Port of Jazan

Primary & Downstream Industries

General Rules & Information,

Jazan Refinery Marine Terminals,

Including Contents Page

Port of Jazan
Primary & Downstream Industries

Contents

JPDI Port

Port of Jazan
Primary & Downstream Industries

RULES REGULATIONS AND GENERAL INFORMATION

1 Port Description

1.1 Saudi Aramco Terminal – Sea Boundaries/Exclusion Zones

The Saudi Aramco Refinery Marine Terminal comes within the JPDI Port Authority boundary.

2 Navigational Information

2.1 Meteorology

2.1.1 Winds

The prevailing wind is from West to North West. Winds of any strength tend to create short steep seas, which develop quickly. Westerly winds cause heavy seas and swells, which can last for a considerable period. For a more complete description of the winds of the Red Sea, refer to “Sailing Directions.”

2.1.2 Visibility

Visibility in this area is generally fair to good but at times dust is held in suspension in the atmosphere and visibility is reduced to a very short distance. This phenomenon is more deceptive than fog in that mariners are apt to believe visibility to be greater than it actually is.

2.1.3 General Climate and Humidity

The climate of Jazan is comparatively hot for the Red Sea.

During the annual weather cycle, available data shows the most humid month to be January and the least humid month to be July. With an annual average percentage of humidity at 66%.

2.1.4 Tidal Range and Flow

The datum used by Saudi Aramco is based on the Lowest Astronomical Tide (LAT). All depths are quoted in meters. Locally the tidal range varies with approximate heights of 1.10 meters during Spring tides and 0.50 meters at Neap tides.

Heights above LAT; HW Springs = 1.45m, LW Neaps = 0.04m

The tidal current is generally weak but can be up to 1.5 knots. Due to the configuration of the coastline, a system of tidal currents prevails with flood tide setting toward northwest and ebb setting toward southeast. More detailed descriptions of tides and currents in the locality can be found in “Sailing Directions.”

2.2 Charts and Publications

2.2.1 Charts

Charts are available in various forms, including paper-based and digital format, from worldwide hydrographic agencies. Vessels should always use the largest scale chart available, maintained in an up-to-date format with the latest corrections and Notices to Mariners applied.

2.2.2 Tide Tables/Tidal Stream Atlas

Tide Tables are published in various forms, including paper-based books and digital tables. When using tide tables for Saudi Arabian Waters the validity of the data should be supplied by a trusted source- e.g., Saudi Aramco or the UK Admiralty and should be maintained in an up-to-date format with the latest corrections applied.

2.2.3 Pilot Books/Sailing Directions

Pilot Books/Sailing Directions are published in various forms, including paper-based books and digital tables. When using information for Saudi Arabian Waters the validity of the data should be supplied by a trusted source - e.g., Saudi Aramco or the UKHO and should be maintained in an up-to-date format with the latest corrections applied. UK Admiralty publication, NP64 includes the Jazan area.

2.2.4 List of Lights/Fog Signals and List of Radio Signals

List of Lights/Fog Signals and List of Radio Signals are published in various forms, including paper-based books and digital tables. When using information for Saudi Arabian Waters the validity of the data should be supplied by a trusted source- e.g. Saudi Aramco or the UKHO and should be maintained in an up-to-date format with the latest corrections applied.

2.3 Navigational Information and Warnings

Navigational Information and Navigational warnings are broadcast by NAVTEX and Jazan Commercial Port Control Center.

2.4 Buoys, Fairways and Channels

The shape and colors of the buoys in the terminal area and approaches comply with the I.A.L.A. System, Region A.

2.4.1 Main Arrival/Departure Channel

The channel, developed and approved by IMO MSC and NSCR sub-committee is 90 NM transit length and is designed to facilitate the safe passage of all vessels, and particularly VLCC's calling at the SPM.

All vessels should navigate the channel with caution, especially at the entrance where there is a marked shoal of 13.9 meter.

Note: from time-to-time navigational marks may be off station and/or unlit. Please check Notices to Mariners and Nav. Warnings for the most up-to-date information.

