

SONG DOC MARINE TERMINAL INFORMATION

DATE: JULY 2, 2009

SECURITY LEVEL: 1

- (1) PORT: *CA MAU* COUNTRY: *VIETNAM* (2) TERMINAL: *SONG DOC MARINE TERMINAL*
 (3) LOCATION: LAT: *07°09'39.80"N* LONG: *104°03'21.09"E*
 (4) BERTH INFORMATION: *There are 2 offshore facilities at the oil field: Spread moored (Fixed heading) FPSO MV19 and Well Head Platform located on starboard side of FPSO at distance of 30m away from FPSO side in position 07°09' 39.81" N; 104°03' 21.06" E*
 (4.1) (Under Type of Berth advise if sbm, cbm, jetty, pier, wharf etc.)

Name of berth	Type of berth	Depth Alongside (4.3)	Max LOA	Max beam	Max draft (4.4)	Max displacement	Max height of manifold Above sea level	Max bow to centre manifold	Products handled (4.6)	Ballast & slop Reception (4.10)
<i>FPSO MV19</i>	<i>FPSO</i>	<i>54m</i>	<i>NA</i>	<i>50m</i>	<i>NA</i>	<i>150,000 MT</i>	<i>NA</i>	<i>130m</i>	<i>CRUDE</i>	<i>NA</i>

(4.2) Additional requirements:

- *Derrick is not accepted. Midship manifold crane with SWL not less than 15T for hose handling. Crane hook is of a safety type complete with a safety latch or self-locking hook; and be fitted with a stinger to keep the block clear of personnel.*
- *Closed loading.*
- *Ballast , Trim & drafts: to maintain at least thirty (30) percent of its summer dead weight; to keep its propeller submerged; to ensure that it is not trimmed more than three (3) meters by the stern; and to ensure that its forward draft is such that the loading hose cannot be caught under the Export Tanker's bow.*

(4.3) Depth alongside refers to: *Lowest Astronomical Tide*

(4.4) Draft limited by: *N/A*

(4.5) Other limitations (including minimum) of any kind: *Weather criteria for personnel transfer from FPSO to tanker is Hs <2.0m, Av. Wind speed <20kts*

(4.6) Product handled: **CR = Crude**: CL = Clean: BL = Black: K - Chemicals: NG = Natural Gas: PG = Petroleum Gas

(4.7) Mooring Arrangements:

- *OCIMF 'Recommendations for Equipment Employed in the Mooring of Vessels at Single Point Moorings with at least 1X 76mm Chain Stopper. Smit Bracket is not accepted.*
- *Stern tow is secured to a strong point (Bollard with SWL >80T) on the tanker stern. Towline is provided by tug boat.*
- *Safe sector (+/- 45° on either side of FPSO centerline) for tanker to approach to spread moored (Fixed heading) FPSO is applied. Safe sector for station keeping of tanker during the pumping operation also established. Criteria for cargo stop/hose disconnect/unberth will be discussed and agreed before berthing.*

(4.8) Hoses/Arms: *12" Tanker Rail Hose as per OCIMF standard will be connected to stbd side midship manifold (Flanges are ANSI 150, steel) using camlock coupling. OCIMF 'Recommendations for Oil Tanker Manifolds and Associated Equipment is applied. There is a Marine Breakaway Coupling installed between the hose section No 3 and 4 off the tanker manifold to serve as emergency disconnect the hose from terminal.*

(4.9) Cargo Handling: *Maximum pumping rate is 14,000 bbls/h. Top up rate is about 400cbm/h with PPD (Pour Point Depressant) injection. Cargo transfer may be stopped and hose is disconnected if the tanker is outside safe sector. Crane and manpower must be ready at short notice for emergency disconnection.*

(4.10) Ballast & Slop Handling: *There is no reception facility for slop and ballast water*

(4.11) Other: *SOLAS pilot ladder arrangement for embarkation and disembarkation of terminal personnel. Early Departure Procedure may apply subject to the discretion of terminal representative.*

(5) WEATHER: *SW monsoon with squall, thunderstorm and lightning*

(6) NAVIGATION AND OCEANOGRAPHIC INFORMATION:

(6.1) Charts and sailing directions:

