Maritime and Coastguard Agency

MARINE GUIDANCE NOTE

MGN 282 (M)

Dangerous Goods - Guidance in the Carriage of Packaged Dangerous Goods on Offshore Supply Vessels

Notice to Ship Owners, Ship Operators and Managers, Masters and Officers of Merchant Ships and Offshore Installation Managers/Duty Holder's, Base Operators and Consignors to the Offshore Industry.

MGN 282 (M) supersedes MGN 205 (M)

Summary

- Vessels supplying the offshore industry are required to carry a variety of dangerous goods including those in packaged form. Vessel design and operational conditions do not assist compliance with the regulations. Furthermore, it has been noted that the back loading process often gives rise to incorrectly declared, stowed, secured and labelled dangerous goods.
- This Marine Guidance Note outlines the required standard of compliance with the requirements of the International Maritime Dangerous Goods (IMDG) Code and Chapter VII of SOLAS for offshore supply/support vessels utilising only weather deck stowage and goods stowed in cargo transport units (CTUs).

Introduction

1. For the purposes of this notice, offshore supply/support vessels (OSVs) are those vessels which are engaged in the transport of stores, materials and equipment to and from mobile offshore drilling rigs, fixed and floating platforms, sub-sea installations and other similar offshore installations on voyages within the United Kingdom continental shelf.

2. The SOLAS Convention and provisions of the IMDG Code in force at any time shall apply, except as given below. IMO resolution A.863(20) - Code of Practice for the Carriage of Cargoes and Persons by Offshore Supply Vessels[1] should be observed.

3. Vessels of 500GT and over built after 1 September 1984, and vessels under 500GT built after 1 February 1992 carrying dangerous goods, must comply with Regulation 54 of Chapter II-2 of SOLAS regardless of whether the vessel is engaged on international voyages or not. For vessels built after 1 July 2002, carrying dangerous goods, must comply with Regulation 19 of Chapter II-2 of SOLAS, 2000 Amendments.

[1] Available from the International Maritime Organisation

4. It is recognised that cargo ships of 500 GT and over constructed before 1 September 1984 and cargo ships of less than 500 GT constructed before 1 February 1992 are not required to have a Document of Compliance. However, the Maritime and Coastguard Agency (MCA) recommends all offshore supply vessels operating on the United Kingdom continental shelf to obtain a Document of Compliance.

5. It is known that the particular construction and design features of OSVs do not assist compliance with SOLAS 74 Chapter II-2/54 or Chapter II-2/19, SOLAS Amendments 2000, – Special requirements for ships carrying dangerous goods. The MCA will therefore accept demonstrable equivalence. However, the onus is on the operators of the vessels to demonstrate such equivalence. Some aspects that can be considered are:

(i) Regulation 54.2.1.2 or 19.3.1.2 amount and throw of water from fixed monitors/hydrants;

and

(ii) Suitable means to provide effective boundary cooling in lieu of A60 boundaries where required by Regulation 54.2.8 or 19.3.8.

Full compliance is required with Regulations 54.2.6 or 19.3.6 Personnel protection and 54.2.7 or 19.3.7 Portable fire extinguishers.

Carriage of Packaged Dangerous Goods

6. Dangerous goods must be carried in closed offshore containers or gas racks. Gas racks should fully protect the cylinders; Annex 1 refers. The cylinders should be secured by suitable means within the enclosure. Any other type of non-approved container used for carrying dangerous goods must have a Competent Authority Approval (CAA). A CAA may be granted if an equivalent level of safety to a standard offshore container is demonstrated to the Environmental Quality Branch of the MCA. Details of the CAA procedure for containers can be obtained from Environmental Quality Branch of MCA; contact details are given at the end of this MGN.

7. All CTUs and gas racks being shipped on OSVs should be approved, built and tested to the standards specified in MSC/Circ 860. It is the container owner/operators responsibility to maintain and arrange for examination of the containers at the appropriate intervals. It should be noted that BS 7072 was withdrawn on 15 October 1999 and CTUs constructed to BS 7072 alone, may not comply fully with MSC/Circ.860 requirements. Therefore, CTUs that do not fully comply with MSC/Circ.860, built to BS 7072, may continue to be used, subject to them being maintained and surveyed in accordance with a recognised standard until 1 January 2015.

