

## SECTION VII

### INSTRUCTIONS FOR PREPARATION AND UTILIZATION OF WORK ITEMS

#### A. WRITING STANDARD ITEMS AND LOCAL STANDARD ITEMS:

1. The heading of each SI or LSI shall be in accordance with Section VI.A. The FY, ITEM NO., DATE, and CATEGORY shall be assigned to each SI by the SSRAC, or by the SUPSHIP or REGIONAL MAINTENANCE CENTER as applicable for LSIs. The date shall be the date of issue of an SI or LSI when changed or reviewed (even when no change was made). The FY shall be changed to show the fiscal year of use. This will always determine the latest version of the particular SI or LSI.

2. The remainder of SIs and LSIs shall follow the criteria of Section VII.B.2.a and B.3 through B.5, except SUPSHIP/RMC references are not to be used for SIs.

#### B. WRITING WORK ITEMS, TEMPLATES AND, REQUEST FOR CONTRACT CHANGE (RCC):,

1. The heading portion of SWTs, CSWTs, LWTs, **BSWTs**, and Work Items shall be completed as follows, using capitalization throughout:

a. SHIP - Name and hull number of ship or number of each boat or craft.

b. COAR - Customer Order Acceptance Record (COAR) is a locally assigned 5-digit number. The first 2 digits identify the funding category. The last 3 digits are the same as the specification package number and reflect the Availability Identification Number of the ship, boat or craft.

c. FILE NO - The SWT, CSWT, LWT, or **BSWTs**, file number if applicable.

d. REVISED - Day, abbreviated month, and year (DD MMM YYYY) of either original issuance date or revision date, for example 06 APR 1995 (applies to templates only).

e. ITEM NO - The item number shall be assigned in accordance with Section VII C.

f. PCN - The Project Control Number, or PCN, is the identifying number of the applicable work authorization document. This can be the SWLIN number and the applicable line item(s), number(s), the job control number(s) (JCN) from the OPNAV 4790/2K form, Ship's Maintenance Action Form (SMAF), or a number which will identify the source from which the authorized work requirements are being written. Do not resolve space limitations by inserting PCN data in any Work Item paragraph.

g. CMP - The Class Maintenance Plan is the identifying number assigned to the maintenance action, which the Work Item accomplishes. The first 3 digits of the CMP generally follow the ESWBS numbering system.

h. PLANNER - Last, First name of each person contributing to the preparation of the Work Item.

2. Paragraph 1 shall be SCOPE. The SCOPE paragraph shall be completed as follows:

a. **Subparagraph 1.1 - The word "Title" shall appear first, followed by a colon. A brief title will then follow in noun, verb order. Give 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 work to be done. Title shall be singular. The completion of this paragraph is mandatory. Examples are as follows:**

REPAIR TITLES:

- 2A Main Feed Pump; repair
- Fire Main Piping Zone One; repair**
- Surface Search Radar; install
- Bake Oven; repair
- Dry Cleaning Plant; repair (OPTION ITEM)

SHIP ALTERATION TITLES:

**ShipAlt; accomplish**

**The Class Ship Alt number (CG47-00123K) and Title will be listed in Paragraph 1.3 "Identification".**

ALTERATION EQUIVALENT TO REPAIR (AER) TITLES:

**AER; accomplish**

**The Class AER number (CG Class AER 123) and Title will be listed in Paragraph 1.3 "Identification".**

b. Subparagraph 1.2 - The words "Location of Work" followed by a colon shall appear first.

(1) Subparagraph 1.2.1 - A compartment designation shall be listed when applicable. Appropriate deck and frame designations shall also be used. Examples are as follows **but are not all inclusive:**

|  |  |
|--|--|
| <b>Engine Room Number One (4-174-0-E)</b>          | <b>Main Deck, Frame 115</b>                        |
| <b>Auxiliary Machinery Room No. One (5-67-0-E)</b> | <b>Test Lab (2-174-6-Q)</b>                        |
| <b>JP-5 Pump Room (5-132-0-E)</b>                  | <b>Weather Deck 02 Level, Frames 218-227, Port</b> |

|                                   |                                 |
|-----------------------------------|---------------------------------|
| <i>Pilot House (04-130-0-C)</i>   | <i>Service Tank (4-220-1-F)</i> |
| <i>Generator Room (3-370-0-E)</i> | <i>Passage (1-42-01-L)</i>      |

Where several locations are involved, each will be listed in a separate subparagraph. Care must be exercised in the description of the Location of Work, as this, too, is a critical part of the contract, which frequently is the only basis for determining the applicability of the work requirements. The phrase "Throughout the Ship" shall be used to avoid inadvertent omissions for work requirements that are in fact widely dispersed. This phrase, however, shall not be used when a concise and explicit location can be readily identified. The security classification of the spaces shall only be listed in subparagraph 1.4. If this paragraph is not utilized, indicate such by inserting the words "Not Applicable" after subparagraph 1.2.1. Examples are as follows:

Throughout the Ship  
Not Applicable

c. Subparagraph 1.3 - The word "Identification" followed by a colon shall appear first.

