

NAVSEA
STANDARD ITEM

FY-17

ITEM NO: 009-24
DATE: **30 JUL 2015**
CATEGORY: I

1. SCOPE:

1.1 Title: Shipboard Authorization, Control, Isolation, Blanking, Tagging, **and Cleanliness** Requirements; accomplish

2. REFERENCES:

2.1 Standard Items

2.2 Joint Fleet Maintenance Manual (JFMM)

2.3 9002-AK-CCM-010/6010, Industrial Ship Safety Manual (ISSM) for Submarines

2.4 S0400-AD-URM-010/TUM, Tag-Out User's Manual

2.5 29 CFR Part 1915, Occupational Safety and Health Standards for Shipyard Employment

2.6 S9AAO-AB-GOS-010, General Specifications for Overhaul of Surface Ships (GSO)

2.7 0902-018-2010, General Specifications for Deep Diving SSBN/SSN Submarines

2.8 S9086-RK-STM-010/CH-505, Piping Systems

2.9 845-4612172, Hydrostatic Test Blanks

2.10 MIL-STD-777, Schedule of Piping, Valves, Fittings, and Associated Piping Components for Naval Surface Ships

2.11 802-5959353, MIL-STD-777D Modified for DDG-51 Class, Schedule of Piping, Valves, Fittings, and Associated Piping Components

2.12 S9086-RK-STM-010/CH-505, Piping Systems

2.13 S9074-AR-GIB-010/278, Requirements for Fabrication Welding and Inspection, and Casting Inspection and Repair for Machinery, Piping, and Pressure Vessels

3. REQUIREMENTS:

3.1 Accomplish the Work Authorization requirements of Volume IV, Chapter 10 of 2.2 for all non-nuclear work performed on ships during Chief of Naval Operations (CNO) Availabilities, Continuous Maintenance Availabilities (CMAV), Window of Opportunity (WOO), or Emergent Maintenance (EM) Availabilities. Ensure all work on ship's systems and components is properly authorized and controlled in order to ensure rigorous personnel and ship safety standards are met. Include work such as planned maintenance, troubleshooting, corrective maintenance, and modernization and assessments.

3.1.1 Ensure all outside activity work (non-Ship's Force) on ship's systems and components, regardless of who performs the work, is formally authorized through a Work Authorization Form (WAF).

3.1.2 For submarines only, accomplish the Work Authorization requirements of Volume IV, Chapter 10 of 2.2 for safety of ship maintenance item identification, listing, and control, or the requirements of 2.3 for Ship's Plan of the Day (SPOD).

3.1.3 A copy of the authorized WAF shall be maintained at the worksite during productive work. Maintain the WAF in the Work Authorization Log until notified by the cognizant Repair Activity's (RA) designated representative that the work is complete and ready for tags to be cleared. The RA's designated representative will sign the WAF completion block, then obtain ship's concurrence to clear the tags. Additional sign-offs required by the WAF for testing and closure shall be made as work progresses.

3.2 Accomplish the requirements of 2.4 for equipment, systems, circuits, components, tanks, voids, piping, and valves that require isolation.

3.2.1 Ensure the isolation, de-energization, drainage of the isolated area, and depressurization of mechanical, electrical, electronics, and pressure system has been accomplished.

3.2.2 Train and qualify contractor's designated representative in the WAF and Tag-Out process in accordance with 2.2 and 2.4.

3.2.2.1 Maintain a current copy of the plan utilized to train and qualify contractor's designated representatives in accordance with 2.2 and 2.4 for reference by the SUPERVISOR.

3.2.2.2 Notify the SUPERVISOR of revisions to the plan as they occur.

3.3 Accomplish the requirements of the contractor's lockout/tags-plus program for unmanned craft and barges in accordance with 2.5.

3.3.1 Submit one legible copy, in hard copy or approved transferrable media, of contractor's lockout/tags-plus program to the SUPERVISOR when requested.

