DEPARTMENT OF THE NAVY
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NAVY REGIONAL MAINTENANCE CENTER
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From: Commander, Navy Regional Maintenance Center

Subj: FISCAL YEAR 2028 CH-1 NAVSEA STANDARD ITEMS

Ref: (a) COMUSFLTFORCOMINST 4790.3
(b) NAVSEAINST 9070.1E

Encl: (1) NAVSEA Standard Items Summary of Change FY28-CH-1

1. Per references (a) and (b), the Fiscal Year 2028 CH-1 (FY28 CH-1) NAVSEA Standard Items (NSI), are available on the official Standard Specification for Ship Repair and Alteration (SSRAC) website at: http://www.navsea.navy.mil/Home/RMC/CNRMC/OurPrograms/SSRAC.aspx. The FY28 CH-1 NSIs must be invoked in Chief of Naval Operations, Continuous Maintenance/Emergent Maintenance availability with a start date in FY28.

2. Requests for deviations from this requirement must be submitted via e-mail and routed to Commander, Navy Regional Maintenance Center (CNRMC) Technical Director for adjudication and approval. A separate deviation request must be submitted for each availability and must fully explain the reason(s) for the deviation (i.e., why deviation is required, how planning would be affected, how availability would be impacted, etc.).

3. Regional Maintenance Center Standards Coordinators and the Master Specifications Catalog Maintenance Office are responsible for advising users within their command of this notice. Contracts Department, Code 400, is responsible for advising Master Ship Repair Contractors and Agreement for Boat Repair Contractors under their cognizance of the availability of these products.

4. Point of Contact for further information is Mr. Paul Styron, SSRAC Coordinator, (757) 400-2118, or via e-mail: paul.w.styron2.civ@us.navy.mil.

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NAVSEA STANDARD ITEMS SUMMARY OF CHANGE FY28 CH-1

1. Summary of Changes to Standard Item 009-001 General Criteria; accomplish

a. **Change:** Removal of BHJ MILSTRIP Requirement. Deleted 3.4.4.4. Submit a "BHJ" MILSTRIP Document Identifier (DI), via OTS or GDSC via email to GDSC@us.navy.mil , for all non-NSN material that was procured outside of the DOD supply system (i.e., direct to vendor).

b. **Rational:** Continuing to require BHJ transactions will result in unnecessary data submission by the LMAs, increasing administrative burden and associated costs without providing any value to DOD/DOW Supply or the COSAL feedback loop. NAVSUP's decision to transition the fleet to FCFBRs eliminates the utility of BHJ transactions for the purpose defined in the updated NSI 009-01. Eliminating the BHJ transaction requirement results in cost savings, reduced administrative burden on the LMAs, improves efficiency by streamlining NSI 009-01, and ensures alignment with NAVSUP's current directives, avoiding contradictory guidance.

2. Summary of Changes to Standard Item 009-012 Weld, Fabricate, and Inspect; accomplish

a. **Change:** FY28 Action Item 199 Table 2 Column C. Table 2:

(1) Line 2: S9074-AQ-GIB-010/248, PARAGRAPH 4, S9LCS-BG-SRM 010/LCS-1 CL, PARAGRAPH 4, S9LCS-BF-SRM-010/LCS-2 CL, PARAGRAPH 4

(2) Line 3: MIL-STD1689, PARAGRAPH 10 TABLE XVI; 9CG0-BP SRM-010/CG-47 CL Rev 1 Chapter 4; S9LCS-BG-SRM-010/LCS-1 CL Chapter 4; S9LCS-BF-SRM-010/LCS-2 CL Chapter 4

(3) Line 4: MIL-STD-22 MIL-STD-1689, PARAGRAPH 11; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 4; S9LCS-BG-SRM-010/LCS-1 CL Chapter 4; S9LCS-BF-SRM-010/LCS-2 CL Chapter 4

(4) Line 5: MIL-STD-1689, PARAGRAPH 13; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 3 and 4; S9LCS-BG-SRM-010/LCS-1 CL Chapter 3 and 4; S9LCS-BF-SRM-010/LCS-2 CL Chapter 3 and 4

(5) Line 6: MIL-STD-1689, PARAGRAPHS 12 AND 14; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 3 and 4; S9LCS-BG-SRM-010/LCS-1 CL Chapter 3 and 4; S9LCS-BF-SRM-010/LCS-2 CL Chapter 3 and 4

(6) Line 7: MIL-STD-1689, PARAGRAPHS 6, 7, AND 8; MIL-STD-2035, PARAGRAPH 4; T9074-AS-GIB-010/271, PARAGRAPH 8; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 3 and 5; S9LCS-BG-SRM-010/LCS-1 CL Chapter 3 and 5; S9LCS-BF-SRM-010/LCS-2 CL Chapter 3 and 5

(7) Line 9: MIL-STD-1689, PARAGRAPHS 6, 7, AND 8; MIL-STD-2035, PARAGRAPH 8; T9074-AS-GIB-010/271, PARAGRAPH 6; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 3 and 5; S9LCS-BG-SRM-010/LCS-1 CL Chapter 3 and 5; S9LCS-BF-SRM-010/LCS-2 CL Chapter 3 and 5

(8) Line 10: MIL-STD-1689, PARAGRAPHS 6, 7, AND 8; MIL-STD-2035, PARAGRAPH 7; T9074-AS-GIB-010/271, PARAGRAPH 5; 9CG0-BP-SRM-010/CG-47 CL Rev 1 Chapter 3 and 5; S9LCS-BG-SRM-010/LCS-1 CL Chapter 3 and 5; S9LCS-BF-SRM-010/LCS-2 CL Chapter 3 and 5

b. **Rational:** Currently NSI 009-012 only invokes these manuals when a PCP is required for the work, however, these requirements are applicable to non-critical welds also. Additionally, when the inspections are invoked in the work spec, they reference table 2 and line appropriate for the method, which is missing reference to the applicable additional technical information (i.e. inspection acceptance criteria).

3. Summary of 2025 Changes to FY-28 Standard Item 009-026, Deck Covering; accomplish. The following provides the rationale for the one substantive change to the FY-28 Standard Item 009-026 on deck covering installation. The specific changes discussed below appear highlighted and in bold/italics in the attached, final draft, FY-28 Standard Item 009-026.

a. **Change:** Clarified requirements for magazine and ammunition storage area decks:

(1) Updated Table One to cite, "MAGAZINE, WEAPON HANDLING AND CARGO AMMUNITION HOLDS AREA (BETWEEN UNIVERSAL TIEDOWN SYSTEM/ DUNNAGE TRACKS" and updated the text in Note (12) that defines the requirements for different decking systems as; "(12) Do not coat latex concrete installed in magazines and ammunition holds. For magazine and ammunition hold areas not covered with latex concrete, paint decks with the same gray epoxy system applied to the surrounding area. As directed by the SUPERVISOR, apply dark gray nonskid to magazine and ammunition hold decks. As directed by the SUPERVISOR, apply MIL-DTL-24441, Type IV, Formula 152 white epoxy to decks in magazines that contain saluting charges."

b. **Rationale:** The attached, current, FY-27, Change 2, Standard Item 009-026 shows requirements for magazine coatings in Table One and in Note (12) that were added to the document in 2022 (i.e., when the established process for meeting and discussing changes was retarded by COVID restrictions). SRF-JRMC had been implementing these requirements and noted that the FY-27, Change 2, Standard Item 009-026 requirements were not consistent with FY-27, Change2, Standard Item 009-032, Table 2, Lines 21 - 26 and that the FY-27, Change 2, Standard Item 009-026 requirements were not consistent with the terminology for ammunition stowage areas and stowage systems cited in NSTM, Chapter, 700. In addition, SEA 05P2 concurred with the SRF-JRMC comments that the terms "large magazine areas," and "small magazines" appearing in the current FY-27, Change 2, Standard Item 009-026 were not clear. Unfortunately, the specific text proposed by SRF-JRMC to resolve this issue was also not clear and SEA 05P2 worked with SEA 05Z44 to resolve this issue. Based on the SEA05P2/SEA 0544 discussions, the text in Table One was updated to clarify that "MAGAZINE, WEAPON HANDLING AND CARGO AMMUNITION HOLDS AREA (BETWEEN UNIVERSAL TIEDOWN SYSTEM/ DUNNAGE TRACKS" were all subject to the coating and decking requirements in Note (12). In addition, Note (12) was updated to define the SUPERVISOR as the authority for defining which specific colors would be used in magazine coatings (i.e., eliminating the unclear terms "large" and "small"). Finally, SEA 05P2 validated with the CNRMC Technical Director that duplicate requirements could occur across Standard Items and as such, the revised Note (12) appearing in the FY-28, Standard Item 009-026 will also appear as a revised Note (12),

with the identical text, in FY-28, Standard Item 009-032. These changes will clarify the magazine coating requirements and SRF-JRMC representatives at the 2025 SSRAC meeting concurred with the final changes.

4. Summary of 2025 Changes to NAVSEA Standard Item 009-032, "Cleaning and Painting Requirements; accomplish. The following provides the rationale for the substantive FY-28, Standard Item 009-032 updates and changes. The specific changes discussed below appear highlighted and in ***bold/italics*** in the attached final draft, FY-28, Standard Item 009-032. Minor re-numbering changes, other typographical corrections, and minor changes to clarify existing requirements appear in the attached final draft, FY-28, Standard Item 009-032 in ***bold/italics***, but are not addressed below.

a. **Change:** Universal editorial changes: Numerous administrative and editorial changes incorporated in the FY-28, Standard Item 009-032 include the following:

(1) Updated formatting for the table in paragraph 3.1.2.1 to be consistent with other NAVSEA Standard Items, (e.g., NAVSEA Standard Items 009-003 and 009-010 have tables with lines). Note that the change is not visually clear because the text did not change, but rather the lines added to the table are the only bold/italics feature.

