

NAVSEA  
STANDARD ITEM

FY-23

ITEM NO: 009-125  
DATE: *01 OCT 2021*  
CATEGORY: I

1. SCOPE:

1.1 Title: Boats Less Than 65 Feet Long; accomplish

2. REFERENCES:

2.1 Standard Items

2.2 S9086-TX-STM-010 /CH 583, Boats and Small Craft

2.3 American Boat and Yacht Council (ABYC) Standards

2.4 29 CFR Part 1915, Occupational Safety and Health Standards for Shipyard  
Employment

2.5 UL1426, Underwriters Laboratories (UL) Standard for Electrical Cables for Boats

2.6 IEEE 1580, Recommended Practice for Marine Cable for Use on Shipboard and  
Fixed or Floating Facilities

2.7 S9086-CJ-STM-010 /CH 075, Fasteners

2.8 ASTM B33, Standard Specification for Tin-Coated Soft or Annealed Copper Wire  
for Electrical Purposes

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

3. REQUIREMENTS:

3.1 Accomplish General Criteria

3.1.1 Reference 2.2 and 2.3 must be accomplished with the following exceptions  
in 3.1 through 3.10.

3.1.2 Accomplish each (I), (V) and (Q) test/inspection that does not have an  
associated (G)-point, with qualified and/or currently certified personnel where required by each  
technical document (e.g., NAVSEA Basic Paint Inspector (NBPI), National Association of

Corrosion Engineers (NACE), nondestructive testing, electrical cableway inspection, Oxygen Cleanliness Inspector, etc.) as follows:

3.1.2.1 Each (I) inspection requires verification and documentation by a separate individual, other than the person who has accomplished the work, who is qualified as an inspector.

3.1.2.2 Each (V) inspection requires verification and documentation by the qualified tradesperson, trade supervisor, or inspector.

3.1.2.3 Each (Q) inspection requires verification and documentation by a qualified Technical Representative in accordance with 009-90 of 2.1 and associated PCP requirements.

3.1.2.4 The authority to accomplish, document, accept and reject each (I) and (V) inspection may be delegated to qualified subcontractor personnel, without regards to geographical location, subject to SUPERVISOR approval.

***3.1.3 Protect the boat and its equipment from damage.***

3.2 Accomplish (G)-Point (government notification) as follows:

3.2.1 (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 must be notified by the prime contractor in each case to permit observation of a specific test or inspection (I)(V) by the government. When the symbol (G) precedes each test or inspection in a Work Item which are applicable to more than one action, the symbol (G) must identify the action required, e.g., (G) "HYDROSTATIC TEST". When more than one unit is involved, the (G) notification requirement applies to each unit.

3.2.2 Notify the SUPERVISOR's designated representative by FAX, hard copy, or by electronic method.

3.2.2.1 Notify the SUPERVISOR prior to commencing each specific requirement in a paragraph annotated with the symbol (G), during each normal day shift working hour with at least 4 hours. Following the required notification, each requirement in the paragraph annotated with the symbol (G) may proceed prior to the scheduled time as approved by the SUPERVISOR. Notify the SUPERVISOR to cancel a scheduled test or inspection no later than 2 hours prior to the scheduled event or as negotiated with the SUPERVISOR.

3.2.2.2 Notify the SUPERVISOR not later than 6 hours before the end of the last preceding normal work day when each test or inspection following a (G) Point is scheduled after normal day shift working hour, on a weekend, or on a federal holiday. Following the required notification, each requirement in the paragraph annotated with the symbol (G) may proceed prior to the scheduled time as approved by the SUPERVISOR. Notify the

SUPERVISOR to cancel a scheduled test or inspection as soon as known, but no later than 2 hour prior to the scheduled event.

3.2.2.3 Notify the SUPERVISOR at least 48 hours, prior to commencing each (G)-Point at contractor/subcontractor plant located in excess of 50 miles by the most direct roadway nearest to the place of performance of the contract. Document the date, time, and identification of the SUPERVISOR's representative notified. Following the required notification, each requirement in the paragraph annotated with the symbol (G) may proceed prior to the scheduled time as approved by the SUPERVISOR. Notify the SUPERVISOR to cancel a scheduled test or inspection as soon as known, but no later than 4 hour prior to the scheduled event.

