NOTES

This file contains the Word document notes associated with the **significant** changes to the JFMM. It has been designed to work with the associated PowerPoint file (JFMM\_Training.pptx) included in this JFMM edition. The sections of this file correspond to the PowerPoint file.

# 2. Front Page

# 

COMUSFLTFORCOMINST 4790.3

RevisionD

Change 4

# 3. VOLUME I



# 4. New Construction

# Volume I, Chapter 6, Paragraph 6.1.a

# Post Shakedown Availability Definition

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| a. Post Shakedown Availability (PSA) is an industrial activity availability assigned to correct deficiencies found during the shakedown cruise or to accomplish other authorized improvements. PSAs are scheduled to commence after delivery and to be completed prior to the Shipbuilding and Conversion, Navy (SCN) obligation work limiting date. This date occurs at the end of the 11th month after the month in which the Fitting-Out Period completed for surface units or at the end of the 11th month after the month in which delivery occurs for submarines. Appendix A of this chapter, taken from reference (a), reflects the Major Milestones during construction related to funding. Funding guidelines for PSA are outlined in reference (b). | a. Post Shakedown Availability (PSA) is an industrial activity availability assigned to correct deficiencies found during the shakedown cruise or to accomplish other authorized improvements. PSAs are scheduled to commence after delivery and to be completed prior to the Shipbuilding and Conversion, Navy (SCN) obligation work limiting date. This date occurs at the end of the 11th month after the month in which the Fitting-Out Period completed for surface units or at the end of the 11th month after the month in which delivery occurs for submarines. Appendix A of this chapter, taken from reference (a), reflects the Major Milestones during construction related to funding. Funding guidelines for PSA are outlined in reference (b) or as required by the shipbuilders availability start date. Continuous Maintenance Availability rules per Volume II, Part I, Chapter 4 of this manual shall be followed by the Immediate Superior in Command (ISIC), where one regular Continuous Maintenance Availability is conducted every 3 to 4 months while awaiting PSA start date. |

5. VOLUME II

# 6. CNO Schedules Availabilities

## Volume II, Part I, Chapter 3, Paragraph 3.2.c;

### Carrier Incremental Availabilities (Aircraft Carriers Only)

New sub-paragraph.

|  |
| --- |
| **New Words** |
| c. Carrier Incremental Availabilities are CNO availabilities for scheduling and budgeting purposes only. To meet the intent of the Aircraft Carrier Class Maintenance Plan (CNO Avail Risk buy-down, key modernization and condition based maintenance reduction) the following requirements will be met:  (1) Work package development, modernization and contracting milestones will be defined in the Lead Maintenance Activity (LMA) Executive Agreement Letter required by reference (bi).  (2) No ready-for-sea requirements will be imposed on the ship.  (3) Typical CNO availability teaming, reporting, and key events will not be accomplished unless agreed upon by stakeholders and included in the Executive Agreement Letter. Example items include but not limited to:  (a) Integrated Project Team Development Conferences  (b) Readiness to Start Availability Risk Letter  (c) Readiness to Start Brief  (d) Quality Management Plan (Execution Strategies)  (e) Weekly Management Meetings  (f) Weekly Situation Report (SITREP) Messages  (g) Periodic Progress Reviews  (4) Planning Milestones will be in accordance with reference (bi).  (5) Hot Wash or Lessons Learned, when appropriate, will be conducted in accordance with Volume II, Part I, Chapter 4, paragraph 4.6.4 of this manual. |

## Volume II, Part I, Chapter 3, Paragraph 3.2.d;

### Surface Incremental Availabilities

New sub-paragraph.

|  |
| --- |
| **New Words** |
| d. Surface Incremental Availability is a CNO scheduled availability non-docking maintenance period for Forward Deployed Naval Forces (FDNF) surface ships. SIAs are to be schedule like a CNO availability and executed like a CMAV; see volume II, part I, chapter 4 and volume III, chapter 4 of this manual for guidance on executing CMAVs. |

## Volume II, Part I, Chapter 3, Paragraph 3.6.3.2;

### Quality of Service Council

New sub-paragraph.

|  |
| --- |
| **New Words** |
| 3.6.3.2 Quality of Service Council. Ships in depot maintenance availabilities will establish a Quality of Service (QOS) Council consisting, at a minimum, of representatives from the TYCOM, NSA, ISIC, and ship. The council shall meet no later than A-90 prior to availability start, quarterly following the initial meeting, in the event of a substantial delay or extension to the availability, and as directed by the command triad to address QOS concerns. The council shall consider all aspects of crew QOS during the depot maintenance availability in accordance with references (bl) and (bm). Ship report QOS issues that cannot be corrected immediately by the QOS council to the TYCOM via email and capture the issue in the Weekly CNO Availability SITREP. The QOS Council should also discuss the implications of out of homeport availabilities, Coast Wide Bid availabilities, and impending homeport shift issues, as applicable. |

## Volume II, Part I, Chapter 3, Paragraph 3.3.8.2.o;

### Fire Safety (Surface Force Ships Only)

Type Commander to provide fire safety oversight.

|  |
| --- |
| **New Words** |
| o. (Surface ships only) TYCOM Force Damage Control will provide fire safety oversight for all surface ships while in a maintenance availability per reference (bj). |

## Volume II, Part I, Chapter 3, Paragraph 3.3.8.3.c(4);

Type Commander or Immediate Superior In Command (Group or Squadron).

|  |
| --- |
| **New Words** |
| (4) Provide fire safety oversight for all surface ships while in a maintenance availability per reference (bj). |

## Volume II, Part I, Chapter 3, Paragraph 3.8.1;

**Schedule Change Request (Surface Force Ships Only).**

New sub-paragraph.

|  |
| --- |
| **New Words** |
| 3.8.1 Schedule Change Request (Surface Forces Only).  a. Activities executing CNO-scheduled depot availabilities that will extend beyond the currently approved completion date (as documented in NDE) must formally propose a new completion date in sufficient time to obtain approval of the request prior to the expiration of the currently approved completion date per reference (f). Activities will use the template located in Appendix (S). The message will include at a minimum, reasons for delay, expected timeline to bound and scope the issue, any immediate assistance required, initial mitigation actions taken, and projected timeline.  b. Projected timeline includes current CNO availability start and completion date (as documented in NDE), number of Days of Maintenance Delay requested, requested new availability start and completion date.  c. Reasons for delay will include the most applicable causal factor from the list below. Include the specific system(s), alteration(s) or action(s) added to the schedule causing the delay as well as any other pertinent details (i.e. event, RCC or CFR) that defines the issue.   |  |  | | --- | --- | | PM | Program Management | | SF | Ship’s Force | | NW | New Work/Growth Work | | RW | Rework | | E | Efficiency/Resources | | S | Supply/Material | | CM | Contract Methodology | | O | Other | |  |  | |