(2) Updated use of the terms "coat" and "coating system" to make language consistent throughout the FY-28, Standard Item 009-032.

(3) Removed references to Classes or Grades of qualified products where no product is qualified to the Class or Grade listed, (e.g., the FY-27, Change 2, Standard Item 009-032 citation to MIL-PRF-81733, Type II, Class 2 sealants is not technically correct because there are no qualified Class 2 materials and as such the citation in FY-28 Standard Item 009-032 was changed to MIL-PRF-81733, Type II).

(4) Clarified that insulation in Mixing Rooms/Gas Turbines, Exhaust Uptake Spaces and Exhaust Trunks must also be painted by adding the term "**FOR HIDING**."

(5) Created consistent call outs to "**CHAIN LOCKER SUMPS**" across ship classes in Table 4.

(6) Removed the remaining terms, "Same as specified for steel service" references in Table 4 for aluminum substrates by simply citing the specific coating systems that had been specified for the same tanks in the steel substrate section of Table 4.

(7) Clarified that piping and machinery receive the same preservation system cited in Table 5, Lines 16-18 by adding the term "**AND MACHINERY**" to these citations.

(8) Addressed typographical error in Table 5, Line (24A) by citing the TGIC polyester topcoat that is inherently part of the fluidized bed powder coating process.

(9) Addressed typographical error in Table 6 referencing Note (43A) instead of (42A) by citing the correct Note (42A).

(10) Removed obsolete or redundant language (e.g., terms like “'interior surfaces of steel domes” or “torpedo tube recess and aft free flood area (mud tank)”) from Table 8, Lines 21-22.

(a) **Rationale:** Administrative and editorial changes were incorporated into FY-28, Standard Item 009-032 to address typographical issues and to standardize language and align phraseology with SSRAC documentation policy.

1. The table in the current FY-27, Change 2, Standard Item 009-032, paragraph 3.1.2.1 does not align with the formatting of similar tables in NAVSEA Standard Items 009-003 and 009-010, so the formatting was updated to use the same lines to outline the tables that appear in other NAVEA Standard Items.

2. In several paragraphs of the FY-27, Change 2, Standard Item 009-032 the terms “coat”, “full coat”, and “coating system” are used interchangeably. Language was clarified to use the term “coat” for a single layer/application of a paint, the term “coating system” was used for all layers (i.e., coats, stripe coats, etc.) of the coating on a given location, and removed the term “full coat” completely because it is redundant with all other coating application requirements.

3. In several paragraphs of the FY-27, Change 2, Standard Item 009-032, requirements are listed for a Class or Grade of qualified product even though such no such products appear on the qualified products list (e.g., as shown in the current Note (27) that cites MIL-PRF-81733, Type II, Class 2 sealants, these sealants do not appear on the Qualified Products List (QPL) and as such the citation in the FY-28 Standard Item 009-032 was changed to simply cite, “MIL-PRF-81733, Type II” materials that do appear on the QPL. By eliminating these un-executable requirements to use products that do not appear on the QPL, the FY-28, Standard Item 009-032 requirements are executable by the performing activity without the need for direction from the SUPERVISOR.

4. In Table 3, Lines 22 and 22A of the FY-27, Change 2, Standard Item 009-032, Column F for insulation was blank. This was a typographical error when these lines were updated form the FY-25, Standard Item 009-032. The coating requirements for insulation are consistent throughout the other similar compartments cited in Standard Item 009-032 in that these areas are coated to match surroundings. So, text to require coating the insulation that was part of these requirements before the FY-25, Standard Item 009-032 update that state, “**2 COATS MIL-PRF-24596, GRADE A AS REQUIRED FOR HIDING (OVER INSTALLED INSULATION)"** were added back to FY-28, Standard Item 009-032, Table 3, Lines 22 and 22A.

5. In FY-27, Change 2, Standard Item 009-032, Table 4, Line 21, the requirements for aircraft carrier chain locker sumps are listed in the space identifier, but in Table 4, Line 20 for non-aircraft carriers chain lockers, the chain locker sumps are not listed. The two lines have the same purpose and direct to the same spaces on their respective ship classes, so consistency in use of the term “**CHAIN LOCKER SUMPS**” in both citations in FY-28 Standard Item 009-032, Table 4, Line 20.

6. The FY-27, Change 2, Standard Item 009-032, Table 4, Line 22 still uses the “Same as specified for steel service” reference that was intended to define the tank coating

requirements for aluminum ship tanks by citing the same tank coating requirements for steel tanks in similar fluid service that appear earlier in Table 4. This practice is cumbersome and the standard policy from the 4-E and Phraseology Committee is that citations in Tables should be clear and unambiguous. To address this issue, the FY-28 Standard Item 009-032, Table 4 citations for coating requirements for the aluminum substrate tanks are copied from the requirements cited earlier in Table 4 for steel tanks in the same fluid service (e.g., the aluminum tank requirements in Table 4, Line 22 are be the same as the steel tank requirements in Table 4, Line 4, and the aluminum tank Table 4, Line 22A requirements are the same as Table 4, Line 5 for steel tanks).

7. In the FY-27, Change 2, Standard Item 009-032, Table 5, Lines 16-18, the piping and machinery is listed in the space or compartment location identifier, but only piping is cited in Column A, even though Lines 16-18 are intended to receive the same preservation system. To address this issue, the FY-28, Standard Item 009-032 cites the term "**AND MACHINERY**" to be consistent and avoid waterfront confusion.

8. In Table 6, Lines 12-13 of the current FY-27, Change 2, Standard Item 009-032, the term "SEE NOTE (43A)" is listed in Column A. Note (43A) refers to booted surfaces. In the same document, Note (42A) refers to GRP surfaces to which Lines 12-13 apply. As such, the FY-28 Standard Item 009-032, Table 6, was corrected so that Lines 12-13 cite Note (42A). In addition, the FY-28, Table 6, Lines 12-13 include specific coating citations to avoid use of the "SAME AS TABLE X, LINE Y" citations that, as explained in comment 1.f above is inconsistent with current phraseology requirements.

9. The FY-27, Change, Standard Item 009-032, Table 5, Line 22A cited the fluidized bed powder coating process than inherently applies a MIL-PRF-23236, Type VIIIa, zinc-rich epoxy powder primer and, while the part is still hot, applies a color stable, Tri Glycidyl Iso Cyanurate (TGIC) polyester powder topcoat, but did not include requirements for applying the TGIC polyester powder layer. Because the fluidized bed powder coating process inherently includes both the primer and topcoat layers, updated Column C to include the following, "**ONE COAT TGIC POLYESTER, TOTAL SYSTEM 15-30 MILS."**

10. The FY-27, Change 2, Standard Item 009-032 Table 8, Lines 21-22 contain language for areas on submarines that either no longer exist on submarines, such as the "'interior surfaces of steel domes" in Line 21 or are redundant to another line, such as the "torpedo tube recess and aft freeflood area (mud tank)" in Line 22, which is redundant to Line 22A because the torpedo tube recess and aft free flood area are not painted. As such, the FY-28 Standard Item 009-032 removed these terms.

b. **Change:** Clarified the requirements for contrasting coat colors for interior spaces where multiple coats may be needed to provide complete coverage or hiding of the substrate

(1) Updated FY-28, Standard Item 009-032, paragraph 3.1.16 to include a new clause addressing the waterfront need to apply two coats of color-specific topcoats to effectively cover or hide the substrate primer by adding the following:

"**With the exception of MIL-PRF-24596, MIL-DTL-15090, and MIL-DTL-24607**, when applying paint, multiple coats must be of contrasting colors, unless specifically stated in Tables One through 8."

(a) **Rationale**: Sherwin-Williams submitted this change proposal based on comments from waterfront coating customers that MIL-PRF-24596, MIL-DTL-15090, and MIL-DTL-24607 interior, pastel shade, habitability space coatings frequently can require two coats to cover darker primer layers like TT-P-645 or MIL-DTL-24441. Because a key function of interior topcoats like MIL-PRF-24596, MIL-DTL-15090 and MIL-DTL-24607 is to provide a uniform, cosmetically acceptable appearance, allowing two coats of the same pastel color to cover a darker primer was technically sound. To address this change proposal, the FY-28, Standard Item 009-032 paragraph 3.1.16 adds a clause to the FY-27, Change 2, Standard Item 009-032 paragraph 3.1.16 that required all coats of a coating system to be of contrasting colors, but added and exception for the pastel shade interior topcoats from this requirement. Such an approach will reduce costs by avoiding the need to use alternating pastel shades (i.e., reducing the logistics costs associated with stocking multiple pastel shade colors) and streamlines production by ensuring that two coats, in the same pastel shade, are required to be applied to uniformly cover the primer and provide a cosmetically acceptable interior space coating.

c. **Change**: Clarified requirement for maintaining complete sets of Quality Assurance/Quality Control (QA/QC) data for nonskid touch-up on flight decks.