3.2.2.4 Proceed with the test or inspection if the SUPERVISOR is not present, provided the required advance notice has been furnished to the SUPERVISOR and the contractor has completed and documented each preceding test and inspection.

3.2.3 A partial test or inspection requiring (G) notification may be accomplished in the event that work cannot be completed and work progress would be delayed in waiting for total completion of work. Notify SUPERVISOR when the incomplete work is completed and ready for the remainder of the test or inspection. Note each partial inspection on the test or inspection form.

3.2.4 A qualified contractor representative must be present to accomplish, accept or reject and document each test or inspection associated with the symbol (G).

3.2.5 The authority to witness or perform, document and accept/reject (I)(G), (Q)(G), and (V)(G) test and inspection is a prime contractor's responsibility but, subject to SUPERVISOR approval within a 50-mile radius of the contractor's plant nearest to the place of performance of the contract, may be delegated to each subcontractor who are Master Ship Repair Agreement (MSRA) or Agreement Boat Repair (ABR) agreement holders, Society for Protective Coatings (SPC) Quality Procedure (QP) One certified, NDT certified, or have a current Quality Management System (QMS) accepted by the SUPERVISOR.

3.2.6 The contractor may delegate responsibility to each subcontractor to perform, document and accept/reject each (I)(G) and (V)(G) test and inspection performed at each plant located outside a 50-mile radius of the contractor's plant nearest to the place of performance of the contract subject to SUPERVISOR prior approval.

3.2.7 Each associated (G)-Point notification requirement must not be delegated.

### 3.3 Reporting Requirements:

3.3.1 When a Work Item does not require a report, and one is determined to be necessary in order to produce a reliable or complete repair, submit one legible copy, in approved transferrable media, of a report with supporting data as early as possible in the contract period. The goal is to have required work completed within the original contract period.

3.3.2 For each report required by 2.1 or the Work Item, that could result in a change in work to be accomplished or additional material to be procured, complete the preliminary work and submit one legible copy, in approved transferrable media, of the report in a time frame to allow the SUPERVISOR to initiate early action, but no later than the first 20 percent or 30 days of the availability whichever occurs first.

3.3.3 Each report is costly to generate and process. Identify each suspected duplicative reporting requirement and case where each required report could be combined in order to eliminate a report to the SUPERVISOR via e-mail. Receipt of this notification by the SUPERVISOR is not to be construed as a waiver of each reporting requirement unless the SUPERVISOR's response eliminates the required report.

3.3.4 Submit one legible copy, in approved transferrable media, of the following, the report may be waived by the SUPERVISOR one day prior to the weekly progress meeting:

3.3.4.1 A report listing Government Furnished Material not received, showing the associated Work Item number and title, material description, expected delivery date, required delivery date and effect on each production date. Each material with expected delivery date before the required delivery date need not be listed in this report.

3.3.4.2 A report, listing Contractor Furnished Material (CFM) required to accomplish the work in each Work Item that has an estimated delivery date of greater than 30 days or is not already on hand with estimated delivery date that would impact completion of Work Item as scheduled.

3.3.4.3 A report listing late or deficient Government Furnished Information, showing the associated Work Item number and deficiency description.

3.3.4.4 A report of each overdue contractor condition report by Work Item number and expected submission date. The report must also include each deficiency and condition report for which Government response is outstanding.

3.3.5 When a report is required to be submitted but no time requirement is specified in the Standard Item or Work Item, it must be submitted no later than 4 days after completion of the event.

3.3.6 Provide labor, material, equipment, and each service (such as air, power, water, etc.) which is required to complete the Work Item, including that which is indicated on each drawing or test specification as being provided by each source other than the contractor, unless specifically listed as Government Furnished Material (GFM)

3.3.6.1 When a performance specification (such as MIL-PRF) is specified, each product approved to that specification are those listed on the Government Qualified Products Database (QPD) for that performance specification. If a Type, Class, Grade

or other subcategory is listed, each product approved for use are limited to those that meet that subcategory on the performance specification's QPD.