Portable tanks containing dangerous goods must comply with the requirements of the IMDG Code.

8. Segregation within cargo transport units (CTUs), known as Cargo Carrying Units (CCUs) within the offshore industry, must comply with the segregation rules of the IMDG Code. The IMDG Code allows for relaxation of the segregation rules with approval of the Competent Authority. However, the MCA will not grant CAA's for relaxation of the segregation rules within a CTU or CCU.

9. For OSVs only, the following relaxation may be accepted under the segregation requirements of the IMDG Code (Chapter 7.2 - Stowage) where, for operational reasons, mini containers may be used in place of standard containers;

"Away from" = 1 mini container
"Separated from" = 2 mini containers
"Separated by a complete compartment or hold" = 3 mini containers

Such containers may have the following minimum dimensions 6ft (length) x 6ft (width) x 8ft (height) or the metric equivalent.

In addition there is no relaxation in the requirement for the stowage of goods of Class 1, Class 6.2 or Class 7, which shall be stowed as far away as possible from the accommodation spaces. In addition Class 1 goods shall also be stowed as far away as possible from machinery spaces.

10. The inherent OSVs design means goods are generally only transported on the open deck. If the design is such that under deck space is utilised, then full compliance with the IMDG Code is required and paragraph 5 of this note does not apply.

11. The general stowage requirements given in Chapter 7 of the IMDG Code will apply in all cases.

Carriage of Dangerous Goods in Machinery

12. The carriage of machinery containing dangerous goods shall be in accordance with the requirements of the International Maritime Dangerous Goods Code, as amended, and UN 3363 DANGEROUS GOODS IN MACHINERY or DANGEROUS GOODS IN APPARATUS. UN 3363 only applies to machinery or apparatus containing dangerous substances as an integral element of the machinery or apparatus. It shall not be used for machinery or apparatus for which a Proper Shipping Name already exists in the Dangerous Goods List. Machinery and apparatus transported under this entry shall only contain dangerous goods which are authorized to be transported in accordance with the provisions in chapter 3.4 of the IMDG Code (Limited Quantities). The Quantities of dangerous goods in machinery or apparatus shall not exceed the quantity specified in column 7 of the Dangerous Goods List for each item of dangerous goods contained. If the machinery or apparatus contains more than one item of dangerous goods, the individual substances shall not be capable of reacting dangerously with one another.

13. The transport of dangerous goods in machinery or apparatus, where the quantity of dangerous goods exceeds the "Limited Quantities" specified in the Dangerous Goods List, then a Competent Authority Approval is required. For operational reasons machinery moved offshore within the United Kingdom Sector may be carrying dangerous goods in excess of the "Limited Quantities" stated in the IMDG Code. To ensure the continued movement of these items of machinery, on voyages within the United Kingdom continental shelf, owners and operators of this equipment shall ensure that the conditions contained in the industry specific Competent Authority Approval (CAA), attached at Annex 2 is followed. A copy of the CAA must be attached to the Dangerous Goods Note when presenting dangerous goods in machinery for shipment. A copy of the CAA can be obtained from www.mcga.gov.uk/c4mca/UKOffshoreSpecific_caa.pdf. The CAA may be amended, so ensure that the current version is downloaded from the website.

Discharging/Loading of Portable Tanks Onboard

14. From the 1 January 2006 the IMDG Code, 32nd Amendment, will reinsert an operational requirement to the definition of portable tank into Part 4 of the IMDG Code, whereby the contents of a portable tank shall not be loaded or discharged while the tank remains onboard. This requirement was in the 29th Amendment of the IMDG Code but was omitted in error when the reformatted 30th Amendment was published.

15. When OSV's are required to carry portable tanks, that are to be loaded or discharged whilst onboard, the suggested template attached at Annex 3 – "Procedures for the discharging and loading of Dangerous Goods from portable tanks carried on the deck of offshore supply/support vessels" should be completed and submitted to the local Maritime and Coastguard Agency's (MCA) Marine Office prior to loading the tanks to gain approval. The MCA surveyor may be required to visit the vessel to confirm details.