(1) Updated FY-27, Change 2, Standard Item 009-032, paragraph 3.6.1.3 to include a clause adding flight decks to areas that are not authorized to waive QA/QC data collection requirements for small-scale touch-up in the FY 28, Standard Item 009-032, paragraph 3.6.1.3 as follows: "For surface ship areas, except for potable, reserve feedwater, freshwater drain collecting tanks on nuclear powered surface ships and all flight deck nonskid, touch-up is defined within this Standard Item as preservation operations on cumulative surface areas less than or equal to 10 percent of the total area (e.g., bilge, tank, space, etc.) being preserved, with no individual area greater than 10 square feet. Included under touch-up operations are new and disturbed surfaces of less than 10 square feet. The documentation requirements of 3.7 and 3.8 are waived for touch-up of in-service coatings, and the requirements of 3.10.2/3.11.3, 3.10.5/3.11.4, 3.10.6/3.11.5, 3.10.7/3.11.6, and 3.10.9/3.11.10 must be verified by the accomplishing activity as (I) inspections."

(a) **Rationale**: The FY-27, Change 2, Standard Item 009-032 paragraph 3.6.1.3 included waivers for QA/QC data collection for small scale touch-up tasks that Naval Reactors required to be included in the touch-up discussion paragraph in the FY-14, Change 1, Standard Item 009-32 that was published on 7 Nov 2013 (i.e., SEA 08 wanted to ensure data was collected on all work conducted in tanks related to the propulsion system, regardless of the tank size). The Change Proposal was based on the CNSL and CNSP Nonskid On-Site Representatives (OSRs) noting that flight deck nonskid installation contractors were not following nonskid coating installation requirements for small-scale touch-up and noted: "The waiver requirement has caused significant lack of oversight and often resulted in remedial actions taken by the Ship Building Specialist (SBS) responsible for contractual oversight with the OSR having to take action to achieve an acceptable outcome." By adding the clause to the FY-28 NAVSEA Standard

Item 009-032, paragraph 3.6.1.3 to except all flight deck nonskid touch-up from the QA/QC data waiver paragraph, the quality of nonskid touch-up work will be ensured, reducing the risk of costly nonskid delamination that could lead to aircraft engine Foreign Object Damage (FOD). In addition, the requirement will streamline production by avoiding the need for the SBS and OSR community to require re-work of repair areas that were not installed in accordance with technical requirements.

d. **Change**: Clarified requirement for taking QA/QC data for surface profile, depending on the coating removal method, (i.e. abrasive blasting or ultra-high-pressure waterjet [UHP WJ] surface cleaning)

(1) Updated FY-27, Change 2, Standard Item 009-032, paragraph 3.11.6.2 to include a clause that requires profile QA/QC data to be collected from areas subject to abrasive blasting as follows:

"For flight deck areas, not to include aircraft elevator platform decks, receiving a nonskid system and prepared to NACE/SSPC-SP WJ-2, a minimum of 20 percent of the total area receiving a nonskid system must be abrasively blasted to a NACE 2/SSPC-SP 10 level of cleanliness. The areas to be prepared to NACE 2/SSPC-SP 10 must be as directed by the SUPERVISOR. **Profile readings must be recorded on QA Checklist Form Appendix 3 or Naval Shipyard QA Checklist QA Form Appendix 3 or 3A separately for areas that have been abrasive blasted and those that have been UHP WJ)."**

(a) **Rationale:** The FY-27, Change 2, Standard Item 009-032, paragraph 3.11.6.2 does not clearly state that profile QA/QC data documentation is required for flight deck areas where nonskid is removed via UHP WJ and in the areas that are subject to the 20 percent abrasive blasting requirement that was first included in the FY-18, Change 1, Standard Item 009-32 published on 7 Mar 2017. The 20 percent abrasive blasting requirement was added to require contractors to re-establish surface profile in areas where repeated deck rusting during multiple in-service periods and UHP WJ cleanings had degraded the surface profile. These areas with where surface profile had degraded over time were found in the mid 2010s to result in premature nonskid delamination that required costly nonskid re-application in OCONUS locations. The CNSL and CNSP Nonskid OSRs stated in their Change Proposal that flight deck installation contractors were arguing that they did not have to collect surface profile QA/QC data after abrasive blasting as follows:

"UHP WJ does not produce a profile and may have profiles out of the specification range. Separate methods of substrate preparation even if the final blast is UHP WJ should be documented independently." By updating Paragraph 3.11.6.2 in the FY-28 NAVSEA Standard Item 009-032 to require that both the areas subject to UHP WJ and the areas subject to abrasive blasting to collect profile QA/QC data, the risk of deficient surface profile due to inadequate workmanship is minimized. Validating that surface profile satisfies requirements in these areas is essential to minimize the risk of nonskid delamination contributing to aircraft engine FOD or requiring premature, costly, disruptive nonskid replacement.

e. **Change**: Clarified that the requirements for assessing nonskid spread rate must occur during application, and before the holiday inspection process because the holiday inspection

process must inherently occur after the nonskid is cured and it is too late to take corrective action regarding the spread rate.

(1) Updated FY-27, Change 2, Standard Item 009-032, paragraph 3.11.11 that had defined requirements for, “NONSKID MIXING AND APPLICATION" in the FY-28 Standard Item 009-032, paragraph 3.11.11 to cite, “NONSKID MIXING, APPLICATION, AND SPREAD RATE" and then moved that paragraph that required spread rate QA/QC data collection from FY-27, Change 2, Standard Item 009-032, paragraph 3.11.12, on “NONSKID SPREAD RATE AND HOLIDAY INSPECTION” to the new FY-28 Standard Item 009-032, paragraph 3.11.11.3 as follows; “**Verify that nonskid spread rate meets the following requirement: Types I, V, VI, VII, and VIII - 18 square feet/gallon minimum and 30 square feet/gallon maximum; Types II, III, IX and X - 23 square feet/gallon minimum and 35 square feet/gallon maximum; and, Types IV and X (sprayed) - 40 square feet/gallon minimum and 60 square feet/gallon maximum. The minimum spread rate for Types IV and X (sprayed) must be in accordance with the manufacturer’s NAVSEA-reviewed ASTM F718. Perform visual holiday inspection of nonskid and document on QA Checklist Form Appendix 7. Spread rate must be determined by the following formula: [(square feet coated) / ((gallons per kit) x (number of kits))].”**

(2) Also updated FY-27, Change 2, Standard Item 009-032 paragraph 3.11.12 to clarify that this section now requires holiday inspection by adding a new sentence to the beginning of the FY-28, Standard Item 009-032, paragraph 3.11.12 as follows; **“Perform visual holiday inspection of nonskid and document on QA Checklist Form Appendix 7.”**

(a) **Rationale:** The simplest explanation of this change is that a key requirement for assessing spread rate was moved ahead in the production process to allow corrective action before all of the nonskid is applied. Based on their Change Proposal, the CNSL and CNSP Nonskid OSRs had multiple experiences where the nonskid application contractors working in accordance with Standard Item 009-032 requirements, did not calculate the nonskid spread rate until the nonskid was cured and they were conducting holiday inspections. The nonskid contractors then showed the OSRs their calculations that showed they had violated the spread rate, and because the nonskid was already fully cured, there was no technically acceptable means of correcting the spread rate. So, by moving the spread rate calculation requirement up into a new, earlier section of the FY-28, Standard Item 009-032 requirements, the contractor will be required to report the spread rate to the OSRs before the nonskid is cured. Although there is still no means of addressing nonskid spread rate after the nonskid had been rolled, if the nonskid application contractor reports either too high, or too low, a spread rate early in the process, the OSRs can work with the contractors to correct their workmanship in the remainder of the work zone. Thus, the reorganization of FY-27, Change 2, Standard Item 009-032 paragraphs 3.11.12 and 3.11.12.1 to separate the inspection points for nonskid spread rate and holiday detection allows the government to have better oversight of the nonskid spread rate and to ensure that any discrepancies in nonskid spread rate are addressed before the job is completed. Because the change does not alter the technical requirements (i.e., the change simply alters the sequence of the existing requirements), the change is unlikely to appreciably alter nonskid installation costs. However, the change will reduce the waterfront/NAVSEA administrative burden associated with assessing the risk of nonskid that is applied at either too high, or too low, a spread rate by

reducing the frequency of such workmanship issues having to be documented in QA/QC packages.

f. **Change:** Clarified requirements for magazine and ammunition storage area deck coating to align with FY-28 Standard Item 009-026 decking installation requirements.