3.3.7 Procure each unclassified Military Specification and Standard and Commercial Specification and Standard referenced in each Work Item. Each classified Military Specification is available at the office of the SUPERVISOR.

3.3.7.1 Each Work Item will normally reference each basic Government Specification, Standard, or NAVSEA Standard Plan, without each suffix letter or number which identify revision or amendment. Unless otherwise specified, the effective issue of each basic referenced document, including each revision or amendment, must be the most recent issue at the date of solicitation for a Job Order. Wherever each specific date for specification, standard, and publication or amendment, revision, or alteration thereto are specified in the each Work Item, issues of those dates specifically must apply in lieu of any other issue. Where each industry standard such as American Society for Testing and Materials (ASTM) and American National Standards Institute (ANSI) are referenced, the issue or revision in effect on the date specified for Work Package Solicitations applies.

3.3.7.2 Each Work Item may reference specific revision level of equipment technical manual or drawing which are not NAVSEA Standard Plans. When each reference is listed in a Work Item without a suffix letter or number which identifies revision, change notice, or amendment, unless otherwise specified, the effective issue of each technical manual, including revision, change notice, or amendment, must be the most recent issue at the date of solicitation for the Job Order.

3.3.8 Submit each request for deviation to the SUPERVISOR.

3.3.8.1 A deviation is defined as any action which is not in conformance with each Work Item requirement, including reference thereto, no matter how minor.

3.3.8.2 Each deviation from a Work Item and each reference thereto will not be considered by the SUPERVISOR without a written request from the contractor.

3.3.8.3 Submit one legible copy, in approved transferrable media, of each request for deviation to the SUPERVISOR within one day of identifying the deviation.

3.3.9 Correct each error in record keeping by drawing a single line through the error, recording the correct entry, initialing, dating, and printing the name of the person making the correction. Each correction to a record must be made by the individual that made the original entry and signed for the accuracy and validity of the record, or by cognizant trade manager or project superintendent.

3.3.10 Record and Certification Signature Block or signature must be legible and in ink. Each erasure, write-over, white-out, ditto mark, continuation arrow, signature stamp, etc., is not acceptable.

3.3.10.1 Each electronic record must utilize an electronic signature control for certification of individual providing signature.

**3.4 Respond in writing to each SUPERVISOR issued Method B/C/D Corrective Action (CA) within 3 business days unless otherwise specified by the SUPERVISOR. Initial response must include immediate corrective action taken and a plan of action for CA completion, including estimated completion dates. Final response must include preventive action for recurrence of identified nonconformance, root cause analysis and Objective Quality Evidence (OQE) for corrective action completed. All follow up responses must be as specified by the SUPERVISOR.**

**3.4.1 Inform the SUPERVISOR when corrective actions are complete for each SUPERVISOR issued Method A (CA). Response required within 3 business days unless otherwise specified by the SUPERVISOR. Response must state that the non-conformance has been corrected.**

**3.5 Develop a Test and Inspection Plan (TIP) incorporating each Work Item in the job order or Statements of Work (SOW). The initial TIP must include all inspections and tests required by the contractor's Quality Assurance or Quality Management Plan as well as by symbols (I) (V) (Q) test/inspections and (G) government notification identified in the Work Item, and any additional tests and inspections the contractor deems necessary to substantiate product conformance.**

**3.5.1 Submit the initial copy of the TIP to the SUPERVISOR prior to start of productive work.**

**3.6 Test and Inspection records must include hull number, Job Order and Work Item number, component identification, accept/reject criteria, date, time, unique identification of test equipment used, and signature of the contractor's authorized representative who witnessed or performed the test or inspection. The signature occurs after the checkpoint is determined to be satisfactory or unsatisfactory and any exceptions are documented. The records must indicate the results of the test and or inspection accomplished.**

**3.6.1 Test and inspection records must be retained and made available to the SUPERVISOR as part of work completion certification.**

**3.7 Attend SUPERVISOR conducted fact-finding/investigative meetings when requested by the SUPERVISOR not to exceed 4 hours.**

**3.8 Conduct Verification of Alteration, Logistics and Technical Data**

**3.8.1 Submit one legible copy, in approved transferrable media, of each completed Attachment A to the SUPERVISOR and Naval Surface Warfare Center Carderock Division (NSWCCD) for each alteration (Boat Alteration (BOATALT) and Liaison Action**

Request (LAR)) installed during availability within 5 days of scheduled final government acceptance of boat.