16. The portable tank shall be physically secured to the vessel, in accordance with the ship's Cargo Securing Manual to prevent loss in the event of an incident whilst at sea. The arrangements for securing the portable tanks to the vessel shall be of such strength to withstand the forces likely to be encountered during the voyage to and from the installation.

17. All pumping equipment, pipe work, valves and hoses should be compatible with the substances being transferred. The pipe work and valves shall be secured to prevent movement.

18. Where portable tanks are carried, the loading and unloading should not be undertaken at the same time as other cargo is being handled and in any event undertaken only as approved and in accordance with written guidelines, see Annex 3, agreed with the local MCA Marine Office. The applicable tank instruction shall apply. In all other respects the applicable conditions contained in the IMDG Code and this MGN for the segregation, declaration, etc; must be met when carrying these dangerous goods. The general stowage requirements given in Chapter 7 of the IMDG Code will apply in all cases.

Carriage of Dangerous Goods

19. All cargoes, including back loaded cargoes of dangerous goods shall be correctly declared, packaged and labelled, secured, placarded and documented, and segregated in accordance with the regulations and also this MGN and any subsequent notices.

20. The Master must not accept the loading of any cargo which is not safe for cargo handling, not adequately packed, not properly marked or not properly documented. The responsibility for ensuring that cargoes are properly prepared for carriage on board OSVs rests with the operator, shipper and/or owner of the items concerned.

21. Placarding of CTUs and CCUs carrying dangerous goods shall be in accordance with the IMDG Code requirements, unless stated otherwise. The requirements for Placards and Labels can be found in the IMDG Code Chapter 5.3 and 5.2 respectively.

22. To assist the master of the OSV in planning the cargo stowage to ensure that segregation of dangerous goods is maintained, it is a requirement that;

    (a) the OSV is advised by the Quayside Service Provider of the quantity and nature of dangerous goods prior to loading; and

    (b) the OSV is advised by the Offshore Installation Manager/Duty Holder or nominated deputy, of the quantity and nature of back loaded dangerous goods prior to loading.

23. In the case of back loads it is the responsibility of the consignor/packer to ensure that back loaded goods are back loaded to the vessel in accordance with the requirements of the IMDG Code and this MGN. This means correctly declared, packaged and labelled, secured, placarded and with the correct documentation. Consideration must also be given to the order of back loading to ensure that the segregation requirements given in paragraph 9 can be met. In this case the consignor is the Offshore Installation Manager/Duty Holder or the person who is responsible for packing and closing/sealing the container door.

24. It is the responsibility of the consignee/receiver of any dangerous goods to remove any old placards affixed to the container prior to its re-use.

Reporting Requirements

25. Any incidents, such as incorrectly declared or documented back loads and/or shipments or unsafe stowage or incorrect segregation, identified by anyone in the supply chain, should be notified to the Environmental Quality Branch of the MCA. Such incidents may be pursued under the Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No. 2367).

26. Vessels and others in the supply chain are required to comply with the Merchant Shipping (Vessel Traffic Monitoring & Reporting Requirements) Regulations 2004 (SI 2004 No. 2110) and Merchant Shipping Notice 1784 - Notification prior to entry into ports and additional notification for ships carrying dangerous or polluting goods, as amended.

Training

27. It is a requirement of the UK offshore industry that all personnel engaged in the transport of dangerous goods by sea for the offshore industry shall receive training in the relevant parts of the IMDG Code and the training shall be commensurate with their responsibilities.

Further Information

Further information on the contents of this Notice can be obtained from:

Environmental Quality Branch
Bay 2/03
Maritime and Coastguard Agency
105 Commercial Road
Southampton
SO15 1EG

Telephone: +44 (0) 23 8032 9100
Fax: +44 (0) 23 8032 9204
E-Mail: dangerous.goods@mcga.gov.uk

General Enquiries: 24 Hour Infoline
infoline@mcga.gov.uk
0870 600 6505

MCA Website Address: Internet: http://www.mcga.gov.uk

File Ref: MS116/032/0013

Published: February 2005

Department for Transport

Safer Lives, Safer Ships, Cleaner Seas

The MCA is an executive agency of the Department for Transport

Annex 1

PROTECTION of GAS RACKS, MULTI ELEMENT GAS RACK'S (MEGC's) and GAS BOTTLES

Multi element cylinder systems such as gas racks, gas quads and lift frames should provide protection for the cylinder and cylinder valves. The cylinders should be secured by suitable means within the enclosure. Hazardous Goods placards and labels should be clearly displayed.