## Volume II, Part I, Chapter 3, Paragraph 3.8.2;

New sub-paragraph.

|  |
| --- |
| **New Words** |
| 3.8.2 Schedule Change Approval (Surface Forces).  a. Approval of changes to the CNO depot maintenance schedule and requests for changes will normally be accomplished by naval message per reference (f).  b. The executing activity will make the requisite changes to the schedule in all other databases within 3 days of the release of the CNO schedule approval message. |

### 7. Fleet Availabilities

## Volume II, Part I, Chapter 4, Paragraph 4.3.2.d(1);

# Scheduled CMAVs

Definition for LCS Class ship’s.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| (1) A CMAV is notionally a two-week availability, every four months. CMAVs are Continental United States (CONUS) availabilities and identified as a Restricted Availability (RAV). To minimize maintenance requirements competing with deployed operations, CONUS availabilities will be planned to ensure all possible maintenance actions that can be completed in CONUS are scheduled accordingly. | (1) A CMAV is notionally a two-week availability, every four months. CMAVs are Continental United States (CONUS) and Guam availabilities . For deployed or Forward Deployed Naval Forces homeported LCS ships, see volume III, chapter 4 of this manual. To minimize maintenance requirements competing with deployed operations, CONUS availabilities will be planned to ensure all possible maintenance actions that can be completed in CONUS are scheduled accordingly. |

### 8. Ship Maintenance Validation Screening and Brokering & Surface Ship And Aircraft Work Package Preparation

## Volume II, Part II, Chapter 1, Paragraph 1.5.5;

**“A” Branded Mandatory Technical Requirements (Surface Force Ships Only)**

Added a new sub-paragraphs defining and managing requirements.

|  |
| --- |
| **New Words** |
| i. SURFMEPP defines A branded Mandatory Technical Requirements screened to a valid availability as “not in a screening required, unfunded, hold, rejected, or returned status, screened to a closed or CM avail, and screened within 90 days of the next due date.” Some WN status issues labelled as screening can be a result of brokering actions as described in paragraph 1.5.2.b of this chapter. In addition to SURFMEPP validity factors, a Work Notification (WN) may not be placed in an “Assigned” status with the intent of having the work completed by the LMA via a front load on an existing specification that does not have the WN listed to support the work specification. Without the WN being authorized in Navy Maintenance Database and put on contract, the LMA will not report correct completion data for WN close out per Part II, Chapter 3 of this Volume.  j. j. Non-CMP push task A branded Mandatory Technical Requirements shall be managed in VSB system by the Ashore Ships Maintenance Manager for screening and brokering in the same manner as CMP push tasks, as described in other sections of paragraph 1.5.5 of this chapter in order to report close out data from Navy Maintenance Database to VSB. |

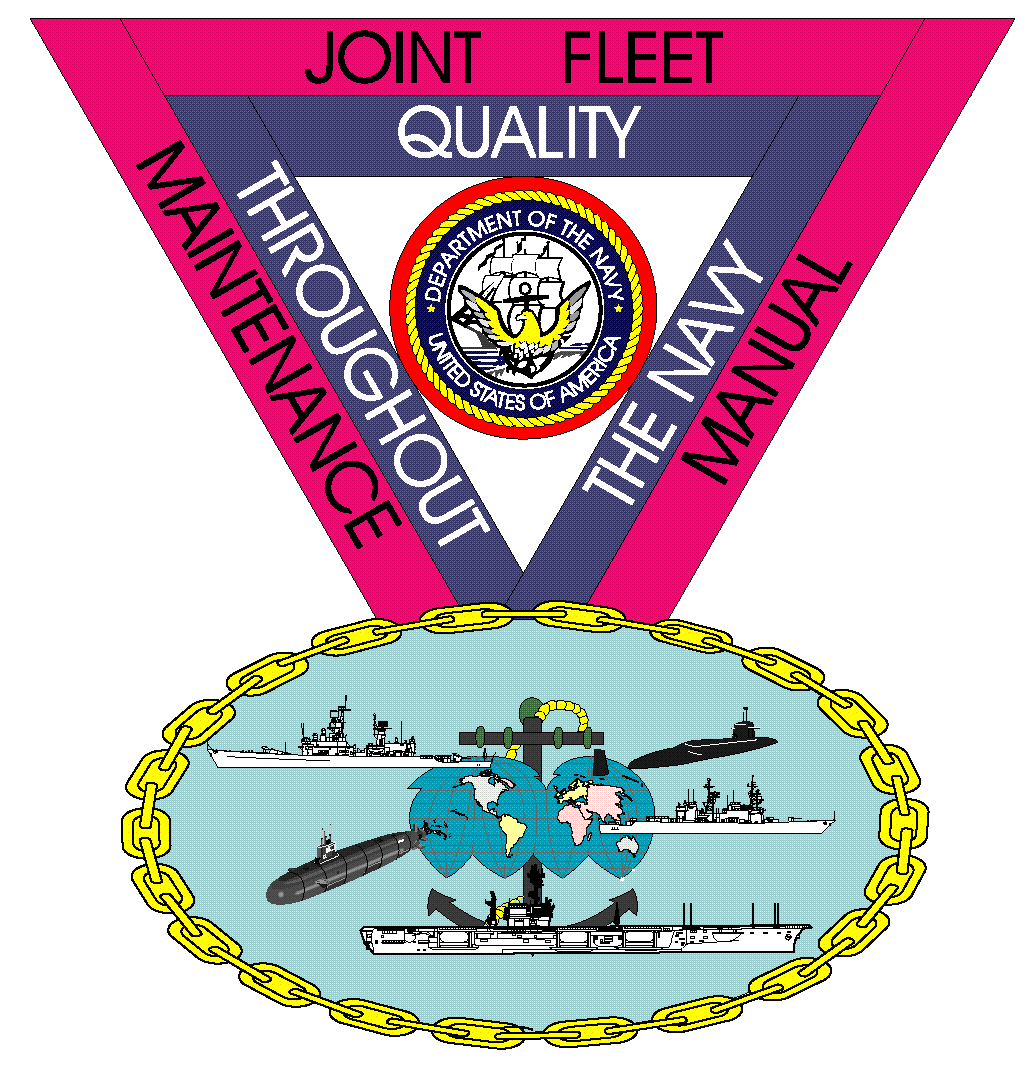
## Volume II, Part II, Chapter 2, Appendices D2 and D3;

**Firm Fixed Price A-120 Award CONUS and Hawaii SURFOR Availability Milestones**

Review chapter and appendices D.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
|  | Review the entire rewritten Appendix D2 and new Appendix D3. |

