USNS T WHITNEY
(LCC 20)

AWP - N-TBD (MTA)
MTA-01/12/2027

WORK ITEM INDEX REPORT

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1.0 ABSTRACT

This item describes the intent, scope, general requirements, and definitions that apply to this work package.

2.0 REFERENCES

2.1 MSC Drawing 803-7081122, Military Sealift Command (MSC) General Technical Requirements (GTRs)

3.0 ITEM LOCATION/DESCRIPTION

3.1 Aspects of the ship and shore support facilities as described in the work package.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Scope

7.1.1 This work package, the accompanying contract, and contract guidance drawings define the scope of work to be performed.

7.1.2 In case of a difference or conflict between the referenced contract guidance drawings and the work items, the work items shall govern. Any omissions from the drawings, or from this work package, of details or work that is necessary to fulfill the intent of this work package or that is customarily performed in the industry or could have been obtained from a ship check (if offered), do not relieve the contractor from his/her obligation to perform such work. Notify the Administrative Contracting Officer (ACO)/OMT REP of any such

issues as soon as the work package is reviewed, or such conflict is identified.

7.1.3 Provide labor and materials necessary to complete work items in the work package. Tag-out, (rearrange for order of activity) rig and unrig, connect and disconnect stage and un-stage, and remove, replace, and relocate any interference necessary to accomplish each work item in the work package. Unless specifically identified as government-furnished equipment or material (GFE/GFM), provide all equipment, material, and labor necessary to perform the contract.

7.1.4 Perform inspections, tests, and trials to demonstrate total compliance with the work package requirements.

7.2 General Requirements

7.2.1 Within the scope of this work package, complete each work item in accordance with appropriate GTRs as found in Reference 2.1.

7.2.2 Where a work item has special requirements that differ from the GTRs, the requirements of the work item shall govern. Where there are no special requirements invoked, then the GTRs shall govern.

7.2.3 Work items and contract guidance drawings provided by the Government to the contractor do not fully describe all work required to meet regulatory requirements. Ensure that work complies with regulatory requirements in accordance with Reference 2.1, GTR No. 1. The cost of meeting regulatory requirements shall be borne by the contractor. Provide the scheduling of American Bureau of Shipping (ABS) surveys and the cost and scheduling of all other regulatory services. The Government shall bear the costs of ABS ship surveys. Where a work item requires the contractor to develop working drawings and obtain ABS review and approval of those

working drawings, the contractor shall bear these costs.

7.2.4 Where a work item does not cite any particular GTR, identify and perform in accordance with relevant GTRs. If any question arises as to the applicability, notify the on-site OMT REP and request further guidance.

7.2.5 Provide all necessary compliance and approval certificates and documents and submit them to the OMT REP. This includes but is not limited to:

a. Original stamped documents of each approved drawing for work performed during the availability.

b. Original stamped documents of each regulatory test and inspection performed during the availability.

c. A chronological file of all correspondence between the contractor (or sub-contractor) and all regulatory bodies.

d. Prepare and submit reports, drawings, and other documents required per the above paragraphs in accordance with the Contract Data Requirements List (CDRL).

7.3 Definitions: The following terms in alphabetical order shall have meanings as indicated below:

7.3.1 Administrative Contracting Officer (ACO) – Means the MSC designated contracting officer.

7.3.2 Article – means a separately lettered part of a work item of the work package. Articles in different items may bear the same number; hence, to identify an article completely, the item of which it is a part must be specified.

7.3.3 As-designed – means a condition meeting the original system and manufacturer’s design.

7.3.4 As-found – means the condition which was found upon close inspection by the contractor. The resulting report will discuss all major components and sub-components as functional or degraded and needing specified repairs. When reporting an as-found condition, the information shall be stated clearly, concisely, and with enough detail so as to allow for preparation of a work statement and estimate. Include annotated sketches, graphs, and photographs when necessary to make a report clearly understandable to the OMT REP. Identify actual readings/dimensions taken. 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 hard copy or electronic media, of a report with supporting data as early as possible in the contract period, so as to have the additional work completed within the original contract period.

7.3.5 As-released – means the condition of the item that exists at the time it is returned to the government. Include annotated sketches, graphs, and photographs when necessary to make a report clearly understandable to the OMT REP. Identify actual readings/dimensions taken. It shall include a summary of corrective actions made by the contractor and list any known remaining degraded conditions.

7.3.6 Category A – means a work item for which a firm fixed price has been established in the base contract, which will be executed during the period of performance.

7.3.7 Category B – means a work item which identifies additional optional repairs, labor, and materials or for which a firm fixed price has been established in the base contract, which may, or may not be invoked by the ACO during the period of performance.

7.3.8 Contractor furnished equipment (CFE) and contractor furnished material (CFM) – means the contractor

provides the specified equipment or material used in the work item. Anything not identified as GFE/GFM shall be considered contractor furnished. This includes, for example, items alternatively described as installing activity furnished or vendor furnished.

7.3.9 COMSC – means the Commander, Military Sealift Command.

7.3.10 Contracting Officer’s Representative (COR) – is an individual designated in accordance with DFARS subsection 201.602-2 and authorized in writing by the Contracting Officer to perform specific technical or administrative functions.

7.3.11 Contracting Officer – identifies the Contracting Officer as identified in the award or as otherwise designated by the government or MSC.

7.3.12 Contractor – identifies the shipyard holding the prime contract for the work specified in this work package.

7.3.13 Delivery – means the time when the contractor accepts the ship into their custody. The point where the ship is delivered is stated in the "DELIVERY AND REDELIVERY" Standard Work Item - 018.

7.3.14 Detach or disconnect – means to disconnect all attachments to the unit prior to moving it. Attachment points shall be tagged, identified, blanked, and protected to facilitate reinstallation. Work items do not necessarily identify interferences, and the contractor is responsible for the identification and resolution of interferences affecting a detachment and subsequent movement.

7.3.15 Drawing, As-Built (ABD)- ABDs are MSC drawings that document the final, ship specific, as-built configuration changes made by a TRANSALT. ABDs are derived from Contract Guidance Drawings (CGDs)and assigned unique MSC drawing numbers.

7.3.16 Drawing, Contract Guidance (CGD)- CGDs are MSC Drawings provided for guidance in accomplishing specific work. Together with the work item that references them, they contain adequate information and detail for industrial activities to estimate, plan and execute work requirements. They do not necessarily describe all work required to meet regulatory body requirements. CGDs are typically applicable to multiple ships in a class but based on the ship check of a single ship. Therefore a ship’s as-found condition could require the industrial activity to tailor the work.

7.3.17 Drawing, Selected Record (SRD)- SRDs are MSC drawings that document important features and systems. In most cases, they were initially developed by the shipyard that built the ship. Examples include general arrangements and system diagrams.

7.3.18 Drawing, Selected Record Markup (SRD-M)- SRD-Ms highlight additions, deletions, and configuration changes resulting from alterations. They are typically based on a tabletop review of ABDs and/or a ship check. They are retained to be incorporated into formal SRD revisions at a later time.

7.3.19 Extend – See install definition.

7.3.20 General Technical Requirements (GTRs) – defines the standards of performance for work being performed by contractors, see Reference 2.1.

7.3.21 Government furnished equipment (GFE) and Government furnished materials (GFM) – means the government provides the specified equipment or material used in the work item.

7.3.22 Hazwaste – means hazardous wastes that the Conservation and Recovery Act (RCRA) identifies in one of four hazardous waste lists (F-list – 40 Code of Federal Regulations

(CFR) 261.31; K-list – 40 CFR 261.32; P-list 40 CFR 262.32; or U-list 40 CFR 261.32; or exhibit at least one of four characteristics – ignitability, corrosivity, reactivity or toxicity, as defined in 40 CFR Part 261, Subpart C.

7.3.23 Hot work – defined per 29 CFR 1915.11(b).

7.3.24 Inspect – means to examine and assess the condition of a particular item or system and provide report with recommendation for repair and material.

7.3.25 Install, extend, and modify – means provide the piece of equipment, material, or system to be installed, extended or modified and provide the materials, structural supports, and labor to attach, connect, and test the equipment or system to effect a finished fully operational installation. In addition:

a. When new material or equipment is not specified by type, the material or equipment shall be identical to the existing material or equipment. When install is used with reference to GFE, conditions of the above definition are applicable, except the requirement to provide the piece of equipment.

b. Work items do not necessarily identify interferences and the contractor shall identify and resolve interferences affecting the installation by temporarily removing, reinstalling, or relocating interferences upon approval of OMT REP. Temporarily remove, relocate, alter, and reroute all interferences, including but not limited to, ductwork, piping, wire-ways, fixtures, insulation, joiner linings, equipment, furniture, etc., to facilitate finished fully operational installations and modifications covered by this work package. In the event that piping, ductwork, equipment, linings, etc., must be temporarily removed to facilitate installation of new or modified work, subsequently

reinstall same in an as original condition. This includes but is not limited to; preservation systems, restoring floor coverings and joiner work, replacing items and equipment removed for access, plugging wiring and pipe penetrations, and restoring all other disturbed areas to match the surrounding areas. Disturbed coating shall be repaired.

7.3.26 Interference – means any object(s), equipment(s), system(s), or component(s) that must be removed and reinstalled, relocated, modified or designed around to facilitate the installation of new, repaired or modified equipment or systems.

7.3.27 Labor and Materials – means labor, materials, parts, plant facilities, supervision, services, tools, equipment, and any other resources required to accomplish the specified work.

7.3.28 Manifests – are the official shipping document forms originated and signed by the generators, transporters, and operators of the hazardous waste disposal facility, as required by federal, state, or local regulations.

7.3.29 MSC representative (MSCREP) – means the principal port engineer (PPE) for the period of performance and may be delegated to an assistant port engineer (APE) or a ship’s officer assigned to work with the ACO.

7.3.30 OMT REP approval – means OMT REP written concurrence with the general method of construction and detailing as presented by the contractor and does not relieve contractor responsibility for any error.

7.3.31 OMT REP, OMTREP – For MSC ships where ship is run by an Operating Company (OPCO), contractual authority with the contractor yard is with the operating company KO. The OMT REP denotes the OPCO Senior Management Team consisting of OPCO

Program Manager, OPCO Port Engineer, OPCO Contracting Officer, OPCO Engineering Manager and OPCO Life Cycle Manager. The MSC program management team serves as owner's representative and provides the OPCO direction per the OPCO contract with MSC. MSC government representatives to include the Government Port Engineer (GPE) assigned are full time MSC representative whose function is to provide MSC Program Manager (PM) and N7 Technical director with real time status of availability progress, and firsthand information on issues, change order requirements, work quality and work completion. The GPE does not have contractual authority, but they are the primary liaison between OPCO and MSC PM and N7 whose purpose is to expedite decision making in the SY environment. For Ships operated by United States Government Employees, OMT REP is synonymous with MSC representative (MSCREP), see definition for MSC representative.

7.3.32 Non-destructive testing (NDT) - means analyzing the properties and condition of a material, component or system without causing damage and is employed to determine acceptability. Testing shall utilize currently calibrated equipment and certified testing personnel and procedures in accordance with applicable classification society and regulatory bodies requirements.

7.3.33 None additional or none - means that there are no additional requirements beyond those contained in the GTRs and work items that make up the work package. Where specific requirements are set forth in articles 6.0, 7.0 or 8.0 of a work item, such requirements are in addition to those requirements listed in the GTRs and work items that make up the work package.

7.3.34 Not separately priced (NSP) - means a work item which defines the general requirements, standards and conditions the contractor shall meet during the period of performance. NSP work items are not biddable items and do not represent a cost to the government.

7.3.35 Or equal – means that components, materials or equipment shall be equal or equivalent in terms of quality, performance (flow rate, pressure, heat transfer characteristics, etc.), services required (power, cooling water, HVAC, etc.), compatibility with interrelated systems and arrangements, and supportability over the service life of the components, material or equipment. In the case of components, materials, or equipment substitution for those items noted in the contract guidance drawings or work package, the contractor shall submit a written request delineating the design and performance data on both the specified and substituted piece of equipment for OMT REP approval, and if approved, the contractor shall take full contractual and technical responsibility for ensuring installation of the components, materials or equipment are compatible with the interrelated systems.

7.3.36 Qualified welders – means welders, whether contractor or subcontractor provided, shall hold qualification documentation from ABS and USCG for the material to be welded. Welding procedures shall be approved by the ABS Surveyor for the work specified in the work items. Qualifications and procedures shall be provided to the OMT REP upon request.

7.3.37 Redelivery – means the time that the OMT REP accepts the ship back from the contractor. The point where the ship is redelivered is stated in the "DELIVERY AND REDELIVERY" Standard Work Item – 018.

7.3.38 Refurbish – means to temporarily remove, disassemble, clean, inspect, a unit, part, equipment, or system, and then submit an as-found condition report to the OMT REP if repair work or parts are recommended beyond the scope of the work item. The OMT Rep will determine if these additional repairs or replacement parts are necessary. Upon completion the contractor shall lubricate, reassemble and reinstall the unit, equipment or system, set and adjust in accordance with manufacturer's specifications, test the unit, equipment, or

system to demonstrate proper function to the manufacturer's specifications, and submit an as-released condition report to the OMT REP. The reinstalled refurbished unit, equipment, or system shall be fully operational and complete in all aspects. New screws, bolts, nuts, washers, gaskets, packing bearings, O-rings, and shims shall be used when reassembling and reinstalling the unit, equipment, or system. Additional information concerning the location of equipment refurbishment, special processes to be used in the refurbishment, and additional parts to be replaced during refurbishment shall be as specified in the individual work items.

7.3.39 Reinstall – means that the contractor shall provide labor and material to install a unit, part, equipment, material, or system after the unit, part, equipment, material, or system was temporarily removed, relocated, modified, or refurbished. The requirements of an installation as set forth in paragraphs 7.3.25, 7.3.25.a, and 7.3.25.b above with regard to completeness, operation, testing, the identification and resolution of interferences, etc. also these requirements apply to a reinstallation.

7.3.40 Relocate – means to provide labor and materials to detach the unit, part, equipment, or system and to reinstall the same unit, equipment, or system at a new or modified location. The requirements of an installation as set forth in paragraphs 7.3.25, 7.3.25.a, and 7.3.25.b above with regard to completeness, operation, testing, the identification and resolution of interferences, etc. also apply to relocation.

7.3.41 Remove or rip out – means to provide labor and materials to disconnect, detach, and transfer the unit, part, equipment, materials, or system in its entirety off the ship as specified in the GTR. Supports, stuffing tubes, collars, and other appurtenances shall be removed by burning, chipping, or cutting when a work item requires machinery, piping, wiring, ducting, structure, outfitting, joiner, or equipment removal.

Areas affected by removals/rip outs shall be restored as set forth in paragraph 7.3.25.b:

a. When the work package requires the removal of machinery, piping, wiring, ducting, structure, outfitting, joiner, or equipment removal, supports, stuffing tubes, collars, and other appurtenances shall be removed by burning, chipping, or cutting, stubs, rough spots, and other surface irregularities shall be ground smooth and flush with adjacent surfaces. Once tasked work in the affected area is complete, the areas affected by the removal shall be restored to their original condition. This includes, but is not limited to, preservation system, restoring floor coverings and joiner work, painting, replacing items and equipment removed for access, plugging wiring and pipe penetrations, and restoring all other disturbed areas to match the surrounding areas. Disturbed coatings shall be repaired to match the surrounding area.

b. After removing the machinery, piping, wiring, ducting, structure, outfitting, joiner, or equipment removal, supports, stuffing tubes, collars, or other appurtenances, watertight or fire zone boundaries shall be reestablished. Holes in oil tight, watertight, and gas tight boundaries and structural bulkheads shall be blanked with flush inserts providing structural integrity and tightness equal to that which they replace. Holes in non-structural steel and steel joiner bulkheads may be blanked with lapped plates.

c. When the electrical wiring requiring removal joins a circuit that is not being removed (i.e. at a junction box), the electrical wiring or cable shall be entirely removed to the junction point. All other attachments including, but not limited to, fasteners, supports, and brackets shall be entirely removed. When electric cable is designated for removal, it shall be physically and electrically traced to the power source and the circuit de-energized before removing the cable. When cable is removed from multiple cable runs, the remaining cables

shall be bound and strapped.

7.3.42 Replace or renew – means to remove the unit, equipment, or systems including interferences, and to install a new unit, equipment, or system which is either identical to or equal to that which was removed; the installation shall include, but not be limited to, any hook-ups, supports, and adapters, which are required to effect a finished fully operational installation complete in all aspects.

7.3.43 Restore – means to perform those processes (including, but not limited to, weld build-up, chrome plate, machine, grind, lap, NDT, etc.) which are required to return a component to the manufacturer’s specifications regarding dimensions, tolerances, angles, surface finish and clearances.

7.3.44 Section – means a major part of the work package and shall include a group of related work items.

7.3.45 Specification – means either a single work item or a complete set of work items.

7.3.46 Tag out – means a procedure to both notify personnel that tagged-out equipment, components, or systems are either isolated or not in a normal operating condition and to prevent injury to personnel, improper operation, or damage to the tagged-out equipment, components, or systems.

7.3.47 Temporary installation or temporarily install – means to provide labor and materials to install the unit, material, equipment or system to completely provide the function described in the individual work item, and to remove the same unit, material, equipment or system prior to redelivery of vessel or to satisfactorily meet the requirements of the individual work item(s). All the requirements of an installation and removal set forth in paragraphs 7.3.25, 7.3.25.a, 7.3.25.b and 7.3.40 with regard to completeness,

operation, testing, the identification and resolution of interferences, disconnection, detachment and transfer of the unit, material, equipment, or system in its entirety off the ship as specified in the GTR apply to a temporary installation and subsequent removal.

7.3.48 Temporary removal or temporarily remove - means to provide labor and material to disconnect and move the unit, equipment, or system from its initial location, and to reinstall the same unit, equipment, or system either in the same location or elsewhere on the ship as described in the work package. All the requirements of an installation as set forth in paragraphs 7.3.25, 7.3.25.a, and 7.3.25.b with regard to completeness, operation, testing, the identification and resolution of interferences, etc. also apply to a temporary removal and reinstallation.

7.3.49 Work item or item - means a separately numbered part of the work package describing a discrete portion of the work to be accomplished.

7.3.50 Work package - means the entire written portion of the contract including the Master Ship Repair Agreement, the contract provisions, work items, and the GTRs.

8.0 GENERAL CONDITIONS

8.1 The following conditions apply to each work item in this work package and are intended to outline the minimum acceptable quality of material, workmanship, and practice.

8.1.1 Where laws, regulations, requirements, or commercial standards are referred to herein, the latest revision that is in effect on the date of the solicitation shall be applicable.

8.1.2 The contractor shall be held responsible for the protection of existing and newly installed equipment and

materials and the storage and preservation of GFM/GFE. Any equipment that is damaged by the contractor and determined unusable by the OMT REP due to improper storage and preservation shall be replaced, repaired, or restored at the contractor’s expense as directed by the OMT REP.

8.1.3 Materials and workmanship shall be subject to the OMT REP’s inspection and approval at all times. Workmanship and materials found to be defective or not in conformity with regulatory requirements, or this work package and its associated contract guidance drawings shall be cause for rejection and removal at the contractor’s expense.

8.1.4 Prepare and submit reports, As-Built Drawings, Selected Record Drawing Markups, and other documents required by the work package in accordance with the CDRL.

8.1.5 Equipment, furnishings, and materials removed, including scrap, except those specified for relocation or otherwise designated by OMT REP, are to be disposed of by the contractor at the contractor’s expense, except for material requiring disposal as a hazardous waste, which shall be disposed of in accordance with work item titled, Hazardous Waste Disposal at a Contractor’s Facility.

8.1.6 Install suitable protective devices on equipment, which presents a hazard to personnel. These may be carrier guards or other approved devices and shall preclude personnel injury. Examples of equipment which require protective devices are those which contain exposed rotating parts, fan blades, belts, pulleys, flywheels, wire rope reels, etc.

8.1.7 Design, workmanship, equipment, and materials must conform to commercial maritime standards such as USCG regulations, the International Regulations for Preventing Collisions as Sea (COLREGS), Navigation and Vessel Inspection

Circulars (NVIC), and associated documents incorporated by reference in the aforementioned for marine inspection, and rules set forth by the ABS, U.S. Public Health Service (USPHS) regulations, International Maritime Organization (IMO), Safety and Life at Sea (SOLAS), Institute of Electrical and Electronics Engineers (IEEE) 45 and American National Standards Institute (ANSI) A17.1 (for elevators) and other applicable standards. The references required for conformance are either publicly or commercially available. Contractors are expected to have on hand any required commercially available reference which cannot be provided due to copyright restrictions.

8.1.8 Unless specifically approved by the OMT REP, contractor furnished equipment and materials shall be new. New materials and contractor furnished equipment must have traceable material documentation. The costs of ABS ship survey will be borne by the Government. The cost of other regulatory service expenses shall be borne by the contractor.

8.1.9 Conduct megger insulation resistance test (phase to phase and phase to ground) on new power cable installations and on existing disconnected and reused power cables.

8.1.10 Bond/ground equipment which is modified or installed by this work package. All bonding and bonding straps shall be in compliance with procedures and practices delineated by regulatory and professional agencies and organizations to include ABS Rules for Shipbuilding, and IEEE requirements.

8.1.11 Where rip outs leave openings in structures, decks, or shell plating, suitable insert plates or reinforced structures of equal material shall be installed to close the openings.

8.2 Hazardous Material

8.2.1 All material shall be asbestos and PCB free. If material that contains asbestos or PCB is inadvertently specified on a contract guidance drawing or other document, the contractor shall substitute an equivalent non-asbestos or non-PCB material and notify the OMT REP in writing prior to making any changes. This will not result in any adjustments to the contract.

8.2.2 All paint and coatings shall be lead free. Coal tar and coatings containing organic tin or zinc chromate shall not be used. If these materials have been inadvertently specified, the contractor shall substitute an equivalent lead free, tar free, etc. paint or coating and notify the OMT REP without any adjustment of the contract.

8.2.3 The contractor may find materials aboard the ship which are hazardous to health. These include, but are not limited to, asbestos, coatings containing lead compounds and zinc chromate, and ventilation gaskets and electrical cable containing PCBs. In the event that hazardous materials are identified, the contractor shall notify the OMT REP immediately and in writing.

8.3 Asbestos/Lead Paint/Hex Chromate Abatement and Removal requirements.

8.3.1 During the performance of this contract the contractor and subcontractors may be required to perform work which involves the removal or disturbance of asbestos or asbestos-containing products, lead paint, or hex-chromate contaminated paint. This requirement applies to each instance of removal or disturbance.

8.3.2 The contractor shall comply with the precautions required in 29 CFR 1915.1001, 40 CFR Part 61, and all other applicable Federal, state, and local restrictions. The contractor shall forward a copy of all required notices,

licenses and permits to the Contracting Officer immediately upon issuance or receipt.

8.3.3 The latest change to the Federal, state, and local regulations in effect at the time of issuance of the contract shall govern. Compliance with these regulations is mandatory and is necessary to protect the employees of the contractor and Naval personnel from exposure to asbestos fibers in excess of the OSHA Action level airborne concentration (currently 0.1 f/cc of air).

8.3.4 During removal or disturbance, the contractor shall control airborne concentrations outside the removal boundary to less than 0.1 f/cc at all times.

8.3.5 After removal or disturbance is complete, the areas within the removal boundary shall not be released for re-occupancy until clearance air sampling demonstrates these spaces have concentrations of less than 0.1 f/cc.

8.3.6 In all respects, the performance of air sampling and analysis shall be performed IAW the OSHA Reference Method (Appendix A of 29 CFR 1915.1001), with the following additional specifications:

a. Aggressive clearance sampling shall be performed on 25 mm cassettes at 2.0 liters per minute for a minimum of four hours.

b. In performing the clearance sampling, the pump shall be placed within the compartment where the removal or disturbance occurred. When this operation is conducted in a multilevel space, at least one pump shall be placed on each level.

c. Air sampling shall be performed by a person competent in sampling procedures and overseen by a CIH by the ABIH.

d. Laboratory analysis of samples shall be performed by a participant in the AIHA PAT Program rated proficient for contaminants and air.

8.3.7 Personal sampling shall be conducted using breathing zone air samples which are representative of the 8-hour TWA exposure of each individual. Samples shall be collected and analyzed using the OSHA Reference Method contained in 29 CFR 1915.1001 (as amended).

8.3.8 The contractor agrees to indemnify MSC for any fines assessed by Federal, state, or local agencies, for the contractor's failure to properly follow applicable regulations.

8.3.9 The contractor shall insert this instruction in all subcontracts entered into under this contract.

1.0 ABSTRACT

This item sets general requirements for Technical and Manufacturer’s Representatives.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors regardless of tier shall consult the General Technical Requirements (GTR) item 024, to determine applicability to this item. In performance of work items in this package, the contractor and all subcontractors regardless of tier must comply with the requirements of GTR 024, where specified in an individual work item.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 The work item(s) specification(s) contained in the solicitation may require the contractor to furnish technical representatives or may indicate or may not indicate that Government furnished technical representative(s) will be on site. When any such instances are indicated in the work item(s) specification(s), the following shall apply:

7.2 Contractor furnished technical representatives:

7.2.1 The contractor shall furnish the services of a qualified technical representative that is:

a. An employee of the original equipment manufacturer (OEM)

b. Authorized by the OEM; or

c. Approved by MSC

7.2.2 The contractor, in order to obtain MSC approval for an OEM authorized technical representative shall provide a copy of a valid manufacturer's authorization letter, with date of issue, name, address, and telephone number for verification.

7.2.3 The technical representative shall be on site at all times whenever the following evolutions are performed to specified equipment or systems: disconnection; removal; opening; disassembly inspection; taking of clearance readings; static and dynamic balancing tests and adjustments; reassembly; shop tests; reinstallation; pre-repair and post-repair operating tests; dock trials; and sea trials.

a. The technical representative shall witness all of the above identified tasks related to the specific work hired for and shall prepare all reports of design, as-found, and final reassembly dimensions and clearances, shop test, operational test, dock trial, and sea trial results.

b. The technical representative shall witness and sign all reports attesting to his presence and witnessing of the test and concurring with the results for all tests performed by the contractor or other sub-contractors.

7.2.4 The contractor shall be prepared to submit a list of all technical representatives (by manufacturer name), intended to be employed during the contract performance period to MSC as part of the proposal submitted in response to this solicitation.

7.3 Government furnished technical representatives:

7.3.1 The Government may furnish the services of a technical representative to be on site at the ship repair facility at required times during repairs to the specified equipment of systems.

7.3.2 In the event that the contractor indicates either through written correspondence or the contractor’s production schedule that the Government’s technical representative is required to be on-site to support a production element, and subsequently fails to start the subject work item on time, the OMT REP will issue a Production Schedule Delinquent

Progress Notice (PSDPN) in accordance with work item 013 of this work package. PSDPNs found to be the result of contractor delinquencies that affect the presence of a Government-furnished technical representative will result in actions to recoup the additional costs for the subject Government-furnished technical representative.

7.3.3 The Contractor shall coordinate and reiterate the production schedule dates for when the Government technical representative is to be on site. Such coordination shall be in writing to the OMT REP seven calendar days in advance of the work item's start.

8.0 GENERAL REQUIREMENTS: None additional

USS Mt Whitney		
(LCC-20)		
GENERAL SERVICES AND REQUIREMENTS		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0003	CATEGORY "N"	2026-05-16
LCC-SWI-APPROACH BERTHING AND MOORING REQUIREMENTS		Simpson, Eric H.

1.0 ABSTRACT

This item describes the requirements for the contractor to provide for a safe and navigable approach route to the contractor’s facility; a safe and secure berth; and provide safe and sufficient mooring of the vessel.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MIL. STD. MIL-C-28628D, of July 1991; Camels

2.1.2 MIL. STD. MIL-F-29248, of 21 November 1986; Fenders, Marine, Foam Filled, Netless

2.1.3 MSC Drawing No. **845-4458934**, Booklet of General Drawings

2.1.4 NAVSEA Drawing No. **520-2491350**, Mooring Arrangement

2.1.5 **MSC Drawing No. 520-6192203, Mods to Mooring and Towing Arrangement**

2.1.6 DOD Uniform Facilities Criteria, UFC 4-159-03; Moorings

2.2 Enclosures

2.2.1 National Oceanographic and Atmospheric Administration (NOAA) Definition of Sounding Datum and Diagram of Charted Depths

2.2.2 MSC Ship Notional Arrival Conditions

3.0 ITEM LOCATION/DESCRIPTION

3.1 Enclosure 2.2.2 provides vessel particulars and notional arrival conditions. This information should be used for the solicitation/proposal process. Actual arrival conditions shall be as agreed between awarded contractor and OMT REP and shall be verified by the ship prior to arrival.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 The ship must be provided a safe approach, secure berth, and safe mooring at all times. References 2.1.1 through 2.1.5 are provided for guidance.