(1) Subparagraph 1.3.1 - Describe existing equipment to be worked on, to be permanently removed, or to be removed and replaced. Equipment is defined as, "all non-expendable items needed to outfit/equip an individual or organization, i.e., a ship" (see JOINT PUB 1-02, Department of Defense Dictionary of Military and Associated Terms dated 12 April 2001). If existing equipment can be identified by manufacturer, model, serial number, **part number from reference listed in paragraph 2**, APL number, or equipment designation, i.e., AN/SPS-10E, and serial number, then it shall be listed. If existing equipment to be identified does not lend itself to number identification then describe the item to be worked or replaced, e.g., Lifeline Stanchions, Firemain Piping, etc. Insert the word "Quantity" followed by the appropriate number and 2-letter abbreviation of unit of issue (**see "UNIT OF ISSUE" table.**) in parentheses preceding the equipment or item identification, i.e., Quantity (10 EA), Quantity (25 FT) or Quantity (25 SF), etc. If this paragraph is not utilized, indicate such by inserting the words "Not Applicable" after subparagraph 1.3.1. **Shipalt and AER Titles are to be used in Identification.** Examples are as follows **but are not all inclusive:**

- *Quantity (One EA), Liner, IC/E46-6, Part No. 50857-501*
- *Quantity (One EA), Propeller, Right-Hand, MFR: Bird-Johnson Co., APL 834010072*
- *Quantity (25 FT), 8 Inch IPS Piping, 70/30 CUNI, CL 200, MIL-T-16420, 6 Inches Downstream Of The First Flange Downstream of Valve FM-256 To 6 Inches Upstream Of The Second Flange Downstream Of Valve FM-256*
- *Quantity (One EA), Number One Centralized Cooling Pump, Type DH6080D, RPM 1800, MFR: Buffalo Pumps Inc., APL 016151120*
- *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*
- *Quantity (2 EA), Zinc Anode, Type ZHC-23, 6 Inch by 12 Inch by 1.25*

**Inches Thick**

- **Quantity (One EA), 5 Inch Gear Operated Butterfly Valve, Valve No. SW-V-355B**
- **Quantity (One EA), Ships Service Switchboard Number One, 1S-2S Bus Tie Breaker, ACB-400HR, MFR: SPD Technologies Inc.**
- **Quantity (4 EA), Bulkhead Seal, Type ND, Part No. US71243, MFR: Wartsila Lips Inc., APL: 831000375**
- **ShipAlt DDG51-73395D, Bulkhead Shaft Seal Upgrade Modification**
- **DDG51 Class AER 66074, Sonar Dome Scuttle Improvement**

**UNIT OF ISSUE**

|                  |                |                        |                        |
|------------------|----------------|------------------------|------------------------|
| <b>EA: EACH</b>  | <b>BX: BOX</b> | <b>FT: FEET</b>        | <b>LF: LINEAR FEET</b> |
| <b>PC: PIECE</b> | <b>KT: KIT</b> | <b>SF: SQUARE FEET</b> |                        |

d. Subparagraph 1.4 - Shall be used only when access to classified spaces, equipment, or documents is required. The security classification (e.g., SECRET, CONFIDENTIAL, etc.) of the space, equipment, or document shall be shown parenthetically in upper case letters, following its unclassified title. For spaces, appropriate deck and frame designations shall also be used. For example:

NOTE: All entries for this paragraph are to be listed. Attachments are not allowed.

1.4.1 Spaces:

1.4.1.1 Sonar Control Room (01-140-O-C) (CONFIDENTIAL)

1.4.1.2 CIC (01-158-O-C) (CONFIDENTIAL)

1.4.2 Equipment:

1.4.2.1 XXX (CONFIDENTIAL)

1.4.3 Documents:

1.4.3.1 XXX (CONFIDENTIAL)

3. Paragraph 2 shall be REFERENCES.

a. The indiscriminate use of references in Work 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 Items. Conversely, the omission of required reference data does not promote this concept either. Therefore, references must be used when required, but they should always be thoroughly researched and then used selectively. Ideally, what is desired is a Work Item which includes no textual references and which contains all necessary data; a Work Item that stands alone.

b. 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, it shall be considered when preparing Work Items.

c. The following general rules apply for references:

**(1) List applicable references in paragraph 2 REFERENCES in the order in which they appear in the body of the Work Item, with the exception of Standard Items which when listed in the body (e.g., of paragraph 3 REQUIREMENTS, paragraph 4 NOTES, attachments, or tables), shall always be 2.1. Do not list references that are not referred to in the body of the Work Item.**

**(a) When Standard Items are listed as 2.1 the Fiscal Year shall be included. ( Standard Items (FY18), Standard Items (FY19) )**

(2) In the event that there are no references, the word "None." is to follow 2.1.