# 9. VOLUME III



# 

**VOLUME III**

# Deployed Maintenance

# 10. Deployed Maintenance

**Volume III, Chapter 1;**

**Volume III, Chapter 2;**

**Volume III, Chapter 3;**

**Volume III, Chapter 4;**

**\*\*Major rewrites of the Chapters. Review in their entirety.\*\***

Review the chapters in their entirety.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
|  | Review the entire rewritten chapters. |

# 11. VOLUME IV

## 12. Work Authorization

**VOLUME IV**

# Tests and Inspections

**Volume IV, Chapter 10, Paragraph 10.4.2.i;**

**Work Authorization Procedure**

Modified the work procedure for items concerning fire prevention, detection and response.

|  |
| --- |
| **New Words** |
| i. For fire prevention, detection, and response items, as defined in paragraph 10.4.8.1 of this chapter, the Watch or Duty Officer must, when assigned, obtain the NSA’s Fire Safety Officer permission and signature. |

**Volume IV, Chapter 10, Paragraph 10.4.2.j;**

Added a new sub-paragraph defining the process for work not assigned to Ships Force, not falling under a Naval Supervisory Authority or a contractor.

|  |
| --- |
| **New Words** |
| j. Some personnel may perform work on ships that are not assigned to Ship’s Force, do not fall under the Naval Supervisory Authority, and are not contractors. Examples include (but are not limited to) inspections performed within the Hazardous Energy Control boundaries by personnel assigned to an Immediate Superior in Command (ISIC), Type Commander, Performance Monitoring Team (submarines only), and Naval Reactors Representative’s Office. For these situations, Ship’s Force personnel are responsible for generating all work controls and tagouts associated with the work to be performed. In these cases, Block 7 of the WAF must include the organization(s) performing the work /inspection. Signing as “Repair Activity” is not required on the WAF, line item record sheet, or tag-out line item. Ship’s Force will establish appropriate isolations and open the WAF then inform the external personnel when all administrative requirements have been completed and the work area is ready. Prior to entering the Hazardous Energy Control, external personnel will review and verify the work controls are open. External personnel may request to review the isolations and may request to witness a voltage check (as applicable) prior to entering the boundary of the isolated area. Upon completion of the work, the external personnel will inform Ship’s Force and Ship’s Force will process the WAF for closeout. |

**Volume IV, Chapter 10, Paragraph 10.4.3.o;**

Modified the sub-paragraph concerning the work, testing or equipment operations within the boundaries of systems transferred to a shipyard.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| o. Ship’s Force performing work, testing or equipment operations within boundaries transferred to a shipyard must prepare a separate WAF processed as described in paragraph 10.4.2 of this chapter, add a new line item to the existing Tagout Record Sheet and obtain shipyard concurrence in Block 12 of the WAF. RAR signature is not required on the Tagout Record Sheet. | o. ~~Ship’s Force performing work, testing or equipment operations within boundaries transferred to a shipyard must prepare a separate WAF processed as described in paragraph 10.4.2 of this chapter, add a  new line item to the existing Tagout  Record Sheet and obtain shipyard concurrence in Block 12 of the WAF. RAR signature is not required on the Tagout Record Sheet.~~ In cases where Ship's Force will perform work, testing or equipment operations within boundaries transferred to a shipyard, the following two options for authorizing this work are allowed:  (1) Ship's Force shall prepare a separate WAF processed as described in paragraph 10.4.2 of this chapter, add a new line item to the existing Tagout Record Sheet and obtain shipyard concurrence in Block 12 of the WAF. RAR signature is not required on the Tagout Record Sheet.  (2) In lieu of generating a separate WAF, Ship's force may add these items to the Shipyard TWD Record Sheet provided that the process is documented in a specific MOA concurred on by the respective Type Commander. |

## 13. SOSMIL

**Volume IV, Chapter 10, Paragraph 10.4.8.b**

Updated SOSMIL relaxation requirements MIL-STD-1625 and in drydock.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| b. Safety of Ship Maintenance Items. The ship’s Commanding Officer’s permission is required prior to authorizing the maintenance evolution. The following, as a minimum, must be scheduled on the SOSMIL:  (1) All maintenance involving single closure isolation from sea.  (2) All maintenance which removes a means of blowing main ballast tanks.  (10) Diver operations.  (15) Evolutions with an expected draft change of >3 inches (e.g., ballasting, lead load, etc.).  (18) All maintenance that violates the integrity of the pressure hull, watertight bulkhead or watertight doors, excluding the routine operations of access hatches. | NOTE: ENSURE PROTECTION REQUIREMENTS OF REFERENCE (E) ARE MET BEFORE RELAXING THE SAFETY OF SHIP REQUIREMENTS FOR ITEMS LISTED AS “(NOT SAFETY OF SHIP IN DRYDOCK)”.  b. Safety of Ship Maintenance Items. The ship’s Commanding Officer’s permission is required prior to authorizing the maintenance evolution. The following, as a minimum, must be scheduled on the SOSMIL:  (1) All maintenance involving single closure isolation from sea. (Not Safety of Ship in drydock.)  (2) All maintenance which removes a means of blowing main ballast tanks. (Not Safety of Ship in drydock.)  (10) Diver operations. (Not Safety of Ship in drydock when dock is drained.)  (15) Evolutions with an expected draft change of >3 inches (e.g., ballasting, lead load, etc.). (Not Safety of Ship in drydock when dock is drained.)  (18) All maintenance that violates the integrity of the pressure hull, watertight bulkhead or watertight doors, excluding the routine operations of access hatches. (Not Safety of Ship in drydock when dock is drained.) |

**Volume IV, Chapter 10, Paragraph 10.4.8.c**

Updated SOSMIL relaxation requirements MIL-STD-1625 and in drydock.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| (5) Items must remain listed on the SOSMIL until work has been verified complete and associated WAF has been completed or Block 11 of the WAF revised as no longer affects Safety of Ship. | (5) Items must remain listed on the SOSMIL until work has been verified complete and  associated WAF has been completed or Block 11 of the WAF revised as no longer affects Safety of Ship. SOSMIL items that are waterborne specific can be evaluated for a Ship in a Drydock condition. The requirements to maintain these items on the SOSMIL can be relaxed when all approving parties of the SOSMIL agree. Associated WAF block 11’s should have an evaluation of NO before the item has been removed from the SOSMIL. Prior to relaxing the waterborne requirements on the SOSMIL, ensure the drydock is maintained in accordance with reference (e). |

**Volume IV, Chapter 10, Paragraph 10.4.9**

Fire Prevention, Detection, and Response Items are Safety of Ship maintenance items.