7.2 Approach

7.2.1 The ship shall be provided an unobstructed approach to the contractor’s facility (prime or otherwise proposed rented, leased, subcontracted location) where the vessel will be berthed and moored, for any part of the

performance period. There must be no danger of the ship grounding or colliding with any overhead obstructions during transit. This applies for delivery to the contractor, redelivery to the Government, and any inter/intra facility transits.

7.2.2 During any ship transit or movement, and consistent with ship’s draft condition at the time; the ship shall remain afloat without any danger of grounding and avoid colliding with any overhead obstructions.

a. A minimum air draft clearance of not less than ten (10) feet shall be afforded between the highest vertical projection of the vessel at mean high water, all bridges and any cables passing above/across the marked channel along the entire route.

7.2.3 The following minimum clearances, with respect to vessel draft, shall be maintained to minimize probability of grounding and reduce silt buildup in piping. The datum for charted depth shall be mean lower low water (MLLW) per enclosure 2.2.1. The contractor shall include official NOAA or other regulatory agency information on tidal ranges, periodicity and length of tide ranges, including a discussion on how contractor’s proposed use of tide heights to satisfy transit requirements may affect the shipyard availability arrival/departure times and the complete scope of work:

a. Underway in confined waters (harbors) – 3 feet of charted depth.

b. Underway in inland waters – 2 feet plus squat of charted depth. (Note: Squat values only apply to MSC tanker vessels like the T-AO class ships. T-AO squat tables are available for planning.)

c. Underway in open water – 2 feet plus squat of charted depth. (Note: Squat values only apply to MSC tanker

vessels like the T-AO class ships. T-AO squat tables are available for planning.)

d. During dead stick maneuvering (pilot aboard and assisted by tugs) – 2 feet of charted depth.

e. For dry-docking – 12 inches over the high block, sill, or highest projection including the effects of list, trim, and hog/sag.

f. Pierside at a contractor’s (or subcontractor’s) facility – 3 feet of facility sounding survey depth. Tidal ranges shall be included to demonstrate adequate clearance under all conditions.

7.2.4 A navigational meeting/brief shall be held 24 hours prior to arrival/departure of the vessel.

a. The conference shall be attended by ships force and OMT REP project office personnel and the contractor’s supervisory personnel concerned with the arrival/departure evolution.

NOTE: The arrival conference shall be held via phonecon so that the ship can participate in the conference remotely prior to arrival at the shipyard. Provide conference call phone number details after award for the remote conference.

b. Navigational brief shall cover arrival and departure date/time/tides/weather/ water depths/ tug and pilot services/line handlers, areas of concern, etc.

7.2.5 Contractors must submit with their proposals copies of all the latest NOAA or US Army Corps of Engineers or nationally recognized authority waterway approach charts to their facility. Charts are to show the entire route of transit from the sea buoy to the contractor’s facility, or for proposed inter/intra facility transits. Charts must provide adequate

demonstration that the contractor has positively determined the route(s) providing safe vessel transit and adequate water depths to meet the requirements of 7.2.3 above, including applicable tidal ranges.

7.2.6 Contractors must submit an approach chart with their proposals. The approach chart shall be equal to the berthing chart in dimensions and contain the following data:

a. Contractors shall furnish current depth soundings for the approach to the pier and/or dry-dock from the main channel.

b. Soundings must indicate the depths over the full length of the approach, from the point in the navigable channel where the contractor takes delivery of the vessel to the pier and/or drydock at a maximum of one hundred (100) foot intervals. Adequate breadth of soundings shall be provided to demonstrate sufficient underwater clearance for vessel arrival, departure and any required turning evolutions. Approach soundings shall be considered current if taken within three hundred and sixty-five (365) days prior to the date of issue of the solicitation. NOAA charts or excerpts of such documents will not be accepted.

1. Approach soundings taken by Government agencies of the contractor’s home country, shall be considered current if taken within the Government agencies’ current reporting period.

c. Official data on tidal ranges for the area covered by the approach charts shall also be submitted with the contractor’s proposal.

d. All information must be readily available to clearly chart the progress of the ship from arrival at the port to safe mooring location or dry-dock. The ship must be provided

safe access and egress to and from the contractor's proposed pier and/or dry-dock.

7.3 Berth

7.3.1 Consistent with ship's anticipated arrival drafts, the ship shall remain afloat (except when dry-docked), with no danger of grounding during the entire performance period. The minimum amount of water under the deepest/lowest projections from keel baseline at all times while at the pier and all tides shall be no less than three (3) feet of water except when weather conditions exist per work items 006 and 007. Article 7.3.3 of this work item requires the contractor to show adequate water in their berthing chart.

7.3.2 Contractors must submit with their proposal, and resubmit to the OMT REP after award, all information relative to berthing facilities. Information must include the following characteristics of the pier:

a. Location

b. Pier number and/or name

c. Street address, city, state, and zip code

d. Geographic reference to a current navigational chart using longitude and latitude coordinates

e. Length

f. Width

7.3.3 Each contractor shall draw the ship to scale, in the exact location it will occupy during the performance period, using the ship characteristics given in this solicitation on the berthing chart. For the berth chart the ship is to be superimposed over the water depth soundings grid, the

entire grid to be clearly legible. The contractor shall prepare a berth chart. The berth chart shall contain the following data:

a. It shall furnish current soundings taken at mean lower low water of the berthing area. Official data on tidal ranges for the berth area shall also be submitted.

b. The soundings must list depth in a ten (10) foot grid pattern from the pier string piece. The grid pattern for the intended ship berth shall extend for the entire length of the pier and outward from the pier for a minimum of one hundred (100) feet.

c. Soundings shall be taken by a qualified waterways surveyor and certified by same. Soundings shall be considered current if taken within three hundred and sixty-five (365) days prior to the date of issue of the solicitation and should indicate the date they were taken.

d. The contractor’s berthing chart shall be approximately two (2) feet by three (3) feet minimum with a geographic reference point of latitude and longitude and a geographic indicator of north.

7.3.4 The individuals/firms preparing the berthing and approach charts shall be qualified by possession of valid licenses (or certificates of competency), as issued by the state or federal or national agency tasked within the geographic locality of the contractor with this licensing responsibility, and be stamped/illustrated on the charts, and shall indicate the date prepared.

7.4 Mooring

7.4.1 The ship shall be provided sufficient safe and secure mooring, capable of withstanding the force of winds at a speed of forty (40) miles per hour received perpendicularly on the beam at drafts consistent with minimum acceptable dry-

docking displacement or the light load condition, (whichever is greater as stated in the solicitation). Reference 2.1.4 provides the ship’s mooring arrangement. Not less than seventy five percent (75%) of the ship shall be alongside the pier. Should any portion of the ship extend beyond the pier, a minimum of three (3) separate additional mooring points shall be provided for each extension. These shall be in addition to those on the pier. The additional mooring points shall be distributed on both the port and starboard sides of the ship.

7.4.2 Contractors must submit with their proposal all information relative to mooring capabilities at the proposed facility berth location.

7.4.3 Information must include the following characteristics of the mooring arrangement:

a. Submit mooring calculations for the worst anticipated loading condition during the availability using reference 2.1.5 as guidance. Determine the combined loading due to wind load from each direction and both peak flood and ebb current loads at low and high tides. Calculations may require re-submittal during the course of the repair availability if significant changes occur from the original estimate on which the calculations were based.

b. Location, pier number and/or name, street address, city, and state with geographic reference to current navigational chart using longitude and latitude

c. Length

d. Width

e. Locations, type, design and proof test loads for all mooring fittings, e.g., bollards, bits, cleats, deadmen, etc.

f. The arrangement of all mooring lines between the ship and mooring securements. All mooring lines shall be provided by the contractor. Mooring lines shall be identified by manufacturer, model/brand, size and breaking strength. Use of mixed lines is not permitted.

g. The angle of the mooring lines between the ship and each mooring securement point.

h. Quantity, size, locations and securement method of all camels and fenders.

i. General construction characteristics including: type, location, quantity of pilings; surface type and condition; location and sizes of drains; buildings and structures (sheds); width of apron and access limits for vehicles.

j. Location of and distances to nearest fire alarm call boxes.

7.4.4 Each contractor shall draw the ship to scale, in the exact location it will occupy during the performance period, using the ship characteristics given in this solicitation on the mooring chart.

7.4.5 Contractors shall furnish a chart approximately two (2) feet by three (3) feet minimum with a geographic reference point of latitude and longitude and a geographic indicator of North. The chart shall be prepared by a qualified surveyor and certified by name. The chart shall be current. The chart shall illustrate to scale, all information required above in sub-articles of 7.4.3.

7.4.6 The mooring chart as it reflects the physical characteristics of the pier as identified in article 7.4.3 shall be prepared by a licensed professional engineer. Certification shall be by the affixing to the mooring chart (original and copies), a stamp or statement attesting to the accuracy of the

chart by the preparer(s). The certification shall indicate the name(s) if the individual(s) and firm(s) which prepared the chart, the date(s) the survey was conducted and the dates(s) the chart was prepared (drawn). It shall be signed and dated by the preparer(s).

7.4.7 Documentation of design load calculations for heavy weather mooring configuration shall be furnished. Heavy weather mooring configuration and calculations shall demonstrate design and construction to be capable of withstanding wind speed values anywhere within the range of seventy three (73) to one hundred thirty six (136) miles per hour, (at drafts consistent with minimum acceptable dry-docking displacement or the light load condition, whichever condition in the solicitation creates the greater sail area) using reference 2.1.5 for guidance for Type III heavy weather mooring configurations.

a. Analyze the worst-case wind directions including frontal, broadside and quartering.

b. Provide the maximum safe wind speed for mooring strength. Include strength of pier, pier fittings, mooring lines, and shipboard fittings.

c. Maximum safe surge for mooring.

d. Maximum safe elongation of mooring lines.

1. Include size and type of mooring line; percent elongation of mooring line at failure; tattletale-free length and length between attachments.

e. Sketch showing the size, type, and location (vertical and horizontal angles) of all securing devices including fenders bumpers and camels.

f. In those instances where the documentation of the design loads for securement appurtenances cannot be

provided, it shall be required to have furnished copies of the most recent test certificates.

g. Test certificates shall be considered recent if tests were conducted within five (5) years of the date of issue of the solicitation, and the pier has not been subject to potential collision or weather-related damage. NOAA charts or excerpts of such documents will not be accepted.

h. All mooring appurtenances regardless of design type, i.e., bollards, bitts, or cleats, must be in an upright position and have; bases or pedestals in sound condition without any broken securement bolt holes in the base mounting flanges. All securements (bolts, washers, nuts, etc.) installed, tightly in place, and in good condition. All arms and horns in place with none missing, broken, bent, misshaped or distorted. Concrete foundations shall be in sound condition without excessive spalling and cracks or chipped and damaged concrete. Damage due to spalling, cracking, and chipping over ten percent of a foundation’s area is not acceptable. Wood and pier mooring appurtenance foundations, stringpiece mountings and support structures shall be in sound condition without cracks, rips, splits, or missing portions. Damage due to cracks, rips, splits, or missing portions of wood on the appurtenance foundations, stringpiece mountings and support structures are not acceptable.

i. All information must be readily available to clearly ascertain the safety afforded by the mooring arrangement offered the ship.

7.4.8 If the contractor is unable to show that their facility and proposed arrangement can meet the mooring criteria of 7.4.7, the contractor shall provide the heavy weather mooring configuration that would be used during the conditions specified in 7.4.7; supporting calculations in accordance with the criteria specified in 7.4.7.a through 7.4.7.e using reference

2.1.5 for guidance; and meet the requirements of 7.4.7.f through 7.4.7.i.

a. The contractor shall provide a written statement for review that includes the vessel name, maximum limits for: wind speed (knot); current (knot); storm surge (Ft) and direction of each that the facility can achieve for review by the OMT REP.

b. The contractor shall provide, both as part of SWI 006 Heavy Weather Plan and as part of this submittal, the contractor recommended contingencies necessary to protect the vessel when weather conditions exceed the mooring limits of the facility as described in 7.4.8.a above.

7.4.9 Camels and/or fenders

a. Camels and/or fenders shall be used at all times to breast out (separate) the ship from the pier. Camels shall be single or multiple, of hardwood in accordance with or equal to reference 2.1.1.

b. Fenders shall be of the suspended foam filled design in accordance with or equal to reference 2.1.2, or solid rubber dock suspended type.

c. Floating camels and/or suspended fenders shall be a minimum of four (4) feet wide/diameter and six (6) feet long.

d. Dock mounted fenders shall provide for a minimum clearance of four (4) feet.

e. The quantity and frequency of placement for camels/fenders shall be no less than one camel/fender for each two hundred (200) feet of the ship’s length overall, and adequate to protect the ship form contacting the side of the pier.

7.4.10 In instances where it is necessary to breast the ship out from the pier by use of a barge to facilitate achieving adequate depth of water for berthing, or when a floating crane is brought alongside in performing a work item(s), the barge or crane shall be fended off from the side of the ship by use of camels or fenders. Truck or heavy construction machinery tires are not acceptable.

a. The requirements for fenders and camels between the barge and the ship shall be equal to those stated in 7.4.8 above.

b. Where barges are used to breast the ship for an extended period of time, barges shall provide support coverage of at least 75% of the length of the ship in accordance with article 7.4.1 above.

c. If barges are used for an extended time period to breast out the ship, the contractor shall provide a safe and secure means to access the ship from the fixed pier. Where it is necessary for personnel to traverse the breasting barge(s), there shall be a defined safe access route with life rails and non-skid decking installed.

d. Design load calculations for moorings shall take into account breasting barge(s) arrangement when applicable.

7.4.11 During the course of this repair/overhaul period, no other ship will be docked alongside of or tied up to this vessel, nor shall this ship be docked alongside of or tied up to any floating dry-dock.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - National Oceanographic and Atmospheric Administration (NOAA) Definition of Sounding Datum and Diagram of Charted Depths

Definition of Sounding Datum

All depths indicated on nautical charts are reckoned from a selected level of the water called the sounding datum (sometimes referred to as the reference plane). For most NOAA charts of the U.S. in coastal areas, the sounding datum is Mean Lower Low Water. (MLLW). In the Great Lakes, the Plane of Reference is the International Great Lakes Datum (1985).

Depths shown on charts are the least depths to be expected under average conditions. Since the chart datum is generally a computed mean or average height at some state of the tide, the depth of water at any particular moment may be less than shown on the chart. For example, if the chart datum is MLLW, the depth of water at lower low water will be less than the charted depth as often as it is greater.

SOUNDINGS IN FEET

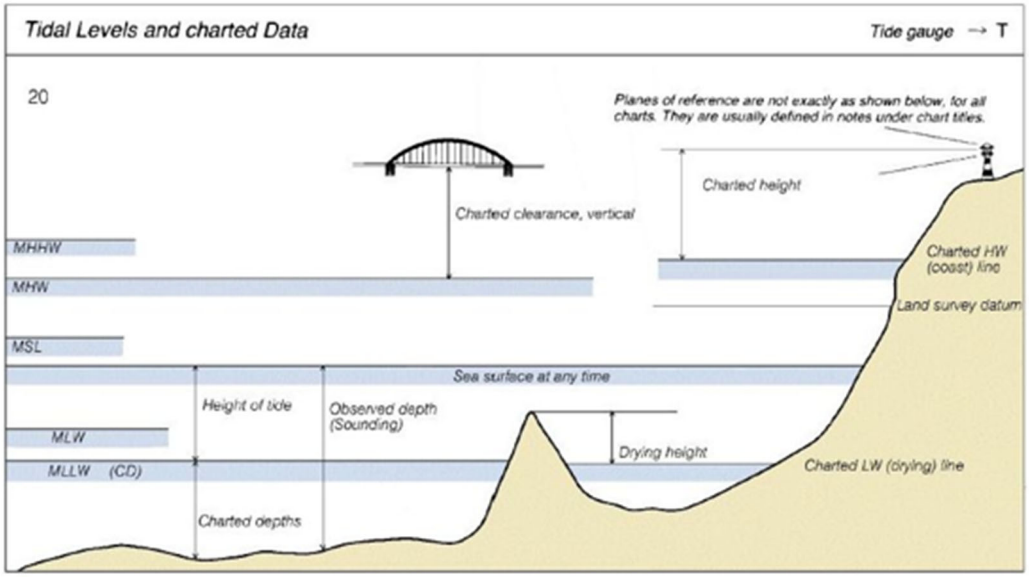
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

TIDAL INFORMATION

Place		Height referred to datum of soundings (MLLW)			
Name	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water	Extreme Low Water
		feet	feet	feet	feet
Salem	(42°31'N/70°53'W)	9.5	9.1	0.3	-.-
Nahant	(42°25'N/70°55'W)	9.7	9.3	0.3	-3.5
Lynn Harbor	(42°27'N/70°58'W)	9.9	9.5	0.3	-3.5
Manchester Harbor	(42°34'N/70°47'W)	9.5	9.1	0.3	-3.5

(Jun 2003)



ENCLOSURE 2.2.2

MSC Ship Notional Arrival Conditions

Ship's Characteristics:

Length Overall:	**627** feet – **3** inches
Length between Perpendiculars:	**580** feet – 0 inches
Breadth Molded (Max.):	**82** feet – 0 inches
Depth Molded at side (to 01 level amidships):	**70** feet – 0 inches
Displacement Full Load:	**18,424.42** Long Tons
Draft Full Load:	**24** feet - **9** inches
Displacement Light Ship:	**12,121.07** Long Tons
Arrival Draft (ABL) Fwd Mast Top:	XXX feet - X inches
Arrival Draft (ABL) Aft Mast Top:	XXX feet - X inches

Estimated Arrival Conditions:

Forward Draft:	**Provided upon request**
Aft Draft:	**Provided upon request**
Displacement:	**Provided upon request**
Air Draft:	**Provided upon request**

1.0 ABSTRACT

This item describes the requirements for the contractor to have in place an effective quality assurance program and that such program be implemented in the planning and performance of this contract.

2.0 REFERENCES: None

3.0 LOCATION/DESCRIPTION

3.1 Performance of quality assurance at the contractor's facility.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The Government may at any time without prior notification to the contractor elect to obtain the services of Government furnished technical representative(s) who will be on site at the contractor's facility acting as the Government's quality assurance observer and consultant. The presence of Government furnished technical representative(s) does not relieve the contractor from performing any part of this work item.

5.2 The contractor and all subcontractors regardless of tier shall consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs (1) through (7).

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 The Government reserves the right to perform a pre-award survey of the apparently successful contractor’s facility, during which survey an inspection of the in-place quality assurance system's performance attributes in all areas may be subject to examination and review.

6.2 The successful contractor is herewith notified that regulatory body and MSC inspections are independent of the

contractor's function of quality assurance. The contractor is not to rely upon MSC or regulatory bodies or their agents to perform its quality assurance inspections or tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Contractor inspection system requirements

7.1.1 Quality assurance plan/manual

a. The contractor shall document his inspection system, identifying the method of implementing the requirements contained herein. Implementation of the contractor's system shall be through a quality assurance plan or manual. The quality assurance plan or manual will be approved for use by the senior shipyard official and shall be available for review by the Government prior to the initiation of productive work. It shall meet the following minimum requirements:

1. A functional organization chart showing overall company management

2. The quality assurance organization

3. A description of the contractor's quality control system

4. The assignment of specific responsibility for the following elements of quality control including written procedures specifying the methods of implementation;

(i) Performance and witnessing of tests and inspections

(ii) Preparation and maintenance of records

(iii) Control of non-conforming material

(iv) Corrective action system

(v) Receipt inspection

(vi) Subcontractor control

7.1.2 Test and inspections

a. Inspection personnel shall be qualified to perform the duties assigned and authorized to make an accept/reject determination for the contractor.

1. Submit a list of contractor personnel authorized to witness and accept the sign off inspection and tests listed on contractor’s test and inspection records (TIR's). Include personnel title/position in corporate structure.

2. Submit a list of subcontractor firms which are authorized to independently witness, accept and sign off inspections and tests listed on TIR's on behalf of the contractor. Identify each authorized subcontractor firm by name and address, by work item number, paragraph(s), and sub paragraph(s) which the subcontractors are to accomplish. The identification shall be as broken down in the statement of work for that work item and the production planning document prepared for the contractor's offer and this contract.

3. Lists of contractor and subcontractor personnel shall be submitted as part of the offered solicitation's technical proposal. Lists shall be amended as changes in personnel or subcontractors occur. Changes shall be subject to approval of the Contracting Officer (PCO prior to award or ship delivery/ACO (COR) after delivery) in accordance the Clause H-11 "substitution of personnel.”

4. The contractor shall verify that all tests, inspections and work conform to contract requirements prior to presentation to the OMT REP for acceptance. In the event that specific criteria are not provided in the work item, the contractor shall verify that the tests, inspections or work meet regulatory body requirements (ABS, USCG etc.,) prior to presentation to the OMT REP for acceptance.

b. Final determination of acceptability shall be made by the OMT REP.

7.2 Documentation

7.2.1 Contractor inspection records

a. The contractor shall prepare a test and inspection record (TIR) for each specification item in the contract which requires productive work. TIR's shall be developed for each specification work item or change prior to productive work being accomplished for that item. TIR's at a minimum shall, include the following:

1. Identification by solicitation/contract number, ship name and Government work item number

2. Identification of each unit to be inspected by name, number, and location (e.g. Number 2 SSTG, Port Condenser, Cargo Winch Number 12, etc.). Where multiple units are contained within a work item, an entry on the TIR shall be made for each unit.

3. The listing of each specific inspection attribute, method of inspection or test and the acceptance/rejection criteria

4. Acceptability or rejection of each inspection attribute shall be indicated and shall be signed and dated by authorized personnel.

5. All TIR's shall be updated as work progresses and maintained current to within twenty-four (24) hours.

b. Test and inspection records (TIR's) are also required for all work associated with:

1. All Pre-priced option items

2. All change orders issued

3. The price for all QA required by option items shall be contained within the lowest line item level prices

4. The price for all QA required by the clause entitled "Additional Requirements" shall be considered, to be contained within the hourly labor price

5. Inspection attributes: The contractor shall list, on the TIR, all tests and inspections contained in each work item. In addition, the contractor shall include the following types of inspection required by the work item:

(i) All pertinent tolerances, clearances and conditions found upon disassembly/opening of equipment, machinery components or spaces

(ii) All in process verification, including refit/final tolerances, clearances, alignment, tests, cleanliness and internal condition prior to closure, fit-up and welding

(iii) All verification of item completion including prerequisite for operational testing (i.e., lubrication, continuity checks, rotation) and final supporting data

7.2.2 Maintenance of records

a. The contractor shall maintain records of completed TIR's, including inspection records generated by all subcontractors for a period of ninety (90) days after contract completion.

b. The records shall document the specific inspection actions or tests and provide objective quality evidence of completed work and form the basis for acceptance of the work.

c. The records shall include documentation of contractor rejected work, corrective action taken and objective quality evidence which the contractor offers as assurance of the conformance to the work item specifications.

d. The records shall include documentation of contractor inspection/test failures, corrective action taken and objective quality evidence which the contractor offers as assurance of the conformance to the work item specifications.

e. Records provided by subcontractors may be incorporated in the inspection and test documentation, or if

maintained as separate documentation, shall be referenced therein and be readily available for review by the Government.

f. The inspection record shall, for each work item, reference any quality deficiency reports (QDRs) issued by the OMT REP. All QDRs require a written response from the contractor to the Government.

g. During the performance period of the contract, records shall be maintained at a location accessible to the site of the work. The records shall be available for review by the Government during weekday and weekend hours consistent with regular day shift, (approximately 0630-1800). Records shall also be available for Government’s review during the 90 days following contract completion.

h. Contractor's inspection records are an integral part of the work. Therefore, the ACO and OMT REP will consider the work item incomplete if the contractor's documentation and records are not complete. Records shall include all TIR's subcontractor inspection reports, material certificates and receipt inspection records.

7.3 Corrective action

7.3.1 The contractor's corrective action shall provide for prompt correction of defects whether found by the Government or by the contractor's or subcontractor's personnel. When such defects are reported by the Government and require a written response, the contractor shall provide prompt written response indicating corrective action taken or the date by which a specific corrective action will be complete. The contractor's corrective action shall provide for the correction of the cause of defects in work or procedures reported by Government to contractor by quality deficiency report (QDRs) or by letter.

7.4 Subcontractor control and evaluation

7.4.1 The contractor shall establish procedures for selection of subcontractors and control of subcontractor quality, including:

a. Procedures for selection of qualified

subcontractors, based on evaluation and assessment of the subcontractor's quality control, facilities and available resources, as appropriate, to perform the specific type of work.

b. Procedures for transmittal of all technical, design and quality requirements to the subcontractor. Quality requirements shall include the inspection and tests required by the work item as well as contractor inspection at the subcontractor's plant when such action is necessary to assure product conformance.

7.4.2 Subcontractors listed within the contractor's technical proposal as having been selected to perform individual work items or parts thereof, shall be considered key personnel as defined in Clause for "Substitution of Personnel." As key personnel they are considered during the technical evaluation process. As such any changes in subcontractors shall be subject to approval of the OMT REP.

7.5 Regulatory inspections

7.5.1 The contractor shall ensure all regulatory body mandated inspections are arranged for and conducted.

a. The contractor shall reproduce and provide copies of the contract specifications to the cognizant American Bureau of Shipping (ABS) and United States Coast Guard (USCG) area representatives.

b. The contractor shall prepare a written request for review of the specifications to identify the specific attributes for which regulatory body inspection is deemed mandatory. The contractor shall incorporate these inspections in the TIR's.

c. During the performance of the contract the contractor shall be responsible for notifying both ABS and USCG and coordinating and scheduling their inspections. Timely arrangements for the attendance of regulatory body representatives are a mandatory requirement of this item. The contractor shall be responsible for maintaining weekly contact with regulatory agencies, obtaining a written prediction of their weekly workload, their advance notification requirements,

keep abreast of notification requirement changes to ensure timely contact. Copies shall be furnished to the OMT REP.

7.6 MSC inspections

7.6.1 The contractor shall provide for notification to the OMT REP or his duly authorized representative for all tests requiring MSC attendance.

a. When specification items require that a OMT REP or his representative (i.e., Port Engineer, Chief Engineer and others that may be designated by the item) accept and/or witness in process work, completed work, testing or inspections, the contractor shall provide notification to the designated personnel at least four (4) but not more than twenty four (24) hours in advance of the work sequence to be witnessed or approved.

b. When work to be witnessed or approved is to occur after normal day shift working hours the OMT REP shall be notified at least four (4) hours before the end of the last preceding regular work shift.

c. When work to be witnessed or approved is to occur on a weekend or holiday, the OMT REP shall be notified at least four (4) hours before the end of the last preceding regular work shift.

d. Notification of tests/inspections is a mandatory requirement. Identification of tests/inspections on the contractor's production schedule(s), etc., does not relieve the contractor of the requirement.

e. The OMT REP may designate checkpoints, in addition to those identified by the specification item, that are to be observed or inspected by the OMT REP or regulatory body. The notification requirements of above shall also apply to those designated checkpoints.

f. Regulatory body inspectors may also elect to designate additional checkpoint(s) tests/inspections which will require their attendance. (These are in addition to those incorporated into the TIR after specification review per 7.5

above.) This is beyond the ability or control of the OMT REP. The contractor shall provide adequate timely notification to ensure the requiring inspector's attendance at these added tests/inspections.

g. MSC inspection is an independent function of the Government and does not relieve the contractor of the responsibility for performing the tests and inspections required by the specification or those considered necessary to ensure product conformance. All inspections specified within the specification work item are mandatory inspections. The contractor shall not proceed beyond this point without prior approval from the OMT REP.

7.7 Submission of records

7.7.1 A copy of all records as defined by 7.2 shall be submitted to the Contracting Officer within ten (10) days of contract completion. The contractor shall maintain original copies in accordance with 7.2.

7.8 Quality deficiency reports (QDRs)

7.8.1 During the course of the contract it may be determined by the OMT REP that the contractor's workmanship is defective or that the quality assurance (QA) program (inspectors or inspection processes) has failed to perform in a manner consistent with the contractor's proposal as evaluated prior to award. Should such occur, the OMT REP may issue to the contractor a quality deficiency report (QDR).

7.8.2 The contractor is required to address the specific subject of the QDR and to advise the Government of how it proposes to perform permanent corrective action of the defective work or process which caused the QDR to be issued.

7.8.3 For a QDR issued in connection with a work item, the contractor is explicitly required to provide a satisfactory answer within the time frame indicated thereon for a reply. Normally, this is within two (2) calendar days from the date of issue. The contractor shall reply in the allotted time indicated on the QDR.

