ADNOC ONSHORE
FUJAIRAH TERMINAL

The Master

Ship's Name: _____

Date: _____ **Berth:** _____

Dear Sir,

This booklet will acquaint you of our terminal facilities, safety requirements and related information. Please do not hesitate to ask for any further information that you may require.

ADNOC ONSHORE

FUJAIRAH TERMINAL

INFORMATION BOOKLET

This booklet should be read in conjunction with Fujairah Port Authority's Regulations

CONTENTS

PART I

SAFETY REQUIREMENTS

Responsibility for the safe conduct of operations on board your vessel whilst moored at our terminal berths rests with you as Master. Nevertheless, since our people, assets and other shipping may suffer serious damage in the event of accident aboard your vessel, we wish, before operations start, to seek your full cooperation and understanding on the Safety Requirements set out in the Ship/Shore Safety Check-List.

Safety Requirements have been drawn up in conjunction with other Terminal Operators in the Middle East and representative sections of the International Safety Guide for Oil Tankers and Terminals (ISGOTT 6th Edition). They are based on the provision of the Codes of Safe Practice currently accepted by the Oil & Tanker industries.

We therefore, expect you and all under your command to adhere strictly to these throughout your stay at this terminal. We, for our part, will ensure that our personnel do the same and cooperate fully with you in the mutual interest of safe and efficient operations.

In order to assure ourselves of your compliance with these Safety Requirements, our Loading Master (LM) shall from time to time, join one of your officers for a routine inspection of cargo deck and accommodation spaces.

If we observe any infringement/s on board of any Safety Requirements, we shall bring this immediately to your attention for corrective action. If such action is not taken in reasonable time we shall adopt such measures as appear to us most appropriate to deal with the situation and shall notify you accordingly.

If you observe any infringement/s of these requirements by Terminal staff on board your vessel, please bring this immediately to the notice of our Loading Master nominated as your contact during your stay at ADNOC ONSHORE Fujairah Terminal. Should you consider any immediate threat to the safety of your vessel arising from any action on our part, or equipment under our control, you are fully entitled to demand an immediate cessation of operations.

We reserve the right, in the event of continued or blatant disregard of these Safety Requirements by any vessel, to stop all operations and order that vessel off the berth for appropriate action to be taken by the concerned charterers and/or owners.

Attention is drawn to the International Safety Guide for Oil Tankers & Terminals (ISGOTT 6th Edition) published by the (ICS/OCIMF/IAPH) with respect to Ship/Shore Safety Check-List.

SHIP/SHORE SAFETY CHECK-LIST

Ship's Name: _____

Date/Time of All Fast: _____

SPM No: _____ Port: _____

Instructions for Completion:

The safety of operations requires that all questions should be answered affirmatively by clearly ticking the appropriate box. If an affirmative answer is not possible, the reason should be given and agreement reached upon appropriate precautions to be taken between the ship and the terminal. Where any question is considered to be not applicable, then a note to that effect should be inserted in the remarks column.
A box in the columns "Ship" and "Terminal" indicates that checks should be carried out by the party concerned and initialed.
The presence of the letters A, P or R in the column "Code" indicates the following:

A - Any procedures and agreements should be in writing in the "Remarks" column of this Check-List or other mutually acceptable form. In either case, the signature of both parties should be required.
P - In the case of a negative answer, the operation should not be carried out without the permission of the Terminal.
R - Indicates items to be re-checked at intervals not exceeding that agreed in the declaration.

PART "A" Bulk Liquid General – Physical Checks				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
1. There is safe access between the ship and shore.			R	
2. The ship is securely moored.			R	
3. The agreed ship/shore communication system is operative.			A R	**System:** **Backup System:**
4. Emergency towing pennants are correctly rigged and positioned.			R	
5. The ship's fire hoses and fire-fighting equipment are positioned and ready for immediate use.			R	
6. The terminal's fire-fighting equipment is positioned and ready for immediate use.			R	**Port's Tugs:**
7. The ship's cargo pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.				
8. The terminal's cargo hoses are in good condition, properly rigged and appropriate for the service intended.				
9. The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.				

PART "A" Bulk Liquid General – Physical Checks				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
10. Scuppers and save-alls on board are effectively plugged and drip trays are in position and empty.			R	
11. Temporarily removed scupper plugs will be constantly monitored.			R	
12. Shore spill containment equipment is correctly managed.			R	**Terminal's Tug**
13. The ship's unused cargo and bunker connections are properly secured with blank flanges fully bolted.				
14. All cargo, ballast and bunker tank lids are closed.				
15. Sea and overboard discharge valves, when not in use, are closed and visibly secured.				
16. All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open.			R	
17. The ship's emergency fire control plans are located externally.				**Location:**

If the ship Is fitted, or is required to be fitted, with an inert gas system (IGS), the following points should be physically checked:

PART "A" Bulk Liquid General – Physical Checks				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
18. Fixed IGS pressure and oxygen content recorders are working.			R	**IG Pressure:** **O_2 %:**
19. All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.			P R	

PART "B" Bulk Liquid General – Verbal Verification				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
20. The ship is ready to move under its own power.			P R	**Notice:**
21. There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in the terminal.			R	
22. There are sufficient personnel on board and ashore to deal with an emergency.				
PART "B" Bulk Liquid General – Verbal Verification				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
23. The procedures for cargo and ballast handling have been agreed.			A R	

PART "B" Bulk Liquid General – Verbal Verification				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
24. The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood.			A	**VHF/PTU**
25. Material Safety Data Sheets (MSDS) for the cargo transfer have been exchanged where requested.			P R	
26. The hazards associated with toxic substances in the cargo being handled have been identified and understood.				**H_2S Content:**
27. An International Shore Fire Connection has been provided.				**Location:**
28. The agreed tank venting system will be used.			A R	**Method:**
29. The requirements for closed operations have been agreed.			R	
30. The operation of the P/V system has been verified.				
31. Independent high level alarms, if fitted, are operational and have been tested.			A R	
32. Adequate electrical insulating means are in place in the ship/shore connection.			A R	
33. Smoking rooms have been identified and smoking requirements are being observed.			A R	**Location:**
34. Naked light regulations are being observed.			A R	
35. Ship/shore telephones, mobile phones and pager requirements are being observed.			A R	
36. Hand torches (flashlights) are of an approved type.				
37. Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.				
38. Portable VHF/UHF transceivers are of an approved type.				
39. The ship's main radio transmitter aerials are earthed and radars are switched off.				
40. Electric cables to portable electrical equipment within the hazardous area are disconnected from power.				
41. Window type air conditioning units are disconnected.				
42. Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapors, are closed/adjusted accordingly.				**Accom. Temp.:**
43. Measures have been taken to ensure sufficient mechanical ventilation in the pump room.			R	
44. There is provision for an emergency escape.				
45. The maximum wind and swell criteria for operations have been agreed.			A	**See PART II (Weather Limitations)**

PART "B" Bulk Liquid General – Verbal Verification				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
46. Security protocols have been agreed between the Ship Security Officer and the Port Facility Security Officer, if appropriate.			A	

If the ship is fitted, or is required to be fitted, with an inert gas system (IGS) the following statements should be addressed:

PART "B" Bulk Liquid General – Verbal Verification				
Bulk Liquid-General	**Ship**	**Terminal**	**Code**	**Remarks**
47. The IGS is fully operational and in good working order.			P	**Notice:**
48. Deck seals, or equivalent, are in good working order.			R	
49. Liquid levels in pressure/vacuum breakers are correct.			R	**Visual Check:**
50. The fixed and portable oxygen analyzers have been calibrated and are working properly.			R	**Calibration Date:**
51. All the individual tank IG valves (if fitted) are correctly set and locked.			R	

DECLARATION:

We the undersigned have checked, the above items in Parts A and B, in accordance with the instructions, and have satisfied ourselves that the entries we have made are correct to the best of our knowledge.

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items with code "R" in the Check-List should be re-checked at intervals not exceeding 1 hour.

If to our knowledge the status of any item changes, we will immediately inform the other party.