(3) Basic Government specifications (including the GSO, NSTMs, etc.), standards (**including MIL, DOD, etc.**), or NAVSEA Standard Plans shall be referenced without prefix zeroes or suffix letters or numbers which identify revisions or amendments, i.e., MIL-STD-XXX, followed by the title. For example:

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

S9AA0-AB-GOS-010, General Specifications for Overhaul of Surface Ships (GSO)

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

(a) Equipment Technical Manuals and Drawings which are not NAVSEA Standard Plans shall be identified by group number, drawing number, latest revision letter (A, B, C, etc.) only if applicable (do not use Rev Ø, or Rev \_\_), and title as it appears in the drawing title block, with the exception of capitalization. Capitalize the first letter of each word. For example:

252-5351151 Rev L, Propulsion Control System, Circuit K-GT, Cabling Diagram

(b) Revision numbers and/or revision date of these types of references shall not be included when preparing Standard Items (SIs).

(4) References shall be limited to applicable technical data such as Standard Items, drawings, equipment technical manuals, Military Standards (MIL-STDs), 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 characteristic of a particular science, trade or profession.

(a) Titles for all references shall be as they appear on the reference with the exception of capitalization and words such as "Naval Ships Technical Manual". Capitalize the first letter of each word, with the exception of minor words or conjunctions (the, of, etc.). For example:

NAVMED P-5010-6, Manual of Naval Preventive Medicine, Chapter 6, Water Supply Afloat

S9086-T8-STM-010/CH-593, Pollution Control vice S9086-T8-STM-010/CH-593, Naval Ships Technical Manual Chapter 593 Pollution Control

(b) In the event a **requirement** has been deleted after a Work Item has been developed, the planner **shall** use the following format:

2.\_\_ Intentionally Left Blank

(c) Reference format for 4720 Material Summaries shall be as the File No. and title appears on the 4720 cover sheet. Reference format for Design Memos, Planning Memos, and Test Procedures shall be as follows:

DM 10-09, MARMC, Title  
DM 97-07 Rev C, SWRMC, Title  
PM 390-51, SERMC, Title  
PM 230-01 Rev B, SPAS, Title  
24310-7-020, Title of Test Procedure/Test  
24510-5-001 Rev B, Title of Test Procedure/Test

(d) For references available on compact disk, insert the source CD volume number in parentheses after the title. For example:

SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section VI, Electronics Installation and Maintenance Book - General Maintenance (Source CD: N0002400003)

(5) Instructions, Notices, Naval Messages, and letters with financial, administrative, management data or other information incidental to contract administration shall not be included as references.

(6) Documents such as federal regulations outside the Department of Defense and public laws shall not be referenced except where it is necessary to show the contractor that there are public laws and regulations with which he must comply but are outside the scope of the MSR agreement and the requirements of that particular Work Item.

(7) When using Naval Ship's Technical Manuals (NSTM) and GSO as references, ensure that only applicable portions are referenced. For example:

2.\_\_ S9AA0-AB-GOS/010/GSO, General Specifications for Overhaul of Surface Ships (GSO)

3.\_\_ Remove existing and install new flanged take down joint assembly in accordance with Section 506d of 2.\_\_.

2.\_\_ S9086-T8-STM-010/CH-593, Pollution Control

3.\_\_ Accomplish sanitary and hygienic procedures of Paragraph 593-4.2.3 through 593-4.2.4.1.3 of 2.\_\_.

(8) PMS-400 approved 4720/3 Material Identification Documents for ShipAlts, AERs, or repair kits may be listed in paragraph 2 as a reference. The reference shall be used to identify the GFM for the identified ShipAlt, AER, or repair process in paragraph 5 of the Work Item. (See Section VII, B.3.c.)

d. If short enough (single page or less), the reference material shall be lifted out or paraphrased and written in the body of the Work Item, both for clarity of the requirements and for building a Work Item that can stand alone.

e. In considering data for use as a reference, data shall be thoroughly researched to determine that:

(1) It will not begin a chain of unnecessary references.

(2) If restricted for use, that written authorization is obtained prior to using proprietary clauses.

(3) It is the latest version or revision of the subject data.

(4) It is available in reproducible form for distribution.

(5) It is absolutely essential to accomplish the required work.

f. The security classification of a classified reference shall be shown parenthetically in upper case letters, following its unclassified title.

g. The method for using SIs and LSIs as references is to list in paragraph 2 REFERENCES, as follows:

(1) SIs or LSIs, regardless of the number that are used as references in a particular Work Item, are listed as "Standard Items" in paragraph 2.1, and specifying the particular SI or LSI number in paragraph 3 REQUIREMENTS or paragraph 4 NOTES.

h. MIL-SPECS are not listed in paragraph 2 as references. They shall be included in the REQUIREMENTS paragraph of the Work Item.

i. Care must be exercised when invoking references. Three degrees of contractor compliance may be required and enforced depending on the invoking statement:

(1) When it is desired to direct a contractor to accomplish work strictly in accordance with the reference, the invoking phraseology shall be:

- (a) "\_\_\_\_\_ in accordance with 2.\_\_", or
- (b) "Accomplish the requirements of 2.\_\_", or
- (c) "\_\_\_\_\_ conforming to 2.\_\_".

