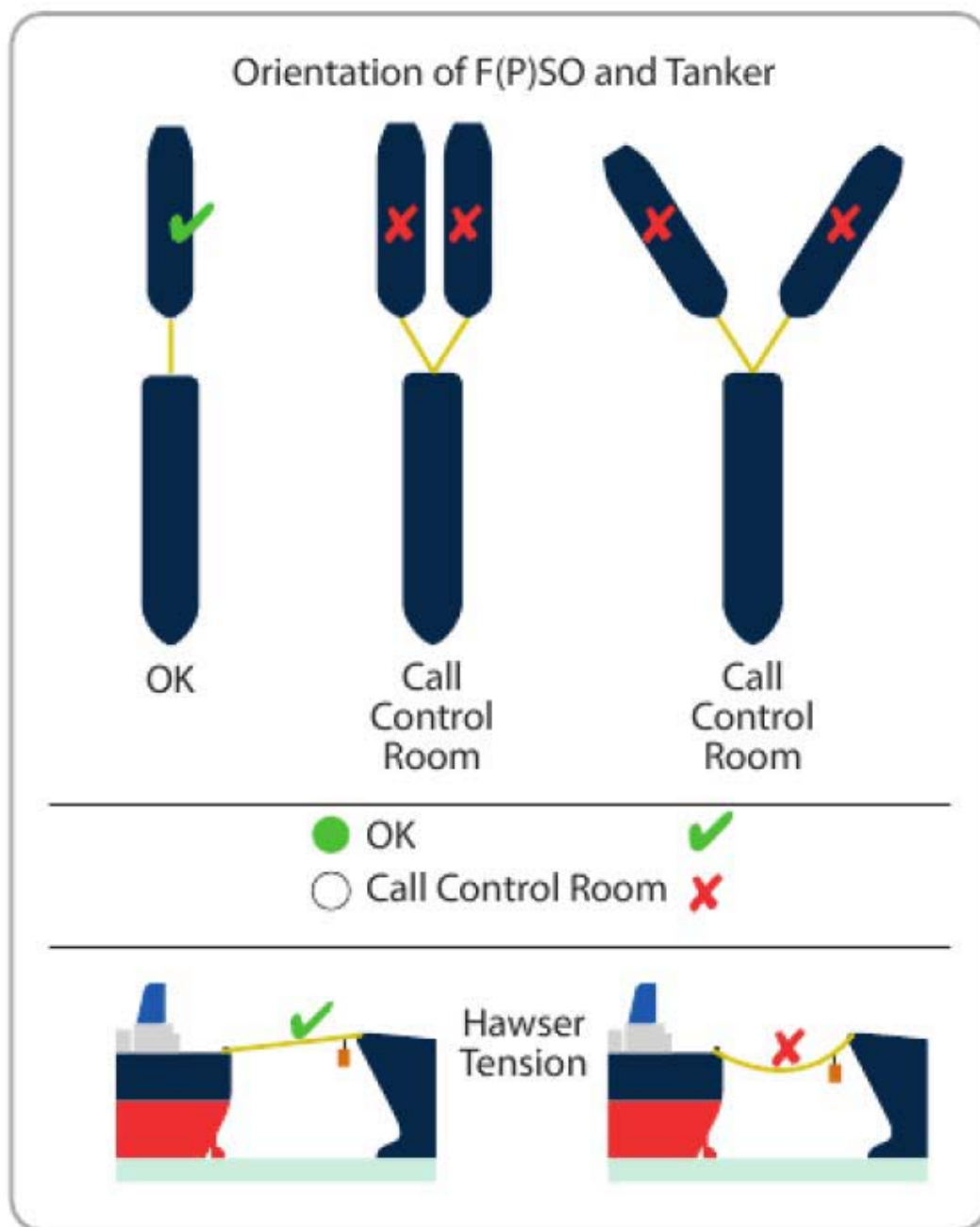
This criterion is applicable for the Export tanker size normally accepted for loading at the terminal, i.e. 80,000 – 120,000DWT. Please refer to 7.2.2

When using the tanker engine to regain alignment, cargo transfer must be stopped

In order to prevent hydraulic surge in the crude oil transfer line on board the FPSO in case of emergency stop, the closing time for the ESDV is 40 seconds.



Off-take safe and Alert (standby) sectors



Monitoring the tanker position during Off-take and “call CCR” situations

12.7 Quantity and quality measurement

Each Facility at the Terminal is equipped with a sophisticated LACT (Lease Automatic Custody Transfer) unit – meter/prover system. The quality and quantity of oil shall be determined at the Terminal by the Company and verified by an independent inspector.

In the event of meter failure during a lifting, the quantity to be included in cargo documents shall be

determined by the Terminal Representative in the manner customary at the Terminal and verified by the independent inspector: Export Tanker ullaged figures are the first option and the Facility 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, vessel's experience factor, quantity of free water found on board the Facility before and on board the Export Tanker after cargo transfer, status of Facility cargo tank segregation valves, vessel discharging ratio for the last cargo, COW history, etc..The failure of the meter/prover unit shall be reported and acknowledged by the independent surveyor who witnesses the lifting.

The determination shall be conclusive and binding on the parties.

SECTION 13: CARGO DOCUMENTATION AND INSPECTION

- 13.1 For normal departure: Documents such as bills of lading, certificate of quality, certificate of quantity, time loading report, certificate of origin, cargo manifest and Master's receipt for documents/samples etc. are prepared at the Thang Long - Dong Do Terminal Facility at which the Export Tanker loads. When the Export Tanker has completed loading, the documents will be completed and taken aboard the Export Tanker for the Master's signature. Signing of these documents by the Master will take place at the same time as the final departure clearance formalities are being carried out.
- 13.2 In the event of a dispute about cargo figures, the Export Tanker will be requested to recheck the measurement and calculations of the quantity, and the Terminal Representative and Mooring Master will witness such measurement and calculations. After both Export Tanker and Terminal figures have been verified, if a disputed discrepancy and/or the ship/shore difference of more than 0.3% still exists, receipt of a letter of protest will be acknowledged by the Terminal Representative or in his absence by the Mooring Master. The Terminal Representative or Mooring Master may at its option also issue a notice of apparent cargo quantity discrepancy, and/or letters of protest referring to any other issue arising during the offtake operation. To maintain "clean documents", Masters are not to put any notes or protest on the prepared cargo documents.
- 13.3 Notes of protest, if any, should be handed to the Terminal Representative (or Mooring Master) for further delivery to the LSJOC Marine Coordinator. The Terminal Representative (or Mooring Master) will acknowledge receipt of the note of protest only, and is not authorized to signify acceptance of such letters.
- 13.4 From time to time Export Tanker Owners, charterers, consignees, or other interested parties may appoint third party oil inspectors to survey the loading operation on their behalf. Any delays caused by such survey(s), shall be considered "Export Tanker delays".