NSWCCD-Detachment Norfolk  
Attn: Code 8326  
2600 Tarawa Ct. Suite 303  
Virginia Beach, VA 23459-3239

3.8.2 Submit each copy of technical manual, Maintenance Index Page (MIP), and Maintenance Requirements Card (MRC) received with GFM and CFM equipment to the SUPERVISOR no later than 5 days after receipt of equipment.

### 3.9 Removal of Interference

3.9.1 Do not remove component as interference except when the scope of work requires repair to each component of the system or when specified in the Work Item. If there are any questions submit a report to the SUPERVISOR prior to removal.

3.9.2 Submit one legible copy to the SUPERVISOR, in approved transferrable media, of a report listing each component that must be removed as an interference and the work is not required by the Work Item.

### 3.10 Conduct Authorization & Tag Out

3.10.1 Accomplish each requirement of the contractor's lockout/tags-plus program for each unmanned craft and barge in accordance with 2.4.

3.10.1.1 Submit one legible copy, in hard copy or approved transferrable media, of contractor's lockout/tags-plus program to the SUPERVISOR when requested.

3.10.1.2 Position equipment to achieve required isolation, by de-energizing, draining of the isolated area, and depressurization, and use lockout/tags-plus program when lock-out of each equipment, system, circuit, component, piping, or valve is required in accordance with 2.4.

3.10.1.3 Post each warning sign and barrier and install temporary positive mean to prevent closure or movement of each component that create a safety hazard at each hull and deck opening.

3.10.2 Install each identification tag on each removed piping section, valve, ventilation system, and equipment to indicate company name, boat, hull number, system, and location and Work Item number prior to removal from system. Each tag must endure the repair

process, and must stay attached and be readable until the removed piping section, valve, ventilation system, or equipment is installed.

3.10.2.1 Include quantity when each component is grouped/bagged/comingled together in a bucket or any other type of storage having only one identification tag.

3.10.2.2 Ensure Foreign Material Exclusion (FME) is maintained on equipment removed from the boat.

3.10.3 Install and maintain each blank/plug, nut and bolt, painted **white** for use as FME immediately upon each opening in equipment, valve, and piping system not subject to pressure to prevent entry of foreign material and protect each flange and threaded area. Each existing system fastener used for blanking that will be reused for installation are excluded from the requirement for **white** color. FME may be used for each system normally under pressure but are tagged-out for maintenance. The use of cloth, polyvinyl sheet, paper, tape, and rubber sheeting as FME is prohibited. Each FME material must be applied with care, without using excessive force, to avoid damage to each surface/component being protected.

3.10.3.1 Each wood product, including damage control (DC) plug is permitted for use as FME external to the boat for each hull penetration. Each wood product, including DC plug, may be used as FME internal to the boat in each piping and ventilation system where permitted explicitly in the applicable Naval Ship's Technical Manual. Each DC plug, wood, or wood product is prohibited for use in each tank/void.

3.10.3.2 Each piping, ventilation, and equipment component designated as scrap prior to removal does not need to be blanked to maintain cleanliness; however, they must be properly marked as scrap material prior to removal. Each precaution must be taken to preclude spillage of each system content.

3.10.3.3 ***Verify each temporary blank and plug installed in the performance of work under each Work Item have been removed.***

3.10.4 Maintain the cleanliness of each new, modified, repaired and disturbed piping system and component. Maintain cleanliness at the following acceptance standard:

3.10.4.1 Cleanliness Level II: Surface must be visually free of grease, oil, flux, scale, dirt, loose particles and any other contamination foreign to the base metal. Tap water residue on each metal and light superficial rust on each carbon steel surface, caused by short time exposure to the atmosphere, are permitted. Light dust on each cleaned surface is not objectionable, provided that the quantity and size of the particle does not adversely affect each system operation.

