

NAVSEA
STANDARD ITEM

FY-20

ITEM NO: 009-05
DATE: 01 OCT 2018
CATEGORY: II

1. SCOPE:

1.1 Title: Temporary Access; accomplish

2. REFERENCES:

2.1 Standard Items

2.2 MIL-STD-1689, Fabrication, Welding, and Inspection of Ships Structure

2.3 29 CFR 1915, Occupational Safety and Health Standards for Shipyard Employment

2.4 S9086-DA-STM-010, NAVAL SHIPS' TECHNICAL MANUAL CHAPTER 100 HULL STRUCTURES

3. REQUIREMENTS:

3.1 Submit one legible drawing or sketch of each proposed temporary access cut to the ship structure or engine enclosure and a list of each proposed bolted/riveted access removal to the SUPERVISOR 3 days prior to making the cuts or removing the bolted/riveted access. For a nuclear-powered vessel, submit drawing/sketch of each proposed temporary access cut to the SUPERVISOR 5 days prior to making cut or removing the bolted/riveted access. (See Note 4.4 and 4.5)

3.1.1 Submittal of drawing or sketch is not required for those access cuts authorized on a NAVSEA-approved drawing.

3.1.2 The drawing or sketch **must** include, as a minimum, the following information:

3.1.2.1 A plan and elevation view specifying the location of the access by deck, frame, and distance from the center line or deck edge and showing location of adjacent penetrations, bulkheads, framing, welds, and riveted joints within 12 inches of the proposed cut.

3.1.2.2 Location and number of previous cuts visible in each plate and the cutback of existing welds as required by 2.2.

3.1.2.3 Temporary structural reinforcement required to prevent distortion of ship structure.

3.1.2.4 Thickness and type of material of plating and structural members to be cut. Include source or document/drawing number which identifies material requirements.

3.1.2.5 A description of the temporary access closure or enclosure.

3.1.2.6 Include a copy of the weld procedure or approved weld procedure number with the proposed access sketch.

3.1.3 List of bolted/riveted access covers **must** include location, designation, and classification as identified on ship's damage control book.

3.1.4 Provide all drawing titles and numbers (including applicable sub-tier), and technical documentation used to accomplish the requirements of 3.1.

3.1.5 Temporary accesses include access plates, small access plates, and closure plates as defined in Paragraph 3.33 of 2.2.

3.2 Ensure that access cut boundaries conform to the requirements of 2.2, **2.4** and the following:

3.2.1 Boundaries may extend across one or more frames as required for size of opening.

3.2.2 Are sized and located to accomplish the requirements of the Job Order.

3.2.2.1 Verify access requirements on NAVSEA drawings conform to these same requirements.

3.2.3 Weld riveted plates using a single V-weld with glass cloth conforming to MIL-C-24576, Type One, Class One, to prevent fusion between backing member and plate.

3.2.3.1 Remove existing rivets within 6 inches of a cut and install new rivets in accordance with 2.2.

3.2.3.2 Round patches 2 feet in diameter or less **must** be dished 1/16-inch to 1/8-inch.

3.2.4 Minimum width of small access plates **must** be at least 4 times the material thickness of the plate being cut or 3 inches, whichever is greater.

3.2.5 Corners of small access plates between 3 inches minimum to 6 inches maximum in width **must** have a radius of one-half the width. Exception to this corner radius criterion is where a boundary terminates on an existing hull longitudinal seam or transverse butt joint.

3.2.6 Corners of small access plates greater than 6 inches in width **must** have a radius of 2 times the material thickness of the plate being cut or 3 inches, whichever is greater. Exception to this corner radius criterion is where a boundary terminates on an existing hull longitudinal seam or transverse butt joint.

3.2.7 Corners of access plates **must** have a minimum radius of 6 inches. Exception to this corner radius criterion is where a boundary terminates on an existing hull longitudinal seam or transverse butt joint.

3.2.8 Utilize the same boundaries as used for prior cuts unless the requirements of this Standard Item have been violated.

3.2.8.1 Annotate violations on the drawing or sketch required by 3.1.

3.2.9 Location restrictions and limitations on number of temporary accesses allowed per tank must conform to the requirements of 100-2.9.1 of 2.4.