(1) Updated the text in the FY-27, Change 2, Standard Item 009-032, Note (12) to include more clear requirements for magazine coatings that could be invoked in Table 2, Lines 21-26 to align with the same Note (12) appearing in FY-28, Standard Item 009-026 on decking as follows: "**Do not coat latex concrete installed in magazines and ammunition holds. For magazine and ammunition hold areas not covered with latex concrete, paint decks with the same gray epoxy system applied to the surrounding area. As directed by the SUPERVISOR, apply dark gray nonskid to magazine and ammunition hold decks. As directed by the SUPERVISOR, apply MIL-DTL-24441, Type IV, Formula 152 white epoxy to decks in magazines that contain saluting charges.**"

(2) The original, FY-27, Change 2, Standard Item 009-032, Note (12) was moved in the FY-28, Standard Item 009-032 to Note (57) that had been "Intentionally left blank," and as such the new Note (57) states: **"These systems may also be invoked for preservation of decks in spaces that are prone to wear and do not receive deck covering."**

(3) These changes also required updates to the FY-28 Standard Item 009-032,Table 2, Lines 21-26 to cite, "SEE NOTES **(12) &** (75)" and Table 3, Line 24 to cite, "SEE NOTE **(57)".**

(a) **Rationale:** The FY-27, Change 2, Standard Item 009-026 shows requirements for magazine coatings in Table One and in Note (12) that were originally added to the document in 2022 (i.e., when the established process for meeting with the waterfront representatives and discussing changes was retarded by COVID restrictions). SRF-JRMC had been implementing these requirements and noted that the FY-27, Change 2, Standard Item 009-026 requirements were not consistent with FY-27, Change 2, Standard Item 009-032, Table 2, Lines 21 – 26 requirements for magazine and ammunition hold deck coatings and that the FY-27, Change 2, Standard Item 009-026 requirements were not consistent with the terminology for ammunition stowage areas and stowage systems cited in NSTM, Chapter, 700. In addition, SEA 05P2 concurred with the SRF-JRMC comments that the terms "large magazine areas," and "small magazines" appearing in the FY-27, Change 2, Standard Item 009-026 were not clear. Unfortunately, the specific text proposed by SRF-JRMC to resolve this issue was also not clear and to address this issue, SEA 05P2 worked with SEA 05Z44 to create more clear, consistent language in both the FY-28, Standard Item 009-026 on decking and the FY-28, Standard Item 009-032 on coatings. Based on the SEA05P2/SEA 0544 discussions, the text in the FY-28 Standard Item 009-026 Table One was updated to clarify that **"MAGAZINE, WEAPON HANDLING AND CARGO AMMUNITION HOLDS AREA (BETWEEN UNIVERSAL TIEDOWN SYSTEM/ DUNNAGE TRACKS"** were all subject to the coating and decking requirements in Note (12). In addition, Note (12) was updated to define the SUPERVISOR as the authority for defining which specific colors would be used in magazine coatings (i.e., eliminating the unclear terms "large" and "small"). Finally, SEA 05P2 validated with the CNRMC Technical Director that duplicate requirements could occur across Standard Items and as such, the revised Note (12) appearing in the FY-28, Standard Item 009-026 will also appear as a revised Note (12),

with the identical text, in FY-28, Standard Item 009-032. As there was already a Note (12) in the FY-27, Change 2, Standard Item 009-032, that Note has been moved to Note (57), and Table 3, Line 24 has been updated accordingly. These changes will clarify the magazine coating requirements and SRF-JRMC representatives at the 2025 SSRAC meeting concurred with the final changes. Thus, these changes will streamline waterfront production by avoiding the need for SRF-JRMC and coating application contractors having to contact NAVSEA to determine which requirements apply to the different magazine sizes and configurations on different ship classes.

g. **Change**: Added zinc-rich epoxy primer coatings as part of a new coating system option for the aircraft carrier jet blast deflector pits.

(1) Created a new, FY-28, Standard Item 009-032, Table 5, Line 27 that separated jet blast deflector pit coating requirements from the FY-27, Change 2, Standard Item 009-032, Table 5, Line 26 heading of, " BARRICADE STANCHIONS AND WELLS, CATAPULT JET BLAST DEFLECTOR PITS, AND ASSOCIATED VOID SPACES" to cite new, zinc rich primer requirements for: "**CATAPULT JET BLAST DEFLECTOR PITS, AND ASSOCIATED VOID SPACES**"; that include a new Column A that stated; "**NEAR WHITE METAL BLAST, NACE 2/SSPC-SP 10 SEE NOTES (14) & (21)**"; a new Column B that stated; "**ONE COAT INORGANIC ZINC SILICATE, SSPC PAINT 20, TYPE I-C COATING, 2-4 MILS SEE NOTE (51)**"; a new Column C that stated; "**ONE MIST COAT WHITE, MIL-PRF-24635 TYPE V OR VI, 1 – 2 MILS**"; and a new Column D that stated; "**ONE COAT WHITE MIL-PRF-24635, TYPE V OR VI, 5 – 8 MILS."**

(2) Because of these new requirements and the original column header, these changes required that the FY-28 Standard Item 009-032 include a new Table 5, Line 28 that included the original requirements for barricade stanchions as follows: '**BARRICADE STANCHIONS AND WELLS AND AIRCRAFT ELECTRICAL SERVICING STATIONS (AESS) TRUNKS**"; that included Column A that stated; "**NEAR WHITE METAL BLAST, NACE 2/SSPC-SP 10 SEE NOTES (14) & (21)**"; a new Column B that stated; **"ONE COAT MIL-PRF-23236, TYPE VI OR VII, CLASS 5, 4 - 8 MILS;"** a new Column C that stated; "**ONE STRIPE COAT MIL-PRF-23236, TYPE VI OR VII, CLASS 5, 4 - 8 MILS** "; and a new Column D that stated; "**ONE COAT MIL-PRF-23236, TYPE VI OR VII, CLASS 5, 4 - 8 MILS SEE NOTE (35)."**

(3) These changes required that the new FY-28, Standard Item 009-032 include altered Notes (35) and (44) to be, "**Intentionally left blank**" and altered Table 5, Line 26: Column B, "ONE COAT MIL-PRF-23236, TYPE VI***I***, CLASS **19/18, 20 - 30** MILS **SEE NOTE (24)";** and altered Column C to state; "ONE STRIPE COAT MIL-PRF-23236, TYPE VI***I***, CLASS ***19/18, 4*** - 8 MILS"; and altered Column D to state; "ONE COAT **WHITE** MIL-PRF-**24635,** TYPE ***V OR*** VI, ***5 – 8 MILS***."

(a) **Rationale:** The FY-27, Change 2, Standard Item 009-032 Table 5, Line 26 includes just one line for jet blast deflector (JBD) pits, barricade stanchions, and associated void spaces using MIL-PRF-23236, Type VI, Class 5 solvent-based epoxy primers that have been found to exhibit limited corrosion-control performance. NSWC-Philadelphia (NSWC-PD)

testing indicated that coating systems based on MIL-PRF-23236, Type VII, Class 19/18 well-deck coatings and on the inorganic zinc silicate, SSPC Paint 20, Type I-C offered enhanced corrosion-control performance compared with the MIL-PRF-23236, Type VI, Class 5 epoxy primer based systems currently used on carrier flight decks. To rapidly transition these corrosion-control performance test results to Fleet service, the NSWC-PD proposed change was reviewed with the aircraft carrier technical community and required updates to FY-27, Change 2, Standard Item 009-032, Table 5, Line 26 to separate the requirements into a new, FY-28, Standard Item 009-032, Table 5, Line 27, for "**CATAPULT JET BLAST DEFLECTOR PITS AND ASSOCIATED VOID SPACES**" that will be coated with the higher performing coating system and updating the current Line 26 and creating a new Line 28 for, "**BARRICADE STANCHIONS AND WELLS AND AIRCRAFT ELECTRICAL SERVICING STATIONS (AESS) TRUNKS**." These changes then result in creating new citations for use of the inorganic zinc primers, and two epoxy topcoats in FY-28, Standard Item 009-032, Table 5, Line 27, Columns A-F; and creating new citations for use of the ultrahigh solids, MIL-PRF-23236, Type VII, Class 19/18 primers, and either polysiloxane or epoxy topcoats in FY-28, Standard Item 009-032, Table 5, Line 28, Columns A-F. Thus, the changes to the FY-28 Standard Item 009-032, Table 5, Lines 27-28 will enhance life-cycle corrosion-control performance by implementing new coating systems in both the CATAPULT JET BLAST DEFLECTOR PITS AND ASSOCIATED VOID SPACES and the BARRICADE STANCHIONS AND WELLS AND AIRCRAFT ELECTRICAL SERVICING STATIONS (AESS) TRUNKS. In addition, by rapidly transitioning these improved coating systems to these aircraft carrier flight deck areas, the change will also inherently reduce the risk of corrosion causing delaminating coatings that increases the risk of paint chips/flakes causing aircraft engine FOD.

h. **Change:** Changed the requirement for standoff distance between the helicopter hangar door seal edge and the edge of the roller or spray applied nonskid.

(1) Altered the FY-27, Change 2, Standard Item 009-032 Note (56) to include greater spacing between the edge of the nonskid and the door seal in the FY-28 Standard Item 009-032, Note (56) as follows; "Nonskid must be applied to within 5.0 – 5.5 inches of the exterior and interior helicopter hangar door seal edges."

(a) **Rationale:** The FY-27, Change 2, Standard Item 009-032 Note (56) allows nonskid to be applied to within 3.5-4.0 inches from the helicopter hangar door seal and this requirement has been included in Standard Item 009-32 (i.e., in multiple formats) since the FY-08, Change 1, Standard Item 009-32 that was published on 01 Apr 2008 and has such has been implemented effectively for years. However, new door seals have been developed over the past few years and the Nonskid OSRs noted that these new seals on LCS 2 Class roller curtain doors are too close to the nonskid, resulting in the roller curtain door seals being rapidly worn by coming into contact with the inherently rough spray or roller applied nonskid system. The OSRs report that the premature seal wear has resulted in the need for costly door seal replacement. To address this issue, the simple change to require a minimum clearance of 5.0 inches on the interior and exterior side of the door mitigates the risk of roller curtain door seal damage and does not adversely affect door operation on other ship classes that had been coated in accordance with the FY-27, Change 2, Standard Item 009-032, Note (56) requirement for the 3.5 – 4.0 inch standoff distance. Thus, the change will reduce ship life cycle costs by reducing the need for premature door seal replacement on LCS 2 Class ships.

i. **Change:** For coatings that are qualified as a system (e.g., nonskid primer, topcoat, and color topping), clarified that systems qualified with primers not produced by a single manufacturer, but listed on the manufacturer's ASTM F718, are technically acceptable for installation.