|  |
| --- |
| **New Words** |
| 10.4.9 Fire Prevention, Detection, and Response Items. Fire prevention, detection, and response are Safety of Ship maintenance items. When reference (j) is invoked, the Fire Safety Officer’s permission is required, per Appendix A1 or Appendix C, prior to authorizing the maintenance evolution. The following, as a minimum, must be concurred with by the Fire Safety Officer:  a. All maintenance which removes the capability to dewater the ship.  b. All maintenance which disables the ship’s installed firefighting capability.  c. All maintenance which disables Emergency Air Breathing system.  d. All maintenance which disables general alarm and announcing systems.  e. All maintenance which disables heat and smoke sensors and other detectors.  f. All maintenance which disables internal radio communication systems.  g. Securing the Emergency Diesel Generator.  h. All maintenance which violates the integrity of the fire zone boundaries.  i. All maintenance which secures normal or emergency lighting circuits in a compartment or space. |

**Volume IV, Chapter 10, Paragraph 10.4.10.c**

Updated SOSMIL relaxation requirements MIL-STD-1625 and in drydock.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| (4) Ship’s dewatering capability meets the requirements of reference (f). | (4) Ship’s dewatering capability meets the requirements of reference (f). Prior to undocking or a simulated waterborne condition, items that would be required to be on the SOSMIL when waterborne that had been removed while in Drydock must be reevaluated and a new entry on the SOSMIL made. Associated WAF block 11’s should have a subsequent evaluation of YES when the item has been added on the SOSMIL. |

### 14. Circuit Breakers

**Volume IV, Chapter 15;**

**\*\*Complete Chapter Rewrite. Review in its entirety.\*\***

Updated the chapter to reflect current requirements.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
|  | Review the entire chapter for complete changes. |

### 15. Aircraft Launch and Recovery Systems

**Volume IV, Chapter 16;**

**\*\*Complete Chapter Rewrite. Review in its entirety.\*\***

Updated the chapter to reflect current requirements.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
|  | Review the entire chapter for complete changes. |

### 16. Submarine Antenna Testing

**Volume IV, Chapter 22, paragraph 22.3.1;**

**Hydrostatic Pressure Testing**

Modified the paragraph to update testing requirements.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| 22.3.1 Hydrostatic Pressure Testing.  a. Hydrostatic pressure testing of submarine antennas with cables attached prior to initial installation (or after any maintenance actions that requires the disassembly of the antenna) is mandatory except for buoys and floating wires. This pre-installation test is intended solely to verify the correctness of the final assembly and does not equal or replace the more elaborate acceptance testing required for various individual manufactured components. Submarine communications antennas that are required to be hydrostatic pressure tested are:  **NOTE: ALL OE-538/592 MAST ARE HYDROSTATICALLY TESTED AT EITHER THE OE-538/592 DEPOT OR WATERFRONT I-LEVEL FACILITY.**  (1) Multifunction Masts, OE-538 (SSNs) and OE-592 (SSBNs and SSGNs).  **NOTE: ALL SUBHDR MASTS ARE HYDROSTATICALLY TESTED AT THE SUBHDR NATIONAL MAINTENANCE CENTER (NMC) PRIOR TO BEING ISSUED TO THE FLEET FOR INSTALLATION.**  (2) Submarine High Data Rate Mast, OE-562 (SubHDR).  b. Buoys that are excluded are:  (1) Submarine Launched One-Way Tactical (SLOT) Buoys (AN/BRT-1 and AN/BRT-1A).  (2) Submarine Emergency Position Indicating Radio Beacon (SEPIRB) Buoy (T-1630/SRT or T-1630A/SRT).  c. All versions of Floating wires are excluded (i.e. Buoyant Cable Antennas). | 22.3.1 Hydrostatic Pressure Testing.  a. Hydrostatic pressure testing of submarine antennas and cable assemblies prior to initial installation on the submarine is mandatory except for buoys, floating wires, and the Submarine High Data Rate (SubHDR) antenna system. When any mechanical joint on the Mast Antenna Assembly is disturbed, a hydrostatic test is mandatory. This pre-installation test is intended solely to verify the correctness of the final assembly and does not equal or replace the more elaborate acceptance testing required for various individual manufactured components. Submarine communications antennas that are required to be hydrostatic pressure tested are:  **NOTE: ALL VERSIONS OF OE-538/592 ANTENNAS ARE HYDROSTATICALLY TESTED AT EITHER THE OE-538/592 DEPOT OR WATERFRONT I-LEVEL FACILITY.**  (1) Multifunction Antennas (all versions), OE-538 (SSNs) and OE-592 (SSBNs and SSGNs).  **NOTE: ALL SUBHDR MASTS ARE HYDROSTATICALLY TESTED  AT THE SUBHDR NATIONAL MAINTENANCE CENTER  (NMC) PRIOR TO BEING  ISSUED TO THE FLEET FOR INSTALLATION.**  (2) Submarine High Data Rate Antenna, OE-562 (SubHDR).  b. Buoys that are excluded are:  (1) Submarine Launched One- Way Tactical (SLOT) Buoys (AN/BRT-1 and AN/BRT- 1A).  (2) Submarine Emergency Position Indicating Radio Beacon (SEPIRB) Buoy (T-1630/SRT or T-1630A/SRT).  c. All versions of Floating wires are excluded (i.e. Buoyant Cable Antennas). |

### 17. Gas Turbine Inspection for Surface Force Ships

**Volume IV, Chapter 23, paragraph 23.8.1;**

**Repair Before Operating (RBO)**

Modified the paragraph to remove DFS option for select RBOs.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| 23.8.1 Repair Before Operating. A Repair Before Operating (RBO) is any condition existing that, if left unattended, would definitely pose a hazard to personnel safety. Only a MGTI that is currently certified may issue a RBO. RBO deficiencies require re-inspection by a MGTI that is currently certified after repairs and before the gas turbine engine is operated. A DFS will not be approved for RBOs. The following items are examples of RBO items and **are not to be construed as a complete list**.  a. Conditions existing that if left uncorrected would definitely result in an uncontained failure of the engine.  b. Continuous Fuel Oil leak with puddling that poses risk of ignition.  c. Loss of structural integrity in intake or exhaust ducts which may result in personnel injury.  d. Exhaust duct crack(s) that may allow exhaust gas leakage into ship compartments.  e. Non-functional over-speed trips.  f. Lube oil leaks that exceed maximum limits in GGTB 17.  g. Any disk cracks. | 23.8.1 Repair Before Operating. A Repair Before Operating (RBO) is any condition existing that, if left unattended, would definitely pose a hazard to personnel safety. RBOs may not be departed via DFS, with exception as noted. If there is not an immediate or near future danger to personnel, the discrepancy must be assigned as severely degraded with major operational restrictions in accordance with paragraph 23.8.2 of this chapter and instruction. Only a MGTI that is currently certified may issue a RBO. RBO deficiencies require re-inspection by a MGTI that is currently certified after repairs and before the gas turbine engine is operated. The following items are examples of RBO items and **are not to be construed as a complete list**.  a. Conditions existing that if left uncorrected would definitely result in an uncontained failure of the engine.  b. Continuous Fuel Oil leak with puddling that poses risk of ignition.  c. Loss of structural integrity in intake or exhaust ducts which may result in personnel injury.  d. Exhaust duct ~~crack~~failure(s) that may allow exhaust gas leakage into ship compartments. References (c), (g), and (h) provide guidance for defining leaks (major DFS eligible).  e. Non-functional over-speed trips.  f. Lube oil leaks that exceed maximum limits in GGTB 17.  g. Any disk cracks. |