3.3.2 Position equipment to achieve required isolation, by de-energizing, draining of the isolated area, and depressurization, and use

lockout/tags-plus program when lock-out of equipment, systems, circuits, components, piping, or valves is required in accordance with 2.5.

3.4 Post warning signs and barriers and install temporary positive means to prevent closure or movement of components that create a safety hazard at hull and deck openings.

3.5 Provide and maintain a written record by work item using Attachment A (Accountability of Temporary Blanks and Plugs Check-Off Sheet), verifying installation and removal of temporary blanks/plugs used for Foreign Material Exclusion (FME), isolation of pressure boundaries, or hydrostatic testing. Include type, size, quantity, and associated system/equipment name or tank number and location including; frame, port or starboard, below or above water line.

3.5.1 Ensure the Accountability of Temporary Blanks and Plugs Check-Off Sheet (Attachment A) is at all tank closings; ensure the removal of blanks/plugs in tanks are verified and documented via signature on the check-off sheet by Ship's Force representative and the SUPERVISOR prior to tank closing.

3.5.1.1 Submit one legible copy, in hard copy or transferable media, of the Accountability of Temporary Blanks and Plugs Check-Off Sheet (Attachment A) to the SUPERVISOR upon each satisfactory tank closing to document blanks/plugs were removed.

3.5.2 Maintain the Accountability of Temporary Blanks and Plugs Check-Off Sheet (Attachment A) for the duration of the availability.

3.5.2.1 Maintaining the Accountability of Temporary Blanks and Plugs Check-Off Sheet (Attachment A) for material that has been removed from the ship is not required; however that material must be entered in the Accountability of Temporary Blanks and Plugs Check-Off Sheet (Attachment A) when material is returned to the ship.

3.5.3 Submit one legible copy, in hard copy or approved transferrable media, of the completed Attachment A to the SUPERVISOR at the end of the availability.

3.6 Install identification tags on each removed piping section, valve, ventilation system, and equipment to indicate company name, ship's name, hull number, system, location, and Work Item number prior to removal from system. Tags must endure the repair process, and must stay attached and be readable until the removed piping section, valve, ventilation system, or equipment is reinstalled.

3.6.1 Include quantity when components are grouped/bagged/comingled together in a bucket or any other type of storage having only one identification tag.

3.6.2 Ensure FME is maintained on equipment removed from the ship.

3.7 Install and maintain blanks/plugs, nuts and bolts, painted blaze orange for use as FME immediately upon openings in equipment, valves, and piping systems not subject to pressure to prevent entry of foreign material and protect flanges and threaded areas. Existing system fasteners used for blanking that will be reused for installation are excluded from the requirement for blaze orange color. FME may be used for systems normally under pressure but are tagged-out for maintenance. The use of cloth, polyvinyl sheet, paper, tape, and rubber sheeting as FME is prohibited. All FME material must be applied with care, without using excessive force, to avoid damage to surfaces/components being protected.

3.7.1 Wood products, including damage control (DC) plugs are permitted for use as FME external to the ship for hull penetrations not in immediate vicinity of the flight deck. Wood products, including DC plugs, may be used as FME internal to the ship in piping and ventilation systems where permitted explicitly in the applicable Naval Ship's Technical Manual. DC plugs, wood, or wood products are prohibited for use in tanks/voids.

3.7.2 Piping, ventilation, and equipment components designated as scrap prior to removal do not need to be blanked to maintain cleanliness; however, they shall be properly marked as scrap material prior to removal. Precautions shall be taken to preclude spillage of system contents.

3.8 Maintain the cleanliness of new, modified, repaired and disturbed non-nuclear piping systems and components of nuclear and non-nuclear powered naval vessels in accordance with 2.6 through 2.8. Cleanliness levels shall be as assigned in 2.6.