(1) Updated the FY-27, Change 2, Standard Item 009-032, Note (64) to add a new sentence that references the entire set of coating constituents listed on the coatings manufacturer's NAVSEA-reviewed ASTM F718 as follows; "Primer coat(s) must be from the same manufacturer as the other coats in the system. **Any primer listed in the NAVSEA-reviewed ASTM F718 may be used when the primer from the same manufacturer is not available."**

(a) **Rationale:** The FY-27, Change 2, Standard Item 009-032 Note (64) requires that a primer coat must be from the same manufacturer as the other coats in the overall coating system but does not address coating systems that were qualified with individual coating layers that are from different manufacturers (e.g., NCP first qualified their innovative polysiloxane nonskid in 2015 using epoxy primers from other manufacturers because NCP does not manufacturer epoxy primers). For example, NCP is also the only manufacturer of PRF-24635, Type V, Composition 1 qualified polysiloxane and they still do not manufacture epoxy primers. The Change Proposal from SRF-JRMC noted that the FY-27, Change 2, Standard Item 009-032, Note (56) did not address this unusual situation and caused confusion on the waterfront. Because there are a few coatings that were qualified with coating layers from different manufacturers, adopting this change clarifies the requirements and will not adversely affect the vast majority of coating systems that are qualified as a system from a single manufacturer.

j. **Change**: Aligned requirements for coatings in way of damping and acoustic tiles with current Submarine Maintenance Standard (SMS) policy.

(1) Created a new, FY-28, Standard Item 009-032, Note (49A) that defined which specific coatings are approved for use with submarine acoustic damping tile as follows; "Coatings approved for use on submarines in way of damping and acoustic tiles must comply with 2.5." and also cited this new Note (49A) in FY-28, Standard Item 009-032, Table 8, Lines 7-11 and 15, Column B.

(a) **Rationale:** The SMS includes a list of specific epoxy coatings that have been subject to additional mechanical testing and approved for use as a substrate for damping and acoustic tiles in submarine tanks. The FY-27, Change 2, Standard Item 009-032 does not have any requirements that reflect the additional approvals needed for these tank coatings that can mechanically support acoustic damping tiles, which has created an additional burden on maintenance planners to ensure the coating selection requirements are properly addressed in other portions of the maintenance tasking process. Including this clarifying language in the FY-28 Standard Item 009-032, decreases waterfront work planner confusion about tank coatings that mechanically support acoustic damping tiles and reduces the risk of this additional, submarine-specific requirement not being implemented which could result in damping tiles prematurely delaminating from the structure. Thus, the change reduces waterfront confusion and avoids the

costs associated with NAVSEA having to assess the risk associated with using a coating not mentioned in the SMS under damping tiles.

k. **Change**: Updated Table One, to include two new lines and to modify three lines, to clarify requirements for applying the recently qualified MIL-PRF-24647, Type IV, biocide-boosted, foul-release coatings.

(1) The FY-28, Standard Item 009-032, Table One, includes a new Line 3 and Line18 to define requirements for applying the MIL-PRF-24647, Type IV, biocide-boosted, foul-release coating system that includes the technically required minimum of two topcoats associated with these silicone-based, biocide-boosted, foul-release coating for up to three years of service as follows:

TABLE ONE STEEL SURFACES SURFACE SHIPS	LINE	A SURFACE PREPARATION	B PRIMER	C	D	E KEEL TO BOTTOM OF BOOTTOP	F BOOTTOP	G DRAFT MARKS
	3	NEAR WHITE METAL BLAST, NACE 3/SSPC-SP 10 -OR- WATERJETTING TO NACE/SSPC-SP WJ-2/M - OR - SSPC-SP 10/M (WaB)/NACE WAB-2/M	ONE AC COAT MIL-PRF-24647, TYPE IV, CLASSES 1, 2, AND 3, GRADE A, APPLICATION 1, RED, 4-6 MILS --&-- ONE AC COAT MIL-PRF-24647, TYPE IV, CLASSES 1, 2, AND 3, GRADE A, APPLICATION 1, 4-6 MILS			ONE COAT FOUL RELEASE TIE COAT 1 - 3 MILS --&-- TWO AF FULL COATS 5 - 7 MILS MIL-PRF-24647, TYPE IV, CLASSES 1, 2, AND 3, GRADE A, APPLICATION 1,	ONE COAT FOUL RELEASE TIE COAT 5 - 3 MILS --&-- TWO AF FULL COATS 5 - 7 MILS MIL-PRF-24647, TYPE IV, CLASSES 1, 2, AND 3, GRADE A, APPLICATION 1,	ONE COAT MIL-PRF-24635 TYPE V OR VI, CLASS 2, GRADE B OR C, COMPOSITION 2, LIGHT GRAY (LOW SOLAR ABSORPTION ONLY) TO BOOTTOPPING & BELOW, 5 - 8 MILS --OR-- ONE COAT MIL-PRF-24635 TYPE V OR VI, CLASS 2, GRADE B OR C, COMPOSITION 1, LIGHT GRAY (LOW SOLAR ABSORPTION ONLY) TO BOOTTOPPING & BELOW, 3-5 MILS --OR-- WHITE COMMERCIAL SILICONE FOUL RELEASE COATING ONE COAT MIL-PRF-24635, COMPOSITION 2, OCEAN GRAY (LOW SOLAR ABSORPTION ONLY) ABOVE BOOTTOPPING, 3 - 5 MILS --OR-- ONE COAT MIL-PRF-24635, COMPOSITION 1, OCEAN GRAY (LOW SOLAR ABSORPTION ONLY) ABOVE BOOTTOPPING, 3 - 5 MILS
		SEE NOTE (11)	SEE NOTE (8)			SEE NOTES (2), (6), (8) & (48)	SEE NOTES (2), (6), & (8)	SEE NOTE (1)

The same information presented in the Table One, Line 3 image shown above also appears on Table One, Line 18 as an option for coating GRP hulls.
In addition to these two new lines, the Table One, Lines 14 and 22 were modified to cite the requirement number of coats in Columns E, F, and G with Line 14 citing "**TWO AF FULL COATS** MIL-PRF-24647, TYPE IV," while Line 22 cites "**THREE AF FULL COATS** MIL-PRF-24647, TYPE IV."

(a) **Rationale**: On 11 Dec 2024, NAVSEA updated the MIL-PRF-24647 antifouling coating specification to include requirements for the latest, high-performance antifouling coating systems developed by the commercial industry. The updated, MIL-PRF-24647E, with Amendment 1, defined requirements for biocide-boosted, foul-release coatings that, when tested by NRL in the laboratory qualified tests exhibited exceptionally effective fouling-control performance. Based on these updates specification requirements, NAVSEA qualified the new, high-performance, silicone-based, biocide-boosted, Hempel, Hempaguard X7 coating as NAVSEA's first MIL-PRF-24647E, Type IV qualified coating system. NAVSEA testing showed that the biocide-boosted, silicone-based coating systems performed more effectively than any other foul-release coating NAVSEA has ever tested. Because the Hempaguard X7 product is now qualified, NAVSEA created requirements for application of these coatings in the FY-27, Change, Standard Item 009-032 for service on ships with docking cycles of less than seven years. Thus, the proposed change to the FY-28, Standard Item 009-032, Table One, was intended to provide a complete set of options for applying the coatings. For example, the new Table One, Line 3 that cites, "***TWO AF FULL COATS," of the "MIL-PRF-24647, TYPE IV, CLASSES 1, 2, AND 3, GRADE A, APPLICATION 1***" coatings will provide the Fleet with a lower cost option to use this high performance coating on ships with docking cycles of less than three years in the future. The changes expanded these Type IV coating requirements to aluminum (i.e., these Type IV

coatings are applied commercially to aluminum ships because they do not release free copper ions into the sea and as such do not pose a deposition corrosion risk when applied to an aluminum substrate as is the case with the MIL-PRF-24647 qualified, Type II, ablative copper coatings that are not applied to aluminum hulls because of the risk of copper ions depositing on the aluminum hull and driving localized galvanic corrosion) and GRP hulls to provide all ship classes with requirements to apply these coatings.

l. **Change**: Added option for zinc-rich primers to be applied under topside polysiloxane coating systems.

(1) The FY-28, Standard Item 009-032, includes new Table 2, Lines 1A and 1B, Column B on PRIMER that provides an option to apply an established, NAVSEA qualified, zinc-rich primer as part of the topside coating system by adding "**ONE COAT MIL-DTL-24441, TYPE III, F159 ZINC RICH EPOXY PRIMER 3 – 5 MILS DFT**" as the first primer coat on steel substrates for topside applications.

