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| --- |
| **M/V SILVER MUSE**  **BUNKER TRANSFER PROCEDURES** |

# **VESSEL'S PARTICULARS**

DATE :

CALL SIGN : C6D5C

PORT OF REGISTR : NASSAU

# **BUNKER PLAN**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***Grade*** | ***Qty prior*** ***Bunkering******(tonnes)*** | ***Expected*** ***Lift\****  ***(tonnes)*** | ***Expected Qty*** ***After Bunkers*** | | ***Capacity*** | |
| ***(tonnes)*** | ***(m3)*** | ***m³ (95%)*** | ***m³ (100%)*** |
|  |  |  |  |  |  |  |
| HEAVY FUEL OIL | CST: | 380 |  |  |  |  |
| **HFO 7P SERV.** |  |  |  |  | 38.47 | 40.5 |
| **HFO 7P SETTL.** |  |  |  |  | 81.98 | 86.3 |
| **HFO 3S SERV.** |  |  |  |  | 38.85 | 40.9 |
| **HFO 3P SETTL.** |  |  |  |  | 38.85 | 40.9 |
| **HFO 2 P** |  |  |  |  | 149.34 | 157.2 |
| **HFO 2 S** |  |  |  |  | 144.21 | 151.8 |
| **HFO 8 P** |  |  |  |  | 142.31 | 149.8 |
| **HFO 8 C.P.** |  |  |  |  | 160.93 | 169.4 |
| **HFO 8 C.S.** |  |  |  |  | 162.64 | 171.2 |
| **HFO 8 S** |  |  |  |  | 142.31 | 149.8 |
| **HFO 10 P** |  |  |  |  | 164.83 | 173.5 |
| **HFO 10 S** |  |  |  |  | 81.32 | 85.6 |
| **HFO OVF. 5S** |  |  |  |  | 34.29 | 36.1 |
| **HFO OVF. 9P** |  |  |  |  | 34.58 | 36.4 |
| ***TOTAL*** |  |  |  |  | ***1414.93*** | **1489.4** |
| **GAS OIL** |  |  | Temp: | **ºC** |  |  |
| **DO 7S SERV.** |  |  |  |  | 38.47 | 40.5 |
| **DO 7S SETTL.** |  |  |  |  | 102.5 | 107.9 |
| **DO 4 P** |  |  |  |  | 33.16 | 34.9 |
| **DO 4 S** |  |  |  |  | 33.16 | 34.9 |
| **DO 10 S** |  |  |  |  | 83.50 | 87.9 |
| **DO 05 PEM** |  |  |  |  | 13.2 | 13.9 |
| ***TOTAL*** |  |  |  |  | **304** | **320** |
| **LUBRICATING OIL** |  |  |  |  |  |  |
| **LO 3 P** |  |  |  |  | 9.4 | *9.9* |
| **LO 3 S** |  |  |  |  | 9.4 | *9.9* |
| **LO 7 P** |  |  |  |  | 28.88 | 30.4 |
| **LO 7 S** |  |  |  |  | 28.88 | 30.4 |
| ***TOTAL*** |  |  |  |  | **76.57** | **80.6** |

**This vessel does not carry incompatible products.**

**\*Caution : The density of VLSFO can vary significantly according to method of production. The density of the product to be bunkered shall be determined prior to commencing bunkering and where required the bunkering plan / checklist revised regarding tank filling data.**

**(Obtained Pre-delivery typical fuel parameters shall be checked against the draft Bunker Delivery Note (BDN)**

# **EMERGENCY INFORMATION CONTACTS**

## AGENTS : Phone: VHF:

## TERMINAL/BARGE : VHF:

## LOCAL P&I : Phone:

## FIRE BRIGADE : Phone: VHF:

## ***ADDITIONAL ON BUNKERING IN THE STATES***

NATIONAL RESPONSE CENTRE : Phone 1 800 424 8802 or 1 202 267 2675

LOCAL USCG MARINE SAFETY OFFICE : Phone

# **LICENSED OFFICER DESIGNATED AS PERSON IN CHARGE OF THE BUNKERING OPERATIONS:**

|  |  |
| --- | --- |
| CHIEF ENG: |  |

# **PERSONNEL ON DUTY IN ADDITION TO RESPONSIBLE PERSON IN CHARGE.**

## ENGINE DEPARTMENT (enter names as appropriate)

|  |  |
| --- | --- |
| MOBILE COORDINATOR | |
| STAFF ENGINEER |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ON DUTY IN ENGINE ROOM | | | | |
| 8-12 | EOOW |  | OILER O.W. |  |
| 4 - 8 | EOOW |  | OILER O.W. |  |
| 12-16 | EOOW |  | OILER O.W. |  |
| Checking remote level indicator, taking manual soundings, operation of automatic and manual valves | | | | |

|  |  |
| --- | --- |
| ON DUTY AT BUNKER STATIONS | |
| Engine Rating |  |
| Keeping watch at the manifolds, communications with bunker barge/facility | |