# 18. VOLUME V

# 

## 19. Quality Maintenance Processes

## Volume V, Part I, Chapter 2, Paragraph 2.2.4.b(7);

## Volume V, Part I, Chapter 2, Paragraph 2.2.4.c;

**Controlled Work Package**

Clarified requirements for Ship’s Force retests of FMA or Ship’s Force nuclear work.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| (7) Ship’s Force retests of FMA or Ship’s Force performed nuclear work that requires hydrostatic testing or an external pressure source to perform the test or retest, including Pre-Overhaul Tests except a CWP is NOT required for routine gage or instrument calibrations.  c. Work within SUBSAFE or hull  integrity boundary. | )  (7) Ship’s Force retests of FMA or Ship’s Force nuclear work  (a) Ship's Force retest of FMA nuclear work that requires hydrostatic testing or an external pressure source to perform the retest.  (b) Ship's Force nuclear work above normal operating pressure that requires hydrostatic testing or an external pressure source. Ships force performed nuclear work that requires an external pressure source at or below normal operating pressure to perform the test or retest do not require CWP.  (c) Pre-Overhaul testing requiring the use of external pressure source or hydrostatic testing.  (d) Routine gage or instrument calibrations do not require CWPs.  **NOTE: WORK ON RED/BLACK (SUBSAFE/NON-SUBSAFE) INTERFACE JOINTS WILL BE MANAGED AS SUBSAFE WORK USING CWP AND REC CONTROLS**  c. Work within SUBSAFE or hull integrity boundary. |

## Volume V, Part I, Chapter 2, Paragraph 2.3.7.8;

**Controlled Work Package Closeout**

Modified the paragraph to clarify how CWPs will be closed out.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| 2.3.7.8 Controlled Work Package Closeout. Upon completion of the maintenance task, each of the cognizant work centers and the QAO will perform a comprehensive review of CWP documentation for correctness and completeness. Once a satisfactory review is completed, CWPs will be closed out subject to the following guidance:   1. CWPs required to support reactor plant or propulsion plant startup, equipment startup or ship’s underway will normally be closed prior to the event. 2. CWPs for spare equipment, equipment requiring reactor plant or propulsion plant operations to test, equipment requiring retest at sea or for equipment not required for reactor plant, propulsion plant or at-sea operations may be left open with the Department Head and Commanding Officer’s concurrence.\ 3. All nuclear CWPs must be reviewed for compliance with requirements and closed out prior to reactor plant or propulsion plant startup or ship’s underway unless the Department Head and Commanding Officer’s concurrence has been obtained to keep the CWP open to perform a critical heat up or critical operations to accomplish system or component retest. Prior to reactor plant or propulsion plant startup or ship’s underway, any activities performing controlled maintenance on the ship will provide the status of the maintenance to the ship (and the ISIC for submarines). When critical operations or at sea testing is required to complete the task the following procedures will be used:     (1) The testing must be required by an approved NAVSEA procedure (e.g., Maintenance and Replacement Instruction).  (2) All open CWPs will be logged and tracked in the CWP REC Log.  (a) All deferred (follow-on) actions will be annotated in the CWP REC Log of the tended ship.  (b) The CWP must include documented transfer of responsibility for accomplishment of deferred actions from the FMA to the tended ship and must be signed by the Commanding Officer, Reactor Officer or Engineer Officer of the tended ship.  (c) The closeout review of the CWP will verify that the required documentation is contained in the CWP for all deferred actions.  (3) A copy of the test results will be provided to the FMA (as applicable) for final review and CWP closeout as soon as practical.  d. In the event a CWP is prepared, the job is planned to be accomplished, but for some reason the job is cancelled or deferred the following actions should be taken: | 2.3.7.8 Controlled Work Package Closeout. Upon completion of the maintenance task, each of the cognizant work centers and the QAO will perform a comprehensive review of CWP documentation for correctness and completeness. Once a satisfactory review is completed, CWPs will be closed out subject to the following guidance:  **NOTE: PROPULSION PLANT OR AT-SEA OPERATIONS MAY BE LEFT OPEN WITH THE DEPARTMENT HEAD AND COMMANDING OFFICER’S CONCURRENCE.**  a. CWPs required to support reactor plant or propulsion plant startup (including critical heat up), equipment startup or ship’s underway will normally be closed prior to the event with the following exceptions:  (1) CWPs for spare equipment.  (2) equipment requiring reactor plant or propulsion plant operations to test.  (3) equipment requiring retest at sea or for equipment not required for reactor plant.  b. Additional guidance for Nuclear CWPs performed by maintenance activities which require critical heat up or critical operations to accomplish system or component retest:  (1) Prior to reactor plant or propulsion plant startup or ship’s underway, any activities performing controlled maintenance on the ship will provide the status of maintenance to the ship (ISIC for submarines).  (2) When critical operations or at sea testing is required to complete the task the following procedures will be used:  (~~1~~a) The testing must be required by an approved NAVSEA procedure (e.g., Maintenance and Replacement Instruction).  (~~2~~b) All open CWPs will be logged and tracked in the CWP REC Log.  ~~(a)~~1 All deferred (follow-on) actions will be  annotated in the CWP REC Log of the tended ship.  ~~(b)~~2 The CWP must include documented transfer of responsibility for accomplishment of deferred actions from  the FMA to the tended ship and must be signed by the Commanding Officer, Reactor Officer or Engineer Officer of the tended ship.  ~~(c)~~3 The closeout review of the CWP will verify that the required documentation is contained in the CWP for all deferred actions.  c. A copy of the test results will be provided to the FMA (as applicable) for final review and CWP closeout as soon as practical.  d. In the event a CWP is prepared, the job is planned to be accomplished, but for some reason the job is cancelled or deferred the following actions should be taken: |

