JOINT FLEET MAINTENANCE MANUAL (JFMM)

COMUSFLTFORCOMINST 4790.3

VOLUME VII
CONTRACTED SHIP MAINTENANCE

CHAPTER 4
CONTRACT SPECIFICATION DEVELOPMENT

APPENDIX E

NAVAL SEA SYSTEMS COMMAND PROCEDURES for the PREPARATION and UTILIZATION of WORK ITEM SPECIFICATIONS, MASTER SPECIFICATION CATALOG TEMPLATES, LOCAL WORK TEMPLATES, NAVSEA STANDARD ITEMS and LOCAL STANDARD ITEMS in SHIP REPAIR and MODERNIZATION CONTRACTS

TABLE of CONTENTS

SECTION 1
PURPOSE

1-1 The purpose of this Appendix is to publish procedures for the preparation and utilization of Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items as directed by NAVSEAINST 9070.1 (Series) for repair and alteration of U.S. Navy ships and craft. Naval Sea Systems Command (NAVSEA) Standard Specification for Ship Repair and Alteration Committee (SSRAC) may revise this Appendix periodically to reflect adopted changes in policy and procedure. SSRAC will make revised editions of this Appendix available on the SSRAC web site at:
https://www.navsea.navy.mil/Home/RMC/CNRMC/Our-Programs/SSRAC/

SECTION 2
GLOSSARY of TERMS

2-1 Class of Overhaul - Describes the extent of authorized work on a ship system or component as defined within the General Specifications for Overhaul of Surface Ships (GSO).

2-1.1 Class A Standard - Requirements necessary to return systems or components to "like new" operating conditions as well as improve the performance characteristics by altering the equipment or structure to meet the "most recent" design and technical specifications.

2-1.2 Class B Standard - Requirements necessary to return systems or components to their original performance profiles and provide a high degree of assure that the items will function properly until those items next scheduled overhaul. Ship changes, and modifications, even if applicable, are not to be accomplished.

2-1.3 Class C Standard - Requirements necessary to correct the particular deficiencies or malfunctions specified by the customer Work Notifications (WNs) and further defined by ship check. The term Class "C" is synonymous with the term "repair."

2-1.4 Class D - Work associated with "Open, Inspect, and Report" type of work request. This class of work is intended to be diagnostic and will require various inspections followed by the submission of a report identifying required repairs.

2-1.5 Class E Standard - Requirements necessary to support alterations, with much of the direction coming from the Ship Installation Drawing (SID) Package for the alteration.

2-2 Degree of Contractor Compliance - Identifies the level of significance or contractual enforcement of cited references.

2-2.1 Strict Compliance - References cited using the following phraseology: "in accordance with", or "Accomplish the requirements of", or "conforming to".

2-2.2 Partially Applicable - References cited using the phraseology: "in accordance with" followed by a list the exceptions in subsequent subparagraphs.

2-2.3 Informational and Guidance - References cited using the phraseology: "using (insert reference number) for guidance".

2-3 Estimates

2-3.1 Independent Government Estimate (IGE) - Documents direct production labor hours by trade, invoked Utilization Category II NAVSEA Standard Items (CAT II NSI) and Contractor Furnished Material (CFM) needed to accomplish the hull specific requirements of a Work Item Specification (WS). A Basis of Estimate (BoE) is provided detailing the estimating references used, any calculations, and assumptions made while preparing the IGE. The current CNRMC provided port rate is applied to the labor hours, affording a Contracting Officer a bid evaluation starting point. When developing a Work Item Specification (WS) from a Master Specification Catalog Template, RMCs will use the associated Template Preliminary Estimate (TPE) as a starting point for the IGE.

2-3.2 Template Preliminary Estimate (TPE) - Documents direct production labor hours by trade, invoked Utilization Category II NAVSEA Standard Items (CAT II NSI) and Contractor Furnished Material (CFM) needed to accomplish Template requirements. As with Template requirements, TPEs do not contain information concerning hull specific estimates about unique repairs. A Basis of Estimate (BoE) is provided detailing the estimating references used, any calculations, and assumptions made while preparing the TPE. TPEs can be used by an RMCs as a starting point for the development of Work Item Specification (WS) Independent Government Estimates (IGEs).

2-4 Front Loads and Level of Effort (LOE) - Growth reservations used as permitted to accomplish anticipated repairs which could not be clearly defined while evaluating and planning Work Item Specifications in advance of a ship's availability.

2-4.1 Front Loads direct a contractor to accomplish a defined quantity of a specific task (i.e., replace 100 sq ft of hull plating, vee-out and weld 10 linear inches of deteriorated welds) to address conditions found during execution.

2-4.2 Level of Effort (LOE) Growth Reservations provide a number of man-days and material dollars to address conditions found during execution.

2-5 Government Furnished Material (GFM) - Material items (e.g., raw materials, repair parts and new shipboard equipment) that are provided to the Ship Repair and Modernization Contractor to support efficient execution of maintenance. The decision to provide GFM is based on many reasons to include: being deemed project critical, procurement allowed only by Government, being part of a government refurbishment program, being assembled as a kit to support modernization, having delivery lead-time not supportive of Contractor procurement (delivery date After Receipt of Order (ARO) exceeds 30 days). The objective is to turn over all GFM to the executing contractor 90-days prior to the start of a CNO maintenance availability. Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates there are three categories of GFM that are defined as follows:

2-5.1 Long Lead Time Material (LLTM) - GFM for which the Work Item Specification Planning Activity or Naval Supervisory Authority (NSA) must initiate a funded procurement.

2-5.2 Push - GFM and required Special Tools provided to a Ship's Maintenance Availability by a government entity (e.g., Ship's Force, TYCOM, NSWCs, NAVSUP WSS, NAVSEA) without funded procurement action required on the part of the Planning Activity or Naval Supervisory Authority (NSA).

2-5.3 Kitted - GFM supporting alterations, procured and assembled into a kit through a separate Government contract (e.g., Program Office, PARM or TYCOM funding a Class Planning Yard contract to kit a Ship Alteration) and provided to a Ship's Maintenance Availability.

2-6 Inspections and Tests - Points within the sequence of maintenance documented in Work Item Specifications, Templates or Standard Items at which the repair activity must verify and document the satisfactory progress or completion of work to an established standard. Levels of Inspections and Tests are identified as independent trades person examination, verification by Contractor's qualified inspector, verification by a qualified Government representative (can be a Contractor hired specifically to assist with Government oversight), verification by the Naval Supervisory Authority (NSA). Informal alternate title is Checkpoints.

2-7 Master Specification Catalog Maintenance Office (MSCMO) - The organization responsible for developing, approving for use and maintaining MSWTs, CSWTs and SWTs.

2-8 Master Specification Catalog Templates - A 4E compliant, five-paragraph document that a planner will adjust, as allowed, to develop a Work Item Specification. Templates standardize the development of repetitive Work Item Specifications for both Life Cycle and Corrective Maintenance by providing a reliable starting point utilizing approved standard phrasing, standard formatting, appropriate references, and historically based Front Loads.

2-8.1 Master Specification Work Templates (MSWTs) – Templates that are prepared to ensure full completion of specific Mandatory Technical Requirements (MTRs) within the Class Maintenance Plan (CMP) utilized on a specific class of ship. MSWTs are developed and maintained by MSCMO.

2-8.2 Class Standard Work Templates (CSWTs) - Templates that are prepared for specific repairs, alterations, or to provide support for work frequently occurring in ship repair utilized on a specific class of ship. CSWTs are developed and maintained by MSCMO.

2-8.3 Standard Work Templates (SWTs) - Templates that are prepared for specific repairs, alterations, or to provide support for work frequently occurring in ship repair utilized across ship classes. SWTs are developed and maintained by MSCMO.

2-8.4 Local Work Templates (LWTs) - Templates that are prepared for specific repairs, alterations, or to provide support for work frequently occurring that is unique to a specific geographic location. LWTs are developed and maintained locally by the Naval Supervisory Authority (NSA) Chief Engineer.

2-8.5 Basic Work Shell Template (BWST) – A template comprised of required paragraph structure only, used when no other template (MSWT, CSWT, SWT or LWT) is appropriate for Work Item Specification development.

2-9 Material - To standardize how Material Items are documented within Work Item Specifications, the categorization of Material as Raw Material, Repair Parts or Common Shelf Items are defined as follows:

2-9.1 Raw Material - Material which will undergo extensive shop work including significant joining, cutting, forming, or machining processes prior to use onboard the ship (e.g., plate, beams, bars, piping, casting components, etc.)

2-9.2 Repair Parts - Material which will be installed as is, generally requiring only operational adjustment or calibration to meet the intended use (e.g., Pump Impellers, Close Coupled Pump and Motor Assemblies, Valves, Remote Operator Deck Gear Box Assemblies, Electrical Controllers, Heat Exchangers, Bearings, Packing, Seals, etc.)

2-9.3 Common Shelf Items - Materials that are general use consumables (e.g., fasteners, gaskets, cotter pins, O-Rings, seals, etc.)

2-10 Reference Tiers - As defined by NAVSEA Contracts Directorate Contract Clause (HQ C-2-0051) and reiterated in NAVSEA Standard Item 009-004 NOTES are as follows:

2-10.1 Zero-tier references are listed in paragraph 2 REFERENCES and utilized in paragraph 3 REQUIREMENTS, these are mandatory for use by the contractor.

2-10.2 First-tier references are those that are cited within zero-tier references, these are mandatory for use by the contractor.

2-10.3 All lower tier references must be used for guidance only.

2-11 Reference Sharing Conditions and Limitations - How the government is permitted to share technical data is regulated by the classification, distribution requirements and data rights associated with that Technical Data.

2-11.1 Classified National Security Information cannot be shared with a contractor until a DD Form 254 "Department of Defense Contract Security Classification Specification" is executed ensuring the contractor is aware of and adheres to the required security protocols for classified work. The level (i.e., CONFIDENTIAL, SECRET, TOP SECRET) of all classified documents referenced will be identified parenthetically in upper case letters following the unclassified title.

2-11.2 Government Distribution Statements can determine who is authorized to access a document and may be used in addition to applicable classification markings. Distribution Statements can restrict how and when these documents can be shared with contractors. References having restrictive distribution statements will be identified parenthetically in upper case letters following the title as RESTRICTED.

2-11.3 The government does not always own complete Technical Data Rights for referenced documents. This can prevent unrestricted sharing or distribution of these documents by the government to industry partners even after a contract award. In such situations, industry partners will have to purchase the use of a reference from the owner. References for which the government does not own Technical Data Rights that allow for the sharing of documents with industry partners will be identified parenthetically in upper case letters following the title as PROPRIETARY or CONTROLLED, as identified on the document.

2-12 Scope of Work - Extent and delimitation of authorized work on a shipboard component, system or structure within a Work Item Specification or Template. Scope of repairs considers several significant elements, including: the identification of equipment or system, the shipboard location, the degree of contractor compliance for cited references, the magnitude of used Front Loads, and the extent of authorized work requirements or Classification of Overhaul. Scope for alterations are highly defined by the degree of contractor compliance phraseology applied to Ship Installation Drawings (SIDs) and notes on those zero tier SIDs.

2-13 Ship Class Planning Yard - An engineering entity hired by a Major Program Office Ships (e.g., PMS421, PMS321, PMS400D, PMS317, etc.) serving principally as an integrator of ship class modernization initiatives, but also to maintain hull specific engineering logistical support services.

2-14 Specification Package - All contractual requirements for a ship's depot-level maintenance contract including all Work Item Specifications as well as solicitation requirements and deliverables (i.e., CDRLs). Within Navy Maintenance Database-Replatformed (NMD-R) a Specification Package will be identified by a Ships Specification Package (SSP) number, a Solicitation number and a Contract number. (informal alternate title: Work Package)

2-15 Specification Types

2-15.1 Design Specification - Requirement that dictates the means and methods to accomplishing the work, as well as the parameters of the finished work. The issuer assumes the risk that the parameters detailed are correct. Design specifications are generally less desired for use within Private Sector Ship Repair and Modernization Contracting.

2-15.2 Performance Specification - Requirement that dictates the end result or operational requirement. A performance specification allows a contractor to select most of the means and methods to attain the desired end result or performance. Most Performance Specifications contain some detailed direction concerning particular work steps or processes. Clear, concise, complete, definitive and achievable performance specifications are advantageous for use within Private Sector Ship Repair and Modernization contracting.

2-16 Standard Items

2-16.1 NAVSEA Standard Items (NSIs) - NAVSEA approved standards, maintained and issued annually by NAVSEA's Standard Specification for Ship Repair and Alteration Committee (SSRAC) that establish uniform methods for routine ship repair production, safety, environmental and management requirements. Use of applicable NSIs is mandatory within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates. Planning activities cannot modify NSIs, these standards are non-deviational (choice of row and column within tables as allowed).

2-16.2 Local Standard Items (LSIs) - Standards that meet the criteria of NAVSEA Standard Items (NSIs) but are approved by the Regional Maintenance Center (RMC) or Supervisor

Shipbuilding, Conversion and Repair (SUPSHIP) Chief Engineer to address specific local requirements (e.g., environmental safety regulations or heavy weather plans).

2-17 Unplanned Work - All Growth Work and New Work added to a ship's maintenance availability Specification Package after contract award (Fixed Price type contacts) or definitization (Cost type contracts).

2-17.1 Growth Work - Increase or decrease of a Work Item Specification's scope parameters (e.g., system identification, shipboard location, cited references, maintenance requirements, contractor furnished material) after contract award (Fixed Price type contacts) or definitization (Cost type contracts) impacting a Lead Maintenance Activity's (LMA) planned cost, production schedule and potentially the contract's duration. Growth is addressed in Navy Maintenance Database-Replatformed (NMD-R) by initiating a Request for Contract Change (RCC).

2-17.2 New Work - Any Work Item Specification authorized after the 100% Depot Package Lock milestone during Specification Package planning and throughout award and execution of the contract. New Work will impact the planned cost, production schedule and potentially the contract's duration.

2-18 Work Item Specification – A document compliant to the rules contained in Joint Fleet Maintenance Manual (JFMM) Volume VII, Chapter 4, Appendix E that properly details hull-specific depot-level repair and modernization requirements for a particular ship, utilized in Private Sector Ship Repair and Modernization Contracts. (informal alternate titles include: Work Item or Work Specification or Work Spec or 4E Spec)

SECTION 3
PROGRAM OBJECTIVES

3-1 In order to reduce the Total Ownership Costs (TOC) of preparing Work Item Specifications, while maintaining quality standards and enabling execution savings through standardization, a program is necessary that will:

3-1.1 Improve the overall quality of Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items by enhancing the understanding and documentation of requirements that will allow for timely planning and completion of depot level maintenance.

3-1.2 Present a uniform nationwide policy concerning Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items that support contracted ship maintenance.

3-1.3 Provide definite Quality Assurance (QA) requirements to ensure quality and reduce the surveillance burden of inspection personnel.

3-1.4 Provide the necessary degree of standardization required to input and retrieve data via automated data processing centers.

3-1.5 Improve efficiencies concerning Work Item Specification and Specification Package development.

3-1.6 Form the basis for a uniform training program for Planner Estimator and Ship Building Specialist personnel.

3-1.7 Allow temporary detailing of personnel to another activity in peak workload periods without significant retraining.

3-2 NAVSEA directed that a committee of key personnel from the various user activities be formed to establish policy, procedures and practices that support the development of high-quality Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items. This committee, Standard Specification for Ship Repair and Alteration Committee (SSRAC) was established by NAVSEAINST 9070.1 (Series). Goals of SSRAC are to ensure that documents developed and approved:

3-2.1 Are technically correct, contractually enforceable, and of sufficient scope to be of use at various activities for a broad range of requirements.

3-2.2 Are as self-contained as feasible to allow invocation at each activity without reference to numerous additional documents.

3-2.3 Avoid the use of instructions, work practices, or terminology not common to all activities.

3-2.4 Use the same format and phraseology.

SECTION 3
PROGRAM OBJECTIVES

3-3 Each activity must aggressively pursue this mandatory program and must routinely provide suggested revisions and modifications to documents controlled by SSRAC where use has proven these changes necessary or advisable. SSRAC meetings are scheduled annually.

3-4 SSRAC products are available for viewing or downloading on the Worldwide Web at https://www.navsea.navy.mil/Home/RMC/CNRMC/Our-Programs/SSRAC/

SECTION 4
SPECIFICATION STANDARDIZATION CONCEPT

4-1 NAVSEA's specification standardization concept is used to promote a program designed to promulgate and utilize the best procedures to be employed in developing Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items as defined in this Appendix.

4-2 NAVSEA Standard Items (NSIs) establish uniform methods for routine ship repair production, safety, environmental and management requirements. Applicable NSIs must be invoked without modification to the maximum extent possible Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates.

4-2.1 There are 2 categories of NSIs from the standpoint of utilization. Utilization Category I NAVSEA Standard Items (CAT I NSI) when invoked (Annex A of this Appendix applies), are applicable to the entire Contract or Job Order Specification Package without further reference. Utilization Category II NAVSEA Standard Items (CAT II NSIs) must be invoked in each Work Item Specification, Master Specification Catalog Template or Local Work Template when applicable and needed (Annex B Section A of this Appendix applies).

4-2.1.1 An NSI may be designated as a CAT I NSI by Specification for Ship Repair and Alteration Committee (SSRAC) if its requirements concern:

4-2.1.1.1 safety of personnel or equipment,

4-2.1.1.2 environmental safety,

4-2.1.1.3 administrative or managerial (non-trade) in nature,

4-2.1.1.4 applicable to only a unique class of ship or location of work and it meets the safety, environmental or administrative criteria above,

4-2.1.1.5 provide a work method which might be selected for use by a Contractor within execution of a Work Item Specification (e.g., Temporary Access Cut)

4-2.1.2 CAT I NSIs must not require utilization guidance or NAVSEA Standard Phraseology to invoke within Work Item Specifications, Master Specification Catalog Templates, and Local Work Templates.

4-2.1.2.1 Annex A of this Appendix contains an invoking guide for CAT I NSIs. This Annex will be used by Ships' Project Managers when determining what CAT I NSIs will be made applicable to a Contract's or Job Order's Specification Package. CAT I NSIs do not require the use of NAVSEA Standard Phraseology to invoke use within a Work Item Specification, Master Specification Catalog Template or Local Work Template.

4-2.1.3 CAT II NSIs must be invoked in each Work Item Specification, Master Specification Catalog Template or Local Work Template as required using NAVSEA Standard Phraseology of Annex B Section A of this Appendix.

4-2.1.4 Changes or additions to NSIs are identified by showing added or changed verbiage in bold Italics. Deletions to NSIs are identified by a vertical line in the right-hand margin beside the deletion. New or completely revised NSIs are identified by a vertical line in the right-hand margin beside the ITEM NO, DATE, and CATEGORY lines, for example:

FY-27 CH-1

ITEM NO: 009-005
DATE: 18 NOV 2024
CATEGORY: I

4-2.1.5 The official source for NSIs is the SSRAC web site at:
https://www.navsea.navy.mil/Home/RMC/CNRMC/Our-Programs/SSRAC/

4-3 Local Standard Items (LSIs) are items that meet the criteria of NSIs but are approved by the Regional Maintenance Center (RMC) or Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) Chief Engineer to address specific local requirements.

4-3.1 LSIs must not be used in coast-wide bidding or extended solicitations.

4-4 NAVSEA Standard Phraseology contained in Annex B Sections B through F of this Appendix must be utilized for various actions and trade specific procedures. Annex B is a comprehensive listing of approved NAVSEA Standard Phraseology to describe work requirements and is provided with notes and usage guidance.

4-5 Concerns with existing NSIs, CAT I NSI invoking guidance, the interpretation of NAVSEA Standard Phraseology and this Appendix as well as proposals for new must be forwarded to the SSRAC with supporting documentation and recommendations. SSRAC will make a determination concerning change proposes, those adopted will be issued within updates to NSIs and this Appendix.

SECTION 5
WORK ITEM SPECIFICATION PHILOSOPHY

5-1 Work Item Specifications are technical documents that convert work requirements to clear, concise, well-defined, and contractually sound terms. Each Work Item Specification becomes a legally binding contractual document that is the determining factor as to what the Government will receive from the contractor accomplishing the work. Each Work Item Specification must provide sufficient information to the contractor to define precisely the minimum requirements of the Government and be free of language open to diverse interpretations.

5-2 Work Item Specifications normally describe what to do rather than how to accomplish the work (i.e., Performance Specification). There are instances where the Government desires that the work must be accomplished in a specific manner (i.e., Design Specification). In these instances, the procedures must be clearly defined but must not be worded so that they unreasonably restrict competition.

5-3 Work Item Specifications must be written in a logical sequence of work operation whenever possible (i.e., remove, disassemble, inspect, report, repair, assemble, install, and test).

5-4 Each Work Item Specification must clearly define the work requirements and be as self-contained as possible to enable the user to understand the requirements without having to research a myriad of reference data. The Work Item Specification requirements must include the minimum specific tests and inspections that must be accomplished by the contractor to ensure that the desired quality is achieved.

5-5 Work Item Specifications must be limited to the requirements necessary to achieve the desired result and must not upgrade equipment and installations to exceed original design requirements without approval of the customer. Repair oriented Work Item Specifications must not alter the military characteristics of a ship in any manner. Modifications to equipment or systems are considered to be under the purview of the Fleet Modernization Program (Program Office Title K Alterations or Type Commander Title D Alterations or Alterations Equivalent to Repair (AER)). When authorized for completion these alterations may have Work Item Specifications developed to install the modernization effort.

SECTION 6
DOCUMENT PREPARATION and UTILIZATION

NOTE: The purpose of Section 6 of this Appendix is to document the rules associated with the development and use of Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items regardless of Automated Information System (AIS) used. Although some current AIS capabilities and limitations are mentioned, Section 6 is not intended to be an AIS users guide. AIS will change over time; the current AIS is Navy Maintenance Database-Replatformed (NMD-R), a previous AIS was AutoSPEC User System (AUS).

NOTE: Examples demonstrating the application of preparation and utilization rules are presented in italicized font.

6-1 Judgment. There is no substitute for forethought and good judgment on the part of a Planner developing Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items. The task of fully discerning the scope of work and writing definitive requirements which cite the most appropriate references requires great attention to detail. The fact that no matter how technically correct the document is, if the wording can be misunderstood or causes confusion, it is not a satisfactory contractual document.

6-2 General criteria for Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items are as follows:

6-2.1 Underscoring is limited to document first page header information and major paragraph titles.

6-2.2 Sub paragraphing is limited to 4 digits (example 3.1.1.1). Each subparagraph is limited to a single thought or work sequence.

6-2.3 The numeral "1" must not be used but always be written as "one" or "One" as applicable. All numbers greater than one must be written as a numeral (i.e., 2, 3, 4, etc.), except when the number is at the beginning of a sentence.

6-2.3.1 This rule does not apply to references, or to GFM amount inserted under "TOTAL QUANTITY PROVIDED" listed in Paragraph 5.

6-2.4 Two letter abbreviations for Unit of Issue must be identified when documenting a quantity [e.g., Quantity (10 EA), Quantity (25 FT) or Quantity (25 SF)]. Common Unit of Issue abbreviations are listed within the following table:

Unit of Issue Abbreviations

Term	Abbreviation
Each	EA
Box	BX
Feet	FT
Kit	KT

Term	Abbreviation
Linear Feet	LF
Piece	PC
Square Feet	SF

6-3 Common Errors that can occur within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items:

6-3.1 Ambiguous requirements. Ambiguities normally occur because of poor sentence structure and can result in more than one interpretation of the requirement. Contractors will invariably choose the least expensive interpretation. An example of an ambiguous requirement is:

1.2.1 GSM (4-107-2-M)
1.2.2 Dry Provision Storeroom (4-107-1-Q)
1.3.1 Quantity (12 EA) 2 ft x 2 ft x 2 ft Storage Bin
3.2 Install the equipment listed in 1.3.1, located in 1.2.1 and 1.2.2 in accordance with 2.2.

This example of an ambiguous requirement raises the question: How many storage bins does each location receive? Does each location get 6 storage bins, or does one location receive 7 and the other 5?

6-3.2 Non-definitive requirements. Non-definitive requirements occur when accept or reject criteria are not included in the requirements. Requirements for inspections and tests must include definitive accept or reject criteria required for contractor and SUPSHIP/RMC Quality Assurance evaluations. Examples of non-definitive requirement statements include:

- Check bearing temperature and vibration
- Support new pipe with adequate hangers
- Prove gaskets and bolting satisfactory
- Close up as original

6-3.3 Non-definitive phrases. Use of non-definitive phrases results in either non-definitive requirements or cancels the effect of stated requirements. Examples include:

- As applicable
- In accordance with latest requirements
- Or other recognized methods
- As practicable
- As necessary
- Or other suitable method
- Check for proper values

6-3.4 Catch-all phrases. The tendency is to use catch-all phrases to cover unforeseen conditions or developments and thereby avoid a contract modification. In reality, use of these methods is more costly to the Government than an occasional contract modification because the contractor will include contingency money in his bid for catch-all phrases. Examples include:

- Included, but not limited to
- As required
- Any and all, or Each and every
- When and where necessary
- Et Cetera or Etc.

6-3.5 Arbitrary statements. Statements that assign arbitrary authority to an activity or individual. Examples include:

- Where directed by the Ship's Force
- To the satisfaction of the SUPSHIP/RMC representative
- In accordance with NAVSEA directives
- As directed by the NSWC PD representative

6-3.6 Arbitrary Authority. The contractor is required to meet the requirements of the contract, and not the expectations of arbitrary authorities:

- The on-scene surveyor
- The Commanding Officer's representative

6-4 Glossary of Suitable Terms

6-4.1 The table below is a list of suitable terminology that will be used, and not suitable terminology that will not be used within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items.

6-4.1.1 Exceptions to the suitable terminology rules include:

6-4.1.1.1 Within Titles the word replace may be used as the action verb following the semicolon.

SUITABLE	NOT SUITABLE
Accomplish	Conduct…or Perform …
Accomplish the requirements	Accomplish the work ... or Comply with …
Assemble	Re-Assemble
Assembly	Re-Assembly
Disconnect	Unbolt
Ensure	Assure ... or Insure …
Fabricate	Make
Identified	Found
Inspect	Check
Install	Re-Install
Installation	Re-Installation
Measure	Take
Must be	Is to be or shall be
Preserve	Paint
Remove	Drain
Remove existing and install	Replace ... or Unship new …
Through	Thru
Verify	Demonstrate ... Prove

SUITABLE	NOT SUITABLE
(Specify a quantity)	All
1,000	1000
5,000 dollars	5000 dollars ... or $5000

6-5 General criteria for the development and management of Planning Memos and Attachments by RMCs/SURFMEPP/SUPSHIPs for use in Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items:

6-5.1 Planning Memos.

6-5.1.1 Planning Memos may be used as paragraph 2 REFERENCES.

6-5.1.2 Planning Memos may establish requirements.

6-5.1.3 Planning Memos may be invoked for a degree of contractor compliance (directive, partially applicable, or for guidance only).

6-5.1.4 Activities developing or managing Planning Memos and Attachments must:

6-5.1.4.1 Set appropriate standards concerning the sources of authoritative data used as inputs (e.g., CDMD-OA, EOSS, CSOSS, NAVSEA Approved Drawings, etc.).

6-5.1.4.2 Ensure appropriate Command signature authority completes the final review, approval and signs out of issued document, with signatures recorded on the cover page, and that changes are noted on a revision record included with the document.

6-5.1.4.3 Be responsible for the life-cycle management of documents, ensuring they are periodically reviewed (as a minimum biannually), revised, made available for use within an established data repository, and when appropriate cancelled.

6-5.1.4.4 Rapidly and consistently incorporate validated lessons learned and best practices.

6-5.1.4.5 Be responsive to customer questions concerning issued documents.

6-5.1.4.6 Planning Memo titles should provide clear understanding of the documents envisioned use. Tiles must allow for the recording and life-cycle management of the document (naming rules will as a minimum allow for the recognition of the issuing activity, the Ship Class or Classes being addressed and the Expanded Ships Work Breakdown Structure (ESWBS) of the system or components being addressed).

6-5.2 Attachments.

6-5.2.1 Attachments must not be used as paragraph 2 REFERENCES.

6-5.2.2 Attachments must not establish requirements.

6-5.2.3 Attachments should be used to improve Work Item clarity by identifying equipment or components to which requirements will be applied.

6-5.2.4 Attachments to Master Specification Catalog Templates and Local Work Templates can assist with the performance of ship checks and the validation of Configuration Management Data elements requiring confirmation prior to use in a Work Item Specification (e.g., location, item identification, valve number, etc.).

6-5.2.5 When attachments are used, the attachments must be identified, at the top of each page, centered in uppercase letters, by the word ATTACHMENT followed by a letter designation (e.g., ATTACHMENT B).

6-5.2.6 Attachments within Work Item Specifications, NAVSEA Standard Items and Local Standard Items must follow Header and Footer rules established by that type of document.

6-6 The first page header information within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items must comply with the following rules.

6-6.1 The first page header for NAVSEA Standard Items (NSIs) and Local Standard Items (LSIs) must comply with the following rules.

6-6.1.1 Centered at the top of the page the issuing activity and type (NAVSEA or Local) of the standard item will be identified in upper case letters, underlined. Examples include:

Example 1:

NAVSEA
STANDARD ITEM

Example 2:

SWRMC
LOCAL STANDARD ITEM

6-6.1.2 Aligned to the right margin the following information will be presented, each on its own row of text:

6-6.1.2.1 Fiscal Year for NSIs will be assigned by the Specification for Ship Repair and Alteration Committee (SSRAC). Fiscal Year for LSIs will be assigned by the issuing activity. (e.g., FY-XX)

6-6.1.2.2 Standard Item identification number (e.g., *ITEM NO: 009-005 or ITEM NO: 099-032MA*)

6-6.1.2.2.1 Standard Item identification number for NSIs will be assigned by the SSRAC using 009-xxx series identification numbers. Standard Item identification number for LSIs will be assigned by the issuing activity using 099-xxxLL series identification numbers.

xxx will be a three-digit number as assigned
LL will be a two-letter designator as appropriate

LSI Activity Designators

FDRMC Rota	RS	Southeast RMC	SE
Mid Atlantic RMC	MA	Southwest RMC	SW
Northwest RMC	NW	Yokosuka JRMC	YO
Pearl Harbor RMC	PH		

6-6.1.2.3 For NSIs the issued date (e.g., *DATE: 18NVO2024*)
For LSIs the revision date (e.g., *REVISED: 14JUN2019*)

6-6.1.2.3.1 Issued Dates for NSIs will be assigned by the SSRAC. Revision Dates for LSIs will be assigned by the issuing activity.

6-6.1.2.4 Utilization Category

6-6.1.2.4.1 SSRAC will classify NSIs as either Utilization Category I or II (e.g., CATEGROY: I). All LSIs must designated Utilization Category II by the issuing activity.

6-6.1.2.5 NMD-R Overlays must not be used on NSIs and LSIs.

6-6.2 The header for Master Specification Catalog Templates and Local Work Templates must comply with the following rules.

6-6.2.1 Centered at the top of the first page the template type will be identified in upper case letters. Examples include:

Example 1:

CLASS STANDARD WORK TEMPLATE

Example 2:

STANDARD WORK TEMPLATE

Example 3:

LOCAL WORK TEMPLATE

6-6.2.1.1 Due to NMD-R limitations Master Specification Work Templates (MSWTs) are identified as a Class Standard Work Template with the addition of the NMD-R Overlay MASTER SPECIFICATION. This would appear as follows:

CLASS STANDARD WORK TEMPLATE
MASTER SPECIFICATION

6-6.2.1.2 For non-nuclear surface ships, the only NMD-R Overlay permitted is the identification of MSWTs with the MASTER SPECIFICATION overlay.

6-6.2.1.2.1 Use of other NMD-R Overlays are not allowed on Master Specification Catalog Templates and Local Work Templates supporting non-nuclear surface ships, small boats and crafts.

6-6.2.2 The following information will also be presented on the first page:

6-6.2.2.1 Row 1:

6-6.2.2.1.1 Aligned to the left margin, SHIP: will list the Ship Category and Hull Number of the lead ship of the class

6-6.2.2.1.2 Aligned to the right margin, ITEM NO: will list the appropriate five digit Expanded Ships Work Breakdown Structure (ESWBS)

6-6.2.2.2 Row 2:

6-6.2.2.2.1 Aligned to the left margin, COAR: the Customer Order Acceptance Record (COAR) number for all Master Specification Catalog Templates and Local Work Templates will be N/A

6-6.2.2.2.2 Aligned to the right margin, PCN: the Project Control Number for all Master Specification Catalog Templates and Local Work Templates will be N/A

6-6.2.2.3 Row 3:

6-6.2.2.3.1 Aligned to the left margin, Template Type and File Number presented in the following manner: CSWT FILE NO: 243-082 or SWT FILE NO: 042-005 or LWT FILE NO: 042-001) – first three digits from the ESWBS the last three digits assigned by the activity managing the Master Specification Catalog Template and Local Work Template

Notes:

1. Due to NMD-R limitations MSWTs are identified as CSWTs.
2. NMD-R will generate the last three digits of the file number automatically if the Planner doesn't specify otherwise.

6-6.2.2.3.2 Aligned to the right margin, CMP: the Class Maintenance Plan (CMP) identifier will be presented linking the Master Specification Catalog Template or Local Work Template to the CMP, otherwise this will be N/A

6-6.2.2.4 Row 4:

6-6.2.2.4.1 Aligned to the left margin, REVISED: followed by the date (DD MMM YYYY) of original issuance or revision date of the document

6-6.2.2.4.2 Aligned to the right margin, PLANNER: for all Master Specification Catalog Templates and Local Work Templates this will be N/A

6-6.2.3 For Class Standard Work Templates, on pages other than the first page, the applicable ship class will be identified and underlined (e.g., *SHIP: LPD 17*).

6-6.3 The header for Work Item Specifications must comply with the following rules.

6-6.3.1 Centered at the top of the first page when permitted may include an appropriate NMD-R Overlay (e.g., *LEVEL I*, *CRITICAL SYSTEM*, *DRYDOCK REQUIRED*, *COFFERDAM REQUIRED*, *GAS FREE CERTIFICATION REQUIRED*).

6-6.3.2.1 Overlays must not be used on Work Item Specifications supporting work on non-nuclear surface ships, small boats and crafts.

6-6.3.2 The following information will be presented:

6-6.3.2.1 Row 1:

6-6.3.2.1.1 Aligned to the left margin, SHIP: will list the Ship's Full Name, Category and Hull Number

6-6.3.2.1.2 Aligned to the right margin, ITEM NO: will be presented in the following manner:

6-6.3.2.1.2.1 For repair Work Item Specifications the ITEM NO will be formatted as follows:
- First five-digits will be the appropriate ESWBS

- 6th, 7th, and 8th digits must be for industrial control serialization, from 000 through 999 generated by NMD-R automatically if the Planner doesn't specify otherwise.