(2) When the reference data is only partially applicable, the invoking phraseology shall be: "\_\_\_\_\_ in accordance with 2.\_\_", and then list the exceptions in a subparagraph.

(3) When strict compliance is not required and the reference is only listed for information and guidance, the invoking phraseology shall be: "\_\_\_\_\_, using 2.\_\_ for guidance". However, it can become a catch-all and its use shall be held to a minimum.

(4) When a Work Item references Class and Hull specific configuration and Ship Alteration information, planning activity shall validate that reference information (Ship Alteration drawings, LARS, "as built drawings", Test Procedures, etc.) used is correct via the assigned Class Planning Yard.

j. SUPSHIP/RMC/SURFMEPP References. When material to be used as a reference is too complex or lengthy to be lifted out and included in the body of the Work Item and the material is not appropriate to use directly as a reference, then the material shall be lifted out and rephrased as needed to be used as a SUPSHIP/RMC/SURFMEPP Reference.

(1) SUPSHIP/RMC/SURFMEPP References shall be issued with a cover sheet attached to the reference material showing SUPSHIP (City)/RMC/SURFMEPP Reference \_\_\_\_, Rev \_\_, and date issued.

(2) The originating SUPSHIP/RMC/SURFMEPP shall be responsible for maintaining a master file of SUPSHIP/RMC/SURFMEPP References and revised versions. Revisions to SUPSHIP/RMC/SURFMEPP References shall be identified as Rev A, Rev B, etc.

(3) The use of SUPSHIP/RMC/SURFMEPP References shall 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.



4. Paragraph 3 shall be REQUIREMENTS. The REQUIREMENTS paragraph of the Work Item is that portion which must detail the minimum work and material requirements not already invoked by Standard Items. Quality assurance requirements are also inserted in this section. Any additional specific tests and reports required must be delineated.

a. Category II SIs shall be invoked to the maximum extent possible when preparing Work Items and Templates.

b. The Standard Phraseology of Annex B shall be used in preparing Work Item requirements (see Section IV F).

c. When abbreviations and acronyms are used, the complete phrase should be written out the first time it is used in a Work Item, followed by the abbreviation or acronym in parentheses. After that, the abbreviation or acronym may be used throughout the Work Item. Abbreviations or acronyms commonly used in the naval ship repair industry need not be defined.

d. Subparagraph 3.1 of the REQUIREMENTS shall be used to require the contractor to remove and install interferences for only those systems listed in 3.1 of Category I Standard Item 009-23.

e. Sentence structure of REQUIREMENTS in Work Items shall be verb, noun format, giving for each item the item identification, location, and compliance requirements. A lead paragraph shall include phraseology that begins with a verb and refers to paragraphs 1.2 and 1.3 within the sentence structure where applicable (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).

(1) 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.

f. Repair and overhaul of equipment and systems, as authorized by TYCOM, shall be implemented in the REQUIREMENTS paragraph by a description of the work to be accomplished. The written sequence of work requirements shall normally be in chronological sequence of work accomplishment. Each subparagraph shall express a complete thought in clear, concise language that is contractually sound. Wording that is ambiguous shall not be used. Accept or reject criterion for use by Quality Assurance inspectors must be definitive.

g. For complex Work Items that would be cumbersome and cause confusion 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 of the REQUIREMENTS or in several consecutively numbered Work Items. When this method is used, the normal time sequence of work within the trade or component is maintained.

h. The mandatory parts to be replaced shall be listed, including the quantity required, 2-letter abbreviation of unit of issue (e.g., EA, PC, BX, KT, etc.), the manufacturer's part number or plan number and piece number as listed in the equipment technical manual or plan. GFM shall be listed in paragraph 5. Common shelf item parts to be replaced, i.e., fasteners, gaskets, cotter pins, O-Rings, and seals, shall be identified by noun name in paragraph 3 of the Work Item without further identification as to manufacturer's part number or piece number.

i. In the event a requirement has been deleted after a Work Item has been developed, the planner shall use the following format:

3.\_\_ Intentionally Left Blank

j. After a Work Item is issued, any changes implemented in the Work Item resulting from a Request for Contract Change (RCC), Condition Report (CR), Inspection Report (IR), etc., shall be prepared in accordance with Section VII.

