



Loading Barge Checklist

KSM-OPS-FM-002
Rev.: v0
Date: 27-03-2017

TO BE USED FOR BARGE LOADING OPERATIONS

	PRIOR TO LOADING	Yes / No / NA
1	Tool Box meeting completed	
2	Where used, are barge mooring lines in good order.	
3	Is towing equipment properly secured prior to coming to berth	
4	Barge is properly moored	
5	Hose crane and all parts have been inspected and in good order.	
6	Pollution response equipment is in position	
7	Scuppers are plugged	
8	High level indicators are tested and working	
9	Manifold drains are closed	
10	Manifolds not in use are blanked and fully and properly bolted.	
11	Manifold pressure gauges in good working order (port and stbd manifolds)	
12	Communications (Walkie-Talkies) tested and working	
13	Spare batteries available for Walkie –Talkie	
14	Ullages taken and logged	
15	Drafts checked and recorded	
16	Hose properly connected with proper length bolts and in every hole	
17	Hose properly supported	
18	Hose tested	
19	Loading plan and terminal instructions received	
20	DOI completed	
21	SDS for product being loaded is available	
22	Cargo piping system properly lined-up	
23	P/V Valves are all in order	
24	All BBH paperwork required prior to loading completed as per Guidelines	
	AT COMPLETION OF LOADING	Yes / No / NA
1	Hose cleared as per KSM-OPS-PRO-005 Cargo Transfer Vessel – Barge	
2	Manifold valve closed.	
3	Hose removed	
4	Manifold fully blanked and bolted	
5	Ullages and temperatures taken reported to Operations	
6	Ullage ports closed and secured	
7	Drop valves and tank valves closed	
8	High level indicators secured	
9	Crane secured	
10	Scupper plugs removed	
11	Loose gear on deck secured.	
12	All BBH paperwork required upon completion of loading completed as per Guidelines	

***Items which are not applicable to the specific operation will be marked 'NA'**

**** This checklist is in addition to instructions KSM-OPS-PRO-005 Cargo Transfer Vessel – Barge**

To be completed prior to commencing loading the barge and upon completion of loading.

An entry in the Log Book shall be made attesting to the fact that this checklist has been satisfactorily completed. Any equipment operational defects found should be entered to the log. The Manager shall be advised of any discrepancies.



BARGE GETTING UNDERWAY CHECKLIST

KSM-OPS-FM-011
Rev.: v0
Date: 27-03-2017

MOORING /TOWING EQUIPMENT /TOWING		Yes/ No / NA
1	Tool Box Meeting completed	
2	Windlass and anchor secured.	
3	Towing equipment, including Chain Bridle, Safety Shackles, Pick-up Lines, Emergency Towing Equipment in good order.	
4	Emergency towing package ready for deployment	
5	Barge mooring lines are secured for sea	
6	Emergency tow rope has been deployed	
7	Fenders are retrieved, properly stowed and secured	
CARGO SYSTEM		Yes/ No / NA
1	All ullage lids are closed and secured	
2	All tank lids are closed and secured	
3	All tank level indicators are secured	
4	Hoses are fully blanked, tight and secured	
5	Manifold valves closed	
6	All cargo system valves closed	
7	Manifolds without hoses are fully blanked	
8	Manifold drip pans are clean and dry and covered.	
9	Pump house free of loose equipment / gear and clear of fire hazards	
10	Pump house doors secured	
11	Cranes are stowed and secured	
12	Scuppers are unplugged	
GENERAL		Yes/ No / NA
1	Void space hatch secured	
2	Fire flaps closed and secured	
3	Navigation lights rigged and switched on.	
4	Accommodation spaces doors, vents etc. closed and secured	
5	All fuel tank valves secured.	
6	Life raft is properly rigged and ready	
7	Test bow thruster start / stop (if applicable)	
8	Check bow thruster compartment for water leaks (if applicable)	

***Items which are not applicable to the specific operation will be marked 'NA'**

To be completed when getting underway from/to areas outside port.



BARGE GETTING UNDERWAY CHECKLIST

KSM-OPS-FM-011
Rev.: v0
Date: 27-03-2017

An entry in the Log Book shall be made attesting to the fact that this checklist has been satisfactorily completed. Any equipment operational defects found should be entered to the log. The Operations Manager shall be advised of any discrepancies.



Declaration of Inspection

KSM-OPS-FM-003
Rev.: v1
Date: 02-21-2018

VESSEL/SHORE SAFETY CHECK LIST (Incorporating the USCG-DOI Requirements)

NOTE: This form will be produced one side printed only.

Receiving Vessel Name:

Date/Time of Arrival:

Receiving Vessel's Owner:

Berth Name/Location:

Supplying Vessel/Facility Name:

Loading/Discharge:

Date/Time Fuel Oil Hose Connected:

Date/Time Fuel Oil Hose Disconnected:

Date/Time MGO Hose Connected:

Date/Time MGO Hose Disconnected:

Transfer Start Time Fuel Oil:

Transfer Completed Time Fuel Oil:

Transfer Start Time MGO:

Transfer Completed Time MGO:

Responsibility for the safe conduct of operations while a vessel is at a Terminal is shared between the Vessel's Master /Barge Captain, or his/her representative and responsible the Vessel / Terminal Representatives. Before cargo operations commence the Barge Master, or his/her representative, and the Vessel / Terminal Representative should:

- **Agree in writing on the handling procedures including the maximum loading or unloading rates;**
- **Agree in writing on the action to be taken in the event of an emergency during cargo/ballast handling operations.**
- **Complete and sign the Vessel/Shore Safety Check List.**

The following guidelines have been produced to assist our vessel operators, Barge masters, the Vessel / Terminal Representatives in their joint use of the Vessel/Shore Safety Check List.

The Barge Master/Vessel Captain and all under his/her command must adhere strictly to these requirements throughout the vessel's stay alongside. Each party commits to co-operate fully in the mutual interest of safe and efficient operations.

The Vessel/Shore Safety Check List uses statements assigning responsibility and accountability. The acceptance of such is confirmed by initialling the appropriate box and finally signing the declaration. The Check-List details the minimum basis for safe operations that is agreed through a mutual exchange of critical information.

Some of the Check-List statements are directed to considerations for which the vessel has sole responsibility and accountability, some where the Vessel / Terminal has sole responsibility and accountability and others which assign joint responsibility and accountability. The greyed out boxes identify those that do not need to be initialled although the vessel or Vessel / Terminal may initial such sections if they so wish.



Declaration of Inspection

KSM-OPS-FM-003
Rev.: v1
Date: 02-21-2018

The assignment of responsibility and accountability does not mean that the other party is excluded from carrying out checks in order to confirm compliance. The assignment of responsibility and accountability ensures clear identification of the party responsible for initial and continued compliance throughout the vessels stay at the Vessel / Terminal.