(a) **Rationale:** Historically, the 2001 version Naval Ships Technical Manual, Chapter 631, Revision 2 on coatings, included a list of 28 commercial zinc-rich coatings that were authorized for application as ship topside coating systems primers. Unfortunately, these zinc-rich primers were virtually never applied and as such were replaced in the current, 2008, NSTM, Chapter 631, Revision 3, with requirements to apply ultrahigh solids, edge-retentive primers that offer enhanced corrosion-control performance compared with simple, solvent-based primers. However, recent U.S. Navy senior leadership interest in eliminating "running rust" and enhancing topside appearance, resulted in NSWC-PD submitting a Change Proposal that recognized that the use of zinc-rich epoxy primers would aid in corrosion-control around small-scale defects or holidays than can lead to running rust and as such implementation of such coatings would help minimize rust staining. Zinc-rich epoxy primers are used widely on many common industrial structures such as bridges, water towers, stadiums, commercial marine vessels, and U.S. Coast Guard vessels to reduce the risk of running rust. NRL also tested zinc-rich primers as part of the development of a COLUMBIA Class shaft coating system that will provide extended service life compared with the current shaft coatings used on VIRGINIA Class submarines. The NRL developed coating system that includes a first layer of MIL-DTL-24441, Type III, Formula 159 zinc rich primer procedure was proven to offer enhanced corrosion-control performance compared with just use of ultrahigh solids primers and is currently being installed on submarine shafts. Based on this NRL work, NSWC-PD proposed use of the MIL-DTL-24441, Type III, Formula 159 zinc-rich primer as a readily accessible, qualified, Navy-controlled, zinc-rich primer formula that has been approved for Navy use since 1987. The SSRAC attendees all concurred that applying the Formula 159 as the first coat of primer on a steel substrate followed by another coat of conventional epoxy primer, and a polysiloxane topcoat would result in an enhanced corrosion-control performance topside coating system that will inherently reduce the risk of running rust from defects or holidays in the coating. Thus, adopting this change in the FY-28, Standard Item 009-032 represents a significant new coating system option that can be used to reduce running rust and improve the appearance of U.S. Navy ships.

m. **Change**: Added specific requirements for polysiloxane nonskids to allow work planners to select these long service life nonskid systems for service in topside applications.

(1) Table 2, Lines 9A and 21A were added to the FY-28, Standard Item 009-032, to specifically require polysiloxane nonskid as follows: "**FOR MIL-PRF-24667D TYPE II, IV OR VI, COMP G, CLASS 2, GRADE B, APP 1. WHEN MIL-PRF-24667D NONSKID ARE NOT AVAILABLE, SUBSTITUTE ONLY POLYSILOXANE NONSKID QUALIFIED TO MIL-PRF-24667C, TYPE I OR V, COMP G.**"

(a) **Rationale**: The FY-27, Change 2, Standard Item 009-032 does not address the updated QPL for MIL-PRF-24667D that separates the common epoxy-based nonskids from the polysiloxane nonskids that have been qualified to MIL-PRF-24667C since 2015. NAVSEA published MIL-PRF-24667D on 16 Feb 2021 specifically to allow separation of the epoxy and polysiloxane nonskids based on new Classes of materials in the specification. Unfortunately, due to nonskid manufacturers being slow to submit updated qualification packages for MIL-PRF-24667D, the QPL has not been updated from MIL-PRF-24667C. Because the polysiloxane nonskids offer enhanced color retention compared with epoxy nonskids and as such will provide a longer service life in many topside applications, the nonskid OSRs submitted a Change Proposal to allow the use of "polysiloxane" nonskid still qualified to MIL-PRF-24667C. The SSRAC meeting attendees concurred with the citation of "polysiloxane nonskid in the FY-28 Standard Item 009-032 and the change was adopted. Thus, this change allows for work planners to specifically require polysiloxane nonskids that are qualified to either MIL-PRF-24667C or MIL-PRF-24667D to reduce ship life cycle costs by installing these color stable nonskids that may offer longer service life in applications where mechanical wear and tear on the nonskid is limited (e.g., walking decks, platforms, etc.).

n.. **Change**: <u>Added Composition G nonskid as an option for installation on vehicle ramps on LHA, LHD, LPD, and LSD Class ships</u>.

(1) Updated, FY-28, Standard Item 009-032,Table 2, Lines 20A and 20B, Column E to include an option to apply conventional Composition G nonskid along with the previously requirement to apply low-density, Composition D nonskid on these ramps as follows: "ONE COAT DARK GRAY, MIL-PRF-24667, TYPE V, COMP D -**OR-ONE COAT DARK GRAY, MIL-PRF-24667, TYPE V, COMP G".**

(a**) Rationale**: Since the 20 Feb 2021 publication of the FY-22, Change 1, Standard Item 009-32, Table 2, Lines 20A and 20B has required MIL-PRF-24667, Type I or V, Composition D (i.e., low-density nonskid that has demonstrably reduced the risk of aircraft engine FOD) nonskid to be applied to all LHA, LHD, LPD, and LSD Class ship vehicle ramps. These requirements evolved from the USFF N43 Flight Deck Readiness Working Group efforts, since 2017, to reduce the risk of aircraft engine FOD and were adopted out of an abundance of caution because aircraft and vehicle tires are known to transport nonskid flakes/chips from one area of a deck to another. As such, any vehicle traversing the ramps to the flight deck could transport nonskid chips/flakes. However, the Nonskid OSR Change Proposal noted that vehicles rarely if ever drive from the ramp onto the flight deck by noting that: "For LHA/D Ships, no vehicles can drive up the ramp from the hangar bay. It is designated a Troop Walkway… The Troop Space at the top of the ramp to the Flight Deck before exiting the superstructure is coated with Comp G. It receives foot traffic only… For LSD and LPD Ships, all vehicles enter and exit the Ships via either a side port door, stern gate, or via Landing Craft through the Well Deck

across Comp G decks." As such, it is unlikely that the higher cost, and less widely available, Composition D nonskid applied to ramps is actually appreciably decreasing the aircraft engine FOD risk on ships with Composition D nonskid on the ramps. The Nonskid OSR Change Proposal noted that providing an option to use Composition G nonskid on vehicle ramps can reduce nonskid material cost by approximately $1.70 per square foot and avoid production delays associated with obtaining the less common Composition D nonskid systems. The USFF N43 Flight Deck Readiness Working Group agreed that providing an option to use Composition G nonskid on ramps will reduce costs and streamline production without appreciably altering the risk of nonskid chips/flakes causing aircraft engine FOD and as such the Change Proposal was adopted.

o. **Change**: Updated primer requirements for exterior walking surfaces, to which peel & stick nonskid will be applied, to require two coats of primer to maximize coating system service life.

(1) Updated FY-28, Standard Item 009-032, Table 2, Line 26 to include "**ONE COAT MIL-PRF-23236, TYPE VII, CLASS 15B OR 17A, 6-8 MILS**" in Column C as a second primer coat (i.e., Column B requires the first coat of primer).

(a) **Rationale**: The current, FY-27, Change 2, Standard Item 009-032, Table 2, Line 26 only requires one coat of moisture or surface tolerant bilge primer (e.g., MIL-PRF-23236, Type VII, Class 15B coatings that are moisture tolerant or Class 17A coatings that are surface tolerant coatings qualified for bilge service) under exterior decks where peel & stick nonskid is to be applied. The SURFMEPP Change Proposal was to require a second coat of surface or moisture tolerant primer as a means of reducing the risk of moisture penetrating the coating as a means of extending deck coating service life. SEA 05P2 and the SSRAC technical community concurred that two coats of primers will help retard corrosion and extend deck coating service life and adopted the change. As such, the change to add another coat of moisture or surface tolerant coatings was adopted as a means of reducing life-cycle corrosion and supporting the current, ongoing, senior U.S. Navy leadership initiative to reduce topside corrosion to improve the appearance of ships by reducing the risk of rust staining from degraded decks with peel & stick nonskid draining down the superstructure or freeboard.

p. **Change**: Expanded use of fluidized bed powder coatings to additional components to leverage this cost-effective, high performance coating process.

(1) Updated the FY-28, Standard Item 009-032, Table 2, Line 41 to expand the list of parts suitable for fluidized bed powder coating by adding airtight doors, hatches, and scuttles as follows, "POWDER COATED **AIRTIGHT DOORS**, WATERTIGHT DOORS, **HATCHES AND SCUTTLES**: INTERIOR AND EXTERIOR"

(a) **Rationale**: The current, FY-27, Change 2, Standard Item 009-032, Table 2, Line 41 only cites fluidized bed powder coatings as being required for watertight doors, but there are many other hatches, scuttles, and access covers that have similar design details that could be most effectively coated using the fluidized bed powder coating process.
Because of the long-term, successful, corrosion-control performance of fluidized bed powder coating on DDG 51 class gas turbine intake louvers (i.e., some fluidized bed powder coated louvers have provided over 21 years of effective corrosion-control service), and Canadian Navy

experience with watertight door coatings providing over a decade of effective corrosion-control performance, extending this coating technology to airtight doors, hatches, and scuttles will reduce coating application costs (i.e., fluidized bed powder coating is an efficient, rapid, automated coating process), speed production (i.e., fluidized bed powder coatings are applied in a single process and parts can be placed in service as soon as they cool), and reduce overall ship life-cycle corrosion risk.

q. **Change**: Added proprietary nonskid membrane layer to the coating system for exterior walkways on GRP Fiberglass surfaces.