(V) (G) "INSPECT LAY OUT"

3.3 Lay out access on both sides of the structure to be cut, in accordance with the approved drawing or sketch.

3.4 Prior to cutting access in the ship/vessel's structure and after layout checkpoint, accomplish positive verification by drilling a pilot hole in the path of the cut to be accomplished.

3.5 Center punch access layout upon completion of verification in 3.4.

3.6 Accomplish the requirements of 2.3 for guarding of access openings.

3.6.1 Remove temporary guarding after installation of access plates. Chip and grind surfaces flush in way of removals.

3.7 Install a temporary coaming with a minimum height of 4 inches around access cuts through decks. Tack-weld the coaming to the deck and seal the deck joint with caulking compound.

3.7.1 Remove the temporary coaming after installation of access plate. Chip and grind surfaces flush in way of removals.

3.8 Cut access in accordance with the approved drawing or sketch.

3.9 Remove bolted/riveted access.

3.9.1 Clean and preserve gasket faying surfaces.

3.9.2 Chase and tap exposed threaded areas.

3.10 Protect ship from weather and contamination.

3.10.1 Fabricate temporary closures using fire retardant material, prior to removing plates or cutting access openings.

3.10.1.1 Closures **must** be constructed to protect the access from inclement weather and entry of contaminants.

3.10.1.2 Horizontal deck closures **must** support a minimum of 150 pounds per square foot.

3.10.1.3 Closures **must** be fitted with fasteners that permit rapid installation and removal.

3.10.2 Install closures whenever access is not in use.

3.11 Maintain watertight integrity of waterborne ship.

3.11.1 Fabricate and install watertight enclosures prior to removing plates or cutting access openings that do not provide a minimum of 4 feet of freeboard.

3.11.1.1 Maintain watertight integrity to a level 4 feet above the maximum calculated draft.

3.12 Maintain watertight integrity of ship in dry dock.

3.12.1 Provide temporary access closure plates and fasteners prior to removing plates or cutting access openings below 4 feet of waterborne freeboard.

3.12.1.1 Closure plates **must** be available on short notice for emergency sealing of the temporary access openings.

3.12.2 Seal access openings with closure plates when conditions warrant.

3.12.3 Secure openings at the end of each shift not immediately followed by another shift engaged in dry dock work.

3.13 Remove the temporary closures when no longer required.

3.14 Reinstall the temporary access removed in 3.8 in accordance with the approved drawing or sketch.

3.14.1 Accomplishment of welding, fabrication, and inspection requirements to support installation of a temporary access **must** be in accordance with NAVSEA Standard Items (See Note 4.2)

3.14.2 Install the bolted/riveted access.

3.14.2.1 Use new gasket material conforming to MIL-PRF-900.

3.14.2.2 Install new rivets for riveted access plates in accordance with 2.2.

(V) "CHALK TEST"

3.15 Accomplish a chalk test on structural closure in way of temporary access. Chalk imprint **must** be centered with 100-percent contact.

3.16 Accomplishment of structural boundary testing (e.g., cofferdam, vacuum box, air hose, water hose) of each watertight/airtight temporary access closure **must** be in accordance with NAVSEA standard items (See Note 4.3).

4. NOTES:

4.1 Maximum Calculated Draft (MCD) - The maximum draft, calculated during the period in which ship's draft is affected due to evolutions which add, remove, or change weight. It represents the "worst case" cumulative effect at any one time on trim, list, or draft for the proposed weight changes throughout the period that hull penetrations are in a non-standard configuration. MCD **must** be known and utilized by the SUPERVISOR and Ship's Force in scheduling work and testing during waterborne maintenance periods.

4.2 If welding, fabrication, or inspection for installation of a temporary access of 3.14.1 is required; the use of Category II Standard Item 009-12 "Welding, Fabrication, and Inspection Requirements; accomplish" of 2.1 will be specified in the Work Item.

4.3 If a structural boundary test (e.g., cofferdam, vacuum box, air hose, water hose) to support testing of a watertight/airtight temporary access closure is required; the use of Category II Standard Item 009-25 "Structural Boundary Test; accomplish" of 2.1 will be specified in the Work Item.

4.4 Drawings provide detailed representations of the proposed area of the access cut rendered to scale. They include exact dimensional data and

are normally produced using drawing instruments (i.e., from compasses to computers).

4.5 Sketches are simplified or basic drawings. They are normally locally produced but still fulfill all requirements from this NSI (3.1.2.1 through 3.1.2.6) for the proposed area of the access cut.