Cylinder valve protection is defined as follows.

Lift frames, all lift frames should provide adequate methods of securing variable numbers of cylinders. Individual cylinders should have secure valve guards or the lift frame should provide a maximum gap of 250mm between guards in at least one plane. The maximum gap of 250mm applies from 31st Jan 2004 but does not apply if the valves have individual valve guards securely attached to the cylinder. Guards shall be mesh, grills, plate or bars, sufficiently strong such that the guard will not distort under reasonable force, thus always ensuring valves do not protrude beyond the guards.

Multi element systems with vertically mounted cylinders, as 31st Jan 2004, shall have guards with a maximum gap of 250mm in at least one plane. Guards shall be mesh, grills, plate or bars, sufficiently strong such that the guard will not distort under reasonable force thus always ensuring valves do not protrude beyond the guards.

Multi element systems with horizontally mounted cylinders shall have guards which prevent slings and shackles entering the enclosure. Guards above the valves mounted on top of the enclosure shall provide full protection, guards at the side shall extend 400mm from the top of the enclosure, guards mounted in front of the valve and manifold shall have a maximum gap of 250mm in at least one plane. Guards shall be mesh, grills, plate or bars, sufficiently strong such that the guard will not distort under reasonable force thus always ensuring valves do not protrude beyond the guards.

***[Placarding]*/Labelling is described as follows.**

Lift frames, all lift frames shall have at least one solid surface to mount two 250 x 250mm hazardous goods placards. All individual cylinders must be colour coded and have neck labels detailing contents and hazard. As of 31st Jan 2004 all new builds shall have solid surfaces on all four sides sufficient to display two 250 x 250mm placards.

Multi element systems with vertically mounted cylinders shall have at least one solid surface to mount two 250 x 250mm hazardous goods placards. On sides where mounting plates are not available 250 x 250mm placards shall be mounted on the cylinders. As of 31st Jan 2004 all new builds shall have solid surfaces on all four sides sufficient to display two 250 x 250mm placards.

Multi element systems with horizontally mounted cylinders shall have at least one solid surface to mount two 250 x 250mm hazardous goods placards. On sides where mounting plates are not available 250 x 250mm placards shall be mounted on the cylinders, at the front and rear were there is no cylinder surface to display place 250 x 250mm placards, 100 x 100mm labels shall be displayed on the primary structure. As of 31st Jan 2004 all new builds shall have solid surfaces on three sides sufficient to display two 250x 250mm placards. On the front of the system access is required to the valves therefore a plate for two 250 x 250mm placards is not practical, 100 x 100 mm labels shall be placed on the primary structure at the top corners of the front. Dispensation is given for 200mm x 200mm placards except for new builds as of 31st Jan 2004.

ANNEX 2

Maritime and Coastguard Agency

An executive agency of the Department for Transport

Bay 2/03, Spring Place, 105 Commercial Road, SOUTHAMPTON, SO15 1EG
Tel: +44 (0)23 80329182 Fax: +44 (0)23 80329204
E-mail: dangerous.goods@mcga.gov.uk

Our Ref: MS 116/57/017 Part 18

Date: 31 December 2004

UNITED KINGDOM

OFFSHORE INDUSTRY SPECIFIC

MARINE COMPETENT AUTHORITY APPROVAL

Approval Number: 0194/04 ***Date of Expiry: 31 December 2007***

In accordance with the provisions of the International Maritime Dangerous Goods (IMDG) Code, as amended, this is to confirm that the Maritime and Coastguard Agency has no objection to the **United Kingdom Offshore Oil Industry** carrying by sea within the United Kingdom sector the following:

Proper Shipping Name	:	DANGEROUS GOODS IN MACHINERY
UN Number	:	UN 3363
Class	:	9
Packing Group	:	--

The following additional conditions shall apply to the goods offered for carriage or taken aboard ship:

1. This approval applies only to machinery containing dangerous goods being moved to and from offshore installations by sea.