FOR SHIP	FOR SHORE
Name _____	Name _____
Rank _____	Position or Title_____
Signature _____	Signature _____
Date _____	Date _____
Time _____	Time _____

Record of Repetitive checks: **(R)**

Date:								
Time:								
Initials for Ship:								
Initials for Shore:								

Date:								
Time:								
Initials for Ship:								
Initials for Shore:								

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Initials for Shore:								

PRE TRANSFER AGREEMENT

SPM No: _____ Date: _____ Time: _____

Ship's Name: _____

NUMBER	DESCRIPTION
1	**COMMUNICATION**
1.1	Shore Walkie Talkie Ch: _____ Standby VHF Ch: _____
2	**EMERGENCY SHUT DOWN PROCEDURE**
2.1	a) Call Terminal: **ADNOC ONSHORE Control** x 3 times b) This is SPM: _____ x 3 times c) **Stop Cargo Emergency, Stop Cargo Emergency**
2.2	Inform LM's Immediately LM-1 Cabin: _____ Tel: _____ LM-2 Cabin: _____ Tel: _____
3	**OPERATION SPECIFIC INFORMATION**
3.1	Shore Nomination: _____Bbls Ship Request: _____Bbls
3.2	Initial Loading Rate: _____ Bbls/Hr
3.3	Max Loading Rate: _____ Bbls/Hr
3.4	Topping Off Rate: _____ Bbls/Hr
3.5	Ship Stop / Shore Stop EDP / NON EDP
4	**NOTICES REQUIRED FROM THE VESSEL**
4.1	For Any Reduction in Loading Rate: **15 Minutes**
4.2	To Stop Loading (In Case of Ship Stop): **30 Minutes Followed by 10 Minutes**

Please note that approximately_____ Bbls of cargo may flow into the vessel after stopping cargo.

REMARKS:

_____ _____

CHIEF OFFICER **LOADING MASTER**

GUIDELINES FOR COMPLETING THE SHIP/SHORE SAFETY CHECK-LIST

Introduction

Before liquid bulk dangerous substances are pumped into or out of any ship, or into a shore installation, the master of the ship and the berth operator should;

- Agree in writing on the handling procedures including the maximum loading or unloading rates.
- Complete and sign, as appropriate, the Ship/Shore Safety Check-List, showing the main safety precautions to be taken before and during such handling operations; and
- Agree in writing on the action to be taken in the event of an emergency during handling operations.

The following guidelines have been produced to assist berth operators and ship masters in their joint use of the Ship/Shore Safety Check-List.

The Mutual Safety Examination

A tanker presenting itself to a loading or discharging terminal needs to take its own precautions and be assured that the tanker has carried out its checks and has made appropriate arrangements.
The Ship/Shore Safety Check-List, by its questions and requirements for exchange of written agreements for certain procedures, should be considered a minimum basis for the essential considerations which should be included in such a mutual examination.
Some of the checklist questions are directed to consideration for which the ship has prime responsibility; others apply to both ship and terminal.
All items lying within the responsibility of the tanker should be personally checked by the tanker's representative and similarly all items which are the terminal's responsibility should be personally checked by the terminal representative. In carrying out their full responsibilities however, both representatives, by questioning the other, by sighting of records and, where felt appropriate, by joint visual inspection should assure themselves that the standards of safety on both sides of the operation are fully acceptable.
The joint declaration should not be signed until such mutual assurance is achieved.
Thus all applicable questions should result in an affirmative mark in the boxes provided.
If a difference of opinion arises on the adequacy of any arrangements made or conditions found, the operation should not be started until measures taken are jointly accepted.
A negative answer to the questions coded **"P"** does not necessarily mean that the intended operation cannot be carried out. In such cases, however, permission to proceed should be obtained from the Terminal.
Items coded **"R"** should be re-checked at intervals not exceeding that agreed in the declaration.
When an item is agreed to be not applicable to the ship, to the terminal or to the operation envisaged, a note to that effect should be entered in the **"Remarks"** column.

Deviations

The conditions under which the operation takes place may change during the process. The changes may be such that safety can no longer be regarded as guaranteed. The party noticing or causing the unsafe condition is under an obligation to take all necessary actions, which may include stopping the operation, to re-establish safe

conditions. The presence of the unsafe condition should be reported to the other party and where necessary, cooperation with the other party should be sought.

PART 'A' – Bulk Liquid General – Physical Checks

1/ There is safe access between the ship and shore.

The access should be positioned as far away from the manifolds as practicable.
The means of access to the ship should be safe and may consist of an appropriate gangway or accommodation ladder with a properly secured safety net fitted to it.
A lifebuoy should be available on board the ship near the gangway or accommodation ladder. The access should be safely and properly illuminated during darkness.
Persons who have no legitimate business on board, or who do not have the Master's permission, should be refused access to the ship.

2/ The ship is securely moored.

Means should be provided to enable quick and safe release of the ship in case of an emergency. The emergency release operation should be agreed, taking into account the possible risks involved. Anchors should be properly secured.

3/ The agreed ship/shore communication systems are operational.

Communication should be maintained in the most efficient way between the Responsible Officer on duty on the ship and the Terminal Representative.
The selected primary and back-up systems of communication should be recorded on the check-list and necessary information on telephone numbers and/or channels to be used should be exchanged and recorded.
The telephone and portable radio systems should comply with the appropriate safety requirements.

4/ Emergency towing-off pennants are correctly rigged and positioned.

Emergency towing-off pennants (fire wires) should be positioned on both the bow and quarter of the ship on the side opposite to the hose strings.

5/ The ship's fire hoses and fire-fighting equipment are positioned and ready for immediate use.

See Section 6.

6/ The terminal's fire-fighting equipment is positioned and ready for immediate use.

Fire-fighting equipment on board and on the offshore units should be correctly positioned and ready for immediate use.
Adequate units of fixed or portable equipment should be stationed to cover the ship's cargo deck area, having due regard to the Ship's Tanks. The ship's fire-main systems should be pressurized or be capable of being pressurized at short notice.

7/ The ship's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.

See Section 8.

8/ The terminal's cargo hoses are in good condition, properly rigged and appropriate for the service intended.

Hoses should be in a good condition and properly fitted and rigged so as to prevent strain and stress beyond design limitations.
All flange connections should be fully bolted and any other types of connections should be properly secured.
Hoses and pipelines should be constructed of a material suitable for the substance to be handled, taking into account its temperature and the maximum operating pressure.

9/ The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.

A positive means of confirming that both ship and shore cargo systems are isolated and drained should be in place and used to confirm that it is safe to remove blank flanges prior to connection. The means should provide protection against pollution due to unexpected and uncontrolled release of product from the cargo system and injury to personnel due to pressure in the system suddenly being released in an uncontrolled manner.

10/ Scuppers and save-alls on board are effectively plugged and drip trays are in position and empty.

Where applicable, all scuppers on board should be properly plugged during the operations. Accumulation of water should be drained off periodically.
The ship's manifolds should ideally be provided with fixed drip trays in accordance with OCIMF recommendations, where applicable. In the absence of fixed containment, portable drip trays should be used.
All drip trays should be emptied in an appropriate manner whenever necessary but always after completion of the specific operation.

11/ Temporarily removed scupper plugs will be constantly monitored.

Scuppers that are temporarily unplugged, in order to drain clean rainwater from the cargo deck for example, must be constantly and closely monitored. The scupper must be re-sealed immediately in the event of a deck oil spill or any other incident that has the potential to cause pollution.

12/ Shore spill containment and sumps are correctly managed.

Shore containment facilities, such as bund walls, drip trays and sump tanks, should be properly maintained, having been sized for an appropriate containment volume following a realistic risk assessment.
Spill or slop transfer facilities should be well maintained and, if not an automatic system, should be readily available to deal with spilled product or rainwater.

13/ The ship's unused cargo and bunker connections are properly secured with fully bolted blank flanges.

Unused cargo and bunker connections should be closed and blanked. Blank flanges should be fully bolted and other types of fittings, if used, properly secured.

14/ All cargo, ballast and bunker tank lids are closed.

Apart from the openings in use for tank venting (see Question 29), all openings to cargo, ballast and bunker tanks should be closed and gas tight.
Closed ullaging and sampling systems should be used where required by international, national or local regulations and agreements.

15/ Sea and overboard discharge valves, when not in use, are closed and visibly secured.

Experience shows the importance of this item in pollution avoidance on ships where cargo lines and ballast systems are interconnected. Remote operating controls for such valves should be identified in order to avoid inadvertent opening.
If appropriate, the security of the valves in question should be checked visually.

16/ All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open with consideration.