SECTION 14: DEPARTURE PROCEDURES

- 14.1 Immediately after the loading hose is disconnected and cargo tank survey is completed, unmooring of the Export Tanker will commence. The Lifting Support Vessel at the stern of the Export 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 Thang Long - Dong Do Terminal Facility. During the move astern, the mooring hawsers will be lowered into the water by easing back on the pick up ropes.
- 14.2 When the Export Tanker is safely cleared of the Facility, the Thang Long - Dong Do Terminal Facility mooring equipments will be taken from the forecastle to the crane to be transferred to the Lifting Support Vessel together with the hose connection equipments.

- 14.3 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 Thang Long - Dong Do Terminal area as directed by the Mooring Master before his departure. In case of bad weather, the Terminal Representative or Mooring Master may require the Export Tanker to disembark such personnel at the pilot boarding station off Vung Tau.

EARLY DEPARTURE PROCEDURES (EDP)

- 14.4 For operational and safety reasons, the Company may require the Export Tanker which has completed its loading operations to depart provided that the followings shall be implemented:
- The Master shall make a written request for EDP and present this to the Terminal Representative on the arrival of the Export Tanker.
 - The Master shall issue a letter of authority to his shipping agent, with copy to the Marine Coordinator, authorizing the agent to sign the bill of lading and other cargo documentation for and on behalf of the Master once the bill of lading and other cargo documentation has been completed and approved by the Export Tanker Master.
 - After departure of the Export Tanker, the final density, sediment and water content of the cargo shall be determined by the Company and witnessed by an independent inspector. 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 Coordinator or his delegate shall inform the Master of the gross and net cargo quantity loaded at 60°F. This will usually be in the form of a faxed, unsigned, non-negotiable bill of lading pro forma.
 - The 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 Coordinator or his delegate and the agent on behalf of the Master, a complete set of cargo documents shall be faxed to the Master by the Export Tanker's agent.

These will be:

- 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)

It should be noted that the Facility metering unit 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 as described in section 12.7.

SECTION 15: GENERAL

15.1 Lifting Support Boat

Lifting Support Boats are of AHTS (anchor handling, tug, supply) type. 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. ALL TERMINAL SERVICES AND FACILITIES PROVIDED BY THE COMPANY INCLUDING THE SERVICES OF THE COMPANY MOORING MASTER, RIGGERS, BOATS OR BERTHING EQUIPMENTS, ARE AT THE VESSEL'S RISK AND PROVIDED ON THE TERMS SET OUT IN THE CONDITIONS OF USE AT SECTION 2 OF THIS BOOKLET.

15.2 Mooring Master Incapability

Under any circumstances for whatsoever reason should the Mooring Master be incapable to well carry out his duties, the operation shall cease and wait for a replacement, the berthing only continues when ALL involved parties are satisfied with the replacement, the pilot who has an advisory role to the tanker Master could be a good help to bring the vessel to anchor if required in the course of berthing, this shall be handled on the case by case basis subject to the given situation.

15.3 Removal of Wrecks

Should any Vessel or craft sink or become an obstruction in any part of the Terminal. the MEZ or approaches thereto, or the area of the submarine pipelines, the Company 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 of such Vessel. 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 the Company shall be entitled to reimbursement by them for any such expenses incurred by it.

15.04 Services & Supplies

1. 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 vessel's account at rate to be established at that time. These services will

only be provided in emergencies.

2. 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 Thang Long - Dong Do Terminal. Information on port services in the area should be obtained from the Export Tanker's agents.
3. Crew members cannot leave the Export Tanker at Thang Long - Dong Do 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 when a vessel is in the Thang Long - Dong Do Terminal area.
4. Swimming in the sea around the Terminal is prohibited.

15.5 High Flow Rate and valve closing

Masters are reminded of the serious consequences of totally or partially closing valves against the flow of oil from the Thang Long - Dong Do Terminal. Should damage to the Thang Long - Dong Do 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 vessel will not be subsequently accepted for loading.

15.6 Alcoholic Drinks

Masters are advised that offering alcohol to the Thang Long - Dong Do Terminal staff and Government officials who may board their Vessels is strictly forbidden.

15.7 Accommodation

The Terminal Representative, the Mooring Master and or his assistant, if any, will require accommodation throughout the vessel'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:

- 1 pilot
- 1 independent inspector
- 1 shipping agent
- 1 PetroVietnam representative (PVOil)
- And/or other person as may be required by Terminal Representative

15.08 Personnel Transfer

Case 1 – 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 4.

Case 2 - Alternative methods:

Export Tanker to proceed to the nearest safe boarding ground: To avoid Export Tanker delay waiting at Terminal for suitable weather for in-field personnel transfer, LSJOC Marine Coordinator in consultation with Mooring Master may, at his option, for safety reasons request vessel to come to the nearest designated safe boarding ground for embarkation/disembarkation of lifting personnel. Export Tanker time and cost are for the account of the Export Tanker Owners.

Helicopter winching for boarding of the lifting crew is the last option.

SECTION 16: TERMINAL SAFETY, SECURITY AND ANTI-POLLUTION REQUIREMENTS

16.1 Safety Requirements - ISGOTT

Nothing in these regulations will relieve Masters of their responsibilities in observing the normal safety, fire prevention and security precautions. The Mooring Master is authorized to advise and request Masters to take additional measures to ensure safe operations should circumstances so require. The Mooring Master is also authorized to suspend oil transfer operations in the event of an infringement of safety regulations or if any other hazardous situation is encountered. The following safety regulations have been developed in an effort to reduce the possibility of an incident involving fire, explosion, or other hazard.

All safety measures recommended for crude oil tankers as stipulated in "**International Safety Guide for Oil Tankers and Terminals**" (ISGOTT)- **Fifth edition 2006** are strictly complied with. Due to the special nature of the Thang Long - Dong Do Terminal Facilities, Thang Long - Dong Do Terminal regulations may be more stringent than ISGOTT requirements. If this is the case, the Thang Long - Dong Do Terminal regulations will be applicable.

Especially, Export Tankers shall comply with those safety measures in respect of:

- Export Tanker/Terminal Safety Check List,
- Inert Gas System,
- Tank Inspection Gauging, Sampling, Water Dips and Temperatures,
- Export Tanker /Terminal Communication
- Emergency Procedures
- Operating Procedures
- Fire Precautions
- Conditions to be observed on board the export tanker during transfer/deballasting operations
- Smoking, Matches and Lighters
- Electrical Equipment
- Movement of Tugs, Workboats and Other Craft
- Repair Work

Prevention of Sparking and Excessive Smoke
Galley Stoves and Other Cooking Equipment
Transmitting Aerials
Tank Lids
Unused pipeline Connections
Sea and Overboard Discharge Valves
Breakdown of Communications
Emergency Escape
Radar - Satellite Communication Terminals, Closed Circuit Television
Cargo Tank Venting

16.2 Failure of IGS

If at any time the IGS is not maintained in the prescribed conditions, the Mooring Master shall order a suspension of loading operations. The cost of any delays will be for the Export Tanker Owners' account. UNDER NO CIRCUMSTANCES WILL EXPORT TANKERS WITH INOPERATIVE OR MALFUNCTIONING IGS BE ALLOWED TO OPERATE AT THIS TERMINAL.