The Barge's representative will personally check all considerations lying within the responsibility of the barge. Similarly, all considerations, which are the Vessel / Terminal's responsibility, should be personally checked by the Vessel / Terminal Representative. In fulfilling their responsibilities vessel and Vessel / Terminal representatives should assure themselves that the standards of safety on both sides of the operation are fully acceptable.

This can be achieved by means such as:

- Confirming that a competent person has satisfactorily completed the checklist.
- Sighting appropriate records.
- By joint inspection where deemed appropriate.

Before the start of operations, and from time to time thereafter for mutual safety, a Vessel / Terminal Representative and, where appropriate, a Responsible Officer may conduct an inspection of the vessel to ensure that the vessel is effectively managing their obligations as accepted in the Vessel/Shore Safety Check List. Similar checks are to be conducted ashore. Where basic safety requirements are found to be out of compliance, either party may require that cargo operations be stopped until corrective action is satisfactorily implemented.

The Vessel/Shore Safety Checklist. Part 'A' identifies the required physical checks and Part 'B' identifies elements that are verified verbally.

The safety of operations requires that all relevant statements are considered and responsibility and accountability for compliance accepted, either jointly or singly. If either party is not prepared to accept an assigned accountability a comment must be made in the "Remarks" column and due consideration given to whether operations should proceed.

The presence of the letters 'A', 'P' or 'R' in the column 'Code' indicates the following:

- A** (Agreement) This identifies agreements that should be identified in the remarks column of the Check-List or communicated in some other mutually acceptable form.
- P** (Permission) In the case of a negative answer to the questions coded "P", no operations are to be conducted without higher authority.
- R** (Re-Check) Indicates items to be re-checked at appropriate intervals as agreed between both parties.

Where an item is agreed to be not applicable to the Vessel, to the Terminal or to the Barge, a note to that effect should be entered in the "Remarks" column.

The joint declaration will not be signed until all parties have checked and accepted their assigned responsibilities.



Declaration of Inspection

KSM-OPS-FM-003
Rev.: v1
Date: 02-21-2018

PART 'A' – Physical Checks. (Initial once completed)

Bulk Liquid General	CFR Ref	Barge	Vessel / Terminal	Code	Remarks
1. There is safe access between the vessel and shore				R	Access via pilot ladder or man-basket is not allowed
2. The vessel is securely moored	33CFR156.120(a)			R	See Marine Vessel / Terminal Guide for Mooring Diagrams
3. Vessel warning signs/signals are displayed	46CFR 35.35-20(a)				
4. Work areas and transfer connections are adequately lit	33CFR154.570 33CFR155.790				
5. The agreed vessel/shore communication system is operative	33CFR156.120(q)			AR	Primary VHF: _____ Secondary VHF: _____ Emergency STOP Signal:
6. Language fluency is adequate	33CFR156.120(v)				
7. Emergency towing pennants are correctly rigged and positioned				R	
8. The vessel's fire hoses and fire-fighting equipment is positioned and ready for immediate use				R	
9. The Vessel / Terminal's fire-fighting equipment is positioned and ready for immediate use				R	
10. The barge's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended	33CFR156.120(b) (c) (g) (i) (j) (k)				
11. The Vessel / Terminal's cargo and bunker hoses/arms are in good condition, properly rigged and appropriate for the service intended	33CFR156.120(b) (c) (g) (i) (j) (k)				
12. The cargo transfer system is sufficiently isolated and drained to allow removal of blank flanges prior to connection					
13. Scuppers and save alls are effectively plugged and drip trays are in position and empty	33CFR155.310 33CFR155.320			R	
15. Temporarily removed scupper plugs will be constantly monitored				R	
16. Shore spill containment are correctly managed	33CFR154.530			R	
17. Discharge containment equipment is readily accessible	33CFR154.545				
18. Facility monitoring devices are operating properly	33CFR154.525				



Declaration of Inspection

KSM-OPS-FM-003
 Rev.: v1
 Date: 02-21-2018

19. The Barge's unused cargo and bunker connections are properly secured with blank flanges fully bolted	33CFR156.120(e) (f)				
20. Barge's transfer system is aligned to allow flow	33CFR156.120(d)				
21. All connections are leak free	33CFR156.120(p)				
22. The Vessel / Terminal's unused cargo and bunker connections are properly secured with blank flanges fully bolted	33CFR156.120(e) (f)				
23. Shore transfer system is aligned to allow flow	33CFR156.120(d)				
24. All cargo, ballast and bunker tank lids are closed					
25. Sea and overboard discharge valves, when not in use, are closed and visibly secured	33CFR156.120(h)				
26. All external doors, ports and windows in the accommodation, stores and spaces are closed. Engine room vents may be open.				R	
27. The vessel emergency fire control plans are located externally					Location:
28. Vessel response plan has been reviewed	46CFR35. 35-30(13)				
29. State agreed volumes to be transferred: Fuel oil : MT MGO: MT					
30. Bunker capacity checked recorded per tanks?				R	Tank content to be checked every _____ minutes.
31. The barge maximum loading rate is 5500 Bbls/Hr. and max. 1000 Bbls/Hr. per tank.					
32. Is the cargo gauging system checked and in good condition for use?					
33. Has the notice required for completion of transfer been agreed?					State period:_____ (minutes)
34. Is a person in constant attendance at both the delivery and receiving hose connections with radio at hand?					
35. Is firefighting equipment positioned and ready for immediate use? E.g. Tug on standby watch.					
36. Is the crane secured in a safe position?					
37. Are the hooks, wires, runners, slings and nets suitable and in good condition?					