7.8.4 Additional reply time may be requested if needed by the contractor. A request shall be submitted in writing to the Contracting Officer for an extension to the reply date. The request letter shall give a specific, valid justification and date for submittal. In no case shall the extension requested be longer than a total of five (5) calendar additional days.

7.8.5 When the contractor's failure to submit a timely reply, (or a written request for an extension to the Contracting Officer), necessitates issuance of a letter addressing the lateness of the response, (or extension request), the contractor shall lose all further work progress for payment purposes upon the work item the QDR is issued against. This may be for the duration of the contract, or until such time as an acceptable response is furnished.

7.9 Schedule for key inspection events

7.9.1 Contractors shall prepare and submit within two (2) weeks after award a Schedule for key inspection events. The schedule for key inspection events shall show the dates for key inspections as contained in the production schedule, and the parties whose required attendance is necessary to conduct and witness a successful test. At a minimum the following inspections are to be identified:

a. Preliminary test for each final acceptance test.

b. Final acceptance tests.

c. Regulatory agency (ABS/USCG) required tests.

d. Tests indicated by work items as requiring mandatory OMT REP presence.

7.9.2 The schedule for key inspection events shall be updated weekly to show tests that have been added, deleted, completed, and all test failures. It is to reflect changes to the production plan resulting from new work items added or work items canceled. All test changes are to be reflected in the updated production schedule and test and inspection record.

7.9.3 Changes to the schedule for key inspection events for items not impacted by added/deleted work must be requested via written notification to the Contracting Officer, giving justification for the proposed change. Contracting Officer acknowledgment and concurrence is required before the change can be made. Notifications should be submitted at the weekly production meeting. For exceptional cases this may be later but not less than twenty-four (24) hours prior to the test's scheduled performance.

7.10 Inspection unpreparedness/unnecessary inspections

7.10.1 The contractor is responsible to control the number of unnecessary inspection call outs issued due to unpreparedness. The contractor may choose to accomplish pre-inspections to assure readiness. Unnecessary inspection call outs due to unpreparedness will be considered an indication of an ineffective quality assurance program and system and will be the subject of a QDR.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This work item establishes shipboard electrical safety requirements for both low voltage and high voltage applications. These requirements and procedures shall be followed by all contractors and subcontractors in the accomplishment of all work requirements.

2.0 REFERENCES

2.1 MSC Safety Management System Procedure 2.1-004-ALL, Lock-out/Tag-out

2.2 29CFR 1910.335 Electrical Safety Related Work Practices; Safeguards for Personnel Protection

2.3 NFPA 70E Standard for Electrical Safety Requirements for Employee Workplaces

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Throughout the ship

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 0001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Electrical Safety - Lock-out/Tag-out Procedures

7.1.1 The contractor shall have an established electrical safety lock-out/tag-out program in place to provide adequate protection against electrical hazards in the accomplishment of the work specified in this work package. A written description of the contractor’s electrical safety lock-out/tag-out procedures shall be provided to the OMT REP, ship’s Master and Chief Engineer upon vessel arrival at the contractor’s facility, along with a discussion on the procedures.

7.1.2 Ship’s force shall maintain their existing lock-out/tag-out procedures, in accordance with Reference 2.1 for low voltage applications, in addition to the contractor’s procedures, to provide a redundant safety measure for these systems. The contractor shall co-ordinate electrical safety lock-out/tag-out procedures with the OMT REP and the ship’s Chief Engineer to ensure the plans complement each other and provide maximum electrical safety for ship’s crew and contractor personnel.

7.1.3 Do not accomplish work on any piece of mechanical, electrical or electronic equipment, circuit, or system that has not been isolated from its energy source (electrical, mechanical, hydraulic, pneumatic, chemical, or thermal) and tagged-out in accordance with the shipyard’s electrical safety plan and References 2.1 and 2.2.

7.1.4 Do not attempt to operate any piece of mechanical, electrical or electronic equipment, circuit, or

system that is tagged-out by either the contractor, ship or both. Tags must be properly cleared through both the contractor’s procedures and the ship’s procedures before systems and equipment can be safely energized and operated.

7.1.5 All contractor and subcontractor personnel intended to work on electrical circuits and equipment onboard MSC vessels shall provide and utilize proper personnel protective equipment (PPE) and tools in accordance with References 2.2 and 2.3. Contractor and subcontractor personnel will not be permitted to perform electrical systems work onboard if they are found to not possess the proper tools and PPE.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to provide a heavy weather plan

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. **845-7490232,** USS MT. WHITNEY Trim and Stability Booklet.

2.2 Enclosures

2.2.1 Beaufort Wind Scale

3.0 ITEM LOCATION/DESCRIPTION

3.1 LOCATION: Contractor's facility

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 In order to ensure vessel safety in extreme circumstances, the contractor's Heavy Weather Plan may contain references to ballasting and de-ballasting the vessel. In such an instance the safety requirements of reference 2.1.1 shall not be exceeded. Minimum draft clearance shall be two feet beneath the keel at mean lower low water (MLLW).

5.2 The contractor shall not be permitted to alter the ballast conditions of the vessel in any manner without having first submitted detailed trim and stability calculations to the OMT REP, and having obtained written approval of same from the ship's Master and the OMT REP.

5.3 In order to ensure vessel safety in extreme circumstances, the contractor's heavy weather plan may contain

references to shifting the ship to another berth. In such an instance, all safety precautions shall be taken to ensure the ship's transit route maintains the minimum draft clearances as stated herein, an adequate quantity of tugs having sufficient horsepower ratings to maintain control of the ship are provided, and the ship is properly secured to the tugs at all times during the shifting evolution.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting

7.1.1 The contractor shall provide a heavy weather plan as part of the technical proposal. The plan shall include a description of the protection arrangements available and the preventive measures that will be taken to ensure the safety of the ship from heavy weather conditions for a Beaufort Wind Scale, enclosure 2.2.1, Number 7 and higher. The heavy weather plan should at a minimum address the following:

a. Daily monitoring and tracking operations of heavy weather conditions reported by the National Weather Service (NWS) and National Hurricane Tracking Center (NHTC).

b. Maintenance of communications with the local offices of the NWS, NHTC, and Federal Emergency Management Agency (FEMA).

c. A timetable for making decisions including identification of the parties participating in the decision-making process.

d. A timetable for initiating contractor actions relative to deteriorating weather conditions for Beaufort Wind Scale (enclosure 2.2.1) Number 7 and higher, based on the approaching geographic position of the reported heavy weather.

e. Describe the personnel recall plan to accomplish each level of action including:

1. Facility power loss protection and precautions

2. Facility damage protection and precautions

3. Personnel safety protection and precautions

4. Plant equipment protection and precautions

5. Resources available for continued contractor's communications with the appropriate decision-making company officials

6. Resources available for continued contractor's communications with OMT REP and the ship's Master

f. Describe the actions taken for each level of the Beaufort Wind Scale (enclosure 2.2.1) deterioration in preparation to protect the vessel from damage including:

1. Vessel mooring protection and precautions

2. Vessel flooding protection and precautions

3. Vessel ballasting and deballasting as a protection and precaution

4. Trim and stability calculation for ballasting/deballasting

5. Vessel equipment protection and precautions

6. Precautions taken if the vessel is on dry dock

7. Movement of the vessel to a different

temporary lay berth for safety

8. Interim milestones for notification of OMT REP and ship's Master at each appropriate time of the decision-making process

9. Level of ship's force participation (if any) for each required action

7.1.2 The contractor is responsible for the costs associated with the planning aspects of the heavy weather plan that deal with the safety and protection of the contractor’s facility and the Government’s assets located in that facility. Extraordinary measures required to protect the vessel and its crew shall be presented to the OMT REP as a milestone event in the subject heavy weather plan. The OMT REP shall approve these extraordinary measures to prepare for heavy weather conditions via a change order.

a. Extraordinary measures may include such actions as ballasting the vessel, moving the vessel to a safe haven, and/or temporarily installing protective measures for sensitive and vulnerable ship’s equipment.

b. Non-extraordinary protective measures considered to be the responsibility of the contractor include such actions as adding additional mooring lines, temporarily disconnecting ship services, and vessel flooding protection.

7.2 Structural: None

7.3 Mechanical/Fluids: None

7.4 Electrical: None

7.5 Electronics: None

7.6 Preparation of Drawings/Documentation: None

7.7 Inspection/Test: None

7.8 Painting: None

7.9 Marking: None

7.10 Manufacturer’s Representative: None

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - BEAUFORT WIND SCALE

Beaufort Wind Scale

Developed in 1805 by Sir Francis Beaufort of England

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

1.0 ABSTRACT

This item describes the requirements for the contractor to provide a cold weather plan which documents the planning and actions to be taken by the contractor to prevent damage to the vessel or injury to crew members in the event of significant cold weather. Applicable only to geographic areas where temperatures may drop below 32°F for periods greater than 24 hours.

2.0 REFERENCES

2.1 MSC Drawing No. **845-7490232, USS Mt. Whitney** Trim and Stability Booklet

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Contractor’s facility

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 In order to ensure against cold weather damage to the vessel in extreme circumstances, the contractor's cold weather plan may contain References to ballasting and deballasting the vessel. In such an instance the safety requirements of Reference 2.1 shall not be exceeded. Minimum draft clearance shall be two feet beneath the keel at mean lower low water (MLLW).

5.2 The contractor shall not be permitted to alter the ballast conditions of the vessel in any manner without having first submitted detailed Trim and Stability calculations to the OMT REP, and having obtained written approval of same from the Ship's Master and the OMT REP.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting

7.1.1 The contractor shall provide, with their proposal, a cold weather plan if the facility is located in a geographic location where temperatures are likely to drop below 32°F for periods in excess of 24 hours. The plan shall include a description of the cold weather precautions and protection arrangements available and the preventive measures that will be taken to ensure the safety of the vessel, prevent damage to the ship and protect ship's force from injury during cold weather. The cold weather plan should at a minimum address the following:

a. Daily monitoring and tracking operations of cold weather conditions reported by the National Weather Service (NWS)

b. Maintenance of communications with the local offices of the NWS and Federal Emergency Management Agency (FEMA)

c. A timetable for making decisions including identification of the parties participating in the decision-making process.

d. A timetable for initiating contractor actions relative to; changing weather conditions as the cold weather season approaches, unusual cold spells for the geographic location of the contractor's facility, and winter precipitation patterns for snow, sleet and ice conditions.

e. Personnel resources to accomplish each level of plan actions.

f. Protection and precautions taken to prevent; facility power loss, damage to plant, equipment and services, personnel injury.

g. Protection and precautions taken to prevent

access/travel restrictions inside the facility.

h. Actions taken to protect contractor material at outside storage areas.

i. Resources available for snow removal.

j. Resources available to maintain a heating supply for shops, warehouses, offices, etc. in the event of plant power loss.

k. Resources available for continued contractor's communications with the appropriate decision-making company officials.

l. Resources available for continued contractor's communications with OMT REP and the ship's Master.

m. Provisions for adequate lighting inside the contractor's facilities, all walkways to the ship, overhaul management team's office, and parking lots. Lighting illumination hours for normal circumstances and during inclement weather, i.e., rain and/or snowstorms.

7.1.2 Describe the actions the contractor shall plan for and execute for each increased level of protection and precautions in preparation to protect the vessel and ship's force due to the approaching cold weather season, unusual cold spells for the geographic location of the contractor's facility, and winter precipitation patterns for snow, sleet and ice conditions including:

a. Snow and ice removal from weather decks, ladders, gangways, superstructure and masts.

b. Vessel equipment protection and precautions.

c. Precautions taken if the vessel is on dry dock.

d. Trim and stability calculations for ballasting/deballasting.

e. Interim milestones for notification of OMT REP and ship's Master at each appropriate time of the decision-making process.

f. Level of ship's force participation (if any) for each required action.

g. Covering and removal of the ship's smokestack(s).

h. Draining and maintenance of a dry condition for all pipelines, including fixtures, traps and internal tanks, throughout the ship to avoid freeze damage.

i. Record keeping and monitoring of removed pipe drainage plugs.

j. Installation of system bleed lines or recirculating lines on all temporary water, steam and air hoses/pipes to prevent freeze damage and maintain the systems in service.

k. If it is not practical to keep the pipelines/systems or fixtures drained; provide explanation of how to safely maintain the ship heated to a minimum temperature capable of preventing overnight freeze damage. Prepare and submit calculations giving the types, sizes and number of temporary heaters which might be installed in all spaces to provide the heat. The calculations for each compartment must demonstrate the quantities of heaters given are adequate to maintain each space no less than 40° Fahrenheit with the ventilation system secured.

l. Should the ship’s heating system be interrupted by any other work item of the work package; prepare and submit

calculations giving the size and number of temporary heaters to be installed in all spaces for general heating. The calculations for each compartment shall demonstrate the quantity of heaters given are adequate to maintain each space no less than 60° Fahrenheit with the ventilation system secured.

m. Freeze protection shall be provided for all tanks and their associated piping systems without regard to the contractor being required to work in these tanks by a work item.

1. Freeze protection in tanks shall be by a positive action means of preventing tank bulkhead or piping ruptures.

2. The protection may be provided by deballasting and/or pumping of water tanks, opening manhole covers and inserting discharging air lines to continuously give a bubbling action, etc.

n. How deck drains will be kept clear, and in proper working condition open to drain. Actions to clear clogged and blocked drains.

o. Provisions for adequate lighting aboard the ship on all deck levels during inclement weather, i.e., rain and/or snowstorms.

7.1.3 Describe the planning and execution of actions to prevent and protect from weather impact upon the production schedule. Provide local data for the following during the past three years:

a. Normally expected number of rainfall days.

b. Normally expected amount of rainfall (in inches).

c. Normally expected number of snow/sleet fall days.

d. Normally expected amount of snow/sleet fall (in inches).

e. Normally expected number of days with temperatures below freezing.

f. Normally expected periods with temperatures below freezing in quantity and durations in days.

g. Normally expected water temperatures in degrees Fahrenheit.

h. Normally expected wind speeds.

i. Normally expected number of days when the wind speeds exceed this figure.

7.1.4 The contractor is responsible for the costs associated with the planning aspects of the cold weather plan that deal with the safety and protection of the contractor’s facility and the Government’s assets located in that facility. Extraordinary measures required to protect the vessel and its crew shall be presented to the OMT REP as a milestone event in the subject cold weather plan. The OMT REP shall approve these extraordinary measures to prepare for cold weather conditions via a change order.

7.1.5 Extraordinary measures may include such actions as ballasting the vessel, dealing with significant deep freeze and/or exceptionally heavy snow or ice events.

7.1.6 Non-extraordinary protective measures considered to be the responsibility of the contractor include such actions as adding additional mooring lines, temporarily disconnecting ship services, snow and ice removal, freeze protection on and in the vessel.

7.2 Structural: None

7.3 Mechanical/Fluids: None

7.4 Electrical: None

7.5 Electronics: None

7.6 Preparation of Drawings/Documentation: None

7.7 Inspection/Test: None

7.8 Painting: None

7.9 Marking: None

7.10 Manufacturer’s Representative: None

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to provide a private office facility, equipment, and supplies for use by the overhaul management team (OMT) during the overhaul period.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity: Offices shall be land based and located near the ship. Offices shall be provided as described in article 7.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 The contractor-provided office facilities for the OMT use shall be separated from those used by contractor personnel. The office and services described herein shall be provided 24 hours/day, seven days/week, commencing three (3) days before arrival of the vessel and terminating three (3) days after vessel redelivery.

7.1.1 Offices shall be land based, air conditioned, heated and located near the ship and preferably other shipyard shops and offices.

7.1.2 The minimum acceptable size of each office workstation layout is 100 square feet, and the minimum size of each private office within the facility is 100 square feet. All office facilities shall be provided with adequate lighting for accomplishment of normal office work. See article 7.2 for office features.

7.1.3 All offices shall be close to one another. If separate facilities must be utilized (such as multiple trailers), the facilities shall be a maximum distance of 40 feet

from each other. Easy walking access shall be provided between the separate facilities, with no obstructions or obstacles, such as fences, roads, etc. separating the facilities.

7.1.4 The office facility shall be configured to have a common area where the administrative assistant’s desk and computer will be located.

7.1.5 At the primary entrance to the office, the contractor shall supply a touchless, automatic hand sanitation dispenser station. The station shall have a minimum volume of 1000 ml and be refillable. The sanitizer shall be alcohol based with a minimum alcohol concentration of 60%. The contractor shall provide and maintain an extra refill (at least 1000 ml) located at the station throughout the period of performance.

7.2 OMT REP Offices and Workstations

7.2.1 Provide (**2**) private offices and (**8**) individual workstations in the OMT office facility. One private office shall be designated strictly for the Government Port Engineer’s use. The private offices shall be completely enclosed with floor to ceiling walls and shall have lockable doors.

7.2.2 Provide, install, and maintain for the duration of the performance period the following office equipment in each private office and workstation:

a. One each executive desk with central drawer

b. One each swivel chair

c. One each two-drawer legal size file cabinet with lock

d. One each bookcase (72 in × 40 in) with three shelves

e. One each wastebasket

f. One each white board with dry erase markers and eraser, minimum board size 4’ × 3’

g. One each 3-month view planning wall calendar,

laminated, with at least 2” × 2” date blocks

7.3 Overhaul management team conference/meeting area: Provide a conference/meeting area within or adjacent to the overhaul management team’s office with the following:

7.3.1 Table large enough to seat fifteen (15) people

7.3.2 Chairs for fifteen (15) people

7.3.3 Large white board hanging from the wall that can be viewed from the conference table

7.4 Janitorial Services: The contractor shall provide janitorial services to empty the wastebaskets on daily basis, dust and pickup office facilities twice weekly, clean the bathroom daily, restock toilet paper as needed, mop the floor and/or vacuum on a weekly basis.

7.4.1 Frequently touched objects and surfaces within the office shall be disinfected twice per week utilizing damp wipe cleaning method and an EPA approved /registered disinfectant cleaning product. Objects to be cleaned in this manner include, but are not limited to the following:

a. Telephones

b. Computer keyboard and mouse

c. Desk horizontal surfaces

d. Chair arm rests

e. Door/desk/cabinet/window handles, pushbars, etc.

f. Switches (lights, climate controls, etc.)

g. Refrigerator handles

h. Microwave oven panel/handle

i. All washroom surfaces

j. Copy machine/printer surfaces

7.5 Office equipment and miscellaneous supplies: The contractor shall provide, install, and maintain the following office equipment/supplies for the duration of the performance period:

7.5.1 One (1) each electric date, time received stamp

7.5.2 One (1) each automatic drip coffee maker

7.5.3 One (1) each refrigerator, minimum of 18 cubic feet capacity

7.5.4 One (1) each microwave oven

7.5.5 Four (4) each additional side chairs

7.5.6 Three (3) each coat racks

7.5.7 Provide a source of chilled drinking water, meeting state and local health standards (lavatory sinks are not an acceptable source of drinking water)

7.5.8 Adjustable automatic climate control system sufficient to maintain 75 degrees Fahrenheit in office facilities

7.5.9 Three (3) each wall clocks

7.5.10 Two (2) each high capacity cross-cut office shredders with shred size ⅛ inch or smaller

7.5.11 Private washrooms (one designated as male and one designated as female) located within each office facility, including sink, mirror, and toilet

7.5.12 Provide soap, toilet paper, paper towels, and hand-sanitizer on a daily basis

7.5.13 Provide locks with **12** sets of keys for each access door leading into the office

7.6 Office supplies: The contractor shall provide the

following office supplies for use by OMT REP:

7.6.1 Paper for the copy machine and printers

a. **4** boxes of 8-½ × 11

b. **1** boxes for 8-½ × 14

c. **1** boxes for 11 × 17

7.6.2 **4** boxes each of blue/black/red pens, assorted markers, colored highlighters, and mechanical pencils.

7.6.3 **1** dozen note pads (8-½ × 11 size), steno notebooks and Post-it pads

7.6.4 **4** each staplers and staples

7.6.5 Two (2) each three-hole punches

7.6.6 Two (2) each two-hole punches

7.6.7 **2** boxes hanging folders for the file cabinets

7.6.8 **3** each - 3” 3-ring binders

7.6.9 **3** each - 1” 3-ring binders

7.6.10 **4** each scissors

7.6.11 **3** each staple remover

7.6.12 **24** each black sharpie pens

7.6.13 Fifty (50) each CD-R’s

7.6.14 Fifty (50) each DVD-R’s

7.6.15 **24** each all-weather notepad, 3 in. x 5 in. with polydura cover, top spiral bound on the 3 in. side

7.7 Safety equipment retained by the MSC: The contractor shall provide the following safety equipment:

7.7.1 Twelve (12) each hard hats

7.7.2 Twelve (12) each Heavy Duty gloves S-15355, size large.

7.7.3 Twelve (12) each safety eye shields or glasses.

7.7.4 200 pack of EARsoft yellow neon corded earplugs or equivalent – NRR 33 dB.

7.7.5 **16** each Pelican Super Sabrelite flashlights with 5 sets of batteries for each flashlight. Flashlights to be MSHA approved.

7.7.6 **1** boxes of NIOSH approved N95 particulate respirators (20 per box)

7.7.7 Five (5) each inspection mirrors

7.7.8 **8** each raincoats w/ pants, size (Large)

7.7.9 **36** each disposable Tyvek suits

7.7.10 **3** boxes of disposable latex gloves, minimum 6-mil (100 per box) size **Large**

7.7.11 **3** boxes of disposable nitrile gloves, minimum 6-mil (100 per box) size **Large**

7.7.12 **1** Disinfectant wipes

7.7.13 Four (4) Honeywell BW™ MicroClip X3 (4-gas detection meter configuration) portable gas meters for Port Engineer/OMT use.

a. Meters are to be provided with charging stations, calibrated for use for the duration of the availability, calibration and in-service dates clearly defined and marked on the meters, test gas for bump test, and any applicable operation/owner’s manuals.

b. Manufacturer’s website:

https://sps.honeywell.com/us/en/products/safety/gas-and-flame-detection/portables/honeywell-bw-microclip-series

c. Custody of meters will be transferred back to contractor post availability for future use by MSC ships.

7.8 Mini specs retained by the MSC

7.8.1 Provide **12** each, bound mini specifications, approximate size of (4” × 7”), bounded left to right on the long side (book fashion) of the MSC work package; provide all copies to the Port Engineer. Work item specification format shall not be altered.

7.9 Mail delivery: Provide Federal Express or equal mail services to pick up and deliver overnight express mail to and from the OMT REP. Estimate twice a week and six boxes of documents at the end of the availability.

7.10 Parking spaces for project office personnel

7.10.1 Provide minimum of **10** independently accessible parking spaces adjacent, (within 300 feet) to the OMT REP office.

7.10.2 Mark the parking spaces with weather resistant signs that reads:

RESERVED FOR USS “MT. WHITNEY” PROJECT OFFICE PERSONNEL ONLY

7.11 Foreign Language Interpretation and Translation Services:

7.11.1 The contractor shall provide a full-time linguist, eight hours per day, Monday – Friday from a temporary employment agency. The linguist shall be supplied with a full outfit of office furniture and supplies, including a computer configured in accordance with this work item.

7.11.2 One week before the start of the availability, the contractor shall provide a minimum of three resumes for candidates to the OMT REP. While the OMT REP may indicate a preference, the hiring decision will be made by the contractor.

7.11.3 The linguist shall:

a. Fluently read, write, and speak the English language and the local language to include both interpretation and translation.

b. Be able to interpret and translate effectively, accurately, and impartially, both receptively and expressly, to and from such language(s) and English, using any necessary specialized vocabulary, terminology and phraseology.

7.11.4 The linguist shall not work directly for the contractor performing office duties, but the contractor is required to exercise direct administrative control over the provider. The contractor shall coordinate such matters as requested leave with the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to provide general services to the ship for duration of the overhaul period.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. **845-4458934,** General Arrangement and Profile Drawing

2.1.2 MSC Chemical Treatment Handbook

2.2 Enclosures

2.2.1 Heat Lamp List: Motors

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: See Reference 2.1.1 and specification article 7.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Furnish the services specified in this work item, from the date of the ship’s arrival at the Contractor's facility until the date of final departure from the Contractor's facility:

7.1.1 Electrical Shore Power

a. The contractor shall provide a reliable source of electrical power at a minimum capacity of 4000 amps at 450 Volts. Voltage is to be 460 Volts under no load conditions at the shore power cable ends to be connected to the ship's shore power receptacle. Loaded Line to line voltage under the ship’s normal electrical load at the ship’s service switchboard shall be maintained at 450 +/- 5% Volts, 60 Hz +/- 3%. Line voltage imbalance shall not exceed 2%. Shore power substations shall be enclosed in a vault or designed to be weather-proof. Substation shall have a primary isolation switch. Substation secondary shall be a three-phase ungrounded system and shall have 400 amp circuit breakers for each shore power connection.

b. Ten (10), 400 amp shore power cables are required to be furnished by the contractor, to connect the pier side substation secondary to the ship’s shore power connection. All electric cables utilized shall be in good material condition, free of tears, cracks or poorly repaired insulation. Cables shall be sized such that the voltage drop between the substation secondary and the ship’s shore power connection does not exceed 4% at full load. All three phases shall be carried in each cable. All conductors of each cable shall be of equal cross-sectional area. Cable lengths shall be of equal length +/-

10% of the average length from all shore power vaults to the ship’s shore power connections. Cables shall be routed such that there is sufficient slack to allow for natural movement of the ship with tide and weather, but length shall not be excessive such that the cables be allowed to fall into the water or become trapped between the ship’s hull and the pier. Cables shall avoid sharp edges and tight bends, and proper strain relief shall be provided for vertical runs. Cables shall be protected from pedestrian and vehicular traffic. In line connectors and splices shall be properly insulated, sealed and elevated such that they will not be exposed to standing water. Subsequent to installation, but prior to energizing, resistance tests (500V, 1 megohm minimum corrected to 70 degrees F) shall be performed between conductors, and between each conductor and ground for all cables. Each cable shall be checked for proper phase rotation.

c. Contractor shall be responsible to connect and disconnect as required upon ship arrival, in-yard shifts, dock and sea trial events, and for ship’s departure. Ship’s shore power connection boxes are located per Reference 2.1.1. Contractor shall perform walkthrough with the OMT REP and the vessel’s Chief Engineer upon arrival to lay out an approved shore power cable routing.

d. Electrical Shore Power Pricing: Provide a calibrated in-line electrical power meter with which to measure the vessel’s shore power consumption. The meter shall only reflect power usage by the ship. The meter shall be installed in the immediate vicinity of the ship’s shore power receiving station and shall be readily accessible to the OMT REP and the vessel’s Chief Engineer. An initial meter reading shall be witnessed by the OMT REP and the Chief Engineer. Meter readings shall be recorded and presented to the OMT REP on a weekly basis. At the end of the availability, the final meter reading shall be recorded and witnessed by the OMT REP and the Chief Engineer. A report shall be prepared and submitted with total

calculated electrical power consumption. The Contractor will only be paid for actual electrical power consumed. In the event that a generator is used, all generator fuel, upkeep, rental and maintenance shall be included in the shore power pricing per KWH. The contractor will base its offer on providing **20,000** KWH per day for **60** days, **1,200,000** KWH total.

e. In addition, contractor shall bid a unit price per kWh for adjustments to the award price for lesser or greater total consumption. Any required adjustments shall be made via a contract change order.

f. The shore power connections are located on the **3rd** Deck approximately between frame **105** and frame **109.** The contractor shall provide crane services to lift shore power cables to and from the ship's connections.

g. In the event of a power failure from the contractor supplied shore power, a backup generator shall be furnished that is capable of supplying all emergency loads as well as ships accommodation HVAC and chiller and freezer room units. The generator shall be onsite and supplying within 8 hours of the power failure event. The generator shall be supported on a 24 hour basis until shore power is restored and stabilized. Exceptions to this requirement may be approved by onsite Port Engineer. Contractor shall provide pricing for mobilization/demobilization of the generator as well as a per day cost for use.

7.1.2 MPDE, SSDG, SSTG, AUXDG, GTRB, Engine, HP/LP Turbine Coverings

a. Provide and install coverings over MPDE GTRB Engines / HP and LP Turbines. Provide and install coverings over SSDGs /AUX DG / SSTGs #**1**, #**2**, and #**3**. The coverings shall be fabricated and installed to keep the engines clean during the maintenance period. The engines will be in preheat conditions up

to **140** deg F. The coverings shall be able to withstand that temperature. The coverings shall extend over and around the entire engine including the turbochargers and air inlet filters.