## 20. Welder, Brazer and NDT Qualifications

## Volume V, Part I, Chapter 4, paragraph 4.2.6;

# Individual Qualification File

Modified the paragraph to agree with NAVSEA instructions.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| 4.2.6.1 Individual Brazer or Welder Qualification File. In order to achieve proper monitoring of brazer or welder qualifications, the individual’s Division Officer will maintain an auditable file for each brazer or welder assigned. This file is to be maintained for each brazer or welder for as long as he or she is assigned to a command and transferred with the welder or brazer to their next command. These files must include all information that is required by references (a), (b) and (c) and include the following: | 4.2.6.1 Individual Brazer or Welder Qualification File. In order to achieve proper monitoring of brazer or welder qualifications, the individual’s Division Officer will maintain an auditable file for each brazer or welder assigned. This file is to be maintained for each brazer or welder for as long as the individual is to be retained for 3 years after the individual transfers from the command. A copy of this record shall be is assigned to a command and transferred with the welder or brazer to their next command. These files must include all information required by references (a), (b) and (c) and include the following: |
| Existing Words | **New Words** |
| 4.2.6.2 Maintenance of Qualification. Detailed records of maintenance of qualification need only be retained for the current and preceding quarter. In order to ensure proper maintenance of brazer or welder qualifications, a log will be maintained by each Division Officer. This log must … | 4.2.6.2 Maintenance of Qualification. Detailed records of maintenance of qualification need only be retained for the current and preceding six month period. In order to ensure proper maintenance of brazer or welder qualifications, a log will be maintained by each Division Officer. This log must … |
| Existing Words | **New Words** |
| 4.3.5 Maintenance of Qualification. A brazer maintains his or her qualifications by using the process(es) he or she used during initial qualification at least once in each calendar quarter subsequent to the quarter in which he or she qualified and four times in each subsequent calendar year. | 4.3.5 Maintenance of Qualification. Each command must ensure that each brazing qualification is maintained by verifying at least one use of each process qualified per reference (c) (i.e., command certification of the use of manual torch brazing, induction brazing, etc.) within six months after the month of the person’s last documented use of the process. |

## 21. Departures from Specifications

## Volume V, Part I, Chapter 8, paragraph 8.2.5.r;

# Major Departures

Updated the sub-paragraph to change the periodicity to replace SSN 774 Class Torpedo Tube Muzzle Door K-Monel linkage to agree with the updated DDGOS.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| r. (Submarines only) Torpedo Tube Muzzle Door K-Monel linkage components must be replaced every eight (8) years on all submarine classes. A major DFS, approved by NAVSEA, with supporting information including total waterborne exposure time of existing components and torpedo tube recess anode type (LVA or Zinc), is required for any instance where this periodicity is exceeded. Note that this requirement is not applicable to SSN 688 Class submarines with Ordalt 18000 and SSBN and SSGN 726 class submarines with TZ-0932. | r. (Submarines only) Torpedo Tube Muzzle Door K-Monel linkage components must be replaced every eight (8) years on all submarine classes. A major DFS, approved by NAVSEA, with supporting information including total waterborne exposure time of existing components and torpedo tube recess anode type (LVA or Zinc), is required for any instance where this periodicity is exceeded. The replacement periodicity is increased to 16.5 years (198 months) for SSN 774 Class submarines with SHIPALT 4570K and hulls that have Muzzle Door Linkage Failure Indication installed during new construction. Note that this requirement is not applicable to SSN 688 Class submarines with Ordalt 18000 and SSBN and SSGN 726 class submarines with TZ-0932. |

## Volume V, Part I, Chapter 8, paragraph 8.2.6.h;

# Minor Departures

Further identified the DISSUB components that effect rescue to require minor DFS

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| h. (Submarines only) For all rescue Seating surface (Escape Trunks, Logistics escape Trunks, ad lockout Trunks) paint or surface finish defects, not correct prior to ships underway require a minor DFS approved by TYCOM. | h. (Submarines only) For all submarine rescue component (e.g., RSS, Submarine Rescue Chamber (SRC) shackle, SRC hold downs, inability to remove fairing fasteners) deficiencies identified during the performance of PMS, not corrected prior to underway require a minor DFS approved by the TYCOM. ~~Seating surface (Escape Trunks, Logistics escape Trunks, ad lockout Trunks) paint or surface finish defects, not correct prior to ships underway require a minor DFS approved by TYCOM.~~ |

## Volume V, Part I, Chapter 8, paragraph 8.3.1.g;

# General Administrative Requirements

Expanded the sub-paragraph to require at least five working days to process a DFS.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| g. To preclude last minute ship’s operational delays, DFS should be processed as early as possible. Any request for approval for a DFS must contain all pertinent information on materials, processes, testing and procedures used, so that a complete and educated engineering evaluation can be made by the TYCOM, Local Technical Authority or System Command.  (1) (Carriers and Surface Force Ships) DFS serial numbers for Ship’s Force …    (2) (Submarines only) DFS serial numbers for Ship’s Force initiated departures will be maintained either in a handwritten or electronic log. For DFS serial numbers for work performed by NAVSEA managed activities, to include Public and Private shipyards or activities directed by TYCOM, must use 1000 series DFS numbers auto initiated by the eDFS software. For temporary departures expiring during an underway, as discussed in paragraph 8.3.9 of this chapter, the extension request will be made sufficiently in advance to allow the evaluation process to be completed before the expiration date (Temporary Approved Until Date) and prior to the underway in which the DFS expires. | g. To preclude last minute ship’s operational delays, DFS should be processed as early as possible. Any request for approval for a DFS must contain all pertinent information on materials, processes, testing and procedures used, so that a complete and educated engineering evaluation can be made by the TYCOM, Local Technical Authority or System Command. System Command requires at least five working days to review DFS. Anything less requires urgent prioritization, and the submitting activity shall provide justification for the urgency.  (1) (Carriers and Surface Force Ships) DFS serial numbers for Ship’s Force ….  (2) (Aircraft Carriers Only) Aircraft Carries will follow the review and approval process outlined in reference (a) unless the JFMM specifically cites where the TYCOM may approve a Minor DFS. The carrier TYCOM's will follow the DFS approval process of reference (a) enclosure (4) and will forward all departures not specifically cited for TYCOM approval to the cognizant LTA for adjudication.  (3) (Submarines only) DFS serial numbers for Ship’s Force initiated departures will be maintained either in a handwritten or electronic log. For DFS serial numbers for work performed by NAVSEA managed activities, to include Public and Private shipyards or activities directed by TYCOM, must use 1000 series DFS numbers auto initiated by the eDFS software. For temporary departures expiring during an underway, as discussed in paragraph 8.3.9 of this chapter, the extension request will be made sufficiently in advance to allow the evaluation process to be completed before the expiration date (Temporary Approved Until Date) and prior to the underway in which the DFS expires. |