3.10.4.2 Cleanliness Level III: Surface must be reasonably free of contamination and any remaining residue on the surface does not interfere with each system operation or damage each system component.

(V) “VERIFY CLEANLINESS”

3.10.4.3 Verify that existing cleanliness was maintained.

3.10.4.4 Submit one legible copy, in approved transferrable media, of a report identifying any location where cleanliness has not been maintained and cannot be restored by local cleaning. Include the cause of system contamination and each recommended action for cleanliness recovery. (See Note 4.8)

3.10.5 Install and maintain each blank/plug, nut and bolt, colored *white* that will be used for hydrostatic testing on each equipment, valve, and piping system to withstand maximum system pressure for system which will serve as the primary or secondary barrier to support hydrostatic testing. Each existing system fastener used for blanking that will be reused for installation are excluded from the requirement for *white* color. Secure each blank in place with gasket and fastener or weld in place. Ensure welding requirements for each blank meet the same requirement as the piping weld, in accordance with Ref 2.9 (NSTM 505). The use of cloth, polyvinyl sheet, paper, tape, and rubber sheeting as a blank is prohibited. Each DC plug, wood, or wood product is prohibited as a blank on each pressurized system, but may be used on a non-pressurized system to include gravity drain piping.

3.10.5.1 Ensure each pressure blank has a positive mean of attachment for each affixing tag. Each tags must endure the repair process, and must stay attached and be readable until each blank is removed. Include company/contractor name, Work Item number, Contractor blanking/plugging log entry number, along with system/equipment/component name, number, and location.

3.10.5.2 Ensure each blank, plug or cable end protection installed is removed and system/equipment is restored as soon as possible after completion of work. Ensure each tag-out requirement is followed.

3.11 Provide Schedule and Report

3.11.1 Develop in Gantt Chart format an Integrated Production Schedule (IPS) for each work package that reflects the manner in which the availability will be accomplished. The IPS must include:

3.11.1.1 Each Work Item listing each start and completion date, and duration.

3.11.1.2 The latest allowable receipt date for contractor and government furnished material (CFM and GFM) to maintain production schedule.

3.11.1.3 Each Key Event and Milestone with appropriate predecessor relationship to each Key Event and Milestone(s) to ensure there is an accurate logical

progression through each Work Activity leading to their assigned Key Event and Milestone(s), to ensure the IPS supports accurate prediction of Key Event and Milestone(s) attainment.

**3.11.1.4** Critical Path and each Controlling Work Item.

**3.11.2** Revise Production Schedule/IPS level weekly to include each addition, deletion, modification, each actual start and finish date, progress, and completion of each Work Item. Progress must be based on degree of completion of physical work or accomplishment of the Work Activity.

**3.11.3** Provide cognizant contractor management representation to participate in the weekly progress meeting at the time and location agreed to by the SUPERVISOR for each work package. The representative(s) must be authorized to make each management decision relative to each routine requirement of the Job Order that, in good faith, commit the contractor.

**3.11.3.1** Each weekly progress meeting participant must be prepared to address each Critical Path and Controlling Work Item, and offer a reasonable solution to each problem which may have impact on each scheduled Key Event and Milestone or completion date.

**3.11.4** Provide cognizant contractor management representation to participate in a review conference to be held at the 50-percent point in the availability and a completion conference to be held no later than 3 days prior to availability completion date to determine the scope of remaining work for each work package.

**3.11.4.1** Subject to SUPERVISOR approval, may be held simultaneously with the Weekly Progress Meeting. Each conference will be scheduled at a time and place mutually agreeable to each party.

**3.12** Install Electrical/Electronic Cable

**3.12.1** Accomplish Electrical and Electronic Cable installation in accordance with 2.3 with the following exceptions.

**3.12.1.1** Wiring in each enclosure or for starting battery in accordance with 2.5. In each application, the product may be used without an overall jacket.