External doors, windows and portholes in the accommodation should be closed during cargo operations. These doors should be clearly marked as being required to be closed during such operations, but at no time should they be locked.
This requirement does not prevent reasonable access to spaces during operations, but doors should not be left open when unattended.
Engine room vents may be left open. However, consideration should be given to closing them where such action would not adversely affect the safe and efficient operation of the engine room spaces served.

17/ The ship's emergency fire control plans are located externally.

A set of fire control plans should be permanently stored in a prominently marked weather-tight enclosure outside the accommodation block for the assistance of shore side fire-fighting personnel. A crew list should also be included in this enclosure.

If the ship is fitted, or is, required to be fitted, with an inert gas system (IGS), the following points should be physically checked:

PART 'A' – Bulk Liquid General – Physical Checks

18/ Fixed IGS pressure and oxygen content recorders are working.

All recording equipment should be switched on, tested as per manufacturer's instructions and operating correctly.

19/ All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.

Prior to commencement of cargo operations, each cargo tank atmosphere should be checked to verify an oxygen content of 8% or less by volume. Inerted cargo tanks should be kept at a positive pressure at all times.

PART 'B' – Bulk Liquid General – Verbal Verification

20/ The ship is ready to move under her own power.

The ship should be able to move under its own power at short notice, unless permission to immobilize the ship has been granted by the port authority and the Terminal Representative.
Certain conditions may have to be met for permission to be granted.

21/ There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in the terminal.

The operation should be under constant control and supervision on the ship and in the terminal.
Supervision should be aimed at preventing the development of hazardous situations. However; if such a situation arises, the controlling personnel should have adequate knowledge and the means available to take corrective action.
The controlling personnel on the ship and in the terminal should maintain effective communications with their respective supervisors.
All personnel connected with the operations should be familiar with the dangers of the substances handled and should wear appropriate protective clothing and equipment.

22/ There are sufficient personnel on board and ashore to deal with an emergency.

At all times during the ship's stay at the terminal, a sufficient number of personnel should be present on board the ship and in the shore installation to deal with an emergency.

23/ The procedures for cargo and ballast handling have been agreed.

The procedures for the intended operation should be pre-planned. They should be discussed and agreed upon by the Responsible Officer and Terminal Representative prior to the start of the operations. Agreed arrangements should be formally recorded and signed by both the Responsible Officer and Terminal Representative. Any change in the agreed procedure that could affect the operation should be discussed by both parties and agreed upon. After both parties have reached agreement, substantial changes should be laid down in writing as soon as possible and in sufficient time before the change in procedure takes place. In any case, the change should be laid down in writing within the working period of those supervisors on board and ashore in whose working period agreement on the change was reached.
The operations should be suspended and all deck and vent openings closed on the approach of an electrical storm.
The properties of the substances handled, the equipment of ship and shore installation, and the ability of the ship's crew and shore personnel to execute the necessary operations and to sufficiently control the operations are factors which should be taken into account when ascertaining the possibility of handling a number of substances concurrently.
The manifold areas, both on board and ashore, should be safely and properly illuminated during darkness.
The initial and maximum loading rates, topping-off rates and normal stopping times should be agreed, having regard to:

- The nature of the cargo to be handled.
- The arrangement and capacity of the ship's cargo lines and gas venting systems.
- The maximum allowable pressure and flow rate in the ship/shore hoses.

Precautions to avoid accumulation of static electricity.
Any other flow control limitations.
A record to this effect should be formally made as above.

24/ The emergency signal and shutdown procedure to be used by the ship and shore have been explained and understood.

The agreed signal to be used in the event of an emergency arising ashore or on board should be clearly understood by shore and ship personnel.
Emergency shutdown procedure should be agreed between ship and shore, formally recorded and signed by both the Responsible Officer and Terminal Representative.
The agreement should state the circumstances in which operations have to be stopped immediately.
Due regard should be given to the possible introduction of dangers associated with the emergency shutdown procedure.

25/ Material Safety Data Sheet (MSDS) for the cargo transfer has been exchanged where requested.

MSDS should be available on request to the receiver from the terminal or ship supplying the product.
As a minimum, such information sheets should provide the constituents of the product by chemical name, name in common usage, UN number and the maximum concentration of any toxic components, expressed as a percentage by volume or as ppm.

26/ The hazards associated with toxic substances in the cargo being handled have been identified and understood.

Many tanker cargoes contain components that are known to be hazardous to human health. In order to minimize the impact on personnel, information on cargo constituents should be available during the cargo transfer to enable the adoption of proper precautions. In addition, some port states require such information to be readily available during cargo transfer and in the event of an accidental spill. This is particularly relevant to cargoes that could contain H_2S, benzene or lead additives.

27/ An International Ship/Shore Fire Connection has been provided.

The connection must meet the standard requirements and, if not actually connected prior to commencement of operations, should be readily available for use in an emergency.

28/ The agreed tank venting system will be used.

Agreement should be reached and recorded as to the venting system to be used for the operation taking into account the nature of the cargo and international, national or local regulations and agreements.
There are two basic systems for venting tanks:
1. Open to atmosphere via open ullage ports, protected by suitable flame screens.
2. Fixed Venting systems which include Inert Gas Systems.

29/ The requirements for closed operations have been agreed.

It is a requirement of many terminals that, when the ship is ballasting into cargo tanks, loading or discharging, it operates without recourse to opening ullage and sighting ports. In these cases, ships will require the means to enable closed monitoring of tank contents, either by a fixed gauging system or by using portable equipment passed through a vapour lock, and preferably backed up by an independent overfill alarm system.

30/ The operation of the P/V system has been verified.

The operation of the P/V valves and/or high velocity vents should be checked using the testing facility provided by the manufacturer. It is imperative that an adequate check is made, visually or otherwise, to ensure that the check lift is actually operating the valve. On occasion, a seized or stiff vent has caused the check lift drive pin to shear and the ship's personnel to assume, with disastrous consequences, that the vent was operational.

31/ Independent high level alarms, if fitted, are operational and have been tested.

Owing to the increasing reliance placed on gauging systems for closed cargo operations, it is important that such systems are fully operational and that backup is provided in the form of an independent overfill alarm arrangement. The alarm should provide audible and visual indication and should be set at a level that will enable operations to be shutdown prior to the tank being overfilled. Under normal operations, the cargo tank should not be filled higher than the level at which the overfill alarm is set.
Individual overfill alarms should be tested at the tank to ensure their proper operation prior to commencing loading unless the system is provided with an electronic self-testing capability which monitors the condition of the alarm circuitry and sensor and confirms the instrument set point.

32/ Adequate electrical insulating means are in place in the ship/shore connection.

Unless measures are taken to break the continuous electrical path between ship and shore pipe work provided by the ship/shore hoses or metallic arms, stray electric currents, mainly from corrosion prevention systems, can cause electric sparks at the flange faces when hoses are being connected and disconnected.
The passage of these currents is usually prevented by an insulating flange inserted at each jetty manifold outlet or incorporated in the construction of metallic arms. Alternatively, the electrical discontinuity may be provided by the inclusion of one length of electrically discontinuous hose in each hose string.
It should be ascertained that the means of electrical discontinuity is in place, that it is in good condition and is not being by-passed by contact with an electrically conductive material.

33/ Smoking rooms have been identified and smoking requirements are being observed.

Smoking on board the ship may only take place in areas specified by the Master In consultation with the Terminal Representative.
Places that are directly accessible from the outside should not be designated as places where smoking is permitted. Rooms designated as areas where smoking is permitted should be clearly marked as such.

34/ Naked light regulations are being observed.

A naked light or open fire comprises the following: flame, spark formation, naked electric light or any surface with a temperature that is equal to or higher than the auto-ignition temperature of the products handled in the operation.
The use of naked lights or open fires on board the ship, and within a distance of 25 meters of the ship, should be prohibited, unless all applicable regulations have been met and agreement reached by the port authority, Terminal Representative and the Master. This distance may have to be extended for ships of a specialized nature such as gas tankers.

35/ Ship/Shore telephones, mobile phones and pager requirements are being observed.

Ship/Shore telephones should comply with the requirements for explosion-proof construction, except when placed and used in a safe space inside the accommodation.
Mobile telephones and pagers should not be used in hazardous areas unless approved for such use by a competent authority.

36/ Hand torches (flashlights) are of an approved type.