(1) Updated the FY-28, Standard Item 009-032, Table 2, Line 84 Column C to include an option for installing a waterproof membrane layer as one of the requirements for applying conventional nonskid on GRP walking decks by citing, "**PROPRIETARY NONSKID MEMBRANE LISTED ON THE QPL FOR MIL-PRF-24667 SEE NOTE (7).**"

(a) **Rationale:** Historically, nonskid systems for use on flexible substrates included a membrane layer that could be poured onto a deck to retard moisture penetration even when the deck flexed. SRF-JRMC Sasebo Detachment reported that because AST/Holcim ceased the manufacture of their MIL-PRF-24667C qualified, MS-880G nonskid that had been used on fiberglass decks on MCM Class ships for over a decade, and that included a membrane layer that allowed fairing of the nonskid system around deck drains (i.e., the membrane layer increased the thickness of the overall nonskid system), some other means of fairing the decks was required. Unfortunately, when the MS-880G nonskid system was cancelled, there were no alternatives with a membrane and SEA 05P2 suggested demonstration of the MIL-PRF-24667C, Type I, Composition G qualified polysiloxane nonskid as an alternative on the USS PATRIOT (MCM 7) deck. Unfortunately, SRF-JRMC found that because the polysiloxane nonskid did not include an intermediate membrane, the overall nonskid system was 1/8 – 3/8 inches thinner than the old MS-880G system the result was 1/8 inch of water pooling on the deck around the drains (i.e., when built, the MCM decks had a thick polyurethane layer that is no longer acceptable for use in Naval Shipyards because of isocyanate content) and not being able to flow out of the deck drains). SEA 05P2 coordinated with AST/Holcim and they agreed to continue supplying their membrane that can be used to fair in any MIL-PRF-24667 qualified nonskid and by adopting the proposed change, SRF-JRMC will no longer need to submit a DFS or other documentation to install the membrane that is needed to ensure water flow off the deck and into the deck drains on the MCM Class ships. Thus, the adopted change will speed production by avoiding the need for SRF-JRMC to prepare a DFS to install a membrane and will reduce the risk of water pooling on the deck, extending nonskid system service life on MCM decks.

r. **Change:** Clarified painting requirements for LHD Class fuel tanks also need to be extended to the inherently similar LHA Class fuel oil service tanks.

(1) Updated the FY-28, Standard Item 009-032, Table 4, Lines 10-14 to list LHA along with the LHD Class ships that require Fuel Oil Service Tanks (FOST) and other fuel tanks to be coated with MIL-PRF-23236, Type VII, Class 5 coatings.

(a) **Rationale:** The current, FY-27, Change 2, Standard Item 009-032, Table 4, Lines 10-14 includes citations for coating requirements applicable to LHD Class ships. For example,

Table 4, Line 14 includes an exception from the requirement to coat FOST with the "system fluid" that was adopted in the FY-11, Standard Item 009-32 published on 24 Jul 2009 as a means of reducing life-cycle maintenance costs by avoiding the need to paint fuel oil tanks. However, in the FY-23, Change 2, Standard Item 009-32 published on 5 May 2022 included a requirement that the LHD Class ships were added to the exception list to the requirement to apply the "system fluid" because there was some corrosion in LHD fuel tanks due to inadequate water removal and both SEA 05D5 and the program office concurred with requiring LHD Class fuel tanks to be coated.
Given that background, SEA 05D5 and SURFMEPP noted that because the LHA and LHD Class ships have similar tank designs, require coating of LHA and LHD Class tanks will reduce the corrosion risk in these tanks throughout the life cycle. Thus, FY-28, Standard Item 009-032, Table 4, Lines 10 – 14 were updated to include both ***LHA*** and LHD Class ships.

s. **Change**: Aligned primer requirements for submarines with current primer requirements for surface ships.

(1) Removed all primer options except the MIL-PRF-24647 underwater hull system, anticorrosive primer from the underwater hull areas in FY-28, Standard Item 009-032, Table 6, Lines 1, and 9 and Table 8, Line 25.

(2) Removed MIL-PRF-24647 anti-corrosive primer as an option in FY-28, Standard Item 009-032, Table 6, Lines 2, 6, and 8 from areas not coated with underwater hull coatings.

(3) Updated FY-28, Standard Item 009-032, Table 6, Line 7, Columns B and C to cite the technically appropriateMIL-PRF-23236, Type V or VI, "**Class 5 or 7**" coatings.

(a**) Rationale:** The FY-27, Change 2, Standard Item 009-032 includes primer options in Tables 6 and 8 for underwater hull coatings do not align with the simple, clear requirements for surface ships. For example, FY-27, Change 2, Standard Item 009-032, Table 6, Line 1 includes three primer options (e.g., MIL-DTL-24441, MIL-PRF-23236, or MIL-PRF-24647) for the underwater hull coating system applied below the upper boot-top on submarines, while the surface ship requirements appearing in Table One require use of just the MIL-PRF-24647 qualified primers. The change removes these options from the FY-28, Standard Item 009-032, Table 6, Lines 1, and 9 and Table 8, Line 25 to align with the standard practice for surface ships that requires the MIL-PRF-24647 qualified primers to be applied. Such a change ensures consistent requirements in naval shipyards that work on both submarines and surface ships, reducing the risk of worker confusion. The FY-27, Change 2, Standard Item 009-032 includes primer options in Table 6 for coatings that are applied above the boot-top that do not align with the more simple, clear requirements for surface ships. For example, FY-27, Change 2, Standard Item 009-032, Table 6, Line 2 includes three primer options (e.g., MIL-DTL-24441, MIL-PRF-23236, or MIL-PRF-24647) for the coating system applied above the upper boot-top on submarines. Again, this change removes these options from the FY-28, Standard Item 009-032, Table 6, Lines 2, 6, and 8 to align with the standard practice for surface ships. Such a change ensures consistent requirements in naval shipyards that work on both submarines and surface ships, reducing the risk of worker confusion. Finally, the FY-27, Change 2, Standard Item 009-032 includes primer options lines in Tables 6, Line 7 does not include consistent details regarding the Class of coatings used on submarines. The change simply defines the **Class as**

"Class 5 or 7" (i.e., coatings that are broadly qualified for service in fuel or ballast tanks) in the FY-28, Standard Item 009-032, Table 6, Lines 7 to align the current, standard work practice for submarines. Such a change simply codifies an existing work practice and will ensure that these successful work practices continue as waterfront personnel retire or move away from waterfront coating application work.

5. Summary of 2025 Changes to FY-28, Standard Item 009-124, "Thermal Spray Nonskid Application; accomplish" and Associated Technical Rationale for Each Change. The following provides the rationale for the substantive FY-26 Standard Item 009-124 changes. The specific changes discussed below appear highlighted and in bold/italics in the attached, final draft, FY-28 Standard Item 009-124. Minor re-numbering changes, other typographical corrections, and minor changes to clarify existing requirements appear in the attached final draft, FY-28 Standard Item 009-124 in bold/italics and are not addressed below.

a. **Change:** Universal editorial changes. There was only one administrative change incorporated in the FY-28 Standard Item 009-124 to eliminate the citation to ASTM D7127 because the standard was withdrawn in 2021.

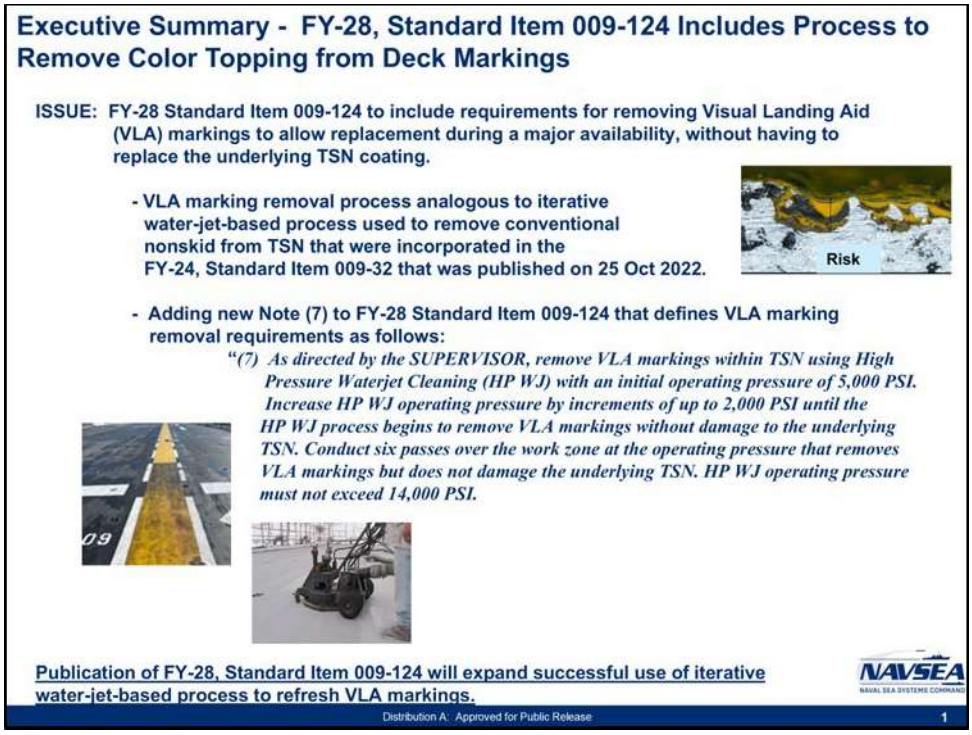
(1) **Rationale:** The ASTM D7127, "Standard Test Method for Measurement of Surface Roughness of Abrasive Blast Cleaned Metal Surfaces Using a Portable Stylus Instrument," was withdrawn in November 2021. Because the waterfront workforce did not notice that the standard was withdrawn it was only noted by the AMPP representative that the method was officially replaced by Test Methods D4417, "Field Measurement of Surface Profile of Blast Cleaned Steel," which now includes the stylus method as Method D. Thus, the current reference 10. in section 2. REFERENCES that cited ASTM D7127 was deleted and the reference 11 to ASTM D522, "Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings" was re-numbered as reference 10. in the FY-28 Standard Item 009-124. Associated changes in paragraph 3.14.7.1 to cite "Method D" and paragraph 3.15 to cite "2.10" appear in the text. These changes streamline production by aligning established QA/QC practices with the most current requirements to ensure that personnel with recent AMPP training that cites Method D will align with deck plate QA/QC practices.

b. **Change**: Added requirements for removing and replacing visual landing aid markings without damaging the underlying TSN.