## Volume V, Part I, Chapter 8, paragraph 8.3.8.2.a;

# DFS Conditions Not Corrected

Added additional information for DFS resolution for brief stops.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| a. (Submarines only) All departures must be adjudicated prior to the ship getting underway. | a. (Submarines only) All departures must be adjudicated prior to the ship getting underway. This does not apply to brief in-port periods, as determined by the operational commander, for operational reasons. Examples of these periods include, but are not limited to, brief stops pier side for cargo or personnel transfers and towed array replacements. The guidance of paragraph 8.3.8.1 will continue to apply during port visits that meet these requirements. |

## Volume V, Part I, Chapter 8, paragraph 8.5;

# Non-Nuclear LARS

Expanded the sub-paragraph to require at least five working days to process a DFS. Established a new section identifying the current Non-Nuclear LAR process.

|  |
| --- |
| **New Words** |
| 8.5 NON-NUCLEAR COGNIZANT AREAS.  8.5.1 Non-nuclear Liaison Action Requests.  a. Non-nuclear LARs may be initiated via the NSLC eForms website at https://eforms.nslc.navy.mil/LAR. Various LAR User Guides are listed under the Help Menu in eLARs.  **NOTE: REFERENCE (L) PROVIDES SPECIFIC GUIDANCE FOR PROCESSING NON-NUCLEAR LARS. LAR TECHNICAL SPECIFICATION (TS909-100B) CAN BE FOUND IN APPENDIX F OF REFERENCE (K).**  b. Once a LAR is initiated, signed and released in the NSLC system, an auto email is generated from the NSLC site to the LAR "Originator" via their Navy or Contractor Outlook email account. Originators are the only persons who receive this auto email. The LAR must now be sent to the activity responsible to adjudicate the problem defined in the LAR and the appropriate TYCOM. It is recommended to use to the “send email” function within the eLAR software.   |  |  |  | | --- | --- | --- | | (1) Carriers. | Send LARs to lars\_sea05V@us.navy.mil. | | | (2) Surface Force Ships | Send LARs to the appropriate Planning Yard, Ship Design Manager, Program Office, or Technical Warrant Holder as need to address the issue. | | (3) Submarines. | 688, 21 and 774 Class Send LARs to PMS392 In-Service Attack Submarines LAR Notification.  726 Class Send LARs to PMS396 In-Service SSGN/BN Strategic Submarines LAR Notification | |

# 22. VOLUME VI

**VOLUME VI**

# 

## MAINTENANCE PROGRAMS

# 23. Surface Ship Corrosion Control

## Volume VI, Chapter 13, paragraph 13.4.3.f;

**Peak Tanks (Aircraft Carriers Only)**

Clarified which aircraft carrier tanks can be filled with fresh water.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| f. (Aircraft Carriers only) For any tanks or voids which are not normally filled with seawater or not designed to be exposed to seawater, Ship’s Force will ensure the following:  (1) Only fresh water may be used in any tanks or voids which are not normally exposed to seawater (e.g., water transferred to peak tanks or dry voids for use in controlling list or ballasting the ship must be fresh water).    (2) Report to the TYCOM those tanks or voids in which fresh water is being used for controlling list or ballasting the ship. | **NOTE: PEAK TANKS ARE DESIGNED AS A SEAWATER BALLASTING SYSTEM UTILIZING FIRE MAIN; HOWEVER, THE TYCOM REQUIRES THE USE OF FRESH WATER IN PEAK TANKS TO DIMINISH PREMATURE FAILURE OF THE COATING SYSTEM.**  f. (Aircraft Carriers only) For any tanks or voids not designed to be exposed to seawater or not normally filled with seawater, Ship’s Force will ensure the following:  (1) Transfer only fresh water to these tanks and voids for the purposes of ballasting or controlling list. Report to the TYCOM which tanks or voids are filled with fresh water.  (2) If seawater must be utilized for any reason, submit a DFS to the TYCOM for adjudication and approval. |

### 24. Surface Force Ship and Aircraft Carrier Modernization Program

**Volume VI, Chapter 36;**

**\*\*Complete Chapter Rewrite. Review in its entirety.\*\***

Updated the chapter to reflect current requirements.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
|  | Review the entire chapter for complete changes. |