6-6.3.2.1.2.2 For modernization Work Item Specifications the ITEM NO will be formatted as follows:

- First three-digits will be from the appropriate ESWBS.
- 4th and 5th digits must be as follows:
  - 80 for Type Commander Title D Alterations or Alterations Equivalent to Repair (AER)
  - 90 for Program Office Title K Alterations
  - 00 for Ordnance Alterations (ORDALTs)
- 6th, 7th, and 8th digits must be for industrial control serialization, from 000 through 999 generated by NMD-R automatically if the Planner doesn't specify otherwise.

6-6.3.2.1.2.3 Examples of ITEM NO: include:

Example 1:
A repair Work Item Specification concerning propulsion boilers for a ship with 2 propulsion shafts must be numbered 221-1X-YYY, where X is a 1 or 2 based on shipboard location and YYY is the industrial control serialization number.

Example 2:
A modernization Work Item Specification accomplishing a Title D alteration on propulsion boilers, must be numbered 221-80-XXX.

Example 3:
Multiple repair Work Item Specifications concerning propulsion boilers sequenced using the trade or component breakdown method in several consecutively numbered Work Item Specifications would be numbered 221-XX-001, 221-XX-002 … 221-XX-YYY as needed, where the X is based on the shipboard location and the YYY is the industrial control serialization number.
NOTE: NMD-R will generate the last three digits of the file number automatically if the Planner doesn't specify otherwise.

6-6.3.2.2 Row 2:

6-6.3.2.2.1 Aligned to the left margin, COAR: will list the appropriate two-digit Customer Order Acceptance Record (COAR) number

6-6.3.2.2.2 Aligned to the right margin, PCN: will list the Project Control Number (PCN) or Numbers that authorized the requirement being addressed by the Work Item Specification.

6-6.3.2.2.2.1 The PCN will be the Work Center Code and Sequence Number portion of the assigned Work Notification Job Control Number. If space limited within the header, Project Control Number information may be presented as an attachment to the Work Item Specification.

6-6.3.2.3 Row 3:

6-6.3.2.3.1 Aligned to the left margin, Template Type and File Number, examples include:: CSWT FILE NO: 243-082 (DDG 51) or SWT FILE NO: 508-003 or LWT FILE NO: 980-001

6-6.3.2.3.2 Aligned to the right margin, CMP: the Class Maintenance Plan identifier will be presented linking the Master Specification Catalog Template or Local Work Template to the CMP, otherwise this will be NONE.

6-6.3.2.4 Row 4:

6-6.3.2.4.1 Aligned to the left margin, REVISED: followed by the date the activity managing the Work Item Specification last edited the document

6-6.3.2.4.2 Aligned to the right margin, PLANNER: will list Last, First name of each person contributing to the preparation of the Work Item Specification. If space limited within the header, Planner information may be presented as an attachment to the Work Item Specification.

6-6.3.3 For Work Item Specifications, on pages other than the first page including Attachments, the applicable ship will be identified and underlined [e.g., *SHIP: USS LABOON (DDG 58)*].

6-7 The footer information found on each page of Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items must comply with the following rules.

6-7.1 The footer information found on NAVSEA Standard Items (NSIs) and Local Standard Items (LSIs) must comply with the following rules.

6-7.1.1 Page numbering must be sequential, and the total pages must be indicated (e.g., *1 of 3, 2 of 3*) in the lower center of the page.

6-7.1.1.1 Page number will be inclusive of all attachments.

6-7.1.2 Standard Item identification number (e.g., *ITEM NO: 009-005* or *ITEM NO: 099-032MA*) along with the Fiscal Year (e.g., *FY-XX*) must be presented in the lower right of each page.

6-7.1.2.1 Attachments must also present this information.

6-7.2 The footer information found on Master Specification Catalog Templates and Local Work Templates must comply with the following rules.

6-7.2.1 Page numbering must be sequential, and the total pages must be indicated (e.g., *1 of 3*, *2 of 3*) in the lower center of the page.

6-7.2.2 Template File Number must be presented in the lower right of each page after the words ITEM NO: (e.g., *ITEM NO: 243-082*)

6-7.3 The footer information found on Work Item Specifications must comply with the following rules.

6-7.3.1 Page numbering must be sequential, and the total pages must be indicated (e.g., *1 of 3*, *2 of 3*) in the lower center of the page.

6-7.3.1.1 Page number will be inclusive of all attachments.

6-7.3.2 Ship Specification Package (SSP) must be presented in the lower left of each page.

6-7.3.2.1 Attachments must also present this information.

6-7.3.3 Item Number (e.g., *ITEM NO: 122-11-001*) must be presented in the lower right of each page.

6-7.3.3.1 Attachments must also present this information.

6-8 Paragraph 1 must be SCOPE.

6-8.1 Within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items the extent and limitations of authorized work on a shipboard component, shipyard service or contract administrative routine are affected by Paragraph 1 SCOPE.

6-8.2 Paragraph 1 SCOPE must be completed as follows:

6-8.2.1 Within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items subparagraph 1.1 must be “Title”. The title will use a noun to recognize a shipboard component, system or structure, a shipyard service or a contract administrative routine and a verb denoting the work to be completed or service to be provided. Unambiguous title language helps ensure titles are clearly identifiable within Specification Packages, or catalogs of Master Specification Templates, Local Work Templates and Standard Items. The rules associated with how titles must appear are as follows:

6-8.2.1.1 Within Subparagraph 1.1 the word "Title" must appear first, followed by a colon, then a noun recognizing the shipboard equipment, alteration or service, a brief description (which can include a descriptor that clearly identifies the work item uniqueness where generic titles make work item identification confusing) of equipment using common shipboard terminology, followed by a semicolon, and then a verb identifying the action to be completed.

6-8.2.1.1.1 Suitable terminology as defined within this appendix will be utilized, apart from the word replace which may be used as the action verb following the semicolon.

6-8.2.1.2 The Title must be singular.

6-8.2.1.3 The Noun portion of the title will have the initial letter of every major word in uppercase, while minor words (articles, prepositions, conjunctions) will follow the below rules.

6-8.2.1.3.1 Articles appearing at the beginning of a title must be capitalized (e.g., The…).

6-8.2.1.3.2 Articles that appear within a title must be lower case (e.g., … an …).

6-8.2.1.3.3 Prepositions that are more than four letters in length must be capitalized (e.g., Through).

6-8.2.1.3.4 Prepositions that are four or less letters in length must be lower case (e.g., of, from).

6-8.2.1.3.5 Conjunctions must be lower case (e.g., for, and).

6-8.2.1.4 The Verb portion of the title will be lowercase.

6-8.2.1.5 If a Work Item Specification is an Option Item within a Specification Package, that will be identified as such, at the end of the title parenthetically in upper case letters.

6-8.2.1.6 Examples are as follows:

1.1 Title: 2A Main Feed Pump; repair
1.1 Title: Fire Main Piping Zone One; repair
1.1 Title: Surface Search Radar; install
1.1 Title: Bake Oven; repair
1.1 Title: ShipAlt CG47-00587D, Replace Type 2 Low Pressure Air Dehydrators; accomplish
1.1 Title: ORDALT 16679, Sill Lift Adapter Improvements; accomplish
1.1 Title: AER 68165 Remove Electrostatic Precipitator; accomplish
1.1 Title: Dry Cleaning Plant; repair (OPTION ITEM)
1.1 Title: Weld, Fabricate, and Inspect; accomplish

6-8.2.2 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates subparagraph 1.2 must be “Location of Work”, followed by a colon. Subparagraphs of 1.2 will identify the shipboard compartments or deck, frame and longitudinal descriptions where work will be performed. Care must be taken to ensure this adequately defines the location because frequently this is the only basis for determining the applicability of the work requirement to a shipboard location.

6-8.2.2.1 NAVSEA Standard Items and Local Standard Items will not identify a Location of Work and will not have a subparagraph 1.2 “Location of Work.”

6-8.2.2.2 Subparagraphs of 1.2 will identify shipboard compartments or locations (i.e., deck, frame and longitudinal designations) where work will be performed.

6-8.2.2.3 Compartment nomenclature used in this subparagraph must be obtained from the Ship’s Booklet of General Plans (BGP) or Booklet of Deck Plans (BDP), as appropriate for class of ship and validated during a Ship Check, except for tanks and voids.

6-8.2.2.4 Compartment nomenclature for tanks and voids must be obtained from the Corrosion Control Information Management System

(CCIMS) and validated during a Ship Check. For ease of access, CCIMS data is presented by hull within the Government Planners Handbook and Estimating Guide (GPHEG).

6-8.2.2.5 Provide concise and explicit location of work information (e.g., deck, frame and longitudinal designations).

6-8.2.2.6 Where several locations are involved, each will be listed in a separate subparagraph.

6-8.2.2.7 The phrase "Throughout the Ship" may be used to avoid inadvertent omissions for work requirements that are in fact widely dispersed. This phrase, however, will not be used when a concise and explicit location can be readily identified.

6-8.2.2.8 In some instances, primarily for General Administration, Integration or Support Service items the location of work may be listed as the Contractor's Plant.

6-8.2.2.9 If this subparagraph is not utilized, indicate such by inserting the words "Not Applicable" after subparagraph 1.2.1.

6-8.2.2.10 The security classification of the compartments will only be listed in subparagraph 1.4 and must not be presented in subparagraph 1.2.

6-8.2.2.11 Examples of subparagraph of 1.2 “Location of Work” are as follows:

1.2.1 Engine Room Number One (4-174-0-E)
1.2.5 Main Deck, Frame 115
1.2.2 Auxiliary Machinery Room No. One (5-67-0- E)
1.2.15 Test Lab (2-174-6-Q)
1.2.1 JP-5 Pump Room (5-132-0-E)
1.2.1 Weather Deck 02 Level, Frames 218-227, Port
1.2.13 Pilot House (04-130-0-C)
1.2.4 Service Tank (4-820-1-F)
1.2.1 Generator Room (3-370-0-E)
1.2.22 Passage (1-42-01-L)
1.2.1 Contractor's Plant Adjacent to Ship
1.2.1 Throughout the Ship
1.2.1 Not Applicable

6-8.2.3 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates subparagraph 1.3 must be “Identification”, followed by a colon.

6-8.2.3.1 NAVSEA Standard Items and Local Standard Items will not have a subparagraph 1.3 "Identification."

6-8.2.3.2 Subparagraphs of 1.3 will identify shipboard equipment that will be worked on, repaired, removed and replaced or permanently removed. Equipment is defined as all non-expendable items needed to outfit and equip a ship.

6-8.2.3.3 Equipment must be identified by any of the following manners:
Joint Electronics Type Designation (e.g., AN/WSN-7 Ring Laser Gyro)
Mark and Mod Nomenclature System (e.g., MK53 Nulka Decoy Launching System)
Part Number as noted on an Allowance Parts List (APL)
Part Number from a paragraph 2 REFERENCE Bill of Material (BOM)
Manufacturer Model and Serial Number

6-8.2.3.4 If existing equipment to be identified does not lend itself to identification as described in the preceding paragraph, then use the nomenclature from an applicable drawing or an unambiguous description of the item to be repaired or replaced, for example: “Lifeline Stanchions” or “Retractable Compartment Dividing Partition”

6-8.2.3.5 Appearing first must be the word "Quantity" followed by the appropriate number and 2-letter abbreviation for unit of issue in parentheses preceding the equipment or item identification. (e.g., Quantity (10 EA), Quantity (25 FT) or Quantity (25 SF), etc.)

6-8.2.3.6 If this paragraph is not utilized, indicate such by inserting the words "Not Applicable" after subparagraph 1.3.1.

6-8.2.3.7 Examples of subparagraph 1.3 “Identification” are as follows:
1.3.15 Quantity (One EA), Liner, IC/E46-6, Part No. 50857-501
1.3.2 Quantity (One EA), Propeller, Right-Hand, MFR: Bird-Johnson Co., APL 834010072
1.3.8 Quantity (One EA), Number One Centralized Cooling Pump, Type DH6080D, RPM 1800, MFR: Buffalo Pumps Inc., APL 016151120
1.3.25 Quantity (One EA), Bolted Plate Manhole Cover, (3-368-4), 15-Inch by 23-Inch, Flush Deck Oil Tight, Item No. 0015 of 2.2, Including Cover Plate Ring and Angle Ring
1.3.19 Quantity (2 EA), Zinc Anode, Type ZHC-83, 6-Inch by 12-Inch by 1.25-Inches Thick
1.3.1 Quantity (One EA), 5 Inch Gear Operated Butterfly Valve, Valve No. SW- V-355B

1.3.4 Quantity (One EA), Ships Service Switchboard Number One, 1S-8S Bus Tie Breaker, ACB-400HR, MFR: SPD Technologies Inc.
1.3.1 Quantity (4 EA), Bulkhead Seal, Type ND, Part No. US71243, MFR: Wartsila Lips Inc., APL: 831000375
1.3.1 Not Applicable

6-8.2.4 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates addressing classified spaces, equipment or documents, subparagraph 1.4 must be “Security Classification of Spaces, Equipment and Documents,” followed by a colon.

6-8.2.4.1 Detailing security classification of Spaces, Equipment, Documents within an attachment to a Work Item Specifications, Master Specification Catalog Template or Local Work Templates is not permitted.

6-8.2.4.2 NAVSEA Standard Items and Local Standard Items will not have a subparagraph 1.4 “Security Classification of Spaces, Equipment and Documents.”

6-8.2.4.3 If a Work Item Specification, Master Specification Catalog Template or Local Work Template does not address classified Spaces, Equipment or Documents subparagraph 1.4 will not be used. Within Navy Maintenance Database-Replatformed (NMD-R) Paragraph 1.4 will only become visible within Work Item Specification, Master Specification Catalog Template and Local Work Template if the checkbox for "DD254" is selected.

6-8.2.4.4 If a Work Item Specification, Master Specification Catalog Template or Local Work Template addresses classified Spaces, Equipment or Documents, subparagraph 1.4 must contain the following introductory sentence: “The Spaces, Equipment or Document is classified and subject to the applicable provisions of Part 117 of Title 32 Code of Federal Regulations (National Industrial Security Program Operating Manual) as directed by DOD Instruction 5220.31.” Within NMD-R the preceding introductory sentence will be automatically added to Paragraph 1.4 within Work Item Specification, Master Specification Catalog Template and Local Work Template if the checkbox for "DD254" is selected.

6-8.2.4.5 Subparagraph 1.4.1 will be “Spaces:”, succeeding subparagraphs must list classified compartments. The security classification of that compartment must be shown parenthetically in upper case letters after the compartment number.

6-8.2.4.5.1 If no classified compartments are addressed subparagraph 1.4.1 will not be included. Subparagraphs concerning “Equipment” and “Documents” will move up in the subparagraph numbering to take the place of “Spaces.”

6-8.2.4.5.2 Compartment nomenclature used in this subparagraph must be obtained from the Ship’s Booklet of General Plans (BGP) or Booklet of Deck Plans (BDP), as appropriate for class of ship and validated during a Ship Check, except for tanks and voids.

6-8.2.4.5.3 Compartment nomenclature for tanks and voids must be obtained from the Corrosion Control Information Management System (CCIMS) and validated during a Ship Check. For ease of access, CCIMS data is presented by hull within the Government Planners Handbook and Estimating Guide (GPHEG).

6-8.2.4.6 Subparagraph 1.4.2 will be “Equipment:”, succeeding subparagraphs must list classified equipment. The security classification of that equipment must be shown parenthetically in upper case letters after the equipment identified.

6-8.2.4.6.1 If no classified equipment is addressed subparagraph 1.4.2 will not be included. Subparagraph concerning “Documents” will move up in the subparagraph numbering to take the place of “Equipment.”

6-8.2.4.6.2 The equipment will be identified using the Joint Electronics Type Designation (e.g., AN/WSC-6 Super High Frequency Transceiver, AN/WSN-7 Ring Laser Gyro) or Mark and Mod Nomenclature System (e.g., Mk45 Mod2 5-inch 54-caliber Gun, MK53 Nulka Decoy Launching System).

6-8.2.4.7 Subparagraph 1.4.3 will be “Documents:”, succeeding subparagraphs must list classified documents. The security classification of that document must be shown parenthetically in upper case letters after the equipment identified.

6-8.2.4.7.1 If no classified documents are used subparagraph 1.4.3 will not be included.

6-8.2.4.7.2 Documents listed in subparagraph 1.4.3 will follow the rules as presented within paragraph 6-9 of this Appendix.

6-8.2.4.8 Examples:

Example 1 (Spaces and Equipment, no Documents):

1.4 Security Classification of Spaces, Equipment and Documents: The Spaces, Equipment or Document is classified and subject to the applicable provisions of Part 117 of Title 32 Code of Federal Regulations (National Industrial Security Program Operating Manual) as directed by DOD Instruction 5220.31.

1.4.1 Spaces:

1.4.1.1 Computer Room and Data Processing Center (02-71-1-C) (CONFIDENTIAL)

1.4.1.2 Tactical Air Control Center (02-70-0-C) (CONFIDENTIAL)

1.4.1.3 Amphibious Air Traffic Control Center (02-70-8-C) (CONFIDENTIAL)

1.4.1.4 Communication Technical Control Room (02-89-0-C) (CONFIDENTIAL)

1.4.2 Equipment:

1.4.2.1 AN/SSC-13 SATCC Next Generation System (CONFIDENTIAL)

Example 2 (Spaces and Documents, no Equipment):

1.4 Security Classification of Spaces, Equipment and Documents: The Spaces, Equipment or Document is classified and subject to the applicable provisions of Part 117 of Title 32 Code of Federal Regulations (National Industrial Security Program Operating Manual) as directed by DOD Instruction 5220.31

1.4.1 Spaces:

1.4.1.1 Electronic Warfare Room (03-324-0-C) (CONFIDENTIAL)

1.4.1.2 AEGIS Radar Room Number 3 (01-220-0-C) (CONFIDENTIAL)

1.4.2 Documents:

1.4.2.1 MIL-STD-1680, Installation Criteria for Shipboard Secure Electrical Information Processing Systems (CONFIDENTIAL)

Example 3 (Spaces only, no Equipment, no Documents):

1.4 Security Classification of Spaces, Equipment and Documents: The Spaces, Equipment or Document is classified and subject to the applicable provisions of Part 117 of Title 32 Code of Federal Regulations (National Industrial Security

Program Operating Manual) as directed by DOD Instruction 5220.31
1.4.1 Spaces:
1.4.1.1 Combat Information Center (02-65-0-C) (CONFIDENTIAL)

Example 4 (Documents only, no Spaces, no Equipment):

1.4 Security Classification of Spaces, Equipment and Documents: The Spaces, Equipment or Document is classified and subject to the applicable provisions of Part 117 of Title 32 Code of Federal Regulations (National Industrial Security Program Operating Manual) as directed by DOD Instruction 5220.31
1.4.1 Documents:
1.4.1.1 801-6926607 Rev E, Tank Capacity Curves (CONFIDENTIAL)

6-8.2.5 In the event the need for a subparagraph of 1.2, 1.3 or 1.4 has been eliminated after a Work Item Specification has been developed the Planner or Ship Building Specialist may remove the reference in the following manner. Replace the eliminated subparagraphs with the words “Intentionally Left Blank,” and then edit the Paragraph 3 REQUIREMENTS, removing mention of eliminated “Location of Work” (1.2 subparagraphs), “Identification” (1.3 subparagraphs), “Security Classification of Spaces, Equipment and Documents” (1.4 subparagraphs).

6-9 Paragraph 2 must be REFERENCES.

6-9.1 The indiscriminate use of references in Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items serves only to confuse the users, makes the actual work requirements vague, and does not promote the concept of providing clear and contractually sound Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items or Local Standard Items. Conversely, the omission of required reference data does not promote this concept either. Therefore, references must be used when required, but they must always be thoroughly researched and then used selectively. Ideally, what is desired is a Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item which includes no textual references, and which contains all necessary data.

6-9.2 References must be limited to applicable technical data such as NAVSEA Standard Items, drawings, equipment technical manuals, Military Standards (MIL-STDs), Military Specifications (MIL-SPECs), Test Memos, and NAVSEA approved Preservation Process Instructions (PPIs). Technical data means recorded information (regardless of the form or method of the recording) of a scientific or technical nature (including computer databases and computer software documentation). This term does not include computer software or

financial, administrative, cost or pricing, or management data or other information incidental to contract administration. The term includes recorded information of a scientific or technical nature that is included in computer databases. For these purposes, technical data includes the characteristics of a particular science, trade or profession.

6-9.3 When considering technical data for use as a reference, it must be thoroughly researched to determine that:

6-9.3.1 It is absolutely essential to accomplish the required work.

6-9.3.2 It is the latest version or revision of the applicable document.

6-9.3.3 It will not begin a chain of unnecessary references.

6-9.3.4 When possible, use documents without sharing limitations as references.

6-9.3.4.1 National Security Information classification, Government Distribution Statement restrictions and limitations concerning Technical Data Rights ownership can impact what, when and how documents can be shared with private sector industrial activities that will bid on and execute depot level maintenance.

6-9.3.5 It is available in reproducible form for distribution.

6-9.3.5.1 Cited unclassified references from Work Item Specifications within a Specification Package will be assembled within Navy Maintenance Database-Replatformed (NMD-R) into a Project Technical Library for easy access by the Ship’s Maintenance and Project Teams.

6-9.3.5.2 During contract solicitation, bidders will receive the cited references that are unclassified, free from Distribution Statement restrictions and, if not government-owned, those documents that may be shared based on the government's purchased Technical Data Rights.

6-9.4 The General Specifications for Overhaul of Surface Ships (GSO) is a primary source for technical requirements for alterations and for the refurbishment and repair of existing ship's equipment and components. Therefore, the GSO should be considered when preparing Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items or Local Standard Items.

6-9.5 NAVSEA Standard Items establish uniform methods and standards and should be used as references within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates to the greatest extent possible.

6-9.6 NAVSEA Standard Items must not be used as a reference within other NAVSEA Standard Items, document references cannot be circular.

6-9.6.1 Utilization Category I NAVSEA Standard Items may identify Utilization Category II NAVSEA Standard Items for accomplishment within Paragraph 3 REQUIREMENTS.
For example, from 009-005 (Temporary Access; accomplish):
3.14.1 Accomplish the requirements of 009-012 of NAVSEA Standard items for welding, fabrication, and inspection requirements to support installation of a temporary access.

6-9.6.2 Utilization Category II NAVSEA Standard Items will not identify other Utilization Category II NAVSEA Standard Items for accomplishment within Paragraph 3 REQUIREMENTS.

6-9.7 When a Work Item Specification, Master Specification Catalog Template or Local Work Template references Class and Hull specific configuration and Ship Alteration information, the planning activity must validate that reference information (Ship Alteration drawings, LARS, "as built drawings", Test Procedures, etc.) used is correct via the assigned Class Planning Yard.

6-9.8 References must be hull and equipment specific as identified in the current Ship's Drawing Index (SDI) or equipment specific Model Based Product Support (MBPS) information.

6-9.9 Selected Record Drawings (SRDs) identified within the applicable SDI must be considered for use as references within a Work Item Specification, Master Specification Catalog Template or Local Work Template. SRDs have the advantage of being regularly reviewed and updated by the assigned Ship Class Planning Yard. SRDs are therefore generally more reflective of a ship's current configuration. Non-SRDs and Installation DWGs can be used but must be thoroughly ship checked to ensure adequacy.

6-9.10 If referencing NAVSEA Technical Repair Standards (TRSs) or NAVSEA Standardized Maintenance Procedures Handbooks the Planner must ensure that the requirements are precise and do not invoke a string of possible unintended or additional work. These Technical Manuals are written to support Organizational, Technical Assist, Intermediate and Deport level maintenance actions, as such some sections might not be appropriate for depot level work. Examples of use include:
Example 1:
2.13 S9243-AW-TRS-011/SHAFT Rev 1, Surface Ships Main Propulsion Shafting Refurbishment Procedures
3.7.3 Accomplish a visual inspection of each shaft-to-sleeve interface for evidence of seawater penetration and record each result in accordance with 2.13 (Section 3-9.1).
Example 2:
2.2 S9233-DL-HBK-010 Rev 8, Technical Manual Main Propulsion Diesel Engine, Model Number PC 2.5V STC, Colt Pielstick LOD 17 Class Ships; Standardized Maintenance Procedures Handbook

3.3 Accomplish the requirements of Appendix C, Section 3, of 2.2 for the equipment listed in 1.3.1.1 and located in 1.2, using 2.3 for guidance.

6-9.11 Planned Maintenance System (PMS) documents may be used as references in Work Item Specifications, Master Specification Catalog Templates and Local Work Templates when required, including but not limited to, LCS and DDG 1000 Class Ships supporting the accomplishment of preventive maintenance availabilities.

Examples of Planned Maintenance System (PMS) documents:

2.9 Force Revision, 3-20
2.10 List of Effective Pages, UIC: V20134 Work Center: EM01 Date: 04/23/20
2.11 Maintenance Index Page, MIP Control Number: 2411/016-C9 Transmission and Propulsor Systems (LCS 5 Class and follow)
2.12 Maintenance Requirement Card, MRC Control Number: 49 J3KR N (Visually Inspect Main Propulsion Shaft Flexible Couplings)

6-9.12 Appropriate Program Office approved 4720/3 Material Identification Documents for ShipAlts, AERs, or repair kits may be listed in paragraph 2 REFERENCES. The reference must be used to identify the GFM for the identified ShipAlt, AER, or repair process in paragraph 5 GOVERNMENT FURNISHED MATERIAL (GFM) of the Work Item Specification. Example of a Program Office 4720/3:

2.65 4720-CG51-FY01-SA00522-REV04, Ship Alteration Material Summary (4720/3) CG51 USS THOMAS S. GATES

6-9.13 As defined by NAVSEA Contracts Directorate Contract Clause (HQ C-2-0051), a Zero-tier reference is listed in paragraph 2 REFERENCES and utilized in paragraph 3 REQUIREMENTS, these are mandatory for use by the contractor. First-tier references that are cited within zero-tier references are mandatory for use by the contractor. All lower tier references must be used for guidance only. If those lower-tier references are needed for the accomplishment of requirements they must be listed in paragraph 2 REFERENCES and called out in paragraph 3 REQUIREMENTS.

6-9.14 If short enough (single page or less), the reference documentation may be lifted out or paraphrased and written in paragraph 3 REQUIREMENTS of the Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item both for clarity of the requirements and for building a Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item that can stand alone.

6-9.15 Instructions, Notices, Naval Messages, and letters with financial, administrative, management data or other information incidental to contract administration must not be included as references.

6-9.16 Documents such as federal regulations outside the Department of Defense and public laws must not be referenced except where it is necessary to show the contractor that there are public laws and regulations which must be complied with but are outside the scope of the Master Ship Repair Agreement (MSRA) / Agreement for Boat Repair (ABR) requirements.

6-9.17 The following rules apply for how references must appear in Paragraph 2 REFERENCES of a Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item.

6-9.17.1 Additional specific rules concerning references within NAVSEA Standard Items and Local Standard Items:

6-9.17.1.1 NAVSEA Standard Items must not be listed as a reference within other NAVSEA Standard Items, document references cannot be circular.

6-9.17.1.2 References must be listed in Paragraph 2 REFERENCES in the order the reference is cited in subsequent paragraphs of a NAVSEA Standard Item.

6-9.17.1.3 Local Standard Items must not be listed as a reference within other Local Standard Items, document references cannot be circular.

6-9.17.1.4 If NAVSEA Standard Items are utilized within a Local Standard Item, paragraph 2.1 must identify Standard Items, regardless of where in the subsequent paragraphs of the Local Standard Item the NAVSEA Standard Item is cited. Example:

2.1 NAVSEA Standard Items (FYXX) – where XX represents the last two digits of the FY

6-9.17.1.5 Except for NAVSEA Standard Items, references must be listed in Paragraph 2 REFERENCES in the order the reference is cited in subsequent paragraphs of a Local Standard Item.

6-9.17.1.6 When referencing NAVSEA Standard Items and Local Standard Items reference revision and/or change designation (letter and/or number) will not be included.

6-9.17.2 Additional specific rules concerning referencing NAVSEA Standard Items or Local Standard Items within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates:

6-9.17.2.1 When NAVSEA Standard Items or Local Standard Items are utilized, these Standard Items will be listed first within paragraph 2, regardless of where in the subsequent paragraphs of the Work Item Specification, Master Specification Catalog Template or Local Work Template the NAVSEA Standard Item or Local Standard Item is cited.

6-9.17.2.1.1 Local Standard Items must not be utilized within Work Item Specification that will be part of a Specification

Package offered as a Coast-wide or Nation-wide solicitation process.

6-9.17.2.2 When NAVSEA Standard Items are listed within paragraph 2.1 the Fiscal Year must be included. Example:

2.1 NAVSEA Standard Items (FYXX) – where XX represents the last two digits of the FY

6-9.17.2.3 When referencing NAVSEA Standard Items and Local Standard Items reference revision and/or change designation (letter and/or number) will not be included.

6-9.17.2.4 When both NAVSEA Standard Items and Local Standard Items are utilized, these references will be listed in paragraphs 2.1 and 2.2. Example:

2.1 NAVSEA Standard Items (FYXX) – where XX represents the last two digits of the FY
2.2 Local Standard Items

6-9.17.3 Except for Standard Items, references must be listed in Paragraph 2 REFERENCES in the order the reference is cited in subsequent paragraphs of a Work Item Specification, Master Specification Catalog Template or Local Work Template.

6-9.17.4 If there are no references, the word "None" is to follow 2.1.
Example:
2.1 None

6-9.17.5 Except as directed in the following subparagraphs, Reference Titles within a Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item must appear as they appear on the reference document (i.e. Drawing Title Block, Technical Manual title, etc.).

6-9.17.5.1 Except for articles, prepositions and conjunctions capitalize the first letter of each word in a title. For articles, prepositions and conjunctions appearing within tiles follow the below rules:

6-9.17.5.1.1 Articles appearing at the beginning of a title must be capitalized (e.g., The…).

6-9.17.5.1.2 Articles that appear within a title must be lower case (e.g., … an …).

6-9.17.5.1.3 Prepositions that are more than four letters in length must be capitalized (e.g., Through).

6-9.17.5.1.4 Prepositions that are four or less letters in length must be lower case (e.g., of, from).

6-9.17.5.1.5 Conjunctions must be lower case (e.g., for, and).

6-9.17.5.2 Note the revision and/or change designation (letter and/or number) of each reference. If the reference is the first issuance, do not use Rev Ø, Rev – or Rev (blank space) to indicate this. If the change does not exist, do not use Rev Ø, Rev – or Rev (blank space) to indicate this.

6-9.17.6 Examples of entries for various types of documents:

Drawings:

2.9 252-5351151 Rev L, Propulsion Control System, Circuit K-GT, Cabling Diagram
2.4 807-5037131 Rev C, Antenna Group OE-373A/SPS-48E Outline and Installation Drawing

Technical Manuals:

2.2 S9585-AH-OMI-010 Rev 2, Sliding Padeye Receiving Units, Deck Mounted Models D-9 and D-12, and Tilting Models T-12 and T-12A
2.5 S9625-AU-MMA-010 Change C, Electrically Heated Deicing Window
2.11 SL460-AA-HBK-010 Rev 1, Handbook for Inspection, Packaging, Handling, Storage, and Transportation
2.20 S9169-AE-SSM-010 Rev 3, LPD 17 Class Equipment Manual for Advanced Enclosed Mast/Sensor (AEM/S Mast)
2.7 NAVMED P-5010-6, Manual of Naval Preventive Medicine, Chapter 6, Water Supply Afloat

General Specifications for Overhaul

2.2 S9AA0-AB-GOS-10, General Specifications for Overhaul of Surface Ships (GSO)

Technical Repair Standards (TRSs)

2.13 S9243-AW-TRS-011/SHAFT Rev 1, Surface Ships Main Propulsion Shafting Refurbishment Procedures

Military Standard (MIL-STD):

2.3 MIL-STD-2003A, Electric Plant Installation Standard Methods for Surface Ships and Submarines

Program Officer or Planning Yard documents:

2.10 DM 990015, SPAS, Ammunition Elevator Mechanical Interlock
2.7 Test 77222-3-709 Rev C, Aft Ammunition Elevator System Operability Test

Locally Prepared Reference:

2.2 DM 230-0081 SURF, Shafting Miscellaneous Repair Requirements
2.5 DM 220-013 Rev B SURF, Fuel Oil Service Tank 4-220-1-F Equalizing Line Change of Material from Carbon Steel to 70/30 Copper Nickel

6-9.17.7 For Naval Ships' Technical Manuals the words "Naval Ships' Technical Manual" must not be included within Paragraph 2 REFERENCES. Only the Technical Manual number, revision designation, chapter number and subject of a Naval Ships' Technical Manual must appear in Paragraph 2 REFERENCES. Examples:

2.5 S9086-RK-STM-010/CH-505 Rev 5, Piping Systems
2.6 S9086-T8-STM-010/CH-593 Rev 7, Pollution Control
2.7 S9086–BA-STM-010/CH-034 Rev 1, Service Craft (RESTRICTED)

6-9.17.8 If referencing a Liaison Action Record (LAR), Reverse Liaison Action Record (RLAR), 4720/3 (Ship Alteration Material Summary), Design Memo, Planning Memo, Test Procedure utilize or other locally prepared reference the File No. and Title as they appear on those documents. Examples:

2.40 LAR 73622/DDG57/1132310, Requirement for Protective Cages around Sensors
2.43 RLAR 73622/DDG97/1151906, Material and Design Corrections for Protective Covers
2.10 DM 990015, SPAS, Ammunition Elevator Mechanical Interlock
2.7 Test 77222-3-709 Rev C, Aft Ammunition Elevator System Operability Test
2.2 DM 230-0081 SURF, Shafting Miscellaneous Repair Requirements
2.5 DM 220-013 Rev B SURF, Fuel Oil Service Tank 4-220-1-F Equalizing Line Change of Material from Carbon Steel to 70/30 Copper Nickel

6-9.17.9 The level of security classification of a classified reference must be shown parenthetically in upper case letters, following its unclassified title. For example:

2.9 801-6926607 Rev E, Tank Capacity Curves (CONFIDENTIAL)

6-9.17.10 Government-owned references with limiting Distribution Statements that prohibit unrestricted sharing with private-sector industry partners prior to contract award must be clearly identified as restricted. This designation should appear in uppercase letters, parenthetically, at the end of the reference title.
For example: *2.7 S9086-VZ-STM-010, Commissary Equipment (RESTRICTED)*

6-9.17.11 References for which the government does not own complete Technical Data Rights, thereby preventing unrestricted sharing with private-sector industry partners, must be designated as proprietary or controlled. The document owner will mark these documents as ‘Proprietary’ or ‘Controlled’. In some cases notes will further define what Technical Data Rights are owned by the government and what information sharing with other private-sector industry partners is allowed. The designation of proprietary or controlled must appear in uppercase letters, parenthetically, at the end of the reference title. Examples:

2.7 100-7026706 Rev 2, Unit Structural Arr Dwg Assy Unit 3420 (PROPRIETARY)
2.6 05007206 Rev 3, Flight Deck Tie Down Assembly – LCS (PROPRIETARY)
2.2 J140 Rev M, Joiner Door Schedule & Details (PROPRIETARY)
2.3 ISO 8573:2010 Sections 1 through 9, International Standard Compressed Air Contaminants and Purity Classes (CONTROLLED)

6-9.17.12 In the event the need for a reference has been eliminated after a Work Item Specification has been developed the Planner or Ship Building Specialist must remove the reference in the following manner. Edit the Paragraph 3 REQUIREMENTS removing the reference and then replace the reference title with the words “Intentionally Left Blank.” For example:

2.2 Intentionally Left Blank

6-9.18 When using Naval Ship's Technical Manuals (NSTM) and General Specifications for Overhaul of Surface Ships (GSO) as references, ensure that only applicable portions are referenced. Examples of use include:

Example 1:
2.2 S9AA0-AB-GOS-10, General Specifications for Overhaul of Surface Ships (GSO)
3.4 Remove existing and install new flanged take down joint assembly in accordance with Section 506d of 2.2.
Example 2:
2.3 S9086-T8-STM-010/CH-593 Rev 7, Pollution Control
3.8 Accomplish sanitary and hygienic procedures of Paragraph 593-4.2.3 through 593-4.2.4.1.3 of 2.3.