Declaration of Inspection

KSM-OPS-FM-003
 Rev.: v1
 Date: 02-21-2018

PART 'B' – Verbal Verification. (Initial once completed)

Bulk Liquid General	CFR Ref	Barge	Vessel / Terminal	Code	Remarks
38. The vessel is ready to move under its own power or by tugboat				PR	
39. There is adequate supervision and an effective deck watch in attendance on the Barge for operations and emergencies	33CFR156.120(s) (t) (u)			R	
40. There is adequate supervision and effective manning at the Vessel / Terminal for operations and emergencies	33CFR156.120(s) (t) (u)			R	
41. The procedures for cargo, bunker and ballast handling have been agreed	33CFR156.120 (w)			AR	
42. The emergency signal and shutdown procedure to be used by the vessel and shore have been explained and understood. The emergency means of shutdown is operable	33CFR154.550 33CFR155.780			A	
43. Material safety data sheets (MSDS) for the cargo transfer have been exchanged	33CFR156.120 (w)(1)			A	
44. The hazards associated with toxic substances in the cargo being handled have been identified and understood	33CFR156.120 (w)(1)				
45. An International Barge Shore Fire connection has been provided					
46. The agreed tank venting system will be used				AR	Method:
47. The requirements for closed operations have been agreed				R	Method:
48. The operation of the P/V system has been verified					
49. Where vapour line is connected, operating parameters have been agreed				AR	
50. Independent high level alarms, if fitted, are operational and have been tested				AR	
51. Cargo tank overfill devices are operational	33CFR155.480				
52. Adequate electrical insulating means are in place in the Barge/shore connection					



Declaration of Inspection

KSM-OPS-FM-003
 Rev.: v1
 Date: 02-21-2018

53. Shore lines are fitted with a non-return valve or procedures to avoid 'back filling' have been discussed					
54. Smoking rooms have been identified and smoking requirements are observed	33CFR156.120 (cc)			AR	Locations:
55. Naked light regulations are being observed	33CFR156.120 (dd)			AR	Explosion proof fittings in place.
56. Boiler or galley fires are maintained safely	46CFR35. 35-20(h)(i)				
57. No unauthorized repair work or hot work being carried out	46CFR35. 30(b)(2)				
58. Vessel/shore telephones, mobile phones and pager requirements are being observed.				AR	
59. Hand torches (flashlights) are of an approved type					
60. Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off					
61. Portable VHF/UHF transceivers are of an approved type					
62. The vessel's main radio transmitter aerials are earthed and radars are switched off					
63. Electric cables to portable electrical equipment within the hazardous area are disconnected from power					
64. Window type air conditioning units are disconnected					
65. Positive pressure is being maintained inside the accommodation					
66. Measures have been taken to ensure sufficient mechanical ventilation in the pump room				R	
67. There is provision for an emergency escape					
68. The maximum wind and swell criteria for operations has been agreed				A	Stop cargo at: _____ KTS Disconnect at: _____ KTS Tugs Alongside: _____ KTS Unberth at: _____ KTS
69. Security protocols have been agreed between the Barge Security Barge Security and Officer and the Port Facility Security Officer, if appropriate				A	Barge ISPS Level: Vessel / Terminal ISPS Level :
70. Vessel / Terminal and vessel(s) report ready to begin transfer	33CFR156.120(x)				



Declaration of Inspection

KSM-OPS-FM-003
 Rev.: v1
 Date: 02-21-2018

Declaration

We, the undersigned, have checked the above items in Part 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 four (4) hours.

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

For Receiver	For Supplier
Name: _____	Name: _____
Position: _____	Position: _____
Signature: _____	Signature: _____
Date: _____	Date: _____
Time: _____	Time: _____

I certify that I have read the above declaration and detailed requirements and all conditions remain satisfactory.

SUBSEQUENT BARGE PERSON-IN-CHARGE			SUBSEQUENT VESSEL / FACILITY PERSON-IN-CHARGE		
Signature/Position	Date	Time	Signature/Position	Date	Time

Record of repetitive checks

Date:							
Time:							
Initials for Vessel:							
Initials for Shore:							



INTRODUCTION

Oil cargo hose will conform to recognized standard specifications, such as recommended by the Oil Companies International Marine Forum (OCIMF) and confirmed by established hose manufacturers. Hose will be of a grade and type suitable for the service and operating conditions in which it is to be used. The information on cargo hoses in the following sections is provided to give a general indication of hoses which may be supplied for normal cargo handling duty, commonly referred to as 'cargo transfer hoses'.

Reference may also be made to the OCIMF publication "Guide to Purchasing, Manufacturing and Testing of Loading and Discharge Hoses for Offshore Moorings".

PERFORMANCE

Hose is classified according to its rated pressure and this pressure will not be exceeded in service. The manufacturer also applies a vacuum test to hoses supplied for suction and discharge service. Standard hoses are usually manufactured for products having a minimum temperature of -20°C to a maximum of 82°C and an aromatic hydrocarbon content not greater than 25%.

Such hoses are normally suitable for sunlight and ambient temperatures ranging from - 29°C to 52°C

MARKING

Each length of hose will be marked by the manufacturers with:

- The manufacturer's name or trademark.
- Identification with the standard specification for manufacture.
- Factory test pressure.
- Month and year of manufacture.
- Manufacturer's serial number.
- Indication that the hose is electrically continuous or electrically discontinuous.

FLOW VELOCITY

The maximum permissible flow velocity through a hose is limited by the construction of the hose and its diameter. The hose manufacturer's recommendations and certification will provide details. However, operators will take other factors into account when deciding flow velocities. These will include, but not be limited to, the following:



- The factor of safety being applied.
- Any limitations imposed by flow velocities in the ship's fixed piping system.
- Weather conditions causing movement of the hose.
- Age, service and condition of the hose.
- Other local considerations.

KSM will follow OCIMF and ISGOTT recommendations regarding maximum permissible flow rates through cargo hoses. KSM will limit flow velocity to avoid high pressure losses, reduce static electricity generation, avoid excessive product cavitation, and prevent damage to hose liner. Maximum velocity through hoses will be limited to 15 m/s with corresponding transfer rates as follows:

- 4" HOSE - 4,126 BBL/HR
- 6" HOSE - 6,190 BBL/HR
- 8" HOSE - 11,000 BBL/HR

INSPECTION, TESTING, AND MAINTENANCE REQUIREMENTS

General

Cargo hoses in service will have a documented inspection at least annually to confirm their suitability for continued use. This will include:

- A visual check for deterioration/damage.
- A pressure test to 1.5 times the Rated Working Pressure (RWP) to check for leakage or movement of end fittings. (Temporary elongation at RWP will be measured as an interim step).
- Electrical continuity test.

Hoses will be retired in accordance with defined criteria.

The KSM INESITA will attest to receiving vessels that any hoses provided by the barge are certified, fit for purpose, in good physical condition and have been pressure tested. This is accomplished by providing a copy of the HOSE TEST CERTIFICATE as issued by BBH Terminal.

Visual Examination

A visual examination will consist of:

- Examining the hose assembly for irregularities in the outside diameter, e.g. kinking.
- Examining the hose cover for damaged or exposed reinforcement or permanent deformation.
- Examining the end fittings for signs of damage, slippage or misalignment.

A hose assembly exhibiting any of the above defects will be removed from service for more detailed inspection. When a hose assembly is withdrawn from service following a visual inspection, the reason for withdrawal and the date will be recorded.



*NOTE: The Pressure Test and the Electrical Continuity Test will be carried out by Buckeye Bahamas Hub (BBH) personnel and certificates will be supplied to KSM Operations and kept onboard the KSM Inesita. The following is provided for informational purposes only.