16.3 Security requirements:

Thang Long - Dong Do Terminal is fully compliant with ISPS Code requirements. LSJOC PFSO is a person in overall charge of Thang Long - Dong Do Terminal security. PFSO is normally based in LSJOC office in Ho Chi Minh City. Please refer to Section 5.03 for PFSO Contact details.

There is a Facility Security Officer permanently based on the FPSO. He is responsible for FPSO security and is the contact point for Export Tanker SSO while at the Terminal.

Export Tanker security measures such as access control, restricted areas, delivery of ship stores, monitoring systems, etc., stipulated in ISPS Code must be in place and on the security level not below the level required by Thang Long - Dong Do Terminal

The Terminal Representative is a qualified Security Officer, he will act on behalf of PFSO in liaison with the Facility Security Officer on board the FPSO, who will assist the Export Tanker in implementation of security measures required by Terminal. Whenever the Export Tanker is in difficulties in maintaining security level specified in the Declaration of Security, the Master should report to Terminal Representative immediately.

The LSJOC PFSO shall advise all vessels working inside the Terminal limits of any change in Security Level to be imposed.

16.4 Avoidance of Pollution

During transfer operations, all scuppers shall be effectively plugged, fixed manifold oil containment shall be in place, and no leakage or spillage of oil, or water, which can possibly contain oil, shall be

allowed to escape overboard. Scupper plugs may be removed to drain off accumulations of water periodically and replaces immediately after the water has been run off. Manifold containment should be drained before transfer operations commence. Any leakage or spillage must be reported immediately to the Mooring Master. Should oil spillage occur during deballasting or loading operations, then all such operations shall cease and immediate action taken to control and contain the spillage. Clean up operations shall be started immediately, and loading operations will not be resumed until remedial action has been completed to the satisfaction of the Mooring Master. No garbage of any sort whatsoever shall be thrown overboard, nor shall any other material, either solid or fluid, be thrown overboard from the Export Tanker.

SECTION 17: TIDES, CURRENTS, WIND, WEATHER AND SEAS

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

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

17.2 Currents

The surface currents of the South China Sea are influenced mainly by the NE and SW monsoon winds which control the flow of water into or from the Sulu Sea, Java Sea and through Taiwan Strait. The main current flows on the West side of the region and sets Southwest (November to April) during the Northeast monsoon and Northeast (June to September) on the Southwest monsoon. During the regime of either monsoon the appropriate current has a high constancy but some variations, and even occasionally reversals may occur with irregularities in the monsoon.

The main current trends with the monsoonal wind direction, at up to 3 knots on the surface.

17.3 Winds

The direction of prevailing winds is determined by monsoonal activity. Between May and September, the south-west monsoon period, south-westerly winds are predominate. Wind direction is variable in October and then during the north-east monsoon from November to March, the winds are from the north to east.

The NE monsoon months are subject to prevalent strong winds commencing in November. This period is also subject to monsoonal surges which may be associated with winds up to 50 knots. This is likely to affect mooring and lifting operations.

In April, winds are again variable with the transition from the winter to summer monsoons. Typhoons, which can create wind speeds over 100 knots, are likely to be encountered in the latter months of the year.

17.4 Waves

Sea and swell conditions are directly related to the monsoon and since the Northeast monsoon

(November to March) winds are stronger than those of the southwest monsoon (May to September) the maximum sea and swell conditions therefore occur during the winter months.

During the height of the Northeast monsoon (November to March), seas are predominantly moderate with the occasional rough sea. In December and January 50% of the sea and swell conditions can be expected to be consistently moderate to rough and calm seas are the exceptions throughout the area.

During the change between the monsoon seasons in March/April and again in October, there is a marked improvement in the sea and swell conditions where an expectancy of 80% for smooth to slight seas can be experienced.