k. Inspections and tests that are not already required by Standard Items shall be identified by (I) (Q) or (V) symbols inserted in a Work Item to establish a point in the sequence of accomplishment of work, at which time the repair activity shall inspect/verify and document the inspection or test. Inspections and tests requiring Government notification shall be identified by (G) symbols inserted in a Work Item to establish a point in the sequence of accomplishment of work at which time the SUPERVISOR shall be notified to permit observation of the specific inspection or test. The (I) (Q) and (V) inspections and (G) notifications are included in the requirements paragraph of the Work Item by inserting the appropriate symbol(s) in parentheses, e.g., (I), followed by the specific inspection/test within quotation marks, e.g., "HYDROSTATIC TEST", in upper case letters at the left margin immediately preceding the paragraph with the inspection/test. For example:

(I) (G) "HYDROSTATIC TEST"

When the inspection requirements [(I) (Q) and (V)] or notifications [(G)] are identified in the Standard Item, they shall not be identified again in the Work Item.

(1) 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, NACE, 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 Technical Representative in accordance with NSI 009-90 and associated PCP requirements.

(G) is a symbol inserted in a Work Item to establish a point in the sequence of accomplishment of work at which time the SUPERVISOR shall be notified to permit observation of a specific inspection or test by the Government.

(2) The following criteria shall be used for identification of inspections and tests requiring annotation with (I), (V), or (G) symbols:

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

- (a) 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)

- (b) 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)
- (c) Welding on ship/craft listed in Attachment A of SI 009-12 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)
  - RT Film Interpretation (I) (G)
- (d) 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)
- (e) 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)
- (f) 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)
- (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 Standard Item 009-32 (I) (G)
  - Environmental readings (V)
- (h) 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 Standard Item 009-32 (I)
  - Environmental readings (V)
- (i) 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)  
I
  - 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)
- (j) Other inspections or tests:
- Any inspection/test that is not covered above and reports are not required to be submitted to the Government (V)
- (k) ***(Q) inspections require verification and documentation by a qualified Technical Representative in accordance with NSI 009-90 and associated PCP requirements:***
- ***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)
  - ***Verify process documents where as found reports are required, to include clearances and conditions, and submit as-found report. Include in as-found report the information required by 3.4.3.1 through 3.4.3.4.*** (Q)
  - ***Inspect new and repaired areas and component parts of the equipment prior to re-assembly to ensure compliance with Navy technical manual requirements and Standard Items.*** (Q)
  - ***Inspect and provide technical guidance and assistance during process performance, equipment re-assembly and adjustment, and when specified, coating application. Verify re-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)

(3) When modifications are written to the original Work Items, (I), (V), **and (Q)** inspections and (G) notifications shall be inserted where required.

(4) Where additional Government oversight is deemed necessary by the SUPERVISOR to ensure contract compliance in a specific problem area, a (G) may be added to an inspection or test currently not requiring Government notification in the criteria identified above.

(5) Never use (G) alone; must be preceded by an (I), (V), or **(Q)**.

1. Reports - Written reports are necessary in order to record results of inspections, tests, and work accomplished. The planner should keep in mind that reports are costly to generate and to process. Reports should only be required in Work Items when necessary. Do's and don'ts for reports are as follows:

(1) Do require a report for machinery history with condition identified readings.

(2) Do require a report when a unique piece of equipment has had many problems.

(3) Do require a report listing unsatisfactory conditions.

(4) Do require machinery closing reports if not recorded on test memos or data sheets.

(5) Don't require a report to track contractor progress on a job.

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

(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 Standard Item 009-17.)

(8) Don't require a report just so you will know the item is being worked.

m. Process Control Procedure (PCP) requirements not already required by Standard Items shall also appear in the REQUIREMENTS paragraph. Invoking the requirement to develop Process Control Procedures shall be invoked only where contractual compliance of the product cannot be ensured by inspections

and tests. Reference shall be made to applicable standards or specifications that govern the process to be controlled. Any requirements that should be addressed by the procedure shall be explicitly identified in NSI 009-09 requirements. The following additional requirement applies for PCPs:

(1) PCPs shall 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).

***n. It is assumed that MSR Agreement Contractors responding to a solicitation do have the necessary competence to ensure satisfactory completion of the work requirements of the specification. Sole source requirements (technical representatives, vendors, directed subcontractors, etc.) shall not be invoked in any Work Item without sufficient justification to permit a Justification and Approval (J&A).***

5. Paragraph 4 of the Work Item shall always be NOTES and shall contain information or explanations that do not lend themselves to inclusion in the REQUIREMENTS. These notes shall not place requirements on the contractor.