**3.12.1.2** All provided cables shall be commercial low smoke zero halogen (LSZH) marine multi-conductor cable (compliant with 2.6 and accepted by USCG & ABS) with tinned copper conductors per ASTM B-33 flexible stranding (Tricab "BV Series" or equal). Single conductor UL1426 wire (Ancor or equal) may be used in enclosures and for jumper wires. IEEE-45 or Ancor Battery Cable may be used for battery/starting circuits. (See Note 4.17 & 4.18)

**3.12.1.3** Wire in accordance with 2.8. that only has insulation over the conductor and not an overall jacket is only allowed within each enclosure for each jumper.

### 3.13 Install Equal Component

3.13.1 Submit one legible copy, in hard copy or approved transferrable media, of a report to the SUPERVISOR in each instance when the contractor desires, to install "an equal component" vice a "specified component" listed in the Work Item. Provide data to compare the equal component to that specified including the following:

3.13.1.1 Each physical dimension

3.13.1.2 Bolting pattern required to install the component

3.13.1.3 Each power requirement

3.13.1.4 Size, location, and each type of miscellaneous service connection

3.13.1.5 Each modification required for installation

3.13.1.6 Comparison of each characteristic, i.e., each gallon per minute, cubic feet per minute, and temperature range

3.13.2 Submission of each report must be no later than first 20 percent or 30 days of the availability whichever occurs first.

### 3.14 Threaded Fasteners

3.14.1 Remove existing and install new each non-Level I fastener 1/2-inch nominal diameter and smaller with each new fastener of the same material, strength and design;

3.14.2 Each fastener larger than 1/2-inch nominal diameter must be retained for reuse to the maximum extent possible. Reuse each existing fastener if the acceptance criteria of Attachment **B** and paragraph 075-8.3 of 2.7 are met.

3.14.2.1 Clean each fastener free of foreign matter (including paint).

3.14.2.2 Chase and tap each exposed threaded area.

3.14.2.3 Install each new threaded fastener, washer, and lock washer in place of those found to be missing or defective.

3.14.3 Utilize Attachment B and 2.7 to select each replacement fastener.

3.14.4 Externally threaded fastener installation acceptance criteria unless otherwise specified or approved:

3.14.4.1 The minimum thread protrusion for each male threaded fastener must be one full thread beyond the face of the nut. The maximum thread protrusion for each male threaded fastener is 10 full threads beyond the face of the nut.

3.14.4.2 For each self-locking (plastic insert) nut installation, the minimum thread protrusion for bolt or stud end may be flush with the face of the nut after the threaded fastener(s) have been installed and tightened. The maximum thread protrusion for each self-locking nut must be 5 threads after the threaded fastener(s) have been installed and tightened.

3.14.5 Internally threaded fastener installation acceptance criteria must be in accordance with paragraph 075-7.6 of 2.7.

#### 4. NOTES:

4.1 The term "day" means 24 hours prior to or after the scheduled event. "Business day" is used to indicate Monday through Friday, otherwise "day" means calendar day (Sunday through Saturday).

4.2 Known sources for unclassified military specifications and standards are:

<https://mercury.tdmis.navy.mil>

<https://assist.dla.mil>

<http://quicksearch.dla.mil>

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

4.4. The term "Job Order" is synonymous with the term "Contract", "Task Order" and "Delivery Order".

4.5. The term "approved transferrable media" is the form, system or program for submitting reports required as agreed to by the SUPERVISOR.

4.6. The term "subcontract" means any contract as defined in the FAR, Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

4.7. Worksite is defined as within the specific compartment or space where physical productive work is occurring. For work performed on Navy boats and craft or service craft, the "worksite" is defined as on or near the vessel.

4.8. FME is used to maintain system cleanliness. Accomplishment of NSI 009-107 of 2.1, or other means of cleanliness restoration, will be invoked within the Work Item when cleanliness is lost or suspected of being lost.

4.9. Production Schedule: The schedule used by contractor and subcontractor personnel as a means of planning, tracking, and coordinating the accomplishment of contract work.

4.10. Integrated Production Schedule (IPS): A schedule used by the contractor as a means of planning, tracking, coordinating and de-conflicting work during the availability.

4.11. Work Activity: A portion of an individual Work Item, which is a logical subdivision of the Work Item, representing a manageable unit of work, including material procurement which must be accomplished at a specific period of time in relation to other activities of the Job Order.