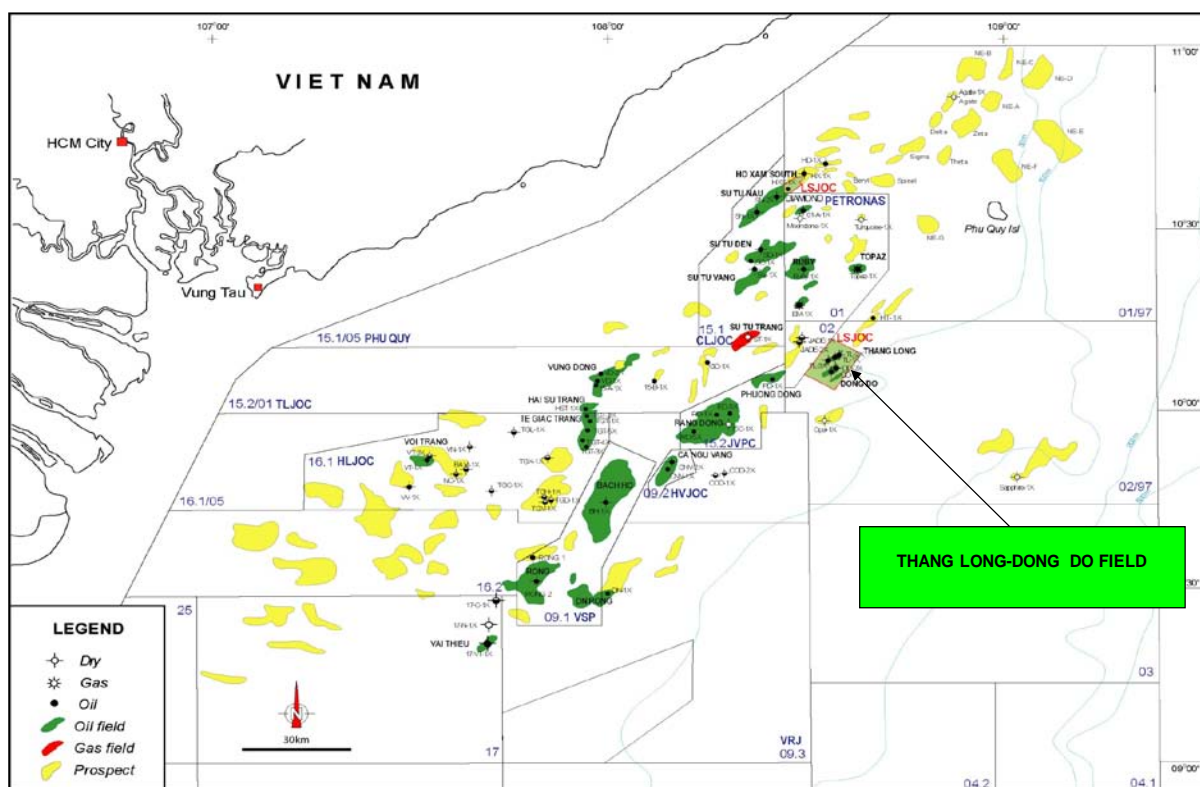
17.5 Climate

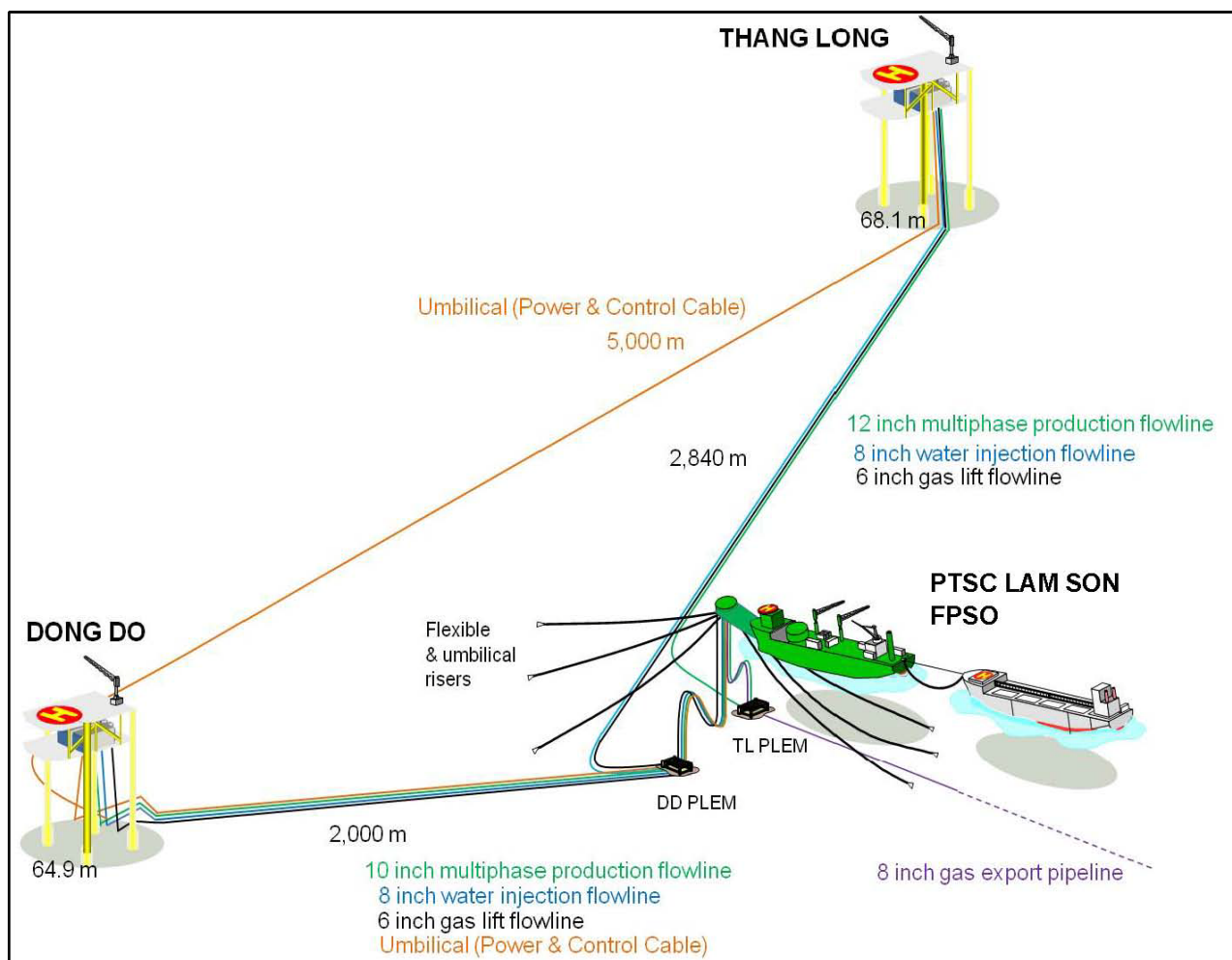
The region, influenced by the north-east and south-west monsoonal systems, is subject to seasonal wind shifts. The south-west or summer monsoon period, which extends from May to September, is characterized by prevailing south-westerly winds and high rain falls (greater than 200 mm/month). The north-east or winter monsoon, from November to February, is a period of predominantly north-east winds and lower rain fall (less than 70 mm/month). During the change from the winter monsoon to the summer monsoon (March to April), winds are variable and rain fall is low (less than 30 mm/month). The minimum air temperature is 21°C. and maximum 35°C.

17.6 Sea Water Temperature and Salinity

The average seawater temperature is about 26°C, the minima being expected during February and maximal during August. The salinity of the China Sea is extremely variable and is in direct contrast to the near uniform sea surface temperature experienced. In general, water masses of low salinity form at the surface and high salinity water of oceanic origin is found at depth. Between these two masses, a large current to and from such that many regions are alternately filled with waters of different origin resulting in large seasonal variations of salinity.

The source of low salinity are the mouths of the big rivers; the Mekong in Vietnam is a typical example where the discharge of the river has a greater influence on the salinity than the actual rainfall. The bottom is gently undulated from 60 m, generally sandy





APPENDIX 2: THANG LONG - DONG DO TERMINAL SHIP / TERMINAL SAFETY CHECK LIST

Vessel'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 Vessel 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.

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

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
- R - indicates items to be re-checked at intervals not exceeding that agreed in the declaration

PART A – BULK LIQUID GENERAL – PHYSICAL CHECKS

	S	T	Code	Remark
1 The vessel is securely moored	<input type="checkbox"/>	<input type="checkbox"/>	R	
2 The agreed ship/shore communications system is operative	<input type="checkbox"/>	<input type="checkbox"/>	A R	System: Backup System:
3 The ship's fire hoses and fire-fighting equipment are positioned and ready for immediate use.	<input type="checkbox"/>		R	
4 The ship's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended	<input type="checkbox"/>		PR	
5 The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection	<input type="checkbox"/>	<input type="checkbox"/>		
6 Scuppers and save-alls on board are effectively	<input type="checkbox"/>	<input type="checkbox"/>	R	

S	T	Code	Remark
7	<input type="checkbox"/>	R	Temporarily removed scupper plugs will be constantly monitored
8	<input type="checkbox"/>		The ship's unused cargo and bunker connections are properly secured with blank flanges fully bolted
9	<input type="checkbox"/>		All cargo, ballast and bunker tank lids are closed
10	<input type="checkbox"/>		Sea and overboard discharge valves, when not in use, are closed and visibly secured
11	<input type="checkbox"/>		All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open
12	<input type="checkbox"/>		The ship's emergency fire control plans are located externally

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

13	<input type="checkbox"/>	R	Fixed IGS pressure and oxygen content recorders are working
14	<input type="checkbox"/>	P R	All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume

PART B – BULK LIQUID GENERAL – VERBAL VERIFICATION

15	<input type="checkbox"/>	P R	The ship is ready to move under its own power
16	<input type="checkbox"/>	R	There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in the terminal
17	<input type="checkbox"/>	R	There are sufficient personnel on board and ashore to deal with an emergency
18	<input type="checkbox"/>	AR	The procedures for carg, bunker and ballast handling have been agreed
19	<input type="checkbox"/>	A	The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood
20	<input type="checkbox"/>	PR	Material safety data sheets (MSDS) for the cargo transfer have been exchanged where requested.