6-9.19 SUPSHIP/RMC/SURFMEPP References. When information to be used as a reference is too complex or lengthy to be lifted out and included in the REQUIREMENTS paragraph of a Work Item Specification, Master Specification Catalog Template or Local Work Template and the documentation is not appropriate to use directly as a reference, then the information must be lifted out and rephrased as needed to be used as a SUPSHIP/RMC/SURFMEPP Reference.

6-9.19.1 SUPSHIP/RMC/SURFMEPP References must be issued with a cover sheet identifying the SUPSHIP (City)/RMC/SURFMEPP Reference __, Rev __, and date issued.

6-9.19.2 The originating SUPSHIP/RMC/SURFMEPP must be responsible for maintaining a master file of SUPSHIP/RMC/SURFMEPP References and revised versions. Revisions to SUPSHIP/RMC/SURFMEPP References must be identified as Rev A, Rev B, etc.

6-9.19.3 The use of SUPSHIP/RMC/SURFMEPP References must be limited to those cases where no other recourse exists to adequately specify work requirements in a Work Item. The modified versions of these appendices would be identified as SUPSHIP/RMC/SURFMEPP References. Likewise, certain portions of NSTMs would be identified for use in a Work Item as a SUPSHIP/RMC/SURFMEPP References.

6-9.20 Care must be exercised when invoking references. It is important to recognize and select the appropriate degree of contractor compliance when invoking references:

6-9.20.1 When it is desired to direct a contractor to accomplish work strictly in accordance with the reference, the invoking phraseology must be one of the following:

6-9.20.1.1 "… in accordance with 2.__", or

6-9.20.1.2 “Accomplish the requirements of 2.__", or

6-9.20.1.3 "… conforming to 2.__".

6-9.20.2 When the reference data is only partially applicable, the invoking phraseology must be: "… in accordance with 2.__", and then list the exceptions in a subparagraph.

6-9.20.3 When strict compliance is not required and the reference is only listed for information and guidance, the invoking phraseology must be: "…, using 2.__ for guidance".

6-9.20.3.1 However, it can become a catch-all and its use must be held to a minimum.

6-10 Paragraph 3 must be REQUIREMENTS.

6-10.1 The requirements paragraph of Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items is that portion which must detail the minimum work and material needs. Requirements entail all production work, direct quality assurance test and inspections, administrative reports related to a Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item.

6-10.2 The best requirements paragraphs will document what the end result or operational requirement is, while allowing the contractor some latitude to select the means and methods that are efficient for that contractor’s particular physical plant and production schedule. Some detailed direction concerning the means and methods to perform particular work steps will be provided, generally through invoked NAVSEA Standard Items.

6-10.3 Work Item Specifications for repair and modernization efforts must accomplish the work authorized by the Type Commander (TYCOM), NAVSEA Program Office or Participating Acquisition Resource Manager (PARM) as informed by Planning Activity ship checks.

6-10.4 It is assumed that Master Ship Repair Agreement (MSRA) / Agreement for Boat Repair (ABR) Contractors responding to a solicitation have the necessary competence to ensure satisfactory completion of the requirements within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items.

6-10.5 Sole source requirements (technical representatives, vendors, directed subcontractors, etc.) must not be invoked in any Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item and Local Standard Item without sufficient evidence with explanation to permit a Justification and Approval (J&A) by the Contracting Officer.

6-10.6 Care must be taken to document requirements only once. Documenting requirements more than once can insert confusion concerning work sequencing and inspection as well as how an estimate for these requirements is generated. Do not duplicate work contained in Utilization Category I or II NAVSEA Standard Items within Requirements paragraphs.

6-10.7 Wording that is ambiguous must not be used. Quality Assurance accept or reject criterion must be definitive.

6-10.8 Each subparagraph must express a complete thought in clear, concise language that is contractually sound.

6-10.9 The written requirements should normally be in chronological sequence of work accomplishment.

6-10.9.1 For complex Work Item Specifications, Master Specification Catalog Templates or Local Work Templates that would be cumbersome and confusing if normal chronological work sequence were employed, an alternative trade or component breakdown method may be employed. This method addresses each trade or component's work requirements separately, either in consecutive subparagraphs within paragraph 3 REQUIREMENTS. This method could also be employed in several consecutively numbered Work Item Specifications. When this method is used, the normal time sequence of work within the trade or component is maintained.

6-10.10 For Work Item Specifications, Master Specification Catalog Templates and Local Work Templates requirements will be documented within paragraph 3 REQUIREMENTS by a combination of direct statements and invoked Utilization Category I and II NAVSEA Standard Items, as well as Local Standard Items where required.

6-10.10.1 Utilization Category II NAVSEA Standard Items must be invoked to the maximum extent possible within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates.

6-10.11 Within Utilization Category I NAVSEA Standard Items, requirements will be documented by a combination of direct statements and by identifying Utilization Category II NAVSEA Standard Items for accomplishment within Paragraph 3 REQUIREMENTS. For example, from 009-005 (Temporary Access; accomplish):

3.14.1 Accomplish the requirements of 009-012 of NAVSEA Standard items for welding, fabrication, and inspection requirements to support installation of a temporary access.

6-10.12 Within Utilization Category II NAVSEA Standard Items and Local Standard Items requirements will be documented by direct statements within paragraph 3 REQUIREMENTS.

6-10.13 When abbreviations and acronyms are used in Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items, the complete phrase must be written out the first time it is used, followed by the abbreviation or acronym in parentheses. After that, the abbreviation or acronym may be used throughout the Work Item Specification, Master Specification Catalog Template, Local Work Template, NAVSEA Standard Item or Local Standard Item.

6-10.14 No more than 3 levels of subparagraphs are allowed in specifications; for example, 3 levels of indentation are represented by subparagraph, 3.X.X.X." Paragraphs at the 3.X level must be verb, noun format, subparagraph levels 3.X.X., and 3.X.X.X, are not required to be verb, noun format.

6-10.14.1 Paragraph 3.1 must include phraseology that begins with a verb and refers to paragraphs 1.2 and 1.3. (e.g., *3.1 Remove existing and install new the equipment listed in 1.3 and located in 1.2, using 2.2 for guidance.*). If current ANNEX B NAVSEA Standard Phraseology does not comply with this requirement do not modify the ANNEX B NAVSEA Standard Phraseology.

6-10.15 Annex B NAVSEA Standard Phraseology of this Appendix must be used to the maximum extent possible within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items.

6-10.16 In paragraph 3, once you have identified the location and equipment listed in 1.2 and 1.3, it is not necessary to repeat that identification throughout the requirements, unless different actions are being accomplished.

6-10.17 For shipboard systems and equipment listed within Paragraph 3.1 of Category I NAVSEA Standard Item 009-023 (Interference; remove and install), these shipboard systems and equipment must be identified within Paragraph 3.1 (utilizing NAVSEA Standard Phraseology B1) of a Work Item Specification, Master Specification Catalog Template or Local Work Template.

6-10.18 Material (Repair Parts, Raw Material or Common Shelf Items) categorized as Contractor Furnished or Government Furnished will be addressed in paragraph 3 REQUIREMENTS of Work Item Specifications, Master Specification Catalog Templates and Local Work Templates as follows:

6-10.18.1 NAVSEA Standard Phraseology B17 must not be used within Paragraph 3 to list either Raw Material or Common Shelf Items regardless of it being provided as Government Furnished Material or procured as Contractor Furnished Material.

6-10.18.2 NAVSEA Standard Phraseology B17 must be used within Paragraph 3 when listing Repair Parts procured as Contractor Furnished Material.

6-10.18.3 Repair Parts procured as Contractor Furnished Material will be listed using NAVSEA Standard Phraseology B17, including the quantity required, 2-letter abbreviation of unit of issue, the manufacturer's part number or plan number and piece number as listed in the equipment technical manual or plan. For example:

3.5.1 Remove existing, fit and install new the following parts:

TOTAL QUANTITY REQUIRED	*NAME OF PART*	*PIECE NO.*	*REF. NO.*	*FIGURE / DRAWING NO.*	*PART NO.*
26 EA	*Stave, Flat Black Number 10 30-inches long*	*11*	*2.7*	*84115*	*Duramax P/N 8091007622002*

6-10.18.4 Contractor furnished raw materials (e.g., plate, beams, bars, piping, casting components, etc.) and common shelf items (e.g., fasteners, gaskets, cotter pins, O-Rings, seals, etc.) must be identified by noun name in paragraph 3 of the Work Item without further identification as to manufacturer's part number or piece number. Examples include:

Example of Contractor Furnished Raw Materials:

3.4 Remove existing and install new a total of 10 linear feet of tee bar (IT 109, 12-inch X 4-inch X 16 LB I-T, Mil-S-22698 GR AH-36) and 6 square feet of plate (PL 105, .500-inch plate, Mil-S-22698 GR DH-36) for each tank listed in 1.2, using 2.4 through 2.5 for guidance. Size of tee bar and plate identified for estimating purposes only.

Example of Contractor Furnished Common Shelf Items:

3.8.1 Assemble, fit and install new each gasket, seal, o-ring, packing, pin, dowel, key, lockwire and shim, reusing all serviceable parts and fasteners retained.

6-10.18.5 All material listed in Paragraph 5 GOVERNMENT FURNISHED MATERIAL (GFM) must be used within Paragraph 3 REQUIREMENTS. For example:

3.5 ... fitting and installing new parts provided in 5.1.1 through 5.1.5, ...

6-10.19 Appropriate Front Loads and Level of Effort (LOE) Growth Reservations provide a means to accomplish repairs, which could not be clearly defined in advance of the ship's availability. Front Loads and Level of Effort (LOE) Growth Reservations are to be based upon historical analysis, published by CNRMC and SEA02. Use of Front Loads and Level of Effort (LOE) Growth Reservations can reduce the need to use the Request for Contract Change (RCC) process during contract execution.

6-10.19.1 Planning Activity must validate with Project Manager if the Level of Effort to Completion (LOE2C) CLIN will be utilized in the Ship Repair and Modernization Contract being worked on. If LOE2C CLIN is being used adding Level of Effort (LOE) Growth Reservations within Work Item Specifications

must be controlled. Planners should ask for guidance before adding LOE paragraphs within Work Items.

6-10.20 Reports - Written reports are necessary in order to record results of inspections, tests, and work accomplished. The planner must keep in mind that reports are costly to generate and to process. Reports must only be required in Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items when necessary. Do's and don'ts for reports are as follows:

6-10.20.1 Do require a report for machinery history with condition identified readings.

6-10.20.2 Do require a report when a unique piece of equipment has had many problems.

6-10.20.3 Do require a report listing unsatisfactory conditions.

6-10.20.4 Do require machinery closing reports if not recorded on test memos or data sheets.

6-10.20.5 Don't require a report to track contractor progress on a job.

6-10.20.6 Don't require a report following a test and/or inspection (except where recorded test data is necessary).

6-10.20.7 Don't require a report for each piece of equipment. Have the contractor submit a report in matrix format when criteria are the same for each item. (Example: Five motors being overhauled in accordance with NAVSEA Standard Item 009-017.)

6-10.20.8 Don't require a report just so you will know the item is being worked.

6-10.21 Process Control Procedure (PCP) requirements not already required by NAVSEA Standard Items must appear in the REQUIREMENTS paragraph of Work Item Specifications, Master Specification Catalog Templates and Local Work Templates. The NAVSEA Standard Item for a Process Control Procedure will only be invoked when contractual compliance of the product cannot be ensured by inspections and tests. Reference must be made to applicable standards or specifications that govern the process to be controlled. Any requirements that must be addressed by the procedure must be explicitly identified in NSI 009-009 requirements. The following additional requirement applies for PCPs:

6-10.21.1 PCPs must be written for all non-nuclear surface ship systems and equipment listed in the most current version of CNRMC Instruction 4700.5_ Series (Guidance and Policy for Surface Ship Critical Systems and other Work Requiring Process Control Procedures (PCP) or Government Approved Technical

Procedures (ATP).

6-10.22 Inspections and Tests will be documented within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items in the following manner.

6-10.22.1 The addition of Inspections or Tests to NAVSEA Standard Items that will globally affect the NAVSEA Standard Items are not authorized without written approval from the SSRAC Director. These changes must be submitted in accordance with the SSRAC process for final adjudication and implementation into future NAVSEA Standard Items.

6-10.22.1.1 Requests for deviations from NAVSEA Standard Items must be submitted in writing and routed to the SSRAC 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.). The RMC retains the authority to make changes to Work Item Specifications in a non-precedent setting situation. This does not include requests for deviation to technical requirements, which may require a Departure from Specification (DFS). For instances when a DFS is required, the requirements of the Joint Fleet Maintenance Manual (JFMM) must be followed.

6-10.22.1.1.1 Completed NAVSEA Standard Item Deviation Request Forms are to be submitted through the local RMC. Local standards coordinator will forward Deviation request form with RMC recommendation to ssrac@us.navy.mil for adjudication. NAVSEA Standard Item Deviation Request Forms can be found at: https://www.navsea.navy.mil/Home/RMC/CNRMC/Our-Programs/SSRAC/

6-10.22.2 The addition of Inspections or Tests to Master Specification Catalog Templates (e.g., MSWT, CSWT, SWT) that will globally affect the Templates are not authorized without written approval from the SSRAC Director. These changes must be submitted in accordance with the MSC process for final adjudication and implementation into future templates.

6-10.22.3 Inspections and Tests must be identified by (I) (Q) or (V) symbols inserted in the left hand margin. These symbols designate points at which the repair activity must verify and document satisfactory progress or completion of work to an established standard.

6-10.22.4 Inspections and Tests that are not required by invoked NAVSEA Standard Items or Local Standard Items must be identified by (I) (Q) or (V) symbols inserted in a Work Item Specification, Master Specification Catalog Template or Local Work Template.

6-10.22.5 Inspections and Tests requiring prior Government notification of being scheduled for accomplishment must be identified by (G) symbols inserted in Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items.

6-10.22.5.1 Where additional Government oversight is deemed necessary by the SUPERVISOR to ensure satisfactory contract performance or to address a specific problem area a (G) notification may be added to an Inspection or Test currently not requiring Government notification or not meeting the criteria established for (G) notifications in this instruction.

6-10.22.5.2 Never use (G) alone; must be preceded by an (I), (V), or (Q).

6-10.22.6 Symbols are defined as:

(I) inspections require verification and documentation by a separate individual, other than the person who has accomplished the work, who is qualified as an inspector and currently certified where required by the technical documents (e.g., NBPI, AMPP, nondestructive testing, electrical cableway inspections, etc.).

(V) inspections require verification by either the qualified tradesperson, trade supervisor, or inspector.

(Q) inspections require verification and documentation by a qualified government representative.

(G) is a symbol inserted in a Work Item to establish a point in the sequence of accomplishment of work when the SUPERVISOR must be notified prior to a specific Inspection or Test is scheduled for completion.

6-10.22.7 When the inspection requirements [(I) (Q) and (V)] or notifications [(G)] are identified in an invoked NAVSEA Standard Item or Local Standard Item, they will not be identified again in the Work Item Specification, Master Specification Catalog Template or Local Work Template.

6-10.22.8 When Work Item Specifications are modified by Request for Contract Change (RCC) required (I), (V), and (Q) inspections and (G) notifications must be inserted where required.

6-10.22.9 The (I) (Q) and (V) inspections and (G) notifications are included in the requirements paragraph of a Work Item Specification, Master Specification Catalog Template or Local Work Template by inserting the appropriate symbol(s) in parentheses, followed by the specific inspection/test within quotation marks in upper case letters at the left margin immediately preceding the paragraph with the inspection/test. For example:

(V) (G) "HYDROSTATIC TEST"

3.10.3 Accomplish a hydrostatic test of each assembled pump using clean, fresh water at 105 PSIG in accordance with Paragraph 4-4.4.ae of 2.3. Allowable leakage: None.

6-10.22.10 In order to invoke Inspections and Tests requiring annotation with (I), (V), or (G) symbols, the criteria detailed in the following table must be met:

NOTE: SUBSTITUTE (Q) FOR EITHER AN (I) OR (V) WHEN APPLICABLE.

Work Associated With	Criteria	Symbols Used
Welding/brazing of P-1, P-LT, P-3a piping systems or Class A-F, A-1, A- 2, A-3, A-LT, M-1, T-1 welding, and P-2 steam service	Inspections performed for all acceptance testing (e.g., hydrostatic testing, drop tests, seat leakage tests, joint tightness tests) used for certification of work completed	(I)(G)
	Mechanical measurements used to verify wall thickness of Level I components	(I)
	Cleanliness inspections when required by MIL-STD-1330 (oxygen, nitrogen, and hydrogen systems)	(I)(G)
	Fit-up inspection of Class P-3a joints on steam piping	(I)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT/UT (Final Only)	(I)(G)
	RT Film Interpretation	(I)(G)
Welding on ship/craft listed in Attachment A of NSI 009-012 hull or structure when required by the fabrication document	Inspections performed for all acceptance testing (e.g., hydrostatic testing, drop tests, structural boundary tests) used for certification of work completed	(I)(G)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT/UT (Final Only)	(I)(G)

Work Associated With	Criteria	Symbols Used
	RT Film Interpretation	(I)(G)
Manufacture, installation, and repair (welding, brazing, machining, or lapping) of Level I fittings or components	Inspections performed for all acceptance testing (e.g., hydrostatic testing, drop tests, seat leakage tests, joint tightness tests) used for certification of work completed	(I)(G)
	Inspections performed to verify final torque of pressure boundary parts and fasteners used in Level I components	(I)
	Inspections performed to verify permanent Level I markings at installation/assembly	(I)(G)
	Inspections performed for post-machining/manufacture of any Level I part/component	(I)
	Inspections for ball valve stack heights, valve blue checks, and inspections performed on any sealing surface when work is performed using controlled assembly	(I)
	Inspections performed to verify Level I pressure boundary parts replacement	(I)(G)
	Mechanical measurements used to verify wall thickness of Level I components	(I)
	Cleanliness inspections when required by MIL-STD-1330 (oxygen, nitrogen, and hydrogen systems)	(I)(G)
	Receipt inspection of Level I material	(I)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT/UT (Final Only)	(I)(G)
	RT Film Interpretation	(I)(G)
Weight handling equipment manufacture and repair:	Inspections performed for all acceptance testing (e.g., static load testing, drop tests, pull tests, weight tests) used for certification of work completed	(I)(G)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT (Final Only)	(I)(G)
	Nondestructive Testing UT (Final Only)	(I)(G)
	RT Film Interpretation	(I)(G)

Work Associated With	Criteria	Symbols Used
Corrective maintenance within the certified boundaries of cranes (as defined in NSTM 589)	Inspections performed for all acceptance testing (e.g., static load testing, drop tests, pull tests, weight tests) used for certification of work completed	(I)(G)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT	(I)(G)
	Nondestructive Testing UT (Final Only)	(I)(G)
	RT Film Interpretation	(I)(G)
	Weight testing to certify or recertify shipboard cranes when repairs are performed	(I)(G)
Maintenance on aircraft launch and recovery equipment:	Inspections performed for all acceptance testing (e.g., hydrostatic testing, drop tests, seat leakage tests, joint tightness tests) used for certification of work completed	(I)(G)
	Nondestructive Testing VT	(I)
	Nondestructive Testing MT/PT/UT (Final Only)	(I)(G)
	RT Film Interpretation	(I)(G)
Preservation of critical surfaces	Surface preparation, conductivity/chloride tests, and film thickness inspections (including profile, holiday, and stripe coat inspections) of surfaces identified in NAVSEA Standard Item 009-032	(I)(G)
	Environmental readings	(V)
Preservation of non-critical surfaces	Surface preparation and film thickness inspections (including profile, holiday, and stripe coat inspections) of surfaces not identified as critical in NAVSEA Standard Item 009-032	(I)
	Environmental readings	(V)
(Q) inspections require verification and documentation by a qualified government representative:	Witness pre repair operational tests, adjustments, and inspections to determine equipment condition, when required by the Work Item	(Q)
	Inspect equipment and component parts during disassembly, to include process material and process performance.	(Q)

Work Associated With	Criteria	Symbols Used
	Verify process documents whereas found reports are required, to include clearances and conditions.	(Q)
	Inspect new and repaired areas and component parts of the equipment prior to assembly to ensure compliance with Navy technical manual requirements and NAVSEA Standard Items.	(Q)
	Inspect and provide technical guidance and assistance during process performance, equipment assembly and adjustment, and when specified, coating application. Verify assembly procedures, sizes, and clearances comply with manufacturer's requirements, Navy technical manual requirements, and coating application procedures when specified.	(Q)
	Witness operational tests, make adjustments, and document test and process performance results, including, when required, final inspections of coating systems.	(Q)
Final testing, final alignment, process control, and work acceptance of mechanical, electrical, and structural work not covered above, and major safety related inspections:	Any final test that is used as the verification that all work has been performed satisfactorily (e.g., final hydrostatic tests and final operational test). This does not include final assembly or dimensional verifications	(V)(G)
	All final alignments	(I)(G)
	Any final work acceptance inspections of compartments and tanks (e.g., tank closures and compartment turnovers)	(V)(G)
	Visual inspection of the installed waterproof membrane	(I)(G)
	Safety inspections prior to entry into tanks, voids, and cofferdams which contain Motor Gasoline (MOGAS) or other immediately dangerous to life or health (IDLH) atmospheres	(I)(G)
Other inspections or tests	Any inspection/test that is not covered above and reports are not required to be submitted to the Government	(V)

6-10.23 In the event the need for a requirement is eliminated after a Work Item Specification has been developed the Planner or Ship Building Specialist must remove the requirement in the following manner. Remove the requirement by inserting the words "Intentionally Left Blank" and edit other paragraphs similarly removing any location, identification, reference or material no longer needed to support requirements. An example of a removed requirements paragraph:

3.5 Intentionally Left Blank

6-10.24 If a Work Item Specification requirement changes during the execution of a ship repair and modernization contract a Request for Contract Change (RCC) will be prepared.

6-10.24.1 When writing an RCC a brief summary documenting why growth (positive or negative) must be added to the Work Specification paragraph 4 (Notes), as required by JFMM Volume VI Chapter 41 and Volume VII Chapter 7.

6-11 Paragraph 4 of the Work Item must be NOTES.

6-11.1 Paragraph 4 Notes within Work Item Specifications, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items may contain amplifying information or explanations that do not lend themselves to inclusion in paragraph 3 REQUIREMENTS.

6-11.2 When modifying a Work Item Specification through the Request for Contract Change (RCC) process a brief summary documenting why growth (positive or negative) was required must be added to paragraph 4 Notes. Notes documenting RCCs are required by JFMM Volume VI Chapter 41 and Volume VII Chapter 7. Examples include:

4.17 RCC 19G written to add BERP plate for ShipAlt DDG-51-96250.
4.5 RCC 56NG written to add motor rewind.
4.13 RCC 13G to descope butterfly valve.
4.86 RCC 86G to add a butterfly valve.

6-11.3 Notes must not establish production work linkages of one Work Item Specifications to another within a Specification Package (e.g., "Work in conjunction with ___."). A Planner developing a Work Item Specification is not in a position to integrate Work Item Specifications across a Specification Package. This is best accomplished when the totality of maintenance and modernization work to be accomplished during a Deport Maintenance Period is known. Other Government or Contractor activities are responsible for the development of production schedules that integrate Work Item Specifications across a Specification Package.

6-11.4 Notes must not place requirements on the contractor.

6-12 Paragraph 5 must be GOVERNMENT FURNISHED MATERIAL (GFM).

6-12.1 Material (Repair Parts or Raw Material) provided to a Contractor to support the execution of maintenance, repair or modernization. This includes turnaround items in Navy Refurbishment Programs.

6-12.2 Considerations for providing material as GFM include:

6-12.2.1 It is considered likely the contractor will have difficulty in procuring from normal sources in a timely manner (i.e., it cannot be procured and received by the contractor during the period from planned award to planned overhaul start).

6-12.2.2 It is not normally available outside of the Navy Supply System (NSS). If necessary GFM is not available in the NSS, alternate plans of action will have to be devised.

6-12.2.3 It is mandatory replacement material stocked by the Navy to support designated ship Class Maintenance Plan.

6-12.2.4 Repair or Alteration Material and Special Tools already in the possession of and controlled by a government entity (i.e., Ship's Force, TYCOM, NSWC etc.) which will be turned over to the Project Team.

6-12.2.5 Controlled or classified material that can only be procured by the government.

6-12.2.6 Consistency of in service material configuration.

6-12.2.7 Consistency of a Ship Alteration installation across a class of ships leads a Program Office or Type Commander to fund the kitting of required material by a Class Planning Yard.

6-12.3 NAVSEA Standard Items and Local Standard Items will not provide GFM and will not have a paragraph 5.

6-12.4 All GFM provided Work Item Specifications, Master Specification Catalog Template or Local Work Template must be listed in paragraph 5.

6-12.4.1 LLTM must be listed in paragraph 5.1.

6-12.4.2 PUSH must be listed in paragraph 5.2.

6-12.4.3 KITTED must be listed in paragraph 5.3.

6-12.5 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates items of GFM must not be listed in paragraph 3, as required for Contractor Furnished Material.

6-12.6 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates all GFM listed in paragraph 5 must be referred to and installed by the requirements in paragraph 3. For example:

3.5 … fitting and installing new parts provided in 5.1.1 through 5.1.5, …

6-12.7 Within Work Item Specifications, Master Specification Catalog Templates and Local Work Templates, if no GFM is provided, the word None must appear.

6-12.8 Examples of Work Item Specification, Master Specification Catalog Template and Local Work Template paragraph 5 entries:

Example 1:

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

	TOTAL QUALTITY PROVIDED	*NAME Of PART*	*PIECE NO.*	*REF NO.*	*NATIONAL STOCK NO.*	*REQ PARA NO.*
1.	*2 EA*	*Positive Closure Device P/N 244704-001*	*52*	*2.3*	*N/A*	*3.1*
2.	*245 EA*	*Aircraft Securing Fitting, Type XIV (Part Number PH285N-14)*	*588-1*	*2.3*	*5365-01-592-2269*	*3.3*

5.2 PUSH MATERIAL:

	TOTAL QUALTITY PROVIDED	*NAME Of PART*	*PIECE NO.*	*REF NO.*	*NATIONAL STOCK NO.*	*REQ PARA NO.*
1.	*1 EA*	*Swivel, Brass, Size 1/0*	*28*	*2.2*	*4210-01-129-5230*	*3.2*

5.3 KITTED MATERIAL:

	TOTAL QUALTITY PROVIDED	*NAME Of PART*	*PIECE NO.*	*REF NO.*	*NATIONAL STOCK NO.*	*REQ PARA NO.*
1.	*1 KT*	*Kitted Material for ShipAlt 92138K*	*N/A*	*2.8*	*N/A*	*3.1*

Example 2:

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

6-13 Specific direction concerning the development of Master Specification Catalog Templates (MSWT/CSWT/SWT)

6-13.1 The Master Specification Catalog Maintenance Office (MSCMO) is responsible for developing, approving for use and maintaining MSWTs, CSWTs and SWTs.

6-13.2 MSCMO will provide Planners Notes within SWTs, CSWTs and MSWTs that Work Item Specification Planner/Estimators will utilize when developing a Work Item Specification.

6-13.3 The addition of Inspections or Tests (aka Checkpoints) to Master Specification Catalog Templates (e.g., MSWT, CSWT, SWT) that will globally affect the templates are not authorized without written approval from the SSRAC Director. These changes must be submitted in accordance with the MSCMO process for final adjudication and implementation into future templates.

6-13.4 Paragraphs within MSWTs that support Mandatory Technical Requirements (MTRs) will be identified as MTR at the end of the paragraph parenthetically in upper case letters. For example:
3.2 Remove each equipment ... using 2.7 for guidance. (MTR)

6-13.5 MSWTs and CSWTs must be written to accomplish class specific repairs and modernization. In the preparation of CSWTs the following guidelines must be used:

6-13.5.1 Must document within paragraph 3 REQUIREMENTS work necessary to accomplish authorized repairs and/or modernization of the equipment.

6-13.5.2 Calibration, repair, or renewal of gauges and other instrumentation must be required.

6-13.5.3 When not being addressed as an interference (NSI 009-023 applies), replacement of identified damaged or missing insulation and lagging must be documented within paragraph 3 REQUIREMENTS (NSI 009-011 applies).

6-13.5.4 Inspection and painting of the foundations must be documented within paragraph 3 REQUIREMENTS.

6-13.5.5 Preservation of the equipment must be documented within paragraph 3 REQUIREMENTS, in accordance with NAVSEA Standard Item 009-032.

6-13.5.6 Inspection of the alignment of piping to the equipment flanges must be documented within paragraph 3 REQUIREMENTS.

6-13.5.7 If weld repairs to a pump or turbine casings are documented within paragraph 3 REQUIREMENTS, a hydrostatic test of the pump or turbine casings must be documented within paragraph 3 REQUIREMENTS.

6-13.5.8 The MSWT or CSWT must document within paragraph 3 REQUIREMENTS a visual inspection of the entire pressure boundary and rotating parts, including a liquid penetrant inspection of a specific area (e.g., 200 square inches) and determination of wall thickness of a specific area (e.g., 100 square inches) by ultrasonic inspection. The specific areas must be described as eroded or corroded areas, high stress areas, such as inlet and discharge nozzles and areas in which visual inspection indicates an apparent crack. The TRS may require magnetic particle inspection of ferrous parts.

6-13.5.9 The MSWT or CSWT must document within paragraph 3 REQUIREMENTS the operational test of the equipment and must invoke the applicable portion of the approved test procedure, if one exists. The Ship's Force must be given responsibility for specific operational test prerequisites as well as for accomplishment of the operational test if within their capability and no contractor interface is involved. Specific test prerequisites that are the contractor's responsibility because of specific work must be specified in the CSWT.

6-14 Use of NAVSEA Standard Items

6-14.1 Requests for deviations from NAVSEA Standard Items must be submitted in writing and routed to the Specification for Ship Repair and Alteration Committee (SSRAC) 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.). The RMC retains the authority to make changes to Work Item Specifications in a non-precedent setting situation. This does not include requests for deviation to technical requirements, which may require a Departure from Specification (DFS). For instances when a DFS is required, the requirements of the Joint Fleet Maintenance Manual (JFMM) must be followed.

6-14.1.1 Completed NAVSEA Standard Item Deviation Request Forms are to be submitted through the local RMC. Local standards coordinator will forward Deviation request form with RMC recommendation to ssrac@us.navy.mil for adjudication. NAVSEA Standard Item Deviation Request Forms can be found at; https://www.navsea.navy.mil/Home/RMC/CNRMC/Our-Programs/SSRAC/

6-15 Use of Templates (MSWT/CSWT/SWT/LWT/BWST) when developing Work Item Specifications:

6-15.1 The use of the applicable 998 series CSWTs or SWT’s in preparation of Hazardous Waste Work Item Specification is mandatory. User activity must fill in applicable blanks only.

6-15.2 The use of the applicable 123 series and 992 series CSWTs or SWT in preparation of Cleaning and Pumping Work Item Specification is mandatory.

6-15.3 The following procedure must be utilized in choosing a Template from Navy Maintenance Database-Replatformed (NMD-R) Master Spec Catalog (MSC) Tree:

6-15.3.1 Review File Number ESWBS and Titles within NMD-R MSC Tree indices of Templates looking for likely matches to basic subject matter of brokered or tasked Work Notification requirements.

6-15.3.2 Conduct a more detailed review to determine if the work scope of a Template is sufficiently close to the brokered or tasked Work Notification requirement as to allow its use as a suitable starting point.

6-15.3.3 If available, select the Template that most closely matches the subject matter of brokered or tasked Work Notification requirements as the starting point for Work Item Specification development.

6-15.4 The following procedure must be used in converting Templates to Work Item Specifications:

6-15.4.1 MSCMO provides extensive Planners Notes within SWTs, CSWTs and MSWTs that Work Item Specification Planner/Estimators should utilize when developing a Work Item Specification.

6-15.4.2 Ensure the Header and Footer information is auto filled correctly or as desired if consecutively numbering Work Item Specifications for trade or component breakdown method. Template File numbers and revision dates must remain in converted Work Item Specifications.

6-15.4.3 Fill in the applicable portions of paragraph 1.

6-15.4.4 Verify that the appropriate references are available and current.

6-15.4.5 Review paragraph 2, REFERENCES, and add or delete references as required to suit any changes made in the REQUIREMENTS.

6-15.4.6 Review paragraph 3, REQUIREMENTS, and add or delete requirements and fill in the appropriate blanks with data, using NAVSEA Standard Phraseology of Annex B of this Appendix, to suit the authorized work.

6-15.4.7 Review paragraph 4, NOTES, and add or delete subparagraphs as appropriate.

6-15.4.8 Review paragraph 5, GOVERNMENT FURNISHED MATERIAL (GFM) and add or delete GFM to suit the authorized work.