## DECK DEPARTMENT (enter names as appropriate)

|  |  |  |
| --- | --- | --- |
| BRIDGE OOW | | |
| 8-12 | OOW |  |
| 4 - 8 | OOW |  |
| 12-16 | OOW |  |
| Supervising mooring/unmooring of barge, VHF communications with barge, keeping weather watch | | |

|  |  |
| --- | --- |
| MOORING/UNMOORING OF BARGE/ TENDING OF MOORING LINES | |
| BOSUN |  |

|  |  |  |
| --- | --- | --- |
| ROVING WATCH ON OPEN DECKS | | |
| 8-12 | Fireman |  |
| 12-16 | Fireman |  |
| 4-8 | Fireman |  |

## There will be a minimum of three persons on duty during transfer operations: one person in charge, one junior engineer and one deck hand.

# **DUTIES**

## **CHIEF ENGINEER**

The Chief Engineer is responsible for ensuring that a minimum quantity of fuel which has been agreed with the Owner is retained on board and that top up bunkers are ordered in sufficient time to ensure that the remains on board never go below that limit.

The Chief Engineer is responsible for the ensuring that all fuel oil bunkering and transfer operations are properly undertaken and the procedures and instructions laid down in the documents listed above are correctly followed.

The Chief Engineer must issue standing orders to protect the vessel and the environment from any possibility from pollution from oil spills.

The Chief Engineer may delegate a Senior Engineer to take charge of the bunkering operation.

The Chief Engineer must ensure that all staff engaged in the bunkering operation is familiar with the systems on board.

The appropriate Form OP34 must be completed before starting the bunkering operations.

The Chief Engineer must make the correct entries in the **Oil Record Book** on completion of each transfer operation.

## **SENIOR ENGINEER**

If a Senior Engineer has been delegated to take charge of the bunkering operation, he must complete and sign **Checklist Form OP35** before the start of, during and after the bunkering operation.

If the Chief Engineer is to take personal control of the bunker operation, he is responsible for completing Form OP35.

## **QUALIFIED ENGINEER**

To the instructions of the Responsible Person In Charge.

## **WIPER**

### Responsible to ensure that the oil spill equipment is deployed before starting of the operations.

## **BRIDGE’S OFFICER ON WATCH**

### Ensuring that the vessel's moorings are frequently checked and adjusted as necessary

## **DECK HAND**

### Watch on deck for any oil spill or overflow as instructed by the watch keeping officer.

### Ensuring that the vessel's moorings are frequently checked and adjusted as necessary.

# **PROCEDURES FOR EFFECTIVE COMMUNICATION AND EMERGENCY SHUTDOWN**

## Language in use: English.

## Hand held radios: Chief Engineer, Qualified Engineer, Oiler, Watch keeping Officer, communicate each other by using hand held radios

## Shore staff involved in the bunkering operations are contacted by using the VHF (or as applicable).

|  |  |
| --- | --- |
| Communications between manifold / ECR | UHF Ch. |
|  | Magneto Phones |
|  | Talk back |
| Communication to bridge | VHF Ch. |
|  | Telephone No. 11002/11003 |
|  | Talk back |
| Bosun & Fireman | VHF Ch. |

## The emergency shutdown procedure will be operated by the tank vessel or shore facility person in charge. When shutdown has been achieved, the bunker valves in the bunker station will be shut down on board.

# **DESCRIPTION OF OIL TRANSFER SYSTEM, INCLUDING DECK DISCHARGE CONTAINMENT/OVERFLOW PREVENTION SYSTEM AND PROCEDURES FOR EMPTYING THE SAME**

[Items 8.1 – 8.11 below contain a sample description of an oil transfer system and shall be amended/ adjusted as appropriate for each vessel]

## The fuel oil system tanks consist of 8 storage tanks, 2 settling tank, 2 service tank, 2 overflow tank. All of these tanks are located into the Engine Room area.

## The marine D.O. system consists of 3 storage tanks. 1 tank for emergency generator, 1 service tank, 1 settling tank and 2 overflow tanks (same tanks as the Fuel oil system). Storage, service and settling tanks are located into the Engine Room area, Emergency generator tank is located on deck 10

## 

## Each tank is provided with a venting pipe connected to 2 common main line systems (1 for the F.O. and 1 for the D.O.) which vent to a riser located in the funnel.

## All bunker tanks are provided with an overflow line connected to an overflow tank, common for HFO tanks and DO tanks, F.O./ D.O overflow capacity is 72.5 m3

## The manifold branch bunker line is situated in the port and starboard bunker stations.

## Topping off the settling tanks, service tank, is accomplished by careful monitoring the level of the tanks through electronic sounding.

## **Pumps for internal bunker transfer are not connected to bilges or ballast system.**

## **Bunker line is not connected to ballast system.**

## **Use of transfer pumps, is not allowed during the bunkering operations.**

## **Vessel has fixed containment system of sufficient capacity. The containment system is emptied by using:**

Scoops, buckets, rags, absorbent material, kept in both bunker stations.