2. The machinery is permitted to contain a maximum limit of 250 litres, of UN 1202 DIESEL FUEL per unit when being shipped by sea.

3. All batteries shall be disconnected when being shipped and fuel tank valves closed.

4. The Dangerous Goods Note accompanying the machinery, completed in accordance with the IMDG Code, shall provide the following information:-

   .1 the unique machinery identification number; and

   .2 additional dangerous goods, associated with the machinery, shall be declared using its UN Number and Proper Shipping Name.

Additional conditions are given overleaf

Approval Number: 0194/04

5. Machinery containing dangerous goods shall be installed, secured or cushioned so as to prevent their breakage or leakage and to control their movement within the machinery or apparatus during normal conditions of transport.

6. The equipment shall be placarded with a Class 9 on all four sides.

7. Any incident which occurs after goods have been offered for carriage by sea resulting in loss or potential loss of containment of the cargo, loss overboard, or other situation with possible or actual increased hazard to the ship or its personnel, shall be reported to the Environmental Quality Branch without delay, detailing the circumstances. The attention of the carrier and the consignee is drawn to this requirement.

8. This document shall not be used as documentary proof of correct classification. Correct classification remains the responsibility of the shipper.

9. Documentary proof must be held as evidence that a competent person or body has correctly classified the goods in accordance with the IMDG Code. This information shall be made available at any time at the discretion of the Maritime and Coastguard Agency.

10. In all other respects the relevant requirements of the IMDG Code and MGN 282 shall be followed.

11. A copy of this approval is to be attached to the Dangerous Goods Declaration and shall be presented to anyone having a legitimate interest in the carriage of these goods.

12. This approval is valid until the date of expiry, provided no changes are made to the IMDG Code, which would affect this approval in the intervening period.

13. The Agency may withdraw this approval for failure to observe any of the above conditions, or for any other reason which the agency judges sufficient.

Signed

Iain D MacRae
Marine Surveyor
Environmental Quality Branch

ANNEX 3

PROCEDURES FOR THE DISCHARGING AND LOADING OF PORTABLE TANKS CONTAINING DANGEROUS GOODS CARRIED ON THE DECK OF OFFSHORE SUPPLY VESSELS

CONTENTS

1.0 PURPOSE

It is the intention of **[Vessel Owners]** to transport **[Insert Description of Substance being carried, UN Number Class etc]** in **[No of Tanks]** IMO/UN approved portable deck mounted tanks, onboard **[Name of Vessel]**. The chemicals are to be transferred by **[Description of Location and intend operation]**.

2.0 SCOPE

This procedure covers all marine transportation aspects of the shipment of the above substance, loading, sea passage, offshore discharge/loading; return voyage and the subsequent unloading of those tanks to shore.

3.0 APPLICATION

The procedure applies to all personnel involved in the handling and discharging/loading of **[Insert Description of Chemicals]**. It is also intended to be an informative document for those involved in the safe management of the installation, and governmental bodies and harbour authorities concerned with enforcing safe working practices.

4.0 REFERENCES AND DEFINITIONS

4.1 References

The proposed operations shall be carried out, as closely as possible, in compliance with the following Flag State Guidelines.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG) CODE, as amended.

The IMDG Code, including Amendment 31-02 now makes the majority of the Code mandatory. The Code is used as basis for national regulations in pursuance of their obligation under Chapter VIII of the 1974 SOLAS Convention, as amended, and Annex III of MARPOL 73/78. Observance of the Code harmonises the practices and procedures followed in the carriage of dangerous goods by sea and ensures compliance with the mandatory provisions of the 1974 SOLAS Convention as amended, and Annex III of MARPOL 73/78.

The Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No. 2367)

A statutory instrument applicable to all ships carrying dangerous goods in bulk or packaged form and marine pollutants in packaged form.

The Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 (SI 2004 No. 2110).

These Regulations implement (inter alia) Council Directive No. 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC and amends The Merchant Shipping (Reporting Requirements for Ships Carrying Dangerous or Polluting Goods) Regulations 1995 (SI 1995 No. 2498) relating to vessels bound for or leaving community ports and carrying dangerous or polluting goods. They are intended to ensure that member States will have ready access to information about any dangerous or polluting goods aboard ships bound for or leaving their ports.