7.1.3 Shore Steam

a. Provide **145** psi steam at a maximum capacity of 6,000 lbs/hr at ship's shore connection. Furnish, connect and disconnect all valves, fittings, and hoses required. Each shore steam connection shall be fitted with a steam strainer. Connect and disconnect shore steam upon ship arrival, at each in-yard shift, for tests and trials, and for ship's departure. Shore steam connections are located per Reference 2.1.1. **NOTE: Shore steam is ONLY required when the ship is tied up to the pier (that is it will be required before the ship goes into the drydock and steam will be required again after coming out of the drydock and tying back up to the pier).**

7.1.4 Potable Water

a. Provide potable water, 60 psig at approximately 100 GPM. Provide and install all valves, fittings and hoses required to connect to the ship's shore potable water connection. The contractor shall provide a regulating or relief valve on the water source to prevent water pressure from exceeding **75** psig during periods of low consumption. All equipment and installations used shall meet United States Public Health Service or equivalent international public health service standards for drinking water intended for human consumption. It is strictly prohibited to connect anything other than potable water to the potable water manifold. The potable water connection shall be fully dedicated and direct connection to a potable water source. No split lines or additional headers allowed. Connect and disconnect potable water upon ship arrival, at each in-yard shift, for tests and trials and for ship's departure. Potable water connections are located per Reference 2.1.1.

b. Potable Water Pricing: Provide a calibrated in-line water meter with which to measure the vessel's shore potable water consumption. The meter shall be installed in the immediate vicinity of the ship's shore potable water receiving station(s) and shall be readily accessible to the OMT REP and the vessel's Chief Engineer. An initial meter reading shall be witnessed by the OMT REP and the Chief Engineer. Meter readings in gallons shall be recorded and presented to the OMT REP on a weekly and cumulative basis. At the end of the availability, the final meter reading shall be recorded and witnessed by the OMT REP and the Chief Engineer. A report shall be prepared and submitted with total calculated potable water consumption. The Contractor will only be paid for actual potable water consumed. The contractor shall provide a bid price based on an estimated potable water consumption of **200,000** gallons. In addition, contractor shall bid a unit price per gallon for adjustments to the award price for lesser or greater total consumption. Any required adjustments shall be made via a contract change order.

c. Valve designation shall be confirmed by the Chief Engineer prior to connection.

d. Once the ship's potable water system is secured the KTR shall provide a source of chilled drinking water that meets or exceeds the United States Public Health Service or equivalent international public health service standards for drinking water intended for human consumption. Dispenser shall be a bubbler type dispenser (UL listed) that can accept the ships electrical power receptacles (110v). Provide disposable paper cups and trash receptacle. Dispenser will be placed at a location designated by the MSCREP. Replacement/refill jugs to be provided weekly and delivered to the dispenser location. Provide a sign in close proximity to the dispenser designating use "only for ship's personnel" in both English and the local language as required.

7.1.5 De-ionized Water

a. Provide de-ionized water for vessel **boiler feed** and engine cooling. This water shall meet the requirements in Reference 2.1.2. Provide and install all valves, fittings and hoses required to connect and fill the ship’s MPDE and SSDG cooling systems. If a pierside demineralizer is used, a Y type strainer with 100 mesh shall be fit to prevent resin contamination of the ship’s system.

b. De-ionized Water Pricing: Provide a calibrated in-line water meter with which to measure the amount of de-ionized water provided to the vessel. The meter shall be installed in the immediate vicinity of the tank fill line and shall be readily accessible to the OMT REP and the vessel’s Chief Engineer. An initial meter reading shall be witnessed by the OMT REP and the Chief Engineer. Upon completion of filling, the final meter reading shall be recorded and witnessed by the OMT REP and the Chief Engineer. A weekly and cumulative report shall be prepared and submitted with total calculated de-ionized water in gallons provided. The Contractor will only be paid for actual de-ionized water received. The contractor shall provide a bid price based on an estimated de-ionized water consumption of **80,000** gallons. In addition, contractor shall bid a unit price per gallon for adjustments to the award price for lesser or greater total consumption. Any required adjustments above or below this total volume will be made via contract change order using the prorated unit price per gallon based on the contractor’s initial bid price.

7.1.6 Heat Exchanger Saltwater Cooling

a. Provide saltwater cooling water supply and return for air conditioning and ship’s reefer machinery. Ship’s air conditioning condenser shall be supplied with, 135 psig at approximately 3,000 GPM. Ship’s refrigeration machinery shall be supplied with **135** psig at approximately **3,000** GPM. Provide and install all valves, fittings and hoses required to connect to the ship’s saltwater cooling connection(s). Fittings shall

include relief valves to protect vessel systems at indicated pressure settings. Connect and disconnect saltwater cooling lines as required upon ship arrival, at each in-yard shift, for tests and trials and for ship’s departure. Provide and install all valves, fittings and hoses required to connect to the ship’s saltwater cooling connection(s). Fittings shall include relief valves to protect vessel systems at indicated pressure settings. Connect and disconnect saltwater cooling lines as required upon ship arrival, at each in-yard shift, for tests and trials and for ship’s departure.

7.1.7 Compressed Air

a. Provide 125 psig compressed air at 300 CFM at each of three (3) manifolds for ship’s force use. Manifold locations shall be designated by the OMT REP. Air shall be clean, dry, and oil free. Provide all necessary hose and fittings and make all hook ups. Connect and disconnect compressed air lines upon ship arrival, at each in-yard shift, for tests and trials and for ship’s departure.

b. Provide 125 psig compressed ships service air at a minimum capacity of 300 CFM. Air shall be clean, dry, and oil free. The air line shall be fit with an air dehydrator, air filter and oil separator in the vicinity of the connection to the ship’s compressed air system. Provide necessary hose, fittings, and make all hook ups. Contact Chief Engineer prior to hook up. Connect and disconnect compressed air lines upon ship arrival, at each in-yard shift, for tests and trials and for ship’s departure.

7.1.8 Fire Protection

a. Ship’s fire protection requirements are provided under Work Item 016 of the work package.

7.1.9 Temporary Lighting and Ventilation

a. Provide and maintain adequate temporary lighting and ventilation for the performance of work required by this specification in all areas where ship's lighting and/or ventilation is disrupted or inadequate.

7.1.10 Temporary Space Cooling

a. Provide temporary space cooling by means of portable air conditioning units to maintain an ambient temperature of 75 degrees F for the entire performance period for the following locations:

1. 3-19-0-Q T-1 (WICS) 60,000 BTU/hr or 5 Ton A/C

2. 7-60-0-C FWD Gyro Room (Definity Phone System) 60,000 BTU/hr or 5 Ton A/C

3. 1-72-0-Q NOC1 (Definity Phone System) 120,000 BTU/hr or 10 Ton A/C

4. 3-81-0-C Radio Receiver Room 120,000 BTU/hr or 10 Ton A/C

5. 4-103-2-Q SNAP Room (NIPR Backbone and NIPR Edge switch) 60,000 BTU/hr or 5 Ton A/C

6. 2-107-2 Server Room (NIPR Switch) 60,000 BTU/hr or 5 Ton A/C

7. 1-113-1-0 WSC-6 Equipment Room in Lower Miser Tower 120,000 BTU/hr or 10 Ton A/C

8. 2-109-0-Q CSMLPO U-2 (NIPR Edge switch for workstations in server room) 60,000 BTU/Hr or 5 Ton A/C

b. Provide all equipment, ducting, condensate drain piping and electrical power and a 200 ton Chiller Low Temp

15 degree F air-cooled cooling unit (chiller) with 500 GPM chilled water pump to maintain 75 degree F temperatures in the 05 through 07 levels. Unit shall be placed on the 07 level behind the stack. Provide all cooling hoses and electrical cables required for hook-up and operation. Connect and disconnect temporary cooling upon ship arrival, at each in-yard shift, for tests and trials and for vessel departure.

7.1.11 Sewage Disposal

a. Provide all pumping arrangements, hoses, connections and shore-side disposal facilities necessary to remove and dispose of sewage from the ship for the duration of the performance period, in accordance with all federal, state and local (CONUS) or international (OCONUS) requirements. Ensure all equipment is in good material condition and that all connections are 100% leak-free. Connect and disconnect sewage upon ship arrival, at each in-yard shift, for tests and trials and for vessel departure.

b. Approximately **24,000** gallons of Sewage effluent are expected to be generated per day when reduced crew is berthing onboard the vessel.

7.1.12 Heat Lamps

a. Provide, install, and maintain infrared heating lamps/strips on all motors, generators, and exciters, listed on enclosure 2.2.1 and additional to quantity of **122** EA. Lamps shall be installed immediately upon plant shutdown. Heat lamps shall be separately powered from a pierside power source. The ship’s electrical systems shall not be used to power heat lamps.

7.1.13 Debris and Garbage Removal

a. Clean the entire ship on a daily basis, Monday – Saturday, except federal holidays. All decks, passageways, and work areas shall be swept clean and debris free on a daily

basis. Clean and disinfect frequently touched objects and surfaces using regular household cleaning spray and wipe. All paint containers, chips, shavings, dirt, paper, boxes, and other work item debris shall be collected and placed in metal containers which shall be removed daily from the ship and disposed of in accordance with state and local regulations (CONUS) and international and local regulations (OCONUS). Oil, refuse, hazardous wastes, and scrap materials shall also be removed on a daily basis and disposed of in a proper manner and in accordance with federal, state and local laws and regulations (CONUS) and international requirements (OCONUS). Hazardous wastes shall be removed and disposed of in accordance with specification Work Item No. 023. No debris or garbage shall be left onboard the vessel overnight.

b. All garbage that has been generated by the ship's crew and shipyard personnel shall be collected and removed on a daily basis. The contractor shall provide metal containers at appropriate locations for garbage deposit. Minimum ¾" thick plywood deck protection shall be placed under all garbage containers. Garbage containers shall be maintained in a sanitary condition, free of insects and rodents.

7.1.14 Interior Bulkhead and Deck Protection

a. Install 1/8" minimum thickness plywood, pressed fiberboard, herculite, or suitable covering acceptable to the OMT REP, on all interior decks, bulkheads, passageways, stair towers, entrance to MPDE spaces, each hatch cover on Mission Bay, and other areas that will be traversed by the contractor. The protective covering shall be securely fastened to all decks and bulkheads and renewed as necessary, or at the direction of the OMT REP. Just prior to redelivery, the contractor shall remove all protective coverings and securing materials and clean all decks, bulkheads, passageways, and stair towers to a finished, ready to inhabit condition, to the satisfaction of the OMT REP.

7.1.15 Helicopter Deck Protection

a. Contractor shall NOT utilize Flight Deck or Aircraft Parking Area for lay-down, garbage containers or staging areas without written consent from the OMT REP. As authorized, contractor shall temporarily install adequate means to protect Flight Deck or Aircraft Parking Area non-skid surfaces. Blocking, plywood, and HERCULITE lay down materials shall be utilized wherever contractor lands materials and/or equipment on the Flight Deck or Aircraft Parking Area. Any damage to Flight Deck or Aircraft Parking Area surfaces shall be repaired, restored, and certified (per NAVAIR regulations) to like new condition, at contractor’s expense.

7.1.16 Toilet and Sanitary Facilities

a. Shipyard personnel shall not use shipboard toilet and sanitary facilities. The contractor shall provide and install signs to this effect. In cases where the ship’s sanitary system is not active, the contractor is to provide and maintain a minimum of four portable toilet and sanitary facilities for the shipboard personnel aboard the vessel in locations designated by the ship’s Master. One portable toilet shall be designated for female use only. Adjacent to or integral to each portable toilet a freestanding hand washing, and sanitation station shall be provided. Free standing hand wash and sanitation station shall include hot/cold water up to 100-degree F., liquid soap, hand sanitizer, paper towels, and a trash bin for disposal. Drains for the hand sanitation station shall be piped off the vessel or in a collection tank and emptied on a daily basis. Hand sanitizer shall be alcohol-based with at least 60% alcohol. The contractor shall also provide daily janitorial services to maintain cleanliness and toilet supplies. This includes the cleaning and disinfecting of frequently touched objects and surfaces using a regular household cleaning spray or wipe. Any contamination of the shipboard facilities or MSD system by the contractor shall be cleaned and restored at the

contractor's expense.

1. Portable toilet facilities shall be locked with the keys delivered to the gangway watch.

7.1.17 Oil Containment Boom

a. Upon arrival of the vessel at the contractor’s facility, an oil boom shall be rigged to completely encircle the vessel and shall be maintained in good material condition throughout the entire availability. Connect and disconnect oil booms upon ship arrival, at each in-yard shift, for tests and trials and for vessel departure. In the event the availability includes a drydocking evolution, the oil boom shall be rigged around the floating drydock or the graving dock gate during the time the vessel is on drydock.

7.1.18 Gangways

a. Provide and install two safe and proper gangways for access to the ship. One gangway shall be used for routine access to the vessel. Other gangway(s) shall be designated for emergency use only. Gangway locations shall be to the satisfaction of the OMT REP and ship’s Master with the gangways separated a distance greater than 1/4 distance of the vessel length.

b. Gangways shall meet the requirements of OSHA Standard 1915.74, Access to Vessels (CONUS) or applicable international occupational safety and standards (OCONUS). Gangways shall be a minimum of 20 inches wide. Gangways shall be adequately secured against shifting, shall be illuminated and shall be properly trimmed.

c. Each side of the gangway, and turntable if used, shall have a railing with a minimum height of 33 inches, and shall be fit with a mid-rail. Rails shall be wood, pipe, chain, wire or rope and shall be kept taut at all times. The

gangway shall be properly trimmed at all times.

d. Obstructions shall not be laid on or across the gangway. Means of access shall be adequately illuminated for its full length. Safety nets shall be provided and secured to the ship and to the pier edge to provide adequate coverage. The net shall extend 6 feet on all sides of the gangway.

e. The emergency use gangway shall have signs posted at each end indicating its use for emergencies only.

f. Adjacent the main gangway a freestanding hand washing, and sanitation station shall be provided. Free standing hand wash and sanitation station shall include hot/cold water up to 100-degree F, liquid soap, hand sanitizer, paper towels, and a trash bin for disposal. Drains for the hand sanitation station shall be piped off the vessel or in a collection tank and emptied on a daily basis. Hand sanitizer shall be alcohol-based with at least 60% alcohol.

7.1.19 Bilge Water Removal

a. Contractor shall provide all pumps, hoses, fittings and personnel to safely remove all bilge water from the spaces noted in Section 3 on a continuous basis, such that the bilges are maintained in a dry state. Locations of spaces are indicated in Reference 2.1.1. Applicable federal, state, local or international procedures for transferring oily wastes over water shall be followed by the contractor. Ensure all equipment is in good material condition and that all connections are 100% leak-free. Connect and disconnect bilge pumping arrangements upon ship arrival, at each in-yard shift, for tests and trials and for vessel departure.

b. Provide a calibrated in-line water meter with which to measure the amount of bilge water removed from the vessel. The meter shall be installed in a location readily

accessible to the OMT REP and the vessel's Chief Engineer. An initial meter reading shall be witnessed by the OMT REP and the Chief Engineer. Weekly readings shall be provided to the OMT REP via a condition report. A weekly and final report shall be prepared and submitted with weekly and cumulative readings in gallons calculated. The Contractor will only be paid for the actual quantity of bilge water removed from the vessel.

c. The contractor shall provide a bid price for bilge water disposal based on an estimated quantity of **375,000** gallons. In addition, contractor shall bid a unit price per gallon for adjustments to the award price for lesser or greater total gallons removed. The actual quantity of bilge water disposal shall not be greater than the actual quantity of bilge water removed from the vessel. Any required adjustments above or below this total volume will be made via contract change order using the prorated unit price per gallon based on the contractor’s initial bid price.

7.1.20 **Boilers Hot Air Lay Up:**

a. a. Provide cables and power to four (4) sets of ship supplied heating units for the hot air lay-up of the ship's two (2) main steam boilers (2 heating units per boiler). The power required is: 400V, 50 Hz, 1500 watts (per unit). Contractor to provide all labor to set up the units at the beginning of the repair period (within 48 hours after the contract start date) and take down the units prior to the end of the repair period. For estimating purposes, assume 80 hours total of labor support for this effort.

7.1.21 Fuel and Oil Transfer

a. All internal fuel and oil transfers aboard the ship shall be conducted by the ship's force. All transfers to or from the ship will be a coordinated effort with the contractor and the ship's force and shall be in accordance with all USCG and international regulations concerning fuel transfers. The ship's fuel transfer systems shall be used to off load or receive fuel via the designated deck riser.

b. In transferring the fuel and other oils, the contractor shall comply with U. S. Coast Guard regulations 33 CFR section 156.100 and all applicable local regulations and requirements. The contractor shall provide all labor, equipment and materials necessary to safely accomplish the transfer of fuel and other oils to and from the vessel.

c. In the event that hot work is required adjacent to a fuel tank or if a fuel tank is required to be temporarily emptied allow work in this package to be completed, the contractor will assist the crew in either transferring or offloading and loading such fuel and provide temporary storage for the time period required.

7.1.22 Compartment Access and Security

a. All compartments shall remain locked unless the contractor is required to accomplish daily work.

b. Ship’s force shall be notified in advance of required entry into any particular compartment.

c. The contractor shall permit free movement of properly identified employees and materials of the government to all points of the ship at all times during the contract period. The contractor shall also permit free movement of properly identified government employees and subcontractors through the yard and to the ship. The contractor shall allow private contractors, hired by the government to perform certain installation work aboard the ship. The Contractor shall grant passage through its facility to the ship to all properly identified technicians or other workmen hired by the government. A driver’s license or similar ID and a copy of a government work order or purchase order shall constitute proper identification.

d. Contractor and subcontractor personnel shall not be permitted to eat in the ship’s mess. Ship’s mess decks are off limits to contractor and subcontractor personnel.

e. Contractor and subcontractor personnel shall not use the ship’s 1MC or telephone systems. The contractor shall provide a separate, independent means of communications for contractor and subcontractor personnel.

f. Contractor shall not use ship’s personnel or cargo elevators.

g. The contractor shall take appropriate measures to ensure that all contractor and subcontractor personnel comply with all posted notices onboard.

7.1.23 Cold Weather Protection

a. In the event that this ship availability is accomplished at a time and location susceptible to cold weather conditions, contractor shall be responsible to protect the vessel from the effects of these cold weather conditions.

b. Contractor shall adhere to the Cold Weather Plan provided in accordance with work item 007 of this work package, to provide adequate protection to the ship, and to provide a safe working environment for ship’s crew, OMT staff and contractor personnel.

7.1.24 Care of the Ship

a. Provide a safe berth for the vessel at a pier where the ship will be afloat with a minimum of three feet of water under the keel/lowest projection at all times and during all tides, as specified in work item 003 of this work package. The ship shall be securely moored to the pier with the contractor’s mooring lines, sufficient camels and/or fenders between the ship and pier to prevent any structural and coating system damage. Mooring facilities and locations of protective camels and/or fenders shall be presented for OMT REP approval per work item 003 prior to vessel’s arrival at the contractor’s facility.

b. Upon arrival of the vessel at the contractor's facility, conduct a joint survey with OMT REP to ascertain the operational status of all equipment and systems onboard the vessel, and the cleanliness of all spaces onboard the vessel. The ship's crew will be made available for up to 72 hours after arrival to assist in this survey.

1. Submit an as found condition report of the arrival survey to the OMT REP within five days after arrival of the vessel at the contractor's facility.

c. The contractor shall be responsible for the

entire ship from the time of delivery to the contractor until the OMT REP accepts it for redelivery. All ship's parts, equipment, systems, etc., damaged or destroyed by the contractor shall be repaired or replaced, as original, at contractor's expense. Such consideration includes, but is not limited to, piping, electric cables, machinery, insulated/refrigerated storerooms, compartments, bulkheads, decks, and ducting damaged by neglect, weather, personnel, dirt, foreign substances, etc., or lost through theft.

d. All paint and flammable liquids that are temporarily stored onboard the ship by the contractor shall be stored in a suitable container designed in accordance with international, federal, state, and local regulations for flammable liquid storage.

e. Rigid control of welding and grounding shall be maintained for the protection of the hull, and hull appendages. Care shall be taken to ensure that welding polarity and ground connections of welding machines used aboard the ship or other ships in the immediate vicinity, on the pier, or on the wharf to which the ship is moored, shall not damage any part of the ship.

1. LOCATION OF GROUND RETURN CABLES. When systems such as piping, pressure vessels, or machinery are being welded, the ground return cable connection should be located as close to the work as possible. This ensures that welding current does not flow through bearings, threaded joints, and other areas where arcing could occur. Ground return cable connection should be no farther than 10 feet from work.

2. Proper setup will reduce potential corrosion due to the welding current. Underwater hull and shaft corrosion is, in large part, directly attributable to improper hookup of welding leads while work is being performed on ships which are waterborne. Corrosion resulting from improper weld lead hookup is induced through electrolytic action by stray electrical

currents.

f. The contractor shall adequately protect the underwater portion of the hull from the time of delivery until the OMT REP accepts the ship for redelivery. If, at any time prior to redelivery, circumstances exist for believing that the underwater portion of the hull has been damaged or impaired, the contractor shall make arrangements at its expense for an underwater survey. If damage has in fact occurred, the contractor shall place the ship in drydock and completely repair, clean, and paint the damaged areas.

g. The contractor shall survey all deck drains in way of work areas upon vessel arrival and submit a condition report on whether subject drains are free and clear or clogged. Drains found clogged subsequent to this initial survey shall be kept clear and in proper working condition, unless previously identified as being clogged.

h. The contractor shall maintain all machinery space bilges in a clean and dry condition for the entire shipyard availability period.

7.1.25 Stack Covers:

a. Template from the smokepipes, provide and install temporary stack covers. Covers shall be fit and installed over each individual stack exhaust listed. Remove covers prior to any engine operation

7.1.26 External Vessel Contamination Protection

a. Prevent contamination of ship’s ladder ways, decks, deck coverings, equipment, materials, furnishings, and spaces at all times throughout the performance period of this contract. This shall include, but not be limited to operations during abrasive and/or hydro blasting, vacuum blasting, scaling, surface cleaning, sanding, painting, welding, grinding,

pumping/transferring of water/oils/liquids, and any other source of contamination by work accomplished in this specification package. Contractor shall be responsible for protecting against contamination from neighboring and/or adjacent facilities and/or other work projects within contractor facility, that are capable of emitting contaminants onto any/all areas of the vessel.

b. Accomplish below specified requirements as found required in support of this work specification package and as found required to protect vessel from outside sources of contamination.

1. Temporarily install protective coverings on the deck, deck equipment, machinery, sheaves, wire ropes, cranes, boats, stern ramp spectra rope, and any other materials and/or equipment in way of possible contamination. Contractor shall use heavy duty canvas, then cover the canvas covering with heavy duty PVC sheets. Protection and covering material shall be fastened securely to prevent protective coverings from being removed.

2. Temporarily plug, blank, wrap, cover or mask openings and portlights to prevent entry of contaminants into machinery, equipment, systems, electronic equipment, valves, vents, and other openings, when not in use.

3. Temporarily install new industrial foam filter material on the intake and exhaust end of the ventilation systems. Renew filtering material when air flow becomes restricted on exhaust and intake of ventilation systems. Change out and renew filter material when required, for the entire contract performance period.

c. Removal of any protective measures specified above shall not be accomplished without permission of the OMT REP. Where removal of preventative measures specified above become necessary to accomplish other related work items, the

contractor shall remain responsible for ensuring no contamination of the areas are involved, and preventive measures are restored.

d. Once approved by the OMT REP the contractor shall remove protective measures and sweep, clean, and washdown area, and equipment impacted.

7.1.27 Final Vessel Cleaning

a. Four (4) days prior to the crew move-aboard milestone if applicable, or approximately 9 days prior to contract performance period end date, the contractor shall accomplish the following cleaning requirements onboard the vessel.

1. All temporary deck protective covering shall be removed. All tiled decks shall be swept and mopped.

2. All bulkheads and overheads which are soiled shall be washed with soap and water/cleaning solvent and wiped dry.

3. All exposed wireways and pipe shall be vacuumed free of all loose dust and grit. All horizontal surfaces shall be examined and likewise vacuumed of loose dust and grit.

4. All galley(s), pantry(s), scullery(s) and other food preparation, serving, messing and food consumption spaces and equipment shall be cleaned and sanitized.

5. Upon completion of all work within each machinery space the contractor shall conduct a close out inspection with the OMT REP. As acceptance occurs the contractor shall perform a final bilge cleaning. The contractor shall perform the final bilge cleaning using an environmentally safe biodegradable bilge cleaning product and a high pressure water

wash down. All bilge drainage limber holes and snipes, and all bilge wells shall have all trash, garbage, dirt and industrial debris therein removed. All bilge drain well covers shall be left open with the well pumped dry until accepted as clean. All fuel and lube oils, grease, or petroleum based materials, etc. shall be cleaned and removed from the bilges and other surfaces.

7.1.28 Crane, Forklift and Transportation Services

a. Provide crane, rigging, forklift and transportation service at the request of the OMT REP to accomplish vessel material and supplies movement. Estimate **200** crane lifts, inclusive of all associated man-hours and equipment to support these lifts, to accomplish vessel material and supplies movement.

1. These lifts shall be in addition to any crane service required by other items in this work package.

2. Contractor shall establish a chit system to track usage of these lifts. For each crane lift, a usage chit shall be prepared documenting the lift event. The chit shall be signed by the OMT REP. Contractor shall maintain a running log of lifts used, and shall provide a weekly summary to the OMT REP. The Contractor will only be paid for actual lifts used. Provide a unit price per lift for adjustments to the award price for lesser or greater total usage. Any required adjustments shall be made via a contract change order.

b. Provide transportation (on an as needed basis) for the OMT REP and the Chief Engineer for inspection visits to subcontractor or vendors facilities outside the contractor’s facility.

7.1.29 Megger Reading

a. Within the first ten days after delivery, the contractor shall take and record megger readings of all motors

listed in enclosure 2.2.1 and supply a Conditions Found Report of the readings to the OMT REP. Any low megger readings shall be reported to the OMT REP immediately so corrective actions can be taken.

b. **7** days prior to redelivery, the contractor shall re-take and record megger readings of all motors listed in enclosure 2.2.1 and supply a Conditions Found Report of the readings to the OMT REP. Any low megger readings shall be reported to the OMT REP immediately so corrective actions can be taken.