6-15.4.9 When converting a template to a work item, no additional Inspections or Tests (aka Checkpoints) will be added that are not in compliance with 4E.

6-15.4.10 When designated as non-deviational and mandatory, or mandatory, the template must be used as specified.

6-15.4.11 Specific rules associated with using a Master Specification Work Template (MSWT) to develop a Work Item Specification are as follows:

6-15.4.11.1 Whenever an applicable MSWT is available, it will be used.

6-15.4.11.2 Paragraphs supporting Mandatory Technical Requirements (MTRs) will be identified as MTR at the end of the paragraph parenthetically in upper case letters. For example:

3.2 Remove each equipment ... using 2.7 for guidance. (MTR)

6-15.4.11.3 User activity must not delete Mandatory Technical Requirement paragraph(s) or associated references as documented, nor must “Intentionally Left Blank” be used in place of reference(s) or requirement(s) as allowed by this Appendix for non-MTR paragraphs.

6-15.4.11.4 MSWT paragraphs supporting MTRs are mandatory as written, user activities will only fill in blanks within paragraphs that support MTRs. This ensures full completion of MTRs.

6-15.4.11.5 User activity must fill in all blanks supporting Mandatory Technical Requirement(s), they must not use “Intentionally Left Blank” as allowed by this Appendix for non-MTR paragraphs.

6-15.4.11.6 Limited discretion for the editing of non-MTR paragraphs by adding or deleting REQUIREMENTS paragraphs to suit the authorized work is allowed when it doesn’t change the accomplishment or scope of MTR designated paragraphs.

6-15.4.12 Specific rules associated with using a Class Standard Work Template (CSWT) to develop a Work Item Specification are as follows:

6-15.4.12.1 In the absence of an applicable MSWT, an applicable CSWT will be used if existing.

6-15.4.12.2 Work Item Specifications developed from a CSWT may be edited by adding or deleting entire paragraphs to suit the authorized work. "Intentionally Left Blank" for non-applicable paragraphs may be utilized.

6-15.4.12.3 Work Item Specifications developed from a CSWT must be completed by filling in all blanks with appropriate data to suit the technical requirements and the authorized work.

6-15.4.13 Specific rules associated with using a Standard Work Template (SWT) to develop a Work Item Specification are as follows:

6-15.4.13.1 In the absence of an applicable MSWT or CSWT, an applicable SWT will be used if existing.

6-15.4.13.2 Work Item Specifications developed from a SWT may be edited by adding or deleting entire paragraphs to suit the authorized work. "Intentionally Left Blank" for non-applicable paragraphs may be utilized.

6-15.4.13.3 Work Item Specifications developed from a SWT must be completed by filling in all blanks with appropriate data to suit the technical requirements and the authorized work.

6-15.4.14 Specific rules associated with using a Local Work Template (LWT) to develop a Work Item Specification are as follows:

6-15.4.14.1 In the absence of an applicable MSWT, CSWT or SWT, an applicable LWT will be used if existing.

6-15.4.14.2 Work Item Specifications developed from a LWT may be edited by adding or deleting entire paragraphs to suit the authorized work. "Intentionally Left Blank" for non-applicable paragraphs may be utilized.

6-15.4.14.3 Work Item Specifications developed from a LWT must be completed by filling in all blanks with appropriate data to suit the technical requirements and the authorized work.

6-15.4.15 Specific rules associated with using a Basic Work Shell Template (BWST) to develop a Work Item Specification are as follows:

6-15.4.15.1 In the absence of an applicable MSWT, CSWT, SWT or LWT (for the specific geographic location) a BWST will be used.

6-15.4.15.2 Information to populate the paragraph structure presented within the BWST potentially will come from a previously developed Work Item Specification. The planner will make intentional selections, thoroughly reviewing the copied information, ensuring it conforms to current technical, contractual and administrative (4E criteria) standards.

6-15.4.15.3 Work Item Specifications developed using a BWST and submitted as template candidates will be evaluated by the Local Standards Coordinator. The evaluation may result in the creation of a LWT for the applicable geographical area or submittal to the MSCMO for consideration as an SWT, CSWT or MSWT.

6-16 Request for Contract Change (RCC)

6-16.1 During contract execution the need to adjust a Work Item Specification by either increasing or decreasing what is being accomplished occurs. RCCs can lead to changes to any of the Work Item Specification paragraphs (SCOPE, REFERENCES, REQUIREMENTS, GOVERNMENT FURNISHED MATERIAL).

6-16.1.1 Removals can be accomplished by inserting the words “Intentionally Left Blank.” When using this method to adjust a Work Item Specification care must be used to ensure that all paragraphs affected are also adjusted to reflect the removals.

6-16.1.2 When modifying a Work Item Specification through the Request for Contract Change (RCC) process a brief summary documenting why growth (positive or negative) was required must be added to paragraph 4 Notes. Notes documenting RCCs are required by JFMM Volume VI Chapter 41 and Volume VII Chapter 7.

6-17 The following Planner DOs AND DON’Ts should be kept in mind while developing and utilizing Work Item Specifications, Request for Contract Changes, Master Specification Catalog Templates, Local Work Templates, NAVSEA Standard Items and Local Standard Items:

6-17.1 DO thorough research, become familiar with available background information and references before drafting documents. It will aid in preparing thorough requirements.

6-17.2 DO include only essential references.

6-17.3 DO verify that reference documentation is applicable and essential to accomplish the required work.

6-17.4 DO use NAVSEA Standard Phraseology contained in Annex B of this Appendix.

6-17.5 DO use clear, simple language, free of terms subject to variation in interpretation.

6-17.6 DO define unusual technical terms.

6-17.7 DO write for the understanding of those who will have to use your product.

6-17.8 DO make positive, concise statements that cannot be misinterpreted.

6-17.9 DO make each statement stand by itself.

6-17.10 DO convey the information as if you do not know who will be awarded the job or at what facility it will be performed at.

6-17.11 DO give specific and sufficient requirements and directions so that the users will not be in doubt as to what is required.

6-17.12 DO describe in clear, concise, and complete language exactly what you expect the contractor to do. This is what the government wants to purchase and this is what the government can expect the contractor to deliver.

6-17.13 DO use attachments to improve presentation of information and ease of reading, or to provide templates for required reports.

6-17.14 DO record requirements only once within paragraph 3 by invoking NAVSEA Standard Items or Local Standard Items as allowed, or by describing requirements to be accomplished.

6-17.15 DO follow local Naval Supervising Authority (NSA) Technical Authority Review and Approval policies.

6-17.16 DO use:

6-17.16.1 "must" when the provision is mandatory;

6-17.16.2 "may" when the action is discretionary (non-mandatory);

6-17.16.3 "will" to denote a required action in the future;

6-17.16.4 and "must not" when the action is prohibited.

6-17.17 DO use the word “Each” rather than use of a plural for (i.e., use “each label plate” vice “label plates”, “each surface” vice “surfaces”, and “each mating surface” vice “mating surfaces”)

6-17.18 DO use the phrase "as designated by the SUPERVISOR" when providing Front Loads (accomplishing a defined quantity of a specific task) or Level of Effort (LOE) Growth Reservations (providing a number of man-days and material dollars) to accomplish anticipated not clearly defined repairs as follows:

6-17.18.1 DO use an inspection and required Contractor Furnished Reports (CFRs) when "as designated by the SUPERVISOR" is used as the method to issue specific written designations for the contract record.

6-17.18.2 DO issue specific written designations, normally in response to a Contractor Furnished Report (CFR), when "as designated by the SUPERVISOR" is used to document the authorized designations for the contract record.

6-17.18.3 DO maintain, and retain a written ledger of specific written designations when "as designated by the SUPERVISOR" is used to document the authorized designations for the contract record.

6-17.19 DO use the phrase "when directed by the SUPERVISOR" if the start date for a Front Load statement (accomplishing a defined quantity of a specific task) or a Level of Effort (LOE) Growth Reservation statement (providing a number of man-days and material dollars) is not known as follows:

6-17.19.1 DO use an inspection and required Contractor Furnished Reports (CFRs) if "when directed by the SUPERVISOR" is used to provide the means for the SUPERVISOR to issue specific written designations for the contract record.

6-17.19.2 DO use and issue specific written designations, normally in response to contractor furnished reports, when "when directed by the SUPERVISOR" to Document the authorized designations for the contract record.

6-17.19.3 DO use, maintain, and retain a written ledger of specific written designations when "when directed by the SUPERVISOR" to Document the authorized designations for the contract record.

6-17.20 DO list a known source if there is one, proprietary original equipment manufacturer (OEM) or vendor in paragraph 4 of the Work Item Specification.

6-17.21 DO use spellcheck on all documents.

6-17.22 DO issue a document only when the writer fully believes it can be satisfactorily accomplished as you intended without further communication.

6-17.23 DON'T change the intent of the authorized work by writing more or less than what is called for, without first documenting expanded scope requirements within a ship check report.

6-17.24 DON'T use colloquialisms or slang words.

6-17.25 DON'T use redundancy in an attempt to clarify or emphasize.

6-17.26 DON'T duplicate the requirements of NAVSEA Standard Items to be accomplished in REQUIREMENTS paragraph of a Work Item Specification.

6-17.27 DON'T put multiple thoughts in a single main paragraph or subparagraph. Keep each main paragraph and subparagraph short, concise and complete, expressing a single thought or requirement.

6-17.28 DON'T try to salvage a poor sentence by indiscriminately inserting words. Take the time to rewrite.

6-17.29 DON'T use non-definitive statements such as "as required" or "as directed".

6-17.30 DON'T use statements that assign arbitrary authority to an activity or individual.

6-17.31 DON'T use catch-all phrases such as "as necessary", "excessive" or "as required".

6-17.32 DON'T use extraneous words like "thoroughly clean" or "extreme care is to be taken". Say "clean" (and indicate criterion/criteria).

6-17.33 DON'T use symbols as abbreviations or to define dimensions (except when used in drawing titles). For example: % for percent, & for and, " for inch, ' for foot. Spell it out: 30 percent, and, One FT, 2 FT, 27 inches.

6-17.34 DON'T call it plate in one sentence and plating in other sentences or cable in one sentence and wire in other sentences. Say it the same way throughout the document. Be consistent.

6-17.35 DON'T use the numeral 1 alone except in numbering paragraphs, references, and GFM amount inserted under "TOTAL QUANTITY PROVIDED". Write it out as "One" or "one" as applicable.

6-17.36 DON'T use the phrase "As reported in…" or "Based on the report…" when the full scope of work cannot be defined.

6-17.37 DON'T include anything that is not necessary to describe the desired product or end result.

6-17.38 DON'T impose unrealistic requirements on the contractor. Exercise care to ensure that requirements are always capable of being performed.

6-17.39 DON'T use such words as "proper" or "adequate" to signify a degree of acceptance. Include definitive acceptance or rejection criterion/criteria.

6-17.40 DON'T use test requirements such as 1-1/2 times the working pressure. Instead, say test at 150 PSIG. Give definitive test criterion/criteria.

6-17.41 DON'T use "quantity" descriptions in paragraph 3 when called out in paragraph 1.3.

6-17.42 DON'T use oral designations for the contract record when "as designated by the SUPERVISOR" or "when directed by the SUPERVISOR" are used. Oral designations do not provide binding contractual documentation. Oral designations may constitute an unauthorized constructive change to the contract.

6-17.43 DON'T establish production work linkages of one Work Item Specification to another in either the REQUIREMENTS or NOTES paragraphs (e.g., "Work in conjunction with _____."), within a Specification Package. Such linkages can complicate the orderly solicitation, execution and administration of a Ship Repair and Modernization Contract.

6-17.44 DON'T direct the contractor to provide and install _____. The contractor is required to provide material not specifically listed as GOVERNMENT FURNISHED MATERIAL (GFM).

6-17.45 DON'T direct the contractor to "replace with material in kind" or "replace with material same as existing". The existing material could be the cause of the failure. Specify the material to be used.

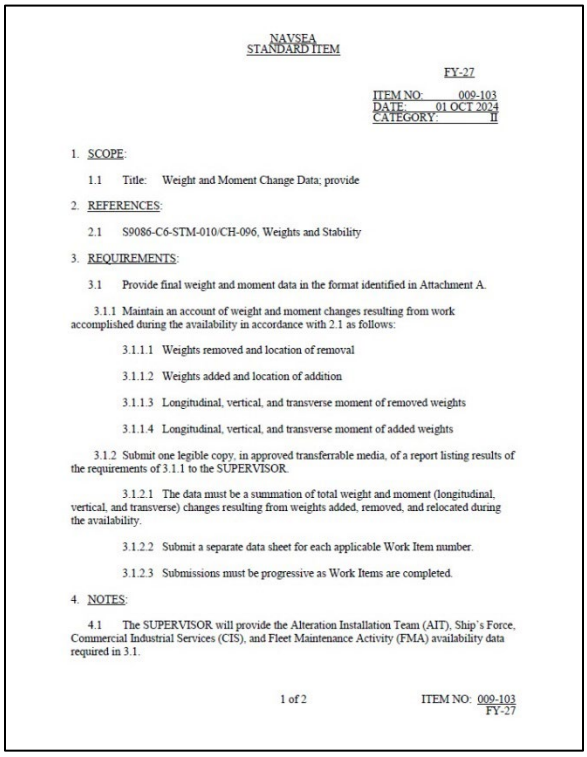
6-17.46 DON'T list known sources of material/services unless you have verified a quote from the source.

6-17.47 DON'T list a known source if there are multiple vendors or Original Equipment Manufacturers (OEMs).

6-17.48 DON'T issue a document with unresolved problems; you will only provide misguidance and misdirection.

7-1 Presented here are examples of documents pulled directly from Navy Maintenance Database-Replatformed (NMD-R) showing the formatting of NAVSEA Standard Items, Local Standard Items, Master Specification Catalog Templates, Local Work Templates.

NOTE: Export Control statements concerning International Traffic in Arms Regulation (ITAR), located in footer, is added to documents by NMD-R.



NAVSEA
STANDARD ITEM

FY-27

ITEM NO: 009-103
DATE: 01 OCT 2024
CATEGORY: II

1. SCOPE:

1.1 Title: Weight and Moment Change Data; provide

2. REFERENCES:

2.1 S9086-C6-STM-010/CH-096, Weights and Stability

3. REQUIREMENTS:

3.1 Provide final weight and moment data in the format identified in Attachment A.

3.1.1 Maintain an account of weight and moment changes resulting from work accomplished during the availability in accordance with 2.1 as follows:

3.1.1.1 Weights removed and location of removal

3.1.1.2 Weights added and location of addition

3.1.1.3 Longitudinal, vertical, and transverse moment of removed weights

3.1.1.4 Longitudinal, vertical, and transverse moment of added weights

3.1.2 Submit one legible copy, in approved transferrable media, of a report listing results of the requirements of 3.1.1 to the SUPERVISOR.

3.1.2.1 The data must be a summation of total weight and moment (longitudinal, vertical, and transverse) changes resulting from weights added, removed, and relocated during the availability.

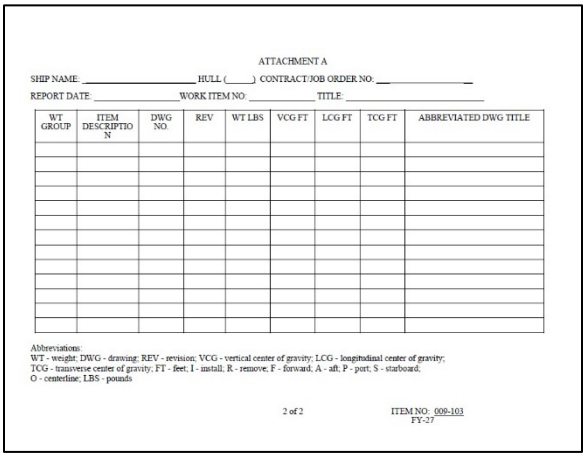
3.1.2.2 Submit a separate data sheet for each applicable Work Item number.

3.1.2.3 Submissions must be progressive as Work Items are completed.

4. NOTES:

4.1 The SUPERVISOR will provide the Alteration Installation Team (AIT), Ship's Force, Commercial Industrial Services (CIS), and Fleet Maintenance Activity (FMA) availability data required in 3.1.

1 of 2 ITEM NO: 009-103
FY-27



ATTACHMENT A

SHIP NAME: _____ HULL (____) CONTRACT/JOB ORDER NO: _____

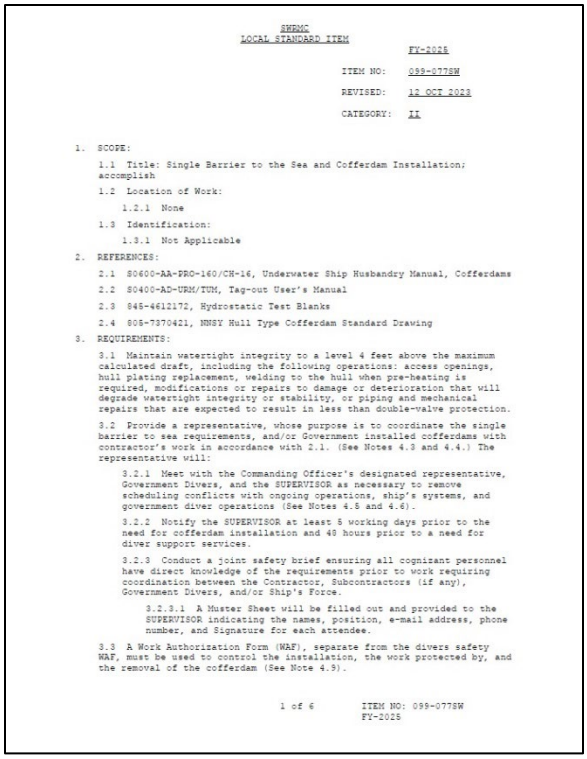
REPORT DATE: _____ WORK ITEM NO: _____ TITLE: _____

WT GROUP	ITEM DESCRIPTION	DWG NO.	REV	WT LBS	VCG FT	LCG FT	TCG FT	ABBREVIATED DWG TITLE

Abbreviations:
WT - weight; DWG - drawing; REV - revision; VCG - vertical center of gravity; LCG - longitudinal center of gravity; TCG - transverse center of gravity; FT - feet; I - install; R - remove; F - forward; A - aft; P - port; S - starboard; O - centerline; LBS - pounds

2 of 2 ITEM NO: 009-103
FY-27

NAVSEA Standard Item (NSI) with Attachment



SWRMC
LOCAL STANDARD ITEM

FY-2025

ITEM NO: 099-0775W

REVISED: 12 OCT 2023

CATEGORY: II

1. SCOPE:

1.1 Title: Single Barrier to the Sea and Cofferdam Installation; accomplish

1.2 Location of Work:

1.2.1 None

1.3 Identification:

1.3.1 Not Applicable

2. REFERENCES:

2.1 S0600-AA-PRO-160/CH-16, Underwater Ship Husbandry Manual, Cofferdams

2.2 S0400-AD-URM/TUM, Tag-out User's Manual

2.3 845-4612172, Hydrostatic Test Blanks

2.4 805-7370421, NNSY Hull Type Cofferdam Standard Drawing

3. REQUIREMENTS:

3.1 Maintain watertight integrity to a level 4 feet above the maximum calculated draft, including the following operations: access openings, hull plating replacement, welding to the hull when pre-heating is required, modifications or repairs to damage or deterioration that will degrade watertight integrity or stability, or piping and mechanical repairs that are expected to result in less than double-valve protection.

3.2 Provide a representative, whose purpose is to coordinate the single barrier to sea requirements, and/or Government installed cofferdams with contractor's work in accordance with 2.1. (See Notes 4.3 and 4.4.) The representative will:

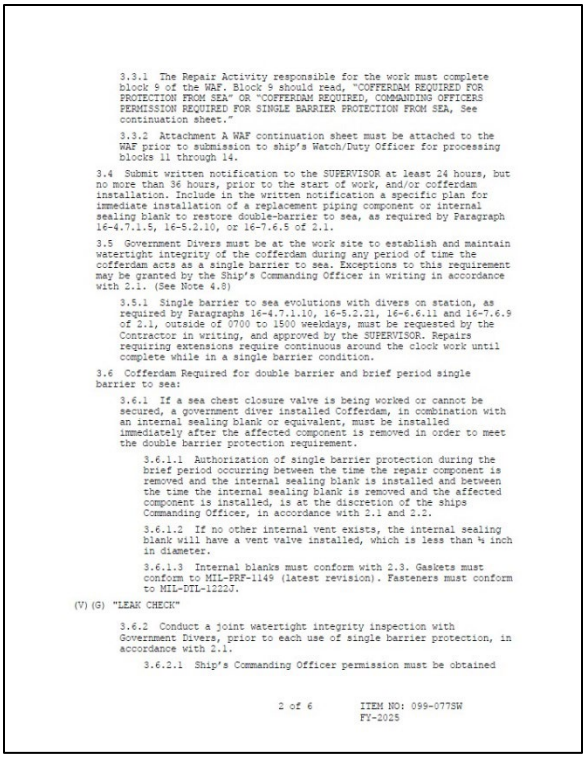
3.2.1 Meet with the Commanding Officer's designated representative, Government Divers, and the SUPERVISOR as necessary to remove scheduling conflicts with ongoing operations, ship's systems, and government diver operations (See Notes 4.5 and 4.6).

3.2.2 Notify the SUPERVISOR at least 5 working days prior to the need for cofferdam installation and 48 hours prior to a need for diver support services.

3.2.3 Conduct a joint safety brief ensuring all cognizant personnel have direct knowledge of the requirements prior to work requiring coordination between the Contractor, Subcontractors (if any), Government Divers, and/or Ship's Force.

3.2.3.1 A Muster Sheet will be filled out and provided to the SUPERVISOR indicating the names, position, e-mail address, phone number, and Signature for each attendee.

3.3 A Work Authorization Form (WAF), separate from the divers safety WAF, must be used to control the installation, the work protected by, and the removal of the cofferdam (See Note 4.9).



3.3.1 The Repair Activity responsible for the work must complete block 9 of the WAF. Block 9 should read, "COFFERDAM REQUIRED FOR PROTECTION FROM SEA" OR "COFFERDAM REQUIRED, COMMANDING OFFICERS PERMISSION REQUIRED FOR SINGLE BARRIER PROTECTION FROM SEA, See continuation sheet."

3.3.2 Attachment A WAF continuation sheet must be attached to the WAF prior to submission to ship's Watch/Duty Officer for processing blocks 11 through 14.

3.4 Submit written notification to the SUPERVISOR at least 24 hours, but no more than 36 hours, prior to the start of work, and/or cofferdam installation. Include in the written notification a specific plan for immediate installation of a replacement piping component or internal sealing blank to restore double-barrier to sea, as required by Paragraph 16-4.7.1.5, 16-5.2.10, or 16-7.6.5 of 2.1.

3.5 Government Divers must be at the work site to establish and maintain watertight integrity of the cofferdam during any period of time the cofferdam acts as a single barrier to sea. Exceptions to this requirement may be granted by the Ship's Commanding Officer in writing in accordance with 2.1. (See Note 4.8)

3.5.1 Single barrier to sea evolutions with divers on station, as required by Paragraphs 16-4.7.1.10, 16-5.2.21, 16-6.6.11 and 16-7.6.9 of 2.1, outside of 0700 to 1500 weekdays, must be requested by the Contractor in writing, and approved by the SUPERVISOR. Repairs requiring extensions require continuous around the clock work until complete while in a single barrier condition.

3.6 Cofferdam Required for double barrier and brief period single barrier to sea:

3.6.1 If a sea chest closure valve is being worked or cannot be secured, a government diver installed Cofferdam, in combination with an internal sealing blank or equivalent, must be installed immediately after the affected component is removed in order to meet the double barrier protection requirement.

3.6.1.1 Authorization of single barrier protection during the brief period occurring between the time the repair component is removed and the internal sealing blank is installed and between the time the internal sealing blank is removed and the affected component is installed, is at the discretion of the ships Commanding Officer, in accordance with 2.1 and 2.2.

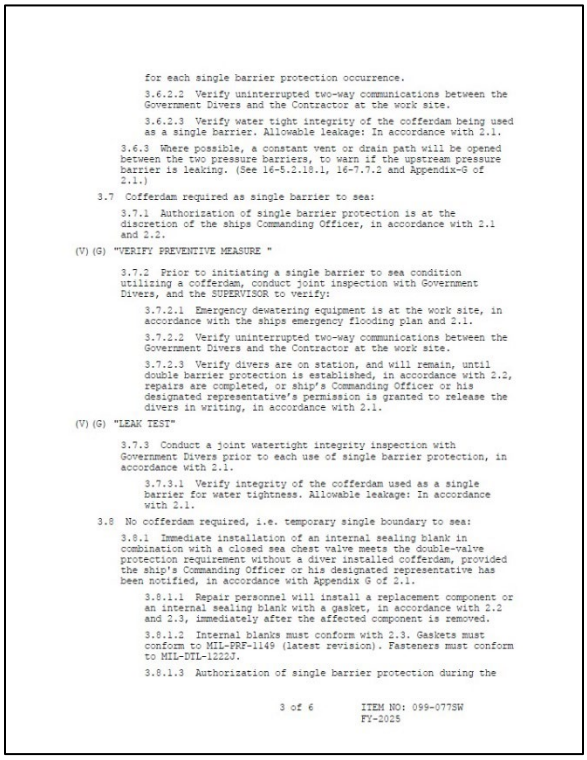
3.6.1.2 If no other internal vent exists, the internal sealing blank will have a vent valve installed, which is less than ¼ inch in diameter.

3.6.1.3 Internal blanks must conform with 2.3. Gaskets must conform to MIL-PRF-1149 (latest revision). Fasteners must conform to MIL-DTL-1222J.

(V) (G) "LEAK CHECK"

3.6.2 Conduct a joint watertight integrity inspection with Government Divers, prior to each use of single barrier protection, in accordance with 2.1.

3.6.2.1 Ship's Commanding Officer permission must be obtained



for each single barrier protection occurrence.

3.6.2.2 Verify uninterrupted two-way communications between the Government Divers and the Contractor at the work site.

3.6.2.3 Verify water tight integrity of the cofferdam being used as a single barrier. Allowable leakage: In accordance with 2.1.

3.6.3 Where possible, a constant vent or drain path will be opened between the two pressure barriers, to warn if the upstream pressure barrier is leaking. (See 16-5.2.18.1, 16-7.7.2 and Appendix-G of 2.1.)

3.7 Cofferdam required as single barrier to sea:

3.7.1 Authorization of single barrier protection is at the discretion of the ships Commanding Officer, in accordance with 2.1 and 2.2.

(V) (G) "VERIFY PREVENTIVE MEASURE "

3.7.2 Prior to initiating a single barrier to sea condition utilizing a cofferdam, conduct joint inspection with Government Divers, and the SUPERVISOR to verify:

3.7.2.1 Emergency dewatering equipment is at the work site, in accordance with the ships emergency flooding plan and 2.1.

3.7.2.2 Verify uninterrupted two-way communications between the Government Divers and the Contractor at the work site.

3.7.2.3 Verify divers are on station, and will remain, until double barrier protection is established, in accordance with 2.2, repairs are completed, or ship's Commanding Officer or his designated representative's permission is granted to release the divers in writing, in accordance with 2.1.

(V) (G) "LEAK TEST"

3.7.3 Conduct a joint watertight integrity inspection with Government Divers prior to each use of single barrier protection, in accordance with 2.1.

3.7.3.1 Verify integrity of the cofferdam used as a single barrier for water tightness. Allowable leakage: In accordance with 2.1.

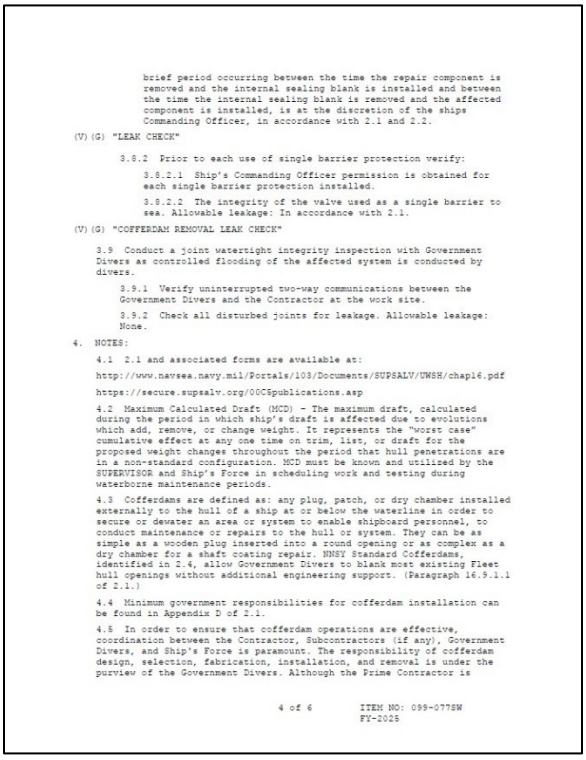
3.8 No cofferdam required, i.e. temporary single boundary to sea:

3.8.1 Immediate installation of an internal sealing blank in combination with a closed sea chest valve meets the double-valve protection requirement without a diver installed cofferdam, provided the ship's Commanding Officer or his designated representative has been notified, in accordance with Appendix G of 2.1.

3.8.1.1 Repair personnel will install a replacement component or an internal sealing blank with a gasket, in accordance with 2.2 and 2.3, immediately after the affected component is removed.

3.8.1.2 Internal blanks must conform with 2.3. Gaskets must conform to MIL-PRF-1149 (latest revision). Fasteners must conform to MIL-DTL-1222J.

3.8.1.3 Authorization of single barrier protection during the



brief period occurring between the time the repair component is removed and the internal sealing blank is installed and between the time the internal sealing blank is removed and the affected component is installed, is at the discretion of the ships Commanding Officer, in accordance with 2.1 and 2.2.

(V) (G) "LEAK CHECK"

3.8.2 Prior to each use of single barrier protection verify:

3.8.2.1 Ship's Commanding Officer permission is obtained for each single barrier protection installed.

3.8.2.2 The integrity of the valve used as a single barrier to sea. Allowable leakage: In accordance with 2.1.

(V) (G) "COFFERDAM REMOVAL LEAK CHECK"

3.9 Conduct a joint watertight integrity inspection with Government Divers as controlled flooding of the affected system is conducted by divers.

3.9.1 Verify uninterrupted two-way communications between the Government Divers and the Contractor at the work site.

3.9.2 Check all disturbed joints for leakage. Allowable leakage: None.

4. NOTES:

4.1 2.1 and associated forms are available at:

http://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/UWSH/chap16.pdf

https://secure.supsalv.org/00C6publications.asp

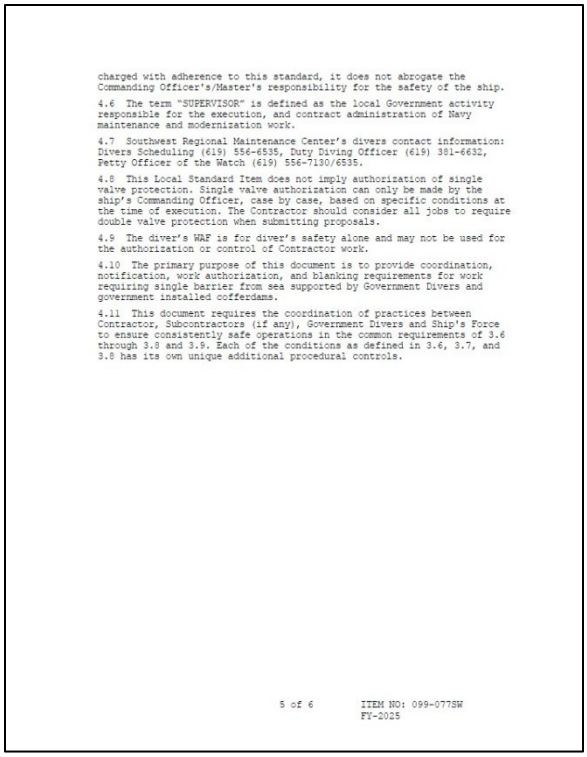
4.2 Maximum Calculated Draft (MCD) - The maximum draft, calculated during the period in which ship's draft is affected due to evolutions which add, remove, or change weight. It represents the "worst case" cumulative effect at any one time on trim, list, or draft for the proposed weight changes throughout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

4.3 Cofferdams are defined as: any plug, patch, or dry chamber installed externally to the hull of a ship at or below the waterline in order to secure or dewater an area or system to enable shipboard personnel, to conduct maintenance or repairs to the hull or system. They can be as simple as a wooden plug inserted into a round opening or as complex as a dry chamber for a shaft coating repair. NNSY Standard Cofferdams, identified in 2.4, allow Government Divers to blank most existing Fleet hull openings without additional engineering support. (Paragraph 16.9.1.1 of 2.1.)

4.4 Minimum government responsibilities for cofferdam installation can be found in Appendix D of 2.1.

4.5 In order to ensure that cofferdam operations are effective, coordination between the Contractor, Subcontractors (if any), Government Divers, and Ship's Force is paramount. The responsibility of cofferdam design, selection, fabrication, installation, and removal is under the purview of the Government Divers. Although the Prime Contractor is

Local Standard Item (LSI) with Attachment



charged with adherence to this standard, it does not abrogate the Commanding Officer's/Master's responsibility for the safety of the ship.

4.6 The term "SUPERVISOR" is defined as the local Government activity responsible for the execution, and contract administration of Navy maintenance and modernization work.

4.7 Southwest Regional Maintenance Center's divers contact information: Divers Scheduling (619) 556-6535, Duty Diving Officer (619) 381-6632, Petty Officer of the Watch (619) 556-7130/6535.

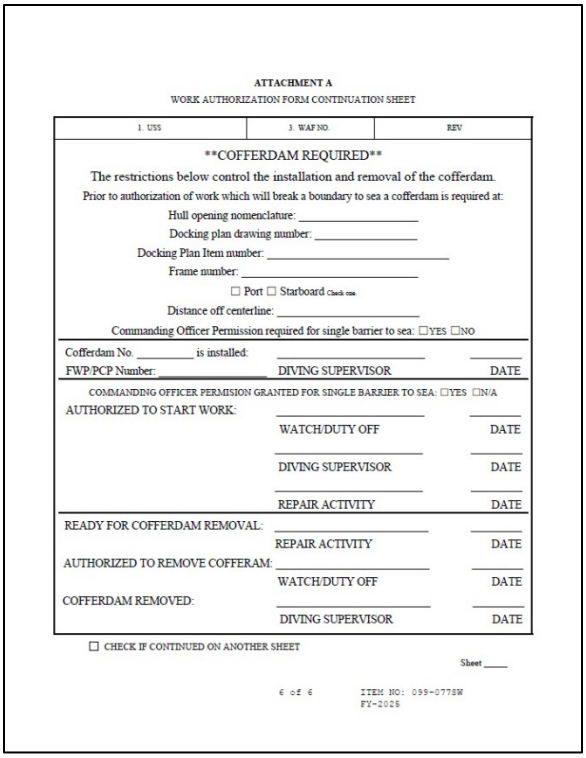
4.8 This Local Standard Item does not imply authorization of single valve protection. Single valve authorization can only be made by the ship's Commanding Officer, case by case, based on specific conditions at the time of execution. The Contractor should consider all jobs to require double valve protection when submitting proposals.