Buoy ID	Description	Latitude	Longitude	Flashing Light Characteristics	Color
101	Safe Water Mark	16° 56.772' N	41° 17.365' E	White, ISO 10 S	Red, White
102	Stbd Lateral Mark	16° 56.709' N	41° 18.842' E	Green, FL (2) 5S	Green
103	Stbd Lateral Mark	16° 59.790' N	41° 20.557' E	Green, FL (2) 5S	Green
104	Iso. Danger Mark	16° 59.720' N	41° 19.282' E	White, FL (2) 8S	Red, Black
105	Port Lateral Mark	17° 01.206' N	41° 18.797' E	Red, FL (2) 5S	Red
106	Stbd Lateral Mark	17° 02.537' N	41° 22.340' E	Green, FL (2) 5S	Green
107	Port Lateral Mark	17° 05.413' N	41° 20.794' E	Red, FL (2) 5S	Red
108	Stbd Lateral Mark	17° 08.411' N	41° 24.400' E	Green, FL (2) 5S	Green
109	Port Lateral Mark	17° 10.400' N	41° 22.620' E	Red, FL (2) 5S	Red
110	Stbd Lateral Mark	17° 13.524' N	41° 34.567' E	Green, FL (2) 5S	Green
111	Port Lateral Mark	17° 14.705' N	41°33.299' E	Red, FL (2) 5S	Red
112	N. Cardinal Mark	17° 17.407' N	41° 42.373' E	White, Q (Racon)	Black, Yellow
112A	Port Lateral Mark	17° 19.152' N	41°40.448' E	Red, FL (2) 5S	Red
113	Port Lateral Mark	17° 15.449' N	41° 49.632' E	Red, FL (2) 5S	Red
114	Stbd Lateral Mark	17° 10.198' N	41° 50.998' E	Green, FL (2) 5S	Green
115	Safe Water Mark	17° 10.449' N	41° 53.635' E	White, ISO 10 S	Red, White
116	Stbd Lateral Mark	17° 06.498' N	41° 56.501' E	Green, FL (2) 5S	Green
117	Port Lateral Mark	17° 06.247' N	42° 03.822' E	Red, FL (2) 5S (Racon)	Red
118	Stbd Lateral Mark	17° 02.300' N	42° 02.102' E	Green, FL (2) 5S	Green
119	Stbd Lateral Mark	17° 00.484' N	42° 07.402' E	Green, FL (2) 5S	Green
120	S. Cardinal Mark	17° 04.599' N	42° 07.501' E	White, Q (6) +LFL 15s	Yellow, Black
121	Port Lateral Mark	17° 05.201' N	42° 08.698' E	Red, FL (2) 5S	Red
122	Stbd Lateral Mark	17° 04.949' N	42° 10.405' E	Green, FL (2) 5S	Green
201	Port Lateral Mark	17° 05.437' N	42° 09.759' E	Red, FL (2) 5S	Red
123	Stbd Lateral Mark	17° 06.440' N	42° 11.646' E	Green, FL (2) 5S	Green
124	Port Lateral Mark	17° 09.816' N	42° 13.163' E	Red, FL (2) 5S	Red
125	Stbd Lateral Mark	17° 08.699' N	42° 13.799' E	Green, FL (2) 5S	Green
126	Port Lateral Mark	17° 11.048' N	42° 13.358' E	Red, FL (2) 5S	Red
127	Stbd Lateral Mark	17° 10.501' N	42° 15.398' E	Green, FL (2) 5S	Green

Please be aware that the navigation marks N4 and Bn#2 are close to but not part of the main navigation channel.

Buoy ID	Description	Latitude	Longitude	Flashing Light Characteristics	Color
N4	S. Cardinal Mark	17° 06.0' N	41° 24.5' E	White, Q (6) +LFL 15s	Yellow, Black
Bn #2	Port Lateral Pillar	17° 16.8' N	41° 33.5' E	Red, FL (3) 12 sec (Racon N)	Red

2.4.2 Harbor Channel to / from port basin

JPDI Port Harbor is fitted with two breakwaters that create a shelter to the port basin and berth area. A Green Starboard hand beacon is fitted on the South breakwater and a red Port hand beacon is placed on the West breakwater.

Buoy ID	Description	Latitude	Longitude	Flashing Light Characteristics	Color
128	Stbd Lateral Mark	17° 12.197`N	42° 15.059` E	Green, FL (2) 5S	Green
903	Stbd Lateral Mark	17° 12.522`N	42° 15.344` E	Green, FL (2) 5S	Green
129	Port Lateral Mark	17° 13.467`N	42° 14.488` E	Red, FL (2) 5S	Red
905	Stbd Lateral Mark	17° 13.358`N	42° 16.085` E	Green, FL (2) 5S	Green
910	Port Lateral Mark	17° 13.964`N	42° 15.540` E	Red, FL (2) 5S	Red
907	Stbd Lateral Mark	17° 14.191`N	42° 16.822` E	Green, FL (2) 5S	Green
908	Port Lateral Mark	17° 14.460`N	42° 16.583` E	Red, FL (2) 5S	Red
301	Stbd Lateral Mark	17° 14.495' N	42° 17.091' E	Green, FL (2) 5S	Green
302	Port Lateral Mark	17° 14.643' N	42° 16.968' E	Red, FL (2) 5S	Red
303	Stbd Lateral Mark	17° 14.758' N	42° 17.410' E	Green. FL (2) 5S	Green
304	Port Lateral Mark	17° 14.909' N	42° 17.284' E	Red, FL (2) 5S	Red
305	Stbd Lateral Mark	17° 15.032' N	42° 17.730' E	Green, FL (2) 5S	Green
306	Port Lateral Mark	17° 15.171' N	42° 17.605' E	Red, FL (2) 5S	Red
307	Stbd Lateral Mark	17° 15.294' N	42° 18.052' E	Green, FL (2) 5S	Green
308	Port Lateral Mark	17° 15.440' N	42° 17.919' E	Red, FL (2) 5S	Red
309	Stbd Lateral Mark	17° 15.561' N	42° 18.369' E	Green, FL (2) 5S	Green
310	Port Lateral Mark	17° 15.705' N	42° 18.248' E	Red, FL (2) 5S	Red
311	Stbd Lateral Mark	17° 15.827' N	42° 18.693' E	Green, FL (2) 5S	Green
312	Port Lateral Mark	17° 15.968' N	42° 18.568' E	Red, FL (2) 5S	Red
313	Stbd Lateral Mark	17° 16.092' N	42° 19.013' E	Green, FL (2) 5S	Green
314	Port Lateral Mark	17° 16.238' N	42° 18.886' E	Red, FL (2) 5S	Red
315	Stbd Lateral Mark	17° 16.358' N	42° 19.330' E	Green, FL (2) 5S	Green
316	Port Lateral Mark	17° 16.499' N	42° 19.205' E	Red, FL (2) 5S	Red

Note: from time to time navigational marks may be off station and/or unlit. Please check Notices to Mariners and Nav. Warnings for the most up-to-date information.