Pressure Test (Integrity Check)

Hose assemblies will be hydrostatically tested to check their integrity. The intervals between tests will be determined in accordance with service experience, but will in any case not be more than twelve months.

Hoses for which the rated pressure has been exceeded must be removed and re-tested before further use. A record will be kept of the service history of each hose assembly.

The recommended method of test is as follows -.

- . (i) Lay out the hose assembly straight on level supports, which allow free movement of the hose when the test pressure is applied.
- . (ii) Seal the hose by bolting blanking off plates to both ends, one plate to be fitted with a connection to the water pump and the other to be fitted with a hand operated valve to release air. Fill the hose assembly with water until a constant stream of water is delivered through the vent.
- . (iii) Connect the test pump at one end.
- . (iv) Measure and record the overall length of the hose assembly. Slowly increase the pressure up to the Rated Working Pressure.
- . (v) Hold the test pressure for a period of 5 minutes whilst examining the hose assembly for leaks at the nipples or for any signs of distortion or twisting.
- . (vi) At the end of the 5 minute period and while the hose is still under full pressure, re-measure the length of the hose assembly. Ascertain the temporary elongation and record the increase as a percentage of the original length.
- . (vii) Slowly raise the pressure to 1.5 times the Rated Working Pressure and hold this pressure for 5 minutes.
- . (viii) Examine the hose assembly and check for leaks and any sign of distortion or twisting. Conduct an electrical continuity test with the hose at test pressure.
- . (ix) Reduce the pressure to zero and drain the hose assembly. Re-test for electrical continuity.

If, while the used hose assembly is under test pressure, there are no signs of leakage or movement of the fitting but the hose exhibits significant distortion or excessive elongation, the hose assembly will be scrapped and not returned to service.



If the integrity of the hose lining of smooth bore rubber hoses is in doubt, the hose will be additionally subjected to a vacuum test as follows:

- . (i) Remove the blanks used for the pressure test and fit suitable Plexiglas plates to the hose ends.
- . (ii) Apply a vacuum of at least 510 mb gauge for a period of 10 minutes.
- . (iii) Inspect the interior of the hose for blisters, bulges or separation of the lining from the carcass. Any damage to the lining will result in the hose being retired from service.
- . (iv) Release the vacuum.
- . (v) Retest for electrical continuity or discontinuity as appropriate.

It will be noted that lightweight hoses, composite hoses and rough bore hoses will not be subjected to a vacuum test.

Electrical Continuity and Discontinuity Test

All hoses in the hose string will be electrically bonded (electrically continuous). Since electrical continuity can be affected by any of the physical hose tests, a check on electrical resistance will be carried out prior to, during and after the hydrostatic tests.

Electrically continuous hoses will not have a resistance higher than 0.75 ohms/meter measured between nipples (end flange to end flange).

Withdrawal from Service

In consultation with the hose manufacturer, retirement age will be defined for each hose type to determine when it will be removed from service, irrespective of meeting inspection and testing criteria.

Explanation of Pressure Ratings for Hoses

Operating Pressure

A common expression to define the normal pressure that would be experienced by the hose during cargo transfer. This would generally reflect the cargo pump operating pressures or hydrostatic pressure from a static system.

Working Pressure

This is generally considered to mean the same as 'Operating Pressure'.

Rated Working Pressure (RWP)



The common oil industry reference that defines the maximum cargo system pressure capabilities. This pressure rating is not expected to account for dynamic surge pressures but does include nominal pressure variations as expected during cargo transfer operations.

Maximum Working Pressure (MWP)

This is the same as Rated Working Pressure and is used by BS and EN Standards for designing hoses to these standards.

Maximum Allowable Working Pressure (MAWP)

This is the same as Rated Working Pressure and Maximum Working Pressure. MAWP is referenced by the United States Coast Guard and is commonly used by terminals to define their hose equipment limitations.

Factory Test Pressure

This is referenced in BS EN 1765 and is defined as equal to the Maximum Working Pressure, which in turn is the same as Rated Working Pressure.

Proof Pressure

This is a one-time pressure that is applied to production hoses to ensure integrity following manufacture and is equal to 1.5 times the Rated Working Pressure.

Burst Test Pressure

This is a test requirement for a single prototype hose to confirm the hose design and manufacture of each specific hose type. The pressure is equal to a minimum of 4 times the Test Pressure and must be applied in a specific manner and held for 15 minutes without hose failure.

Burst Pressure

This is the actual pressure at which a prototype hose fails. For a successful prototype hose, the Burst Pressure would exceed the Burst Test Pressure.

OPERATING CONDITIONS

For oil cargo hose to be used in normal duties:

- Oil temperatures in excess of those stipulated by the manufacturer, generally 82°C, will be avoided.
- The maximum permissible working pressure stipulated by the manufacturer will be adhered to and surge pressures will be avoided.



CHECKS BEFORE HOSE HANDLING

It is the responsibility of the barge to provide hoses that are in good condition but the master of a receiving vessel may reject any which appear to be defective.

Hose assemblies will be visually inspected on a regular basis. When hose assemblies are in constant or frequent use, the assembly will be inspected before each loading/ unloading operation. Hose assemblies subject to infrequent use will be inspected each time they are brought into use.

Visual inspection will consist of:

- Examining the hose assembly for irregularities in the outside diameter, e.g. kinking;
- Examining the hose cover for damaged or exposed reinforcement or permanent deformation.
- Examining the end fittings for signs of damage, slippage or misalignment.

Any hose assembly exhibiting any of the above defects will be removed from service for more detailed inspection.

HANDLING, LIFTING AND SUSPENDING

Hoses will always be handled with care and will not be dragged over a surface or rolled in a manner that twists the body of the hose. Hoses will not be allowed to come into contact with a hot surface such as a steam pipe. Protection will be provided at any point where chafing or rubbing can occur.

Lifting bridles and saddles are provided onboard the KSM INESITA and they will always be used as required. The use of steel wires in direct contact with the hose cover will not be permitted. Hoses will not be lifted at a single point with ends hanging down, but will be supported at a number of places so that they are not bent to a radius less than that recommended by the manufacturer.