Approach: *BA charts 3542 & 2114*

Sailing Directions: *South China Sea Pilot Vol.1*

Harbor: *Ca mau*

(6.2) Tidal Information: *Diurnal. Tidal range about 1m*

(6.3) Anchorage(s): *a circle with a radius of one (1) nautical mile with Center at Latitude:07°09'39.80"N; Longitude:104°07' 21.09" E. Holding/anchoring ground within this predetermined area is considered good. Anchoring within the terminal limits is strictly prohibited. The sea water depth around the area is approximately (55 m.*

Terminal limits: an area within a radius of two (2) nautical miles surrounding the WHP and the FPSO.

(6.4) Approach/Departure Channel: *Dependent on monsoon season.*

- *NE monsoon: Approach to moor to stern of FPSO*
- *SW monsoon: Approach to moor to the bow of FPSO*

(6.5) Turning Basin: *outside the 500m- radius Safety Zone*

(6.6) Fog Signals: *IALA Morse "U" navigation lights on WHP 07° 09' 39.81" N; 104° 03' 21.06" E and FPSO 07° 09' 39.80" N; 104° 03' 21.09" E*

(7) PILOTAGE: *Compulsory as per Vietnam Maritime Code. A local pilot will board together with Terminal Mooring Master and Bowman.*

(8) TOWAGE: *01 Static Tow boat with 65T bollard pull secured to tanker stern and 01 Standby boat in close standby to assist in pushing or pulling to bring the tanker back into safe offtake sector. No ullaging/sampling/venting during intervention of the Standby boat at tanker side.*

(9) IGS AND COW: *Oxygen content below 8% must be maintained.*

(10) COMMUNICATIONS: *ETA at the anchorage area on departure from their last port of call and 72 hours, 48 hours and 24 hours before arrival.*

- *Terminal Operator contact:
Email: cbphuong@tsjoc.com.vn & nqdoanh@tsjoc.com.vn.*

Phone: +84 38247260 Ext. 207 or 210

• *FPSO MV19:*

Call Sign: 3ERK5

VHF Working Channel: 74

VHF Secondary Channel: 16

Telephone: IDD access + 870-764871797/764871795

Fax: IDD access + 870-764871796

(11) EMERGENCY PROCEDURES: *Emergency procedure will be discussed & documented in an attachment to Ship Shore Safety Checklist*

(12) SAFETY PROCEDURES:

- *ISGOTT latest edition is applicable.*
- *No venting from cargo tank when helicopter landing operation at FPSO*
- *Radar is on standby for detecting squall during night time*
- *Mooring Master keeps 24-hour watch on the bridge to ensure tanker is inside the safe sector.*
- *Main Engine, Deck machinery/hose handling crane must be ready at 5 minute notice for connecting the tow line from Standby boat, for emergency hose disconnect and casting off from FPSO.*

(13) POLLUTION:

- *There are no reception facilities at terminal.*
- *No materials shall be thrown overboard.*
- *Discharge of oily slops into the sea is strictly prohibited*
- *Any spillage or leakage must be reported immediately to the Mooring Master.*

(14) COMPLIANCE WITH REGULATIONS/SAFETY GUIDELINES:

Vietnam Maritime Code 2005

Government Decree No 71/2006/NĐ-CP

Nam Can Harbor Regulations

Song Doc Marine Terminal Information and Regulations

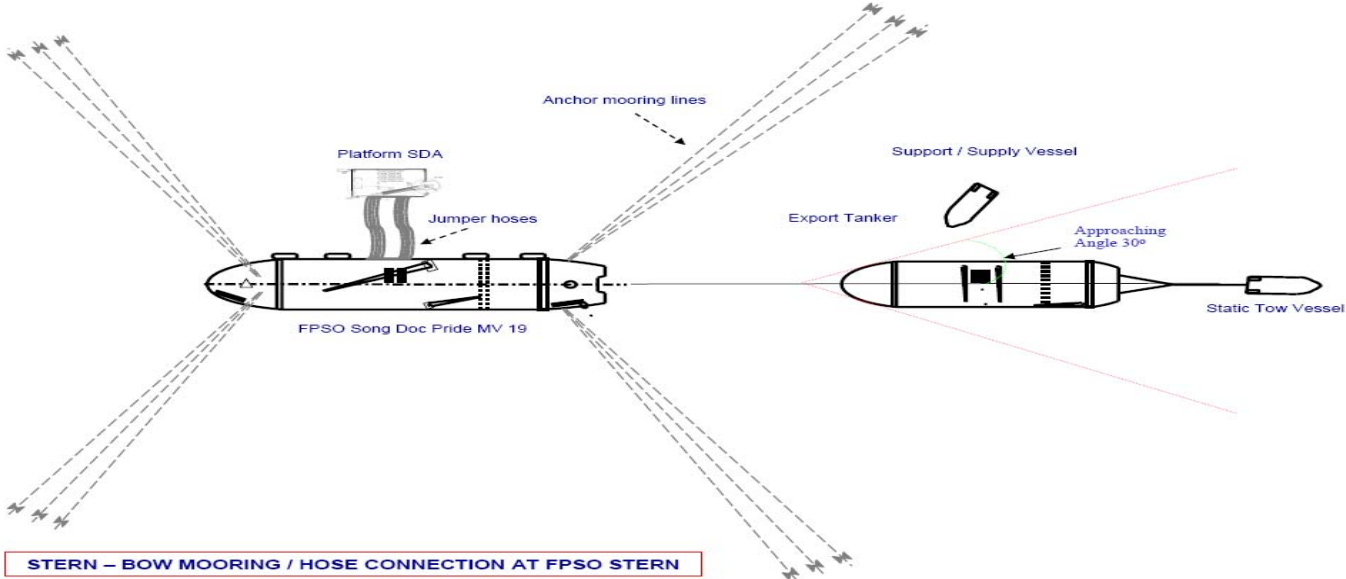
OCIMF ISGOTT latest edition

OCIMF guidelines: SPM mooring, Manifold arrangement, Mooring Equipment

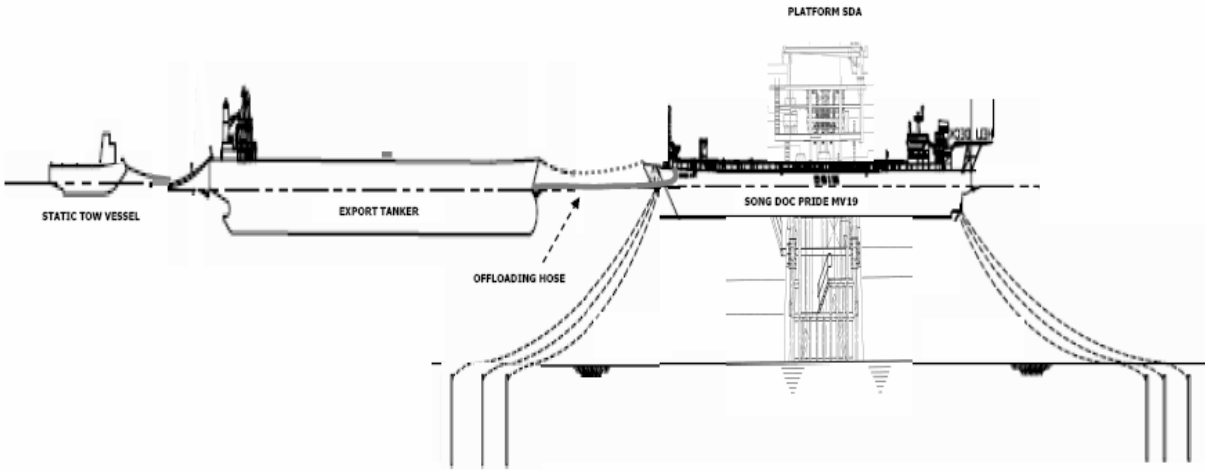
(15) OTHERS: *There is no bunker and store supply at the terminal*

N.B. The foregoing is a summary of important operational information. Full details of the port &/or terminal can be found in the latest Song Doc Marine Terminal information and Regulations Booklet.

PLAN(S) OF TERMINAL BERTHING ARRANGEMENTS



Export tanker approach to FPSO stern in NE monsoon season



Export tanker moored to FPSO bow in SW monsoon season