4.9 The diver's WAF is for diver's safety alone and may not be used for the authorization or control of Contractor work.

4.10 The primary purpose of this document is to provide coordination, notification, work authorization, and blanking requirements for work requiring single barrier from sea supported by Government Divers and government installed cofferdams.

4.11 This document requires the coordination of practices between Contractor, Subcontractors (if any), Government Divers and Ship's Force to ensure consistently safe operations in the common requirements of 3.6 through 3.8 and 3.9. Each of the conditions as defined in 3.6, 3.7, and 3.8 has its own unique additional procedural controls.

5 of 6 ITEM NO: 099-0775W
FY-2025



ATTACHMENT A

WORK AUTHORIZATION FORM CONTINUATION SHEET

1. USS	3. WAF NO.	REV

****COFFERDAM REQUIRED****

The restrictions below control the installation and removal of the cofferdam.

Prior to authorization of work which will break a boundary to sea a cofferdam is required at:

Hull opening nomenclature: _____

Docking plan drawing number: _____

Docking Plan Item number: _____

Frame number: _____

☐ Port ☐ Starboard Check one.

Distance off centerline: _____

Commanding Officer Permission required for single barrier to sea: ☐YES ☐NO

Cofferdam No. _____ is installed: _____ _____

FWP/PCP Number: _____ DIVING SUPERVISOR DATE

COMMANDING OFFICER PERMISION GRANTED FOR SINGLE BARRIER TO SEA: ☐YES ☐N/A

AUTHORIZED TO START WORK: _____ _____

WATCH/DUTY OFF DATE

_____ _____

DIVING SUPERVISOR DATE

_____ _____

REPAIR ACTIVITY DATE

READY FOR COFFERDAM REMOVAL: _____ _____

REPAIR ACTIVITY DATE

AUTHORIZED TO REMOVE COFFERAM: _____ _____

WATCH/DUTY OFF DATE

COFFERDAM REMOVED: _____ _____

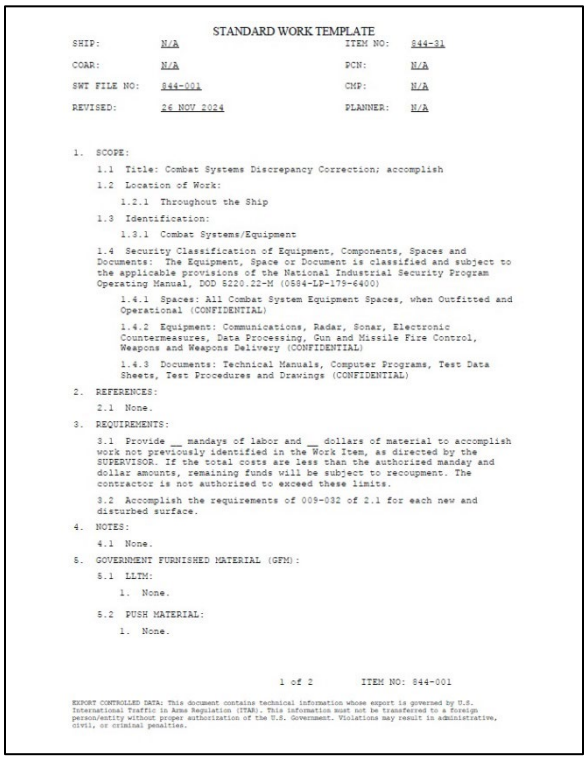
DIVING SUPERVISOR DATE

☐ CHECK IF CONTINUED ON ANOTHER SHEET

Sheet ____

6 of 6 ITEM NO: 099-0775W
FY-2025

Local Standard Item (LSI) with Attachment - continued



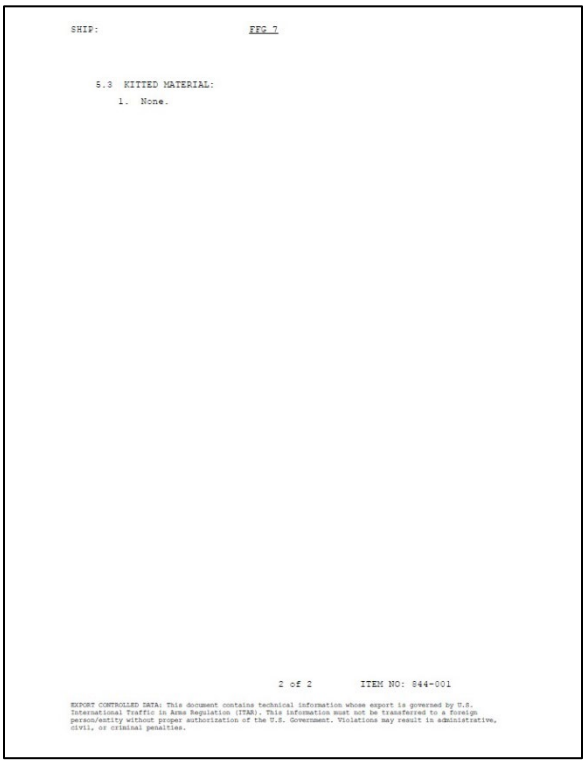
STANDARD WORK TEMPLATE

SHIP:	N/A	ITEM NO:	844-31
COAR:	N/A	PCN:	N/A
SWT FILE NO:	844-001	CMP:	N/A
REVISED:	26 NOV 2024	PLANNER:	N/A

1. SCOPE:
   1.1 Title: Combat Systems Discrepancy Correction; accomplish
   1.2 Location of Work:
      1.2.1 Throughout the Ship
   1.3 Identification:
      1.3.1 Combat Systems/Equipment
   1.4 Security Classification of Equipment, Components, Spaces and Documents: The Equipment, Space or Document is classified and subject to the applicable provisions of the National Industrial Security Program Operating Manual, DOD 5220.22-M (0584-LP-179-6400)
      1.4.1 Spaces: All Combat System Equipment Spaces, when Outfitted and Operational (CONFIDENTIAL)
      1.4.2 Equipment: Communications, Radar, Sonar, Electronic Countermeasures, Data Processing, Gun and Missile Fire Control, Weapons and Weapons Delivery (CONFIDENTIAL)
      1.4.3 Documents: Technical Manuals, Computer Programs, Test Data Sheets, Test Procedures and Drawings (CONFIDENTIAL)
2. REFERENCES:
   2.1 None.
3. REQUIREMENTS:
   3.1 Provide __ mandays of labor and __ dollars of material to accomplish work not previously identified in the Work Item, as directed by the SUPERVISOR. If the total costs are less than the authorized manday and dollar amounts, remaining funds will be subject to recoupment. The contractor is not authorized to exceed these limits.
   3.2 Accomplish the requirements of 009-032 of 2.1 for each new and disturbed surface.
4. NOTES:
   4.1 None.
8. GOVERNMENT FURNISHED MATERIAL (GFM):
   8.1 LLTM:
      1. None.
   8.2 PUSH MATERIAL:
      1. None.

1 of 2 ITEM NO: 844-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



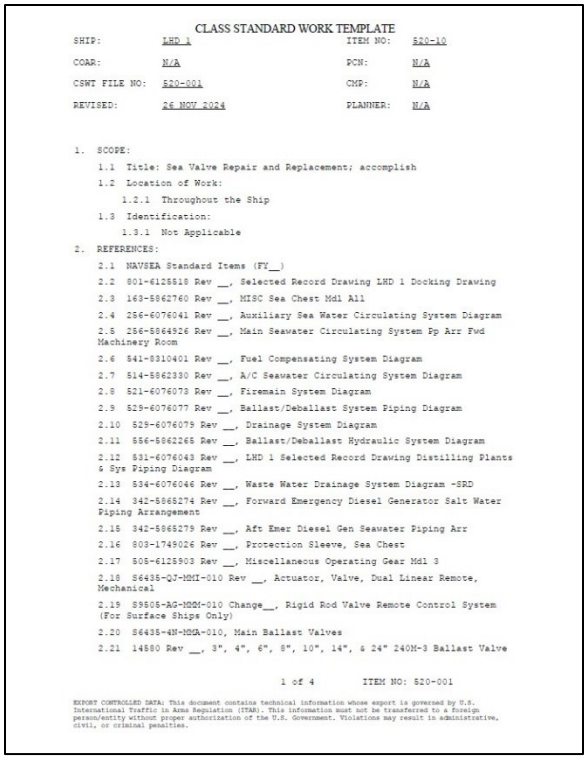
SHIP: FFG 7

5.3 KITTED MATERIAL:
   1. None.

2 of 2 ITEM NO: 844-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.

Master Specification Catalog – Standard Work Template (SWT)



CLASS STANDARD WORK TEMPLATE

SHIP: LHD 1 ITEM NO: 520-10

COAR: N/A PCN: N/A

CSWT FILE NO: 520-001 CMP: N/A

REVISED: 26 NOV 2024 PLANNER: N/A

1. SCOPE:

1.1 Title: Sea Valve Repair and Replacement; accomplish

1.2 Location of Work:

1.2.1 Throughout the Ship

1.3 Identification:

1.3.1 Not Applicable

2. REFERENCES:

2.1 NAVSEA Standard Items (FY__)

2.2 801-6125518 Rev __, Selected Record Drawing LHD 1 Docking Drawing

2.3 163-5862760 Rev __, MISC Sea Chest Mdl All

2.4 256-6076041 Rev __, Auxiliary Sea Water Circulating System Diagram

2.5 256-5864926 Rev __, Main Seawater Circulating System Fp Arr Fwd Machinery Room

2.6 541-8310401 Rev __, Fuel Compensating System Diagram

2.7 514-5862330 Rev __, A/C Seawater Circulating System Diagram

2.8 521-6076073 Rev __, Firemain System Diagram

2.9 529-6076077 Rev __, Ballast/Deballast System Piping Diagram

2.10 529-6076079 Rev __, Drainage System Diagram

2.11 556-5862265 Rev __, Ballast/Deballast Hydraulic System Diagram

2.12 531-6076043 Rev __, LHD 1 Selected Record Drawing Distilling Plants & Sys Piping Diagram

2.13 534-6076046 Rev __, Waste Water Drainage System Diagram -SRD

2.14 342-5865274 Rev __, Forward Emergency Diesel Generator Salt Water Piping Arrangement

2.15 342-5865279 Rev __, Aft Emer Diesel Gen Seawater Piping Arr

2.16 803-1749026 Rev __, Protection Sleeve, Sea Chest

2.17 505-6125903 Rev __, Miscellaneous Operating Gear Mdl 3

2.18 S6435-QJ-MMI-010 Rev __, Actuator, Valve, Dual Linear Remote, Mechanical

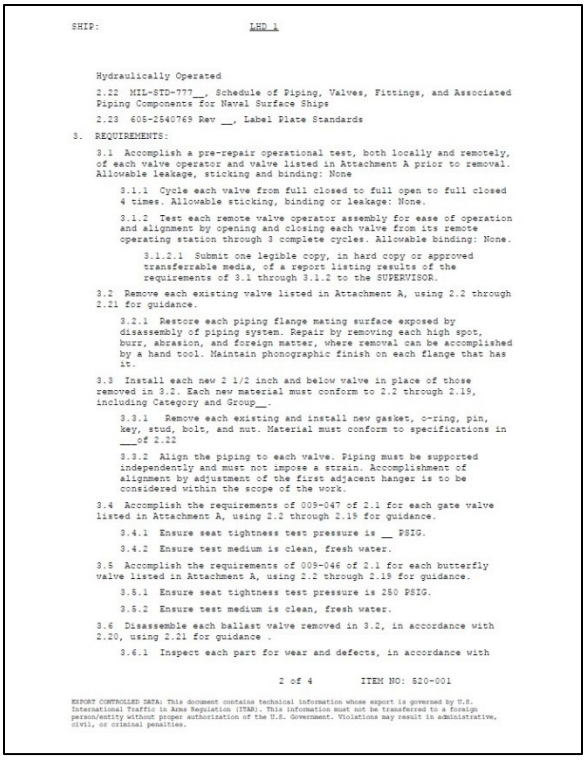
2.19 S9505-AG-HDM-010 Change__, Rigid Rod Valve Remote Control System (For Surface Ships Only)

2.20 S6435-4N-MMA-010, Main Ballast Valves

2.21 14580 Rev __, 3", 4", 6", 8", 10", 14", & 24" 240M-3 Ballast Valve

1 of 4 ITEM NO: 520-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: LHD 1

Hydraulically Operated

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

2.23 605-2540769 Rev __, Label Plate Standards

3. REQUIREMENTS:

3.1 Accomplish a pre-repair operational test, both locally and remotely, of each valve operator and valve listed in Attachment A prior to removal. Allowable leakage, sticking and binding: None

3.1.1 Cycle each valve from full closed to full open to full closed 4 times. Allowable sticking, binding or leakage: None.

3.1.2 Test each remote valve operator assembly for ease of operation and alignment by opening and closing each valve from its remote operating station through 3 complete cycles. Allowable binding: None.

3.1.2.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.1 through 3.1.2 to the SUPERVISOR.

3.2 Remove each existing valve listed in Attachment A, using 2.2 through 2.21 for guidance.

3.2.1 Restore each piping flange mating surface exposed by disassembly of piping system. Repair by removing each high spot, burr, abrasion, and foreign matter, where removal can be accomplished by a hand tool. Maintain phonographic finish on each flange that has it.

3.3 Install each new 2 1/2 inch and below valve in place of those removed in 3.2. Each new material must conform to 2.2 through 2.19, including Category and Group__.

3.3.1 Remove each existing and install new gasket, o-ring, pin, key, stud, bolt, and nut. Material must conform to specifications in ___of 2.22

3.3.2 Align the piping to each valve. Piping must be supported independently and must not impose a strain. Accomplishment of alignment by adjustment of the first adjacent hanger is to be considered within the scope of the work.

3.4 Accomplish the requirements of 009-047 of 2.1 for each gate valve listed in Attachment A, using 2.2 through 2.19 for guidance.

3.4.1 Ensure seat tightness test pressure is __ PSIG.

3.4.2 Ensure test medium is clean, fresh water.

3.5 Accomplish the requirements of 009-046 of 2.1 for each butterfly valve listed in Attachment A, using 2.2 through 2.19 for guidance.

3.5.1 Ensure seat tightness test pressure is 250 PSIG.

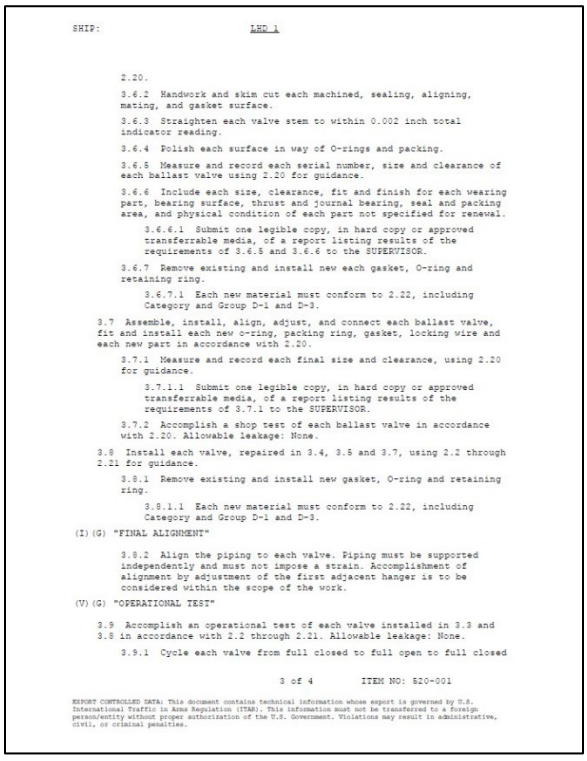
3.5.2 Ensure test medium is clean, fresh water.

3.6 Disassemble each ballast valve removed in 3.2, in accordance with 2.20, using 2.21 for guidance .

3.6.1 Inspect each part for wear and defects, in accordance with

2 of 4 ITEM NO: 520-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: LHD 1

2.20.

3.6.2 Handwork and skim cut each machined, sealing, aligning, mating, and gasket surface.

3.6.3 Straighten each valve stem to within 0.002 inch total indicator reading.

3.6.4 Polish each surface in way of O-rings and packing.

3.6.5 Measure and record each serial number, size and clearance of each ballast valve using 2.20 for guidance.

3.6.6 Include each size, clearance, fit and finish for each wearing part, bearing surface, thrust and journal bearing, seal and packing area, and physical condition of each part not specified for renewal.

3.6.6.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.6.5 and 3.6.6 to the SUPERVISOR.

3.6.7 Remove existing and install new each gasket, O-ring and retaining ring.

3.6.7.1 Each new material must conform to 2.22, including Category and Group D-1 and D-3.

3.7 Assemble, install, align, adjust, and connect each ballast valve, fit and install each new o-ring, packing ring, gasket, locking wire and each new part in accordance with 2.20.

3.7.1 Measure and record each final size and clearance, using 2.20 for guidance.

3.7.1.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.7.1 to the SUPERVISOR.

3.7.2 Accomplish a shop test of each ballast valve in accordance with 2.20. Allowable leakage: None.

3.8 Install each valve, repaired in 3.4, 3.5 and 3.7, using 2.2 through 2.21 for guidance.

3.8.1 Remove existing and install new gasket, O-ring and retaining ring.

3.8.1.1 Each new material must conform to 2.22, including Category and Group D-1 and D-3.

(I) (G) "FINAL ALIGNMENT"

3.8.2 Align the piping to each valve. Piping must be supported independently and must not impose a strain. Accomplishment of alignment by adjustment of the first adjacent hanger is to be considered within the scope of the work.

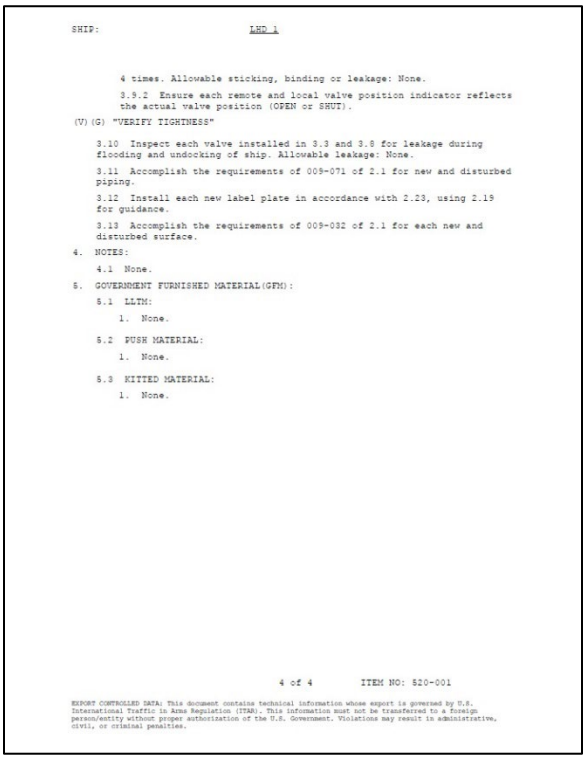
(V) (G) "OPERATIONAL TEST"

3.9 Accomplish an operational test of each valve installed in 3.3 and 3.8 in accordance with 2.2 through 2.21. Allowable leakage: None.

3.9.1 Cycle each valve from full closed to full open to full closed

3 of 4 ITEM NO: 520-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: LHD 1

4 times. Allowable sticking, binding or leakage: None.

3.9.2 Ensure each remote and local valve position indicator reflects the actual valve position (OPEN or SHUT).

(V) (G) "VERIFY TIGHTNESS"

3.10 Inspect each valve installed in 3.3 and 3.8 for leakage during flooding and undocking of ship. Allowable leakage: None.

3.11 Accomplish the requirements of 009-071 of 2.1 for new and disturbed piping.

3.12 Install each new label plate in accordance with 2.23, using 2.19 for guidance.

3.13 Accomplish the requirements of 009-032 of 2.1 for each new and disturbed surface.

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL(GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

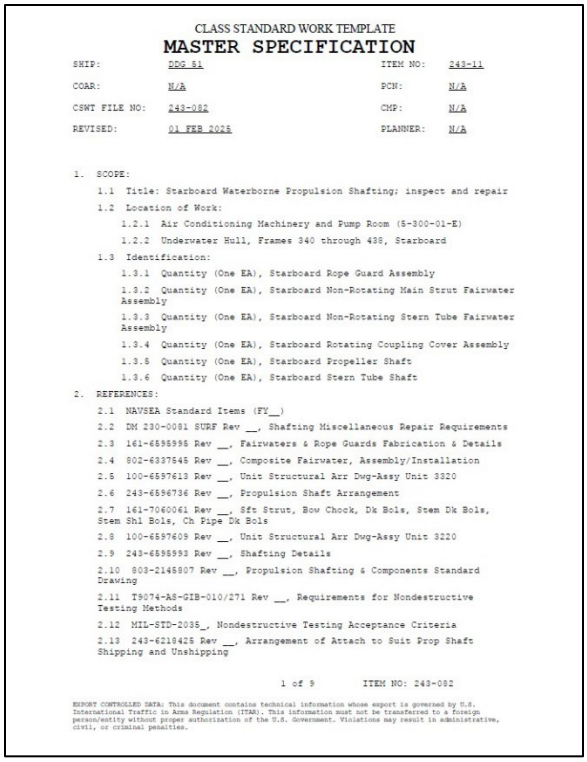
1. None.

4 of 4 ITEM NO: 520-001

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.

Master Specification Catalog – Class Standard Work Template (CSWT)

SECTION 7
DOCUMENT EXAMPLES



CLASS STANDARD WORK TEMPLATE

MASTER SPECIFICATION

SHIP:	DDG 51	ITEM NO:	243-11
COAR:	N/A	PCN:	N/A
CSWT FILE NO:	243-082	CMP:	N/A
REVISED:	01 FEB 2025	PLANNER:	N/A

1. SCOPE:

1.1 Title: Starboard Waterborne Propulsion Shafting; inspect and repair

1.2 Location of Work:

1.2.1 Air Conditioning Machinery and Pump Room (S-300-01-E)

1.2.2 Underwater Hull, Frames 340 through 438, Starboard

1.3 Identification:

1.3.1 Quantity (One EA), Starboard Rope Guard Assembly

1.3.2 Quantity (One EA), Starboard Non-Rotating Main Strut Fairwater Assembly

1.3.3 Quantity (One EA), Starboard Non-Rotating Stern Tube Fairwater Assembly

1.3.4 Quantity (One EA), Starboard Rotating Coupling Cover Assembly

1.3.5 Quantity (One EA), Starboard Propeller Shaft

1.3.6 Quantity (One EA), Starboard Stern Tube Shaft

2. REFERENCES:

2.1 NAVSEA Standard Items (FY__)

2.2 DM 230-0081 SURF Rev __, Shafting Miscellaneous Repair Requirements

2.3 161-6595595 Rev __, Fairwaters & Rope Guards Fabrication & Details

2.4 802-6337545 Rev __, Composite Fairwater, Assembly/Installation

2.5 100-6597613 Rev __, Unit Structural Arr Dwg-Assy Unit 3320

2.6 243-6596736 Rev __, Propulsion Shaft Arrangement

2.7 161-7060061 Rev __, Sft Strut, Bow Chock, Dk Bols, Stem Dk Bols, Stem Shl Bols, Ch Pipe Dk Bols

2.8 100-6597609 Rev __, Unit Structural Arr Dwg-Assy Unit 3220

2.9 243-6595993 Rev __, Shafting Details

2.10 803-2145807 Rev __, Propulsion Shafting & Components Standard Drawing

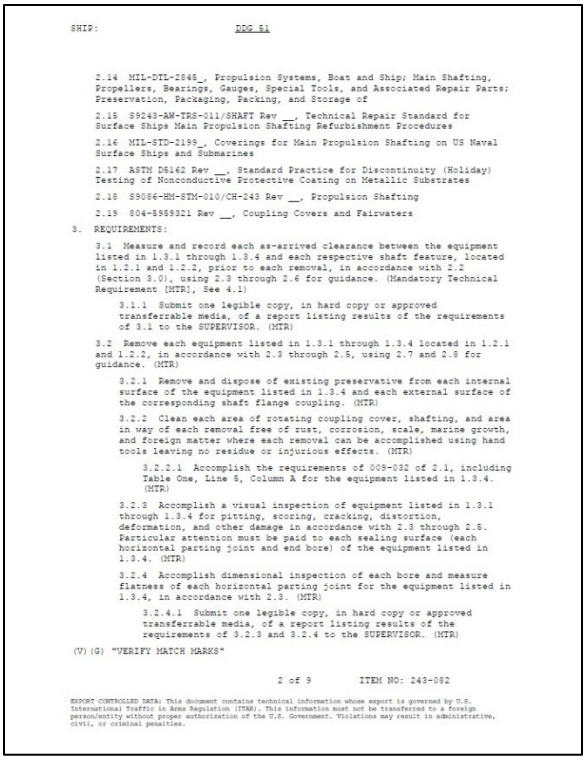
2.11 T9074-AS-GIB-010/271 Rev __, Requirements for Nondestructive Testing Methods

2.12 MIL-STD-2035_, Nondestructive Testing Acceptance Criteria

2.13 243-6218425 Rev __, Arrangement of Attach to Suit Prop Shaft Shipping and Unshipping

1 of 9 ITEM NO: 243-082

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: DDG 51

2.14 MIL-DTL-2845_, Propulsion Systems, Boat and Ship; Main Shafting, Propellers, Bearings, Gauges, Special Tools, and Associated Repair Parts; Preservation, Packaging, Packing, and Storage of

2.15 S9243-AW-TRS-011/SHAFT Rev __, Technical Repair Standard for Surface Ships Main Propulsion Shafting Refurbishment Procedures

2.16 MIL-STD-2199_, Coverings for Main Propulsion Shafting on US Naval Surface Ships and Submarines

2.17 ASTM D5162 Rev __, Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates

2.18 S9086-HM-STM-010/CH-243 Rev __, Propulsion Shafting

2.19 804-5959321 Rev __, Coupling Covers and Fairwaters

3. REQUIREMENTS:

3.1 Measure and record each as-arrived clearance between the equipment listed in 1.3.1 through 1.3.4 and each respective shaft feature, located in 1.2.1 and 1.2.2, prior to each removal, in accordance with 2.2 (Section 3.0), using 2.3 through 2.6 for guidance. (Mandatory Technical Requirement [MTR], See 4.1)

3.1.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.1 to the SUPERVISOR. (MTR)

3.2 Remove each equipment listed in 1.3.1 through 1.3.4 located in 1.2.1 and 1.2.2, in accordance with 2.3 through 2.5, using 2.7 and 2.8 for guidance. (MTR)

3.2.1 Remove and dispose of existing preservative from each internal surface of the equipment listed in 1.3.4 and each external surface of the corresponding shaft flange coupling. (MTR)

3.2.2 Clean each area of rotating coupling cover, shafting, and area in way of each removal free of rust, corrosion, scale, marine growth, and foreign matter where each removal can be accomplished using hand tools leaving no residue or injurious effects. (MTR)

3.2.2.1 Accomplish the requirements of 009-082 of 2.1, including Table One, Line 6, Column A for the equipment listed in 1.3.4. (MTR)

3.2.3 Accomplish a visual inspection of equipment listed in 1.3.1 through 1.3.4 for pitting, scoring, cracking, distortion, deformation, and other damage in accordance with 2.3 through 2.5. Particular attention must be paid to each sealing surface (each horizontal parting joint and end bore) of the equipment listed in 1.3.4. (MTR)

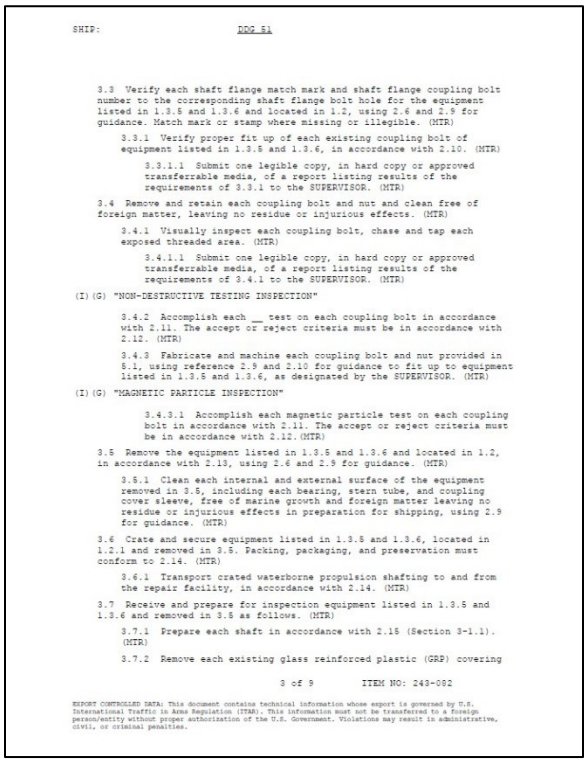
3.2.4 Accomplish dimensional inspection of each bore and measure flatness of each horizontal parting joint for the equipment listed in 1.3.4, in accordance with 2.3. (MTR)

3.2.4.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.2.3 and 3.2.4 to the SUPERVISOR. (MTR)

(V) (G) "VERIFY MATCH MARKS"

2 of 9 ITEM NO: 243-082

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: DDG 51

3.3 Verify each shaft flange match mark and shaft flange coupling bolt number to the corresponding shaft flange bolt hole for the equipment listed in 1.3.5 and 1.3.6 and located in 1.2, using 2.6 and 2.9 for guidance. Match mark or stamp where missing or illegible. (MTR)

3.3.1 Verify proper fit up of each existing coupling bolt of equipment listed in 1.3.5 and 1.3.6, in accordance with 2.10. (MTR)

3.3.1.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.3.1 to the SUPERVISOR. (MTR)

3.4 Remove and retain each coupling bolt and nut and clean free of foreign matter, leaving no residue or injurious effects. (MTR)

3.4.1 Visually inspect each coupling bolt, chase and tap each exposed threaded area. (MTR)

3.4.1.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.4.1 to the SUPERVISOR. (MTR)

(I) (G) "NON-DESTRUCTIVE TESTING INSPECTION"

3.4.2 Accomplish each __ test on each coupling bolt in accordance with 2.11. The accept or reject criteria must be in accordance with 2.12. (MTR)

3.4.3 Fabricate and machine each coupling bolt and nut provided in 5.1, using reference 2.9 and 2.10 for guidance to fit up to equipment listed in 1.3.5 and 1.3.6, as designated by the SUPERVISOR. (MTR)

(I) (G) "MAGNETIC PARTICLE INSPECTION"

3.4.3.1 Accomplish each magnetic particle test on each coupling bolt in accordance with 2.11. The accept or reject criteria must be in accordance with 2.12.(MTR)

3.5 Remove the equipment listed in 1.3.5 and 1.3.6 and located in 1.2, in accordance with 2.13, using 2.6 and 2.9 for guidance. (MTR)

3.5.1 Clean each internal and external surface of the equipment removed in 3.5, including each bearing, stern tube, and coupling cover sleeve, free of marine growth and foreign matter leaving no residue or injurious effects in preparation for shipping, using 2.9 for guidance. (MTR)

3.6 Crate and secure equipment listed in 1.3.5 and 1.3.6, located in 1.2.1 and removed in 3.5. Packing, packaging, and preservation must conform to 2.14. (MTR)

3.6.1 Transport crated waterborne propulsion shafting to and from the repair facility, in accordance with 2.14. (MTR)

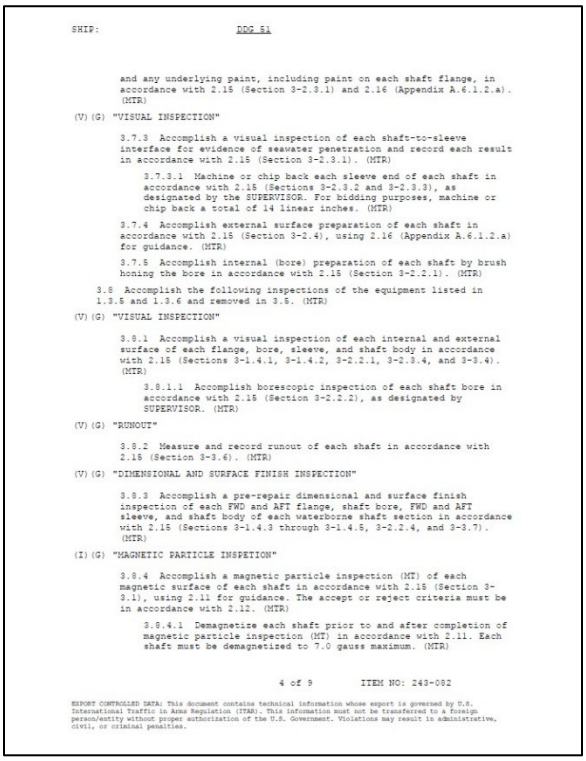
3.7 Receive and prepare for inspection equipment listed in 1.3.5 and 1.3.6 and removed in 3.5 as follows. (MTR)

3.7.1 Prepare each shaft in accordance with 2.15 (Section 3-1.1). (MTR)

3.7.2 Remove each existing glass reinforced plastic (GRP) covering

3 of 9 ITEM NO: 243-082

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: DDG 51

and any underlying paint, including paint on each shaft flange, in accordance with 2.15 (Section 3-2.3.1) and 2.16 (Appendix A.6.1.2.a). (MTR)

(V) (G) "VISUAL INSPECTION"

3.7.3 Accomplish a visual inspection of each shaft-to-sleeve interface for evidence of seawater penetration and record each result in accordance with 2.15 (Section 3-2.3.1). (MTR)

3.7.3.1 Machine or chip back each sleeve end of each shaft in accordance with 2.15 (Sections 3-2.3.2 and 3-2.3.3), as designated by the SUPERVISOR. For bidding purposes, machine or chip back a total of 14 linear inches. (MTR)

3.7.4 Accomplish external surface preparation of each shaft in accordance with 2.15 (Section 3-2.4), using 2.16 (Appendix A.6.1.2.a) for guidance. (MTR)

3.7.5 Accomplish internal (bore) preparation of each shaft by brush honing the bore in accordance with 2.15 (Section 3-2.2.1). (MTR)

3.8 Accomplish the following inspections of the equipment listed in 1.3.5 and 1.3.6 and removed in 3.5. (MTR)

(V) (G) "VISUAL INSPECTION"

3.8.1 Accomplish a visual inspection of each internal and external surface of each flange, bore, sleeve, and shaft body in accordance with 2.15 (Sections 3-1.4.1, 3-1.4.2, 3-2.2.1, 3-2.3.4, and 3-3.4). (MTR)

3.8.1.1 Accomplish borescopic inspection of each shaft bore in accordance with 2.15 (Section 3-2.2.2), as designated by SUPERVISOR. (MTR)

(V) (G) "RUNOUT"

3.8.2 Measure and record runout of each shaft in accordance with 2.15 (Section 3-3.6). (MTR)

(V) (G) "DIMENSIONAL AND SURFACE FINISH INSPECTION"

3.8.3 Accomplish a pre-repair dimensional and surface finish inspection of each FWD and AFT flange, shaft bore, FWD and AFT sleeve, and shaft body of each waterborne shaft section in accordance with 2.15 (Sections 3-1.4.3 through 3-1.4.5, 3-2.2.4, and 3-3.7). (MTR)

(I) (G) "MAGNETIC PARTICLE INSPETION"

3.8.4 Accomplish a magnetic particle inspection (MT) of each magnetic surface of each shaft in accordance with 2.15 (Section 3-3.1), using 2.11 for guidance. The accept or reject criteria must be in accordance with 2.12. (MTR)

3.8.4.1 Demagnetize each shaft prior to and after completion of magnetic particle inspection (MT) in accordance with 2.11. Each shaft must be demagnetized to 7.0 gauss maximum. (MTR)

4 of 9 ITEM NO: 243-082

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.

