

NAVSHIPREPFAC YOKOSUKA
LOCAL STANDARD ITEM

FY-02

ITEM NO: 099-88YO
DATE: 01 JUL 2001
CATEGORY: II

1. SCOPE:

1.1 Title: Tanks and Spaces; clean and certify

2. REFERENCES:

- a. NAVSHIPREPFAC Yokosuka Local Standard Items
- b. Occupational Safety and Health Administration (OSHA) 29 CFR, Part 1915
- c. National Fire Protection Association Standard 312
- d. National Fire Protection Association Standard 306
- e. S9086-T8-STM-010/CH-593, Pollution Control
- f. NAVSHIPREPFACINST 5100.8, Occupational Safety and Health (OSH) Program Manual
- g. MIL-STD-777, Schedule of Piping, Valves, Fittings, and Associated Piping Components
- h. 802-5959353, MIL-STD-777 Modified for DDG-51 Class, Schedule of Piping, Valves, Fittings, and Associated Piping Components
- i. PWCYOKONOTE 5090, Yokosuka Naval Complex (YNC) Handbook for Wastewater Management
- j. Compressed Gas Association Commodity Specification for Air Pamphlet G-7.1-1989 (American National Standard Commodity Specification for Air, ANSI Z 86.1-1973)
- k. S9542-AA-MMO-010, Shipboard Aviation JP-5 Fuel Systems
- l. S9086-SP-STM-010/CH-542, Gasoline and JP-5 Fuel System
- m. MIL-HDBK-291, Cargo Tank Cleaning

3. REQUIREMENTS:

3.1 Open, ventilate, empty, clean, inspect, certify, and maintain "SAFE FOR WORKERS", and/or "SAFE FOR HOT WORK" tank or space including fill, transfer, overflow, vent piping, and sounding tubes in accordance with 2.b through 2.f.

3.1.1 Ensure that harmful vapors, fumes, or mists are ventilated to the exterior of the vessel.

3.1.2 Install expandable plugs or blanks in associated tank piping at the first valve or flange. Associated piping is defined as "an assembly

of pipe, tubing, valves, fittings and related components forming a whole or a part of a system which starts or terminates in subject area, thus being common to and associated with same."

3.1.2.1 Submit the original and three legible copies of a Blank Check Sheet of Tank/Void (NAVSHIPREPFAC FORM 4355/16) listing the location of each blank to NAVSHIPREPFAC and Ship's Force for entry into the Engineering Tag Out Log.

3.1.2.2 Remove each expandable plug or blank upon completion of repairs and testing, and install new gaskets and fasteners in accordance with applicable Categories and Group of 2.g and 2.h.

(V)(G) "INSPECT ALL BLANKS REMOVAL"

3.1.2.3 Inspect removal of each plug or blank with ship's Commanding Officer's representative, using the Blank Check Sheet recorded by 3.1.2.1.

3.1.3 Clean and disinfect each sewage tank and associated piping in accordance with 2.e.

3.1.3.1 Remove and dispose of remaining sewage to shoreside facilities designated by NAVSHIPREPFAC.

(I)(G) "INSPECT DISINFECTANT SOLUTION"

3.1.3.2 Sample and deliver the disinfectant solution in a tightly sealed clean glass container with a copy of the first page of the Work Item to NAVSHIPREPFAC Quality Assurance Office Laboratory Division, Code 134 for analysis to ensure it meets required criteria of 2.i prior to pump out and disposal the solution to the shoreside facilities. Do not discharge any solution into the shoreside facilities until it can be established by a laboratory analysis that the solution is nonhazardous and meets the discharge limits specified in Table 5.1 of 2.i.

3.1.4 Remove and dispose of remaining liquids (not being stored for reuse) to a Government furnished disposal barge except any sewage. (See 4.1)

(V)(G) "INSPECT TANK CLEANLINESS"

3.1.5 Clean each tank or space, and any associated piping and cofferdam free from sludge, debris, and foreign matter in accordance with 2.k through 2.m.

3.1.6 Steam clean each area where the removal of preservative is required, and each automotive gasoline (MOGAS) tank in accordance with Chapter 17 of 2.f.

3.1.6.1 Inspect surrounding compartments and spaces to determine that a rise in temperature from the steaming operations will not create a hazard or cause damage to the compartment or its contents.

3.1.6.2 Install new thin film rust-preventive compound conforming to MIL-PRF-16173 to the areas where the preservative removed.

3.1.6.3 Chase and tap exposed threaded areas.

(I)(G) "INSPECT SAFETY REQUIREMENTS PRIOR TO ENTRY"

3.2 Prior to entering, working in tanks, or working in spaces adjacent to or within spaces containing tanks that are to be opened or otherwise breached, which may contain MOGAS or sewage:

3.2.1 Notify NAVSHIPREPFAC and ship's Commanding Officer at least four hours prior to the planned opening of **all** tank manhole covers.

3.2.1.1 Notify NAVSHIPREPFAC and the Commanding Officer of opening of tank manhole covers planned over a weekend or Monday following that weekend no later than 0900 on the Friday immediately preceding that weekend.

3.2.1.2 Notify NAVSHIPREPFAC and the Commanding Officer of opening of tank manhole covers planned on a U.S. federal holiday and on the day following the U.S. federal holiday no later than 0900 of the last working day preceding the U.S. federal holiday.