# 25. Volume VII

# 

**CONTRACTED SHIP MAINTENANCE**

**VOLUME VII**

****

# 26. Cost Estimating

## Volume VII, Chapter 5; paragraph 5.12;

**MSC Template Preliminary Estimating**

# Added a new paragraph concerning Master Specification Catalog Template Preliminary Estimates.

|  |
| --- |
| **New Words** |
| 5.12 MASTER SPECIFICATION CATALOG TEMPLATE PRELIMINARY ESTIMATES.  5.12.1 MSC Template Preliminary Estimate Process.  a. MSC Maintenance Office (MSCMO) will prepare Preliminary Estimates for each Master Specification Work Template, Class Standard Work Template and Standard Work Template (SWTs) developed and managed. Template Preliminary Estimates will document the direct production labor-hours and Contractor Furnished Material (CFM) needed to accomplish the requirements as detailed within the template. No reference will be given to a labor rate and no contingencies for growth or other uncertainties will be considered within Template Preliminary Estimates.  b. Navy ship repair standard direct labor elements as identified on NAVSEA Form 4710/7 (Standard Cost Estimate) will be used to build the Template Preliminary Estimates. These direct labor elements include ship yard trades (e.g. Shipfitter, Welder, Burner, Inside and Outside Machinist, Boilermaker, Electrician, Pipefitter, Insulator Lagger, Carpenter Shipwright, Electronics, Ordnance, Sandblasters Painters and Rigger) that will be used to document the direct production labor hours required to complete MSC Template requirements as well as the invoked Utilization Category II NAVSEA Standard Items (CAT II NSI) therein.  c. Requirements of Utilization Category I NAVSEA Standard Items which when invoked will apply to the entire contract are treated as other direct labor and will not be represented within template estimates. Planning Activities (Organic or Third Party) will add factors to the Work Item (WI) estimates in accordance with this manual and the Government Planner’s Handbook and Estimating Guide (GPHEG) to address the estimating of all other direct labor.  d. MSCMO will document the basis of estimate detailing the methods, sources of information and assumptions made when developing an MSC Template Preliminary Estimate. The goal of the basis of estimate is to provide a clear and complete understanding of how the preliminary estimate was derived. Standard assumptions will include that an average contractor under average conditions will perform the work. No assumptions concerning market conditions (i.e. port loading), executing activity scheduling (e.g. number of shifts worked or number of workers per shift) or prevailing weather will be made when preparing Template Preliminary Estimates. Any representation of duration will simply be the sum of the direct production labor hours to complete MSC Template requirements and invoked CAT II NSIs.  e. In general MSCMO will utilize the bottom-up estimating method, also known as the detailed estimating method applying the appropriate GPHEG procedures when preparing Template Preliminary Estimates. In the bottom-up method, estimates for direct labor hours for individual requirement paragraphs to include invoked CAT II NSIs and CFM will be aggregated to form the overall preliminary estimate for the template. When information does not exist within the GPHEG, analogous estimating method will be used to prepare Template Preliminary Estimates. This method will rely upon historical Independent Government Estimates from Work Items that have achieved any of the following statuses within Navy Maintenance Database (NMD): Approved for Award, Packaged or Validated. Whatever estimating method is used for an individual template the details of that basis of estimate will be provided within NMD on the NAVSEA Form 4710/7 (Standard Cost Estimate) and as attached information contained in the Estimate Tab of a MSC Template.  f. Fully prepared thorough MSC Template Preliminary Estimates will assist Planning Activities to develop WI estimates for both deferred Work Notifications (WNs) from the Current Ship’s Maintenance Project and WNs pushed from the Class Maintenance Plan as part of a Baseline Availability Work Package. Through the grouping of WNs some WIs will document requirements from both the Current Ship’s Maintenance Project and the Class Maintenance Plan.  g. Parts of the basis of estimate detailed within MSC Templates used will carry forward to the WI estimate prepared by the organic Planning Activity. This will help to increase the speed and efficiency of depot level planning and estimating, assist development of Independent Government Estimates for WIs prior to turning over a Work Package to a contracting Officer for solicitation and award.  5.12.2 What MSC Template Preliminary Estimates “Do Represent” and “Do Not Represent”.  a. MSC Template Preliminary Estimates do represent:  (1) The direct production labor-hours are estimated by trade for all main and sub paragraph requirements, to include invoked Utilization Category II NAVSEA Standard Items (CAT II NSIs), as well as direct Lead Maintenance Activity (LMA) Supervision, quality assurance, tests and reports identified within the Template.  (2) The expected LMA costs associated with hiring subcontractors (e.g. marine painting companies) and rental equipment (e.g. boom lifts or vertical staging) while executing WIs.  (3) LMA secured CFM costs. This would be either raw material or repair parts that are identified as requirements within a Template.  (4) Common Shelf Item Material (i.e. WI consumables) expended by the LMA during the execution of WIs as a factor of trade man-hours expended in a Template.  b. MSC Template Preliminary Estimates do not represent:  (1) Work Package invoked Utilization Category I NAVSEA Standard Items, general project LMA Supervision and general project LMA Quality Assurance, that is not documented within WI requirement paragraphs. Per this manual and GPHEG, these requirements will be addressed by adding a factor to a WI’s estimate.  (2) Any representation concerning expected execution duration beyond simply the summation of the direct production labor hours to complete the requirements and invoked CAT II NSIs.  (3) Costs associated with labor brought to an LMA’s facility in support of a Ship’s Availability that are not paid for by the Ship Repair and Modernization Contract awarded to the LMA, for example: Government Inspectors, Government specialized repair teams, and Government Alteration Installation Teams.  (4) Government Furnished Material - Long Lead Time Material (GFM LLTM) costs will not be represented on the NAVSEA Form 4710/7 (Standard Cost Estimate). Items identified within Paragraph 5.1 (GFM LLTM) of a Template will have those costs represented within the basis of estimate information, attached to the estimate in NMD. This will allow downstream users to understand the likely GFM LLTM costs without affecting the Preliminary Estimate’s presentation of expected maintenance activity direct production labor-hours and CFM costs.  (5) Costs associated with GFM Push or GFM Kitted material. These types of material are provided to a Ship Repair and Modernization Availability without the need of a funded procurement action on the part of an organic Planning Activity preparing WIs or the executing RMC.  (6) Requirements for hull specific interferences that would be found during a Work Item Ship Check.  (7) Requirement amounts that are hull specific. Class Standard Work Template preliminary estimates are prepared for a notional ship representative of the class.  (8) Specific class, hull or availability requirement amounts for SWTs. SWT preliminary estimates are based on a stated notional period of performance with recommendations on how to scale estimates for different duration requirements. Work scope differences created by ship size, number of spaces affected, and depot availability duration differences are not represented (e.g. temporary services where the duration of the service impacts the estimate, or where the scope of the requirement such as installing temporary fire detectors is very situation dependent).  (9) Any likely integration or distribution of separate template requirements. Just as MSC templates are not interconnected, preliminary estimates standalone. |

# 27. Contract Administration

## Volume VII, Chapter 11; paragraph 11.5.7;

**Corrective Action**

Modified the paragraph to reflect current practice for Corrective Action Requests.

|  |  |
| --- | --- |
| Existing Words | **New Words** |
| Corrective Action. Corrective action is the CAQAP element that defines the methods for requesting the contractor to act to correct nonconformities. To achieve systematic assurance of compliance throughout all phases of the contractor’s operation, the basic causes of nonconformities must be identified and the contractor must initiate prompt corrective action to correct assignable conditions that have resulted in generating nonconformities. The correction of the nonconformity alone does not satisfy this goal. Corrective action as described in this section employs the “closed loop” concept (i.e., appropriate measures must be taken to identify the cause and prevent the recurrence of nonconformities and the corrective and preventive measures must be accepted by the government). The contractor will … | Corrective Action. Corrective action is the CAQAP element that defines the methods for requesting the contractor to act to correct nonconformities. To the maximum practical extent, contractors should be encouraged to correct minor nonconformance’s “on-the-spot” (during the current shift). For Surface Ship availabilities, government CAR issuance is not typically necessary for Method A non-conformances corrected “on-the spot” unless a history of repetitive issues of substantially identical nature exists. At a minimum, the unsatisfactory observation will be documented as a PVI surveillance per paragraph 11.5.5. To achieve assurance of compliance throughout all phases of the contractor’s operation, for major, systemic, or critical non-conformances, the basic causes of nonconformities must be identified and the contractor must initiate prompt corrective action to correct assignable conditions that have resulted in generating nonconformities. The correction of the nonconformity alone does not satisfy this goal. Corrective action as described in this section employs the “closed loop” concept (i.e., appropriate measures must be taken to identify the cause and prevent the recurrence of nonconformities and the corrective and preventive measures must be accepted by the government). The contractor will … |