The harbor approach channel is close to 5.0 nautical miles in length and 350m wide, with a minimum depth of 16.5m and is marked by a number of light buoys.

Additionally, blue colored leading lights with a bearing line 050.0° (T) are provided to the harbor basin.

Maximum Parameters for using the channel are:

Max. Arrival draft: 15.0 meters

Max. L.O.A.: 255 meters

Max. Beam: 46 meters

2.5 Anchorage Areas

JPDI port is an open roadstead, protection is afforded by shoals and land to an extent where vessels do not normally experience heavy movement. It has seven (7) designated anchorage areas.

1. **Tanker Anchorage (A) and ORE transfer anchorage area**
2. **Tanker Anchorage (B)**
3. **VLCC Anchorage Area**
4. **Working Anchorage (A)**
5. **Working Anchorage (B)**
6. **Special Purpose Anchorage**
7. **Explosives and Dangerous Cargo Anchorage**

Vessels bound for Saudi Aramco, Jazan Refinery Marine Terminals, if required to anchor, will be directed by Jazan Primary and Downstream Industries (JPDI) Port Control Center to a designated anchorage as applicable. Holding ground has been reported as good in all anchorages with depths averaging 25-30M. Detailed descriptions can be found on applicable charts and in sailing directions.

2.6 Submerged Pipelines Restricted Area/Prohibited Area

2.6.1 Prohibited Entry

No vessel shall enter any restricted or prohibited area without a Pilot on board. Fishing vessels are prohibited from fishing and / or anchoring in these zones.

2.6.2 Use of Anchors Prohibited

Under no circumstances shall anchors be used in these areas due to the existence of submerged pipelines.

3 Arrival Communications

Refer to “Common Rules and Information” section 6.0 “Radio communications & messages,” and in particular the arrival telex information.

3.1 Required Arrival Information

Vessels must advise their agent of the estimated and/or actual arrival time at the Harbor Pilot Boarding Area (PBA). It is required that vessels provide a minimum of two notices of ETA to PBA, at about 48, then at 24 hours steaming time or as soon as possible after leaving the previous port upon departure, when there is less than 48 hours.

3.2 VHF Communications

JPDI Port Control Center and Jazan Commercial Port Control Center maintain a listening watch on VHF Ch. 16.

JPDI uses VHF Ch. 09 as its calling channel.

3.3 Early Contact

VHF contact with JPDI Port Control Center should be established as early as practicable and ideally within 100 nautical miles of the Port (subject to atmospheric conditions).

3.4 Arrival at the port

All inbound vessels arriving to utilize the deep-water approach channel should call Jazan Commercial Port Control Center on VHF Ch. 16 for instructions to proceed.

For further information contact JPDI Port Control Center on VHF Channel 09.

Vessels are forbidden to enter or navigate within the Port Limits without the approval of the JPDI, Port Control Center.

3.5 Anchoring after arrival

Vessels directed to anchor, on anchoring, the Master should call JPDI Port Control on VHF Ch. 09 and give the anchoring time. Additionally, ships shall pass the same information to Jazan Commercial Port Control Center on VHF Ch. 16. Vessels should monitor VHF channels 16 and 09 when anchored.

3.6 Maintaining Contact

More assistance may be received through JPDI Port Control Center on VHF Ch. 16 and 09.

Use of VHF at the berths within JPDI Port to contact Port Control Center, Marine Terminal, Pilots or Agents is permitted.

3.7 Notice of Readiness

Notice of Readiness should be addressed to Saudi Aramco.

For more information, see “Common Rules and Information” section- 7.2 Notice of Readiness.

4 Arrival Procedures

4.1 Arrival Directions

All inbound vessels arriving to utilize the deep-water approach channel should call Jazan Commercial Port Control Center on VHF Channel 16 for instructions to proceed. For further information contact Jazan Primary and Downstream Industries (JPDI) Port Control Center on VHF Channel 09.

4.2 Proceeding in the Deep-Water Approach Channel

All vessels will monitor VHF channels 16 and 09 during channel passage.

4.3 Proceeding to Anchorage

A vessel with no berthing instructions directed to anchor, or a vessel with instructions to proceed to anchor will be instructed by JPDI Port Control Center of a designated anchorage. After anchoring, the vessel should immediately advise Jazan Commercial Port Control Center and JPDI Port Control Center by VHF Ch. 16 and 09 of anchoring time. Thereafter the vessel should monitor on VHF Ch. 16 and 09 for further instructions.

4.4 Proceeding to Jazan Bulk Plant SPM

For vessels proceeding to any Saudi Aramco Jazan Refinery Marine Terminal berth or the SPM, Harbor Pilots will board at the designated pilot boarding grounds. The maximum permitted arrival drafts are as applicable:

If proceeding to Marine Terminal SBM – 22.00 m Maximum

If proceeding to Marine Terminal Alongside berth – 15.00 m Maximum

5 Traffic Movements and Maneuvering

All inbound vessels arriving should call JPDI, Port Control Center on VHF Channel 16 for instructions to proceed.