	S	T	Code	Remark
21 The hazards associated with toxic substances in the cargo being handled have been identified and understood	<input type="checkbox"/>	<input type="checkbox"/>		
22 The agreed tank venting system will be used	<input type="checkbox"/>	<input type="checkbox"/>	AR	Method:
23 The requirements for closed operations have been agreed.	<input type="checkbox"/>		R	
24 The operation of the P/V system has been verified.	<input type="checkbox"/>			
25 Independent high level alarms, if fitted, are operational and have been tested.			A	
26 Smoking rooms have been identified and smoking requirements are being observed	<input type="checkbox"/>	<input type="checkbox"/>	AR	
27 Naked light regulations are being observed.	<input type="checkbox"/>	<input type="checkbox"/>	R	
28 Ship/shore telephones, mobile phones and pager requirements are being observed.	<input type="checkbox"/>		AR	
29 Hand torches (flashlights) are of an approved type.	<input type="checkbox"/>	<input type="checkbox"/>		
30 Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switch off.	<input type="checkbox"/>			
31 Portable VHR/UHF transceivers are of approved type.	<input type="checkbox"/>	<input type="checkbox"/>		
32 The ship's main radio transmitter aerials are earthed and radars are switched off.	<input type="checkbox"/>			
33 Electric cables to portable electrical equipment within the hazardous area are disconnected from power.	<input type="checkbox"/>	<input type="checkbox"/>		
34 Window type air conditioning units are disconnected.	<input type="checkbox"/>			
35 Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapours, are closed	<input type="checkbox"/>			
36 Measures have been taken to ensure sufficient mechanical ventilation in the pump room.	<input type="checkbox"/>		R	

	S	T	Code	Remark
37 There is provision for an emergency escape.	<input type="checkbox"/>	<input type="checkbox"/>		
38 The maximum wind and swell criteria for operations has been agreed.	<input type="checkbox"/>	<input type="checkbox"/>	A	Stop cargo at: Disconnect at: Unberth at:
39 Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	A	N/A

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

Inert Gas System

	S	T	Code	Remark
40 The IGS is fully operational and in good working order.	<input type="checkbox"/>		P	
41 Deck seals, or equivalent, are in good working order.	<input type="checkbox"/>		R	
42 Liquid levels in pressure/vacuum breakers are correct.	<input type="checkbox"/>		R	
43 The fixed and portable oxygen analysers have been calibrated and are working properly.	<input type="checkbox"/>		R	
44 All the individual tank IGS valves (if fitted) are correctly set and locked.	<input type="checkbox"/>		R	
45 All personnel in charge of cargo operations are aware that in the case of failure of the Inert Gas Plant, discharge operations should cease, and the terminal be advised.	<input type="checkbox"/>			

Declaration:

We the undersigned 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 Lifting Tanker	For Terminal
Name:	Name:
Rank: Master/Chief Officer of Lifting Tanker	Position: Terminal Representative
Signature:	Signature:
Date: Time:	

Pre-Berthing Check List

M/T: _____

Port: Thang Long – Dong Do Terminal

Date: _____

Time: _____ Cargo No. _____

	PRE-BERTHING CHECKS	YES/NO
1	Main engine, steering gear and bridge equipment have all been tested and are working satisfactorily?	
2	Are BOTH achors secured by stoppers?	
3	Is the lifting tanker's trim less than 3 meters and is the propeller immersed?	
4	Are derricks/cranes ready to lift the mooring gear and cargo hose?	
5	Are messengers, heaving lines and other equipment ready for mooring operations?	
6	Is a messenger and heaving line available in order to retrieve and make fast the tug's towing wire?	
7	Is lifting tanker's I.G System fully operational and all cargo fittings gas tight under a positive pressure?	
8	Are lifting tanker's cargo tanks fully inerted and with an oxygen content of less than 8% by volume?	
9	Can the lifting tanker load and de-ballast concurrently?	
10	Can the lifting tanker load, ullage and sample cargo tank spaces under " CLOSED LOADING" conditions?	
11	Can the lifting tanker's air-conditioning system be operated in a re-circulatory mode?	
12	Can the lifting tanker vent ALL cargo tank spaces through a single vent/master riser?	
13	Are the lifting tanker's fire pumps operational? Fire main is to be pressurised at all times during cargo transfer?	

PRE-ARRIVAL REQUIREMENTS

FROM: LAM SON JOC MARINE COORDINATOR FAX: 84 – 8 – 54160580

TO: MASTER OF MT.

DATE:

No of pages: 05

WELCOME TO THANG LONG - DONG DO TERMINAL

**THANG LONG - DONG DO FIELD IS OPERATED IN A SAFE AND POLLUTION FREE MANNER AND
WE ASK FOR YOUR CO-OPERATION
IN MAINTAINING OUR HIGH STANDARDS**

You should be able to answer ‘YES’ to the following questions:

1. Your propeller and rudder will be submerged throughout the time you are berthed at the THANG LONG - DONG DO Terminal and that your vessel's trim will never exceed 0.015 L, where 'L' is the length of your vessel.
2. Your engines and rudder are functioning correctly and there is no limitation on the maneuverability of your vessel.
3. Your cargo tanks are inerted, that is with an oxygen content less than 8 percent.
4. You will be able to conform to the requirements of the ISGOTT Ship – Shore Safety Checklist.
5. Lifting equipments relating to the hawser/hose handling are to be well certified and inspected, make sure that they are ready and fit for purpose before use.
6. All alcoholic consumption is not allowed in this Terminal..
(This requirement will be rigorously enforced)
7. You have prepared a loading plan for presentation to the Terminal.
 - Loading cargo : bbls
 - Loading rate :.....bbls/hr.
8. You have enough **07** beds for lifting crew staying on your tanker during offtake operation.