PROCEDURE FOR PASSING BUNKER HOSE TO CRUISE SHIPS

HOSE CONNECTION

1. A tag line of approximately 20ft in length will be connected to the end of the Inesita IFO and MGO bunker hose.



Cargo Hose Handling, Inspection & Maintenance

KSM-OPS-PRO-009

Rev.: 0

Date: 29-08-2017

2. Once the barge is alongside the Cruise Ship and the Ship has indicated they are ready to receive the hose, Inesita crew will stage the bunker hose on the barge's hose rail and pass the tag line to the Cruise Ship.
3. Cruise Ship crew will haul in on the bunker hose either manually or via mechanical means as per their procedures.
4. Inesita crew will assist by staging the hose crane over the deck of the barge (head of crane not to extend beyond deck edge of barge). The hose will be lifted at a point giving the Cruise Ship crew enough slack to bring the bunker hose into position within their vessel.
5. As the bunker hose is hauled into the Cruise Ship, Inesita will slack the crane runner allowing the hose to be hauled in while minimizing stress for the Cruise Ship crew.
6. Once the bunker hose is connected with sufficient slack the crane will be disconnected and stowed.

HOSE DISCONNECTION

1. Once bunkering is completed Inesita will again connect the crane runner to the bunker hose at a point even with the edge of the barge. (Head of crane not to extend beyond edge of barge).
2. Cruise Ship crew will slack end of hose either manually or via mechanical means as per their procedures.
3. As hose is slacked crane runner will take hose back onto deck of barge.

By using this method we will maintain minimum separation of approximately 5ft between the head of the crane and the side of the Cruise Vessel.

Per standard bunkering practice, Inesita crew will position bunker hose so that connecting flange between lengths of hose is not outside of either vessels containment area.

Because of the need to have the end of the bunker hose pointing directly down to the water the barge crew will have to be especially vigilant to guard against loss of containment due to leaking hose blank. During this operation barge crew must ensure that all bolts on bunker hose end blank re tight, gasket is inserted, and a plastic bag is over end of hose prior to passing hose to vessel and when recovering hose after completion.

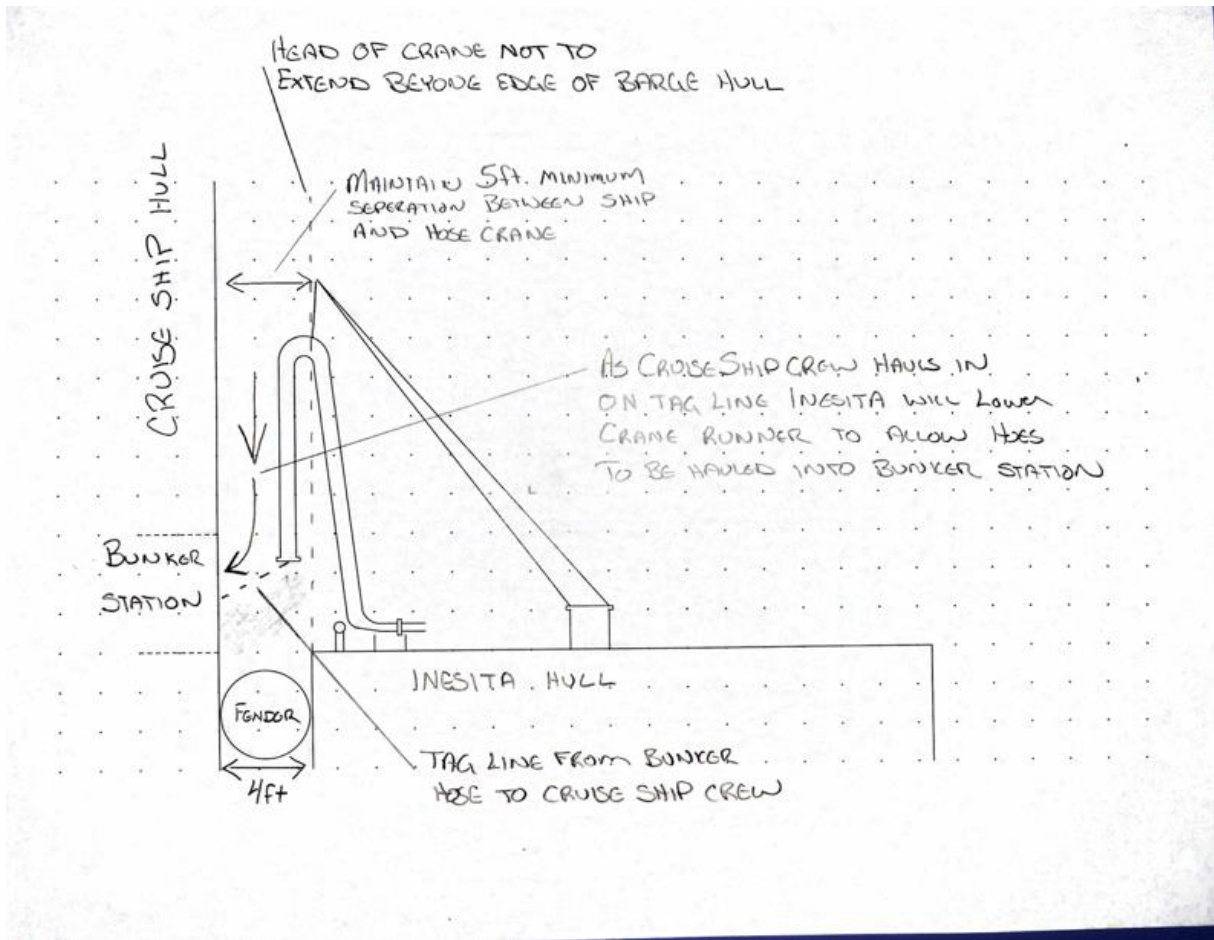


Cargo Hose Handling, Inspection & Maintenance

KSM-OPS-PRO-009

Rev.: 0

Date: 29-08-2017





Cargo Hose Handling, Inspection & Maintenance

KSM-OPS-PRO-009

Rev.: 0

Date: 29-08-2017



NEVER use a hose that is unsupported



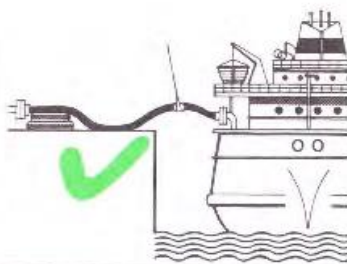
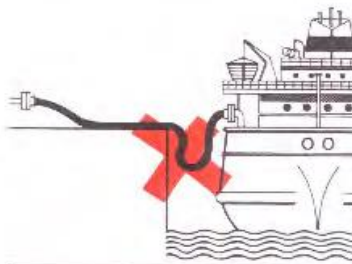
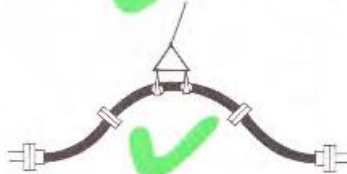
ALWAYS support hose at appropriate points with the slings provided