Berthing will be planned by the JPDI Port Control Center in coordination with Duty Harbor Pilot and Jazan Refinery Marine Terminal. Vessels will be informed timely by JPDI Port Control Center on VHF Channel 09.

6 Harbor Facilities

6.1 Bunkers

Not available at Jazan Refinery.

6.2 Fresh Water

Not available at Jazan Refinery.

6.3 Provisions

Ship chandlers are available for the supply of limited quantities of provisions.

They may be contacted through the ship's agent.

6.4 Medical and Hospital Services

Requirements for medical assistance or hospital services must be made through the ship's agent who can arrange treatment.

6.5 Airport

Nearest airport: King Abdullah Airport in Jazan City.

Airport facilities: Connecting flights to Jeddah, Riyadh and Dammam.

6.6 International Ship and Port Facility Security Officer

For - Jazan Refinery Marine Terminal

Contact the JZRC PFSO: Industrial Security Superintendent, WRISOD

Tel. +966 12 427-7272

6.7 Other Information

Saudi Aramco Ports and Terminals are part of a national network of Ports and Terminals that are governed through pertinent National legislation. Thus, Saudi Aramco Ports and Terminals request all ships calling at its Terminals to liaise with their respective shipping agent to arrange for all MARPOL reception requirements.

Contact the local shipping agent or Sailing Directions for any additional information.

7 Shipping Agent Contact Details

The following companies are available to act as ships agents at the Saudi Aramco Terminals.

Information contained in the below table may be altered by the organizations without notice or warning.

Jazan Shipping Agencies							
Agency	**Services**	**Phone**	Mobile 1	Mobile 2	24 Hours	Fax	E Mail
Yusuf Bin Ahmed Kanoo (S5 Agency world)	1	(012) 263-6171	(050) 6602257	(054) 8738053	-	(012) 263 3049	Jizan@kanooshipping.com saudiarabia@kanooshipping.com
Faisal M Higgi and Associates Co Ltd	1 2	(017) 317 1113	(050) 439 8008	-	-	(017) 322 6205	jizan@faisal-higgi.com
Sharaf Shipping Agency Co. Ltd	1	(017) 323 4812	(053) 142 7268	-	-	(017) 323 4814	redseaops@ssajeddah.com
Hasan Al Harbi Corporation (HASCO)	1	(017) 334 3030	(056) 824 2506	(050) 537 3931	-	(017) 322 8276	jazan@hasco.com.sa
Shipping Agencies are locally licensed to provide services for - 1. Maritime Support Services 2. Chandlery services 3. Bunker Services If dialing from an International destination: All landline / Mobile / Fax numbers must be preceded by Saudi Arabian country code. (00 966) or (+966) and then remove the first zero of the number. For example: Local (017) *** **** will become either 00 966 17 *** **** or +966 17 *** ****							

Jazan Refinery Marine Terminal

Contents

Jazan Refinery Marine Terminal

RULES REGULATIONS AND GENERAL INFORMATION

1 General

1.1 Location of Terminal

Located to the NW of Jazan. The Saudi Aramco Refinery Marine Terminal comes within the Jazan City for Primary and Downstream Industries Port Authority boundary.

1.2 Description of Terminal

The Saudi Aramco Jazan City for Primary and Downstream Industries, Refinery Marine Terminal, comprises three (3) tanker berths, one (1) bulk Sulphur berth and one (1) SPM Terminal.

The tanker berths and Sulphur berth share a turning basin with Jazan Primary and Downstream Industries Port, with the SPM Terminal located within the VLCC anchorage area.

The specific gravity of seawater at Jazan Refinery Marine Terminal is 1.025.

Anchoring or fishing within the Terminal areas are prohibited without prior permission Jazan Primary and Downstream Industries Port Authority.

1.3 SPM Terminal

1.3.1 SPM buoy

SPM	Water Depth at LAT
1	23.75M

The CALM SPM Buoy is suitable for Tankers between 150,000 and 320,000 MT DWT. Information on suitable parameters for using the SPMs are listed in the Universal Berth Parameters.

1.3.2 Cargo Hoses

Jazan Marine Terminal, SPM is equipped with two (2) floating hose strings, each string is fitted with a double closure breakaway coupling and a wheel-operated butterfly valve.

The SPM hoses are equipped with one 15-inch circumference, double braided nylon, 85.0 meters (279ft) long mooring hawser.

The tail end hose presented to the ship is 20” fitted with 20” flat face blank flange, a lifting eye and lifting and snubbing chains.

Each hose weighs approx. 6.0 MT and is designed for;

- Maximum throughput 15000 m3/hr., 94300 Bbl./hr.
- Normal operating pressure 16 Bar
- Design pressure 19.6 Bar

1.3.3 Cargo Hose Strings

The outboard hose string is 305.0m (1000ft) and the inner 293.0m (960ft) long.

1.3.4 SPM Marking

The SPM buoy is fitted with a radar reflector and a navigation light.

The navigation light switches on automatically during hours of darkness.

Light character; White 2 FL +1LFL 15-sec.

1.4 Tanker Berths #1, #2, #3

The Marine Terminal fixed berths are situated in JPDI Port Harbor.