SAMPLE NOTES

4.1 This is an LOA item.

4.2 Known source for butterfly valves:

Flow-Technology, Inc.  
49 Century St.  
Jacksonville, FL 32211  
Telephone (904) 721-1968

***6. Paragraph 5 shall be GOVERNMENT FURNISHED MATERIAL (GFM). All GFM listed in paragraph 5 shall be installed by the requirements invoked in paragraph 3.***

***a. Major components or equipment with anticipated delivery dates after the commencement of the availability shall be specified in the Work Items. This includes turnaround items in the Navy Refurbishment Program. Following each line item of GFM, indicate the paragraph number in which the material is required.***

***b. Material should be made GFM when:***

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

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



(3) It is Program material reserved for accomplishment of NAVSEA ShipAlts (Fleet Modernization Material).

(4) It is mandatory replacement material stocked by the Navy to support designated ship Class Maintenance Plan.

(5) It is peculiar to the Navy.

c. Categories of GFM listed in paragraph 5 are defined as follows:

(1) LLTM: (a) Material whose delivery date exceeds 30 days.

(b) Government provided material already in the possession of/held by/release controlled by the Ship/Navy/RMC (e.g., Hatch, Switch, Pump, Valve, Sonar Dome, etc.).

(2) PUSH: Alteration material provided by a program or program office.

(3) KITTED: Alteration material supplied by an outside activity.

Activities may utilize the PMS-400 approved 4720/3 as a Reference for ShipAlt/AER, or repair kits.

Examples for each of the above categories:

|         | <u>TOTAL</u><br><u>QUANTITY</u><br><u>PROVIDED</u> | <u>NAME</u><br><u>OF PART</u> | <u>PIECE</u><br><u>NO.</u> | <u>REF.</u><br><u>NO.</u> | <u>NATIONAL</u><br><u>STOCK NO.</u> | <u>PARA</u><br><u>NO.</u> |
|---------|--|-------------------------------|----------------------------|---------------------------|-------------------------------------|---------------------------|
| 5.1.1.1 | 1 EA   | Valve                         |                            | 2._                       |                                     | 3._                       |
| 5.2.1   | 1 EA   | Pump                          |                            | 2._                       |                                     | 3._                       |
| 5.3.1   | 1 KT   | Kit for _____                 |                            | 2._                       |                                     | 3._                       |

C. NUMBERING WORK ITEMS

1. For surface ships utilizing S9040-AC-IDX-010, Expanded Ship Work Breakdown Structure for All Ships & Ship/Combat Systems (ESWBS), the Work Item number shall contain 8 digits. The first 5 digits shall be assigned using the appropriate ESWBS number.

NOTE: In the case of alterations, the 4th and 5th digit shall be as follows:

- 80 for title D ALTS and AERs
- 90 for title K ALTS
- 00 for ORDALTS

The 6th, 7th, and 8th digits shall be for industrial control serialization, from 000 through 999. For example:

a. A repair Work Item on propulsion boilers for a ship with 2 propulsion shafts shall be numbered 221-1X-XXX, where the first X is a 1 or 2 and the XXX is the industrial control serialization number.

b. A similar Work Item as (a) above, but accomplished on a D alteration, shall be numbered 221-8X-XXX.

c. A similar Work Item as (a) and (b) above that is divided into many work oriented items shall be numbered 221-XX-XXX, e.g., the 12th Work Item written on a propulsion boiler D alteration shall be numbered 221-8X-012.

2. SI numbers shall be assigned sequentially in the 009-XX series, such as 009-01, 009-09, ... 009-38. Local Standard Item numbers shall also be sequentially numbered, but in series 099-XX followed by the individual RMC designator letter, i.e. 099-XXSE, for a SERMC LSI.

D. USE OF STANDARD WORK TEMPLATES AND CLASS STANDARD WORK TEMPLATES:

1. Whenever an applicable CSWT is available, it shall be used verbatim except as exempted in Paragraph 2 below. In the absence of a CSWT, an applicable SWT shall be used verbatim except as exempted in Paragraph 2 below.

2. Deviations from templates shall not be permitted except in the following cases:

a. Adding or deleting entire REQUIREMENTS paragraphs to suit the authorized work.

b. Filling in appropriate blanks with data to suit the technical requirements and the authorized work.

c. When designated as non-deviational and mandatory or mandatory, the template shall be used as specified in Section II.

3. The following procedure should be utilized in choosing a template:

a. Review the indices for basic subject matter.

b. If available, select the item that most closely approximates the subject work requirements.

c. Review to determine if the subject matter is the same as, or close enough to, the work requirement to allow its use.

4. The following procedure shall be used in converting templates to Work Items:

a. Fill in the heading. File numbers and revision dates of templates shall remain in converted Work Items.

- b. Fill in the applicable portions of paragraph 1.
- c. Verify that the appropriate references are available and current.
- d. Review paragraph 3, REQUIREMENTS, and add or delete requirements and fill in the appropriate blanks with data, using standard phraseology of Annex B, to suit the authorized work.
- e. Review paragraph 4, NOTES, and add or delete subparagraphs as appropriate.
- f. Review paragraph 5, GOVERNMENT FURNISHED MATERIAL (GFM), and add or delete GFM to suit the authorized work.
- g. Review paragraph 2, REFERENCES, and add or delete references as required to suit any changes made in the REQUIREMENTS.