Battery operated hand torches (flashlights) should be of a safe type, approved by a competent authority. Damaged units, even though they may be capable of operation, should not be used.

37/ Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.

Fixed VHF/UHF and AIS equipment should be switched off or on low power (1 watt or less) unless the Master, in consultation with the Terminal Representative, has established the conditions under which the installation may be used safely.

38/ Portable VHF/UHF transceivers are of an approved type.

Portable VHF/UHF sets should be of a safe type, approved by a competent authority.

39/ The ship's main radio transmitter aerials are earthed and radars are off.

The ship's main radio station should not be used during the ship's stay in port, except for receiving purposes. The main transmitting aerials should be disconnected and earthed.
Satellite communications equipment may be used normally, unless advised otherwise.
The ship's radar installation should not be used unless the Master, in consultation with the Terminal Representative, has established the conditions under which the installation may be used safely.

40/ Electric cables to portable electrical equipment within the hazardous area are disconnected from power.

The use of portable electrical equipment on wandering leads should be prohibited in hazardous zones during cargo operations, and the equipment preferably removed from the hazardous zone.

41/ Window type air conditioning units are disconnected.

Window type air conditioning units should be disconnected from their power supply.

42/ Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapours are closed.

A positive pressure should, when possible, be maintained inside the accommodation, and procedures or systems should be in place to prevent flammable or toxic vapours from entering accommodation spaces. This can be achieved by air conditioning or similar systems, which draw clean air from non-hazardous locations. Air conditioning systems should not be operated on 100% recirculation.

43/ Measures have been taken to ensure sufficient mechanical ventilation in the pump room.

Pump rooms should be mechanically ventilated and the ventilation system, which should maintain a safe atmosphere throughout the pump room, should be kept running throughout cargo handling operations. The gas detection system, if fitted, should be functioning correctly.

44/ There is provision for an emergency escape.

In addition to the means of access referred to in Question 1, a safe and quick emergency escape route should be available on board. On board the ship, it may consist of a lifeboat ready for immediate use, preferably at the after end of the ship, and clear of the hoses amidships.

50/ Verify fixed and portable O_2 Analyzers.

All fixed and portable oxygen analyzers should be tested and checked as required by the Company and/or manufacturer's instructions and should be operating correctly.
The on-line oxygen analyzer/recorder and sufficient number of portable oxygen analyzers required for the specific operation should be available and working properly.
The calibration certificate should show that its validity is as required by the ship's SMS.

51/ All the individual tank IG valves (if fitted) are correctly set and locked.

For both loading and discharge operations, it is normal and safe to keep all individual tank IG supply valves (if fitted) open in order to prevent inadvertent under or over-pressurization. In this mode of operation, each tank pressure will be the same as the deck main IG pressure and thus the PV breaker will act as a safety valve in case of excessive over or under-pressure. If individual tank IG supply valves are closed for reasons of potential vapour contamination or de-pressurization for gauging etc, then the status of the valve should be clearly indicated to all those involved in cargo operations. Each individual tank IG valve should be fitted with a locking device under the control of a Responsible Officer.

PART II

GENERAL INFORMATION

The purpose of this information is to provide an outline and guidance to Masters of oil tankers calling at ADNOC ONSHORE Fujairah Terminal on the general nature of conditions, facilities, services and regulations at the Terminal. It does not replace other more detailed regulations and requirements pertaining to Port of Fujairah for which the responsibility of the safe conduct of operations onboard vessel whilst moored at ADNOC ONSHORE SPM terminal berths rests with the ship master.

The ADNOC ONSHORE Fujairah Terminal is located offshore Fujairah, some 3 nautical miles from nearest shoreline. It is connected to the onshore facilities at Fujairah by 3 x 48" sea lines. Each sea line from the shore terminates at a Pipeline End Manifold (PLEM) at various depths and forms part of Catenary Anchor Leg Mooring (CALM) Single Point Mooring (SPM) system.

There are three turret-type CALM SPM buoys offshore, with the following specifications:

	SPM – B (1)	**SPM – C (2)**	**SPM – E (3)**
SPM Buoy Positions	25^0 13' 05.3 N 056^0 24' 41.7E	25^0 13' 46.2 N 056^0 23' 41.5 E	25^0 14' 13.7 N 056^0 24' 50.3 E
Maximum SDWT (mt)	320,000	320,000	320,000
Minimum SDWT (mt)	100,000	100,000	100,000
Maximum LOA (m)	340	340	340
Minimum LOA (m)	150	150	150
Sea Lines to PLEM	48"	48"	48"
Floating Hoses	2 x 24" hose strings terminating in 2 x 16" tanker rail hoses	2 x 24" hose strings terminating in 2 x 16" tanker rail hoses	2 x 24" hose strings terminating in 2 x 16" tanker rail hoses
Length of Hose Strings Inner 27 hoses (m) Outer 28 hoses (m)	 320 332	 320 332	 320 332
Sub-Sea Hose Configurations	Lazy S 2 x 8 Hoses	Chinese Lantern 2 x 4 Hoses	Lazy S 2 x 8 Hoses
Mooring Hawsers	Single x 20" x 70 m Fully encapsulated SWL 550 MT	Single x 20" x 70 m Fully encapsulated SWL 550 MT	Single x 20" x 70 m Fully encapsulated SWL 550 MT
MBC Closure Time	Tanker side 3 ±1 sec Buoy side ≥26 sec	Tanker side 3 ±1 sec Buoy side ≥20 sec	Tanker side 3 ±1 sec Buoy side ≥25 sec
MBC Breaking Load	28.5 Barg ± 5%	28.5 Barg ± 5%	28.5 Barg ± 5%
Anchor Leg Moorings	6 x 459 m approx.	6 x 403~879 m approx.	6 x 459 m approx.
Surge Relief Tanks	2 x 12.7 cbm HH @ 12 cbm Automatically Triggers @ 21 bar	2 x 12.7 cbm HH @ 12 cbm Automatically Triggers @ 21 bar	2 x 12.7 cbm HH @ 12 cbm Automatically Triggers @ 21 bar
Water depth (m)	54	36	56
Max. Loading Rate	80,000 Bbls/hr	80,000 Bbls/hr	80,000 Bbls/hr
Min. Loading Rate	4,000 Bbls/hr	4,000 Bbls/hr	4,000 Bbls/hr

Approaches to & departure from ADNOC ONSHORE Fujairah Terminal

All tankers approach/depart to/from their nominated SPM berths from/to the North and within a compulsory pilotage area.

Pilotage

Pilotage, both inbound and outbound is compulsory through Port of Fujairah. The Master should complete and sign the Master/Pilot Information Exchange and Pilotage Passage Plan and also 'Conditions of Use' for ADNOC ONSHORE Fujairah Terminal.

One Pilot and Two Loading Masters will stay on board till tanker's departure and shall be provided with meals and suitable senior accommodation.

Pilot Embarkation & Disembarkation

A combination of pilot ladder and tanker's accommodation gangway is to be rigged for tankers of more than nine (9) meter freeboard to conform to SOLAS Regulations.

Tankers of nine (9) meters or less require rigging of the pilot ladder only.

The safe embarkation & disembarkation is subject to the discretion of Pilot/Loading Master taking into consideration the prevailing wind and/or swell conditions.

Hose Connection/Disconnection

A minimum of 15 (mt) SWL crane is required for cargo hose handling. ADNOC ONSHORE Fujairah Terminal personnel will connect and disconnect cargo hoses to the tanker's manifold under the supervision of Loading Master. Tanker is to provide crane driver and general assistance as directed by the Loading Master. The tanker's officer needs to be present at the manifold during hose connection and disconnection.

Port Facilities Security

ADNOC ONSHORE Fujairah Terminal is committed for the provision of safe and secure working environment for all its employees, terminal users, tankers and their personnel. A Port Facility Security Plan has been developed in accordance with the International Ship and Port Facility Security Code (ISPS Code) and approved by the Government of UAE.

Features of Port Facility Security Plan are:

- As per Port of Fujairah Regulations
- All tankers calling at ADNOC ONSHORE Fujairah Terminal are required to have valid ISPS Certificate as specified in the ISPS Code.
- Failure to comply with the requirements of ISPS Code will render the tanker as not acceptable to berth at ADNOC ONSHORE Fujairah Terminal

Weather Limitations

The following weather working parameters and limitations for pilotage and cargo operations apply at ADNOC ONSHORE Fujairah Terminal.