Merchants Shipping Notice's:

MSN 1231 Safe Cargo handling Operations on Offshore Supply Vessels

This notice draws the attention of all concerned to a number of aspects affecting the safe loading and back loading operations of supply vessels serving offshore installations.

MSN 1458 Offshore Support Vessels. Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels

IMO Resolution A.673(16) was developed for the design, construction and operation of offshore support vessels which transport limited amounts of hazardous and noxious liquid substances in bulk for servicing and re-supplying of offshore installations, mobile offshore drilling units and other offshore installation, including those employed in the search, and recovery of, hydrocarbons from the sea-bed.

MSN 1784 Notification prior to entry into ports and additional notification for ships carrying dangerous or polluting goods, as amended.

Details the requirements applicable to ships and harbour authorities for compliance with statutory reporting arrangements prior to entry into United Kingdom ports under new European Union (EU) provisions. The former "Hazmat" notification requirements contained in the Merchant Shipping (Reporting Requirements for Ships Carrying Dangerous and Polluting Goods) Regulations 1995 are replaced and enhanced by requirements contained in the Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004 (SI 2004 No.2110) and by information contained in this notice.

MGN 282 - Dangerous Goods - Guidance in the Carriage of Packaged Dangerous Goods on Offshore Supply Vessels

This Marine Guidance Note outlines the required standard of compliance with the requirements of the International Maritime Dangerous Goods (IMDG) Code and Chapter VII of SOLAS for offshore supply vessels utilising only weather deck stowage and goods stowed in cargo transport units (CTUs).

MGN 242 - Standard Format and Procedures for Ship Reporting, Including Reporting Incidents Involving Dangerous Goods, Marine Pollutants, Other Harmful Substances or Safety.

The purpose of this MGN is to advise ship-owners, masters and officers of merchant ships, owners and skippers of fishing vessels of the standard reporting format and procedures, contained in IMO Resolution A.851(20), to be followed when complying with the duty to report incidents involving the actual (or likely) loss into the sea of harmful substances, or safety, as required by MARPOL 73/78.

4.2 Definitions

Dangerous Goods are those substances (including mixtures and solutions) and articles subject to the provisions of the IMDG Code assigned to one of the Classes 1-9 according to the hazard or the most predominant of the hazards present.

Marine Pollutants are environmentally hazardous substances identified as marine pollutants in the IMDG Code and are considered a threat to marine life, and are carried under the provision of Annex III of MARPOL 73/78, as amended.

5.0 RESPONSIBILITIES

5.1 Vessel

Master: The Master of the supply vessel involved in the transportation is responsible for all activities carried out on his vessel. He has the authority to stop any operation he considers to be unsafe, that puts personnel or his vessel at risk or which could pollute the environment.

Specialist Operator: The specialist operator, if required, will be the person responsible for the cargo transfer operations. He will be additional to the normal vessel crew, and directly responsible to the Master.

5.2 Offshore

Offshore Installation Manager: The Offshore Installation Manager (OIM) of the **[Installation]** has overall authority within the 500 metre zone and includes any other vessel or installation operating within that zone.

6.0 PROCEDURE

6.1 General

This procedure document is written to set out the arrangements for the carriage and transfer of **[Quantity and Description of Substance]**.

The document has been submitted to the Maritime & Coastguard Agency for approval.

The procedure proposed is that the portable tank/tanks and the portable pump unit, if required, will be loaded on board the supply vessel in **[Port]**. The portable tank/tanks will be physically secured to the vessel to prevent loss in the event of an incident whilst at sea. The arrangements for securing the portable tanks to the vessel shall be of such strength to withstand the forces likely to be encountered during the voyage to and from the installation.

On arrival at the discharge/loading point, hoses will be connected to the vessel and the **[Description of Substance]** will be transferred using this procedure. Upon completion of the transfer the portable tank/tanks containing the substance/residue will be shipped back to **[Port]** for return to the Supplier.

Extensive safety precautions will be taken throughout the transportation and transfer operations.

Suitable fire fighting media determined to be effective for the substance being carried will be provided and available for immediate use during the transfer operation.