7.1.30 Provide **10** parking spaces for ship’s officers and official guests. All parking spaces shall be adjacent to the vessel and properly marked as USS “MT. Whitney” OFFICER'S PARKING ONLY.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 – HEAT LAMP LIST: MOTORS

ACCOMODATION LADDER MOTORS (QTY = 2)

CHAIN FALL MOTOR

RHIB DAVIT MOTORS (QTY = 2)

WINCH MOTOR

CARGO ELEVATOR MOTOR

DUMBWAITER
#1 DUMBWAITER MOTOR
#2 DUMBWAITER MOTOR

#3 DUMBWAITER MOTOR
#4 DUMBWAITER MOTOR
#5 DUMBWAITER MOTOR

SHIP HANDLING/DECK GEAR
STBD ANCHOR WINDLASS MOTOR
PORT ANCHOR WINDLASS MOTOR
PORT STEERING HPU MOTOR
STBD STEERING HPU MOTOR

CAPSTAN MOTOR
EIGHT (8) MOORING CAPSTAN MOTORS
AFT WARPING CAPSTAN MOTOR

FIRE PUMPS
#1 FIRE PUMP
#2 FIRE PUMP
#3 FIRE PUMP
#3 FIRE PUMP

FUEL OIL & JP-5 TRANSFER PUMP
#1 F.O. TRANSFER PUMP
#2 F.O. TRANSFER PUMP
#3 F.O. TRANSFER PUMP
#4 F.O. TRANSFER PUMP
#1 AND #2 JP-5 TRANSFER PUMPS
JP-5 STRIPPING PUMP

FORCED DRAFT BLOWER ROOM (2 122 0 Q)
#1 FORCED DRAFT BLOWER
#2 FORCED DRAFT BLOWER
#3 FORCED DRAFT BLOWER
#4 FORCED DRAFT BLOWER

AIR CONDITIONING PLANTS
#1 AIR CONDITIONING PLANT
#2 AIR CONDITIONING PLANT

#3 AIR CONDITIONING PLANT
#4 AIR CONDITIONING PLANT
#5 AIR CONDITIONING PLANT
#6 AIR CONDITIONING PLANT
#1 A/C CHILLED WATER PUMP
#2 A/C CHILLED WATER PUMP
#3 A/C CHILLED WATER PUMP
#4 A/C CHILLED WATER PUMP
#5 A/C CHILLED WATER PUMP
#6 A/C CHILLED WATER PUMP

Engine Room
#1 Evaporator
#1 Distillate Pump
#1 Feed Heater Drain Pump
#1 Brine Overboard Pump
#2 Evaporator
#2 Distillate Pump
#2 Feed Heater Drain Pump
#2 Brine Overboard Pump
L.P. Air Compressor
#1 L.P. Air Compressor
#2 L.P. Air Compressor
#3 L.P. Air Compressor
#4 L.P. Air Compressor
Water Mist Pumps (qty = 2)

MAIN REDUCTION GEAR
Shaft Turning Gear Motor
Main Engine Emer. Lube Oil Pump
Main Engine Lube Oil Pump
#1 Main Condensate Pump
#2 Main Condensate Pump

TURBO GENERATORS

#1B SSTG Generator
#1C SSTG Generator
#1B SSTG Standby Lube Oil Pump
#1C SSTG Standby Lube Oil Pump
#1B SSTG Condensate Pump
#1C SSTG Condensate Pump
#1B SSTG Circ Pump
#1C SSTG Circ Pump

FIREROOM
Potable Water System
#1 Potable Water Pump
#2 Potable Water Pump
#3 Potable Water Pump
Brominator Pump
#1 Fuel Oil Service Pump
#2 Fuel Oil Service Pump
Fuel Oil Purifier Motor
Lube Oil Purifier Motor
Inport Fuel Oil Service Pump
#1 Atmos. Drain Tank Pump
#2 Atmos. Drain Tank Pump
#1 Feed Booster Pump
#2 Feed Booster Pump
#3 Feed Booster Pump
#1A Feed Pump LO Pump
#1C Feed Pump LO Pump

EDG ROOM
CAT SS/EDG LUBE OIL TRANSFER PUMPS (QTY = 3)
CAT SS/EDG FUEL OIL TRANSFER PUMPS (QTY = 2)

TURBO GENERATOR
#1A SSTG Generator
#1A SSTG Standby Lube Oil Pump
#1A SSTG Condensate Pump
#1A SSTG Circ Pump

Deck Air Compressor Room
#1 Deck Air Compressor

Refrigeration Machinery Room
#1 Ship’s Stores Reefer Compressor
#2 Ship’s Stores Reefer Compressor

Auxiliary Machinery Space
(5) pump/motor assemblies (designated by MSCREP)

Auxiliary Boiler Space
(3) pump/motor assemblies (designated by MSCREP)

Reverse Osmosis Units Space
(5) pump/motor assemblies (designated by MSCREP)
9.0

USS Mt Whitney		
(LCC-20)		
GENERAL SERVICES AND REQUIREMENTS		**CONTRACT NO. N00000-00-X-0000**
ITEM NO. 0012	**CATEGORY "A"**	**2026-05-16**
LCC-SWI-INFORMATION TECHNOLOGY SERVICES		**Simpson, Eric H.**

1.0 ABSTRACT

This item describes the requirements for the contractor to provide information technology equipment, supplies, and services to the ship and the Onsite Management Team (OMT)'s offices for the duration of the overhaul period.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 One telephone at the gangway watch station with unlimited local phone service

3.1.2 Provide (**0**) direct phone lines connected to the ship's shore telephone PBX connection box with unlimited local phone service.

3.1.3 Provide (**4**) telephones and direct lines in the OMT's office with unlimited local and unlimited international calling capability (OCONUS SY locations). Telephone for the administrative assistant's use shall be capable of picking up and transferring to all other phones within the office.

3.1.4 Shipboard broadband internet connection: Provide a broadband internet connection to the ship, with adequate capacity to support a minimum of 20 users simultaneously and a download speed of 1,000 Megabits-Per-Second (Mbps), upload speed of 50Mbps.

3.1.5 OMT Office broadband internet connection: Provide a broadband internet connection to the OMT office, with adequate capacity to support a minimum of 20 users simultaneously, minimum download speed of 1,000Mbps, upload speed of 50Mbps.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor is reminded that since direct lines may be difficult to obtain, arrangements should be made in advance of the vessel’s arrival at the contractor’s facility.

5.2 All phones and phone lines shall be maintained in operating condition, 24-hours a day, seven days a week, throughout the availability period.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 Provide dedicated/continuous telephone and internet connectivity services meeting the requirements as described in this work item.

7.0 STATEMENT OF WORK

7.1 Communication equipment and services:

7.1.1 Provide and install internet and telephone services for the ship and OMT offices as outlined in paragraph 3.1. Contractor shall connect phone lines to the ship’s PBX connection box. Contractor shall connect broadband internet line to multiple wireless access points in the OMT office, the ship’s bridge, and/or mutually agreed locations.

7.1.2 Telephone lines shall be direct access lines (separate lines and not through shipyard switchboard) for 24-hour/day, seven day/week use, throughout the shipyard availability period. Telephone services for the OMT’s office shall be provided commencing three (3) days before arrival of the vessel and terminating three days after redelivery of the

vessel.

7.1.3 OMT office telephones shall be touch-tone type, with the following features:

a. Hold button

b. Speaker phone

c. 3-way calling

d. Ability to switch between calls

7.1.4 The gangway phone is for unlimited local phone service only. Phone is for official or emergency use only. However, to ensure that unauthorized personnel will not make phone calls, the contractor shall provide and install a phenolic sign as shown below (black letters on a red background) at the gangway station(s):

NOTICE

PHONE IS FOR U.S. GOVERNMENT OFFICIAL, OR EMERGENCY USE ONLY,

NOT FOR NON-EMERGENCY USE BY CONTRACTOR PERSONNEL

7.2 Computer equipment and servicing:

7.2.1 Provide ten (10) computers for the OMT’s use. The computer workstations shall be outfitted as described below and directly connected to multi-function scanning and printing devices.

a. Each desk provided desk will have two (2) monitors that are, at minimum, 27” LCD flat panel color monitor with 1920 × 1080 resolution and two (2) ethernet drops for internet access to permit connection of non-WIFI enabled computers. Any installed firewalls must not restrict Navy Marine Corp Intranet (NMCI) virtual private network (VPN) functions.

b. Wireless security will be WPA2 or WPA3. WPA3 is preferred.

c. Download speeds shall be at least 1,000Mbps and upload load speeds shall be at least 50MBps using speedtest.net or equivalent web site.

d. Be capable of being password protected with the password set by the OMT Rep.

e. e. Have unlimited and unrestricted data transfer.

7.2.2 Data collection on connected computing equipment, including, but not restricted to, IP, port, protocol, source location, or destination location is strictly forbidden.

7.2.3 Provide and install the following computer hardware and software for the duration of the performance period:

a. All computers must meet the following:

1. Each computer shall have two monitors that are, at minimum, 27” LCD flat panel color monitor with 1920 × 1080 resolution.

2. Minimum Intel I7 processor

3. Minimum speed 2.6 Ghz

4. Minimum 64 gigabyte of memory/RAM

5. Minimum 500 gigabyte hard drive

6. Internet access

7. DVD/CD ROM drive/burner 16× or higher, capable of reading and burning DVD’s and CD’s including +R, -R, +RW, -RW, and dual-layer

8. Minimum of 4 USB ports (easily accessible) on each computer

9. Optical mouse and a keyboard

10. MSC to maintain administrative rights to all computers

7.2.4 Contractor shall provide the following software on all computers, the software will be the newest/latest version, unless otherwise specified:

a. Microsoft Windows operating system (Windows 10 or more recent)

b. Microsoft Office (Microsoft Office 365 or more recent)

c. Microsoft Edge or Google Chrome

d. Microsoft Project

e. Adobe Acrobat Standard DC

f. AutoCAD LT, latest revision

g. Software to write to CDs and DVDs

7.2.5 Printers/Copiers/Scanners:

a. One high-capacity multi-function device directly connected to a workstation. The printer must meet the following salient characteristics:

1. Ability to copy and print 8-½” × 11”, 11” × 17”, and 8-½” × 14”

2. Digital flatbed scanner with a duplexing automatic document feeder

3. Capable of scanning up to 11 × 17 size paper

4. 600 × 600 dpi minimum copying and scanning resolution for color and black and white

5. 9600 × 600 dpi minimum printing resolution for color and black and white

6. Capable of printing more than 150,000 pages per month

7. High speed (40 copies per minute minimum black and white)

8. Automatic feed

9. Zoom

10. Collating capability

b. One low-capacity multi-function device directly connected to a workstation. The printer must meet the following salient characteristics:

1. Ability to copy and print 8-1/2” × 11” and 8-1/2” × 14”

2. Digital flatbed scanner with a duplexing automatic document feeder

3. 300 × 420 dpi minimum copying and scanning resolution for color and black and white

4. 600 × 600 dpi minimum printing resolution for color and black and white

5. Average speed (18 copies per minute minimum black and white)

6. Capable of printing more than 25,000 pages per month

7. Provide and maintain spare toner for copier and printers in paragraph 7.2.5

7.3 Provide a service contract for the entire performance period that will provide telecommunications and computer equipment technical support, troubleshooting and repair during period of 0800 to 1730 local time, six days a week. The service will cover all equipment and software at no additional cost. Technical support will be available by phone. Troubleshooting and repair will be performed on site within four (4) hours of call to service agent.

8.0 GENERAL REQUIREMENTS: None additional

USS Mt Whitney		
(LCC-20)		
GENERAL SERVICES AND REQUIREMENTS		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0013	CATEGORY "A"	2026-05-16
LCC-SWI-INTEGRATED PROJECT PLANNING AND PRODUCTION STATUS MONITORING REPORTS		Simpson, Eric H.

1.0 ABSTRACT

Project planning and management are of utmost importance to accomplish all required work items within the defined Period of Performance (PoP). The OMT may have 3rd party contractor teams assigned to accomplish specific work requirements onboard the vessel. This item describes the requirements for the contractor to establish and utilize a robust integrated project management program and to provide production charts, progress reports, and manning charts to support overhaul management team monitoring of project status on a weekly basis.

2.0 REFERENCES/ENCLOSURES

2.1 References: None

2.2 Enclosures:

2.2.1 MSC QMS N7.75.3120.1-Q, MSC Engineering (N7) Port Engineering Manual, Appendix C11 - Sample, MSC Post Award Meeting Template

3.0 ITEM LOCATION/DESCRIPTION

3.1 Quantity/Description: Throughout the period of performance

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors regardless of tier shall consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs (1) through (7).

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 The contractor shall utilize project planner(s) to accomplish integrated production planning, manpower/resource allocation, production tracking, and production schedule updates based upon inputs from the ship superintendent/project manager and OMT REP, and actual progress to fulfill the requirements of this work item.

7.1.1 This project planning function should be independent of ship superintendent/project managers, but planner(s) can be supporting multiple projects.

7.1.2 The contractor’s assigned Project Planner shall attend the weekly progress meeting.

7.2 Production chart

7.2.1 The integrated production chart is the timetable for the use of resources and processes required by the contractor to complete the project in the contractual PoP. Upon award of the ship repair contract, the OMT REP will advise the contractor of any 3rd party OMT furnished contractor teams planned to accomplish work on the vessel during the scheduled PoP. The Contractor’s Project Planner shall integrate the work of the OMT Furnished contractors into the integrated production chart, and shall work with the OMT REP to de-conflict issues that may arise between OMT Furnished contractors and shipyard work requirements and milestones. These integration efforts are

intended to initiate and provide cross-communication between the ship repair contractor, the 3rd party contractor and the OMT REP to minimize impacts to the production plan.

7.2.2 OMT REP will provide to the contractor within five days after award, a listing of 3rd party OMT Furnished contractors in the following format:

a. Company name of OMT Furnished contractor

b. OMT Furnished contractor POC

c. A brief description of work to be accomplished by that contractor.

d. Listing of any OMT Furnished contractor support work items included in the work package.

e. Specific milestones included in the OMT Furnished contractor work requirements that should be included in the integrated production plan.

7.2.3 Within ten days after receiving the information about OMT Furnished contractors in 7.2.2 above, the contractor will schedule a post award conference call with MSC OMT and other parties as agreed to by MSC. No less than one day prior to the meeting the contractor must prepare and submit to the OMT REP an electronic copy in portable document format (PDF), of a Gantt or similar (bar type) integrated production chart clearly indicating planned start date, planned completion date, and planned manning for each item of the specification for contractor and subcontractors (manning for OMT Furnished contractor not required). Subcontracted work shall be assigned as discrete activities. Estimated manning shall be assigned to each prime and subcontractor activity. Additional agenda items will be provided per Enclosure 2.2.1, Appendix C11 – Sample, MSC Post Award Meeting Template.

7.2.4 Each work item shall be subdivided into its major components, i.e., working plans, material delivery, equipment removal, shop repair, reinstallation, testing, regulatory approvals. The Y-axis of the production chart will be divided by each work item title. Critical path work items indicated by asterisk next to the work item or positively identified by other means. Significant milestones, including those provided for OMT Furnished contractor work, shall also be identified on the chart. The X-axis of the production chart shall be subdivided by days.

7.2.5 The integrated production chart shall be amended weekly, until the completion of the performance period, to incorporate all added and deleted work under contract change orders (CCOs) and each bar shall be legibly marked to indicate current status of the work item. OMT REP will provide status of OMT Furnished contractor work and any adjustments to milestones. Production chart revisions are an integral part of project management to reflect project elements that were simpler or more complex than originally planned. Revised dates for sequence start, stop, milestone date completion along with revised manning and work-shift projections shall be highlighted on the updated production charts. An electronic copy in portable document format (PDF), and a second electronic copy of underlying *.csv or *.xml data needed to produce production chart shall be submitted to the OMT REP 24 hours prior to the start of each of the weekly progress meetings, the submitted chart shall be produced to current schedule and shall highlight changes in each work item, CCO, or milestone schedules.

7.2.6 The production chart shall have an appropriate title block indicating job identification number, vessel name, chart date, amendment letter and approval authority.

7.2.7 All production charts shall clearly indicate both original and new work items that are critical to the

completion of the total work package with an asterisk.

7.2.8 The contractor’s production chart is the tool that both the Government and the contractor will use to measure, track and adjust performance in order to maintain contract end dates. It is incumbent on the contractor to constantly monitor and adjust the production schedule, particularly for events that are taking longer to progress than anticipated. Likewise, the OMT REP will monitor the integrated production plan and collaboratively work with the Ship Superintendent and Production Planner to deconflict any issues between OMT Furnished contractor milestones and shipyard milestones and production elements. In the event that contractor’s performance does not substantially support its planned work effort and changes have not been reflected on the production chart, the contractor shall be required to respond to requests issued by the OMT REP via production schedule delinquent progress notification (PSDPN) form. Each PSDPN issued against work performance on specific work items requires the contractor to submit his recovery plan in writing within 48 hours of receiving the notification. This recovery plan shall include the reason for progress delay and corrective action to be implemented to assure timely contract completion. PSDPNs may be issued whenever work item physical progress and/or milestones lag at least three days behind projected progress per the production schedule.

7.2.9 Milestones: The contractor shall incorporate the following milestones, at a minimum, into the production planning schedules and reports.

a. ABS Inspection of all tanks: The contractor shall schedule and complete checkpoints for ABS inspection of all tanks that are open/gas free within five days of safe for entry.

b. Structural inspections: The contractor shall

schedule and complete all structural inspection by 20% of the availability. This is to include: WI 0152 ABS CBP Annual Inspection.

c. The following milestones for critical path items shall be completed within the listed percent period of performance as follows:

1. Tank inspections post coating system blasting: 30%

2. Shaft and shaft liner inspections: 30%

d. Annual inspections for SOLAS related and other items: Shall be completed within the first 30% of the period of performance. These inspections shall include, but are not limited to work items pertaining to the following: Annual Lifeboat and Davit Inspection, Annual Rescue Boat and Davit Inspection, Liferafts, Associated Liferaft and Lifeboat Equipment (Survival Kits, Signaling Devices, Immersion Suits, Sea Anchor, Repair Kit, Oars, Hooks, Bailers, Survival Manual), Lifejackets, Buoyancy Apparatus, Marine Evacuation Systems, SCBA Annual Inspection, Fire Detection Systems inspections and tests, All Fixed Firefighting Systems Inspections and Tests, Fire Extinguishers, Navigation Equipment (including Magnetic Compass and Pelorus, VHF Radiotelephone, Search and Rescue Transponder (SART), NAVTEX Receiver), Annual Inspection of Alarms including Emergency Alarm Systems, Public Address Systems, Personnel Elevator Annual Inspection. Provide a CFR for any deficiency found in these systems within three days of discovery per 7.6.2.

e. 50% Progress Review: 11 February 2027

f. Habitability, galley and mess turn-over (for work packages where shipboard work requirements necessitated crew living off-ship): Shall be scheduled to occur four days prior to crew move aboard milestone. This milestone signifies

that all contractor related work in spaces and on ship systems affecting berthing, lavatories, common spaces, galley, and mess areas, hotel services and any other system required to support crew living onboard, shall be completed. All fire detection systems and all fire extinguishing features must be fully active and operable in the habitability, galley and mess areas for this milestone.

g. Crew move onboard (for work packages where shipboard work requirements necessitated crew living off-ship): Shall be scheduled to occur two days prior to dock trial milestone. This milestone signifies the day that crew members will move back onboard the vessel. All fire detection systems and all fire extinguishing features must be fully active and operable in the habitability areas for this milestone.

h. Machinery space turn-over: Shall be scheduled to occur at least seven (7) days prior to the dock trial milestone. This milestone signifies that all contractor related work on ship systems and equipment within all machinery spaces is complete and equipment is ready for start-up. All tag-outs shall be cleared by shipyard personnel in concert with ship’s force for equipment worked on during the availability. Ship’s crew shall utilize the time between machinery space turn-over and dock trials to complete MSC mandated ship start-up and readiness assessment checklists. The contractor shall assist the OMT REP and Chief Engineer to assemble information and reports necessary to complete ship start-up readiness assessments for machinery and equipment worked on by the contractor or their subcontractors during the repair availability.

1. Machinery spaces are considered to be any spaces onboard the ship containing machinery and equipment including but not limited to main and auxiliary engines, generators, switchboards and load centers, pumps and motors, air

compressors, water-makers, hydraulic power units, thrusters, water-jet machinery, steering gear, windlass machinery, propulsion chain gears and bearings. Only those spaces where machinery, equipment and systems were the subject of work package maintenance and repair requirements are covered under this milestone.

i. Pre start-up meeting: Shall be scheduled to occur at least five days prior to the dock trial. This milestone marks the requirement for the contractor, all subcontractors and technical representatives involved in the installation, maintenance and repair of shipboard equipment and systems to meet with the OMT REP, Chief Engineer and Master to review written reports from the contractor, subcontractors and technical representatives asserting the readiness of subject equipment for start-up, commissioning and operational testing. Subject reports shall also include recommended start-up, commissioning, and testing procedures to prove proper operating conditions of subject equipment.

1. Subcontractors and technical representatives may participate in the pre start-up meeting by teleconference providing the following has been satisfied:

2. Subcontractor and/or technical representative written completion reports were provided to the OMT REP and ship’s Chief Engineer prior to their departure from the local area and conducted an outbrief with the ship superintendent, OMT REP and Chief Engineer.

3. Subcontractor and/or technical representative report includes a statement that the equipment is ready for start-up and contains a comprehensive start-up, commissioning and operational testing procedure.

j. Bridge turn-over: Shall be scheduled to occur

at least three days prior to the dock trial milestone. This milestone signifies that all contractor related work on ship systems and equipment within the bridge space such as but not limited to navigation, ship propulsion control, alarms and indicators, communications equipment, and associated topside antennas and rotating equipment is complete. Ship’s crew will utilize this time to complete MSC mandated Bridge Resource Management training.

k. Dock trial: Shall be scheduled to occur at least two days prior to the sea trial milestone. This milestone marks the requirement to conduct static, pier-side testing of all equipment and systems worked on during the availability. Any discrepancies found during dock trials must be corrected by the contractor and verified by the OMT REP prior to accomplishment of vessel sea trials. Any shipboard systems and equipment to which maintenance, repair or upgrade was accomplished per the work package and per additional contract modifications, for which manufacturers or qualified technical representatives were used to complete that work, shall have those technical representatives present during equipment start-up and dock trial testing. Manufacturers and authorized technical representatives must provide written reports asserting the readiness of the equipment for start-up and testing, as well as assessments of the testing and equipment performance in comparison to acceptance criteria in accordance with WI 022 Paragraph 7.2.

l. Sea trial: Shall be scheduled to occur one day prior to the contract performance period end date. This milestone marks the requirement to conduct open-water underway operational testing of equipment and systems worked on during the availability. Any shipboard systems and equipment to which maintenance, repair or upgrade was accomplished per the work package and per additional contract modifications, for which manufacturers or qualified technical representatives were used

to complete that work, shall have those technical representatives present during equipment start-up and sea trial testing. Manufacturers and authorized technical representatives must provide written reports asserting the readiness of the equipment for start-up and testing, as well as assessments of the testing and equipment performance in comparison to acceptance criteria in accordance with WI 0022 Paragraph 7.3.

7.2.10 Category B work items have been identified as possible additional work if funding or material become available. The contractor will provide in their bid proposal the last calendar date for which activation of each Category “B” work item will not affect original scheduled completion date of the availability.

7.3 Daily production meetings and plan of the day (POD):

7.3.1 The contractor shall conduct daily production meetings with the OMT REP (and others as needed) for the purpose of discussing the shipyard’s plan of the day (POD). The daily production meeting shall be held each afternoon at a mutually agreed time and location. OMT REP will ensure representatives from each OMT Furnished contractor are present to discuss their work plans for the day and to coordinate those actions with the shipyard. To the maximum extent possible OMT REP will ensure OMT Furnished contractors provide a copy of their POD to the ship Superintendent at the end of the previous day.

7.3.2 The contractor shall provide hardcopies of the POD each afternoon to the OMT REP detailing the work planned for the shipyard and their subcontractors for the next day. At a minimum the POD shall include safety concerns (immediate or predictable), specific work items being worked on, areas of concern such as cleanliness of vessel, areas of hot-work, check points, call-outs, major crane lifts, ABS/USCG inspections and any other items that may require situational awareness and/or

assistance from the OMT or ship’s force.

7.4 Progress report

7.4.1 Within five days after start of the contract the contractor shall prepare and submit a progress report, listing specification item titles and numbers with appropriate blocks to record weekly percentages completion for each item over the period of the contract.

a. This report shall include contractor’s estimate of percentage completion of each work item and the previously reported progress.

b. Authorized change order modifications shall also be included with completion estimates. Final weekly completion estimates shall be negotiated during the weekly progress meeting.

c. A current status report of all change orders and condition found reports shall be provided with the progress report for review and discussion.

7.4.2 The progress report shall be subdivided by original items and added items and amended weekly until the completion of the contract. Added changes shall be listed under the parent work that they pertain to when applicable. An electronic copy in portable document format (PDF), of the progress report shall be submitted weekly to the OMT REP 24 hours prior to the start of the weekly progress meetings, a second electronic copy of the report containing the data needed to create the PDF report shall be provided in *.csv or *.xml format. The weekly progress meeting shall be held on Wednesdays at 1300 hours for the duration of the contract period.

7.5 Manning chart

7.5.1 One week before the start of the contract, the contractor shall prepare and submit to the OMT REP a manning chart, clearly indicating the planned contractor and subcontractor manning used on a daily basis, including weekends, throughout the contract performance period. The manning chart shall be updated weekly, until the completion of the contract period to reflect increased or decreased planned manning as a result of production status and CCOs issued by the government, cancellation/increase and/or contractor initiated manning changes. Note that the production chart required under 7.2 requires manning by work item to be indicated on that chart. There should be a direct correlation between the manning numbers represented on these two charts.

a. The contractor shall provide to the OMT REP at each daily meeting a list of major trades or work centers indicating the manpower associated with the respective major trade or work center for that day. This shall include all prime and subcontractor manpower. This shall be provided on the POD required per 7.3.

7.5.2 An electronic copy in portable document format (PDF), of the updated planned manning chart shall be submitted to the OMT REP, 24 hours prior to the start of the weekly progress meetings, a second electronic copy of the report containing the data needed to create the PDF report shall be provided in *.csv or *.xml format.

7.6 Condition found reports (CFRs)

7.6.1 Shipyard shall provide an electronic copy in PDF of all CFRs to the OMT REP.

7.6.2 CFRs shall be submitted with a sequential numbering convention for MSC serialization purposes starting with 001. That is to say, the first CFR shall be serialized 001

and following shall be sequential (002, 003, 004...). All CFRs shall be submitted through the shipyard project manager for all trades and subcontractors within three days of discovery. CFRs will not be accepted from individual trade supervisors nor subcontractors.

7.6.3 The OMT REP will provide a written response to each CFR indicating the decision regarding the CFR. The response may indicate a CCO will be issued if additional work or a credit is required, or it may simply acknowledge receipt of the CFR with no further action required or authorized. The response to the CFR does not constitute authorization to proceed with any additional work or a change order.

7.6.4 All project reports called out in 7.2, 7.4 and 7.5 must be assigned a CFR number and submitted as discussed applicable section.

7.7 Contract change order (CCO)

7.7.1 The OMT REP (via the ACO for GOGO vessels) will provide electronic copies (PDF) of each CCO to the shipyard /contract manager in response to a CFR if additional work is required or desired to correct the condition described by a given CFR. Not every CCO will have a related CFR as some represent new work requirements. The shipyard shall respond to the CCOs with a quotation for the additional work requested within three days of receipt of the CCO. Once the costs and PoP have been negotiated and agreed by both the shipyard contract manager and the ACO and officially signed, the CCO will be considered an effective change order to the contract.

7.7.2 Contractor response to CCOs shall include an analysis of the requirements against the production chart and shall include the following additional information:

a. A firm statement concerning impacts to the

production chart: This statement will either confirm that the additional work can be accomplished within the current PoP, or it will state that the additional work will affect the PoP completion date. In this case, the response shall note the primary and any secondary work items that would be affected, including an excerpt of the contractor’s planning production chart showing the affects to the project.

b. The contractor shall also provide an analysis and alternative proposal to maintain existing PoP, including such things as alternative procedures, accelerated and/or premium labor efforts, or any other ideas contractor may present to avoid contract PoP extensions.

7.8 Overhaul Lessons Learned

7.8.1 As part of the availability closeout process, key members of the shipyard project management team and/or the program manager shall attend an Overhaul Lessons Learned Conference, hosted by the OMT. The purpose of the overhaul lessons learned conference is to engage with the shipyard and other invitees sharing lessons learned from all parties, such as positive or negative impacts to the budget and the schedule.

8.0 General REQUIREMENTS: None additional

Enclosure 2.2.1 MSC QMS N7.75.3120.1-Q, Appendix C11 – Sample, MSC Post Award Meeting Template

Vessel Name ROH-DD MSC Post-Award Meeting

Date/ Time

- Greetings and Introductions (All principal participants; Shipyard, Sub Contractors and MSC)
- Purpose
- WI Index Review
  - Any potential issues (GFM/CFM, changes planned)
  - Critical Path, Risks
  - Specific work item risk assessments (from MSC or Shipyard point of view)
  - Specific GFM or CFM issues
- Service Order Contractor Access
- ABS Inspections
- Contracting
  - CFR/CCO process
  - CDRLS
- Safety/ Security
  - Safety and Security Standard Work Items
  - Shipyard procedures/standards, if add’l info
  - Force Protection
  - Additional Shipyard Safety/ Security
- Ships force working hours and support for:
  - Lock-out/Tag-outs (and ins)
  - Hotwork
  - Crane & Forktruck Lifts
  - Checkpoints

- Space Close-out
- Any Contractor Comments

- Pre-arrival meeting with SY & mooring line transfer
- SY Meetings:
  - Daily Production
  - Weekly Status
  - Remote Communications, if necessary
- Ships force input:
  - Timeline/schedule for crew move off
  - Ship’s force work list
- General Expectations/ Other
  - Communication Plan
- Last call and action Item/ due date review
- ADJOURN

1.0 ABSTRACT

This item describes the requirements for the contractor to provide a weight report listing all the weight and moment changes to the ship resultant of all work accomplished in this availability.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Throughout the ship

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting: None

7.2 Structural: None

7.3 Mechanical/Fluids: None

7.4 Electrical: None

7.5 Electronics: None

7.6 Preparation of Drawings/Documentation

7.6.1 The contractor shall provide a detailed weight report listing all the weight additions, removals and relocations to the ship including the associated centers of gravity, as a result of the work performed in the course of this contract period of performance. Changes in buoyancy must also be reported.

7.6.2 The report shall account for all weight changes.

a. Small weights (less than 0.1 long tons (224 lbs.)) may be combined and estimated.

b. Weights shall be documented either by the manufacturer, by estimating, actually weighing, or calculating.

c. Account for items at the component level. For systems normally containing liquids (piping, machinery with sumps, etc.) report the weight of liquid in the system separate from the dry weight of the system.