NEVER support hose with a single rope or rope slings



ALWAYS support hose at appropriate points with the slings provided





Pre-Delivery Conference and Checks: Barge

1. A toolbox meeting is to be held with all personnel involved in the operation to ensure all details of the operation, risks involved and safety measures is understood. Specifically, the Assist Barge Master will confirm the Barge Master's calculations are correct for the specific order and he will verify the proper ullage stops.
2. The Pre-Delivery Checklist will be completed before products are transferred. These checks will meet the requirements of local authority, industry practices and the requirements of the client.
3. The receiving vessel shall ensure that the paperwork requiring signature are completed for signature by the ship's representative.
4. The transfer of people over water is to be minimised to avoid personal injuries. Confirming compliance with the Pre-Delivery Checklist should use all practical means of communication to confirm compliance before passing it on board. When it is absolutely necessary for the receiving vessel crew to go on board the delivery vessel, the receiving vessel must request the use of a tender to transport the crew member around to the barge. No transfer of personnel is to be conducted via gangway, pilot ladder, personnel basket, etc.
5. A spill kit for initial response to minor spills is required.
6. Appropriate equipment for safe handling of the products is required and will be confirmed they are in good operating condition.
7. Safety checks are performed on the lifting equipment and it is confirmed the pins of the shackles are secured with seizing wire or pins.
8. Webbing straps are in good condition and free of oil or chemical contamination, cuts, abrasions, or other visible damage.
9. Ensure that lighting is adequate at the cargo handling area.
10. Hoses, flanges, gaskets, connections, lifting equipment must be available as designed.
11. The pressure gauges on the barge will correctly calibrated by a recognised national calibration authority.
12. Communications between the barge and the receiving vessel will be confirmed. Ensure an up to date Safety Data Sheet (SDS) is available for the products on board.
13. Ensure the Terminal checklist is properly completed and a Bunker Delivery Note is used.

Commencement Transfer of Bulk Products

1. While heading to the vessel to be bunkered, prepare the barge for bunker operations in accordance with the Loading Barge Checklist.
2. Prior to mooring the barge alongside a vessel to be serviced, the Barge Master discuss the delivery procedure with the vessel.
3. When the procedure on board the vessel has been completed to the satisfaction of the Master of the receiving vessel and Barge Master, the barge will be instructed to proceed towards the vessel.
4. While making the final approach to the vessel, the fenders are lowered in the water and the barge is moored according to KSM-OPS-PRO-003 "Mooring barge along a vessel", properly lined up under the manifold of the vessel.



Cargo Transfer Barge to Vessel

KSM-OPS-PRO-005
Rev.: v2
Date: 28-06-2017

5. When it is verified that the barge is properly moored alongside the vessel, the tug Master will give the approval to the Barge Master to start the bunker procedure.
6. The Master's Requisition has been confirmed and signed. Following the Declaration of Inspection (DOI) in which each item needs to be signed off by the Barge Master and Vessel's Person In Charge (PIC).
7. Barge Master to prepare barge on readiness for the bunker operation. Automatic dispensing nozzles on delivery hoses exceeding 40 mm nominal bore are prohibited.
8. Provide protection against arcing during connection with an insulating flange or bonding cable (the use of a bonding cable is not recommended but may be insisted on by some facilities).
9. Quick release connectors on hoses exceeding 150 mm nominal bore are prohibited.
10. Clip pins, wire or plastic ties are required when "quick release" connectors are used.
11. Where connectors are used "whip lash" cables must be used to reduce hose movements.
12. The crane of the vessel will pick up the hose, which will be connected to the manifold of the vessel.
13. After the Vessel's PIC conformation of correct connection of the bunker hose and the bunker hose is without kinks or twists, the PIC advises readiness to start the operation to the Barge Master.
14. The Barge Master shall verbally request confirmation from the Vessel's PIC that the vessel is ready to receive the fuel.
15. Checks for leaks at the hose connection; pressure in the pipe where product is being transferred; and the level in the receiving tanks are correct to ensure the correct tank has been selected.
16. When both sides are ready and start time is given; pumping is started at a reduced rate that is gradually increased once the initial checks confirm the set-up is appropriate. The agreed transfer rate is recorded on the DOI.
17. As the transfer is started, the following times are to be advised to the Terminal Operations Manager:
 - a. Arrival at vessel
 - b. Document on board
 - c. Open ullages
 - d. Bunker hose connected
 - e. Commence bunkering
 - f. Deploy spill boom around manifold

During Transfer

1. The Delivery Checklist is required to be completed again in the following cases:
 - a. Prior to resumption of a delivery which has been discontinued for more than two (2) hours
 - b. At the request of either vessel (shift hand over, etc.)

Sampling Procedures

1. During the bunkering, four (4) consistent samples are to be taken on the manifolds of the barge and the vessel, using the kittiwake sampling device. Sample bottles for fuels shall be a minimum of 750 ml. The bottlers will be labelled as per the MARPOL requirements and stored for three (3)



Cargo Transfer Barge to Vessel

KSM-OPS-PRO-005
Rev.: v2
Date: 28-06-2017

months. One MARPOL sample is to be filled and sealed (for the receiving vessel) and 3 commercial samples (1 for the vessel and 2 for the terminal).

Completion of Transfer

1. When reaching the amount to be delivered, the pumping is stopped and the vessel is requested to check the quantities received.
2. Once the vessel is satisfied, the hose is drained as per Barge Master instruction after which the manifold valve can be closed and the hose disconnected from the manifold of the vessel.
3. Report any discrepancies to the Operations Manager immediately.
4. Blank flanges are then fitted and fully bolted.
5. As the hose is lifted back to go back on the barge, the valves are open on the barge to drain as it is stowed in the position where the flange/gasket is checked for proper fitting. The blanked flanges are covered with heavy duty garbage bags to prevent drips of oil to water
6. Upon completion the Barge Master is responsible of receiving the following signed and stamped (ship stamp only) documents from the vessel:
 - a. Marine Fuel Delivery note
 - b. Barge Ullage Report
 - c. Statement of Facts/Port Log – Bunkers
 - d. Barge Stop Sheet
 - e. Documentation Check List and Instructions
7. Once all documents are signed and stamped, the Barge Master advises the Operations manager of the following times:
 - a. Completed bunkering
 - b. Bunker hose disconnected
 - c. Closing ullages completed
 - d. Documents completed
 - e. Spill boom retrieved
8. The Barge Master must then complete the necessary entries into the Barge's Oil Record Book.
9. The Dispatch Station is to be advised about completion of the operation and the tug is requested to take away the barge
10. All documents used for the delivery of product to the vessel are to be sent back to BBH Operations within two (2) working days.
11. After connection of the tug, the mooring lines can be released and the barge can depart. When free from the vessel, the fenders can be retrieved and the pump engines stopped.

IMPORTANT NOTICE:

Delays: Special attention is required as to the logging of any delays correctly in the Statement of Facts/Port Log.