5. CSWTs shall be written to accomplish class specific repairs and modernization. In the preparation of CSWTs the following guidelines shall be used:

a. The CSWT shall include work necessary to accomplish approved repairs and/or modernization of the equipment.

(1) Technical Repair Standards (TRs) may be used as a reference by identification of the specific section(s) to be used. The Planner shall ensure that the requirements are precise and do not invoke a string of possible additional work based on conditions identified.

(2) Calibration, repair, or renewal of gages and other instrumentation shall be required. Generally, instruments costing less than 50 Dollars each should be removed and new instruments installed.

(3) When not an interference, replacement with new insulation for disturbed, damaged, or missing insulation shall be required.

(4) Inspection and painting of the foundations shall be required.

(5) Preservation of the equipment shall be required in accordance with Standard Item 009-32.

(6) Inspection of the alignment of piping to the equipment flanges shall be required. Accomplishment of alignment by adjustment of the adjacent hanger is considered within the scope of the work. Refitting of pipe or flange and installation of new hangers should be handled as a contract change and treated as growth within scope for departure report and funding purposes. Note that alignment of steam piping frequently involves cold pull-up to align the system while in operation. Refer to the ship's plan for the cold pull-up data.

b. The CSWT shall require disassembly of the equipment to the extent necessary to replace Planned Maintenance Material (listed in Appendix A of

the TRS), and inspect sealing surfaces and pressure boundaries. Note that the TRS usually requires total disassembly of the unit. This may be unnecessary and, in fact, risky if shrink fits are involved and there is no indication of unsatisfactory fit or an obvious requirement to replace one of the parts (worn sleeve, cracked rotor, etc.). Likewise, Class 5 fit studs should not be removed from their setting unless necessary due to damaged threads or incorrect length. Replaced studs shall have an exposed thread length of not less than 2 and not more than 5 threads.

c. The CSWT shall require a complete inspection of the disassembled unit in accordance with criteria in Appendix C of the TRS.

d. The CSWT shall include the operational test of the equipment and shall invoke the applicable portion of the approved test procedure, if one exists. The Ship's Force shall 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 shall be specified in the CSWT.

e. Hydrostatic tests of pump or turbine casings shall not be specified unless weld repairs have been accomplished.

f. The CSWT shall require 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 should 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.

#### E. GENERAL REQUIREMENTS AND CRITERIA

1. When attachments are used, the attachments shall be identified, at the top of each page, centered in uppercase letters, by the word ATTACHMENT followed by a letter designation, such as ATTACHMENT A or ATTACHMENT B. Attachments shall never be utilized as a REFERENCE in any Work Item. Rarely will more than 2 or 3 attachments be required for any given Work Item. Each attachment will contain the Work Item number on each page and each page shall be numbered. The total number of pages in the Attachment shall be included in the total number of pages in the Work Item. For example, the footer on the attachment of a 3-page Work Item with a one-page attachment would read Page 4 of 4. In most instances, only one footer will be required.

2. Underscoring is limited to the heading, basic paragraph titles, and headings when listing repair parts or GFM as shown in Section VI.

3. Subparagraphing is limited to 4 digits (example 3.1.1.1). Each subparagraph is limited to a single thought or work sequence.

4. Page numbering shall be sequential in each Work Item and total pages indicated (e.g., 1 of 3, 2 of 3) in the lower center of the page. The item number shall be indicated in the lower right corner of each page.

5. File numbers are assigned to templates for SUPSHIP/RMC reference purposes only. These numbers are located in the upper left section of page one. (Section VI refers)

6. The revision date of templates shall be indicated in the upper left section of page one. (Section VI refers)

**7. Work Items shall be marked using NMD "OVERLAYS" when applicable. (Examples: LEVEL I, CRITICAL SYSTEM, DRYDOCK REQUIRED, COFFERDAM REQUIRED, GAS FREE CERTIFICATION REQUIRED)**

**8. The numeral "1" shall not be used but always be written as "one" or "One" as applicable. All numbers greater than one shall be written as a numeral, i.e., 2, 3, 4, etc., except when the number is at the beginning of a sentence. This rule does not apply to references, or to GFM amount inserted under "TOTAL QUANTITY PROVIDED" listed in Paragraph 5.**

F. COMMON WORK ITEM ERRORS. There is no substitute for good judgment and forethought on the part of the Work Item author. The task of writing definitive work requirements is complicated by the fact that no matter how technically correct the Work Item is, if the wording can be misunderstood or causes confusion, the Work Item is not a satisfactory contractual document. Paragraphs 1 through 6 list wording to be avoided in Work Item writing. These paragraphs attempt to highlight some of the mistakes commonly made in wording Work Items.