You should comply with the following:

1. Do not enter the Marine Exclusion Zone unless instructed to do so. Brief Terminal data as follow:

General Data	
Port Name	BINH THUAN
Terminal Name	THANG LONG - DONG DO
Local time	GMT + 7 hours

VHF channels	67
Berth	FPSO “PTSC LAM SON”
FPSO PTSC LAM SON Inmarsat	Phone: +870 773 162 851
	Fax: + 84 8 54161408 / +870 783 903 302
Berth Type (SBM, CBM, “T” Jetty, Finger-pier, Alongside, Sea-Island)	Single Buoy Mooring (SBM)
THANG LONG - DONG DO Berth Position	Lat. 10°08'02.508" N Long. 108°34'03.253" E
Marine Exclusion Zone	An area proposed by LSJOC with circle shape bordered by three circles with 2n.n radius and centrals at THANG LONG WHP (Lat.10°09'31.212" N; Long. 108°34'30.412" E), DONG DO WHP (Lat.10°07'00.194" N; Long. 108°33'44.176" E) and FPSO PTSC LS (Lat.10° 08'02.508"N; Long. 108°34'03.253"E)
Recommended Anchorage Area	A circle of one nautical mile radius formed by the centre point with coordinates: 10°04'00"N - 108°37'00"E.
Type of bottom (sand, mud, rock, etc.); water depth	Soft clay ; 64 – 68m
Number and size hose	1 x 12"
Expected load / discharge rates in bbl/hr	Max 25,000 bbl/hr through 01 x 12" line
Manifold position to be used for hose connection (port, starboard)	Port side manifold
API	About 36.0
Pour Point	About 30 degrees Celcius
Cargo temperature at receiving tanks	About 52°C or 125°F
Terminal Operator Contact	
Name	TRAN NAM TIEN
Telephone Number	84.8.54160581/2/3/4/5/6 Ext. 422
Hand phone	84.90 3123 877
Fax Number	84.8.54160580
E-Mail	tientn@lsjoc.com.vn

- Report to the FPSO –PTSC LAM SON Operation Superisior (VHF **Ch 67**) when 10 miles away and follow any instruction he may give.
- Do not throw any rubbish overboard when in the vicinity of the THANG LONG - DONG DO Terminal.
- Do not anchor within the Marine Exclusion Zone. Please refer to the Terminal Regulations and contact the FPSO “–PTSC LAM SON” Operations Supervisor or Mooring Master on VHF **Ch 67** for advice
- Following are positions of offshore installations in the field:

Position of THANG LONG WHP (Fixed):

Lat. 10°09'31.212" N

Long. 108°34'30.412" E

Position of DONG DO WHP (Fixed):

Lat. 10°28'10.81" N

Long. 108°26'16.01" E

Position of PVD2 Rig :

Lat. TBA

Long. TBA

All tankers are requested to keep safe distance (Not less than 2n.m) from THANG LONG WHP, DONG DO WHP, PVD2 rig and FPSO "–PTSC LAM SON" .

You will be required to have/implement the followings:

1. A pilot ladder rigged on the port side in accordance with the SOLAS Chapter 5 regulations. Ladder to be 1.5 metres above the water and combined with a gangway.
2. A winch barrel with direct lead to the chain stopper to be empty and of sufficient capacity to accept a 220 metre 24mm messenger and 150 metre 72mm pick-up line for taking up the tandem mooring system.
3. You will be required to have a tow from a static tow vessel secured to your vessel stern from the time approach commences. This vessel may be disconnected upon completion of berthing for floating hose transfer to your midship manifold, therefore, your main engine will be utilized for keeping your ship in safe distance off the FPSO stern. This boat shall be reconnected to your tanker stern for static tow purpose and remains secured until the completion of lifting operation. The towing lines will be provided by the static tow vessel. As this is a heavy wire, you will be required to have proper equipments for picking it up and putting it on to bollard.
4. We normally carry out boatless hose transfer . In order to have smooth operation, before Arrival at terminal, please prepare the followings:
 - Starboard Aft spring winch (in front of the Accommodation Block) is kept empty and ready to use;
 - Deployment of Tanker's messenger line: 24mm diam. x 200 M fibre rope should be arranged (see attached Sketch).
5. *Pre-loading cargo pipelines draining into cargo tanks should be conducted in witness of the Terminal Representative and Cargo Surveyor before commencement of tank inspection for purpose of correct OBQ determination and correct cargo quantity determination after completion of loading.*
6. *For high accuracy of FPSO Custody Transfer Meter – Prover Unit, loading rate should be maintained as stable as possible throughout the loading operation except start –up, topping – off, PPD (Pour Point Depressant) injection into Export Floating Hose string before stop of pumping or in case of necessity.
Duration of deviation from stable loading rate should be minimized.*

7. Please advise the following ship security information: *Ship current Security Level; Current potential threats; Any security incident happened for the last five ports of call, if Yes please clarify; Any security measures if vessel requires Terminal to coordinate.*

LSJOC contact for ship security issues	Phone	Fax	Email
Company Security Officer	84 (8) 54160581 Ext.422 Mobile: 84. 903 123 877	84 (8) 54160580	tientn@lsjoc.com.vn
FPSO Facility Security Officer	+ 870 773 162 851 + 84 8 54161407	+ 870 783 903 302 +84 8 54161408	fpso.master@ptsc.com.vn

8. Please advise Master's Name to be appeared on Bill of Lading:
9. Please have a stinger (>2 m long) with SWL>3T attached to manifold crane hook for safe picking up a terminal toolbox.

For your information:

Security level at Thang Long - Dong Do terminal : 01

Personnel Transfer to lifting tanker: *If weather at terminal is beyond operational limits in terms of wind speed and wave height, Terminal/Operator will declare "closed" for berthing.*

*If weather is marginal for berthing but not safe for personnel transfer by field vessel, your tanker will be requested to proceed to Vung tau Pilot Boarding Ground, which is 4.5 n.m south of **Mui Vung tau point (10°14'30"N / 107°05'00"E)**. Time and cost to be on crude oil buyer's/charterer's/shipowner's account.*

You will be receiving your cargo from the Floating Production Storage and Offloading unit "–PTSC LAM SON" through a floating export hose of 270 metres in length with a 400mm Camlock for connection to your vessel midship manifold on **port side**.

The length of the tandem mooring is 70 metres. Hawser tension measuring equipment is installed on the "PTSC LAM SON".

The Mooring Master will conduct a Terminal Safety Inspection of your vessel before mooring is allowed to commence.

A Toolbox Meeting will be held on board your vessel before operations commence.

This should be attended by all those of your crew who have supervisory responsibilities for any aspect of the tandem mooring and lifting operation.

Overall authority for all operations in the Block 01/97 & 02/97 are with the LSJOC OIMs (Offshore Installation Manager) who are on the floating production and storage unit "PTSC LAM SON" .