When a dispute occurs, the Barge Master will first advise the Operations Manager, who will then direct the information to BBH Operations. Disputes require a full examination of all documentation



Cargo Transfer Barge to Vessel

KSM-OPS-PRO-005
Rev.: v2
Date: 28-06-2017

including the proof of the quantity delivered, the previous product deliveries to that vessel, other product deliveries for that same day, the barge logs, and all transfer documentation.

Letter of Protest: Barge Master may sign Letters of Protests from the vessel for delays only. In case a letter of protest is received for other issues, the Operations Manager need to be advised immediately for further instructions.

SHIPBOARD OIL POLLUTION EMERGENCY PLAN

KOTUG SEABULK MARITIME LLC

*Prepared by
O'Brien's Response Management*

Document Title: SHIPBOARD OIL POLLUTION EMERGENCY PLAN	Issue: 06/03/2019
Document Section: DISTRIBUTION RECORD	Rev: 0
	Page: 1

**Kotug Seabulk Maritime LLC
SOPEP Distribution Record**

COPY #	Copy Holder Name/Address	Remarks
1.	Operator – Kotug Seabulk Maritime LLC.	Op & Vsl copies in A4 Size
2.	Classification Society – LR	Review & Approval Copy – Letter Size
3.	KSM Inesita Official #: 8001590	P&I: Steamship Mutual
4.	RT Blackbeard Official #: 7000997	P&I: Steamship Mutual
5.	RT Raptor Official #: 7000999	P&I: Steamship Mutual
6.	SD Calypso Official #: 7000996	P&I: Steamship Mutual
7.	SD Junkanoo Official #: 7000995	P&I: Steamship Mutual

TABLE OF CONTENTS

Distribution Record

<u>Section</u>		<u>Page</u>
ROR	Record of Review	1

Introduction

<u>Section</u>		<u>Page</u>
Intro	Introduction	1
Intro	Summary Flow Chart	2
Intro	Prediction of Oil Spill Movement	3

Preamble

<u>Section</u>		<u>Page</u>
1.0	Preamble	2

Reporting Requirements

<u>Section</u>		<u>Page</u>
2.0	General	2
2.1	When to Report	2
	2.1.1 <i>Actual Discharge</i>	2
	2.1.2 <i>Probable Discharge</i>	3
	2.1.3 <i>Assistance</i>	3
2.2	How to Report	4
2.3	Information Required	5
2.4	Whom to Contact	8
2.5	Reporting Procedures Diagram (Non-USA Ports)	10
2.6	Reporting Procedures Diagram (High Seas)	11
2.7	Master's Notification Checklist	12

Steps to Control Discharge

<u>Section</u>		<u>Page</u>
3.1	Operational Spills	2
	3.1.1 <i>Pipeline Leakage during Discharge, Loading, Bunkering</i>	2
	3.1.2 <i>Tank Overflow during Loading or Bunkering</i>	3
	3.1.3 <i>Hull Leakage</i>	4
	3.1.4 <i>Operational Spill Response Check List</i>	4
3.2	Spills Resulting from Casualties	5
	3.2.1 <i>Grounding</i>	6
	3.2.2 <i>Stranding / Wrecked</i>	7
	3.2.3 <i>Fire/Explosion</i>	8
	3.2.4 <i>Collision (with fixed or moving objects)</i>	8
	3.2.5 <i>Hull Failure</i>	9
	3.2.6 <i>Excessive List</i>	9
	3.2.7 <i>Containment System Failure</i>	10
	3.2.8 <i>Submerged or Foundered</i>	11
	3.2.9 <i>Hazardous Vapour Release</i>	12
	3.2.10 <i>Casualty Spill Response Check List</i>	12
3.3	Priority Actions	13
3.4	Mitigating Activities	13
	3.4.1 <i>Assessment and Monitoring Requirements</i>	13
	3.4.2 <i>Personnel Protection Issues</i>	14
	3.4.3 <i>Physical Properties of the Substance</i>	15
3.5	Lightering – Transfer of Bunker	17
3.6	Stability, Strength and Hull Stress	19
3.7	Vessel's Pollution Prevention Team	20
	3.7.1 <i>General Responsibilities</i>	21
	3.7.2 <i>Operation Oil Spill Response Check List</i>	22
	3.7.3 <i>Casualty Oil Spill Response Check List</i>	23
3.8	Bunkers Transfer From SHIP TO SHIP (STS)	25
3.9	Bunkers Transfer Between Ship and Barge	25

Document Title: SHIPBOARD OIL POLLUTION EMERGENCY PLAN	Issue: 06/03/2019
Document Section: TABLE OF CONTENTS	Rev: 0
	Page: 3

National and Local Co-ordination

<u>Section</u>		<u>Page</u>
4.1	Organization & Responsibility for Response	2
4.2	National Co-ordination	3
4.3	State Co-ordination	3
4.4	Local Port/Harbor Co-ordination	3

Additional Information

<u>Section</u>		<u>Page</u>
5.1	Ship Interest Contacts	2
	5.1.1 Vessel Manager / Operator	2
	5.1.2 Local Agent	2
	5.1.3 Classification Society	2
	5.1.4 P&I Club	2
	5.1.5 Other Insurance Representatives or Surveyors	2
	5.1.6 U.S. Contractors	3
	5.1.6.1 Qualified Individual and Response Manager	3
	5.1.6.2 Contact Information for Correspondence (Non-Emergency)	3
	5.1.6.3 Response Contractors	4
5.2	Training	4
5.3	Training Records	5
5.4	Drill Program	5
5.5	Unannounced Drills	5
5.6	Entire Plan Drill	6
	5.6.1 Drill Planning Standards	6
	5.6.2 Salvage	7
5.7	Shipboard Response Equipment to Mitigate An Oil Discharge	7
5.8	Crew Responsibilities for Record-keeping & Sampling	7
5.9	Plan Review & Update Procedures	8
5.10	Public Affairs Policy	9

Appendix A: Coastal State & Port Contacts

Appendix B: Vessel Specific Information

Document Title: SHIPBOARD OIL POLLUTION EMERGENCY PLAN	Issue: 06/03/2019
Document Section: RECORD OF REVIEW AND CHANGES	Rev: 01 Page: 1

RECORD OF REVIEW

Rev. No.	Sections	Issue Date	Brief Details	Entered By:
0	Entire	06/03/2019	New Issue – KSM Inesita, RT Blackbeard, RT Raptor, SD Calypso, SD Junkanoo	KC

Document Title:	SHIPBOARD OIL POLLUTION EMERGENCY PLAN	Issue: 06/03/2019
Document Section:	INTRODUCTION	Rev: 0 Page: 1