## Prior to disconnect, the engineer will trace the system starting at the manifold and ensure that all valves opened prior to the transfer are closed.

# **DIAGRAM OF BUNKER LINE SYSTEM**

A line diagram of oil piping system for fuel oil transfer with location of valves, containment system, vents and closing valves is displayed at each bunker station.

# **APPEARANCE OF THE PRODUCT**

## Heavy Fuel Oil (HFO) (listed as Residual Fuel Oil in Appendix 1 to Annex 1 of MARPOL 73/78) is a very thick, highly viscous liquid, dark black in colour

## Intermediate Fuel Oil (IFO) (listed as Residual Fuel Oil) is a moderately thick viscous liquid, deep brown in colour

## Marine Gas Oil (MGO) (listed as Diesel Oil) is a thin, lightly viscous liquid, clear yellow to light brown colour.

## Lubricating Oil is a moderately thick, viscous liquid, clear yellow in colour

# **ODOUR OF THE PRODUCT**

## Heavy Fuel Oil (HFO) smells somewhat like rotten eggs mixed with diesel.

## Intermediate Fuel Oil (IFO) smells of moderately strong diesel oil.

## Marine Gas Oil (MGO) produces a very distinct “diesel” odour.

## Lubricating Oil produces a very light odour, much like automobile oil.

# **HAZARDS INVOLVED IN HANDLING THE PRODUCT**

## All fuel oils are highly flammable

## Lubricating oil is combustible

## All oils are marine pollutants.

## Fuel oil are eye and skin irritant

## Petroleum Hydrocarbon vapours may cause breathing difficulty

## Heavy Fuel Oil may contain pockets of Hydrogen Sulphide Gas (H2S)

# **SAFE HANDLING OF THE PRODUCTS**

## There will be no smoking during transfer operations, except in designated safe areas.

## No welding or hot work may be conducted during transfer operations.

## Personnel involved in transfer operations will adhere to the guidelines contained herein and to the checklist.

## Personnel should avoid breathing vapours from or direct contact with products.

## After completion of transfer, all products remaining in hoses should be allowed to gravitate back into the transferring vessel or facility.

# **FIRE FIGHTING AGENTS EFFECTS ON OIL FIRES:**

## Aqueous Fire Fighting Foam

## Carbon dioxide gas

## Low velocity water fog

## Dry Chemical Powder

# **OIL SPILLS, LEAKS & PERSONNEL EXPOSURE**

## In case of oil spill or/and leak immediately secure transfer operations and attempt to contain spill as much as possible. Begin clean-up operations using the oil spill kit provided in the bunker station port/starboard, and the floating boom located in the SOPEP room deck 3 stbd mid ship, as appropriate.

## In case of personnel exposure:

### Flush the affected area with water or eyes with approved eyewash.

### Remove the victim from area and provide fresh air.

### Provide prompt medical attention.

# **OIL SPILL REPORTING TO**

In case of oil spill incident, Chief Engineer report to:

## Master and Staff Captain.

## **The Master** will advise terminal, Port Authorities, Agents, P&I of the incident.

# **PRE BUNKERING BRIEFING**

## The Chief Engineer is to hold a pre bunkering meeting with both the ship’s and the supplier’s bunker staff.

## The procedures contained herein apply to the transfer of oil products to or from the vessel.

## The date and time is to be logged below.

# **CROSS-REFERENCE TABLE**

|  |  |
| --- | --- |
| **CFR reference** | **Form reference** |
| 155.750(a) |  |
| 155.750(a)1(i) | 2 |
| 155.750(a)1(ii)  33CFR154.310(a)(5)(ii)(a)  33CFR154.310(a)(5)(ii)(b)  33CFR154.310(a)(5)(ii)(c)  33CFR154.310(a)(5)(ii)(d)  33CFR154.310(a)(5)(ii)(e)  33CFR154.310(a)(5)(ii)(f)  33CFR154.310(a)(5)(ii)(g) | 10 (MARPOL 73/78, appendix 1 to Annex 1)  10  11  12  13  15  14 |
| 155.750(a)(1)(iii) | 17.2 |
| 155.750(a)(2)(i) | 9 |
| 155.750(a)(2)(ii) | 8 |
| 155.750(a)(2)(iii) | 8 |
| 155.750(a)(3) | 5.3 |
| 155.750(a)(4) | 4, 5, 6 |
| 155.750(a)(5) | 4, 5, 6 |
| 155.750(a)(6) | 7 |
| 155.750(a)(7) | 8 |
| 155.750(a)(8) | 8 |
| 155.750(a)(9) | 15, 16 |
| 155.750(a)(10) | Not applicable |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Time |  |  | Date |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Signature |  |  |  |  |  |
|  | Staff Captain |  | Engineer Officer on Watch |  | Chief Engineer |

|  |
| --- |
| **Copy of this Transferring Procedures must be retained on the Chief Engineer's File together with copy of the Bunkering / Transferring Operations Checklist.** |