Please advise your 72, 48, 24 and 12 hours before arrival. ETAs should be transmitted to the following:

1/ Lam Son JOC - HCM City, fax: 84.8.54160580 Attn: Marine Co-ordinator ; Lifting Co-ordinator

2/ FPSO PTSC LAM SON, fax: + 84 8 54161408

Attn: OIM, FPSO Master

CARGO DOCUMENTATION

Please have ready on arrival your written requirements;

1. Request for cargo quantity to be loaded (Or “Cargo Quantity Options Certificate” to be signed by Master, Terminal Representative, Cargo Surveyor before cargo transfer)
2. Request for Early Departure Procedure in case B/L shall not be issued at Terminal after completion of loading.

Please copy to your agent all communications made to the Terminal as this avoids any difficulties which might occur after your vessel departure.

The FPSO “PTSC LAM SON” is equipped with a metering unit and the Bill of Lading figures will be as measured by this equipment. However, a cargo survey will be conducted on your vessel before and after loading as a back-up.

The metering unit will also provide a representative sample of the cargo transferred.

A representative sample will be placed on board your vessel prior to departure.

EARLY DEPARTURE PROCEDURE

In some necessary circumstances, to minimize delay to your vessel after completion of loading, Early Departure Procedure (EDP) shall be applied.

To take advantage of this arrangement, please give a Letter of Authority to your agent to sign cargo documentations on your behalf and copy this letter to the LSJOC Marine Coordinator.

After your vessel has sailed, an unsigned non-negotiable copy of the Bill of Lading with the cargo figures will be transmitted to you for your consideration. Please respond promptly to the Agent your agreement in order to complete the official documentations.

Lam Son JOC trust that the foregoing has been helpful and that your visit to the THANG LONG - DONG DO Terminal will be mutually successful.

LAMSON JOINT OPERATING COMPANY

Capt. Tran Nam Tien - Marine Coordinator

ACKNOWLEDGED BY

MASTER OF MT.

APPENDIX 3: Thang Long - Dong Do Terminal(OFFSHORE VIETNAM) 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 <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>				
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 <input type="checkbox"/> No <input type="checkbox"/>		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 <input type="checkbox"/> No <input type="checkbox"/>	2.28
OCIMF/ICS Ship to Ship Transfer Guide (Petroleum):	Yes <input type="checkbox"/> No <input type="checkbox"/>	2.31
Is the vessel entered with ITOPF?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
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 <input type="checkbox"/> No <input type="checkbox"/>	
In case of Flag Of Convenience (FOC), is the ITF Special Agreement on board?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
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 <input type="checkbox"/> No <input type="checkbox"/>	8.48
Can vessel operate under closed conditions in accordance with ISGOTT 7.6.3?	Yes <input type="checkbox"/> No <input type="checkbox"/>	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 vapour return system fitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	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 <input type="checkbox"/> No <input type="checkbox"/>	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 <input type="checkbox"/> No <input type="checkbox"/>	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 <input type="checkbox"/> No <input type="checkbox"/>	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 <input type="checkbox"/> No <input type="checkbox"/>	9.17
MOORING ARRANGEMENTS		
Number / length / diameter / breaking strength of wires:	<u>On Drums</u>	
Focsle:		10.2
Main deck fwd:		10.3
Main deck aft:		10.4
Poop:		10.5
Number / length / diameter / breaking strength of ropes:	<u>On Drums</u>	
Focsle:		10.11
Main deck fwd:		10.12
Main deck aft:		10.13
Poop:		10.14
	<u>Other Lines</u>	
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 <input type="checkbox"/> No <input type="checkbox"/>	10.60
Is vessel fitted with chain stopper(s)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	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
MISCELLANEOUS		
P & I Club name:		
Last three cargoes (Last / 2 nd Last / 3 rd Last):		
Last three charterers (Last / 2 nd Last / 3 rd Last):		
Last three voyages (Last / 2 nd Last / 3 rd Last):		
Date of last SIRE Inspection:		
Date of last CDI Inspection:		
Current Oil Major Company Approvals (TBOOK):		
Date and place of last Port State Control:		
Any outstanding deficiencies as reported by any Port State Control?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, provide details:		

PART 2: THANG LONG - DONG DO 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?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	Have last two cargoes been crude oil/petroleum products?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	Is Crew experienced with crude oil/petroleum product transfers?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	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?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	Can double hull spaces be inerted?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3. CLASSIFICATION SOCIETY, SURVEYS, & CERTIFICATES			
3.2	Enhanced Survey	YES <input type="checkbox"/>	NO <input type="checkbox"/>
3.3	CAP Issue Date		
4. MOORING ARRANGEMENTS			
4.1	Distance: Panama Fairlead to Bow Chain Stopper (m):		
4.2	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	Are the Forecastle Mooring Winch Storage Drums able to accommodate the 150mx80mm pick-up rope ?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
4.5	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 <input type="checkbox"/>	NO <input type="checkbox"/>
5. CARGO ARRANGEMENTS			
5.1	Is inert gas system fully operational? If NO, explain.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5.2	If fitted with a closed gauging and sampling system, is system fully functional? If NO, explain.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5.3	Is the vessel's loading and discharge equipment fully operational? If NO, explain.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
5.4	What is the maximum loading rate the vessel can receive through 1 x 12" midship manifold line?	BBLS/HR	
6.0 VESSEL MANNING			
6.1	Number of Deck Officers on board (excluding Master)		
6.2	National License of Master 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 <input type="checkbox"/>	NO <input type="checkbox"/>
6.4	Owner/Operator warrants that ALL crewmembers hold the appropriate certifications as required by STCW.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
6.5	Owner/Operator warrants that they comply with OCIMF Drug & Alcohol Policy Guidelines.	YES <input type="checkbox"/>	NO <input type="checkbox"/>
7. ISPS CODE			
7.1	Full style of Company Security Officer (Name, address, telephone/fax numbers; email)		
7.2	Name of Ship Security Officer (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 <input type="checkbox"/>	NO <input type="checkbox"/>
8. GENERAL/MISCELLANEOUS INFORMATION			
8.1	Full style 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): 1. Contact Name 2. Telephone No. (including country code & city code); Email		
8.5	Owner/Operator agrees to accept, observe, perform and comply with the Conditions of Use of Thang Long - Dong Do Terminal, and that all services, facilities and assistance at the Thang Long - Dong Do Terminal are provided to the vessel subject to those Conditions.	YES <input type="checkbox"/>	NO <input type="checkbox"/>