(1) Added a new Note (7) to include iterative use of high pressure waterjet cleaning to remove Visual Landing Aid (VLA) markings from otherwise intact, adherent TSN as follows: **"(7) As directed by the SUPERVISOR, remove VLA markings within TSN using High Pressure Waterjet Cleaning (HP WJ) with an initial operating pressure of 5,000 PSI. Increase HP WJ operating pressure by increments of up to 2,000 PSI until the HP WJ process begins to remove VLA markings without damage to the underlying TSN. Conduct six passes over the work zone at the operating pressure that removes VLA markings but does not damage the underlying TSN. HP WJ operating pressure must not exceed 14,000 PSI."**

(a) **Rationale:** Since 2018 and through to the current, FY-28, Change 2, Standard Item 009-124, the only process in Standard Item 009-124 for applying VLA markings was the

initial installation when TSN was installed. Over the years, the waterfront TSN repair team has noted that because TSN has been shown to provide over a decade of service with very limited, small-scale repairs, there is a risk of multiple coats of paint on the VLA markings filling in the profile and locally reducing the coefficient of friction. The following summarizes these issues:



1. In addition, one ship had applied a conventional, epoxy nonskid VLA color topping to a TSN area. Because this color topping was appreciably thicker and more viscous than the TT-P-28J qualified TSN color toppings, the conventional color topping completely filled in the TSN macro-roughness and appreciably reduced the local coefficient of friction on the VLA markings. To address these issues, and streamline production, NRL, Code 6130 worked with the NAVSEA-approved technical representatives to develop an iterative process, based on the successful process added to the FY-24, Standard Item 009-32 that was published on 25 Oct 2022 to remove conventional nonskid from the TSN interface area (i.e., the area where conventional nonskid is applied over the edge of the TSN spray pattern). The iterative, VLA marking removal process was demonstrated on TSN on two flight decks and appears in the FY-28 Standard Item 009-124, Note (7) as follows: "(7) As directed by the SUPERVISOR, remove VLA markings within TSN using High Pressure Waterjet Cleaning (HP WJ) with an initial operating pressure of 5,000 PSI. Increase HP WJ operating pressure by increments of up to 2,000 PSI until the HP WJ process begins to remove VLA markings without damage to the underlying TSN. Conduct six passes over the work zone at the operating pressure that removes VLA markings but does not damage the underlying TSN. HP WJ operating pressure must not exceed 14,000 PSI." This process uses lower pressures than the 2022 process for removing nonskid from the TSN interface area, but is based on the same, iterative process that inherently limits the waterjet pressures that will be used over the VLA markings on the TSN (i.e., to minimize the risk of the waterjet causing the TSN to delaminate). As was the case with the 2022 process for removing nonskid from the TSN interface area, the VLA marking removal process defines "six passes" as the

minimum requirements for the contractor and ensures that the "SUPERVISOR" will validate that the VLA markings have been adequately removed. If more passes or a modified process are required, the SUPERVISOR can rapidly authorize the additional work. Importantly, the Note (7) process does not address the dark gray color of the overall TSN deck area. Historically, ship's force have not commented on or requested any process to recoat the dark gray areas of the TSN deck because the oxidation of the aluminum and the exposure of the deck to aircraft engine soot, inherently produces a dull, dark gray deck. Provided the ship comes out of a maintenance availability with bright, high-contrast white and yellow VLA markings, the dark gray color topping can be retained for over ten years of service. Thus, the Note (7) process streamlines production by only focusing on the relatively small areas of the VLA markings (i.e., avoiding the costs to recoat the entire dark gray deck area); reduces the risk of personnel slipping on the VLA areas; and addresses the aviation requirements for high contrast VLA markings.

c. Change: Added requirements to coat tie-downs and peripheral deck edge areas with conventional coatings within the TSN work zone.

(1) Added new requirements in the FY-28 Standard Item 009-124, Table One, Line 4 to coat tie-downs and peripheral deck edge areas that do not receive TSN with conventional color toppings in accordance with Standard Item 009-032.

(a) **Rationale:** Since 2018 and through to the current, FY-28, Change 2, Standard Item 009-124, the issue of color topping of tie downs was not included in the document. Because NRL has not yet developed a process for applying thermal spray aluminum to tie-downs and areas less than 18 inches from a coaming or deck edge structure, there has always been a need to coat these areas with conventional coatings. Historically, these tasks were included in work packages as cumbersome subcontracting tasks, and this has led to debate on the waterfront with the TSN installation contractors about responsibility for coating these areas. In addition, and since the first operations of Joint Strike Fighters, the extreme exhaust heat from these aircraft has burned the conventional coatings off of the tie-downs, even though the surrounding, heat-resistant TSN was intact and adherent. Thus, there was no need to repair TSN in these areas, even though there was a need to replace the conventional coatings on the tie-downs and peripheral deck edges. To avoid the confusion regarding work items for replacing conventional coatings on tie-downs and peripheral deck edge areas, the FY-28, Standard Item 009-124, includes a new Table One, Line 4 that can be invoked to require coating repair/replacement in these areas. As shown below, these requirements invoke Standard Item 009-032:

TABLE ONE: SURFACE PREPARATION AND COATING SYSTEM

TABLE ONE STEEL SURFACES	LINE	A PRIMARY SURFACE PREPARATION	B SECONDARY SURFACE PREPARATION	C TSN FIRST LAYER	D TSN SECOND LAYER	E SURFACE CLEANING	F TSN COLOR TOP SYSTEM SEALER	G COLOR TOP SYSTEM TOP COAT	H VLA MARKING
FLIGHT DECKS - NEW INSTALL IN WORK ZONE SEE NOTE (1)	1	WATERJET TO NACE/SSPC-SP WJ-2/L	WHITE METAL BLAST TO NACE 1/SSPC-SP 5, 4-10 MIL PROFILE	MIL-PRF-32577 IN ACCORDANCE WITH 2.1, FIRST LAYER 25 MIL FT MINIMUM	MIL-PRF-32577 IN ACCORDANCE WITH 2.1, TOTAL SYSTEM 45 MIL FT MINIMUM	BRUSH/BROOM OR WATER CLEANING IN ACCORDANCE WITH 3.16	APPLY SEALER AND BACK ROLL IN ACCORDANCE WITH ASTM F718	FIRST COAT TT-P-28, TYPE I, CLASS 4, DARK GRAY, 2-3 MILS WFT IF REQUIRED FOR HIDING, ONE ADDITIONAL COAT MUST BE APPLIED	FIRST COAT TT-P-28, TYPE I, CLASS 4, 2-3 MILS WFT
FLIGHT DECKS - REPAIR OF INSTALLED TSN AREAS LESS THAN 800 SQUARE FEET SEE NOTES (1) & (2)	2	WATERJET TO NACE/SSPC-SP WJ-2/L	WHITE METAL BLAST TO NACE 1/SSPC-SP 5, 4-10 MIL PROFILE	MIL-PRF-32577 IN ACCORDANCE WITH 2.1, FIRST LAYER 25 MIL FT MINIMUM	MIL-PRF-32577 IN ACCORDANCE WITH 2.1, TOTAL SYSTEM 45 MIL FT MINIMUM	BRUSH/BROOM OR WATER CLEANING IN ACCORDANCE WITH 3.16	APPLY SEALER AND BACK ROLL IN ACCORDANCE WITH ASTM F718 SEE NOTE (3)	FIRST COAT DECK GRAY 2-3 MILS WFT TT-P-28, TYPE I, CLASS 4, DARK GRAY 2-3 MILS WFT IF REQUIRED FOR HIDING, ONE ADDITIONAL COAT MUST BE APPLIED	FIRST COAT TT-P-28, TYPE I, CLASS 4, 2-3 MILS WFT
VLA MARKING REMOVAL AND REPLACEMENT	***3***	***HP WJ SEE NOTE (7)***							***SAME AS TABLE ONE, LINE ONE***
FLIGHT DECK – TIE DOWNS, PERIFERAL DECK AREAS, AND AREAS NOT RECEIVING TSN	***4***	***COMMERCIAL GRADE POWER-TOOL CLEANING, SSPC-SP 15***						***ONE COAT PROPRIETARY NONSKID PRIMER LISTED ON QPL FOR MIL-PRF-24667 -AND- ONE COAT MIL-PRF-24667 COLOR TOP -OR- MIL-PRF-24635 TYPE V OR VI***	***ONE COAT MIL-PRF-24667 COLOR TOP -OR- MIL-PRF-24635 TYPE V OR VI***

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1. To further reduce the risk of waterfront work planning confusion, the new FY-28, Standard Item 009-124, Table One, Line 4 requirements for coating tie-downs and peripheral deck edge areas also appear in FY-28 Standard Item 009-032. Thus, work planners working with Standard Item 009-124 can get tie-downs recoated in accordance with the new FY-28, Standard Item 009-124,Table One, Line 4, while work planners working with Standard Item 009-032 to recoat tie-downs in TSN areas can also invoke a new Table/Line citation. Thus, the new requirements in the FY-28, Standard Item 009-124 streamline production by ensuring that waterfront work planners can task TSN repair contractors to also repair conventional coatings in tie-downs and peripheral deck edge areas