Operational Limitations	Wind Speed (knots)	Wave Height (Feet)
Suspend Berthing	25 Kts	≥ 6 Feet
Suspend Loading	35 Kts	≥ 9 Feet
Disconnect Hoses	40 Kts	≥ 10 Feet
Unberth	40 Kts	≥ 10 Feet

The above criterion is effective for all three SPM's simultaneously and is not intended for individual SPM's.

The final decision to moor/unmoor is dependent on varying criteria that the Pilot/Loading Master and the Master assesses, having due regard to the safety of life, environment and property at the offshore terminal.

1. Tanker Obligations

The Master is to ensure that the combination ladder is properly rigged on the lee side for the access of shore personnel to lift and connect/disconnect hoses etc. This access to be sufficiently lit during the hours of darkness. A life buoy with heaving line of adequate length attached, to be close by for emergency use.

The ship's crane is to have sufficient length runner to reach the sea level in light condition and able to reach roughly 30 feet above the main deck level.

An officer is to be in attendance at the manifold during the connection/disconnection of loading hoses and also at the commencement of cargo loading operations. The manifold is to have sufficient lighting during the hours of darkness and the drip trays at the manifold to be monitored at regular intervals as well as loading hose (tanker rail hose) manifold connections.

2. Ship/Shore Interface

On arrival the Loading Master (LM) will discuss with the Master the Safety Requirements described in Part 1.

Attention is drawn to the International Safety Guide for Oil Tankers & Terminals (ISGOTT 6th Edition) published by the (ICS/OCIMF/IAPH) with respect to Ship/Shore Safety Check-List.

The LM will also discuss the Loading Plan and will liaise with the ADNOC ONSHORE Control Room on the Master's requirements. It is essential that the tanker is adequately fitted to handle both the mooring and loading arrangements of the SPM in order to execute these operations safely and efficiently, without any delays from either side.

Cooperation between the vessel and the terminal LM is essential and feedback of any infringements of safety from the Master will be thoroughly looked into to ensure non - recurrence.

3. Readiness to Load

Notice of Readiness will be received by the LM/Company representative from the Master when the vessel is ready in all respects, to load as far as possible. Every effort will be made to load the vessel on her arrival depending on her nomination and berth availability.

MAXIMUM CONCENTRATION OF H_2S IN NOMINATED TANKS FOR LOADING SHALL NOT EXCEED 5 PPM.

4. Ballast Discharge

Ballast water for discharge should be clean, with the Master having declared such on arrival and the declaration presented to the Loading Master on arrival. Clean ballast to mean oil in water content to be not more than 5 parts per million (ppm) as per Port of Fujairah Regulations. No ballast is to be discharged unless agreed with LM.

The Master is to ensure that his vessel is adequately trimmed (3 meters by the stern) with an adequate draft to ensure safe berthing.

There could be instances such as prevailing weather conditions at the time, where de-ballasting cannot commence until loading has started. However, it is important to liaise with the LM prior to carrying out such an operation.

ADNOC ONSHORE Fujairah Terminal follows a clean seas policy, and the LM is authorized to inspect your Oil Record Book which should be up to date and ready for inspection. Ballast water samples are frequently taken and analyzed. If the oil content in water exceeds the 5 ppm, then the vessel will be ordered to cease de-ballasting without any further discharge.

In the event of your vessel discharging dirty ballast, or spilling any oil; the cost of clean-up, third party claims or any other expenses shall be borne by the vessel.

5. Flash Point

The flash point of Murban crude is below 32 degrees Fahrenheit.

6. Crude Oil Temperatures

Every effort is made to keep the loading temperature of export crude below 120^0 F but there are times when the temperature could exceed this. Masters are however advised when the temperature is likely to increase. These increases are normally due to changes in the production, loading rate, tank levels etc. The temperature from voyage to voyage can vary but generally could be taken as an approximate temperature for ship's calculations.

7. H_2S Content

Murban crude contains concentration of H_2S (Hydrogen Sulphide). H_2S has disagreeable odor characteristics of rotten eggs which quickly mute the sense of smell; dangerous concentration may be present which cannot be detected. Whenever concentration of this gas is detected, the area is to be evacuated of ships personnel and ventilation started to disperse the gas.

During loading, gas should only be allowed to escape via the agreed venting arrangements.
Whenever any sampling or ullaging is being carried out, personnel should stand at right angles to the wind direction to avoid inhalation. If H_2S is accidentally inhaled, that person should leave the area until that person's sense of smell has been restored.

No one should enter any compartment or pump-room unless another is standing-by. Breathing apparatus, with lines and resuscitators should be readily available.

8. Loading Operation

On securing hoses at the manifold, the Master is to advise the ADNOC ONSHORE Fujairah Terminal LM when his ship is ready to start loading. Damage to the hoses and its attachments could occur if the loading ship's valves are not opened and lined up to receive cargo. Special care should be taken by the ship's crew in order not to shut any valves against the cargo flow which will result in catastrophe!

The terminal is designed to load tankers at a maximum rate of up to 80,000 bbls/hr. This rate is dependent on the number of berths occupied and the turn round time required for any of the tankers loading.

At any time that a tanker is unable to accept the requested maximum rate, the Master must give the governing reasons and the rate will be adjusted to ship's requirements. Some of the reasons could be:

a) Inadequate venting system
b) Condition of ship's lines & valves
c) Inexperienced ship's crew
d) Or any other reason

Adequate notice should be given when loading commences to increase the rate or to reduce as the case may be, in order for the shore to take the necessary action; unless it is an emergency. Adequate 'Stand By' notice must be given when topping off and before 'Final Stop'

The quantity of cargo received on board is the ship's responsibility and care should be taken in its measurement whilst loading and on completion. When loading is completed, the lines will be relieved and the cargo hoses will be disconnected and lowered under the supervision of the LM in the reverse order of when they were connected.

The LM will be the communications medium between the ship and the Cargo Control Room ashore. A private channel is used for cargo operations as well as any emergencies that might be encountered. VHF, UHF and Terminal Private Channel will be used as confirmed with Pilot/Loading Master on board.

9. Smoking

Smoking on board will only be allowed in jointly approved designated areas, in writing, by the tanker Master and the Loading Master.
Designated 'Smoking Area' notices, which state the conditions under which smoking is permitted in these rooms, shall be posted.

10. Movement of Support Vessels and other Crafts

During loading operations, no craft shall be allowed alongside the tanker unless approval has been given by the Pilot and agreed by the tanker Master. It is the duty of tanker's personnel to ensure that the surroundings are kept clear of unauthorized craft at all times.

11. Bow & Manifold Watchman

An experienced crew member with radio communications shall standby at the forecastle and the manifold, at all times.
The watchmen shall monitor and report to the tanker cargo control room at regular intervals:

- The configuration of floating hoses
- Manifold connections & pressure
- Mooring Hawser and the proximity of SPM buoy
- Any cargo leakage or spills, oil sheens in the vicinity
- Deteriorating weather conditions
- The stress of chafing on the hoses and equipment

Any abnormal events are to be reported immediately to the Pilot/Loading Master.

It is the Master's responsibility to ensure that the tanker does not make contact with the SPM buoy or cause damage to its associated equipment.

12. Requirements at Berth

1. All tankers berthing at ADNOC ONSHORE Fujairah Terminal should be fitted with bow mooring equipment that conforms to the recommended latest OCIMF standards/requirements.

2. Berthing to SPM is subject to Terminal requirements & procedures.

3. Berthing priority will depend on nomination, accepted date & berth availability.

4. Ballast water on arrival to be roughly 30% of the tanker's SDWT & the tanker shall be trimmed about 3 meters by the stern.

5. Tanker to have no list and the propeller is to be fully immersed.

6. Port of Fujairah requires a duty officer to be on the bridge with the ship's engines on standby status.

7. Deck watchman to be stationed at the forecastle when tanker at berth, in order to ensure that the distance between the SPM buoy & the tanker is monitored and maintained.

8. Deck watch is to be maintained at the ship's manifold throughout loading operations.

9. Repatriation, Sign on and off is not allowed from any SPM.

10. No services are allowed including surveys, bunkering, receiving stores & spares.

PART III

EMERGENCIES

EMERGENCY PROCEDURES

In the event of any emergency situation arising onboard tankers at ADNOC ONSHORE Fujairah Terminal, the Pilot/Loading Master shall be responsible for ensuring coordination between the Shore Terminal and tanker involved in the emergency and shall take appropriate actions.