Spillage clean up material specific to the substance, if required, is available in the event of an incident.

A Specialist Operator, if required, familiar with both the pumping systems and the cargo being transferred will be placed on board the supply vessel in addition to the normal marine crew; he will be responsible to the master of the supply vessel.

Loading Operations

6.1.1 A plan showing the stowage of the portable tank/tanks and pipe line drawing should be agreed with the Master and shore side prior to loading and attached to this procedure.

6.1.2 The vessel will be loaded under the supervision of shore based personnel in consultation with the harbour authorities.

6.1.3 The tanks will be lifted, onto the supply vessel into the position as described in 6.1.1. Once the tanks are in position they will be fastened in an approved manner. The pump/manifold skid unit, if required, will be similarly secured in position. Portable tank/tanks filled whilst onboard the vessel shall be filled through a closed manifold system. Fire fighting and spillage equipment to be available during this operation.

6.1.4 Personal Protective Equipment will be provided for the Specialist Operator and three of the vessel crew based on the Material Safety Data Sheet. This will be worn at all times, by those involved, during cargo handling operations. Equipment supplied in addition to normal safety issue, if required:

[List of additional equipment]

6.1.5 The loading of the portable tanks and pumps, if required, will be carried out before commencement or on the completion of other cargo handling operations on the supply vessel. The other deck cargo will have been stowed with the integrity of the portable tanks and pumping equipment, if required, in mind, making due allowance for segregation requirements and access for spillage clean up.

6.1.6 On completion of the loading operations the vessels crew will be exercised in a spillage drill, with the temporary deck mounted tanks being the simulated source of the spillage. This will take place before the vessel departs from **[Port]**.

6.2 Sea Transportation

The portable tank/tanks and pumping system, if required, will be monitored regularly on the sea passage from **[Port]** to the location, to ensure the physical security of the portable tanks.

6.3 Discharging/Loading Offshore

6.3.1 The discharge/loading of the portable tanks will take place either before or after handling of the rest of the vessels cargo. There will be no simultaneous operation of deck cargo and the discharge/loading of the portable tanks. The master of the supply vessel will on arrival at the installation, liaise with the Logistics Supervisor. They will agree timing for commencement of operations.

6.3.2 The decision on which side of the installation to carry out the operations will be dependent upon the wind direction. The choice will be at the Master's discretion.

6.3.3 The upper limit on weather for the transfer will be at the master's discretion, but it is felt unlikely that the operations would take place with a wind speed of more than 35 knots and/or a sea state of more than 3 metres.

6.3.4 The cargo hoses will be connected to the supply vessel, dependent upon prevailing wind.

6.3.5 Transfer operations will commence when:

(a) The Logistics Supervisor has been informed by installation personnel that all installation lines, valves and tanks are ready to receive the cargo; and.

(b) The Master confirms that all systems are ready on the supply vessel.

6.3.6 Throughout the transfer operation non essential personnel should not be on the deck of the vessel. However, two of the deck crew will be ready within the accommodation fully dressed in protective clothing should an incident occur.

6.3.7 Simultaneous marine operations during the transfer will not be allowed.

6.3.8 The Specialist Operator will be provided with a portable radio. The Specialist Operator will be in touch with the Master and the Logistics Co-ordinator by UHF/VHF radio on a dedicated channel.

6.3.9 On completion of the transfer operation the cargo hose will be drained back to one of the portable tanks or blown to the installation; and the hose then disconnected and retrieved to the Installation.

6.4 Return of Empty/Full Tanks.

The portable tanks and pumping unit, if required containing **[Description of Substance]** will be treated with similar care to that given on the outward passage.

The port will be informed of the vessel's return ETA 4 hours prior to arrival.

6.5 Unloading Operations

6.5.1 The portable tank/tanks and pumps will be lifted off under the supervision of the Base personnel. The particular quay for the operation will be designated in consultation with the harbour authorities. Portable tank/tanks emptied whilst onboard the vessel shall be emptied through a closed manifold system. Fire fighting and spillage equipment to be available during this operation.

6.5.2 The unloading operation will be carried out prior to any other cargo handling operations on the supply vessel.

6.5.3 The road transportation of the tanks and pumping skid will be the responsibility of the Shipper.