DEPARTMENT OF THE NAVY
MILITARY SEA TRANSPORTATION SERVICE, PACIFIC
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MSTSPAC 9550.4
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MSTSPAC INSTRUCTION 9550.4

From: Commander, Military Sea Transportation Service, Pacific
To: Distribution List

Subj: Oil spills; control of

Ref: (a) CMPI, Chapter 610.1-24
(b) U.S. Coast Guard Engineering Regulations CG-115 Section 59.10-45(h)
(c) MSTSPACINST P47CO.3C, Subj: MSTSPAC Maintenance Manual, Chapter 29

Encl: (1) Bunkering Bill

1. Purpose. The purpose of this Instruction is to advise Masters of procedures for bunkering, transferring fuel oil and transferring ballast or bilge water from spaces where it has been commingled with fuel.

2. Background. The frequency of oil spills in ships under the administrative control of COMSTSPAC has been excessive in the past and is a matter of continuing concern to COMSTSPAC. Oil spills are not all accidents, most result from lack of familiarization with the fuel system and the condition of its components, coupled with neglect and carelessness on the part of the personnel who are supervising and performing the bunkering or transferring. Oil spills not only occur when untrained personnel perform this work, but they happen frequently when supposedly experienced personnel form the bunkering or transfer team.

3. Action. Although reference (a) does not require the Chief Engineer to be present during bunkering if competent personnel are available to perform this work, the high oil spill incident indicates that responsible supervision is now lacking and that the capability of many of the Engine Department personnel is below the expected skill level. Accordingly, when bunkering or transferring is being accomplished, the Master shall assure that the normally responsible engineer in accordance with reference (a) is fully competent to supervise the operation. If not, the Master will require the Chief Engineer to be present. Prior to fueling or transferring, the Chief Engineer shall review this Instruction with all personnel concerned with the operation and shall point out the critical areas where particular care shall be taken to avoid a spill. The Chief Engineer shall ensure that the following precautions are taken:

a. Inspect all fuel tank vents to assure that they are not plugged and that the vent screens are clean. Vent screens are only required to be flame retardent and should not be made of such fine mesh material that air cannot escape through the vent. The screen material shall be in conformance with reference (b). Plugged screens or tank vent pipes are the prime causes of fuel oil spills.

b. Assure that all gauge lines in the fuel system are in proper operating condition, particularly the static leg gauge line.

c. Assure that Bunkering Bill is posted at all manned stations. Follow the bunkering sequence as outlined in reference (c), however, if trim is a critical factor, deep tank filling should be performed as and when required. A sample Bunkering Bill is provided as enclosure (1) for guidance purposes.

d. Anticipate the possibility of a spill. At key stations keep sacked sawdust, oil dispersal emulsifier, sacked sand and a bale of rags to contain small spills if such occur.

e. Examine hose gaskets, fuel system valves, tank manhole covers and quick-opening sounding pipes to assure that they are tight.

f. Notify the Fire Department in the activity where the bunkering is being accomplished to the effect that fuel will be taken aboard between two stated periods of time.

g. Man the bunkering stations with an adequate number of men. Two men should be stationed at the fuel port and two men at the fuel manifolds in the engine room. Sound-powered telephone headsets should be used between the fuel port and the fuel manifolds.

h. During the bunkering or transferring procedure, rove between stations to assure that the men are present on stations, alert and are aware of their duties. Should any man appear to be overly tired and incapable of being alert to his task, he should be relieved with a fresh man.

i. At the end of the bunkering procedure, as the oil cools in the barge, particularly when it gets below 100°F., a most critical period in the bunkering evolution takes place. This is when pressure will be built up in the system since the tanks will be close to full, and oil spills will be most likely to occur. At this time the pumping rate should be reduced so that bunkering will be under control at all times.

Normally, all fuel tanks may be opened when bunkering is begun with the exception of the settlers. When the bunker tanks have reached 80% capacity, the overflow lines may be opened part way. When the overflow tanks reach 80% of capacity, temporarily stop the barge from pumping and check all tank levels. This break in the procedure will allow for the gas bubbles to break up.

j. Alert the barge that you will be topping off and that a reduction in pressure is required. If the fuel on the barge becomes colder, further cuts shall be made to keep the static leg pressure down. Full tanks should be shut off at the manifold.

k. The cognizant deck officer should be notified to have deck scuppers plugged and a deck watch established to observe any indication of possible spill. A blast of the ship's whistle can be the established signal to stop all pumping immediately.

l. No fuel station should be unattended at anytime once topping off begins. Barge operators shall be cautioned to be within hearing distance at all times.

m. When bunkering or transferring is performed at night, deck lights should be on at all times, and, if required, portable lights should be placed at the overflow vents.

n. Upon completion of fueling, notify the Fire Department prior to breaking the hose coupling.

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BUNKERING BILL

1. Preparation

a. Deck Department shall plug all deck scuppers on deck where tank vents discharge.

b. Test all telephone headsets.

c. Have portable cargo lights available at overflow vents and fuel ports.

d. Have sand, sawdust, rags and oil dispersal emulsifier ready for use at fuel ports, manifolds and overflow vent locations.

2. Bunkering

a. Connect hose from barge to filling line, having necessary tools, rope and slings available.

b. When hose is connected, notify Fire Department on the base and do not start pumping until Fire Department gives permission.

c. Upon receiving permission, notify the men on the manifold to open the valves for the tanks to be filled, excluding the overflow tanks.

d. When manifold valves are open, open the valve on the filling line to the manifold(s).

e. Notify barge to commence pumping slowly. Check hose connection for leaks. If all connections are tight, build up pressure to the desired pressure in the static line (8 to 12 psi). Watch the static line gauge constantly; if it rises, stop the pumping.

f. When the storage tanks become 80% full, static line pressure will rise, accordingly, valves to the overflow tanks should be opened part way.

g. When the overflow tanks become 80% full, stop the barge from pumping and check all tank levels.

h. Alert the barge when topping off begins and reduce pressure accordingly. Regularly sound overflow tanks. Shut off full tanks at manifold.

i. When overflow tanks become 95% full, secure the barge.

j. Close filling valves and have barge take a back-drag on the filling line before disconnecting the hose.

k. Notify Fire Department that you have finished pumping.

l. Make sure that the blank is returned to the filling line after the hose has been disconnected.

m. Check all sounding tubes to see that the caps are back in place.

n. Replace all equipment to its proper stowage locations.

3. Precautions

a. Stations will not be left unattended during the fuel operation.

b. Establish audible signals with the barge operator for the purpose of stopping and starting of pumping.