1. ADNOC ONSHORE Fujairah Terminal incidents that may be declared

- Fire or explosion at the Terminal and on or around a moored tanker
- Major escape of flammable and/or toxic vapours, gases, oil or chemicals
- Collisions (Tanker to tanker, tanker and SPM buoy)
- Mooring Hawser parted and Drifting from SPM buoy, dragging anchor or grounding.
- Major terminal accidents involving tankers, tugs, mooring boats, crew boats etc.
- Meteorological hazards such as adverse weather conditions and heavy electrical storms
- Attack, sabotage and threats against tankers or terminal.

2. Actions to be taken shall be determined by the type and severity of the incidents, namely

- Stop loading
- Disconnect loading hoses
- Standby to unmoor
- Comply with emergency reporting procedures
- Firefighting facilities standby
- Depart from the SPM buoy

3. Emergency Response

- Pilot/Loading Master will immediately advise Port Control & the Shore Terminal Control Room (CR)
- The shore terminal CR personnel shall initiate the emergency shutdown procedures
- The tanker Master shall be requested to depart from SPM buoy under Pilots advice
- The attending tug at tanker's astern would be used to assist that tanker off the berth
- The tanker shall keep clear of the floating hoses
- The Pilot shall direct the Marine support craft in attendance and ensure floating hose strings are kept clear of the tanker

4. Emergency Shutdown During Loading

An Emergency Shut Down procedure should be agreed between the tanker Master and the ADNOC ONSHORE Fujairah Terminal CCR. The possible dangers associated with any emergency shutdown procedure should be acknowledged.

Emergency Shutdown (ESD) communications function would be through either VHF Portable Radio or Portable Telemetry Unit (PTU) with the Loading Master (LM).

SPM Berth	VHF Frequencies	Channel
SPM 'B' (1)	163.4875 MHz	1
SPM 'C' (2)	163.5000 MHz	2
SPM 'E' (3)	163.6875 MHz	3

The loading operations to be communicated through UHF walkie talkie sets as tabulated:

SPM Berth	UHF Frequencies	Channel
SPM 'B' (1)	404.4625 MHz	3
SPM 'C' (2)	404.5125 MHz	4
SPM 'E' (3)	430.6125 MHz	5

5. Fire

- Stop cargo operations immediately
- Close the manifold valves after depressurizing the lines
- Raise the alarm on the tanker
- Inform Pilot/Loading Master who will inform the Port Control & shore terminal CR
- The stern tug and any other marine crafts that can offer assistance to prepare their firefighting systems
- Tanker to start fighting the fire as per emergency procedures
- Disconnect the cargo hoses
- The tanker is to prepare to unmoor from the SPM.
- The Pilot/Loading Master will liaise for any shore assistance that may be required for fire-fighting or towing and will coordinate such assistance.

6. Oil Pollution

- Stop cargo operations immediately
- Close the manifold valves after depressurizing the lines
- Raise the alarm on the tanker
- Inform the Pilot/Loading Master who will inform the port control to locate the source of pollution
- Take such measures as are necessary to stop/minimize the escape of oil
- The Pilot/Loading Master will coordinate any shore assistance that may be required for clean-up operation
- In consultation with the Master, the SPM Terminal will implement Terminal Oil Spill Response Plan
- Commence clean-up operations by ADNOC ONSHORE contractor

7. Sabotage and Threats against Tanker/Terminal

- The ship's gangway is to be kept up horizontally with the main deck and only to be lowered for the embarkation/disembarkation of authorized personnel
- If necessary, stop cargo operations and close manifold valves after depressurizing the lines
- If imminent, raise the tanker alarm
- Inform Pilot/Loading Master who will inform Port Control and ADNOC ONSHORE Terminal CR
- Place Main Engines on "Standby" and crew to be ready to disconnect hoses

- Implement 'Tanker and Terminal Security Plan' at Highest Security Level
- After lowering hoses, Pilot/Loading Master will coordinate the unmooring operation and unmoor from the SPM

8. Hydrogen Sulphide (H_2S) Exposure

- See the 'Material Safety Data Sheet' for immediate First Aid to be administered
- If necessary, stop cargo operations, close the manifold valves after depressurizing the lines
- Raise tanker alarm
- Inform Pilot/Loading Master so that Medical Assistance can be provided

9. Other Emergencies

These could include loss of power or steering during maneuvering, grounding, collision, man overboard or any other accident or incident.

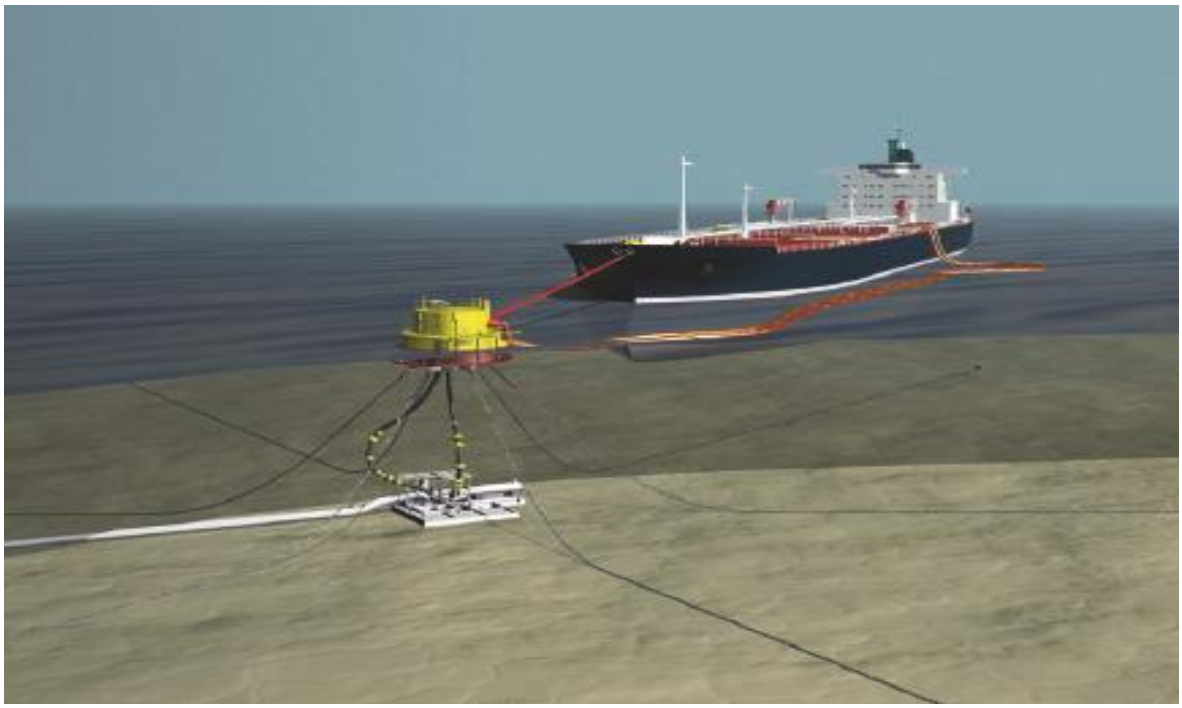
The Pilot/Loading Master is to be informed so as to render assistance. The Master is to take all possible precautions to minimize the resulting consequences.