7.6.3 The weight format shall be in the tabular format and, at a minimum, shall contain the following information: The tabulation shall be grouped according to work items of the work package.

a. Item, number and description

b. Weight, (long tons)

c. Vertical lever (VCG), feet above baseline

d. Vertical moment, foot-tons

e. Longitudinal lever (LCG), feet. aft or forward of the forward perpendicular

f. Longitudinal moment, foot-tons

g. Transverse lever (TCG), feet off centerline port/starboard

h. Transverse moment, foot-tons port/starboard

i. Resultant weight, long tons

j. Resultant VCG, feet above baseline

k. Resultant LCG, feet aft of forward perpendicular

l. Resultant TCG, feet off centerline port/starboard

1. Weight (tons) and distance (ft.) shall be rounded off to two places to the right of the decimal point. Moments shall be rounded to the whole foot-ton.

2. Dimensions aft of the forward perpendicular, above baseline and to port shall always be considered positive.

7.6.4 The contractor shall also provide a preliminary report five days prior to docking if any weights have already been removed or added to the vessel. Two copies of the preliminary weight report shall be forwarded for review five days prior to re-floating the ship from the dry-dock; a revised copy of the weight report one week before the end of the shipyard period; and two copies of the final weight report two weeks after the shipyard period. The final report shall incorporate any comments provided about the preliminary report. Submit each report to the MSCREP.

7.6.5 Deliver to the OMT REP two hard copies of a preliminary weight report for review, one week prior to sea trials.

a. Retain all field notes taken and make available to the OMT REP upon request.

7.6.6 Provide the final weight report (incorporating, or responding to, comments on the preliminary weight report) as two hard copies and one electronic copy in Microsoft Excel format.

a. Ensure the report is prepared and signed by a degreed engineer or licensed professional engineer with annotation of the individual’s qualifying credential(s) (e.g., BS Naval Architecture, state PE license no., etc.). It shall contain the following certification in the lower right corner:

1. Undersigned certifies that the weight report herein is a true representation of the weight effects of all changes made to the vessel.

7.6.7 One additional electronic copy, on CD, shall be mailed via FedEx or similar courier service to the MSC Technical Library at the following address:

MSC Technical Library - USS MT. WHITNEY,
Final Weight & Moment Report
9276 3rd Ave., Bldg LP-26
Norfolk, VA 23511
Tel: (757) 443-2595

7.7 Inspection/Test: None

7.8 Painting: None

7.9 Marking: None

7.10 Manufacturer’s Representative: None

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item contains the Integrated Logistics Support Requirements (ILS), Government Furnished Equipment (GFE), and Government Furnished Material (GFM) support requirements for all the work items contained in this specification package.

2.0 REFERENCES

2.1 Department of Defense Security Manual for Safeguarding Classified Information, DOD Manual 5220.22-M

3.0 ITEM LOCATION/DESCRIPTION: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. The definitions of many terms used in this work item are found in Work Item 001.

5.3 Requirements of this item apply to the base contract and all modifications inclusive. Additional ILS requirements resulting from change orders shall be priced and negotiated on that change order and/or modification.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Logistics support requirements: Logistics support requirements establish and maintain life cycle support for equipment procured by the contractor in support of work item (WI) requirements in this work package (WP). The logistics documentation required by the contract is in the form of: an equipment technical manual ™; technical support data (TSD); repair parts support; purchase orders; drawings; and residual asset file.

7.1.1 TM requirements: Equipment procured under this contract shall be delivered with three hard copies and one electronic copy of the supporting TM. An additional electronic copy shall be mailed to the MSC Tech Library. Address is provided in article 7.4. The equipment TM shall be permanently imprinted by mechanical means and the cover shall be durable to withstand frequent handling and exposure to oil and water. The binding will permit adding and removing pages. All TM shall include the following, as applicable (commensurate with the complexity of the equipment):

a. Cover and title page

b. Manufacturer’s name and address

c. Equipment name and application

d. Table of contents (including a list of drawings and tables)

e. Safety precautions (cautions, warnings, and notes)

f. General theory of operation

1. Complete functional description of equipment

based on a block diagram

2. Complete explanation of mechanical features using block diagrams or cutaway drawings

3. Major assemblies broken into individual circuits, accompanied by complete circuit analysis keyed to a simplified schematic

4. Brief descriptions of complex and unusual circuits

5. Voltage waveforms at significant point in the circuit

6. Memory maps and a description of microprocessor functions

g. Preparation for use, installation, and initial adjustment instructions

h. Operational instructions

i. Maintenance instructions (preventive and corrective)

j. Cleaning and lubrication instructions

k. Performance verification and test features

l. Frequency of adjustment/test equipment

m. Troubleshooting instructions

n. Disassembly, repair, replacement, and re-assembly instructions

o. Installation instructions

p. Diagrams, illustrations, and schematics

q. Parts list data - The parts list will identify all parts necessary to provide for 100% bill of material. The following requirements apply to the parts list:

1. Identification of OEM and OEM's part number, OEM CAGE code, if available, or identification of OEM including address and telephone number

2. All parts shall be keyed (using index numbers) to exploded view drawings

3. Parts in the listings shall be grouped by assemblies, subassemblies, and modules. Parts shall be identified in the assembly in which they are components.

4. Parts listed in the TM will match the TSD parts list as required by article 7.1.2.c. of this item.

r. All data shall be provided in hard-copy and CD-ROM format.

7.1.2 Technical support data:

a. The contractor shall provide complete and accurate data with delivery of the equipment. All data will be submitted in the English language only. The contractor shall submit a revision whenever engineering changes and/or modifications occur which add to, delete from, or modify previously submitted TSD (including changes to manufacturer's part numbers).

b. When TSD documents are prepared by a contractor other than the original equipment manufacturer (OEM), the

preparer shall be identified by their company's name, address, telephone number and point of contact.

c. The TSD documentation consists of a bill of materials/list of all repair parts, assemblies and subassemblies, special tools and test equipment required to maintain, repair, or overhaul the equipment/components as specified by an illustrated parts breakdown. The documentation shall include at a minimum the following technical data for each individual part, assembly, and subassembly for the equipment/components specified:

1. OEM's part number

2. OEM's CAGE (if no CAGE is available, provide OEM address, description and the telephone number)

3. OEM's drawing that identifies the part (illustrated parts breakdown)

4. Characteristic/name plate data/certification data for the end item and all equipment

5. Item name

6. Reference Symbol Number (for electronic provisioning only)

7. Production lead time (if known)

8. Unit of issue

9. Unit price

10. Unit of measure

d. TSD or parts of it, containing classified

information shall be protected and marked in accordance with Reference 2.1.

e. Alternate submission of TSD: The contractor may substitute the requirements of TSD documentation with an equipment TM as required in article 7.1.1, providing the TM contains the minimum data requirements set forth in article 7.1.2.c. The contractor is responsible to provide any additional TSD documentation not contained in the TM in order to meet the minimum requirements of article 7.1.2.

7.1.3 Statement of prior submission (SPS): The contractor may submit SPS documentation in lieu of the requirement in article 7.1.2, as applicable.

a. Repair parts support: The contractor is required to provide the OMT REP a pre-priced recommended list of spare parts with delivery of equipment. Listing shall be on CD-ROM. The OEM/vendor recommended spares list shall be of sufficient range and depth to provide one year of preventive maintenance and 10 years of corrective maintenance support for equipment purchased in support of the contract. The Government may exercise the option to purchase any or all parts recommended by the contractor. In determining the necessary spares support, the contractor shall consider the equipment’s maintenance requirements (preventive and corrective), component criticality, and historic failure rates. The contractor recommended spares list shall include at a minimum:

1. Part number
2. Part nomenclature/description
3. Part quantity per component
4. Contractor recommended quantity

5. Unit of issue

6. Unit price

7. Total price

7.1.4 Purchase orders: The contractor shall provide copies of all purchase orders for all work items where contractor-furnished materials and/or equipment were procured. This data is not required for repairs to the hull (doors, bulkheads, tanks, etc.) or for new installations of piping, wiring, bulkheads, etc. Purchase orders will identify the following:

a. Material

1. Work item

2. Original manufacturer’s part number

3. Identification of manufacturer

4. Quantity

5. Unit price

6. Total price

b. Equipment

1. OEM’s part number

2. Identification of manufacturer

3. Equipment nameplate

4. Equipment characteristics

5. Equipment Serial number

6. Unit price

7. Quantity

8. Total price

7.2 Drawings: The contractor shall provide specific drawings as called out in the individual Work Items. Drawings shall be IAW MSC GTR No.5.

7.2.1 Any drawings that were provided to the contractor in AutoCAD format for modification shall be returned in AutoCAD format.

7.2.2 Any newly developed drawings shall be developed in AutoCAD format.

7.2.3 If drawings were provided in a format other than AutoCAD for red-lining or other modification, that drawing may be returned in AutoCAD, PDF, or the format in which the drawing was originally provided.

7.2.4 If the contractor is required to obtain drawing/design approval from regulatory bodies such as USCG and ABS, any approval letters for the drawings shall be provided as a separate file in PDF format. A hard copy of the approval letter shall accompany the hard copy of the stamp approved drawing.

7.2.5 An additional electronic copy shall be mailed to the MSC Tech Library. Address is provided in article 7.4.

7.3 Contractor support

7.3.1 Receipt of GFM

a. The contractor shall receive all GFM listed in this WP, whether on board the ship or delivered to the contractor by common carrier or other means. The contractor shall accept GFM beginning 44 days prior to the start of the overhaul.

b. The contractor shall inspect the GFM at the time of receipt and verify that the material received is the same as that indicated on the GFM listing. Note and describe any physical/visible damage or defects to the equipment/packaging on the carrier’s bill of lading or delivery confirmation, to include a printed name and signature of the individual transferring custody indicating acknowledgement of condition at time of delivery. The contractor shall immediately notify the OMT REP of the condition and schedule a joint survey with the OMT REP.

c. The contractor receiving report which notes discrepancies of documented and observed damage to the GFM will only be signed by the OMT REP if the OMT REP concurs that the discrepancy/damage was not the result of contractor negligence.

7.3.2 Storage: The contractor shall provide storage facilities as specified below. Access to storage areas in all cases shall be limited to authorized personnel only. The OMT REP or any individual specified by the OMT REP shall have access to all GFM/GFE storage facilities for the duration of the period of performance (POP).

a. Outside storage: Outside storage shall be limited to material not subject to environmental degradation. Protection against physical abuse and theft is required. Designated outside storage shall require prior approval of the OMT REP.

b. Inside storage: Inside storage shall be dry,

protected, ventilated, and fork truck accessible. A minimum of 3000 square feet of inside storage area is required and shall be adequately lighted with an integral structure of floor(s), walls, roof, and capable of being locked. The warehouse shall also have multi-level industrial storage racks (ISR) capable of supporting 30 individual positions of single stacked, fully loaded standard sized (48 × 40 × 36), heavy duty rated tri-walls or similarly palletized loads. Note: In lieu of multi-level ISR, additional floor space equivalence will be accepted.

c. Temperature controlled storage: Temperature controlled storage shall consist of a minimum of 200 square feet of inside storage area in which the temperature is maintained in a range of 65 to 85 degrees Fahrenheit year-round. The 200 square foot area shall be segregated from other areas in the same building and be capable of being locked.

d. Environmentally controlled storage: Environmentally controlled storage areas shall consist of a minimum of 200 square feet of inside storage area in which the relative humidity does not exceed 50 percent and the temperature is maintained at 70 degrees Fahrenheit. The 200 square foot area shall be segregated from other areas in the building and be capable of being locked.

e. Locked: The term ‘locked’ shall mean that the storage area has a physical separation from all other areas. The physical separation shall be by means of durable walls or expanded metal and shall be of such construction and arrangement so that a normally locked door controls entry to the area. The contractor shall, in the case of locked storage, provide security as indicated below. If contractor shipyard security is used for such duties, so note.

f. The contractor shall be responsible for the security of all classes of storage. Security measures shall

prevent unauthorized entry to the storage areas. Means to accomplish this shall include high quality security locks and roving security guards on a 24-hour basis.

1. The roving security guards shall maintain a log of each inspection. The log shall contain the ship’s name, security contractor’s firm, contract number, and entry blocks for each inspection including the following:

2. Start and end date of the period clocked

3. Signature of the first and last shift’s security watch

4. Signature of the shipyard security head

5. Signature of the shipyard project manager

6. At the end of the 24-hour period the log shall be signed by the head of shipyard security and the shipyard Project Manager and delivered to the OMT REP, as a contract deliverable document.

7.3.3 Protection: The contractor shall at all times protect GFM/GFE from physical or other types of abuse. Protective dust covers and other appropriate means of protecting stored equipment shall be used. The contractor shall use care in handling, moving, transporting, and rigging all GFM. Damage occurring to the GFM, subsequent to receipt, shall be corrected at the contractor's expense.

7.3.4 Handling

a. The contractor shall provide all the services necessary to safeguard, inventory, record, document, administer, control, and document issue and install of the GFE/GFM received at the shipyard.

b. The contractor shall take delivery and maintain documented accountability of all GFM whether stored on board the ship or delivered to the contractor's designated location. The contractor shall maintain accountability over the material at all times, to include documentation of receipt, release, current location, issuance, installation, or approved disposal.

c. It is the contractor's responsibility to handle, care, protect, and provide security for all GFE/GFM as delineated by this WI. The contractor shall provide all labor and equipment necessary to properly handle and deliver all GFE/GFM to the job site when it is scheduled for installation.

d. All unused GFE/GFM shall be returned to the Government in the same condition as received. All equipment that requires special preparation such as being properly drained, cleaned and/or special packaging will be organized for safe transportation in accordance with state and federal regulations by the contractor.

e. Material and equipment designated for turn over to the Government shall be packed, crated, and prepared for shipment by the contractor. Each WI or specification item will be prepared for shipment in its own unique container. Containers may be consolidated into larger shipping crates, but each crate must be clearly marked, and copies of documents enclosed as noted below. An accurate material inventory including nomenclature, part number, and quantity shall be prepared for each container/crate. Place one copy of the material inventory on the inside of the crate/container and affix another copy to the outside of the crate/container. Enclose both copies in a suitable weather resistant packing envelope. Two additional copies shall be provided to the Government onsite ILS Representative.

f. All crating shall be IAW the International

Standards for Phytosanitary Measures (ISPM): Guidelines for Regulating Wood Packaging Material in International Trade (ISPM Publication No. 15) to include certifying that the wood packaging material bears the mark indicating it has been subjected to an approved measure.

g. Markings on outside of box/crate/container shall consist of minimum two-inch stenciled letters with ship's name, hull number, job number, WI number, and contract number. Any previous markings that contradict current material inventory shall be painted over/removed.

h. Provide certified weights and dimensions of materials prepared for shipment to the Government onsite ILS representative. The Government will arrange transportation and freight.

7.3.5 Reports

a. GFM/GFE/CFM summary list: The contractor shall prepare and update weekly a summary list of GFM/GFE and Contractor Furnished Material (CFM) received at commencement of the contract until contract completion. The list shall describe the material, shipment date and tracking number (where applicable), receiving date, storage location, installation date, condition, etc. The summary report shall also indicate any GFM/GFE and CFM material which was not used in the course of the contract. These items shall be identified as residual assets.

b. Damage report: Any damage to the GFM/GFE, while in the custody of the contractor, shall be reported immediately to the OMT REP so that arrangements for joint survey can be made. The contractor shall prepare a damage report outlining the damage, conditions that led to the damage, and proposed method of repair. Concurrence of the OMT REP is required prior

to initiation of recommended repairs.

c. Scrap report: Material and equipment permanently removed from the vessel as a result of work accomplished in this WP which is not identified in this WP for turnover to the Government and is determined by the OMT REP to be unfit for reuse, shall be classified as scrap. The contractor shall prepare and submit a scrap report for all material and equipment permanently removed from the vessel and identified as scrap. The scrap report shall include the specification work item and paragraph under which the contractor was required to remove the material, scrap description, weight, and current scrap value. All scrap shall be separated by material composition and weighed separately. The contractor shall obtain current scrap market prices for the separately identified and weighed variations of scrap prior to hauling and disposing of it. The contractor shall prepare and submit two copies of the scrap report, including price quotes, to the OMT REP. Scrap value will be the subject of a negotiated credit change order.

d. Residual asset report: The contractor shall provide a list of GFM and CFM that are residual assets at completion of the availability. The report will list part number, nomenclature, quantity, associated work item, condition code, weight, and dimension. Data shall be submitted in electronic MS Excel spreadsheet format on a CD-ROM. This report shall be submitted to the OMT REP no later than the last day of the contract POP.

7.4 Customs and Logistics Support

7.4.1 Contractor shall assist MSCREP and/or Ship’s Officers with customs clearance of:

- MSC Contractor Furnished Materials (CFM)

- Ship’s Stores Material
- Mail pick-up/drop-off

7.4.2 The Contractor shall assume the following quantity of parcels will require pick-up and delivery and customs clearance from and to the point of entry (closes airport) and point of departure. The contractor is responsible to combine any delivery/pickups for savings purpose.

7.4.3 A weekly report and copies of the invoices for each shipment must be submitted to the MSCREP for their acceptance. The Contractor will be paid for actual invoices.

7.4.4 The quantities listed below are for estimation purposes only. The price shall be all inclusive. Any additional customs fees, light dues or any other port tariffs are to be paid in accordance with the local regulations that the contractor may have anticipated for the ship and will be reimbursed at actual cost after submission of port tariff or any other supporting documentation (not subcontractor’s invoices). The contractor is expected to be aware of any tax/dues exemptions granted to the US Government from the country where the repairs will take place.

	Unit Price	Total Price
Parcels up to 10 kg, QTY(65)	_____	_____
Parcels 10 - 100 kg, QTY(50)	_____	_____
Parcels 101 - 350 kg, QTY(50)	_____	_____
Parcels 351 - 500 kg, QTY(25)	_____	_____
Parcels 501 -1000 kg, QTY(15)	_____	_____
Parcels Over 1000 kg, QTY(10)	_____	_____

7.4.5. Price for Work Item 0015 shall be inclusive of all costs associates with the work item such as customs fee and work for processing customs formalities.

7.4.6 Ship personnel entry/departure support. Inbound/outbound customs/visa stamps as necessary for entries/departures. Estimated quantity of 20 personnel.

7.4.7 Miscellaneous port entry and departure fees associated with accepting the ship at the yard during the period of performance.

7.5 Conex Storage Containers: Two (2) conex boxes to be approximately 40 feet in length X 8 feet wide and 8 feet high.

7.5.1 Must be wind and water tight. No deep rust spots or holed areas.

7.5.2 Floors shall be solid and in good shape. No rotting or holes allowed. Conex doors, hinges and latch gear must work freely and the access doors shall be able to be securely locked. Exterior coatings must be in good shape.

7.5.3 Conex storage containers shall be positioned on the ship’s weather deck, aft of the house and forward of the flight deck. Exact location to be determined by MSCREP. Each conex container shall be positioned on wood beams or equal and shall not come in direct contact with the non-skid underneath.

7.5.4 The contractor shall provide industrial grade, multi-level shelving inside the Conex Storage Containers. Shelving can be metal, wood, or a combination of both. Shelving shall have (3) levels with approximately two (2) feet between levels. Shelves shall be capable of supporting boxes that are 2ft X 2ft X 2ft, weighing up to 100 pounds each. Shelves shall run the entire length of the interior side walls.

7.6 As required, technical documentation shall be mailed via FedEx or similar courier service to the MSC Technical Library at the following address:

MSC Technical Library - USS MT. WHITNEY
9276 3rd Ave., Bldg. LP-26
Norfolk, VA 23511
Tel: (757) 443-2595
E-mail: MSC_N7_TechLibrary@us.navy.mil

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements to provide and install fire and safety protection capabilities, establish and manage fire and safety programs and inspections, and provide for fire watch services and oversight onboard the ship.

2.0 REFERENCES

2.1 National Fire Protection Association 312, Standard for Fire Protection of Vessels During Construction, Repair and Lay-up

2.2 National Fire Protection Association 51B, Standard for Fire Prevention in Use of Cutting and Welding Processes

2.3 OSHA Fire Protection while in a shipyard, 29 Code of Federal Regulations (CFR) Part 1915.506, titled “Hazards of fixed extinguishing systems on board vessels and vessel sections”

2.4 OSHA Confined Space Entry Program, 29 Code of Federal Regulations (CFR) Part 1910.146, titled “Permit-required confined spaces”

2.5 MSC Drawing No. **085-8386886**, Fire Control Plan

2.6 MSC Drawing No. **521-8392724**, Firemain System Diagram

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Various

4.0 GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors regardless of tier shall consult the General Technical Requirements (GTR) to determine applicability to this work item. In performing this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs (1) through (7).

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Submit the following plan as part of the contractors' initial proposal. Amendments to the initial Contractor's written Fire and Safety Plan must be submitted in writing to the OMT REP by submitting a condition report.

7.1.1 The Contractor must develop and implement a written Fire and Safety Plan that details placement of temporary firefighting appliances and actions that must be taken to ensure shipboard fire safety as detailed in this work item. The Contractor must include the following in the Fire and Safety Plan:

a. Contractor's responsibilities as detailed in 29 CFR 1915.502(a)-(b).

b. Contractor's required written policy that complies with the local municipal response as required in 29 CFR 1915.505(b)(2) which details the following:

i. The types of fire suppression incidents to which the fire response organization is expected to respond at the employer's facility or worksite;

ii. The liaisons between the Contractor and the local municipal response organization; and

iii. A plan for fire response functions that:

(a) Addresses procedures for obtaining assistance from the local municipal response organization;

(b) Familiarize the outside fire response organization with the layout of the Contractors facility and worksite; including access routes to controlled areas, and site-specific operations, occupancies, vessels or vessel sections; and hazards; and,

(c) Sets forth how hose coupling connection threads are to be made compatible and includes where the adapter couplings are kept; or

(d) States that the Contractor will not allow the use of incompatible hose connections

c. Description of the ship repair facility fire protection and flooding protection measures/procedures;

d. Agreements with local municipal response organizations;

e. Firefighting response plan;

f. Flooding response plan;

g. Rescue response plan;

h. Medical emergency response plan;

i. Dewatering equipment available;

j. Alternative firefighting provisions in the case of disabled fixed firefighting systems;

k. Preventive measures that will be taken to ensure ship's safety during fire or flooding emergencies;

l. Procedures for notifying; methods to account for; and off ship muster point locations for the ship’s crew, Government/Operating Company personnel, Government/Operating Company contractors, and visitors located at the shipyard of a fire emergency;

m. Names and contact information of shipyard personnel that can be contacted in case of an emergency;

n. Specific mitigation actions for any ship fire detection systems or firefighting system required to be disabled for maintenance, repair, and/or modifications;

o. Point of contact for conducting daily joint fire safety walkthrough of the ship, including point of contact for fire safety concerns on night shift for 24/7 coverage;

p. Incident command location;

q. Hot work procedures;

r. Planned off ship firefighting support capabilities, including peirside firemain size and capacities to include pressure and gallons per minute, all firemain riser connection locations and sizes around the pier/dock, and other shipyard firefighting resources;

s. Shipyard firefighting systems dedicated to the ship availability, including temporary shipyard firefighting systems to be deployed on the ship, interfaces/shore-side water supply to ship’s firemain system, fire and smoke spreading mitigation plan, compartment closure plan, quick disconnect locations at fire/smoke boundaries as required by this work item;

t. Planned access cuts.

7.1.2 The Fire and Safety Plan must address the following measures to be provided by the contractor to ensure adequate protection is provided:

a. The plan must include a copy of the Fire Control Plan, , Reference 2.5, where ingress and egress routes are clearly marked, along with locations of contractor placed temporary firefighting manifolds, contractor connections to vessel’s fixed firemain and contractor provided portable fire extinguishers. A copy of this temporary Fire Control Plan shall be posted in common passageways near machinery space ingress/egress locations and at the gangways.

b. The contractor’s submitted Fire and Safety Plan must indicate if ship’s firemain can be pressurized and utilized (with Shipyard confirmation that no work or isolation of shipboard firemain is planned), and Shipyard facility connections to the firemain including isolation valve locations.

c. All temporary fire suppression measures shall be located to not present any kind of hazard or blockage to normal or emergency safe passage. All temporary equipment shall be staged and marked for easy recognition by both contractor and shipboard personnel.

7.1.3 Shipyard to provide condition report that requirements of approved fire and safety plan are met prior to commencing hot work.

7.2 Place additional contractor provided portable fire extinguishers (PFE) for spaces that are protected by a gaseous fixed fire suppression system(s). The contractor must provide these PFEs regardless if the fixed system is being disabled and must be installed prior to the system being disabled. These PFEs are in addition to those already installed as detailed in Reference 2.5. Each contractor provided PFE must have a current inspection and not require an internal cylinder inspection for the duration of the overhaul. Each PFE must be located adjacent to an entrance/exit or evenly distributed among the primary and secondary egress routes. The contractor must clearly state these requirements in their Fire and Safety Plan documentation.

Space	10# ABC	20# Fast Flow PKP	15# CO2	2.5 Gal K
Main Space	2/deck			
Aux Machinery Space	2/deck			
Steering Gear	2/deck			
Emergency Diesel Generator		4/space	2/space	
Pump Room	2/deck			

Space	10# ABC	20# Fast Flow PKP	15# CO2	2.5 Gal K
Locker(Paint, Lube Oil, Grease, Gas Cylinder)-	1/space			
Motor Room	1/space		1/space	
Storerooms(Cargo, Flammable Liquid)	2/space			
Galley	1[1]			1/space[2]
Incinerator	1/space			
Bow/Stern Thruster	2/space			
Purifier Room	2/space			
Medical Space			1/space	
All Other Spaces	1/space			

[1]One 10# ABC per Galley Exit
[2]One 10# K per space containing a Deep Fat Fryer

7.3 In the event that the contractor requires the disabling of fixed fire suppression systems, using Reference 2.3 as guidance, immediately upon vessel's arrival at a shipyard and/or before any work is done in a shipboard space equipped with fixed fire suppression system, the contractor shall provide the services of an ABS Recognized Service Supplier for Firefighting Extinguishing System Inspection/Maintenance Firm manufacturer's representative to temporarily disable the ship's fixed fire suppression system(s) for those affected spaces. A list of ABS Recognized Service Suppliers can be found at the following URL: https://www.eagle.org/ABSEaglePrograms/es/es-search.jsp.

7.4 The contractor is responsible to determine from the work items which spaces require deactivation of fixed fire suppression systems. The contractor shall ensure the following conditions are met before isolation takes place and shall ensure these conditions remain in place while the fixed fire

suppression system(s) is/are isolated. The contractor must clearly state these requirements in their Fire and Safety Plan documentation.

7.4.1 Adequate temporary firefighting system, as offered by the contractor in the Fire and Safety Plan shall be in place and verified by the OMT REP to meet the requirements of this entire work item. The contractor shall ensure that all areas of the affected space are adequately protected with the temporary system.

7.4.2 The fixed extinguishing system shall be locked out / tagged out by both Ship’s Force representative and the assigned shipyard representative using requirements found in MSC Shipboard SMS Procedure 2.1-004-ALL “Lockout / Tag out” or Operating Company “Lockout / Tag out” SMS Procedure. The system shall be de-activated by removing as few components as possible. This permits the system to be quickly re-activated in case of emergency.

7.4.3 All bilges shall be free of oil or oily water and shall remain free of oil or oily water for the duration of the overhaul, as is clearly required per Work Item 011. At the beginning and end of each shift, the contractor and Chief Engineer’s representative shall inspect the space to ensure the bilges remain clear of fire hazards.

7.4.4 Minimize the movement of oil, either pressurized or by gravity in ship’s piping. Temporary fire extinguishing systems must be in place and operational.

7.4.5 Ensure all doors, hatches, scuttles, and other exit openings remain working and accessible for escape.

7.4.6 When physically servicing low pressure or high pressure CO2 fixed fire suppression system(s), ensure all inward opening doors, hatches, scuttles, and other potential barriers to safe exit are locked open, braced, or otherwise secured in the CO2 Storage Room and the CO2 protected space so that they remain open and accessible for escape.

7.4.7 Contractor shall provide the services of an ABS Recognized Service Supplier for Firefighting Extinguishing System Inspection/Maintenance Firm manufacturer’s rep to return the fixed fire suppression system(s) to normal condition and proven fully operational prior to Machinery Turnover milestone or when work is completed in the affected spaces.

a. Placards shall indicate that the fixed fire suppression system is disabled and shall be posted at all accesses to the affected space(s) and at the ship’s gangway.

7.5 Immediately after ship’s arrival conference, the shipyard shall provide Shipyard Safety Awareness Training (SSAT). Additionally, the shipyard shall make available a supplemental Safety Awareness Training video or hold a Safety Awareness Training class for new or visiting MSC crew or representatives prior to gaining access to the vessel.