9. HELICOPTER WINCHING

1.	Where is the winching area located?				
	a)	Forward <input type="checkbox"/>	Midships <input type="checkbox"/>	Aft <input type="checkbox"/>	
	b)	Port <input type="checkbox"/>	Starboard <input type="checkbox"/>	Centre <input type="checkbox"/>	
2.	What is the size of the winching area? (Refer to Figure 3 – for “Super Puma” Helicopter AS332L/L1): and specify diameters of Clear , Intermediate and Manoeuvring Zones				
3.	Is the fire fighting equipment or its equivalent available for helicopter operations as per ICS Guide to Helicopter /Ship Operations Third Edition, May 1989?			YES <input type="checkbox"/>	NO <input type="checkbox"/>
4.	Is the rescue and medical equipment in serviceable condition close to the helicopter operating area as per ICS (International Chamber of Shipping) Guide to Helicopter /Ship Operations Third Edition, May 1989?			YES <input type="checkbox"/>	NO <input type="checkbox"/>
5.	Is VHF AM Aeronautical radio 118-136 Mhz available			YES <input type="checkbox"/>	NO <input type="checkbox"/>
6.	Are the ship side rails in way of the helicopter landing zone collapsible?			YES <input type="checkbox"/>	NO <input type="checkbox"/>
7.	How many helicopter operations has the Vessel handled in the last 12 months?				
8.	Does the Vessel have the ICS (International Chamber of Shipping) Guide to Helicopter /Ship Operations Third Edition, May 1989 on board?			YES <input type="checkbox"/>	NO <input type="checkbox"/>
9.	Does the P&I insurance cover aviation operations?			YES <input type="checkbox"/>	NO <input type="checkbox"/>

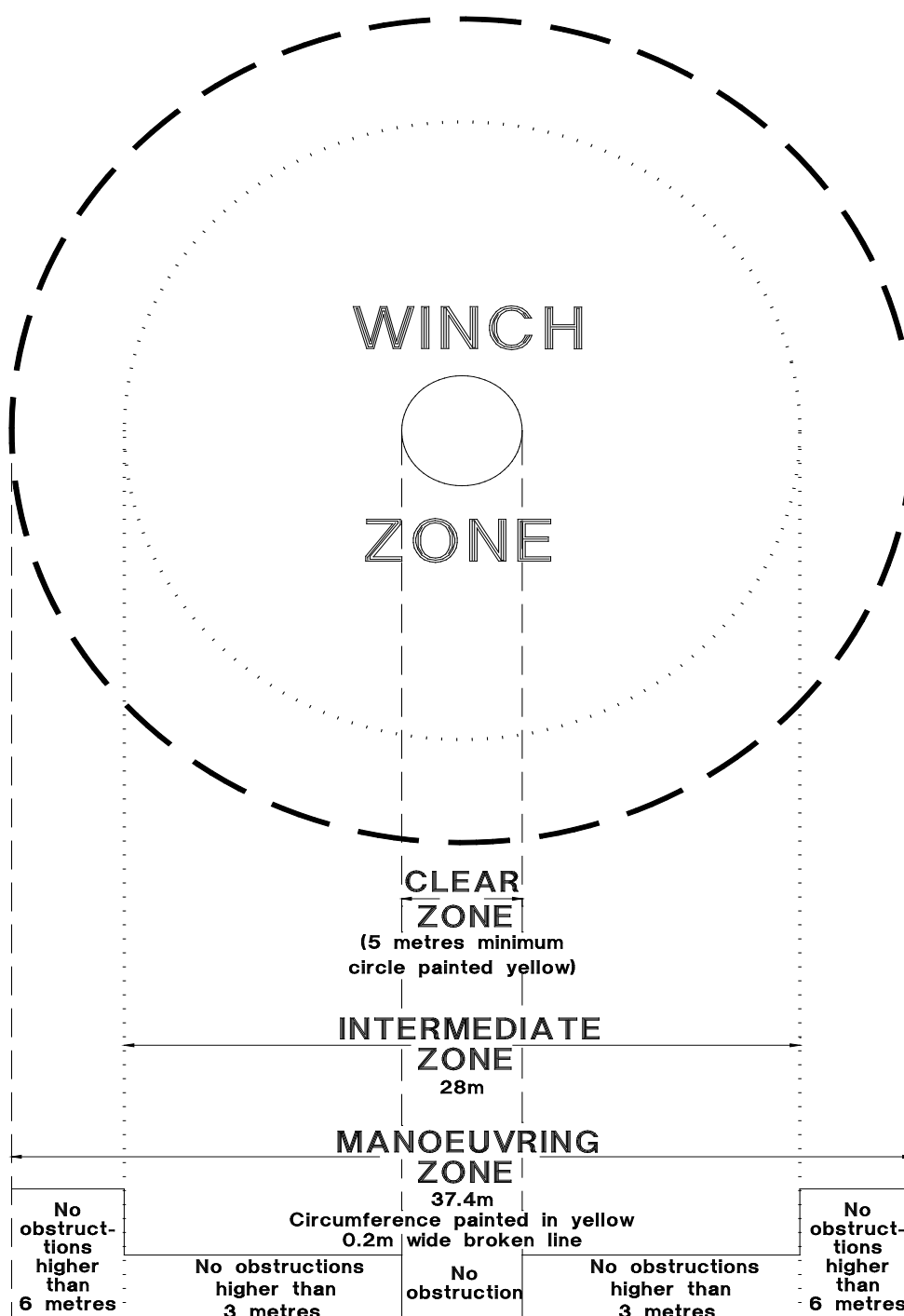


Figure 1: REQUIRED HELICOPTER WINCHING ZONE LAYOUT
(D = 18.7m for Super Puma AS332L/L1 – Normal type of helicopter utilized for Thang Long - Dong Do oilfield)

APPENDIX 4: THANG LONG - DONG DO TERMINAL Fire Regulations and Smoking Restrictions

Vessel:

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 5: THANG LONG - DONG DO TERMINAL CONTINGENCY PLAN IN THE EVENT OF FIRE
DURING LIFTING OPERATIONS**

TO BE POSTED IN PROMINENT LOCATIONS
ON EXPORT TANKER AND FACILITY

IN THE EVENT OF FIRE ON EXPORT TANKER:

Export 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 Export Tanker

- Sound alarm
- Inform FPSO
- Stop cargo operations
- Close loading valves on instructions from FPSO
- Fight fire
- Engines ready

Action Aboard FPSO

- Sound alarm
- Inform Export Tanker
- Issue instruction to Export Tanker
- Stop cargo operations
- Close delivery valves
- Fight fire
- Inform all field stations of situation.

Standby to:

- Release tug to fire fighting duties
- Disconnect hoses on instruction from FPSO
- Cast off mooring line
- Take aboard fire-fighting party
- Receive instructions from Mooring Master

Standby to:

- Disconnect Export Tanker mooring
- Take aboard fire fighting party
- Inform standby boat
- require helicopter assistance
- Contact outside assistance
- When possible contact LSJOC office/operation management for combined approval & efforts.

APPENDIX 6: Thang Long – Dong Do MEZ



THANG LONG - DONG DO FIELD MARINE EXCLUSION ZONE

**PILOT BOARDING AREA (GOOD WEATHER)
RECOMMENDED ANCHORAGE AREA**