The harbor is fitted with two breakwaters that create a shelter to the port basin and berth area for three (3) tanker berths and one (1) sulfur berth. Tanker berths #1 and #2 are located on the South Quay, Tanker berth #3 and the Sulphur berth are located on the East Quay. The Tanker berths and sulfur berth are standard conventional alongside berths.

The loading arms connections require a reducer size of 16” for liquid cargo and 10” for vapor and vapor return lines.

2 Entering Saudi Aramco Refinery Marine Terminal

2.1 Maximum Drafts

Under normal operating conditions with a positive (+) height of tide above LAT, the maximum permitted arrival drafts are as applicable;

If proceeding to Marine Terminal SBM – 22.00m Maximum

If proceeding to Marine Terminal #1, #2, #3, or Sulfur berth – 15.00m Maximum.

If at any time a vessel’s under keel clearance is less than 1.5 meters at the berth, operations will be suspended until a rising tide increases the depth of water to safely allow operations to resume.

2.2 Draft and Trim including Ballast operations

Under normal operating conditions all vessels should comply with the “Common Rules and Information” Section 11.2 Ballast Operations draft and Trim.

2.3 Vessels arriving

Berthing will be planned by the JPDI Port Control Center in coordination with Duty Harbor Pilot and Jazan Refinery Marine Terminal.

For vessels proceeding to any Saudi Aramco Jazan Refinery Marine Terminal berth or the SPM, Harbor Pilots will board at the designated pilot boarding grounds.

2.4 VHF Communications

Jazan Primary and Downstream Industries (JPDI) Port Control Center maintain a listening watch on VHF Ch. 16 and Ch. 09, which is used as the calling channel.

2.5 Anchoring and Restricted Areas

Jazan Primary and Downstream Industries (JPDI) Port is an open roadstead and protection is afforded by shoals and land to an extent where vessels do not normally experience heavy movement. It has seven (7) designated anchorage areas.

1. **Tanker Anchorage (A) and ORE transfer anchorage area**
2. **Tanker Anchorage (B)**
3. **VLCC Anchorage Area**
4. **Working Anchorage (A)**
5. **Working Anchorage (B)**
6. **Special Purpose Anchorage**
7. **Explosives and Dangerous Cargo Anchorage**

Vessels bound for Saudi Aramco, Jazan Refinery Marine Terminal, if required to anchor, will be directed by Jazan Primary and Downstream Industries (JPDI) Port Control Center to a designated anchorage as applicable. Holding ground has been reported as good in all anchorages with depths averaging 25-30M. Detailed descriptions can be found on applicable charts and in sailing directions.

No vessel shall enter any restricted or prohibited area without a Pilot on board. Fishing vessels are prohibited from fishing and/or anchoring in these zones.

Under no circumstances shall anchors be used in these areas due to the existence of submerged pipelines.

2.6 Wind limits for Mooring and Unmooring

For vessels in a loaded condition, berthing/unberthing alongside operations at the Marine Terminal, the wind must not be more than 30 knots.

For vessels in a ballast condition, berthing/unberthing alongside operations at the Marine Terminal, the wind must not be more than 25 knots.

3 Pilotage

3.1 Pilot Boarding

The Harbor Pilot and if assigned Harbor Pilot Assistant, Harbor Pilot Trainee, will board the tanker at the designated Pilot boarding grounds. The Master should provide an adequate lee for embarking the pilot team if they are to board by boat, or orient and prepare his ship as requested by the helicopter dispatcher if they are to board by helicopter.

Pilot boat operations and boarding activities from a launch are limited by the following weather conditions: a wave height of 1.5 meters and/or a wind speed of more than 25 knots.

Harbor Pilots will not attempt to berth vessels bound for or at the SPM unless it is safe for the mooring boat to operate in the prevailing weather conditions.

At all times mooring boats shall operate within their allowable design specifications after a careful evaluation of the existing circumstances and weather conditions, carried out by the Harbor Pilot.

The Pilot / Pilot Assistant, as applicable, will advise the Master on all maneuvers and operations relative to berthing, connecting and disconnecting hoses and unberthing. Moreover, they will also provide communications between ship and shore during cargo operations and be the Saudi Aramco Representative with respect to safety observations and other requirements

3.2 Helicopter Operations

Helicopter operations are not carried out routinely at Jazan City for Primary and Downstream Industries port.

In the event that a helicopter may be required as part of an emergency or other procedure, all vessels should be prepared for helicopter operations to be carried out according to the "International Chamber of Shipping (ICS) - Guide to Helicopter/Ship Operations"

All vessels should have a copy of this booklet and the safety checklist relevant to helicopter operations on board.

4 Mooring and Operations for SPM Buoys

4.1 Preparations for mooring at SPMs

Ships assigned to the SPM buoys must comply with the OCIMF recommendations for equipment employed at Single Point Moorings, (SPMs).

During the approach, while mooring/securing to the SPM, the vessel's anchors must be secured by stoppers to prevent accidental dropping, with subsequent damage to the subsea pipelines and equipment.

Line handling during mooring/unmooring shall be performed by the ship's staff under instructions of the Pilot/Pilot Assistant.

Ship cargo cranes shall be rigged and ready to lift the hose connecting equipment basket from the launch from either side. If available, a trolley may be required to transport this equipment about the vessel's deck.

The vessel shall have the following equipment ready for use on the forecastle head.