3.2.2 A Gas Free Engineer or a competent person who is defined in 099-35YO of 2.a shall be present during the opening of MOGAS or sewage tanks.

The Gas Free Engineer or the competent person shall personally certify all spaces for initial entry. Accomplish the requirements of 2.b for tanks or spaces that have the potential to become Immediately Dangerous to Life or Health (IDLH).

3.2.2.1 National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA) approved combination supplied-air respirator operated in a pressure-demand mode. The source of breathing air for the supplied-air respirators shall be either a compressor capable of delivering an adequate quantity of breathing air at the pressure required by the respirators used and meeting the requirements of the specification for Grade D breathing air described in 2.j, or a bank of cylinders cascading to provide at least four to six hours of breathing air meeting the above specifications at the pressure needed by the respirators used.

3.2.2.2 NIOSH/MSHA approved self-contained breathing apparatus that always maintains positive pressure inside the respirator inlet covering. For entry into an IDLH atmosphere, the self-contained breathing apparatus must have at least a 15-minute air supply. For escape from an atmosphere that may become IDLH, a 10-minute self-contained air supply may be adequate depending upon ease of exit from spaces should the air supply fail.

3.2.2.3 All personnel required to use the respiratory equipment mentioned above shall receive training in the actual use of the respirator equipment including operation of all controls and breathing under pressure-demand conditions **in accordance with 2.b.**

3.2.2.4 An adequate and attended life line shall be utilized for each employee who must enter the IDLH or potentially IDLH atmosphere.

3.2.3 Station a rescue person outside each MOGAS or sewage tank being worked. Rescue personnel shall wear the same type equipment and have the same training as described in 2.b.

3.2.4 Ventilation suckers, suction ducting, tools, flashlights, and other equipment shall be non-sparking type. All personnel working in the tank shall be provided with oxygen and combustible gas meters.

3.2.5 Provide a step-by-step description of how the certification process will be accomplished, including: personnel requirements, grounding of equipment, removal of product, fire protection/fire prevention, protective clothing requirements, de-inerting and control of other hazards such as benzene, carbon dioxide, and lead.

3.3 Clean each tank or space, and any associated piping and cofferdam free from foreign matter affected by the Work Item in accordance with 2.k through 2.m.

3.4 Tank Closure Repairs:

3.4.1 Clean, chase or tap threaded areas prior to installing covers.

3.4.2 Weld up, drill, and tap three each stripped manhole cover bolt holes for each tank.

3.4.2 Remove existing and install new, five missing or broken manhole cover studs for each tank conforming to MIL-*DTL*-1222, Type IV, Grade 304.

3.4.4 Accomplish the requirements of 099-12YO of 2.a, including Table 2, Columns A and D, Lines One through 7.

3.4.5 Accomplish the requirements of 099-32YO of 2.a for new and disturbed surfaces.

3.4.6 Submit four legible copies of a report listing results of each repaired tank closure including quantity of the repaired manhole cover bolt hole(s) and stud(s) to NAVSHIPREPFAC.

(V)(G) "INSPECT TANK CLEANLINESS"

3.5 Final Tank Closure:

3.5.1 Inspect each tank for cleanliness prior to final closing.

3.5.1.1 Submit four legible copies of a report listing the names of personnel present during inspection required by 3.5.1 including the Work Item number requiring the certification inspection, to NAVSHIPREPFAC within 72 hours after completion of work.

3.5.2 Install each manhole cover for each tank, using new gaskets, new Corrosion Resistant Steel (CRES) washers conforming to FF-W-92, Type A, Grade One, Class B, and brass nuts conforming to MIL-*DTL*-1222, Type One, Grade 464.

3.5.2.1 Bolted plate manhole covers shall be fitted with the nonretained type gaskets as follows: For watertight and airtight structure, MIL-R-900; for freshwater tank service, MIL-PRF-1149, Class 2; for all other tank services, including oil, aviation fuel, and saltwater, SAE-AMS-C-6183, Class One. Gasket material for manhole covers located in elevator machinery rooms, shall be in accordance with MIL-R-83248, Type One.

3.5.3 Install each access cover for each sewage tank, using new gaskets conforming to MIL-PRF-1149, new nuts conforming to MIL-~~DTL~~-1222, Type I, Grade 5, zinc coated, and new CRES washers conforming to FF-W-92, Type A, Grade One, Class B.

3.5.4 DDG-51 Class, gasket ASTM D2000-75E, hex nuts ASTM-A307, hex head cap screws ASTM A307.

3.6 Accomplish the requirements of 099-32YO of 2.a for new and disturbed surfaces.

4. NOTES:

4.1 NAVSHIPREPFAC will furnish a disposal barge to dispose of remaining liquids in tank(s) or space(s) only to work being accomplished on USS KITTY HAWK (CV-63) or other aircraft carriers unless otherwise specified in the invoking Work Item.

4.2 NAVSHIPREPFAC will accomplish a laboratory analysis for identification of hazardous substance of the disinfectant solution sampled from 3.1.3.2.

4.3 For the purpose of this item, the term "tank or space" includes voids, cofferdams, and inaccessible or confined areas.

4.4 Unclassified Booklet of General Plans and Tank Sounding Tables are available for review at the office of NAVSHIPREPFAC Engineering Information Section Code 244.2.