3.8.1 Maintain cleanliness at the following acceptance standard:

3.8.1.1 Cleanliness Level II: Surface shall be visually free of grease, oil, flux, scale, dirt, loose particles and any other contamination foreign to the base metal. Tap water residues on all metals and light superficial rust on carbon steel surfaces, caused by short time exposure to the atmosphere, are permitted. Light dust on cleaned surfaces is not objectionable, provided that the quantity and size of the particle does not adversely affect system operations.

3.8.1.2 Cleanliness Level III: Surface shall be reasonably free of contamination and any remaining residue on the surface does not interfere with system operations or damage system components.

3.8.2 Re-establishing local cleanliness status: Local cleaning is permitted in accordance with 505j4 of 2.6. If existing system cleanliness has been lost in a localized area (such as metal shavings deposited in a pipeline while removing a section for replacement), cleanliness condition can be re-established by locally swabbing, wiping, vacuuming, etc. the area to meet the cleanliness requirements of 505j2 of 2.6. Local cleaning is limited to piping sections which can be accessed directly and the results of cleaning fully observed without the aid of borescopes, mirrors or other devices.

(V) "VERIFY CLEANLINESS"

3.8.3 Verify that existing cleanliness was maintained.

3.8.4 Submit one legible copy, in approved transferrable media, of a report identifying any location where cleanliness has not been maintained in accordance with 3.8.1 and cannot be restored by local cleaning in accordance with 3.8.2. Include the cause of system contamination and recommended actions for cleanliness recovery.

3.9 Install and maintain blanks/plugs, nuts and bolts, colored blaze orange that will be used for hydrostatic testing on equipment, valves, and piping systems in accordance with 2.9 to withstand maximum system pressure for systems which will serve as the primary or secondary barrier to support hydrostatic testing. Existing system fasteners used for blanking that will be reused for installation are excluded from the requirement for blaze orange color. Secure blanks in place with gaskets and fasteners in accordance with 2.10 and 2.11, or weld in place. Ensure welding requirements for blanks meet the same requirement as the piping welds, in accordance with 2.12, 2.13, and 009-12 of 2.1. The use of cloth, polyvinyl sheet, paper, tape, and rubber sheeting as blanks is prohibited. DC plugs, wood, or wood products are prohibited as blanks on pressurized systems, but may be used on non-pressurized systems to include gravity drain piping.

3.9.1 Ensure pressure blanks have a positive means of attachment for affixing tags. Tags must endure the repair process, and must stay attached and be readable until the blanks are removed. Include company/contractor name, Work Item number, WAF number, Contractor blanking/plugging log entry number, along with system/equipment/component name, number, and location.

3.10 Ensure blanks, plugs or cable end protection installed is removed and system/equipment is restored as soon as possible after completion of work. Ensure all tag-out requirements of 2.4 are followed.

4. NOTES:

4.1 JFMM (2.2), 6010 (2.3), and TUM (2.4) are available on-line at:
<https://www.submepp.csd.disa.mil/jfmm/index.htm>

4.2 FME is used to maintain system cleanliness. Should cleanliness be lost or suspected of being lost, restore cleanliness per NSI 009-107.

4.3 General piping system cleanliness is addressed in Section 505 of 2.6.

4.4 Cleaning requirements for specific systems are addressed in individual sections of 2.6 and 2.7.

ATTACHMENT A

ACCOUNTABILITY OF TEMPORARY BLANKS AND PLUGS CHECK-OFF SHEET

COMPANY NAME _____ HULL AND AVAILABILITY _____ **WORK ITEM NUMBER** _____

SYSTEM COMPONENT EQUIPMENT	LOCATION, TANK NUMBER	TYPE, SIZE, QUANTITY	DATE INSTALLED	MECHANIC'S NAME, BADGE NUMBER & SIGNATURE	DATE REMOVED	MECHANIC'S NAME, BADGE NUMBER & SIGNATURE	SHIP'S FORCE REPRESENTATIVE SIGNATURE	SUPERVISOR SIGNATURE