PART IV

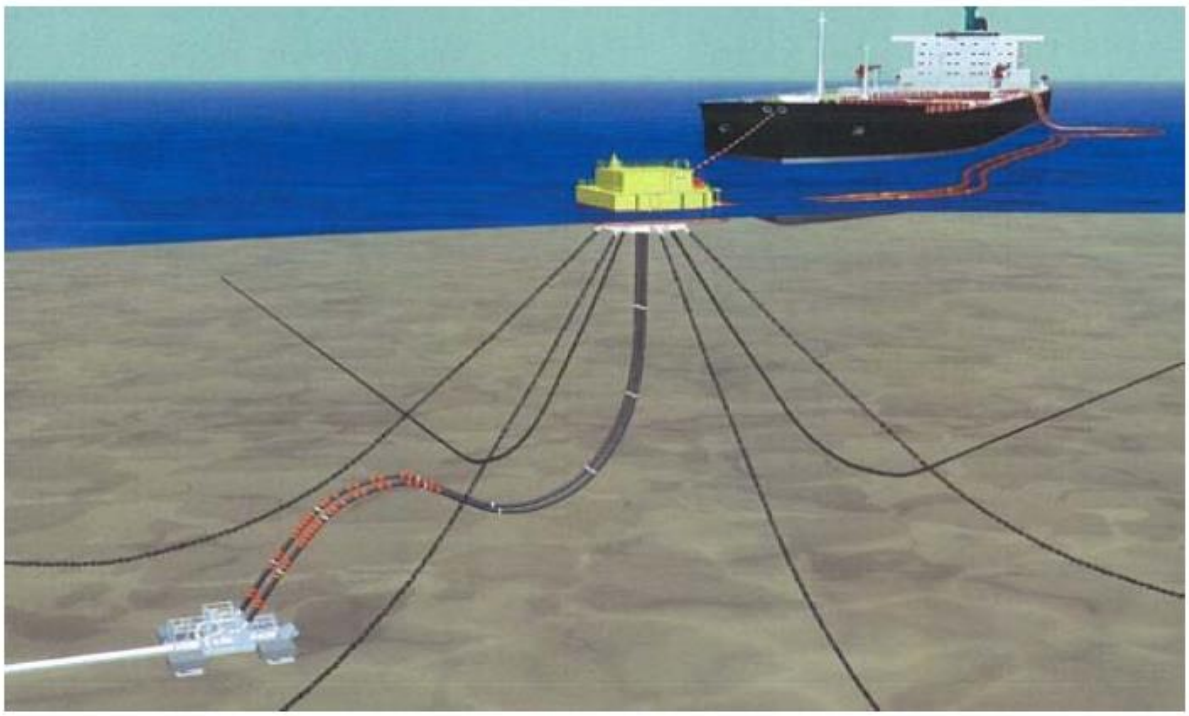
APPENDICES

APPENDIX I

SPM – C (2) Chinese Lantern Configuration

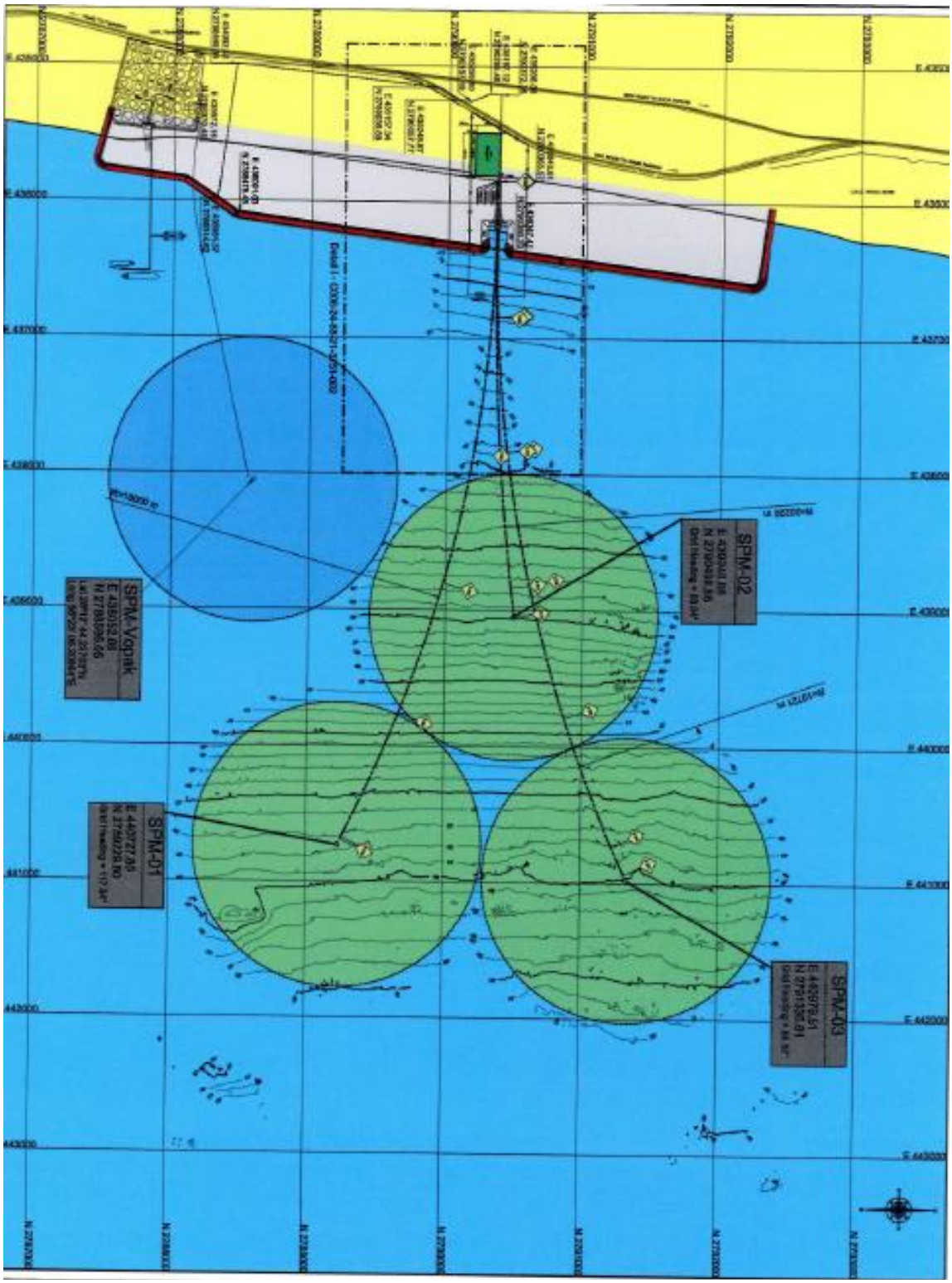


SPM – B (1) & E (3) Lazy "S" Configuration



APPENDIX II

SPM LOCATIONS



Material Safety Data Sheet

Section 1

Identification of the Substance and of the Supplier

1.1 Product Identifier

Product Name/Identification:	Crude Oil
Synonyms:	Murban Crude Oil

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advices Against

Relevant Identified Uses:	Raw Material for Fuels and Petrochemicals. This crude has been classified “Intermediate-Intermediate” in type that includes various fractions - condensate, gasoline, Naptha, Kerosene, gas Oil, Lube range and residue fractions
Uses Advised Against:	None known

1.3 Details of the Supplier of the MSDS

Manufacturer/Supplier:	ADNOC
City, State and Zip Code:	UAE

1.4 Emergency Telephone Number

Emergency Phone Number:	+971 260 79333

Section 2

Hazards Identification

2.1 Classification of the Substance

GHS Class **Category 1**

2.2 Label Elements

Hazard Pictogram(s):	
Signal word:	Danger
Hazard Statement(s):	Extremely flammable liquid and vapour H224 – Extremely flammable liquid and vapor H304 – Maybe fatal if swallowed and enters airways. H319 – Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. H351 - Suspected of causing cancer. H411 – Toxic to aquatic life with long lasting effects.
Precautionary Statement(s):	May contain or release poisonous hydrogen sulfide gas. Keep away from heat/sparks/openflames/hotsurfaces.—Nosmoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. In case of fire: Use dry chemical,carbon dioxide to extinguish small fires. Use water for large fires. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Wear protective gloves/protectiveclothing/eyeprotection/faceprotection. Obtain special instructions before use. Donot handle until all safety precautions have been read and understood. Keep container tightly closed. Store in a well-ventilated place. Keep cool. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation

	persists :Get medical advice/ attention. IF ON SKIN(orhair): Remove/ Takeoff immediately all contaminated clothing. Rinse skin with water/ shower. Contaminated work clothings hould not be allowed out of the workplace. IF SWALLOWED: Immediately call a POISON CENTER/ doctor/…Donot induce vomiting. Get medicaladvice/ attention If you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. Collect spillage. Avoid release to the environment. Dispose of contents/ container in accordance with Local, State, Federal and Provincial regulations.