Master Specification Catalog – Master Specification Work Template (MSWT)

SHIP: DDG 51

(I) (G) "LIQUID PENETRANT INSPECTION"

3.8.5 Accomplish each liquid penetrant inspection (PT) on each shaft sleeve and Inconel clad inlay in accordance with 2.15 (Section 3-3.1), using 2.11 for guidance. The accept or reject criteria must be in accordance with 2.12. (MTR)

3.8.6 Submit one legible copy, in hard copy or approved transferrable media, of the report listing results of the requirements of 3.7.3 and 3.8.1 through 3.8.5 to the SUPERVISOR within 50 days after dry docking. The report must be in accordance with 2.15 (Section 3-3.8). Report must include a photograph of each indication identified in 3.8.1 and 3.8.5. (MTR)

3.9 Accomplish the following repairs of the equipment listed in 1.3.5 and 1.3.6 and inspected in 3.8, as designated by the SUPERVISOR. (MTR)

3.9.1 Handwork and skim cut each sleeve of each shaft in accordance with 2.15 (Sections 3-2.3.4 and 3-2.3.5). (MTR)

3.9.2 Handwork each flange outer diameter, non-mating flange face, mating flange face, and fillet radius of each shaft in accordance with 2.15 (Section 3-4.6). (MTR)

3.9.3 Reestablish the sleeve end, using 2.9 and 2.15 (Figure 3-2.3) for guidance based on work accomplished in 3.7.3.1. (MTR)

3.9.4 Handwork each shaft body and journal area of each shaft in accordance with 2.15 (Section 3-4.5). (MTR)

3.9.5 Fair in each pit, up to 100 square inches of pitting total, on each shaft surface, not to exceed 0.0625 inches in depth. (MTR)

3.9.6 Polish each machined surface as required to restore surface finish in accordance with 2.9. (MTR)

3.10 Accomplish the following repair inspections of the equipment listed in 1.3.5 and 1.3.6 and repaired in 3.9. (MTR)

(V) (G) "RUNOUT"

3.10.1 Measure and record the final runout of each shaft in accordance with 2.15 (Section 3-4.12). (MTR)

(V) (G) "DIMENSIONAL AND SURFACE FINISH INSPECTION"

3.10.2 Accomplish a final dimensional and surface finish inspection of each FWD and AFT flange, shaft bore, FWD and AFT sleeve, and shaft body of each waterborne shaft section in accordance with 2.15 (Sections 3-2.2.4, 3-4.6, 3-4.9.4, and 3-4.12.4). (MTR)

(I) (G) "LIQUID PENETRANT INSPECTION"

3.10.3 Accomplish each final liquid penetrant inspection (PT) of each machined or hand worked sleeve and Inconel clad inlay on each shaft in accordance with 2.15 (Sections 3-4.10 and 3-4.11.5), using 2.11 for guidance. The accept or reject criteria must be in accordance with 2.12. (MTR)

(I) (G) "MAGNETIC PARTICLE INSPECTION"

SHIP: DDG 51

3.10.4 Accomplish a final magnetic particle inspection (MT) of each magnetic surface of each shaft in accordance with 2.15 (Section 3-4.10), using 2.11 for guidance. The accept or reject criteria must be in accordance with 2.12. (MTR)

3.10.4.1 Demagnetize each shaft after completion of magnetic particle inspection (MT) in accordance with 2.11. Each shaft must be demagnetized to 7.0 gauss maximum. (MTR)

3.10.5 Shot peen each flange fillet of each shaft in accordance with 2.15 (Section 3-4.7). (MTR)

3.10.6 Re-stamp required data for each shaft in accordance with 2.2 (Section 5.0) and 2.9. (MTR)

3.10.7 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.10.1 through 3.10.6 to the SUPERVISOR. The report must include post-repair documentation in accordance with 2.15 (Appendix C). (MTR)

3.11 Accomplish the following to apply the protective shaft coating system for equipment listed in 1.3.5 and 1.3.6 and inspected in 3.10. (MTR)

(V) (G) "SURFACE PREPARATION"

3.11.1 Accomplish external surface preparation of each shaft in accordance with 2.16. (MTR)

3.11.1.1 Surface preparation must be accomplished via abrasive blasting only. Chemical (solvent) cleaning is not allowable method of surface preparation. (MTR)

3.11.2 Apply new 5 component shaft coating system for each shaft in accordance with 2.16. (MTR)

(V) (G) "SPARK TEST"

3.11.3 Accomplish a high voltage spark test of the entire GRP (fiberglass) coated surface of each shaft in accordance with 2.16 (Section B.8.2.e). DO NOT spark test any flange coating at this time. (MTR)

3.11.4 Apply marine biofouling paint system in accordance with 2.16 (Section A.6.3). (MTR)

3.12 Install equipment listed in 1.3.5 and 1.3.6, located in 1.2, in accordance with 2.13, using 2.6 and 2.9 for guidance. (MTR)

3.12.1 Assemble each coupling using each new O-ring and each split pin conforming to each material requirement of 2.6, and each coupling bolt and nut retained or machined in 3.4. (MTR)

3.12.2 Finish machine each coupling bolt listed in 5.1, to fit up to equipment listed in 1.3.5 and 1.3.6, in accordance with 2.10 as designated by the SUPERVISOR. (MTR)

(V) "MATCHMARK, CONTACT, STANDOFF AND BOLT DRAW GAP VERIFICATION"

3.12.3 Verify each matchmark, blue contact and standoff for each coupling bolt in accordance with 2.6 and 2.10. Draw each coupling

SHIP: DDG 51

bolt flush and verify no gap in accordance with 2.10. (MTR)

(V) (G) "VERIFY AIR TEST"

3.12.4 Accomplish a 52.5 pounds per square inch gauge (PSIG) air test of each propulsion shaft line flange after final fit-up is accomplished. Apply a soapy solution to each external surface of each disturbed shaft flange coupling. Test pressure must be held for 30 minutes. Allowable leakage: None. (MTR)

3.12.5 Accomplish touch-up preservation of each coupling bolt, nut, and flange in accordance with 2.16, for each waterborne coupling flange on equipment listed in 1.3.5 and 1.3.6 (coupling designation "F" per 2.6). (MTR)

3.12.6 Accomplish touch-up preservation of each coupling bolt, nut, and flange in accordance 009-032, Table 3, Line 8A for the inboard coupling between equipment listed in 1.3.6 and aft line shaft (coupling designation "E" per 2.6). (MTR)

(V) (G) "SPARK TEST"

3.12.7 Accomplish spark test using a low voltage spark tester for the waterborne mating flange assembly between equipment listed in 1.3.5 and 1.3.6 (coupling designation "F" per 2.6) in accordance with 2.16, using 2.17 for guidance. (MTR)

3.13 Accomplish the following for the equipment listed in 1.3.4, removed in 3.2 and inspected in 3.2.4 and 3.2.5. (MTR)

(V) (G) "AIR TEST"

3.13.1 Accomplish the requirements of 009-026 of 2.1 for in-shop air test of the rotating coupling cover. Apply a soap solution to each external surface of the rotating coupling cover assembly. Test pressure must be 10 PSIG plus or minus one PSIG. Maintain test pressure for 15 minutes for temperature stabilization prior to start of test. Hold test pressure for 10 minutes. Allow leakage and drop in pressure: None. (MTR)

3.13.2 Accomplish the requirements of 009-032 of 2.1, including Table One, Line 5, Columns B and E. (MTR)

3.13.2.1 Each mating surface must not be preserved. (MTR)

3.14 Install equipment listed in 1.3.4 and located in 1.2.1 and 1.2.2 in accordance with 2.3 and 2.6, using each new gasket. (MTR)

3.14.1 Apply 3M 5200 (or equivalent) adhesive to each horizontal parting joint, gasket, and bore. (MTR)

3.14.2 Assemble each rotating coupling cover fastener and tighten until adhesive extrudes from parting joint. (MTR)

3.14.3 Allow 24 hours for adhesive to cure. (MTR)

(V) "FASTENER TORQUE"

3.14.4 Torque each fastener in accordance with 2.3. (MTR)

(V) (G) "AIR TEST"

SHIP: DDG 51

3.14.5 Accomplish the requirements of 009-026 of 2.1 for air test of the rotating coupling cover. Apply a soap solution to each external surface of the rotating coupling cover assembly. Test pressure must be 10 PSIG plus or minus one PSIG in accordance with Paragraph 243-1.2.1 of 2.18. Maintain test pressure for 15 minutes for temperature stabilization prior to start of test. Hold test pressure for 10 minutes. Allowable leakage and drop in pressure: None. (MTR)

(V) (G) "PRESERVE TEST"

3.14.6 Fill internal cavity of rotating coupling cover with new preservative compound in accordance with 2.2 (Section 6.0). (MTR)

3.15 Install equipment listed in 1.3.1 through 1.3.3 and located in 1.2.1 and 1.2.2, in accordance with 2.3 through 2.5, using 2.7 and 2.8 for guidance. (MTR)

3.15.1 Accomplish the requirements of 009-012 of 2.1, including Table 2, Columns A and B, Lines One through 7. (MTR)

(V) (G) "CLEARANCE TEST"

3.16 Measure and record each final as-released clearance between the equipment listed in 1.3.1 through 1.3.4 and respective shaft features, located in 1.2.1 and 1.2.2, in accordance with 2.2 (Section 8.0), using 2.3 through 2.6 for guidance. Acceptance criteria must be in accordance 2.2 (Section 3.2.3), using 2.6 and 2.19 for guidance. (MTR)

3.16.1 Borescope of rotating coupling cover, while jacking the shaft through a complete revolution on the turning gear, to verify no contact between rotating coupling cover and stationary fairwater. Allowable binding or foreign object interferences between the shaft and fairwaters. None. (MTR)

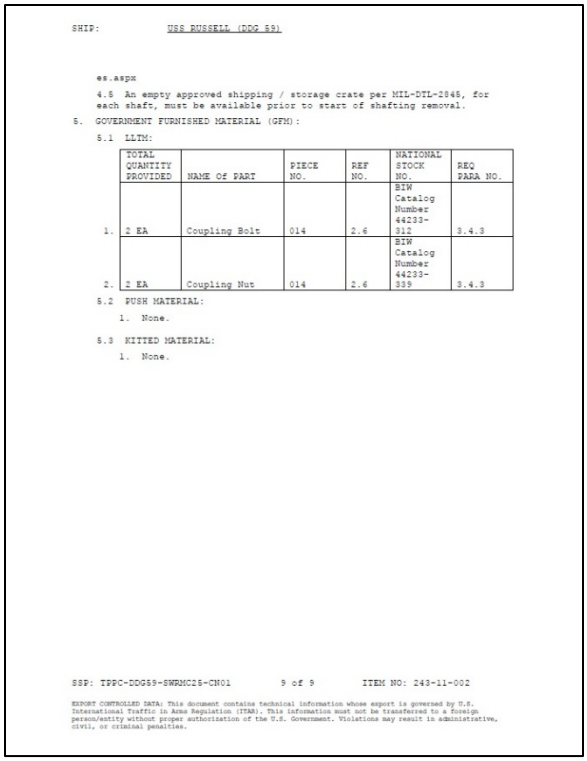
3.17 Accomplish the requirements of 009-032 of 2.1 for each new and disturbed surface. (MTR)

4. NOTES:

4.1 Master Specification Work Template (MSWT) ensures full completion of specific Mandatory Technical Requirements (MTRs) from the Class Maintenance Plan (CMP). Paragraph 3.1 through 3.17 of the MSWT as it exists within the Master Specification Catalog (MSC) support MTR completion. Due to inclusion of additional requirements from other authorized work, the paragraph numbering might have changed during Work Item development. Comparison to MSC MSWT might be required to identify MTR paragraphs within this Work Item. In accordance with Joint Fleet Maintenance Manual (JFMM) Volume VII Chapter 4 Appendix 4-E Section VII Paragraph D, user activities must not delete, replace with "Intentionally Left Blank" or edit paragraphs of MSWTs that support the completion of MTRs, beyond filling in the applicable blank spaces of the template. The user activity can edit non-MTR related paragraphs within MSWTs to suit authorized work.

4.2 GFM listed in 5.1.1 and 5.1.2 support the accomplishment of MTRs. In accordance with Joint Fleet Maintenance Manual (JFMM) Volume VII Chapter 4 Appendix 4-E Section VII Paragraph D, user activities must not delete,

Master Specification Catalog – Master Specification Work Template (MSWT) - continued



SHIP: USS RUSSELL (DDG 59)

es.aspx

4.8 An empty approved shipping / storage crate per MIL-DTL-2845, for each shaft, must be available prior to start of shafting removal.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

	TOTAL QUANTITY PROVIDED	NAME Of PART	PIECE NO.	REF NO.	NATIONAL STOCK NO.	REQ PARA NO.
1.	2 EA	Coupling Bolt	014	2.6	BIW Catalog Number 44233-312	3.4.3
2.	2 EA	Coupling Nut	014	2.6	BIW Catalog Number 44233-339	3.4.3

5.2 PUSH MATERIAL:

1. None.

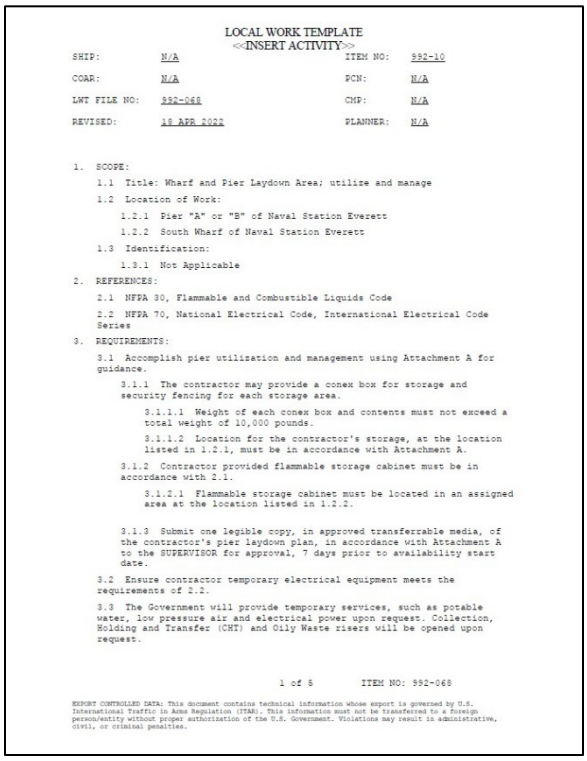
5.3 KITTED MATERIAL:

1. None.

SSP: TPPC-DDG59-SWRMC26-CN01 9 of 9 ITEM NO: 243-11-002

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.

Master Specification Catalog – Master Specification Work Template (MSWT) - continued



LOCAL WORK TEMPLATE
<<INSERT ACTIVITY>>

SHIP: N/A ITEM NO: 992-10

COAR: N/A PCN: N/A

LWT FILE NO: 992-068 CMP: N/A

REVISED: 18 APR 2022 PLANNER: N/A

1. SCOPE:

1.1 Title: Wharf and Pier Laydown Area; utilize and manage

1.2 Location of Work:

1.2.1 Pier "A" or "B" of Naval Station Everett

1.2.2 South Wharf of Naval Station Everett

1.3 Identification:

1.3.1 Not Applicable

2. REFERENCES:

2.1 NFPA 30, Flammable and Combustible Liquids Code

2.2 NFPA 70, National Electrical Code, International Electrical Code Series

3. REQUIREMENTS:

3.1 Accomplish pier utilization and management using Attachment A for guidance.

3.1.1 The contractor may provide a conex box for storage and security fencing for each storage area.

3.1.1.1 Weight of each conex box and contents must not exceed a total weight of 10,000 pounds.

3.1.1.2 Location for the contractor's storage, at the location listed in 1.2.1, must be in accordance with Attachment A.

3.1.2 Contractor provided flammable storage cabinet must be in accordance with 2.1.

3.1.2.1 Flammable storage cabinet must be located in an assigned area at the location listed in 1.2.2.

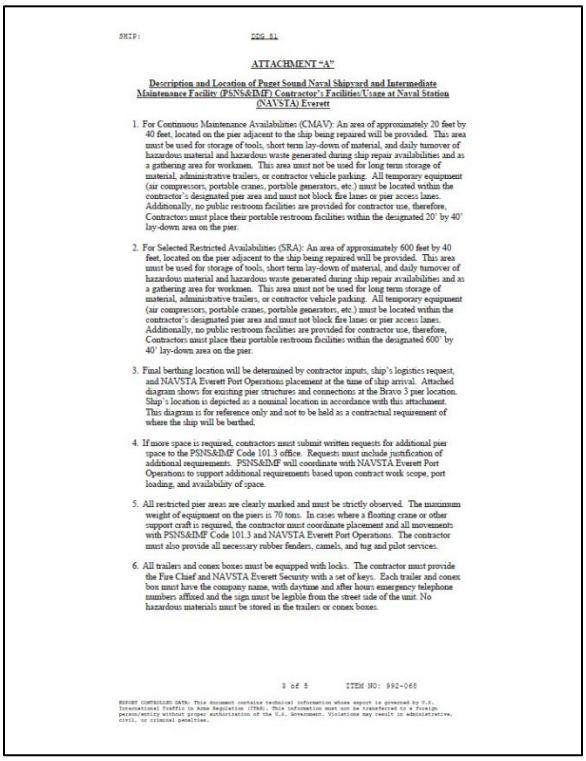
3.1.3 Submit one legible copy, in approved transferrable media, of the contractor's pier laydown plan, in accordance with Attachment A to the SUPERVISOR for approval, 7 days prior to availability start date.

3.2 Ensure contractor temporary electrical equipment meets the requirements of 2.2.

3.3 The Government will provide temporary services, such as potable water, low pressure air and electrical power upon request. Collection, Holding and Transfer (CHT) and Oily Waste risers will be opened upon request.

1 of 5 ITEM NO: 992-068

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.



SHIP: DDG 91

ATTACHMENT "A"

Description and Location of Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS&IMF) Contractor's Facilities/Usage at Naval Station (NAVSTA) Everett

1. For Continuous Maintenance Availabilities (CMAV): An area of approximately 20 feet by 40 feet, located on the pier adjacent to the ship being repaired will be provided. This area must be used for storage of tools, short term lay-down of material, and daily turnover of hazardous material and hazardous waste generated during ship repair availabilities and as a gathering area for workmen. This area must not be used for long term storage of material, administrative trailers, or contractor vehicle parking. All temporary equipment (air compressors, portable cranes, portable generators, etc.) must be located within the contractor's designated pier area and must not block fire lanes or pier access lanes. Additionally, no public restroom facilities are provided for contractor use, therefore, Contractors must place their portable restroom facilities within the designated 20' by 40' lay-down area on the pier.

2. For Selected Restricted Availabilities (SRA): An area of approximately 600 feet by 40 feet, located on the pier adjacent to the ship being repaired will be provided. This area must be used for storage of tools, short term lay-down of material, and daily turnover of hazardous material and hazardous waste generated during ship repair availabilities and as a gathering area for workmen. This area must not be used for long term storage of material, administrative trailers, or contractor vehicle parking. All temporary equipment (air compressors, portable cranes, portable generators, etc.) must be located within the contractor's designated pier area and must not block fire lanes or pier access lanes. Additionally, no public restroom facilities are provided for contractor use, therefore, Contractors must place their portable restroom facilities within the designated 600' by 40' lay-down area on the pier.

3. Final berthing location will be determined by contractor inputs, ship's logistics request, and NAVSTA Everett Port Operations placement at the time of ship arrival. Attached diagram shows for existing pier structures and connections at the Bravo 3 pier location. Ship's location is depicted as a nominal location in accordance with this attachment. This diagram is for reference only and not to be held as a contractual requirement of where the ship will be berthed.

4. If more space is required, contractors must submit written requests for additional pier space to the PSNS&IMF Code 101.3 office. Requests must include justification of additional requirements. PSNS&IMF will coordinate with NAVSTA Everett Port Operations to support additional requirements based upon contract work scope, port loading, and availability of space.

5. All restricted pier areas are clearly marked and must be strictly observed. The maximum weight of equipment on the piers is 70 tons. In cases where a floating crane or other support craft is required, the contractor must coordinate placement and all movements with PSNS&IMF Code 101.3 and NAVSTA Everett Port Operations. The contractor must also provide all necessary rubber fenders, camels, and tug and pilot services.

6. All trailers and conex boxes must be equipped with locks. The contractor must provide the Fire Chief and NAVSTA Everett Security with a set of keys. Each trailer and conex box must have the company name, with daytime and after hours emergency telephone numbers affixed and the sign must be legible from the street side of the unit. No hazardous materials must be stored in the trailers or conex boxes.

2 of 5 ITEM NO: 992-068

EXPORT CONTROLLED DATA: This document contains technical information whose export is governed by U.S. International Traffic in Arms Regulation (ITAR). This information must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil, or criminal penalties.

Local Work Template (LWT) with Attachment

SHIP: DDG 51

ATTACHMENT "A"

Description and Location of Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS&IMF) Contractor's Facilities/Usage at Naval Station (NAVSTA) Everett

1. For Continuous Maintenance Availabilities (CMAV): An area of approximately 20 feet by 40 feet, located on the pier adjacent to the ship being repaired will be provided. This area must be used for storage of tools, short term lay-down of material, and daily turnover of hazardous material and hazardous waste generated during ship repair availabilities and as a gathering area for workmen. This area must not be used for long term storage of material, administrative trailers, or contractor vehicle parking. All temporary equipment (air compressors, portable cranes, portable generators, etc.) must be located within the contractor's designated pier area and must not block fire lanes or pier access lanes. Additionally, no public restroom facilities are provided for contractor use, therefore, Contractors must place their portable restroom facilities within the designated 20' by 40' lay-down area on the pier.

2. For Selected Restricted Availabilities (SRA): An area of approximately 600 feet by 40 feet, located on the pier adjacent to the ship being repaired will be provided. This area must be used for storage of tools, short term lay-down of material, and daily turnover of hazardous material and hazardous waste generated during ship repair availabilities and as a gathering area for workmen. This area must not be used for long term storage of material, administrative trailers, or contractor vehicle parking. All temporary equipment (air compressors, portable cranes, portable generators, etc.) must be located within the contractor's designated pier area and must not block fire lanes or pier access lanes. Additionally, no public restroom facilities are provided for contractor use, therefore, Contractors must place their portable restroom facilities within the designated 600' by 40' lay-down area on the pier.

3. Final berthing location will be determined by contractor inputs, ship's logistics request, and NAVSTA Everett Port Operations placement at the time of ship arrival. Attached diagram shows for existing pier structures and connections at the Bravo 3 pier location. Ship's location is depicted as a nominal location in accordance with this attachment. This diagram is for reference only and not to be held as a contractual requirement of where the ship will be berthed.

4. If more space is required, contractors must submit written requests for additional pier space to the PSNS&IMF Code 101.3 office. Requests must include justification of additional requirements. PSNS&IMF will coordinate with NAVSTA Everett Port Operations to support additional requirements based upon contract work scope, port loading, and availability of space.

5. All restricted pier areas are clearly marked and must be strictly observed. The maximum weight of equipment on the piers is 70 tons. In cases where a floating crane or other support craft is required, the contractor must coordinate placement and all movements with PSNS&IMF Code 101.3 and NAVSTA Everett Port Operations. The contractor must also provide all necessary rubber fenders, camels, and tug and pilot services.

6. All trailers and conex boxes must be equipped with locks. The contractor must provide the Fire Chief and NAVSTA Everett Security with a set of keys. Each trailer and conex box must have the company name, with daytime and after hours emergency telephone numbers affixed and the sign must be legible from the street side of the unit. No hazardous materials must be stored in the trailers or conex boxes.

3 of 5 ITEM NO: 992-068

SHIP: DDG 51

ATTACHMENT "A"

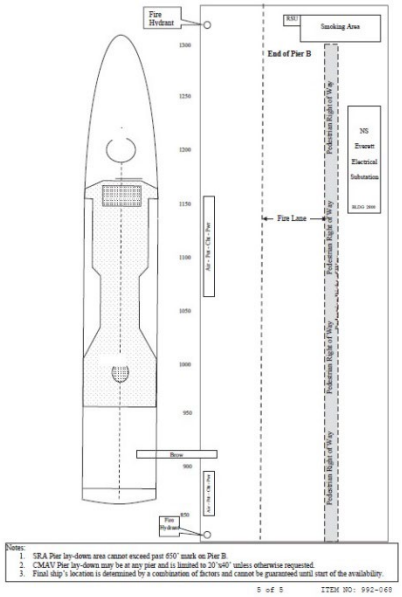
7. The contractor must be aware of explosive arc restrictions invoked when handling explosives and will evacuate any temporary structures when and as directed. NAVSTA Everett Port Operations will notify the tenants on the pier as early as possible of the intent to handle explosives so as to minimize impact. This is not a common occurrence. When it does occur, the pier is typically shutdown for less than 4 hours. During that time, all personnel not onboard a vessel must evacuate the pier.

8. All Contractors will ensure that their areas are cleaned and restored to the maximum extent practicable before being vacated at the end of their respective production work. When the availability is over, PSNS&IMF Code 101.3 will inspect the pier.

4 of 5 ITEM NO: 992-068

SHIP: DDG 51

ATTACHMENT A
Nominal Pier Lay-down Plan



Notes:
1. SRA Pier lay-down area cannot exceed past 650' mark on Pier B.
2. CMAV Pier lay-down may be at any pier and is limited to 20'x40' unless otherwise requested.
3. Final ship's location is determined by a combination of factors and cannot be guaranteed until start of the availability.

5 of 5 ITEM NO: 992-068

Local Work Template (LWT) with Attachment - continued

ANNEX A

CATEGORY I NAVSEA STANDARD ITEM (CAT I NSI) INVOKING GUIDANCE

to

APPENDIX 4-E

of

CHAPTER 4

to

VOLUME VII

JOINT FLEET MAINTENANCE MANUAL (JFMM)

1. CATEGORY I NAVSEA STANDARD ITEM (CAT I NSI) INVOKING GUIDANCE

a. A determination must be made as to which CAT I NSIs are applicable to a specific Contract or Job Order. The applicable CAT I NSIs are invoked for a specific Contract or Job Order by inclusion in schedules of the Invitation for Bid (IFB) or Request for Proposal (RFP) and as listed in the index of Work Item Specifications within the Work Package, which is included in each specification package.

NAVSEA Standard Item No.	Title	Usage/Comments
009-001	General Criteria; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-002	Environmental Compliance Report for Material Usage; accomplish	Invoke when work is being accomplished where environmental compliance requirements are not specified locally. Not applicable to boats and craft 65 feet and less in length.
009-003	Toxic and Hazardous Substance; control	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-004	Quality Management System; provide	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length
009-005	Temporary Access; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-006	Maintaining Protection and Cleanliness from Non-Radioactive Operation; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-007	Confined Space Entry, and Certification; accomplish	Invoke for all solicitations on manned vessels. Not applicable to boats and craft 65 feet and less in length.
009-008	Shipboard Fire Protection and Fire Prevention; accomplish	Invoke for all solicitations on manned vessels. Not applicable to boats and craft 65 feet and less in length.
009-010	Asbestos-Containing Material (ACM); control	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-018	Mine Warfare Ships Magnetic Material; control	Invoke for all Minesweeping Ships and Craft
009-019	Provisioning Technical Documentation (PTD); provide	Invoke when hull, mechanical, electrical/electronic equipment or components are being furnished by the contractor. Not applicable to boats and craft 65 feet and less in length.
009-020	Government Property; control	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-021	Alteration Verification, Logistic and Technical Data; provide	Invoke when equipment is being installed new or replaces existing equipment or when equipment is being permanently removed from ship. Not applicable to boats and craft 65 feet and less in length.

NAVSEA Standard Item No.	Title	Usage/Comments
009-023	Interference; remove and install	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-024	Authorization, Control, Isolation, Blanking, Tagging, and Cleanliness; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-034	Fire Protection of Unmanned Vessel at Contractor Facility; accomplish	Invoke when work is being accomplished on unmanned vessels at Contractor's facility. Not applicable to boats and craft 65 feet and less in length.
009-039	Technical Manual Contract Requirement (TMCR) for a New Technical Manual for Commercial Equipment/Component; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-040	Contractor Crane, Multi-Purpose Machine and Material Handling Equipment at a Naval Facility; provide	Invoke when work is being accomplished at a Naval facility. Not applicable to boats and craft 65 feet and less in length.
009-060	Schedule and Associated Report for CNO Availability; provide and manage	Invoke for CNO Availabilities. Not applicable to boats and craft 65 feet and less in length.
009-061	Shipboard Use of Fluorocarbon; control	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-067	Integrated Total Ship Testing; manage	Invoke for all CNO availabilities. Not applicable to boats and craft 65 feet and less in length.
009-068	Availability Work Certification (AWC) Data for Availabilities; provide	Invoke for all CNO availabilities. Not applicable to boats and craft 65 feet and less in length.
009-069	Heavy Weather/Mooring Plan; provide	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-070	Confined Space Entry, Certification, Fire Protection, Fire Prevention, and Housekeeping for Unmanned Vessel; accomplish	Invoke when work is being accomplished on unmanned vessels. Not applicable to boats and craft 65 feet and less in length.
009-072	Physical Security at a Private Contractor Facility; accomplish	Invoke when work is being accomplished at contractor's facility. Not applicable to boats and craft 65 feet and less in length.
009-073	Shipboard Electrical/Electronic Cable Procedure; inspect, test, install, remove, and repair	Invoke for all solicitations requiring electrical work. Not applicable to boats and craft 65 feet and less in length.
009-074	Occupational, Safety and Health Plan; accomplish	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-080	Ship Facility; maintain	Invoke for availabilities when ship's crew remains onboard. Not applicable to boats and craft 65 feet and less in length.
009-081	Compartment Closeout; accomplish	Invoke for CNO scheduled availabilities and non-CNO scheduled availabilities greater than

NAVSEA Standard Item No.	Title	Usage/Comments
		or equal to 9 weeks in length, when a formal compartment closeout schedule is not otherwise implemented. Not applicable to boats and craft 65 feet and less in length.
009-082	Installation of Equal Component Vice Specified Component; report	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-084	Threaded Fastener Requirement; accomplish	Invoke for all solicitations involving fasteners. Not applicable to boats and craft 65 feet and less in length.
009-088	Collection, Holding and Transfer (CHT) and Motor Gasoline (MOGAS) Tank, Space, and Piping, including Sewage or MOGAS-Contaminated Tank, Space, and Piping; certify	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-093	Emergency Planning and Community Right-to-Know Act (EPCRA) and Pollution Prevention Act (PPA) Information; provide	Invoke when work is being accomplished where EPCRA/PPA reporting requirements are not specified locally. Not applicable to boats and craft 65 feet and less in length.
009-099	Ship Departure Report; provide	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-100	Ship's Stability; maintain	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-101	Ship Transit and Berthing; accomplish	Invoke when work is being accomplished at the contractor's facility (for ships over 100 feet in length).
009-106	Work Authorization Form Coordinator (WAFCOR); provide	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-109	Non-SUBSAFE Work on SUBSAFE-Certified Vessel; accomplish	Invoke for all SUBSAFE certified vessels.
009-110	Non-Nuclear Work on a Nuclear Vessel; accomplish	Invoke for all work on nuclear vessels.
009-111	Schedule and Associated Report for non-CNO Availability; provide and manage	Invoke for non-CNO Availabilities. Not applicable to boats and craft 65 feet and less in length.
009-117	Combat System Compartment Release Schedule (CRS); accomplish	Invoke for solicitations requiring a Combat Systems Light-Off.
009-118	CG Deck Loading; accomplish	Invoke for all solicitations for CG-47 Class ships.
009-120	Fact Finding and Critique of Unplanned Event; manage	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-122	Temporary Padeye; install and remove	Invoke for all solicitations. Not applicable to boats and craft 65 feet and less in length.
009-125	Boat 65 Feet (20meters) Long and Less; accomplish	Invoke on boats and craft 65 feet and less in length.

NAVSEA Standard Item No.	Title	Usage/Comments
009-126	Schedule Model Review (SMR); accomplish	Invoke for CNO Availabilities. Not applicable to boats and craft 65 feet and less in length.

ANNEX B

NAVSEA STANDARD PHRASEOLOGY

to

APPENDIX 4-E

of

CHAPTER 4

to

VOLUME VII

JOINT FLEET MAINTENANCE MANUAL (JFMM)

NAVSEA STANDARD PHRASEOLOGY

1. Discussion. The standard phraseology herein is promulgated as NAVSEA Standard Phraseology. Each user activity must utilize this NAVSEA standard phraseology to ensure reliable and consistent reproduction of the wording contained herein. An efficient way to ensure this goal is to store new phraseology in a permanent memory form such as on computer systems media or other means. When a phrase is required it will be reproduced from the stored memory. This reproduction will ultimately save considerable labor in the production process and will immediately improve accuracy and reduce the need for extensive proofreading of Work Item Specifications.