7.5.1 Shipyard Safety Awareness Training (SSAT) shall be mandatory for all ship’s personnel, MSC personnel and any Government provided contractors. This training can be conducted onboard the vessel or in a shipyard facility and should be approximately 1 hour in length. At a minimum, SSAT shall address the following:

a. Benefits of SSAT

b. Personal Protection Equipment (PPE) while in the shipyard

c. Awareness of unsafe areas and conditions such as loading/unloading zones and crane operations

d. Observance and compliance with shipyard safety signs, alarms and markings

e. Shipyard confined space entry program including gas free requirements, entry permitting, safety considerations and restrictions, and shipyard confined space rescue procedures. The shipyard confined space entry program and training shall conform with Reference 2.4

f. Shipyard working aloft safety, to include scaffolding safety and fall protection safety

g. Shipyard vehicle traffic areas

h. Reporting accidents, near misses, unsafe conditions or emergencies

i. Contractor shall provide emergency POCs and phone numbers

j. Shipboard stainless steel welding procedure for containment and personal protection

7.5.2 Conduct a Firefighting and Fire Prevention Conference immediately after SSAT Training detailed in paragraph 7.5.1. At this conference, the contractor shall address and familiarize the ship’s force with the contractor’s procedures for fire prevention, firefighting and all procedures that will be implemented by municipal firefighting organizations as required by Title 29 CFR 1915.505(b)(2). Contractor in conjunction with ship’s force will familiarize non-ship local municipal emergency personnel from all duty rotations with ship’s layout of spaces and firefighting equipment locations, the ship arrangement, shipboard fire protection and firefighting systems, equipment and organization and familiarize all parties with the scope of work and aspects of the work or ship conditions that have significance in fire prevention and firefighting.

7.5.3 The shipyard must conduct procedural training on how to safely secure each quick disconnect fitting type found on all temporary services detailed in paragraph 7.15 during the Firefighting and Fire Prevention Conference.

a. Samples of each quick disconnect fitting must be made available to physically demonstrate how to secure and disconnect each safely.

b. Contractor must delegate two shipyard employees per shift, one primary and one alternate, and the

vessel's Safety Officer will delegate two members of ship's force per shift, one primary and one alternate that will be responsible for securing quick disconnect fittings for each Class "A" boundary penetration.

7.5.4 During the Firefighting and Fire Prevention Conference conduct training on what to do upon discovering a fire.

a. Sound the alarm by activating the nearest fire alarm pull station, passing the word via phone or radio to the gangway, or by sending other personnel to pass the word.

b. Once the word is passed, secure the area by making closures to doors, hatches, scuttles and/or vents in the direct evacuation path.

c. Whenever possible, upon evacuation, pass along as much information as possible to Shipyard Management and a Vessel's Officer. Information such as the fires location, what is on fire, type of fire, size of fire, etc. Then promptly evacuate the vessel.

d. Shipyard personnel in conjunction with Ship's Force will be responsible for securing all quick disconnect fittings and making all remaining vertical and horizontal fire boundaries closures.

7.6 Temporary Firefighting Manifolds:

7.6.1 Contractor must temporarily provide and maintain a minimum of one Temporary Firefighting Manifold for every 200 feet of vessel length rounded up to the next multiple of 200 feet for the duration of the overhaul. (i.e. 805 feet equals 5 temporary firefighting manifolds onboard the ship). The contractor must clearly state these requirements in their Fire and Safety Plan documentation.

7.6.2 Contractor must utilize a sufficient number of 2½ inch, 3-inch, or 4-inch size fire hoses supplying the temporary firefighting manifolds in order to efficiently carry

the required flowrate and pressure. These fire hoses must meet the requirements of Underwriters Laboratory 19(UL19) or MIL-H-24606. Each temporary firefighting manifold must include three, 1.5 inch diameter valved outlet connections and an appropriately sized inlet connection.

7.6.3 Temporary firefighting manifolds must be evenly spaced amongst the vessel and placed where each part of the vessel can be reached by at least two fire hoses feed from separate temporary firefighting manifolds.

7.6.4 Water supplying each temporary firefighting manifold must be capable of maintaining a minimum 150 psig static pressure as measured by a contractor installed, in-line, pressure gauge at each temporary firefighting manifold inlet connection.

a. All gauges must be calibrated within the last twelve (12) months and be marked with a sticker with the current calibration date. Gauges must not require recalibration for the duration of the overhaul.

7.6.5 Two of the valved outlet connections must have a 100-ft length fire hose and a vari-nozzle pre-connected to each. Two each fire hoses and two each vari-nozzles total per temporary firefighting manifold. Neatly stow the fire hoses on a hose saddle in a ready and accessible state. Mount two spanner wrenches for each size fire hose coupling at each temporary firefighting manifold. Provide four each additional 100-ft length fire hoses and one each additional vari-nozzle at each temporary firefighting manifold. Neatly stow the hoses in a ready and accessible state.

a. Fire hoses must meet the requirements of UL19 or MIL-H-24606. Fire hoses must have 1.5 inch couplings with a hose diameter of 1.75 inches. Fire hose couplings must match the vessels hose thread, either NH or NPSH, as detailed in Reference 2.6. Fire hoses must have been successfully hydrostatically tested within the last 12 months and be stenciled with the current hydrostatic testing date. Fire hoses

must not require requalification by hydrostatic testing for the duration of the overhaul.

b. Vari-nozzles must be 46 CFR 162.027 USCG Type Approved or meet the requirements of MIL-N-24408, have a pistol grip, 1.5 inch couplings, have matching threads and be rated to 95 gpm at 100 psi.

7.6.6 Clearly identify each temporary firefighting manifold water hose station. Post a placard noting source of water supply and providing clear operating instructions at each station. Where weather conditions may cause freezing, provide a recirculation capability to prevent freezing at each manifold.

7.6.7 Each temporary firefighting manifold must be capable of delivering water to both connected fire hoses simultaneously. Conduct a visual inspection and operational test of each Temporary Firefighting Manifold in the presence of the OMT REP, Ship’s designated representative and Shipyard quality assurance representative. Verify that all firefighting appliances are correctly installed and in place prior to operational test. To operationally test each temporary firefighting manifold, fully layout both fire hoses so that each one fire hose reaches the farthest capable horizontally and the other reaches the highest capable vertically with a maximum 300 foot per hose. Verify minimum discharge pressure of 60 p.s.i at a 95 gpm flow rate at each nozzle while discharging both fire hoses simultaneously. Repeat this test for each remaining temporary firefighting manifold, one at a time. Submit a copy of the checkpoint results in a condition report to the OMT REP. This test shall be re-accomplished upon any vessel movement to another pier or drydock.

7.7 Fixed Firemain System:

7.7.1 Contractor must temporarily provide water connections from the shore to the vessels fixed firemain system for the duration of the overhaul. The contractor must clearly state these requirements in their Fire and Safety Plan documentation.

7.7.2 Contractor must utilize a sufficient number of 2½ inch, 3-inch, or 4-inch size fire hoses supplying the vessel's fixed firemain system in order to efficiently carry the required flowrate and pressure. Connect to at least two widely separated locations as proposed by the contractor and approved by the OMT REP. At each shipboard connection point, install a contractor supplied cut off valve.

a. These fire hoses must meet the requirements of UL19 or MIL-H-24606. Fire hoses must have been successfully hydrostatically tested within the last 12 months and be stenciled with the current hydrostatic testing date. Fire hoses must not require requalification by hydrostatic testing for the duration of the overhaul.

7.7.3 Fixed firemain system water supply must be capable of maintaining a minimum 100 psig static pressure and a maximum pressure shall not exceed the system maximum operating pressure as detailed in Reference 2.6, as measured by a contractor installed, in-line, pressure gauge at each fixed firemain system connection. Total water supplied to fixed firemain system must be a minimum of 1000 gpm.

a. Fixed firemain system supply connections must be filled with water and charged up to the shipboard connection point at the contractors supplied cutoff valve. The fixed firemain system will remain dry for dry systems as detailed in Reference 2.6, otherwise the system will remain wet.

b. All gauges must be calibrated within the last 12 months and be marked with a sticker with the current calibration date. Gauges must not require recalibration for the duration of the overhaul.

7.7.4 Clearly identify these connections to the fixed firemain system. Post a placard noting source of water supply and providing clear operating instructions at each connection. Verify unobstructed flow. Where weather conditions may cause freezing, provide a recirculation capability to prevent freezing at each connection.

7.7.5 Conduct a visual inspection and operational test of fixed firemain system in the presence of the OMT REP, Ship's designated representative and shipyards quality assurance representative. Verify that all connections are correct and in place prior to operational test. Prior to being installed, contractor supplied cut off valves must be pressure tested to at least 1.5 times the maximum working pressure of the vessel's firemain system as detailed in Reference 2.6. Allowable seat leakage, none. To operationally test the fixed firemain system, operate a 1.5 inch fire hose feed from the highest and farthest shipboard fire station from the shore connection. Verify minimum nozzle discharge pressure of 60 p.s.i and a flowrate of 95 gpm at each location. Submit a copy of the checkpoint results in a condition report to the OMT REP. This test shall be re-accomplished upon any vessel movement to another pier or drydock. Upon successful test, the firemain must be returned to normal operating condition.

7.8 When the work package requirements put any part of ship's permanent firemain in an unusable condition where fire hose coverage cannot be provided using the ship's fixed firemain and where fire hose coverage from the temporary firefighting manifolds in Paragraph 7.6 cannot provide coverage, then the contractor must submit a condition report to the OMT REP detailing the deficiency.

7.9 Assign fire watch personnel for each welding, brazing, burning or other contractor responsible hot work operations. Contractor fire watch personnel shall meet the requirements of References 2.1 and 2.2.

7.9.1 Fire watch shall be exclusive of personnel performing the actual hot work. Individual fire watch personnel shall be assigned to 'each' hot work activity. Contractor shall not split fire watch responsibilities for adjacent hot work activities.

7.9.2 Fire watch personnel shall be trained to combat various class and type of fires and shall know the regulations,

procedures and facilities for sounding an alarm and shall carry them out in the event of fire.

7.9.3 Fire watch personnel shall be on location prior to the start of hot work and shall remain on location a minimum of 60 minutes after the hot work is completed.

a. Assign additional fire watch personnel on the opposite side of a structure on which welding, cutting or heating is being performed, as required (inclusive of all interconnected plating areas in way of shell, decks, overheads, bulkheads, and intersecting corners connecting more than one tank or space).

7.9.4 Fire watches shall be equipped with suitable fire extinguishing equipment to combat and extinguishing class “A”, “B”, and “C” fires. Fire watch equipment shall be maintained in state of readiness for instant use. Ship’s fire extinguishers shall not be used for fire watch. Fire watches must be able to effectively communicate with OMT Rep and Ship’s Force Personnel.

7.10 Provide written notice for each job or separate area of hot work aboard ship. Submit one copy of each notice to the OMT REP and one notice to the ship’s Chief Engineer or designated representative each morning at the morning production meeting for all hot work planned for the next 24 hours. The notice shall state the following:

7.10.1 A description of the work to be performed

7.10.2 The specific location of the hot work and compartments adjacent to decks, bulkheads and similar structure upon which work is to be accomplished

7.10.3 Time hot work will commence

7.10.4 Current gas free status of the areas, including a copy of the applicable Gas Free certificate

7.10.5 Absence or existence of combustible material in the vicinity of the operation and if combustible material exists

the action taken to protect material and equipment adjacent to the hot work area from damage or fire

7.10.6 The provision and assignment of the fire watch, and affirmation that conditions at work site (ventilation, temporary lighting, and access) permit the fire watch to observe all areas where the hot work is being performed

7.10.7 The notice shall be signed by a supervisor specifically designated as responsible for coordination of hot work and fire watch requirements

7.11 In the event that a fire does occur onboard the vessel, contractor shall notify the ship’s duty officer and the OMT REP immediately. Contractor shall prepare and submit a preliminary draft report within 24 hours of the occurrence, including information on cause of the fire, actions taken to extinguish the fire, personnel involved, any damage or injuries, and corrective actions being taken by the contractor to prevent future occurrences. A final formal report shall be submitted within 5 business days after the occurrence.

7.12 Contractor shall provide communication system for contractor’s supervising personnel and workers. Contractor may use the ship’s public address system only in an emergency.

7.13 When flammable gas cylinders are required onboard ship, they shall be located on the weather decks. The number of in-use cylinders shall be limited to those which are required for work in progress and which have pressure regulators connected to the cylinder valve. Onboard reserve gas cylinders shall not exceed one-half the number of in-use cylinders and shall be located in a remote area of the weather decks.

7.13.1 When not in use, gas cylinders onboard shall have lines disconnected and pulled back, protective cover (cap) in place and shall be secured and in an upright position.

7.14 Fire exits and ship’s access shall be maintained clean and clear. Contractor shall clean the ship’s gangways on daily basis as required.

7.15 Rigging of hose, welding leads and temporary lights shall be kept clear of decks on temporary trees or brackets and be arranged to avoid tripping and other safety hazards. Passageway shall be kept and maintained clear of obstructions.

7.15.1 Non-Fluid Systems:

a. Quick disconnect fitting(s) must be installed within ten feet of where all temporary services pass through penetration(s) designated as, Class “A-60” & “A-30” Bulkhead(s), Overhead(s) and Decks that are detailed in Reference 2.5.

7.15.2 Fluid Systems:

a. Quick disconnect fitting(s) must be installed with use of isolation valves within six feet of where all temporary services pass through penetration(s) designated as, Class “A-60” & "A-30” Bulkhead(s) , Overhead(s) and Deck(s) that are detailed in Reference 2.5. Quick disconnect fittings with isolation valves must be capable of being disconnected safely on pressurized temporary systems..

7.15.3 Indicate each Class “A-60” & “A-30” by installing a sign adjacent to each entrance. Mark each sign with international orange tape. All quick disconnect fitting must be marked with international orange tape on both sides of each quick disconnect.

7.16 Designate a safety inspector(s) responsible for ship’s safety on daily basis during performance period.

7.16.1 Perform a fire safety inspection once per working shift. The inspection shall be made jointly with the OMT REP or their designated representative, a representative of the ship’s Master and a representative from the shipyard. A written report of the discrepancies and three copies shall be submitted to the OMT REP within four hours after completion of the inspection.

7.16.2 As part of the inspection the following must be inspected once per shift:

a. Current condition of all fixed fire suppression and monitoring system(s)

b. Temporary fire suppression system must be fully operational and placards detailing operating instructions must be in place

c. Verify the bilge(s) are free of oil, fuel, water, dirt and debris

d. Visually inspect hotwork location(s) for a valid hot work permit; adequate deck, bulkhead and equipment protection; and location(s) have adequate fire watch personnel

e. Fire screen doors and water tight doors are closed, as required

f. Spaces that require entry are gas free

g. Verify quick disconnect fittings are properly installed where temporary services passes through, Class “A-60” & “A-30” Bulkhead(s), Overhead(s) or Deck(s)

h. Verify the pier and vessel remain accessible and approachable by shore base fire-fighting or other emergency equipment at all times and tides

i. Discrepancies found must be corrected within 24 hours unless adjudicated upon discovery by the Safety Inspection Team. All discrepancies found during the walkthrough must be submitted in a Condition Report to the OMT REP at least once per day. Detail discrepancies that cannot be corrected within 24 hours with a corrective action plan

7.17 Preparation of drawings: None additional

7.18 Manufacturer’s Representative

7.18.1 See requirements in Paragraphs 7.3 and 7.4.7.

8.0 GENERAL REQUIREMENTS: None additional.

USS Mt Whitney		
(LCC-20)		
GENERAL SERVICES AND REQUIREMENTS		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0017A	CATEGORY "A"	2026-05-16
LCC-SWI-HANDLING SHIPS STORES - STORING		Simpson, Eric H.

1.0 ABSTRACT

Offload, store, and load chill/frozen and dry stores.

2.0 REFERENCES/ENCLOSURE: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Quantity/Description

3.1.1 Five (5) tons frozen

3.1.2 Two (2) tons chill

3.1.3 Twenty (20) tons of miscellaneous dry stores

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 Freeze/chill boxes shall be placed as near the ship as possible.

5.2 Freeze boxes to be maintained between 0 degrees and 5 degrees Fahrenheit. Chill boxes to be maintained between 33 degrees and 35 degrees Fahrenheit.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide labor, equipment and crane services necessary to off load dry and general stores, medical supplies, spare parts and frozen and refrigerated stores from their stored locations aboard ship. Store same throughout the availability period and return to the vessel and load when directed by the OMT REP.

7.1.1 Provide secure storage facilities for the dry and general stores, medical supplies, and spare parts described in Paragraph 3.1. Prior to off-load all dry stores shall be jointly inventoried and inspected by the Chief Steward and a Contractor's Representative. Any damaged material shall be documented at this time. Dry stores shall be removed when directed by the OMT REP and the Chief Steward and/or Supply Officer and shall be stored within secured, weatherproof, enclosed facilities.

7.1.2 Frozen and chill stores shall be removed from the vessel when directed by the OMT REP and the Chief Steward and stored within temperature controlled and monitored frozen and chill boxes placed near the ship. Provide unit pricing per day for frozen and chill boxes. Prior to off-load, all frozen and chill stores shall be jointly inventoried and inspected by the Chief Steward and a Contractor's Representative. Any damaged, spoiled or otherwise unusable food material shall be documented at this time, and shall be disposed of by the contractor as directed by the OMT REP.

7.1.3 Frozen and chill boxes not located immediately adjacent to the vessel shall require use of contractor furnished frozen and chill trucks for transporting stores to and from the vessel.

7.1.4 Frozen and chill boxes shall have both external reading recording type and standard thermometers for monitoring box temperatures. Frozen and chill box temperatures shall be monitored by the contractor every four hours. Any malfunctions or irregularities shall immediately be corrected and reported to the attention of the OMT REP and the Contractor’s Representative. Two copies of a temperature graph for each box shall be submitted to the OMT REP weekly.

7.1.5 When directed by the OMT REP return and load all stores aboard the vessel and return to their original

locations as directed by the Chief Steward and/or Supply Officer. Upon return to the vessel all stores shall again be jointly inventoried and inspected by the Chief Steward and a Contractor's Representative. Any damaged material shall be documented at this time.

a. The contractor shall be responsible for any loss or damage to ship’s stores which has occurred during storage by the contractor. At the discretion of MSC, the contractor shall be required to replace the lost or damaged stores in kind, or the stores shall be replaced at the Government’s expense and the value of the contract be reduced accordingly.

7.2 Preparation of Drawings: None additional

7.3 Manufacturer's Representative: None

8.0 GENERAL REQUIREMENTS: None Additional

1.0 ABSTRACT

This item describes the contractor’s responsibilities associated with the delivery, care, and redelivery of the ship.

2.0 REFERENCES

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

2.2 MSC Drawing No. **520-2491350**, Mooring and Towing Arrangement

2.3 **MSC Drawing No. 520-6192203, Mods to Mooring and Towing Arrangement**

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Entire vessel

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Delivery

7.1.1 The contractor shall provide tugs and pilots in accordance with USCG and local requirements to guide/escort the ship from the sea buoy on the approach from open ocean to a transfer point in the navigable channel as close as possible to the contractor’s facility as agreed upon by the OMT REP and the contractor.

7.1.2 The Government/Operating Company shall deliver the ship to the contractor at a transfer point in the navigable channel as close as possible to the contractor’s facility as agreed upon by the OMT REP and the contractor. The contractor shall accept custody of the ship upon delivery and assume total responsibility for its safety, security, and protection. The contractor shall furnish tugs, pilots, equipment, mooring lines, line handlers, safe berth, etc. to accept delivery of the vessel and safely berth the ship at the Contractor’s facility.

a. Contractor provided mooring lines for use on the ship shall all be of same manufacture, type, size and breaking strength, and shall be free from excessive wear or defect. Use of mixed lines to moor the ship is not permitted.

b. Contractor shall provide mooring lines with rated breaking strength equivalent to the ship’s lines per reference Mooring Arrangement Drawing (Reference 2.2). Maximum breaking strength of contractor provided mooring lines shall not exceed rated strength of ship’s lines.

c. In the event that the ship needs to be reoriented or shifted at the berth or pier to accomplish any of the work required by this work package, the contractor shall furnish tugs, pilots, equipment, mooring lines, line handlers,

safe berth, etc. at the expense of the contractor to enable the ship to safely be reoriented or shifted berths or piers at the Contractor’s facility. If the ship is shifted from berth or pier all requirements of WI 0011, General Services for Ship, shall be maintained.

7.2 Re-delivery

7.2.1 Upon completion of successful testing, dock and sea trials, the contractor shall provide all line handlers, tugs and pilots to redeliver the ship to the government at a transfer point in the navigable channel in the vicinity of the contractor’s facility, as agreed upon by the OMT REP and the contractor. At the time of redelivery, the contractor shall ensure that the ship is ready for service in accordance with this work package. The ship shall be thoroughly cleaned, with all parts of the ship free of dirt, debris, and garbage.

7.2.2 Potable water systems and tanks, if entered or worked by the contractor, (including piping) shall be super-chlorinated, drained, replenished and certified fit for consumption by a qualified medical testing facility prior to dock trials, in accordance with the requirements of Reference 2.1.

7.2.3 The contractor shall provide tugs and pilots in accordance with USCG and local requirements to guide/escort the ship from the transfer point in the vicinity of the contractor’s facility for the transit back to open ocean. In the event that sea trials and the ship repair period conclude at the sea buoy, such that the ship does not return to the Contractor’s facility, the OMT REP will issue a credit RFP to recoup the costs for these tug and pilot services.

7.2.4 Existence of any major uncorrected deficiencies, for which the contractor is responsible that adversely affect the safe navigation and/or proper operation of

the ship for its intended service, shall be sufficient cause to reject redelivery of the ship pending correction of the item(s) in question. Consequential delays in redelivery, as a result of uncorrected deficiencies or unfinished work shall be the contractor’s responsibility. All tests and inspections required by this work package shall be completed prior to redelivery of the ship. Existence of a large number of uncorrected deficiencies will be sufficient cause for rejection of redelivery.

7.2.5 To ensure that the ship is in proper condition for redelivery, a final joint acceptance survey of the ship will be made by the OMT REP and the contractor at least five days prior to the scheduled redelivery date. This acceptance survey will include a completion status review. Based on this survey, an agreement shall be reached between the contractor and the OMT REP regarding all remaining work requirements, the extent of further cleaning and correction of deficiencies that must be completed prior to the OMT REP accepting redelivery of the ship.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for security services and shipboard access.

2.0 REFERENCES

2.1 COMSCINST 5530.3 Series, Military Sealift Command (MSC) Shipboard Force Protection (FP) Program

2.2 NAVSEA Standard Item 009-72 (current revision)

2.3 MSC Drawing No. **845-4458934**, Booklet of General Drawings

3.0 ITEM LOCATION/DESCRIPTION

3.1 LOCATION: Entire vessel at the contractor’s facility

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Security plan: Submit security plan in accordance with Reference 2.2.

7.2 Shipboard access

7.2.1 No less than five (5) days before scheduled ship arrival, the contractor shall deliver to the OMT REP a list of all contractor and subcontractor (including contractor furnished technical representatives) personnel who will be involved in the onboard performance of the contract. The list shall contain the names, identification numbers, and if

available, the security clearance of all contractor and subcontractor personnel.

7.2.2 Prior to the commencement of each weekend or unscheduled overtime shift, not identified in the contractor’s production plan schedule as originally submitted with the contractor’s proposal (or subsequently revised during contract performance), the contractor shall provide to the OMT REP a list of all contractor and subcontractor (including contractor furnished technical representatives) personnel scheduled to work each shift. The list shall contain the names, and if available, the security clearance of all contractor and subcontractor personnel.

7.2.3 The contractor shall have and demonstrate for approval at the time of submitting his proposal, an employee identification badge/pass and security system in accordance with References 2.1 and 2.2. The requirements of References 2.1 and 2.2 are for all direct employees to be issued badges which as a minimum have:

a. Bust photo minimum size: 1"×1¼"

b. Name of employee (typed)

c. Badge serial number (printed)

d. Employee's position/trade (typed)

e. Employee's signature

f. Validation officer's name (typed)

g. Validation officer's signature

h. Expiration date (typed)

i. Lamination of badge

7.2.4 Temporary individual badges shall be issued to all subcontractor workers and visitors. Subcontractor and visitor badges shall be clearly identifiable as such from those of full-time employees by being distinctly different in color and marking from those issued direct employees and each from the other.

7.2.5 Badge records/inventories shall be maintained:

a. An updated record (weekly) shall be maintained for all effective badges issued and surrendered.

b. All temporary (subcontractor and visitor) badges shall be numbered and inventoried daily.

c. When for any one of the individual badge types (direct employee, subcontractor, visitor), a loss of ten percent occurs, that entire series of badges shall be canceled and reissued with a new series of numbers and colors.

d. Inventories shall be made available to the OMT REP for review upon demand and shall be delivered as a contract deliverable for this work item at the end of the performance period.

7.2.6 The contractor shall obtain from the ship’s Master and OMT REP a list of crew members (and changes thereto as they occur), Government technical representatives, Operating Company technical representatives and other known visitors for each day. These lists shall be the basis for MSC access to the ship.

7.2.7 The OMT REP and the ship’s Master may deny access to the ship to contractor personnel if the personnel list required by Paragraph 7.2.1 is not delivered prior to the start of the performance period.

7.2.8 The OMT REP and the ship’s Master may deny

access to the ship to contractor personnel, on a shift by shift basis, if the personnel list required by Paragraph 7.2.2 is not delivered prior to the start of weekend or unscheduled overtime shifts.

7.3 Shipboard Security

7.3.1 Uniformed security guards shall be posted ashore immediately adjacent to the ship's gangway(s) on a 24-hour around the clock basis. The guards shall be other than full time production workers assigned for this task on a temporary basis. The use of a shipyard installed 24-hr monitored central monitored camera system does not remove the requirement for 24-hr gangway personnel or roving patrol personnel.

7.3.2 The guards shall ensure that only authorized personnel are allowed onboard, this to include: OMT REP and associated overhaul management team staff, all ship's force, contractor workers, subcontractor workers, Government furnished technical representatives, and visitors (MSC and others when prior authorization is issued by OMT REP).

7.3.3 Verification of each individual's identity shall be required by presentation of a valid contractor issued identification card or Government issued identification card. Only these documents will be acceptable identification.

7.3.4 Unannounced visitors without contractor issued or government issued identification are not permitted onboard. The guard shall immediately notify the OMT REP, the ship's Master and the contractor’s project manager to verify the visitor's identity.

7.3.5 Visitors log

a. A daily log shall be maintained for visitors who do not possess contractor furnished or government furnished identification.

b. These visitors shall be logged in and out. The log shall contain entry blocks for the printed name, organization represented, type of identification presented (company ID, driver’s license), the ID card number, time onboard, time departed and signature of the visitor, and name of crew escort. A new page shall be started for each new day starting at 0001 hours.

c. In addition to the shipyard’s visitors pass, visitors coming onboard the ship shall be issued a shipboard visitor’s pass by the gangway watch readily identifiable from those of the shipyard and subcontractor workers by a unique color.

7.3.6 Secondary gangways rigged for emergency egress only do not require a dedicated security guard.

7.3.7 The contractor shall ensure notification of contractor and subcontractor (including contractor furnished technical representatives) personnel and all visitors, that a precondition for being granted access to the ship is that all packages, suit cases, briefcases, boxes, tool bags, and tool boxes going onboard or ashore may be subject to inspection for the following prohibited articles: Weapons, explosives, government property or property belonging to the crew. That any person refusing to submit to such inspection when boarding the ship will be refused access to the ship. That any person refusing to submit to inspection upon departing the ship may be subject to detention for civil authorities and being prohibited further access to the contractor’s facility and the ship.

a. The guard(s) shall be required to inspect all visitors’ (and randomly inspect all other persons’) packages, suitcases, briefcases, boxes, tool bags and tool boxes going onboard or ashore for: weapons, explosives, government property or property belonging to the crew. The rate of random inspections shall be mutually agreed upon and monitored by the

shipyard superintendent and OMT REP so as not to impede production. An attempt, without resorting to force, shall be made to detain at the gangway anyone attempting to bring any prohibited item(s) onboard, remove prohibited property from the ship, or refusing to submit to an inspection. The shipyard security force shall be immediately notified.

b. The contractor shall ensure that painted signs with one-inch lettering giving notice of the conditions for access described in Paragraph 7.3.7 are prominently displayed at the foot of each gangway. Signs shall be in English language, and additionally in the language of the local area.