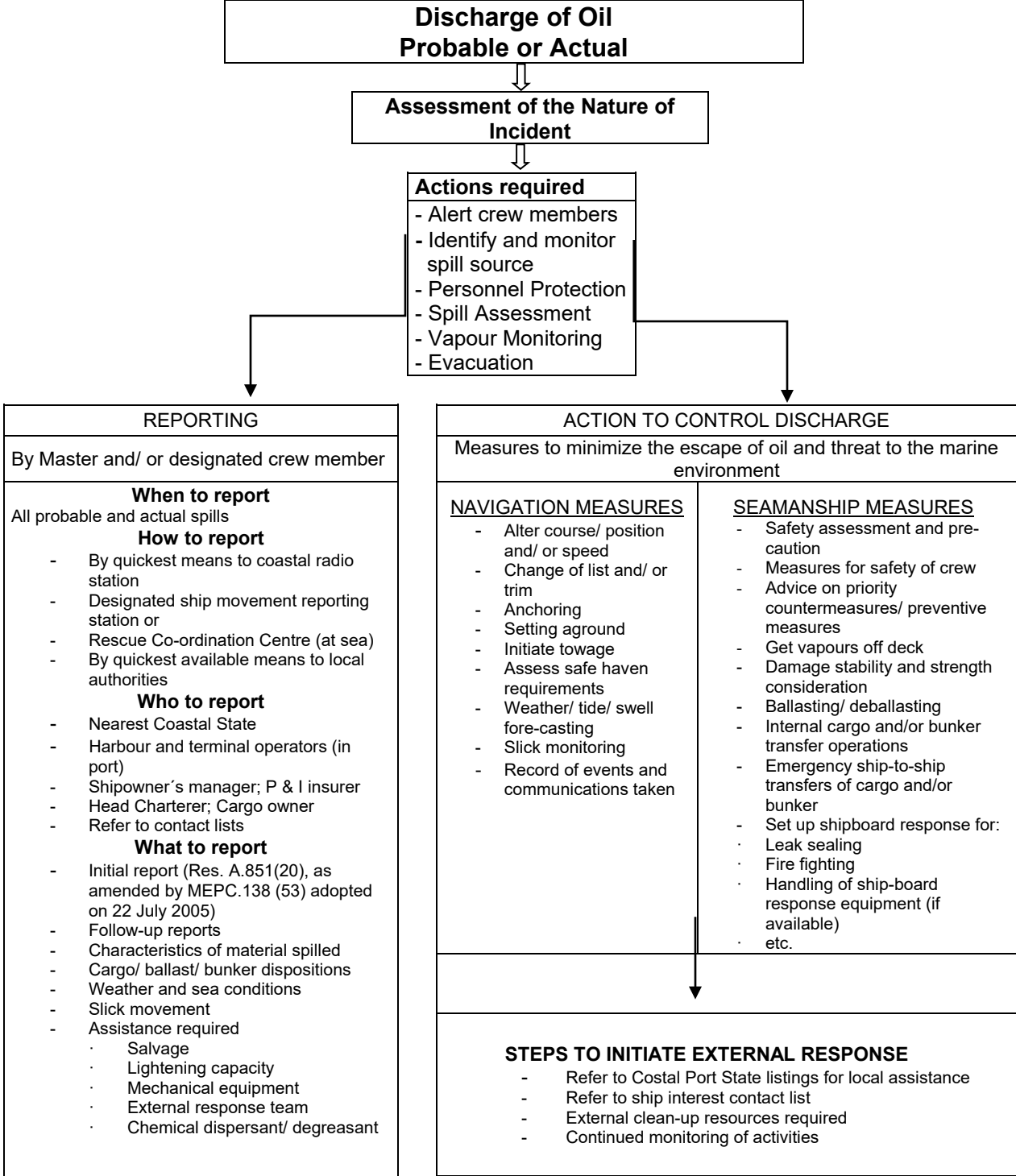
INTRODUCTION

1. This plan is written in accordance with the requirements of Regulation 37 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78, as amended by IMO Resolutions MEPC.117(52).
2. The purpose of the plan is to provide guidance to the Master and officers on board the ship with respect to the steps to be taken when a pollution incident has occurred or is likely to occur.
3. The plan contains all information and operational instructions required by the Guidelines*. The appendices contain names, telephone, telex numbers, etc., of all contacts referred to in the plan, as well as other reference material.
4. This plan has been approved by the Classification Society on behalf of the Flagstate Administration and, except as provided below, no alteration or revision shall be made to any part of it without the prior approval of the Flagstate Administration or Class on their behalf.
5. Changes to Section 5 and the appendices (Non-Mandatory Provisions of the Plan) will not be required to be approved by the Flagstate Administration or Class. The appendices should be maintained up to date by the owners, operators and managers.
6. This plan will be regularly reviewed and updated as necessary. Revision will be the responsibility of the owner/operator.
7. Following an incident in which the plan has been activated, there will be a thorough review of its effectiveness.

* "Guidelines for the development of the Shipboard Oil Pollution Emergency Plans", [IMO Resolution MEPC.54(32); adopted on March 6, 1992; and Resolution MEPC.86(44), adopted on 13 March 2000]

* (Equivalent to the applicable "Guidelines for the development of Shipboard Marine Pollution Emergency Plans" (IMO Resolution MEPC 85(44)).

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to a pollution emergency based on the guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given for inclusion of specific references to the Plan. The steps are designed to assist ship personnel in actions to stop or minimize the discharge of oil and mitigate its effects. These steps fall into two main categories – reporting and action.



* Chemical agents such as dispersants are tools that may only be used with the permission of some coastal states; therefore any use of chemical agents must be authorized by the competent coastal state.

PREDICTION OF OIL SPILL MOVEMENT

Prediction of oil spill movement by vector addition

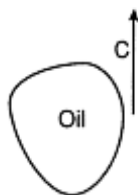


Figure 1 - Current only

Current to the north at 0.5 mph

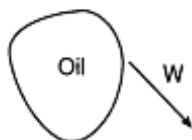
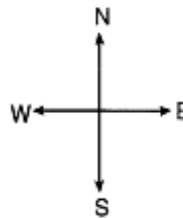


Figure 1 - Wind only

Wind from northwest at 15 mph
Wind effect = 15 mph x .034 = 0.5 mph

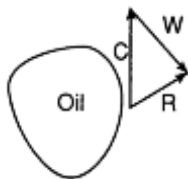


Figure 1 - Current and Wind

Combined effect of current and wind
1. Add vector W to vector C by moving its tail to the head of vector C, maintaining magnitude and direction
2. Draw resultant vector R to head of vector W to show actual direction and magnitude - northeast at 0.3 mph