2. Changes. Additions, deletions, or modifications to this NAVSEA standard phraseology must be made by submitting the recommended change to the SSRAC for consideration at the annual meeting. The following basic guidelines must be applied when evaluating new proposed phrases.

A. Phrases must be applicable for all user activities and, therefore, must not be limited to a particular class of ship. However, when phrases do apply to a particular class of ship, it must be noted. For example: Phrase C13 – Note: For Butterfly valves installed in Firemain and Saltwater systems, use gasket material conforming to MIL-DTL-24696, TYPE II (For DDG-51 Class Only).

B. Phrases must be limited to a minimum number of sentences. Phrases containing numerous sentences will be referred for consideration as a template.

C. The sentence structure must be grammatically applicable for singular and plural situations. To achieve this, the word "each" must be utilized in lieu of having to pluralize words within the phrase every time repairing, replacing, removing, installing, testing, etc., of more than one unit needs to be addressed.

D. Each phrase must express a complete thought, in clear, concise language which is contractually sound as required by Paragraph 6-10.8 of the Appendix.

E. Sentence structure of phrases must be verb, noun format as required by Paragraph 6-10.14 of the Appendix.

F. Each phrase must identify compliance requirements as required by Paragraph 6-9.20 of the Appendix.

G. Ambiguous wording must not be used as indicated in Paragraph 6-10.7 of the Appendix.

H. Do not refer to the word "paragraph" when referring to another part of the Work Item Specification (except for Attachments). For example:
"3. Remove the equipment listed in 1.3."

I. All references to NAVSEA or NAVSUP drawings or technical manuals must start with the drawing or technical manual number and omit the word NAVSEA or NAVSUP. The above will facilitate the recall of a numerical listing of references by drawing/technical manual number. For example:
S9086-T8-STM-010/CH-593 Rev 7, Pollution Control

J. Minimize the number of blanks contained within phrases which must be filled in by the Planner or Ship Building Specialist.

3. Organization. The NAVSEA standard phraseology presented below is organized into 6 sections. Each section is identified by the upper case letter designation. Each phrase is assigned a unique identifier comprised of the section letter designation followed by the phrase number and in some cases a sub-phrase lower case letter designation. The 6 sections are as follows:

A. NAVSEA Standard phraseology for invoking Category II NAVSEA Standard Items, for use in various disciplines. Use of this section is mandatory.

B. NAVSEA Standard phrases for general use in various disciplines.

C. NAVSEA Standard phrases for use in the piping disciplines.

D. NAVSEA Standard phrases for use in structural disciplines.

E. NAVSEA Standard phrases for use in mechanical disciplines.

F. NAVSEA Standard phrases for use in electronic and electrical disciplines.

4. Instructions. Guidance instructions are also provided where appropriate. NAVSEA Standard phrases, which cannot stand alone or phrases where optional uses are permitted will generally contain a note. The phrases herein, which include the words "using 2.__ for guidance." must be deleted when guidance is not available. When requirements contained in 2.__ are mandatory, the words “in accordance with 2._” must be used.

SECTION A This section of NAVSEA Standard Phraseology contains the approved phrases to be used when invoking Utilization Category II NAVSEA Standard Items (CAT II NSIs).

NAVSEA Standard Item #	Code	Text	Notes
009-009	A9	Accomplish the requirements of 009-009 of 2.1 for __.	
009-011	A11a	Accomplish the requirements of 009-011 of 2.1 for __.	Not to be used for interference replacements covered by 009-023. Use A11a to install new piping, machinery, and hull insulation and lagging. Consideration must be given to high traffic areas as defined in 3.16 of MIL-STD-769. Use 009-012 phraseology if welding of new fasteners is required for this Work Item Specification. Use 009- 032 phraseology if cleaning and painting of new insulation, lagging, and reusable covers are required for this Work Item Specification.
	A11b	Accomplish the requirements of 009-011 of 2.1.	
009-012	A12a	Accomplish the requirements of 009-012 of 2.1, including Table ___, Column(s) __, Lines One through __.	A12b must be used as a subparagraph of A12a if more than a visual inspection is required. Use 009-009 phraseology if a Process Control Procedure (PCP) for specific welding, brazing, and inspection operations is required for this Work Item Specification. A12b may be used as a subparagraph to A12a and A12c. This phrase cannot be used to specify NDT requirements not associated with welding or brazing.
	A12b	Accomplish nondestructive testing in accordance with Line __.	
	A12c	Accomplish the requirements of 009-012 of 2.1, including Table __, Column(s) __, Lines One through __, for __.	
009-013	A13a	Accomplish the requirements of 009-013 of 2.1 for each __ listed in __, using 2._ for guidance.	USE B30a or B30b (AS APPLICABLE) AS A SUBPARAGRAPH TO A13a.
	A13b	Calibrate and adjust each new meter in accordance with 009-013 of 2.1.	
	A13c	Ensure calibration is accomplished within __days preceding the scheduled LOA lock-out date.	For use with A13a and A13b when Light-Off Assessment (LOA)/Propulsion Examination Board (PEB) related.
009-015	A15	Accomplish the requirements of 009-015 of 2.1 for each rotating assembly.	
009-016	A16	Accomplish the requirements of 009-016 of 2.1 for the ___listed in __, using 2.___for guidance.	Insert equipment technical manual in references. USE B30a or B30b (AS APPLICABLE) AS A SUBPARAGRAPH TO A16.
009-017	A17	Accomplish the requirements of 009-017 of 2.1 for the equipment listed in 1.3.__, using 2.__for guidance.	Insert equipment technical manual in references. Use 009-015 phraseology if balancing of the rotating assembly for rotating electrical equipment is required for this Work Item Specification. Use 009-032 phraseology if cleaning and painting for rotating electrical equipment is required for this Work Item Specification. Use 009-058 phraseology if shaft alignment for rotating electrical equipment is required for this Work Item Specification.
009-025	A25a	Accomplish the requirements of 009-025 of 2.1 for a running air test of __. Allowable leakage: None.	
	A25b	Accomplish the requirements of 009-025 of 2.1 for a completion air test of . Test pressure must be __ PSIG. Allowable drop in pressure: None.	Use A25b for tanks, voids, and cofferdams. The allowable drop ounces per square inch for wiring trunk and other spaces are 5 and 2 respectively. Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.

NAVSEA Standard Item #	Code	Text	Notes
	A25c	Accomplish the requirements of 009-025 of 2.1 for a hose test of __. Allowable leakage: None.	Salt water must be specified for use on wood.
	A25d	Accomplish the requirements of 009-025 of 2.1 for a vacuum box test of __. Allowable leakage: None.	
	A25e	Accomplish the requirements of 009-025 of 2.1 for an air hose, water hose, or vacuum box test of __. Allowable leakage: None.	
	A25f	Accomplish the requirements of 009-025 of 2.1 for a chalk test of each structural closure repaired in __.	
009-026	A26a	Accomplish the requirements of 009-026 of 2.1, including Attachment __.	Identify correct attachment according to type of deck covering involved. Use 009-032 phraseology if cleaning and painting for deck covering is required for this Work Item Specification.
	A26b	Accomplish the requirements of 009-026 of 2.1, including Attachment __, for installation of __, in each location listed in __.	
	A26c	Accomplish the requirements of 009-026 of 2.1 for __.	
009-027	A27	Accomplish the requirements of 009-027 of 2.1.	Use 009-009 phraseology if a Process Control Procedure (PCP) for Level I work is required for this Work Item Specification.
009-030	A30	Accomplish the requirements of 009-030 of 2.1.	
009-031	A31	Accomplish the requirements of 009-031 of 2.1.	
009-032	A32a	Accomplish the requirements of 009-032 of 2.1, including Table __, Line(s) __, for __.	Use A32a when main item is preservation and the tables in 009-032 provide a choice. Use A32b for other primary preservation work and touch up. Specify degree of preservation, i.e., foundation, new and disturbed surfaces. Use 009-026 phraseology if a slip resistant deck covering is required for this Work Item Specification.
	A32b	Accomplish the requirements of 009-032 of 2.1 for __.	
	A32c	Accomplish the requirements of 009-032 of 2.1, including Table __, Line(s) __, Column(s) __, for __.	
	A32d	Accomplish the requirements of 009-032 of 2.1 for each new and disturbed surface.	
009-033	A33	Accomplish the requirements of 009-033 of 2.1 for equipment listed in 1.3._, using 2. _ for guidance.	Insert equipment technical manual in references. Use 009-015 phraseology if balancing of the rotating assembly for rotating electrical equipment is required for this Work Item Specification. Use 009-032 phraseology if cleaning and painting for rotating electrical equipment is required for this Work Item Specification. Use 009-058 phraseology if shaft alignment for rotating electrical equipment is required for this Work Item Specification. Use 009-113 phraseology if work on windings for a Sealed Insulation System (SIS) is required for this Work Item Specification.
009-036	A36	Accomplish the requirements of 009-036 of 2.1 for each controller listed in __, using 2. for guidance.	Insert equipment technical manual in references. USE B30a or B30b (AS APPLICABLE) AS A SUBPARAGRAPH TO A36. Use 009-032 phraseology if cleaning and painting for a controller is required for this work item.
009-037	A37a	Accomplish the requirements of 009-037 of 2.1 for __.	Invoke in Work Item Specifications requiring wood repairs/new installation. Use 009-032 phraseology if cleaning and painting of bulkhead sheathing sanded surfaces is required by this Work Item Specification.

NAVSEA Standard Item #	Code	Text	Notes
	A37b	Ensure caulking compound for each deck plank seam is __.	A37b must be used only as a subparagraph to A37a. Invoke A37b when accomplishing repairs/new installations of deck planking caulking seams.
009-038	A38	Accomplish the requirements of 009-038 of 2.1 for __.	
009-045	A45a	Accomplish the requirements of 009-045 of 2._1 for each plug valve listed in __, using 2._ for guidance.	For NAVSEA Standard Items 009-045, 009-046, 009-047, 009-048, 009-050, 009-052, 009-053, 009-055, and 009-096. Valve removal and installation must be specified in the invoking Work Item Specification. A45b and A45c must be subparagraphs to A45a. For shop repair and test. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. For A45b Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A45b	Ensure seat tightness test pressure is __ PSIG.	
	A45c	Ensure test medium is __.	
009-046	A46a	Accomplish the requirements of 009-046 of 2.1 for each butterfly valve listed in __, using 2._ for guidance.	A46b and A46c must be subparagraph to A46a. For shop repair and test. Valve removal and installation must be specified in the invoking Work Item Specification. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. For A46b Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A46b	Ensure seat tightness test pressure is __ PSIG.	
	A46c	Ensure test medium is __.	
009-047	A47a	Accomplish the requirements of 009-047 of 2.1 for each gate valve listed in __, using 2._ for guidance.	A47b and A47c must be subparagraphs to A47a. For shop repair and test. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. Must not be used for high pressure steam valves. For A47b Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A47b	Ensure seat tightness test pressure is __ PSIG.	
	A47c	Ensure test medium is __.	
009-048	A48a	Accomplish the requirements of 009-048 of 2.1 for each pressure seal bonnet valve listed in __, using 2._ For guidance.	A48b and A48c must be subparagraphs to A48a. For shop repair and test. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. For A48b Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A48b	Ensure seat tightness test pressure is __ PSIG.	
	A48c	Ensure test medium is __.	
009-049	A49	Accomplish the requirements of 009-049 of 2.1 for each in-line pressure seal bonnet valve listed in __, using 2._ for guidance.	For in-line repair. Operational test of the valve must be specified in the invoking Work Item Specification.
009-050	A50a	Accomplish the requirements of 009-050 of 2.1 for each check valve listed in __, using 2._ for guidance.	A50b must be a subparagraph to A50a. For shop repair and test. Test medium for seat tightness must be specified in the invoking Work Item Specification. Must not be used for scupper valves.
	A50b	Ensure test medium is __.	
009-052	A52a	Accomplish the requirements of 009-052 of 2.1 for each relief valve listed in __, using 2._ for guidance.	A52b-A52d must be subparagraphs to A52a. For shop repair and test. Test medium and test pressure for seat tightness and

NAVSEA Standard Item #	Code	Text	Notes
	A52b	Ensure the test medium is __.	valve lifting must be listed in the invoking Work Item Specification. Must not be used for boiler safety valves or balanced design relief valves. For A52c and A52d, planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A52c	Ensure the seat tightness test pressure is __ PSIG.	
	A52d	Ensure the lifting pressure is __ PSIG.	
009-053	A53a	Accomplish the requirements of 009-053 of 2.1 for each __ valve listed in __, using 2._ for guidance.	A53b and A53c must be subparagraphs to A53a. For shop repair and test. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. For A53b, planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A53b	Ensure the seat tightness test pressure is __ PSIG.	
	A53c	Ensure the test medium is __.	
009-054	A54	Accomplish the requirements of 009-054 of 2.1 for each in-line bolted bonnet steam valve listed in __, using 2._ for guidance.	For in-line repair. Operational test of the valve, including bypass valve, must be specified in the Work Item Specification.
009-055	A55a	Accomplish the requirements of 009-055 of 2.1 for each pressure regulating/reducing valve listed in __, using 2._ for guidance.	A55b and A55c must be subparagraphs to A55a. For shop repair and test. Test medium and test pressure for valve inlet and regulated pressure/temperature must be specified in the invoking Work Item Specification. A55a-A55c must be used for pressure regulators/reducers only. For A55b, planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A55b	Ensure the inlet/regulating or reducing pressure is __ PSIG to __ PSIG.	
	A55c	Ensure the test medium is __.	
	A55d	Accomplish the requirements of 009-055 of 2.1 for each temperature regulating/reducing valve listed in __, using 2._ for guidance.	A55e and A55f must be subparagraphs to A55d. A55d through A55f must be used for temperature regulators only.
	A55e	Ensure the regulated temperature is __ degrees Fahrenheit.	
	A55f	Ensure the test medium is __.	
009-056	A56	Accomplish the requirements of 009-056 of 2.1 for __.	
009-057	A57	Accomplish the requirements of 009-057 of 2.1.	A57 to be invoked as 3.1 in Work Item Specifications where reduction gear security is affected. Use 009-032 phraseology if cleaning and painting for new and disturbed surfaces is required for this Work Item Specification.
009-058	A58	Accomplish the requirements of 009-058 of 2.1 for __.	A58 to be invoked any time the rotor of a pump or driver (motor/turbine) is disturbed for repair or replacement.
009-062	A62	Accomplish the requirements of 009-062 of 2.1 for __.	

NAVSEA Standard Item #	Code	Text	Notes
009-063	A63a	Accomplish the requirements of 009-063 of 2.1.	A63b will be a subparagraph to A63a. Specify the location from which samples of lubricating or hydraulic fluids are to be taken.
	A63b	Obtain a sample from __ in accordance with ASTM D4057.	
009-065	A65a	Accomplish the requirements of 009-065 of 2.1 for __.	Use 009-065 phraseology when PCB contained material is identified or suspected in drawing/technical manual or by ship-check.
	A65b	Accomplish the requirements of 009-065 of 2.1.	
009-071	A71a	Accomplish the requirements of 009-071 of 2.1 for new and disturbed piping.	Invoke A71a for non-pressurized systems only.
	A71b	Accomplish the requirements of 009-071 of 2.1 for new and disturbed piping system.	A71b-A71e are for use where the operating pressure test is allowed by NSTM CH-505. Test pressure and medium must be listed.
	A71c	Ensure operating test pressure is __ PSIG, using __ in accordance with __.	For A71c planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A71d	Accomplish the requirements of 009-071 of 2.1 for new and disturbed piping system.	A71d-A71e are for use in Feedwater piping systems where conductivity levels require monitoring.
	A71e	Ensure operating test pressure is __ PSIG, using feedwater conforming to Paragraphs 220-22.18 or 220-22.20, and 220-22.21 and 220-22.22 of 2._.	For reference use S9086-GX-STM-020/CH-220, Boiler Water/Feedwater Test and Treatment. Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A71f	Accomplish the requirements of 009-071 of 2.1 for hydrostatic test, using clean, fresh water at __ PSIG, for new and disturbed __ piping systems.	A71g-A71i are for use where the hydrostatic test is required by NSTM CH-505. Test medium and system identification must be listed. For A71f planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A71g	Accomplish the requirements of 009-071 of 2.1 for hydrostatic test, using feedwater at __ PSIG, for new and disturbed __ piping systems.	A71f, A71g and A71i are for use where the hydrostatic test is required by NSTM CH-505. Test medium and system identification must be listed. Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A71h	Feedwater must conform to Paragraphs 220-22.18 or 220-22.20, and 220.22.21 and 220-22.22 of 2._.	For reference use S9086-GX-STM-020/CH-220, Boiler Water/Feedwater Test and Treatment.
	A71i	Accomplish the requirements of 009-071 of 2.1 for new and disturbed __ piping systems, using clean, dry air or nitrogen at __ PSIG.	A71f, A71g and A71i are for use where the hydrostatic test is required by NSTM CH-505. Test medium and system identification must be listed. Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A71j	Accomplish the requirements of 009-071 of 2.1 for a visual tightness test of the Vacuum, Collection, Holding and Transfer (VCHT) Sewage System to at least 24-inches of Hg (vacuum) for at least 10 minutes, with less than 10 percent drop.	For use with VCHT systems (portions under vacuum).
	A71k	Accomplish the requirements of 009-071 of 2.1 for __ test, using system fluid at __ PSIG, for new and disturbed __ piping systems.	For strength, porosity and mechanical joint tightness of hydraulic and lubricating oil systems. Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
009-075	A75	Accomplish the requirements of 009-075 of 2.1 for __, using 2._ for guidance.	Insert equipment technical manual in references. USE B30a or B30b (AS APPLICABLE) AS A SUBPARAGRAPH TO A75.

NAVSEA Standard Item #	Code	Text	Notes
009-076	A76	Accomplish the requirements of 009-076 of 2.1 for __.	
009-077	A77a	Accomplish the requirements of 009-077 of 2.1 for __.	A Process Control Procedure (PCP) is required for cofferdam installation; 009-009 Phraseology must be included for this Work Item Specification.
	A77b	Accomplish the requirements of 009-077 of 2.1.	
009-078	A78	Accomplish the requirements of 009-078 of 2.1.	Use 009-032 phraseology if cleaning and painting for new and disturbed surfaces is required for this Work Item Specification.
009-079	A79a	Accomplish the requirements of 009-079 of 2.1 for __.	Invoke for Multi-Ship Multi-Option availabilities for Government Owned Material (GOM) status reports.
	A79b	Accomplish the requirements of 009-079 of 2.1.	
009-083	A83a	Accomplish the requirements of 009-083 of 2.1 for __.	Invoke for availabilities when wire rope rigging is repaired/altered. Use 009-009 phraseology if a Process Control Procedure (PCP) for fabrication of crane wire rope assemblies is required for this Work Item Specification.
	A83b	Accomplish the requirements of 009-083 of 2.1.	
009-085	A85	Accomplish the requirements of 009-085 of 2.1.	
009-086	A86a	Accomplish the requirements of 009-086 of 2.1 for __.	Invoke when working on Fluorocarbon or Halon-containing system.
	A86b	Accomplish the requirements of 009-086 of 2.1.	
009-087	A87a	Accomplish the requirements of 009-087 of 2.1 for __.	Invoke when working on potable water systems.
	A87b	Accomplish the requirements of 009-087 of 2.1.	
009-091	A91	Accomplish the requirements of 009-091 of 2.1 for equipment listed in __.	
009-092	A92	Accomplish the requirements of 009-092 of 2.1 for equipment listed in __, using 2._ for guidance.	Insert equipment technical manual. Use 009-032 phraseology if cleaning and painting for disturbed surfaces is required for this Work Item Specification.
009-095	A95a	Accomplish the requirements of 009-095 of 2.1 for __.	Invoke when repairs/alterations are done on piping system.
	A95b	Accomplish the requirements of 009-095 of 2.1.	
009-096	A96a	Accomplish the requirements of 009-096 of 2.1 for each ball valve listed in __, using 2._ for guidance.	A96b and A96c must be subparagraphs to A96a. For shop repair and test. Test medium and test pressure for seat tightness must be specified in the invoking Work Item Specification. For A96b planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
	A96b	Ensure the seat tightness test pressure is __ PSIG.	
	A96c	Ensure the test medium is __.	

NAVSEA Standard Item #	Code	Text	Notes
009-103	A103a	Accomplish the requirements of 009-103 of 2.1 for __.	Invoke when: 1. A referenced Dwg denotes a permanent change when removal, addition or shifting of weight one pound or > that will cause a stability and trim issue. 2. The work involves permanent removal, addition or shifting of weight one pound or >)includes but not limited to, structural members, plating, equipment, systems, piping, deck coverings, actions by Alteration Installation Teams). 3. The amount of weight one pound or > removals, additions or shifts which will cause a stability and trim issue can be significantly different for different classes of Navy battle force ships and other Navy boats and craft. 4. Temporary weights (E.G. Staging, scaffolding, enclosures, deck covering, containments, offloading/on-loading fluids) are covered by NSI 009-100 for maintaining proper list.
	A103b	Accomplish the requirements of 009-103 of 2.1.	
009-104	A104	Accomplish the requirements of 009-104 of 2.1.	
009-105	A105	Accomplish the requirements of 009-105 of 2.1 for the listed in 1._. The coating material must be __, using the __ spray process.	Use when Thermal Spray Coating (except aluminum) machinery components. Specify the type of coating material and either wire spray or powder spray process. Use 009-027 phraseology if Material Identification and Control (MIC) is required for this Work Item Specification.
009-107	A107a	Accomplish the requirements of 009-107 of 2.1 for cleaning and flushing __.	This standard must be used when piping system cleanliness is lost. When practical, shipboard cleaning must be minimized or eliminated by component and subassembly cleaning after fabrication and before installation aboard ship. Planner must identify which system requires cleaning. Use 009-09 phraseology if a Process Control Procedure (PCP) is required for this Work Item Specification. A107b must be a subparagraph to A107a. Planner must specify cleanliness level II or level III as identified in Section 505j2 of GSO for piping system being cleaned.
	A107b	Ensure General Cleaning must be Level __.	
009-112	A112a	Accomplish the requirements of 009-112 of 2.1 for __.	Invoke for availabilities when work involves radiographic inspection.
	A112b	Accomplish the requirements of 009-112 of 2.1.	
009-113	A113	Accomplish the requirements of 009-113 of 2.1 for the equipment listed in 1.3._, using 2._ for guidance.	Use 009-015 phraseology if balancing of the rotating assembly for rotating electrical equipment is required for this Work Item Specification. Use 009-032 phraseology if cleaning and painting for rotating electrical equipment is required for this Work Item Specification. Use 009-058 phraseology if shaft alignment for rotating electrical equipment is required for this Work Item Specification.
009-114	A114	Accomplish the requirements of 009-114 of 2.1.	
009-115	A115	Accomplish the requirements of 009-115 of 2.1 for each bearing listed in __.	Use 009-009 phraseology if a Process Control Procedure (PCP) for Rebabbitting each bearing is required for this Work Item Specification.

NAVSEA Standard Item #	Code	Text	Notes
009-116	A116	Accomplish the requirements of 009-116 of 2.1 for __.	
009-121	A121a	Accomplish the requirements of 009-121 of 2.1 for __.	Support must be provided by the SUPERVISOR. The technical representative must only be requested when: 1. Technical documentation is not available to the SUPERVISIOR (i.e. SUPERVISOR does not have the proprietary data). 2. The SUPERVISIOR does not have sufficient personnel to support oversight of the assessment/inspection. 3. Special tools or equipment are required. 4. The SUPERVISOR does not have personnel with the knowledge or expertise to support the assessment/inspection.
	A121b	Accomplish the requirements of 009-121 of 2.1.	
009-123	A123	Accomplish the requirements of 009-123 of 2.1 for __.	
009-124	A124a	Accomplish the requirements of 009-124 of 2.1 for __.	
	A124b	Accomplish the requirements of 009-124 of 2.1.	
	A124c	Accomplish the requirements of 009-124 of 2.1, including Table __, Line(s) __, for __.	
	A124d	Accomplish the requirements of 009-124 of 2.1, including Table __, Line(s) __, Column(s) __ for __.	

SECTION B This section of NAVSEA Standard Phraseology is for general use in all disciplines.

Code	Text	Notes
B1	Remove and install each __ as an interference where required.	Must be used when the exceptions listed in 3.1 of 009-023 are to be removed/installed as interferences.
B2	Accomplish a static load test of the __. A test load of __ pounds must be applied for 10 minutes. Remove the test load and inspect __ and surrounding structure for evidence of damage or permanent deformation. Allowable damage: None.	
B3	Systems and Specifications, SSPC Painting Manual, Volume 2	
B4a	Solvent clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 1 of 2.__.	Use B3 for reference for phrases B4a-B4h. Solvent cleaning specification covers the procedure required for the removal of oil, grease, dirt, soil, salts, and contaminants by cleaning with solvent, vapor alkali, emulsion, or steam.
B4b	Hand tool clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 2 of 2.__.	Hand Tool Cleaning specification covers the procedure and degree of cleanliness required for the removal of loose rust, loose mill scale, and loose paint by hand chipping, hand scraping, hand sanding, hand brushing, or by a combination of these methods.
B4c	Power tool clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 3 of 2.__.	Power tool cleaning specification covers the procedure and degree of cleanliness required for the removal of loose rust, loose mill scale, and loose paint with power wire brushes, power impact tools, power grinders, power sanders or by a combination of these methods.
B4d	White blast clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 5 of 2.__.	White blast cleaning specification covers the procedure and degree of cleanliness required for the removal of mill scale, rust scale, paint, and foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels.
B4e	Commercial blast clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 6 of 2.__.	Commercial blast cleaning specification cover the procedure and degree of cleanliness required for the removal of mill scale, rust, rust scale, paint, and foreign matter by the use of abrasives through nozzles or by centrifugal wheels to the extent that two thirds of each square inch of surface area must be free of visible residues and the remainder must be limited to light discoloration, slight staining or tight residues.
B4f	Brush-off blast clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 7 of 2._.	Brush-off blast cleaning specification covers the procedure and degree of cleanliness required for the removal of loose mill scale, loose rust, loose paint or coatings by the use of abrasives propelled through nozzles or by centrifugal wheels to the extent that tight mill scale, tightly adhered rust, tightly adhered paint, and tightly adhered coatings are permitted to remain.

Code	Text	Notes
B4g	Near-white blast clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 10 of 2._.	Near-White Blast Cleaning specification covers the procedure and degree of cleanliness for the removal of mill scale, rust, corrosion products, oxides, paint,, or other foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels to the extent at least 95 percent of each square inch of surface area must be free of visible residues and the remainder must be limited to very light shadows, very light streaks, or slight discolorations caused by rust stain, mill scale oxides, or slight, tight residues of paint or coating that remain.
B4h	Power tool clean to bare metal __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 11 of 2._.	Power Tool cleaning specifications covers the procedure and degree of cleanliness required for the removal of rust, mill scale, and paint with power wire brushes, power impact tools, power grinders, power sanders or by combination of these methods.
B4i	Spot and sweep blast clean __. Accomplish each requirement of Surface Preparation Specification SSPC-SP 18 of 2._.	Thorough Spot and Sweep blast clean specifications covers the procedure and degree of cleanliness required for previously coated steel surfaces using dry abrasive blast cleaning.
B5a	Clean each exposed part free of __, leaving no residue or injurious effects.	
B5b	Matchmark, identify, and retain __.	
B6a	Install each new label plate in accordance with 2._, using 2._ for guidance.	
B6b	Ensure each label plate must conform to MIL-DTL-15024, Type __, Material __, Color __, and Size __.	
B7	Reference 2._ is available from __. For a copy of this reference, contact __.	Planner is required to research and provide pertinent data in notes section of Work Item Specification.
B8a	Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of __ to the SUPERVISOR.	
B8b	Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of __ to the SUPERVISOR within __ days of __.	Use B8b when report is required by a certain date for effective availability management.
B8c	Submit one legible copy, in hard copy or approved transferrable media, of a report listing __ to the SUPERVISOR.	
B8d	Submit one legible copy, in hard copy or approved transferrable media, of completed __ to the SUPERVISOR.	
B8e	Submit one legible copy, in hard copy or approved transferrable media, of completed 2._ for each __ and a report listing results of the requirements of 3._ to the SUPERVISOR.	

Code	Text	Notes
B8f	Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of __ to the SUPERVISOR within one day after recording the data but no later than 96 h0ours prior to undocking.	Use B8f when a Work Item Specification requires the submission of a report and the work has to be completed and the data in the hands of the NSA for review and approval prior to the undocking of the vessel.
B9a	Crate and secure __ removed in 3._. Packaging must conform to 2._.	B9b must be a subparagraph to B9a. For packing, crating, and shipping of propulsion equipment, either turnaround or replacement, use MIL-DTL-2845, Propulsion Systems, Boat and Ship; Main Shafting, Propellers, Bearings, Gauges, Special Tools, and Associated Repair Parts; Preservation Packaging, Packing and Storage of, as a reference.
B9b	Ship crated material prepaid to and from: __	
B9c	Crate and secure __ removed in 3._. Packaging must conform to 2._.	B9d must be a subparagraph to B9c. On equipment which is (GFM) APA material, either turnaround or replacement, use SL460-AA-HBK-010, Handbook for Inspection, Packaging, Handling, Storage and Transportation as a reference when B9c is invoked, for packing, crating, and shipping equipment.
B9d	Ship crated material prepaid to and from: __	
B9e	Ship the equipment to ensure arrival at the repair facility within __ days after availability start date.	
B9f	Submit one legible copy, in hard copy or approved transferrable media, of the shipping document to the SUPERVISOR.	
B10a	Crate and secure __ removed in 3._. Packaging must conform to 2._.	B10b must be a subparagraph to B10a. On equipment, which is not APA or turnaround, use NAVSUP PUB. 484, Packaging Procedures, as a reference when B10 is invoked for packing, crating, and shipping of equipment that has a known Navy value.
B10b	Ship crated material to: __.	
B10c	Crate and secure __ removed in 3._, conforming to ASTM D 6039/D 6039M.	B10d must be a subparagraph to B10c. ASTM D6039/D6039M applies only to open wood crates for loads not exceeding 4,000 Lbs.
B10d	Ship crated material to __.	
B10e	Ship the equipment within __ days after the availability start date.	
B10f	Crate and secure the equipment listed in 1.3. Packing must be equal to that used for the equipment provided by the Government. Crated equipment must be turned in to the SUPERVISOR within 10 days after removal.	Use B10g for material to be turned over to the SUPERVISOR.

Code	Text	Notes
B10g	Crate and ship __ prepaid to and from the following __ for __:	
B11	Remove and dispose of existing insulation and lagging from each system and component listed in 1.3._, using 2._ for guidance.	Use when main item is removal of insulation and lagging. For reference use S9086-VH-STM-010/CH-635, Thermal, Fire, and Acoustic Insulation.
B12	Accomplish a joint visual inspection with the SUPERVISOR of each __ listed in __ for structural integrity, deterioration, pitting, each crack, and area of damage or distortion, and to determine required repair.	B8a or B8b must be a subparagraph to B12.
B13a	Accomplish each __ test on __ in accordance with 2._. The accept or reject criteria must be in accordance with 2._.	B13b must be a subparagraph to B13a. Use B13a for ultrasonic or radiographic tests. For reference, use T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods and MIL-STD-2035, Nondestructive Testing Acceptance Criteria.
B13b	Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3. _ to the SUPERVISOR.	
B13c	Accomplish each ultrasonic thickness measurement on __ in accordance with 2.__.	B13b must be a subparagraph to B13c. For reference, use T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods.
B14a	Accomplish each __ test on __ in accordance with 2._. The accept or reject criteria must be in accordance with Class __ of 2._.	B14b must be a subparagraph to B14a. Use B14a – B14b for liquid penetrant or magnetic particle tests. For reference, use T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods and MIL-STD-2035, Nondestructive Testing Acceptance Criteria.
B14b	Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3._ to the SUPERVISOR.	
B15	Remove and dispose of __ from the __.	
B16a	Remove existing and install new __.	
B16b	Remove existing and install new material provided in 5._.	
B17	Remove existing, fit, and install new the following parts: TOTAL QUANTITY REQUIRED NAME OF PART PIECE NO. REF. NO. FIGURE/DRAWING NO. PART NO.	B17 will be used when listing multiple repair parts, such as those identified in drawings and technical manuals. B17 will not be used when listing raw material.
B18	Energize with ship's power and accomplish operational testing of the equipment installed in 3._ to ensure equipment functions to designed sequence of operation, in accordance with each manufacturer's instruction supplied with equipment.	

Code	Text	Notes
B19a	Accomplish an operational test of __ in accordance with 2.__.	
B19b	Accomplish the requirements of 2.__ for each __.	
B19c	Accomplish an operational test of the new equipment installed in 3._ through each phase of operation for __ continuous hours, using each manufacturer's instruction for guidance, and the following:	B19d must be a subparagraph to B19c.
B19d	Verify conformance and operational capability in accordance with manufacturer specification.	
B20	Ensure the estimated dockside delivery date of the __ is __ days after start of availability.	This segment must always be used on programmed turnaround Work Item Specifications. Calendar days are derived by comparison between equipment turnaround schedule and ROH date set by TYCOM.
B21a	Accomplish the requirements of 2._.	
B21b	Accomplish the requirements of 2._ through 2._, using 2._ for guidance.	Phrase B21b is intended for, but not limited to, use when accomplishing ShipAlts.
B21c	Accomplish the requirements of Test Note __ of 2._.	An (I), (V), (Q), (IG), (VG), or (QG) is required for testing requirements.
B22a	Remove equipment listed in 1.3, using 2._ for guidance.	
B22b	Remove equipment listed in 1.3 in accordance with 2._.	
B22c	Remove equipment listed in 1.3._ through 1.3._, using 2._ for guidance.	
B22d	Remove equipment listed in 1.3._ through 1.3._ in accordance with 2._.	
B22e	Remove equipment listed in 1.3._, using 2._ for guidance.	
B22f	Remove equipment listed in 1.3._ in accordance with 2._.	
B22g	Install equipment listed in 1.3._ in accordance with 2._.	
B23	Remove and dispose of each system fluid from the equipment listed in __.	
B24	Obtain the services of a __ engineer to provide engineering assistance to __.	
B25	Scrape and spot-in each sealing surface to obtain a 360-degree continuous __ percent evenly distributed contact with no leakage path extending from the pressure boundary to the atmospheric boundary.	