1. Ambiguous requirements. Ambiguities normally occur because of poor sentence structure and result in 2 or more interpretations of what is required. Contractors will invariably choose the least expensive interpretation. An example of an ambiguous requirement is: Install 12 storage bins (2ftx2ft) in the GSM (4-107-2) and dry provision (4-107-1) storerooms. Does this require a total of 12 or 24 bins?

2. Non-definitive requirements. Non-definitive requirements occur when accept or reject criteria is not included in the requirements. Some examples are:

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

Requirements for inspections and tests shall include definitive accept or reject criteria required for contractor and SUPSHIP/RMC Quality Assurance evaluations.

3. Non-definitive phrases. Use of non-definitive phrases results in either non-definitive requirements or cancels the effect of stated requirements. Examples are:

- a. As applicable
- b. In accordance with latest requirements
- c. Or other recognized methods
- d. As practicable
- e. As necessary
- f. Or other suitable method
- g. Check for proper values

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 are:

- a. Included, but not limited to
- b. As required
- c. Any and all or Each and every
- d. When and where necessary
- e. Etc.

5. Arbitrary statements. Statements that assign arbitrary authority to an activity or individual. Examples are:

- a. Where directed by the Ship's Force
- b. To the satisfaction of the SUPSHIP/RMC representative
- c. In accordance with NAVSEA directives
- d. As directed by the NAVSSES (NAVSEC) representative

6. Arbitrary Authority. The contractor is not required to meet the expectations of:

- a. The on-scene surveyor

b. The Commanding Officer's representative

G. DO'S AND DON'TS

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

DO define unusual technical terms.

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

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

DO make each Work Item as detailed as necessary to describe the work to be accomplished.

DO use "shall" when the provision is mandatory; "may" when expressing a non-mandatory provision; "will" when expressing a simple future tense or to express a declaration of purpose on the part of the Government.

DO make positive, concise statements that cannot be misinterpreted.

DO verify that reference material is available and applicable.

DO use attachments to improve clarity.

DO become familiar with available background and reference material before preparing Work Items. It will aid in drafting a good Work Item. Include only those essential references in the Work Item itself.

DO convey the information as if you did not understand who would do the job or where it would be done. Release a job only with the knowledge that it can be satisfactorily accomplished as you intended with no further communication.

DO describe in clear, concise, and complete language exactly what you expect the contractor to do. This is what you are willing to pay for and this, and only this, is what you can expect him to deliver.

DO provide a manday and material pool when frontloading Work Items "as designated by the SUPERVISOR".

DO use "when directed by the SUPERVISOR" when the start date in a frontload statement is not known.

DO use spellcheck on all Work Items.

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")

DON'T use colloquialisms.

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

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

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

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

DON'T use redundancy in an attempt to clarify or emphasize. Make each statement stand by itself.

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

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

DON'T try to salvage a poor sentence or Work Item by indiscriminately jamming in words. Rewrite.

DON'T issue a Work Item with unresolved problems; you may be providing misguidance and misdirection.

DON'T use attachments or references to avoid writing requirements into the Work Item.

DON'T impose unrealistic requirements on the contractor. Exercise care in developing Work Items to ensure that requirements are always capable of being performed.

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, 24 inches.

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 same Work Item. Be consistent.

DON'T use the numeral 1 alone except in numbering paragraphs and references. Write it out as "One" or "one" as applicable.

DON'T include anything in the Work Item that is not necessary to describe the desired product.



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.

DON'T direct the contractor to provide and install \_\_\_\_\_. He is required to provide material not specifically listed as GOVERNMENT FURNISHED MATERIAL (GFM).

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.

DON'T write open and inspect type Work Items unless directed by the work request.

DON'T change the intent of the work request by writing more or less than what is called for.

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

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

DON'T duplicate Standard Item requirements within the Work Items.

#### H. GLOSSARY OF PREFERRED TERMS

1. The following is a list of preferred terminology that should be used.

| <u>PREFERRED</u>            | <u>NOT PREFERRED</u>   |
|-----------------------------|--|
| Accomplish the requirements | Accomplish the work ... or Comply with                               |
| Accomplish                  | Conduct ... or Perform (Conduct may be used for an operational test) |
| Remove                      | Drain  |
| Remove existing and install | Replace ... or Unship new  |
| Disconnect                  | Unbolt   |
| Preserve                    | Paint  |
| Inspect                     | Check  |
| Fabricate                   | Make   |
| Measure                     | Take   |
| Shall be                    | Is to be   |

|                      |                            |
|----------------------|----------------------------|
| (Specify a Quantity) | All                        |
| Verify               | Demonstrate ... Prove      |
| Ensure               | Assure ... or Insure       |
| Listed               | Identified                 |
| Identified           | Found                      |
| Through              | Thru                       |
| 5,000 dollars        | 5000 dollars ... or \$5000 |
| 1,000                | 1000                       |