4.12. Key Event: An event that, if slippage occurs, could impact or delay the overall schedule, or prevent timely delivery of the vessel. Key Events are identified by the contract, the SUPERVISOR, or the contractor.

4.13. Milestone: A significant event identified by the Maintenance Team. Milestones are used as a scheduling aid and establish significant points where progress must be evaluated and confirmed. Accumulated failure to achieve Milestones on schedule may result in missed Key Events. Milestones may be identified by either the contractor or the SUPERVISOR.

4.14. Critical Path: That sequence of Work Activities which forms the work and test chain of the longest duration, and directly affects the completion of the availability. Factors that influence when a Work Activity is on the Critical Path include: time duration required for the Work Activity, space limitations, manpower available, and the predecessor/successor relationships between Work Activities. Typically, the Critical Path is determined by automated schedule analysis and will include any sequential set of Work Activities forming the longest chain of events extending throughout the schedule and which has the least Total Float.

4.15. Controlling Work Items: Those Work Items which include activities that are on the critical path of the IPS, which, by virtue of scope, material requirements, complexity, or other considerations, have the significant potential for impact on the scheduled project Key Events or completion of the availability.

4.16. Total Float: The total number of days that a path of Work Activities can be delayed without affecting the project finish date. A path of Work Activities is established by predecessor and successor relationships.

4.17. Requirements for LSZH cables in Paragraph 3.12.1.2 are not applicable to boats acquired without LSZH cables before 2010.

4.18. Requirement for use of commercial LSZH cables in Paragraph 3.12.1.2 may be superseded if MIL-DTL-24640 or MIL-DTL-24643 are specified in the Task Order.

ATTACHMENT A

BOAT ALTERATION (BOATALT) AND  
LIASON ACTION REPORT (LAR)  
COMPLETION REPORT

REPORT NO: \_\_\_\_\_

ISSUE DATE: \_\_\_\_\_

BOAT/HULL: \_\_\_\_\_

BOATALT/LAR NO.	BRIEF DESCRIPTION	COMPLETE (Yes/No)	REMARKS
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## ATTACHMENT B

1. General inspection: Fasteners must bear markings identifying material to be compatible with the system. Black-oxide coated fasteners and fasteners without markings are not acceptable. Joints with mixed material fasteners are not acceptable.
2. Engaged Thread Area: Cracks are not acceptable.
  - 2.1 Broken, chipped, or missing threads or other indications of brittle material failure, are not acceptable.
  - 2.2 Galling, spalling, or pitting is not acceptable.
  - 2.3 Major defects are not acceptable. A major defect is a single defect (after removal of sharp edges and raised metal) that has a depth over one-half the thread depth.
  - 2.4 Isolated minor defects are acceptable. A minor defect is a single nick, gouge, or flattened thread (after removal of sharp edges and raised metal) that has a depth greater than 1/64-inch, but less than one-half the thread height (depth), and a width less than the thread spacing (pitch). Defects less than 1/64-inch deep may be ignored.
    - 2.4.1 An isolated minor defect that exceeds the width criterion for a minor defect is acceptable when the total length of the defect does not exceed 15 percent of one thread length in any one complete thread.
    - 2.4.2 Any combination of minor defects is acceptable when the total combined length of the defects does not exceed 15 percent of one thread length in any one complete thread.
  - 2.5 Repaired threads that engage with a non-self-locking Class 3-B fit nut, turned with fingers, are acceptable.
3. Non-Engaged Thread Area:
  - 3.1 Cracks are not acceptable.
  - 3.2 For externally threaded fasteners, no minimum thread form is required, except as needed to provide initial thread engagement and passing of the nut.
4. Self-locking nuts must have prevailing torque in accordance with 2.7. Cuts, tears, or looseness in self-locking elements or the adjacent metal is not acceptable.
  - 4.1 Determine adequate torque values in accordance with Table 075-5-1 of 2.7.
5. Deformed or damaged flats on fasteners are not acceptable.
6. Discard fasteners not meeting the acceptance requirements of this item.