- Large crow bar.
- Large intrinsically safe flashlight for night mooring.
- A messenger line 24 to 28 mm diameter, 150 m in length.
- Winch drum or empty spool drum to heave onboard the mooring pick up rope.

Where possible, the mooring line(s) should lead through a Panama chock in the center of the bow, rather than through a single port or starboard bow fairlead to reduce the possibility of yawing.

Power should be available to the winches (mooring deck equipment) on the forecastle and to the cranes at the ship's manifold to ensure they are ready to lift the ancillary mooring and hose handling equipment. The manifolds shall be prepared for cargo operations, as detailed in 4.1.2.

The Pilot/Pilot Assistant will check that all equipment for mooring and hose connecting operations are on board the launch and in working order prior to departure. Items such as chain hoists, gaskets, wrenches, flange bolt sets, butterfly valve handles, ullaging equipment, sample bottles, etc., may be required and placed on board.

4.1.1 Preparing the Forecastle Head

Ship's staff will prepare the forecastle head for the mooring operation at the instruction of the Pilot/Pilot Assistant.

4.1.2 Preparing the Port Side Manifold

All Saudi Aramco SPM terminals have been designed for vessels to use port manifold configuration only.

The cargo crane must be currently certified, tested and ready for use.

Two 20" flange connections to be fitted on cargo manifolds.

To avoid delays, the vessel should have reducers ready at the port side manifold to adapt to any other size requests.

Drip trays, absorbent material and firefighting equipment should be in position.

Saudi Aramco normally supplies the following, but their presence will prevent delays in case of deficiency or malfunction.

- Handy-Billy/Chain block
- Spare spanners.

- Spare wire strops.
- Spare bolts.

4.1.3 OCIMF Standard Manifold Arrangement

To secure the hoses to the vessel's manifold the manifold arrangement must be as recommended in the OCIMF publication "Recommendations for Oil and Chemical Tanker Manifolds and Associated Equipment."

4.1.4 Equipment Transfer

Saudi Aramco mooring and hose connecting equipment will be lifted aboard the tanker from the launch on either the port or starboard side by means of the ship's crane.

Normally, the transfer of equipment will be done once the ship is fully secured to SPM. If the ship requires cargo reducers, the transfer will be done as soon after the Pilot boards the vessel as possible. For this purpose, the hose handling crane shall be ready for immediate use and an adequate lee shall be provided.

To prevent injury to personnel and damage to the launch superstructure, the hoisting block must be secured and controlled by a handling line during the entire transfer operation.

4.2 Mooring Sequence of Operations

4.2.1 Mooring/Line Boats

JPDI, SPM Terminal normally operates with two tugs and a mooring boat. Both tugs are available for mooring assistance at the SPM.

The launches and other terminal facilities are equipped with compatible VHF and UHF two-way radio equipment of adequate power.

4.2.2 Operational Limits

At all times mooring boats shall operate within their allowable design specifications after a careful evaluation of the existing circumstances and weather conditions, carried out by the Harbor Pilot.

The decision to proceed with the operation should only be made after careful evaluation of the existing circumstances, and agreement with the mooring boats.

4.2.3 Optimum Approach Direction

Prior to making the final approach to the SPM, it is important that the Master and the Harbor Pilot evaluate and agree, on all conditions and factors that will influence the mooring operation. These conditions and factors include: the tide, current, wind, swell and wave effect, and the direction in which the floating hose strings and hawsers are lying.

The optimum approach to the terminal is into the wind and sea. At times this approach will not be possible, because of the current being at variance with the wind or sea conditions. Accordingly, it is incumbent upon the Master to exercise careful judgment

when approaching the terminal, particularly during the hours of darkness and in poor visibility.

Particular attention must be given to the location of the floating hose string. Normally, the position of the floating hoses will be controlled by the currents, rather than by wind effect.

4.2.4 Approaching the SPM

When the optimum approach route has been selected, the tanker should proceed toward the terminal at a suitable speed, dependent upon the conditions at that time. Approximately 1,000 m from the berth, the vessel should have only sufficient way on for steerage.

The floating hose string should be on the port side. The tanker should make the final approach with the buoy on the port bow, rather than dead ahead. This permits the Pilot/Pilot Assistant on the bridge to observe the buoy at all times, and in the event of any misjudgment of the approach speed, there is no danger of overrunning the buoy.

It is extremely dangerous for small boats to lie in the path of large vessels, particularly when the larger vessel has a bulbous bow. Therefore, the ship's crew must carry the messenger line to a safe location aft of the bow, along the flat side of the hull before lowering the messenger line, thereby making it unnecessary for the boat to position itself right ahead or under the flare of the vessels bow.

The tanker's approach speed must be reduced to a minimum, but sufficient to keep the ship's maneuverability.

A tugboat may be secured right astern throughout the ships approach to the SPM as deemed necessary by the Harbor Pilot.

4.2.5 Mooring Hawser Hookup

As the vessel approaches the berth, the floating hoses are towed away from the path of the approaching tanker.

When the vessel is approximately 300 to 460 m (1,000 to 1,500ft) from the buoy, and still making way, the mooring boat will bring the port hawser pickup rope (80 mm diameter) and make it fast to the messenger. At the boat's signal, the pickup rope is heaved on deck.

Under no circumstances must any load be put on the pickup rope as this may lead to the failure of the rope.