Code	Text	Notes
B26a	Remove existing and install each new flexible hose assembly.	B26b – B26e must be subparagraphs to B26a. For reference use S6430-AE-TED-010, Technical Manual for Piping Devices and Flexible Hose Assemblies.
B26b	Template exact size, configuration, and location from each existing shipboard condition.	
B26c	Ensure each new hose assembly is in accordance with 2._.	
B26d	Accomplish the requirements of Chapter __ of 2._.	An (I)(G) is required for testing flex hoses.
B26e	Install a new CRES identification tag on each flexible hose assembly engraved in accordance with Chapter __ of 2._.	
B26f	Install each new hose assembly in accordance with Chapter __ of 2._.	B26g must be a subparagraph to B26f. Use when new fittings are unavailable.
B26g	Use each existing flexible hose end fitting where identified acceptable after inspection in accordance with 2._.	B26h must be a subparagraph to B26g. Use when new fittings are unavailable.
B26h	Submit one legible copy, in approved transferrable media, of a report listing the identification tag test data for each hose assembly tested to the SUPERVISOR.	
B27	Install each new bulkhead and deck sleeve in accordance with 2._.	For reference, use 803-1385866, Penetration Bulkhead and Deck
B28a	Provide __ mandays of labor and __ dollars of material to accomplish work not previously identified in the Work Item Specification, as directed by the SUPERVISOR. If the total costs are less than the authorized manday and dollar amounts, remaining funds will be subject to recoupment. The contractor is not authorized to exceed these limits.	Dollar amounts must be written with a comma, e.g., 5,000.
B28b	Provide __ mandays of labor and __ dollars of material to accomplish certifications ("Safe for Workers" and/or "Safe for Hot Work") of adjacent tanks, spaces, and piping systems when directed by the SUPERVISOR. If the total costs are less than the authorized manday and dollar amounts, remaining funds will be subject to recoupment. The contractor is not authorized to exceed these limits.	Use for Gas Free Certifications of adjacent tanks or spaces when location of requires hot work cannot be determined until completion of preliminary air test and visual inspection. Do not use if adjacent tanks or spaces or piping systems are identified in 1.2.
B29	Install each flush insert in way of each removal, using new material of same type and thickness as adjacent structure.	
B30a	Provide __ dollars of material for the cost of each new part, as directed by the SUPERVISOR. If the total cost is less than the authorized dollar amount, each remaining fund will be subject to recoupment. The contractor is not authorized to exceed these limits.	B30a and B30b is intended for, but not limited to, use as a subparagraph to A13a, A16, A36, and A75.

Code	Text	Notes
B30b	Submit one legible copy, in hard copy or approved transferrable media, of a list of each new part installed, excluding each part specifically listed to be removed in this Work Item Specification or invoked NAVSEA Standard Item, in place of those identified to be missing or defective, with each documenting invoice or other substantiating data, to the SUPERVISOR.	
B31	Accomplish additional repair to each tank located in 1.2, using the unused balance of each tank repair listed in __ through __ when authorized by the SUPERVISOR.	
B32a	Accomplish the requirements of Contract Line Item Number (CLIN) __ (__ EA) for the equipment listed in 1.3._.	Fill in number of times CLIN is needed. Use B33a for equipment. Use B33b when location and identification are both needed.
B32b	Accomplish the requirements of Contract Line Item Number (CLIN) __ (__ EA) for the __ listed in 1.3._, located in 1.2._.	
B32c	Accomplish the requirements of Contract Line Item Number (CLIN) __ (__ EA) for __.	
B32d	Accomplish the requirements of Contract Line Item Number (CLIN) __ (__ EA).	
B33a	Submit one legible copy, in hard copy or approved transferrable media, of a report listing each result of each requirement of __ to the SURFMEPP Systems Engineer listed in __ via the SUPERVISOR.	For SURFMEPP use, provide engineering data to update required CMP task records.
B33b	SURFMEPP Systems Engineering address:	
B33c	SURFMEPP Systems Engineering C230 Norfolk Naval Ship Yard, Building M-22 Portsmouth, VA 23709-5000 (757) 967-3454 Email: SURFMEPP.systemsengineering@navy.mil	
B34a	Accomplish a pre-repair unobstructed flow test for each deck drain located in 1.2, using 2._ for guidance.	B8a must be a subparagraph to B34a. Pre-repair unobstructed flow test.
B34b	Accomplish a post-repair unobstructed flow test for each deck drain located in 1.2, using 2._ for guidance. Allowable obstruction: None.	Post-repair unobstructed flow test.

Code	Text	Notes
B35a	Provide the service of an authorized original equipment manufacturer (OEM) service provider for removal, inspection, repair, installation, testing and provide each special tool and drawing for each equipment listed in 1.3, and located in 1.2.	Care must be taken when deciding to use this NAVSEA standard phraseology. Project Teams must take into consideration the complexity of systems being worked on, the extent of the repairs to that system and severity or impact of poor maintenance outcomes, before electing to use this NAVSEA standard phraseology. It is desirable to place the responsibility for bringing the right talent and tools together for work completion on the Lead Maintenance Activity (LMA). Project Teams must make a mindful decision to direct the use of an authorized original equipment manufacturer (OEM) service provider. When B35a is invoked, use B35c.
B35b	Provide OEM (technical documentation, special tools and/or equipment) to the government for the duration of the maintenance availability.	Planners determine which item(s) inside parenthesis are included in the phrase, based on RMC needs. This phrase is invoked when the government does not have the technical documentation, special tools and/or equipment to provide proper oversight of the production work. This is not used to hire the OEM to provide government oversight, only for the OEM to provide the necessary materials to the government. When B35b is invoked, use B35c.
B35c	Submit one legible copy, in approved transferrable media, of the name and each qualification of the Technical Representative to the SUPERVISOR for approval a minimum of 15 days prior to commencement of work.	

SECTION C This section of NAVSEA Standard Phraseology is for use in piping disciplines.

Code	Text	Notes
C1	Hydrostatically test __, using ___ at ___ PSIG for a minimum of ___ minutes. Allowable leakage: None.	Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
C2	Install new each locking device on each valve listed in __in accordance with 2._.	Use ASTM F993, or 810-5596087, SUPSHIP Portsmouth Standard Drawing Valve Locking Device (For Cable Locking Devices, Butterfly Valves, and Locked Position Indicators).
C3	Restore each piping flange mating surface exposed by disassembly of piping system. Repair by removing each high spot, burr, abrasion, and foreign matter, where removal can be accomplished by a hand tool. Maintain phonographic finish on each flange that has it.	
C4a	Ensure copper-nickel piping is MIL-T-16420, Type __, Class __, _.__-inch wall thickness.	
C4b	Ensure the carbon steel piping is MIL-P-24691.	
C4c	Ensure the copper piping is MIL-T-24107, __-inch wall thickness.	
C5	Purge, evacuate, and dehydrate __in accordance with 2._. Charge with refrigerant in accordance with 2.__.	
C6	NNSY Standard Drawing, Std Pipe Hangers Fabrication Dets & Instl Instr (Non-Nuc Constr)	For use with 810-4714432, for piping hangers.
C7	Empty and clean __, including piping associated with this Work Item Specification.	
C8a	Align the piping to each __. Piping must be supported independently and must not impose a strain. Accomplishment of alignment by adjustment of the first adjacent hanger is to be considered within the scope of the work.	
C8b	Align the piping to each __. Piping must be supported independently and must not impose a strain on the equipment. Accomplishment of alignment by adjustment of the first adjacent hanger is to be considered within the scope of the work.	
C9a	Install each new hanger on new piping in accordance with 2._.	For reference use 804-1385781, Hangers, Pipe, for Surface Ships temperature to 425 degrees F.
C9b	Install each new hanger to support the piping and prevent vibration in accordance with 2.__.	
C10	Accomplish each test in accordance with General Notes __ of 2._.	

Code	Text	Notes
C11a	MIL-STD-777 __, Change __, Schedule of Piping, Valves, Fittings, and Associated Piping Components for Naval Surface Ships	Insert applicable revision and change designators.
C11b	802-5959353 Rev _, Military Standard 777D Modified for DDG 51 Class Schedule of Piping, Valves, Fittings, and Associated Piping Components	Insert applicable revision and change designators.
C12	Each new material must conform to 2._, including Category and Group __.	For reference, use MIL-STD-777, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11a). For reference use 802-5959353, MIL-STD 777D Modified for DDG-51 Class, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11b).
C13	Install each valve, installing new each gasket conforming to __.	Allows the planner use of other NAVSEA-Approved gaskets and fasteners not covered in MIL-STD-777. For Butterfly valves installed in Firemain and Saltwater systems, use gasket material conforming to MIL-DTL-24696, TYPE II (For DDG-51 Class Only).
C14	Install each valve, installing new each gasket conforming to 2._, including Category and Group __.	For reference, use MIL-STD-777, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11a). For reference use 802-5959353, MIL-STD 777D Modified for DDG-51 Class, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11b).
C15	Accomplish an operational test of the new and disturbed piping at __ PSIG. Allowable external leakage: None.	Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
C16a	Accomplish an operational test on each newly installed valve at __ PSIG. Allowable sticking, binding or leakage: None.	Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
C16b	Cycle each valve from full closed to full open to full closed 4 times. Allowable sticking, binding or leakage: None.	
C17a	Measure and record alignment of each expansion joint piping flange in accordance with Paragraphs 505-3.3.1 through 3.3.6.5 of 2._.	For reference, use S9086-RK-STM-010/CH-505, Piping Systems.
C17b	Submit one legible copy, in hard copy or approved transferrable media, of a report listing each measurement taken to the SUPERVISOR.	
C18a	Nitrogen pressure test each brazed and mechanical joint at __ PSIG for a minimum of 15 minutes. Allowable leakage: None.	Planner to insert appropriate unit of measurement, i.e., psig, BAR, etc.
C18b	Inspect each brazed and mechanical joint, using a soap bubble method. Allowable leakage: None.	
C19a	Machine each seat and disc to remove hardfacing.	
C19b	Weld build-up each seat and disc.	

Code	Text	Notes
C19c	Accomplish the requirements of 009-012 of 2.1, including Table One, Column C, Lines One through 9.	
C19d	Machine each seat and disc to __.	
C19e	Accomplish nondestructive testing in accordance with Line __.	
C20a	Machine each seal ring seating area to remove stainless steel inlay.	
C20b	Weld build-up each seal ring seating area.	
C20c	Accomplish the requirements of 009-012 of 2.1, including Table One, Column H, Lines One through 9.	
C20d	Machine each seal ring seating area to __.	
C20e	Accomplish nondestructive testing in accordance with Line __.	
C21a	Install each new __ valve in place of those removed in 3._. Each new material must conform to 2._, including Category and Group __.	For reference, use MIL-STD-777, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11a). For reference use 802-5959353, MIL-STD 777D Modified for DDG-51 Class, Schedule of Piping, Valves, Fittings, and Associated Piping Components (C11b).
C21b	Shop test and set each relief valve prior to installation.	
C21c	Ensure the test medium is __.	
C21d	Ensure the seat tightness is __.	
C21e	Ensure lifting pressure is __.	
C21f	Install each wire and leadlock seal and attach a metal tag to each valve stamped with the following information after setting each relief valve: Ship name and hull number Valve number or identification Date valve tested and set Name of repair facility	

SECTION D This section of NAVSEA Standard Phraseology is for use in structural disciplines.

Code	Text	Notes
D1a	Chip and grind each surface flush in way of repair.	
D1b	Chip and grind each surface flush in way of __.	
D2	Remove existing and install new each watertight door and hatch listed in __.	
D3a	Clean each tank listed in __free of debris and foreign matter.	
D3b	Inspect each tank for cleanliness prior to final closing. Allowable foreign matter or debris: None.	
D4	Remove existing and install new each watertight hatch and coaming listed in __.	
D5	Apply each marking using each applicable color from the following list: Miscellaneous, Gloss, Bone White, Color No. 17886 of 2.__, MIL-PRF-24635 Brilliant Yellow, Color of 2.__, MIL-PRF-24635 Red, Gloss, OSHA Safety Red/DoT Highway Red, Color No. 11105 of 2.__, MIL-PRF-24635 Green, Gloss, Deep Green, Color No. 14062 of 2.__, MIL-PRF-24635 Miscellaneous, Gloss, OHSA Black, ANA 515, 622, Color No. 17038 of 2.__, MIL- PRF-24635 Blue, Gloss, Light Blue, Color No. 15200 of 2.__, MIL-PRF-24635	Utilize for compartment markings. For reference use SAE-AMS-STD-595, Colors.
D6	Slush each new wire rope with new grease conforming to MIL-PRF-18458.	
D7a	Contact the SUPERVISOR to determine color, style, and pattern of each habitability item.	
D7b	Provide each sample for color, style, and pattern selection.	
D8	Apply 2 layers of insulation tape, to a total minimum thickness of 17 mils, conforming to MIL-I-24391 to each faying surface of dissimilar metal.	
D9	Remove each unused clip, hanger, electrical button, and stud from overhead, deck and each bulkhead.	
D10	Adjust each hinge, latch, and safety release, installing each CRES shim to ensure an airtight seal for each door.	
D11a	Accomplish a visual inspection of each __ listed in 1.3.__ for structural integrity, deterioration, pitting, each crack, and area of damage or distortion in each location located in 1.2.__.	

Code	Text	Notes
D11b	Accomplish a visual inspection of each tank located in 1.2 for existing preservation coating, structural integrity, deterioration, pitting, each crack, and area of damage or distortion, including each sounding tube, tank vent, overflow, piping, structural member, and manhole cover.	
D12	Shop test each new wire rope, including attached end fitting, to 40 percent of the breaking strength of the wire rope.	
D13	Remove existing and install each new decorative sheathing system on each inside boundary bulkhead in accordance with 2._, and details in 2._, conforming to MIL-L-24518.	
D14a	Install a temporary wooden closure over each opening caused by each removal.	
D14b	Remove each temporary closure upon completion of work.	
D15	Adjust each dogging mechanism for unobstructed operation and to obtain 100 percent centered contact with the imprint of chalk in the center three-fifths of the gasket.	
D16	Vee-out and weld a total of __ of deteriorated and damaged weld. Each area of repair may include deck, bulkhead, shell plating, and overhead of each space located in 1.2	Planner to insert appropriate unit of measurement, i.e. feet, foot, millimeters, etc.
D17	Preserve each interior surface of each __ with rust preventative compound conforming to MIL-PRF-16173, Class I or II, Grade 1 or 3, by completely filling and draining. Ventilate to remove solvent vapor.	
D18	Fair-in existing plating adjoining each new insert in accordance with 2._.	For reference use MIL-STD-1689, Fabrication, Welding, and Inspection of Ship's Structure.
D19a	Ensure each change and alternate route is made to enable ventilation run to be completed and to suit each existing shipboard condition when each dimension used on 2._ cannot be complied with.	
D19b	Relocate each light, fixture, equipment, pipe, cable, and wire in way of new ventilation installation.	D19b is optional for those activities who can establish that the contractor can shipcheck the ship being repaired prior to bid.
D19c	Template new ventilation to suit existing shipboard condition and offset around each interference not feasible to relocate.	
D20	Accomplish testing and balancing for each new system installed, modified, and disturbed portion of each existing system, to ensure minimum delivery of each designed air quantity in accordance with 2._.	D20 is intended for, but not limited to, use when accomplishing ShipAlts. For reference use 512-7624117, Instructions for Ventilation Testing and Balancing
D21	Template exact size, configuration, and location from each existing shipboard condition.	

Code	Text	Notes
D22	Accomplish a total of __ EA G67 sample in way of plating being removed as designated by the SUPERVISOR. Turnover each prepared sample to the SUPERVISOR for testing.	

SECTION E This section of NAVSEA Standard Phraseology is for use in mechanical disciplines.

Code	Text	Notes
E1a	Disassemble each ___, using 2._ for guidance.	
E1b	Disassemble each ___ in accordance with 2._.	
E2	Protect, blank, wrap, cover, or mask equipment and each opening to preclude damage and prevent entry of contaminants into each gas turbine engine to include foreign object debris (FOD) screen, uptake space, engine room, machinery, equipment, valve, vent system, and opening prior to cleaning operation.	
E3a	Measure and record each serial number, size and clearance of each , using 2. for guidance.	Use as a subparagraph when disassembly is invoked.
E3b	Measure and record each serial number, size and clearance of each __ in accordance with 2._.	
E3c	Include each size, clearance, fit and finish for each wearing part, bearing surface, thrust and journal bearing, seal and packing area, and physical condition of each part not specified for renewal.	Use for noncritical equipment (General use).
E3d	Include each size, clearance, fit, and finish for each wearing part, bearing surface, thrust and journal bearing, seal and packing area, and physical condition of each part not specified for renewal.	Use for mission critical equipment, especially Forced Draft Blowers, Main Feed Pumps, Main Propulsion Turbines, etc.
E4a	Inspect each part for wear and defect, in accordance with 2._.	Use E4a as a subparagraph when disassembly is invoked.
E4b	Inspect each part for wear and defect, using 2._ for guidance.	Use E4b as a subparagraph when disassembly is invoked.
E5	Remove test fluid and dry the __ interior and exterior surface. Allowable residual fluid: None.	
E6	Straighten each ___ to within ___- inch total indicator reading.	
E7	Straighten each shaft to within ___- inch total indicator reading.	
E8	Straighten each operating lever, linkage, and eccentric to provide freedom of operation.	
E9	Chrome-plate each ___ journal in accordance with 2._.	For reference use DOD-STD-2182, Engineering Chromium Plating (Electrodeposited) for Repair of Shafting (Metric). For NDT Testing, use B14a-B14b.
E10a	Machine each __, using 2._ for guidance.	
E10b	Machine each ___ in accordance with 2._.	

Code	Text	Notes
E11a	Machine each new undersize casing wearing ring and each new oversize impeller wearing ring to size specified in 2.__.	
E11b	Machine each new impeller wearing ring area concentric to the impeller bore within 0.001-inch total indicator reading, removing only material required to correct each out-of-round and eccentric conditions.	Use E11b-E11c for impellers without wearing rings.
E11c	Machine each new undersize casing wearing ring bore concentric to each casing wearing ring area to size specified in 2._ for the each mating impeller wearing surface.	
E11d	Machine each new impeller wearing ring concentric to the impeller bore within 0.001-inch total indicator reading, removing only material required to correct each out-of-round and eccentric condition.	Use E11d-E11e for impellers with oversized wearing rings.
E11e	Machine each new casing wearing ring bore concentric to each casing wearing ring area to size specified in 2._ for each mating impeller wearing ring surface.	
E12a	Machine each new impeller wearing ring, using 2._ for guidance.	
E12b	Machine each new impeller wearing ring in accordance with 2._.	
E13a	Machine each new casing wearing ring, using 2._ for guidance.	
E13b	Machine each new casing wearing ring in accordance with 2._.	
E14	Fit each wearing ring to each corresponding groove in upper and lower casing.	
E15	Inspect wearing ring fit. Each ring must not bind and clearance must be in accordance with 2._.	
E16	Stone each face of each thrust collar to remove each high spot.	
E17	Stone each __ journal to remove each high spot.	
E18	Stone each pinion and gear tooth to remove each high spot.	
E19a	Scrape, lap, and fit each metal-to-metal joint of each turbine packing box, turbine case, turbine case cover, nozzle, steam chest, steam strainer, and steam strainer cover.	When E19 a-e are used, E21 a-c must always be a subparagraph. Specify labyrinth or carbon packing.
E19b	Lap and fit each metal-to-metal joint of each __.	
E19c	Hand fit and restore the contact between each exposed metal-to-metal, steamtight joint.	

Code	Text	Notes
E19d	Machine, hand fit, and restore the contact between each exposed metal-to-metal, steamtight joint.	
E19e	Machine, hand fit, and restore the contact between each exposed metal-to-metal and gasket seating surface, using 2._ for guidance.	
E20a	Inspect contact using blueing transfer method. Contact must be __ percent, with a continuous band of contact __ wide between each inner bolting perimeter and each sealing surface pressure source.	
E20b	Inspect contact using blueing transfer method. Contact must be a minimum of __ percent of total surface area, including a minimum of __ percent continuous contact across each pressure sealing surface.	
E20c	Inspect contact using blueing transfer method. Contact must be a minimum of __ percent of total surface area, including a continuous band with a minimum width of __ percent of the distance from the pressure source to the inner bolting perimeter.	
E21	Inspect each assembled pump rotating assembly for concentricity to the shaft axis. Eccentricity at each bearing shaft sleeve and wearing ring mating area must not exceed __-inch total indicator reading.	For pumps with impeller wearing rings.
E22a	Restore each mating surface exposed by __ removal. Repair by removing each high spot, burr, abrasion, and foreign matter, where removal can be accomplished by hand tool.	Use for minor repairs.
E22b	Remove each high spot, burr, abrasion, nick, corrosion, gasket material, and foreign matter from each exposed flange and mating surface.	
E22c	Remove each burr and high spot from each exposed sliding surface, screw thread, key, and keyway.	
E23a	Assemble each __, using 2._ for guidance.	
E23b	Assemble each __ in accordance with 2._.	
E23c	Assemble, install, align, adjust, and connect __, fit and install each new __ and each new part in accordance with 2._:	
E24a	Measure and record each final size and clearance, using 2._ for guidance.	
E24b	Measure and record each final size and clearance in accordance with 2._.	
E25a	Adjust and set the height of each worm gear, using 2._ for guidance.	
E25b	Adjust and set the height of each worm gear in accordance with 2._.	

Code	Text	Notes
E25c	Verify mesh alignment and contact, using blueing method.	
E26	Ensure each thrust face is square with shaft axis to within __-inch total indicator reading.	
E27	Remove each existing and install new gasket, o-ring, pin, key, stud, bolt, and nut. Material must conform to specifications in __ of 2._.	For use of pre-established parts list from a technical manual or other reference.
E28a	Manually rotate each shaft prior to installation of pump shaft packing. Rubbing or binding of the rotating assembly not allowed.	
E28b	Rotate shaft by hand one complete revolution. Rubbing or binding of the rotating assembly is not allowed.	
E29	Apply anti-seize compound conforming to MIL-PRF-907 on each high temperature fastener.	Use E29 as a subparagraph when securing details are invoked.
E30a	Apply triple boiled linseed oil conforming to __, with a viscosity of Z-8 or Z-9 on each metal-to-metal steam joint.	For turbine sealing surfaces.
E30b	Apply high temperature sealing compound conforming to MIL-S-15204, Type C, on each __.	For turbine sealing surfaces.
E31	Apply sealant conforming to MIL-S-45180, Type 2, on each metal-to-metal joint of each __.	For reduction gear, bearing and coupling covers.
E32	Remove existing and install new each steam piping joint gasket, conforming to Graph Lock 3125SS/Graftech sheet gasket.	For steam and steam drains (50-100 PSIG - 425 Degrees Fahrenheit).
E33	Remove existing and install each new steam piping joint gasket, conforming to MIL-G-24716.	For steam and steam drains 600-1500 PSIG, 1000 Degrees Fahrenheit (Maximum).
E34	Remove existing and install each new steam piping joint gasket, conforming to MIL-G-24716.	For steam and steam drains 150-1500 PSIG, 775 Degrees Fahrenheit (Maximum).
E35	Remove existing and install each new feedwater piping joint gasket, conforming to MIL-G-24716.	For propulsion plant saturated feed system 600-2050 PSIG, 300 Degrees Fahrenheit (Maximum).
E36	Remove existing and install each new fresh water piping joint gasket, conforming to __, __, __.	For Fresh Water, Chilled Water, Feedwater, and Condensate 100 PSIG, 250 Degrees Fahrenheit (Maximum) i.e., HH-P-151, CLASS I, Cloth Inserted Rubber, MIL-PRF-1149, TYPE II, CLASS I, Synthetic Rubber
E37	Remove existing and install each new salt water piping joint gasket, conforming to HH-P-151, Class I, cloth inserted rubber, or MIL-PRF-1149, Type II, Class I, synthetic rubber.	For Salt Water, Including suction sea chest steam out connections, 50-250 PSIG, 150 Degrees Fahrenheit (Maximum).
E38	Remove existing and install each new salt water piping joint gasket, conforming to MIL-PRF-1149, Type I, Class I, synthetic rubber.	For Salt Water, 50-250 PSIG, 150 Degrees Fahrenheit (Maximum).

Code	Text	Notes
E39	Remove existing and install each new fuel oil piping joint gasket, conforming to MIL-G-24716.	For Fuel Oil 600-1200 PSIG, 775 Degrees Fahrenheit (Maximum).
E40a	Remove existing and install each new fuel oil piping joint gasket, conforming to MIL-G-24716.	For Diesel Fuel Oil 200 PSIG.
E40b	Remove each existing and install each new fuel oil piping joint gasket, conforming to MIL-G-24716.	For Gas Turbine Powered Ships Fuel Oil 200 PSIG, 150 Degrees Fahrenheit (Maximum).
E41	Remove existing and install each new lubricating oil piping joint gasket, conforming to __, __, __.	For Lubricating Oil, 50 PSIG, 180 Degrees Fahrenheit (Maximum) i.e., HH P 151, CLASS I, Cloth Inserted Rubber, MIL PRF 1149, TYPE II, CLASS I, Synthetic Rubber.
E42	Remove existing and install each new lubricating oil piping joint gasket, conforming to MIL-G-24716.	For Lubricating Oil 150 PSIG, 250 Degrees Fahrenheit (Maximum).
E43	Deleted	
E44	Deleted	
E45	Install each new aluminized cloth spray shield on pipe and valve flange and component in accordance with ASTM F1138.	
E46	Fill each __ to the full mark with new __ conforming to __.	
E47	Allowable leakage at each new and disturbed joint: None.	
E48	Remove existing and install each new gasket, conforming to __, __, __.	Nickel Copper Aluminum (K-MONEL) bolting of sea valves and pipe joints - must be used on Inboard and Outboard flanges and Bonnet joints where integrity of the hull against the sea is concerned; Also, where valves are not readily accessible for inspection or maintenance, i.e., MIL-DTL-24696, Compressed Asbestos. MIL-G-24716, Gasket, Metallic-Flexible Graphite, Spiral Wound or ASME B16.20. Self-locking nuts must not be used on boiler blowdown and discharge piping.
E49	Weld build-up each cracked, worn, and eroded area of __ and machine to each dimension and contour in accordance with 2._.	Invoke applicable 009-012 requirements.
E50	Handwork and skim cut each machined, sealing, aligning, mating, and gasket surface.	
E51a	Install and fit each new chock and shim conforming to to accomplish alignment.	Specify type of material and MIL-SPEC.
E51b	Install and fit each new shim conforming to __ to accomplish alignment.	For pumps and turbines, shims must conform to SAE-AMS- QQ-S-763, CRES, Grade 304.

Code	Text	Notes
E52a	Drill and ream each equipment support foot and foundation. Fit and install each new tapered dowel.	
E52b	Drill and ream each equipment support foot and foundations. Fit and install new __ each tapered dowel in each unit to retain unit alignment.	Specify type of material.
E53a	Install new nylon filter bags in each strainer. Filter bags must be of continuous filament nylon cloth, scoured finish, 80 by 80 thread, 75 to 100 micron fiber thickness, 125 to 200 micron holes in cloth.	To minimize the possibility of strainer bag rupture the use of nylon vice muslin filter bags (because of their greater strength) is recommended.
E53b	Install new each cotton muslin filter bag with material conforming to CCC-C-432, Type 7, Class One, in each strainer.	For use in lube oil systems where rupture of filter bag is not probable.
E54	Chase and tap each exposed threaded area.	
E55a	Install new each coupling assembly and key on each __.	
E55b	Bore each coupling hub concentric and to size of shaft diameter within 0.001-inch total indicator reading and perpendicular to the face within 0.001-inch.	
E55c	Cut and fit each new coupling, keyway to each mating shaft and coupling hub.	
E55d	Align each coupling concentric to within -inch total indicator reading and parallel to within __-inch gaged at the major diameter of the coupling face.	
E56	Inspect each bearing stave prior to installation aboard ship by probing with a pen knife or similar device at the rubber-metal interface around the total periphery of the stave to locate any unbonding of rubber from metal. A total cumulative length of unbonding greater than one inch, or any unbonding allowing the knife blade to be inserted deeper than one-fourth inch, must be cause for rejecting the stave.	
E57	Measure crankshaft deflection in accordance with 2._.	
E58	Machine each broken drum a minimum amount to remove scoring, pitting, and eccentricity. Each drum must be concentric to the drum bore within -inch total indicator reading.	
E59	Clean each sump free of foreign material.	
E60	Hone each __ to remove glazing, scoring, and ridging.	
E61a	Blast clean each __ with non-erosive cleaning agent.	Use the following when cleaning steam turbine internals i.e., Rotors, Blading, Casing internal surfaces.

Code	Text	Notes
E61b	Ensure cleaning agent is aluminum oxide with a particle size no coarser than 220 grit. Other cleaning agents such as glass beads, ash, and walnut shells are acceptable provided that the resultant finish is equivalent to that provided by 220 grit or finer aluminum oxide. The use of sand is prohibited.	
E61c	Protect each machined surface against the action of the cleaning agent.	
E62	Measure runout of each __ shaft using dial indicator.	
E63a	Assemble each pump rotating assembly, using 2._ for guidance.	
E63b	Assemble each pump rotating assembly, in accordance with 2._.	
E64	Clear each gage line and fitting free of foreign matter and obstructions.	
E65	Polish each __ to a __ root mean square average for roughness.	
E66	Align each motor and compressor pulley to within __-inch parallel alignment. Each belt must depress __-inch at a point midway between each pulley.	
E67a	Inert system with a positive pressure of 2 PSIG, using dry, oil-free nitrogen and a nitrogen regulator.	
E67b	Install relief valve downstream of nitrogen regulator and set at 5 PSIG.	
E68	Drill and ream each equipment support foot and foundation. Fit and install each new tapered dowel in each unit. Each dowel must be located in accessible location for ease of removal that will retain unit alignment.	Specify type of material.
E69	Clear and clean each pocket and passage free of obstruction and foreign matter.	
E70	Test each remote valve operator assembly for ease of operation and alignment by opening and closing each valve from its remote operating station through 3 complete cycles. Allowable binding: None.	
E71	Inspect contact between __ and __ using the blueing transfer method. Contact must be a minimum of __ percent, evenly distributed over the contact surfaces.	For use on non-pressure boundary applications such as coupling taper fits, spotting in foundation liners or other general applications where blueing is appropriate.

SECTION F This section of NAVSEA Standard Phraseology is for use in electronic and electrical disciplines.

Code	Text	Notes
F1	Disconnect mechanically and remove equipment listed in 1.3._.	
F2	Accomplish an operational test of equipment and each circuit.	
F3a	Accomplish Swept Voltage Standing Wave Ratio (VSWR) test on ___ in accordance with Paragraph 5-2.11 of 2_. Test must be accomplished over the frequency range of equipment being tested.	For reference in F4a and F5, Use SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section IX, Installation Standards (Source CD: N0002400003).
F3b	Use standard VSWR reference loads at several points (i.e., 1.1:1, 1.25:1, 1.5:1, 2:1 and 3:1) to establish reference lines from lower to upper frequency limits.	
F4	Accomplish Insertion Loss test on ___ in accordance with Paragraph 5-2.11 of 2._. Tests must be accomplished over frequency range of each piece of equipment being tested.	
F5	Accomplish Time Domain Reflectometer (TDR) test on __ in accordance with Paragraph 5-7 of 2._. Terminate each coaxial cable within its characteristic impedance and coefficient (RHO) control at maximum sensitivity. Record results on an X-Y recorder.	For reference use paragraph 3.5 of 0967-LP-177-3040, Shipboard Antenna Systems; Vol 4 or latest ref.
F6	Visually inspect each component prior to cleaning to detect evidence of casualties or deteriorating conditions that may not be apparent after cleaning.	
F7	Inspect and test each component part and circuitry for shorts, opens, and grounds and determine missing and defective component parts and circuitry in accordance with 2.__.	
F8	Remove each existing and install each new wire and component part, using 2._ for guidance.	
F9	Install Field Change __. Accomplish the requirements of 2.__.	
F10	Install equipment listed in 1.3._, using hardware retained in 3._, in accordance with 2.__.	Use for replace with new, install or install of removed equipment. Hook-up data covered by 009-073.
F11a	Bond and ground equipment in accordance with 2._. Each grounding strap must be CRES 316L for topside equipment.	For reference use MIL-STD-1310, Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility and Safety. Bond Strap Fabrication and Installation must be in accordance with sections 7 and 8 of SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section VII, Industrial Electromagnetic Compatibility (IEMC) Work Process Instructions (Source CD N0002400003), Industrial Electromagnetic Compatibility (IEMC) Work Process Instructions.

Code	Text	Notes
F11b	Bond and ground equipment in accordance with 2._ and 2._.	For reference use (10001) OD 32382, Grounding and Bonding, Equipment Encl. Chassis and Cases, Design and Installation.
F12	Ensure acceptable criteria for equipment to hull ground via bond or ground strap is one-tenth ohm maximum.	
F13	Remove existing and install new each lug conforming to MIL-T-16366	
F14	Remove existing and install new each conductor identification sleeving conforming to SAE AS23053, Class I, white, marked with indelible ink.	
F15	Maintain temporary pressurization of __ in accordance with Paragraph 5-2.7.1 of 2._ upon completion of Insertion Loss Test.	For reference in F16-F18, Use SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section IX, Installation Standards (Source CD: N0002400003).
F16	Purge and pressurize __ in accordance with Paragraph 5-1.14 of 2._ upon completion of installation.	
F17	Blank __ during unattended periods and maintain pressurization in accordance with Paragraph 5-2.6.6 of 2._.	
F18a	Accomplish each Performance Test of 2._. Align and adjust within each tolerance specified therein.	Use F19a-F19c and F20a-F20b for post-repair test.
F18b	Record each reading on each performance summary sheet.	
F18c	Submit one legible copy, in hard copy or approved transferrable media, of completed summary sheets to the SUPERVISOR.	
F19a	Accomplish an operational test of ship's service dial telephone installation. Accomplish adjustments to verify operational performance in accordance with 2._.	
F19b	Verify each circuit for audio output, clarity of voice transmission, and correct phone number.	
F20	Measure insulation resistance to ground for each stationary field winding and rotating field winding using a 500-volt direct current megger. Do not apply high voltages through solid state devices.	
F21a	Accomplish each maintenance/reference standard test and record each measurement of each piece of equipment listed in 1. in accordance with 2._. Calibrate, test, and adjust each piece of equipment and verify the performance of the equipment is within tolerance, using regulated power within the limits specified in 2._.	

Code	Text	Notes
F21b	Install and connect equipment aboard ship prior to maintenance/reference standards test.	
F22	Remove each unused foundation, cable hanger, wireway, bracket, and stud.	Use D1a as a subparagraph to F23
F23	Install new each foundation and stud for __. Template from new equipment. Install equipment on new foundation.	
F24	Silver plate __ in accordance with ASTM B700.	