2.3 Other Hazards

Inhalation:	Irritant toxic. Over exposure may result in mucrous membrane irritation of nose& throuat, cpoughing, weakness, vomiting, headache. At high level, diszziness, breathing difficulties, pulmonary deomea, unconsciousness & convulsions.
Skin Contact:	Irritant. Prolonged contact may result in dryness, and defatting of the skin, rash & dermatitis.
Eye Contact:	Irritant, Exposure may result in irritation pain, redness, and possible concealburns with prolonged contact.
Ingestion:	Irritant, toxic. Ingestion may result in nausea, vomiting, abdominal pain, diahorrea, fatigue, diszziness, drowsiness and unconsciuousness with large dosage.

Section 3

Composition/Information on Ingredients

3.1 Substances

Hydrocarbons containing from C1 to C50. Naturally occurring combination of hydrocarbons consisting predominantly paraffins, cyclopraffins, cyclick aromatic hydrocarbons, may contain small amounts of Sulphur.

Section 4

First Aid Measures

4.1 Description of First Aid Measures

Eye Contact:	Flood the eyes thoroughly with running water either from tap or from eye wash bottles for more than 15 minutes followed by opthamologist treatment
Skin Contact:	Remove contaminated clothing; Wash contaminated area with soap and plenty of water
Inhalation:	Remove to fresh air, give artificaial respiration if needed, seek urgent medical attention. Aoid becoming casualty while assiting a victim. Wear full face mask Type A (organic vapor) respirator or SCBA
Ingestion:	Give plenty of water. Do not induce vomiting.Obtain medical attention immediately.

4.2 Most Important Health Effects, Both Acute and Delayed

Acute effects: Direct exposure may cause respiratory irritation, eye irritation and skin irritation.

Chronic effects: Chronic exposure may cause cancer.

4.3 Indication of any immediate Medical Attention and Special Treatment Needed

Seek first aid or call a doctor or Poison Control Center if contact with eyes occurs and irritation remains after rinsing.

Section 5

Firefighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media:	Use dry chemical, carbon dioxide to extinguish small fires. Use water/foam for large fires.
Unsuitable Extinguishing Media:	None

5.2 Special Hazards Arising From the Substance or Mixture

Hazardous Combustion Products:	Carbon Dioxide, PAH, VOC, SOx, PM10

5.3 Advice for Firefighters

Special Protective Equipment and Precautions for Firefighters:	As with any fire, wear self-contained breathing apparatus (NIOSH approved or equivalent) and full protective gear. Remain upwind and notify those in downwind of hazard.

Section 6

Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions/Protective Equipment:	See Section 8.3 Individual Protective Measures. For concentrations exceeding Occupational Exposure Levels (OELs), use a self-contained breathing apparatus (SCBA).
Emergency procedures:	Absorb spills with dry sand or on paper towelsor other materials, collect the materialin container for safe disposal in an incinerator. Site of spillage should be washed thoroughly with water and soap or detergent. Use all personal protective equipment while handling spillage. Check regularly for leaks and spills.

6.2 Environmental precautions

Environmental precautions:	Prevent contamination of drains or waterways and dispose according to local and national regulations.

6.3 Methods and Material for Containment and Cleaning Up

Methods and materials for containment and cleaning up:	

Section 7

Handling and Storage

7.1 Precautions for Safe Handling

Avoid direct inhalation of vapours. Avoid prolonged contact with skin and eyes. Use in well ventilated areas. If poorly ventilated areas, mechanical extraction ventilation is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Keep the containers closed and store in a cool dry well ventilated place, away from oxydixing agents, acids and sources of ignition.Use standard combustible liquid store room or cabinet for indoor storage. Outdoor or detached storage equipped with fire protective system is preferred.

Section 8

Exposure Controls/Personal Protection

8.1 Control Parameters

OCCUPATIONAL EXPOSURE LIMITS				
SUBSTANCE	**OSHA PEL TWA (mg/m^3)**	**NIOSH REL TWA (mg/m^3)**	**ACGIH TLV TWA (mg/m^3)**	**CA - OSHA PEL (mg/m^3)**

8.2 Exposure Controls

8.2.1 Engineering Controls

Provide ventilation to maintain the ambient workplace atmosphere below the occupational exposure limit(s). Use general and local exhaust ventilation and dust collection systems as necessary to minimize exposure.

8.2.2 Personal Protective Equipment (PPE)

Respiratory protection:	Wear a NIOSH approved particulate respirator if exposure to airborne particulates is unavoidable and where occupational exposure limits may be exceeded. If airborne exposures are anticipated to exceed applicable PELs or TLVs, a self-contained breathing apparatus or airline respirator is recommended.
Eye and face protection:	If eye contact is possible, wear protective glasses with side shields. Avoid contact lenses.
Hand and skin protection:	Wear gloves and protective clothing. Wash hands with soap and water after contact with material.

Section 9

Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Property: Value	Property: Value
Appearance (physical state, color, etc.): Dark Brown, liquid	**Lower/Upper flammability or explosive limits:** 0.6% - 5.0 %
Odor: Slight	**Vapor Pressure REID (Psi):** 6.0
Odor threshold: NA	**Vapor Density:** NA
pH (25 °C): NA	**Specific gravity or relative density:** 0.8250
Melting point/freezing point (°C): NA	**Water Solubility:** Slight
Initial boiling point and boiling range (°C): 28 ^{0}C to 40 ^{0}C	**Partition coefficient: n-octane/water:** NA
Flash point (°C): Below 32 ^{o}F	**Auto ignition temperature (°C):** NA
Evaporation rate: NA	**Decomposition temperature (°C):** NA
Flammability (solid, gas): Extremely Flammable	**Viscosity:** NA
API Gravity: 40	**Pour Point: 1.5 ^{o}C**
Kinematic Viscosity: 2.95 cst	

9.2 Other Information

NA

Section 10

Stability and Reactivity

10.1 Reactivity:	
10.2 Chemical stability:	The material is stable under normal use conditions.
10.3 Possibility of hazardous reactions:	
10.4 Conditions to avoid:	Keep ignition source away
10.5 Incompatible materials:	Strong oxidizing agents, heat & ignition sources
10. 6 Hazardous decomposition products:	None known.

Section 11

Toxicological Information

11.1 Information on Toxicological Effects

Endpoint	Data
Acute oral toxicity	No data available
Acute dermal toxicity	No data available
Acute inhalation toxicity	No data available
Skin corrosion/irritation	No data available
Eye damage/irritation	No data available
Respiratory/skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-SE	No data available
STOT-RE	No data available

Section 12

Ecological Information

12.1 Toxicity

No data available on final product.

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulative Potential

No data available.

12.4 Mobility in Soil

No data available.

12.5 Results of PBT and vPvB Assessment

No data available.

12.6 Other Adverse Effects

None known.

Section 13

Disposal Considerations

13.1 Waste treatment methods

Transfer in a deep pit and ignite froma safe distance or controlled incineration in approved facility comforming to the requirements of the local law.

Section 14

Transport Information

Regulatory entity:	Shipping Name:	
	Hazard Class:	
	ID Number:	
	Packing Group:	

Section 15

Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Mixture

NA

Section 16

Other Information, Including Date of Preparation or Last Revision

16.1 Indication of Changes

Date of preparation or last revision: 20/11/2017

16.2 Abbreviations and Acronyms

CAS:	Chemical Abstract Services
EPA:	Environmental Protection Agency
GHS:	Globally Harmonized System of Classification and Labelling
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
LC50:	Concentration resulting in the mortality of 50 % of an animal population
LD50:	Dose resulting in the mortality of 50 % of an animal population
LEL:	Lower explosive limit
NA:	Not Applicable
NOEC:	No observed effect concentration
NIOSH:	National Institute of Occupational Safety and Health
OEL:	Occupational Exposure Limit
OSHA:	Occupational Safety and Health Administration
PBT:	Persistent, Toxic and Bioaccumulative
PEL:	Permissible exposure limit
PPE:	Personal Protective Equipment
REL:	Recommended exposure limit
SCBA:	Self-contained breathing apparatus
MSDS:	Material Safety Data Sheet
STEL:	Short-term exposure limit
TLV:	Threshold limit value
TWA:	Time-weighted average
UEL:	Upper explosive limit

16.3 Other Hazards

DISCLAIMER:

Information herein is based on data considered to be accurate as of date prepared. No warranty or representation, express or implied, is made as to the accuracy or completeness of this data and safety information. No responsibility can be assumed for any damage or injury resulting from abnormal use, failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.