The tanker should be brought to a dead stop between 45 and 60 m (150 and 200ft) from the buoy. At this point, the chafing chain is lifted into the bow chock and then to the bow chain stopper to be secured under the direction of the pilot. Ease back on the pickup rope until the weight is taken up.

Care must be taken to gradually transfer the load to the hawser, to avoid any shock loading that can result from a freely drifting tanker taking up hawser slack.

Repeat the operation for the starboard chain.

4.3 Connecting the Cargo Hoses

Connecting cargo hoses is to be carried out by the ship's staff under instruction and supervised by the terminal representative:

Due to possible vessel induced movement to the crane wire/hook, the vessel must use guide ropes to reduce/control the hook movement at all times during raising and lowering operations.

1. **Lower crane hook to the mooring boat, which will connect it first of all to the forward hose.**
2. **Heave up until the blank flange is level with the hose rail.**
3. **Unshackle hose snubbing chain from the flange.**
4. **Continue heaving up the hose as directed by the Pilot Assistant.**
5. **Secure the snubbing chain as suitable.**
6. **Lower the hose to bring the hose flange to the manifold and check the alignment of the flanges.**
7. **Lower the hose onto the drip tray and removed the blank flange.**
8. **Lift the hose and connect it to the manifold. The hose flange is fitted with camlock connections. Never use a wire strop around cargo hoses.**
9. **The second cargo hose should be connected in the same way.**
10. **After cargo hoses are connected, they must be supported in way of the vessel's side rail by means of nylon belly bands hooked up to ship's crane. Be advised that the hoses cannot touch the saddle rail at any time.**

4.4 Cargo and Ballast Procedure at SPM

Cargo rates will be set by the Harbor Pilot in coordination with the terminal and as agreed with the vessel.

All cargo and ballast operations will be controlled by the ships' Officers.

Radio communications with the Terminal will be designated by the Pilot.

In the event of failure of radio communication systems, the vessel will sound five long blasts on the vessel's whistle. Loading operations will be stopped and will not be resumed until communications have been restored.

Ballast and Slop Reception is not available at Jazan Refinery SPM Terminal.

A need for emergency shutdown of cargo operations aboard the vessel must be communicated as soon as possible to the Harbor Pilot and/or Terminal.

4.5 Use of Tug/Engine at Berth

After securing both chains, a tug may be placed on a towline at the stern of the vessel, using a vessel's line of suitable length and strength. The line will be kept taut at all times except during high wind periods.

Vessels that are only able to run their engines astern for short periods should maintain them in a state of readiness at short notice, and use them as required to maintain position off the SPM. At such times, the Pilot may direct the operation from the forecastle with a vessel's Officer and with the bridge manned by the Master.

4.6 Bow Watchman

At all times when at berth, there shall be an experienced crewmember on duty at the bow of the vessel. He shall be issued with a means of immediate communication with the Deck Officer on duty.

He shall observe the configuration of the hoses and mooring hawsers, and the proximity of the SPM and hoses to the tanker. He shall be alert to oil leaks or spills, unattached oil slicks in the vicinity and deteriorating weather conditions. He shall immediately report any abnormal event or deteriorating weather to the Deck Officer on duty.

4.7 Manifold Watchman

At all times, when at berth and when cargo hoses are connected, there shall be a watchman on duty at the manifold. He shall observe the configuration of the hoses and the manifold connections. He shall be alert to oil leaks or spills, stress or chafing on the hoses or ancillary equipment and deteriorating weather conditions. He shall report any abnormality to the Deck Officer on duty.

4.8 The Deck Officer on Duty

The Deck Officer shall immediately report any abnormal events, deteriorating weather or other situations coming to his attention to the Pilot or Pilot Assistant on duty.

4.9 Gangways

The gangway is to be rigged and ready on the starboard side of the vessel, maintained at deck level.

4.10 Boarding vessels at SPM

Small craft are not allowed in the vicinity of the vessel and no one is permitted to board or leave a vessel while cargo operations are in progress.

Should it become urgent for personnel to board or leave a vessel for any reason during the cargo operation, the Pilot must be contacted to request permission to shut down the cargo operation while the small craft is alongside.

4.11 Care of SPM Berth Equipment

In bad weather, maintenance work is extremely difficult and involves possible danger to personnel. For this reason, vessels are requested to give as much assistance as possible by taking proper care of the mooring and hose equipment.

Saudi Aramco will hold the vessel responsible for all costs and/or losses resulting from damage to the mooring and hose equipment where they consider that the vessel has been negligent in taking proper care of them.

4.12 Disconnecting the Cargo Hoses

Disconnecting cargo hoses is to be carried out by the ship's staff under instruction and supervised by the terminal representative:

Due to possible vessel induced movement to the crane wire/hook, the vessel must use guide ropes to reduce/control the hook movement at all times during raising and lowering operations.

1. **Connect the after-hose strop to the crane hook, take the weight and disconnect the flange.**
2. **Replace the blank flange using the camlocks and a new gasket.**
3. **Lower hose to deck and secure.**
4. **Repeat with forward hose.**
5. **Secure the crane hook to the lifting hook of the after hose and raise the hose until the weight is taken off the snubbing chains.**
6. **Release the snubbing chain, lower the hose to rail level and shackle the snubbing chain to the flanges.**
7. **Lower the hose end into the water and trip the hook to release.**
8. **Repeat for the forward hose.**

Return all Saudi Aramco tools and equipment to the steel basket, stow it in a seaman like manner, and prepare for lowering to the mooring boat on either the port or starboard side, dependent on weather conditions.

4.13 Unmooring from SPM Procedure

1. **Take the weight of the chain and hawser on the pickup rope using the windlass.**
2. **Disconnect chafing chain from the bow chain stopper.**
3. **Slowly slack the pickup rope until the support buoy is in the water and taking all of the weight of the chain.**
4. **Pay out the pickup line either to the mooring boat or as the ship clears the berth.**

5 Mooring and Operations for Tanker and Sulfur Berths

5.1 Mooring/Line Boats

JPDI Port, SPM Terminal normally operates with two tugs and a mooring boat. Both tugs are available for berthing assistance at the SPM.

The launches and other terminal facilities are equipped with compatible VHF and

UHF two-way radio equipment of adequate power.

5.2 Operational Limits

At all times mooring boats shall operate within their allowable design specifications after a careful evaluation of the existing circumstances and weather conditions, carried out by the Harbor Pilot.

The decision to proceed with the operation should only be made after careful evaluation of the existing circumstances, and agreement with the mooring boats.

5.3 Mooring Lines

The mooring arrangements will require the ship to prepare 3 headlines and stern lines, 3 breast lines forward and aft and 2 spring lines forward and aft.

Ships assigned to the Marine Terminal berths must comply with the OCIMF Mooring Equipment Guidelines.

Vessels should have heaving lines ready. After landing alongside a heaving line should be passed to shore. When the heaving line is received by the shore it will be attached to the shore messenger. The messenger will be attached to the ship's lines and the shore mooring gang will heave the ship mooring lines ashore. It is normal for heavy wires to be sent ashore one at a time and ropes may be sent 2 at a time.

Only jetty personnel are to handle mooring lines ashore.

5.4 Ship/Shore Connections

Jetty crews are on duty continuously to handle cargo hoses/arms and will make all connections/disconnections.

All cargo connections are equipped with electrical insulating flanges; therefore, ship to shore bonding cables must not be rigged.

5.5 Cargo

Each berth suitability for cargo is itemized on the Saudi Aramco Universal Berth Parameters table.

Berths #1 and #2 are suitable for Chemical, Chemical Vapor (Paraxylene and Benzene), Product, Fuel Oil and Crude Oil.

Berth #3 is suitable for RLPG (C3, C4), Chemical, Chemical Vapor (Paraxylene and Benzene), Fuel Oil and Product.

Vessels involved in the transfer of RLPG at Berth #3 should follow all applicable procedures as documented in Saudi Aramco, Port and Terminals, Rules, Regulations and General Information, Section 8 Gasrul.

Maximum and minimum cargo rates including topping off rates are specific to each loading arm.

The rates and parameters for each cargo operation will be discussed and agreed between the vessel and a terminal representative during the pre-cargo operations meeting.

While at berth, ship will maintain communication with the PCC on the VHF and with the Marine Terminal Operations on Bravo radios that will be provided by the Terminal Operator.

In the event of failure of radio communication systems, the vessel will sound five long blasts on the vessel's whistle. Loading operations will be stopped and will not be resumed until communications have been restored.

5.6 Gangways/Access Ladders

The Terminal will provide a shore gangway during the ship stay, however ships are required to prepare a ship gangway on the seaside / offshore side to be utilized as a secondary means of access.

6 Completion and Departure

6.1 Cargo calculations on arrival and departure

The Cargo Officer in coordination with the attending cargo surveyor and if necessary Harbor Pilot assistance, will supply the ship's cargo figures on arrival and prior to departure in U.S. (i.e., Gross) Barrels. The Terminal Representative will not accept the figures until they are presented in writing on the Saudi Aramco ullage report form.

Results of ship/shore comparison take time and Masters are urged to prioritize the cargo calculations and completion of the ullage report form to avoid delay.

If the vessel is released, the Harbor Pilot will leave after unmooring is completed and the ship is clear of the berth. If the ship/shore difference is large and the vessel is not released, the Cargo Officer in coordination with the attending cargo surveyor and if necessary Harbor Pilot assistance, will survey any cargo to Saudi Aramco inspection procedures and report the findings to Saudi Aramco Terminal Planners.

Refer also to "Common Rules and Information," Section 11.3 "Cargo Calculations and Release"

6.2 Sailing Drafts

Under normal operating conditions with a positive (+) height of tide above LAT, the maximum permitted sailing drafts are as applicable:

If departing Marine Terminal SBM – 22.00m Maximum

If departing Marine Terminal #1, #2, #3, or Sulfur berth – 15.00m Maximum.

If at any time a vessel under keel clearance is under 1.5 meters at the berth, operations will be suspended until a rising tide increases the under-keel clearance.

6.3 Sailing Trim

Under normal operating conditions all vessels should comply with the “Common Rules and Information” Section 11.2 Ballast Operations Draft and Trim.

6.4 Departure

Upon completion of unmooring, if required the vessel will make a lee for any mooring/hose connecting equipment to be discharged onto a launch, on either port or starboard side.

The Pilot/Pilot Assistant will normally leave by Pilot launch.

All vessels using the Jazan facilities should then proceed outwards via the appropriate departure route/channel