7.3.8 A roving patrol is required on the ship on a 24-hour basis. This is to be a separate and distinct individual from the gangway guard. The roving patrol shall be other than full time production workers assigned for this task on a temporary basis.

a. The roving patrol shall continuously tour all spaces, Reference 2.3 is provided for guidance. Spaces to be inspected shall include but not limited to:

1. The lowest level of all machinery spaces; engine room(s), auxiliary machinery room(s), pump room(s), shaft alley(s), generator room(s), boiler/fire room(s), steering gear room(s), thruster room(s), and all other main and auxiliary machinery spaces

2. All engineering, cargo hold, cargo hold cofferdams, voids, and rosebox(es), pipe tunnel(s), dry, general material, refrigerated and frozen, paint and flammable, boatswain's, sponsor, and other storerooms

3. All communication, scientific data, telemetry, sponsor data, sonar trunk(s), laboratories, work and machine shops

4. All galley(s), pantry(s), mess rooms, lounges, hospital(s), ship's exchange(s), (P.X.), berthing areas, toilets and showers, and other spaces

5. All strong room(s) and gun locker(s)

b. The roving patrol shall be required to enter all unlocked spaces and traverse same in a manner that necessitates using an exit other than the one used for entry, except in those cases where only one entry/exit route/door exists.

c. All doors to spaces not requiring entry by contractor workers in the performance of the repair work set forth in the work items of the specifications shall be checked to ensure they are locked.

d. All such spaces will be locked by the ship's force upon arrival at the contractor's facility. The contractor’s project manager shall ensure that the head of the shipyard security force has assigned a responsible individual to perform an initial inspection of all spaces with a ship’s force officer to identify the locked spaces and prepare a list of these for use by the roving patrol. The list shall be updated daily or as frequently as necessary. Doors on the list found unlocked shall be reported immediately to the head of the shipyard security department and to the shipyard project manager. Copies of the list and each revision shall be furnished to the OMT REP.

e. The roving patrol shall punch a time clock on each inspection round of the ship.

1. The contractor shall temporarily install a punch time clock system throughout the ship to demonstrate inspection of the entire ship, has been performed on a continuous round basis.

2. Key stations for such a system shall be installed in a manner which discourages theft or tampering.

f. Time clock cards shall be kept:

1. Time clock cards shall be kept from 1200 of the preceding day to 1200 of the succeeding day. Each day's clock card shall be delivered to the gangway watchman at 1200 for the start of the next twenty-four hour period. No extra copies shall be allowed in the possession of the watchman.

2. As verification that the ship was inspected, the clock cards shall contain entry blocks on the back for the following:

(i) Ship’s name

(ii) Contractor’s firm

(iii) Contract number

(iv) Start and end date of the period clocked

(v) Signature of the first and last shift’s security watch

(vi) Signature of the shipyard security head

(vii) Signature of the shipyard project manager

3. At the end of the 24-hour period the clock card shall be signed by the head of shipyard security and the shipyard project manager and delivered to the OMT REP, as a contract deliverable document.

g. The roving patrol shall be aware of and on the

alert to the signs and conditions which indicate any of the following:

1. Flooding and rising water levels in machinery spaces and holds

2. Fire

3. Water/oil damage (from leaking or broken steam, water or oil piping)

4. Explosion dangers (from escaping welding/burning and sewage gases)

5. Live disconnected electrical lines or welding leads

6. Loose and unsecured equipment or machinery which can fall/drop from heights

7. Unauthorized persons onboard the ship during work and non-work hours

h. It shall be the contractor's responsibility to provide the required training to the roving patrol on how to identify these conditions in a shipyard work environment.

7.3.9 The roving patrol and gangway guard(s) shall have portable radio communications at all times. In addition, communications with other shipyard security forces shall also be maintained.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to provide and maintain Marine Chemist gas free certificates to certify spaces and systems as gas free safe for personnel entry and safe for hotwork on the ship where work will be accomplished on a daily basis.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Machinery rooms, pump rooms, and tanks and spaces as noted in Enclosure 2.2.1 of Work Item 021 of this work package.

3.1.2 Areas throughout the vessel where hot work is being performed by the contractor.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 In the United States or its territories and possessions, a National Fire Protection Association (NFPA) Certified Marine Chemist shall be used to certify spaces gas free safe for personnel entry and safe for hot work (29 CFR 1915, Subpart B Appendix B). Outside of the United States, a Marine Chemist or Industrial Hygienist, certified in the country or locale where the work is to be accomplished, shall be utilized.

7.1.1 Contractor actions to prepare tanks and spaces to attain gas free certification shall be accomplished in accordance with USCG, OSHA (Subparts 1915.11, 1915.12, and 1915.13) and OCONUS specific locale requirements.

7.2 Test and prove gas free "Safe for Men" and "Safe for Hot Work" as applicable for all areas as listed in 3.1, including all other spaces where work requiring gas free condition is required by the work items of these specifications:

7.2.1 Cleaning required to attain gas free status is covered under individual work items.

7.3 Furnish the OMT REP with two copies of the gas free certificates signed by a NFPA certified Marine Chemist (or equivalent OCONUS Marine Chemist or Industrial Hygienist) prior to start of any confined space entry and/or hot work. Furnish a new gas free certificate, signed by a NFPA certified Marine Chemist (or equivalent OCONUS Marine Chemist or Industrial Hygienist), daily thereafter for the duration of the particular work necessitating gas freeing of spaces safe for men and hot work. One copy of said certificate is also to the posted near the gangway(s).

7.3.1 Gas free certificates shall be maintained on a

daily basis. This may be accomplished by a shipyard competent person, provided same competent person is acceptable to all regulatory agency (e.g. USCG, ABS) inspection personnel during inspections. Should regulatory agency inspectors require NFPA certified Marine Chemist (or equivalent OCONUS Marine Chemist or Industrial Hygienist) certificates, the additional costs of contracting a Marine Chemist shall be borne by the contractor.

7.3.2 Shipyard competent persons shall be trained by a NFPA certified Marine Chemist (or equivalent OCONUS Marine Chemist or Industrial Hygienist), and credentials demonstrating this training shall be provided to the OMT REP prior to any confined space entries.

7.4 Any variation of originally certified conditions such as shifting vessel, changing ballast, and transport of any other fluids, etc., must be immediately brought to the attention of the OMT REP. A new Marine Chemist gas free certificate shall also be issued.

7.5 Burning or other hot work as defined by 29 CFR 1915.11(b) shall not be done by the contractor on any part of the vessel, including piping systems unless permission to do so is specifically granted by the NFPA certified Marine Chemist (or equivalent OCONUS Marine Chemist or Industrial Hygienist), documented with issued certificates.

7.6 Preparation of Drawings: None

7.7 Manufacturer’s Representative: None

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to open, clean, gas-free, maintain, and close miscellaneous tanks, voids, cofferdams, and spaces. Storage of re-usable fuel and lube oils is also required.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. 845-4458934 GENERAL ARRANGEMENT DRAWING, USS MT. WHITNEY (LCC)

2.1.2 MSC Drawing No. 845-7490232, USS MT. WHITNEY, Trim & Stability Booklet

2.2 Enclosures

2.2.1 USS MT. WHITNEY (LCC) List of Applicable Tanks, Voids and Cofferdams to be Opened during Current Availability

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity: See Enclosure 2.2.1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of

tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

5.4 In the event that any tank contents are deemed to be hazardous wastes in accordance with federal, state and local (CONUS) or international (OCONUS) standards, the costs for handling and disposal of those wastes shall be covered under Work Item 023 of this work package.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 Tank coating system conditions shall be identified and documented by the contractor during tank surveys. ABS surveyor shall receive a copy of contractor’s reports.

7.0 STATEMENT OF WORK REQUIRED

7.1 It is the contractor’s responsibility to analyze and properly plan tank unloading procedures to ensure that no undue stresses are imposed on the vessel structure. Ship’s force and OMT REP will assist contractor with ship loading documents and software. The contractor shall utilize the services of a naval architect or structural engineer to support this planning. The contractor shall provide their tank unloading plan to the OMT REP at least two business days prior to starting this work to permit review and approval by MSC naval architect.

7.2 Contractor and ship’s force shall on arrival at the contractor’s facility take, record, and verify soundings of all tanks listed in Enclosure 2.2.1, using References 2.1.1 and 2.1.2 as guidance. The Chief Engineer shall review and endorse all soundings taken/recorded. Submit copy of endorsed record to the OMT REP.

7.3 Provide a clean storage facility with a capacity of approximately **100,000** gal of fuel oil, **25,000** gal of JP-5 and **2,000** gal of lube oil. Contractor designated storage facility shall be inspected by the OMT REP for cleanliness and acceptability prior to any transferring of fuel oil and lube oil. Prior to off-loading liquids, samples shall be taken by the contractor of each of the tanks to be moved to temporary storage. These samples shall be turned over to the Chief Engineer. Each sample bottle shall be labeled with tank taken from, contents, and date taken. Any visual indications of contamination shall be brought to the attention of the OMT REP immediately. Upon completion of transferring of liquids, the contractor, in conjunction with ship's force, shall validate quantities at the storage facility.

7.3.1 In the event that contamination is suspected, a change order will be issued to the contractor to have a laboratory analysis conducted on the sample.

7.3.2 Provide unit pricing for each facility listed in 7.3.3 Storage facility must be available throughout the duration of the entire availability including any extensions.

7.3.3

Requirement	Unit/Quantity	Price
Clean Storage Facility for Fuel Oil	1 Lot/ 2,381 Barrels	
Clean Storage Facility for Lube Oil	1 Lot/ 595 Barrels	
Clean Storage Facility for JP-5	1 Lot/ 48 Barrels	

7.4 Removals: The ship will pump down tanks to low suction, either to other tanks onboard or to shore storage facilities. In the event that the tank contents are being moved off the ship, the contractor shall provide support to the vessel, including all hoses and manpower on the shore side to accomplish this removal. Contractor shall be responsible to

provide all pumps, hoses, fittings and personnel to safely remove all remaining tank contents as identified in Enclosure 2.2.1. Applicable federal, state, local or international procedures for transferring fuel and lube oils over water shall be followed by the contractor. Contents to be temporarily stored are indicated in the enclosure. All other liquids shall be disposed of in accordance with local, state, federal and/or international regulations. In some states, the presence of oil in the wash water may deem the mixture to be hazardous waste. When pricing this item, the contractor shall assume that oil is present in the tank wash water. The cost for disposal of the mixture shall be included in the price quote regardless of whether or not, due to the presence of oil, the wash water is deemed hazardous waste or non-hazardous waste. If the mixture is determined to be hazardous waste due to some contaminant other than oil, the procedures outlined in Work Item 023 shall be used for the identification, handling and disposal. The costs for removal are still part of this work item (021). All other costs for offload and disposal shall be captured in this work item.

7.5 When directed by the OMT REP, return all fuel oil and lube oil to the vessel. Prior to returning of liquids, the contractor, together with ship's force, shall take samples of all stored liquids. These samples shall be turned over to the Chief Engineer. Each sample bottle shall be labeled with temporary storage tank taken from, contents, and date taken. Any visual indications of contamination shall be brought to the attention of the OMT REP immediately.

7.6 Accomplish the following for each tank/space listed in Enclosure 2.2.1:

7.6.1 Open manholes and erect/maintain safety guards over openings.

7.6.2 Temporarily provide blowers and ventilate tanks and spaces, inclusive of confined areas around manhole covers.

a. Ventilation of the tanks shall be accomplished so as to prevent tank fumes from exhausting in the interior compartments of the ship.

7.6.3 Temporarily provide and maintain, as required, tank lamping/lighting. Lighting shall be explosion proof, safety type lights.

7.7 Clean and Gas Free tanks and spaces listed in Enclosure 2.2.1. Cleaning shall completely remove all traces of dirt, sludge, debris and liquids. All tanks and spaces shall be presented in a clean and dry condition and shall be ready to be certified and maintained safe for men/safe for hot work. The provision of gas free certificates is covered under Work Item 020 of this work package.

7.7.1 Where a battery of tanks is designated for cleaning and gas freeing, all interior spaces in way of same, such as cofferdams, voids, bilges, bilge wells and other spaces, even if not specifically mentioned, shall be considered as being included as spaces to be cleaned and gas freed.

7.7.2 For all tanks and spaces indicated in enclosure 2.2.1, air vents, sounding tubes, filling and suction lines and other appurtenances shall be included for cleaning and gas freeing. Secondary manhole covers for each tank shall also be opened.

7.7.3 Post original gas free certification at each tank/space location. Certificate shall be mounted directly at the tank/space manhole entrance.

7.7.4 Post copy of gas free certificates at the designated gangway access to the vessel. Certifications posted at gangway shall be in a protective weather/waterproof enclosure that is accessible and visible.

7.8 Surveys and testing requirements for these tanks shall

be addressed in other work items in this work package.

7.9 At the conclusion of all required work, conduct a final closeout inspection for each tank/space listed in enclosure 2.2.1 with the OMT REP. No tank shall be closed until a final inspection is accomplished with the OMT REP in attendance.

7.9.1 Contractor is responsible for repairing all tank coating damage caused by work in this solicitation work package. During close out inspection, if coatings are found damaged by contractor’s work, contractor shall repair damaged areas prior to final close out of tank/space, at contractor’s expense. Damaged coatings shall be repaired in accordance with MSC paint system and the paint representative’s recommendations.

7.9.2 Ensure all blowers, lighting, staging, tools, and miscellaneous equipment are removed prior to the final inspection. Any staging necessary for OMT REP close out inspection shall be removed just prior to final acceptance close out of tank/space.

7.9.3 Present tank in final clean condition. No dirt, dust, debris or liquids shall be allowed. Any tank or space failing the close out inspection, shall be re-cleaned until passing OMT REP inspection (repeated cleanings and inspections will be at contractor expense, and may become subject to issuance of a QDR).

7.10 Upon acceptance of final closeout inspection and by direction of the OMT REP, reinstall manhole covers using new gaskets, grommets, and wicking. Submit a condition found report for any missing or damaged fasteners or hardware.

7.11 The following tanks and spaces, included in Enclosure 2.2.1, shall be opened, cleaned and prepared for gas free certification within **14 days** of the shipyard availability start:

7.11.1 Tank 9-FP-0-W Forepeak Tank

7.11.2 Tank 9-40-1-W Clean SW Ballast Tank

7.11.3 Tank 9-40-2-W Clean SW Ballast Tank

7.11.4 Tank 9-52-0-W Clean SW Ballast Tank

7.11.5 Tank 9-52-1-W Clean SW Ballast Tank

7.11.6 Tank 9-52-2-W Clean SW Ballast Tank

7.11.7 Tank 9-64-1-W Clean SW Ballast Tank

7.11.8 Tank 9-64-2-W Clean SW Ballast Tank

7.11.9 Tank 9-98-1-W Clean SW Ballast Tank

7.11.10 Tank 9-98-2-W Clean SW Ballast Tank

7.11.11 Tank 7-82-1-F Fuel Oil Service Tank

7.11.12 Tank 9-86-1-F Fuel Oil Storage Tank

7.11.13 Tank 9-86-2-F Fuel Oil Storage Tank

7.12 Required deliverable report: Contractor shall create, maintain, update, and submit weekly during the progress meeting, a tank/space work matrix. This matrix shall contain the following information:

7.12.1 Tank/Space Name

7.12.2 Tank/Space Location Designation

7.12.3 Date Tank/Space Opened

7.12.4 Date Gas Free Cleaning Started

7.12.5 Date Gas Free Cleaning Completed

7.12.6 Date Gas Free Certificate Received

7.12.7 Date ABS Initial Structural Survey Complete

7.12.8 Date Air Test/Hydro Test Completed

7.12.9 Date Final Tank/Space Cleaning Started

7.12.10 Date Final Tank/Space Cleaning Completed

7.12.11 Date Tank/Space Final Close

7.12.12 Tank/Space Related Repair Status: List major job sequence within a tank/space followed by date start and date completed (such as below):

a. Access Cuts -> date removed/date installed

b. Blasting -> date start/date complete

c. Painting -> date start/date complete

d. Related work items internal repairs (pipe, valve, structure, etc.)

e. Related work items external repairs (welding, UT’s, zincs, other structural related; etc.)

f. Fluids added/removed from tank/space (pot water chlorination; Undocking stability; fuels/oils; etc.)

7.13 Paint all disturbed surfaces to match surroundings

8.0 GENERAL REQUIREMENTS: None additional

Enclosure 2.2.1 - USNS MT. WHITNEY (LCC) List of Applicable Tanks, Voids and Cofferdams to be Opened during Current Availability

(DFM) Fuel Oil Service Tanks				
Description Tank Number	Tank Frame Location	95% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
7-82-1F	82-86	8,445		
7-82-2F	82-86	8,445		
9-30-1F	30-50	33,864		
9-30-2F	30-40	33,864		

(LO) Lube Oil Storage Tanks				
Description Tank Number	Tank Frame Location	95% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
7-97-6F	97-98	722		
7-97-8	97-98	722		
7-97-10	97-98	722		

(LO) Lube Oil Settling Tanks				
Description Tank Number	Tank Frame Location	95% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
7-97-2F	97-98	749		
7-97-4F	97-98	749		

(JP-5) Tanks

Description Tank Number	Tank Frame Location	95% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
9-109-1J	109-121	35,524		
9-109-2J	109-111	4,502		
9-109-4J	109-121	31,022		

(SW) Clean Ballast Tank				
Description Tank Number	Tank Frame Location	100% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
9-40-1W	**40-52**	**27,156**		
9-40-2W	**40-52**	**27,156**		
9-52-0W	**52-56**	**44,043**		
9-52-1W	**52-64**	**65,782**		
9-52-2W	**52-64**	**65,782**		
9-64-1W	**64-76**	**85,204**		

(SW) Clean Ballast Tank				
Description Tank Number	Tank Frame Location	100% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
9-64-2W	**64-76**	**85,204**		
9-98-1W	**98-104**	**37,942**		
9-98-2W	**98-109**	**75,833**		

(SW) Forepeak Tank				
Description Tank Number	Tank Frame Location	100% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
9-FP-0W	**FP-8**	**56,412**		

(PW) Fresh Water Ballast Tanks				
Description Tank Number	Tank Frame Location	100% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
9-86-5W	86-98	32,307		
9-86-6W	86-98	32,307		
9-104-1	104-109	37,564 (Technical Water Tank)		
9-104-2	104-109	37,564 (Technical Water Tank)		

(CHT) Sewage Holding Tanks				
Description Tank Number	Tank Frame Location	100% Capacity (gals)	Area (sqft)	Arrival Condition (Ltons)
8-48-1W	48-52	XXX		
8-48-2W	48-52	XXX		
8-98-1W	98-102	XXX		
8-98-2W	98-102	XXX		

1.0 ABSTRACT

This item describes the requirements for machinery space turn-over, dock trials, and sea trials.

2.0 REFERENCES: None

3.0 ITEM LOCATION AND DESCRIPTION

3.1 Various

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIALS/SERVICES: None

5.0 NOTES

5.1 The contractor and subcontractors must consult Military Sealift Command’s General Technical Requirements, (GTR’s), to determine applicability to this work item. The contractor and all subcontractors must comply with all applicable GTR requirements.

5.2 The contractor and subcontractors shall review other work items under this contract, to determine their effect on the work required by this item. Based on this review the contractor shall plan and schedule work to minimize conflicts between work items.

5.3 The definitions of many terms used in this work item are found in work item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Machinery space turn-over

7.1.1 Machinery space turn-over signifies that all contractor related work on ship systems and equipment within the

machinery spaces is complete.

a. All tag-outs shall be cleared by shipyard personnel in concert with ship’s force for machinery space equipment worked on during the availability after verifying the work is complete.

b. All temporary hoses, power cables, rigging and staging has been removed from the machinery spaces. All temporary openings have been restored.

c. All tank covers have been closed with proper gasketing and bolting and all gratings are in place and properly secured within the machinery spaces.

d. All machinery space bilges are free of trash, clean and dry.

e. All machinery space fire detection and fire extinguishing systems are fully operational.

f. All guards and shields are in place for machinery space equipment.

7.1.2 Ship’s crew shall utilize the time between machinery space turn-over and dock trials to complete MSC mandated ship start-up and readiness assessment checklists. The contractor shall assist the OMT REP and Chief Engineer in assembling information and reports necessary to complete ship start-up readiness assessments as detailed in Work Item 013 article 7.2.8.f.

7.2 Dock Trials

7.2.1 Develop and submit to OMT REP a dock trial agenda at the 50% time point of the availability. Develop and submit to the OMT REP, four days prior to dock trials, a final version of the dock trial agenda that includes the following

items. (Note that under Work Item 013, the contractor shall support a pre start-up meeting scheduled to occur at least 3 days prior to the dock trial. This milestone marks the requirement for the contractor, all subcontractors and technical representatives involved in the installation, maintenance and repair of shipboard equipment and systems to meet with the OMT REP, Chief Engineer and Master to review written reports from the contractor, subcontractors and technical representatives asserting the readiness of subject equipment for start-up, commissioning and operational testing. Subject reports shall also include recommended start-up, commissioning and testing procedures to prove proper operating conditions of subject equipment.):

a. Written certification from the Contractor or the subcontractor that all work on each piece of machinery space equipment is complete and that the equipment is fully ready for start-up and operation.

b. List of equipment to be tested

c. List of tests

d. Test performance criteria, including OEM commissioning procedures

e. Test acceptance criteria

f. Test schedule

g. Test data to be recorded

h. Test data recording format

i. Instrumentation required

j. List of shipyard personnel involved

k. List of vendor technical representatives

l. List of regulatory body representatives

7.2.2 Dock trials shall be carried out jointly with ship's force. Representatives of contractor or subcontractor shall be present onboard to witness testing and record operational testing and performance data. Dock trial results shall be summarized by the contractor and submitted to the OMT REP prior to sea trials.

7.2.3 Conduct dock trials as scheduled per work item 013.

7.2.4 Allocate four hours minimum duration for running of each equipment/system.

7.2.5 Schedule all dock trials during the day shift.

7.2.6 Perform dock trials in accordance with the published agenda.

7.2.7 Operate and test main propulsion machinery, auxiliary machinery, and equipment that has been overhauled, repaired or otherwise worked on during the performance of the work package.

7.2.8 Turn the shaft(s) during dock trials, taking all necessary precautions to obtain wheel clearance prior to turning the shaft(s). Contractor shall provide tug services at the pier to provide positive holdback during dock trials. Contractor shall provide additional lines, make temporary removals and disconnections as necessary to support dock trial evolution.

7.2.9 Manufacturer and authorized technical representatives, used by the contractor to install, repair and/or modify any equipment or system shall be present during

operational testing of that equipment or system during the dock trial event. OEM commissioning procedures shall be provided by the technical representative and shall be included in the test procedures provided by the contractor in 7.2.1.

7.2.10 Correct deficiencies attributable to contractor or subcontractor workmanship found during dock trials, prior to accomplishing sea trials.

7.2.11 At the completion of dock trials, the Contractor shall issue a report outlining the observed performance of all tested equipment. The report shall document observed performance and note acceptance/non-acceptance based upon the stated test criteria per 7.2.1. In addition, the report shall contain reports from manufacturer and authorized technical representatives stating conditions noted for commissioning/start-up and testing of subject equipment and an affirmation of the equipment operating within acceptable parameters. The report shall be issued no later than 24 hours after completion of the dock trials and shall be the basis for determination that the ship is ready to execute the sea trial event.

7.3 Sea Trials

7.3.1 Sea trials shall not be executed without prior receipt of the preliminary weight and moment report required in WI 014 article 7.6.4.

7.3.2 Develop and submit to OMT REP a sea trial agenda at the 50% time point of the availability. Develop and submit to the OMT REP, two days prior to sea trials, a final version of the sea trial agenda that includes:

a. List of equipment to be tested

b. List of tests

c. Test performance criteria

d. Test acceptance criteria

e. Test schedule

f. Test data to be recorded

g. Test data recording format

h. Instrumentation required

i. List of shipyard personnel involved

j. List of vendor technical representatives. All manufacturer and authorized technical representatives, used by the contractor to install, repair and/or modify any equipment or system shall be present during operational testing of that equipment or system during the sea trial event.

k. List of regulatory body representatives

l. List of equipment requiring special operating conditions (e.g., sea state, navigational clearance, test ranges, etc.)

m. Equipment requiring calibration and adjustment while at sea

7.3.3 Conduct sea trials one day prior to scheduled redelivery.

7.3.4 Perform sea trials in accordance with published agenda.

7.3.5 Operate and test at equipment full power rating, all main propulsion machinery, auxiliary machinery, and equipment that has been overhauled, repaired or otherwise worked

on during the performance of the Work Package.

7.3.6 Allocate eight hours minimum of actual running time in open seas. Transit time shall not be included in the sea trial time requirement.

7.3.7 Manufacturer and authorized technical representatives, used by the contractor to install, repair and/or modify any equipment or system shall be present during operational testing of that equipment or system during the sea trial event. OEM commissioning procedures shall be provided by the technical representative and shall be included in the test procedures provided by the contractor in 7.3.2.

7.3.8 Contractor shall provide the following shipyard journeymen at a minimum (with respective craft tools) to ride the ship and perform final adjustments, calibrations, data collection, deficiency correction and observance of equipment/system performance during the entire sea trial:

a. One supervisor

b. Two machinists

c. Two pipe fitters

d. Two electricians

7.3.9 At the completion of sea trials, the Contractor shall issue a report to the OMT REP outlining the observed performance of all tested equipment. The report shall document observed performance and note acceptance/non-acceptance based upon the stated test criteria per 7.3.2. In addition, the report shall contain reports from manufacturer and authorized technical representatives stating conditions noted for commissioning/start-up and testing of subject equipment and an affirmation of the equipment operating within acceptable parameters. The report shall be issued no later than 24 hours

after completion of the sea trials and shall be the basis for determination that all shipyard completed work is acceptable.

7.3.10 Correct deficiencies attributed to contractor or sub-contractor workmanship found during sea trials prior to redelivery.

7.3.11 Repeat the sea trial at Contractor’s expense until satisfactory results are achieved if the initial sea trial is deemed unsatisfactory by the OMT REP.

7.3.12 Upon successful completion of the sea trial, as accepted by the OMT REP, contractor shall provide sea and/or land transportation to pick up all contractor, subcontractor and government riders from the traditional pick-up point for the local launch service and return those personnel to the shipyard.

7.3.13 If a sail-away sea trial is conducted, a change order will be issued to accept redelivery of the vessel at an alternate location from that listed in Work Item 018 (Delivery and Redelivery).

7.3.14 Contractor shall provide all tugs, pilots, line-handlers, etc. to support ship departure and return from sea trials.

7.4 Dock and Sea Trial Reports

7.4.1 Prepare final dock trial and sea trial reports addressing the following. Reports must be completed and submitted to the OMT REP within 24 hours of completing the dock trial and the sea trial:

a. Equipment/systems tested

b. Test environmental conditions

c. Test date and time

d. Test acceptance criteria

e. Test results

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the requirements for the contractor to provide services to identify, test, handle, store, transport, and dispose of any hazardous wastes generated during the performance of this work package.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 Resource Conservation and Recovery Act (RCRA) as amended

2.1.2 10 U.S.C. §7311

2.1.3 Applicable Uniform Hazardous Waste Manifest Form

2.1.4 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods; EPA Document, SW-846; the official compendium of analytical and sampling methods that have been evaluated and approved for use in complying with the RCRA regulations.

2.1.5 OPNAVINST M 5090.1(Series), ENVIRONMENTAL READINESS PROGRAM MANUAL

2.2 Enclosures

2.2.1 List of Expected Types & Quantities of Hazardous Wastes

2.2.2 Hazardous Materials Survey Requirements

3.0 ITEM LOCATION/DESCRIPTION

3.1 Throughout the ship and adjacent areas where ship related work is accomplished causing the generation of hazardous waste as stated below.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with all applicable GTR requirements.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.3 The definitions of many terms used in this work item are found in Work Item 001.

5.4 Hazardous Waste Defined

5.4.1 RCRA hazardous waste is waste that appears on one of the four hazardous wastes lists (F-list - 40 CFR 261.31, K-list - 40 CFR 261.32, P-list 40 CFR 261.33, or U-list 40 CFR 261.33), or exhibits at least one of four characteristics; ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR Part 261, Subpart C.

5.4.2 Any material that is classified and regulated as a hazardous waste by international, federal, state and local regulations for the location where the work is being performed shall be treated as hazardous waste in this item.

5.5 If a material is not specifically determined to be hazardous waste in the location where the work is being

performed, the waste shall be considered as non-hazardous waste for the purposes of this contract and shall be properly disposed of as part of the contractor’s bid work requirements for the work item that generates the waste. The costs associated with the removal, handling and disposal of these non-hazardous wastes shall not be charged against this item.

5.6 The waste stream list identified in Enclosure 2.2.1 represent potentially hazardous wastes that may have been encountered on MSC ships in the past. Hazardous waste generated during the actual performance of the work may vary in type or amount from waste identified in Enclosure 2.2.1, as classified and regulated by international, federal, state and local regulations for the location where the work is being performed.

5.7 This item does not cover the disposal of bilge water and/or tank wash water that is deemed hazardous waste due to the presence of oil in the water, as may be the case in certain states. Oil contaminated bilge water disposal is covered under Work Item 011. Oil contaminated wash water is covered under Work Item 021.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 The proper characterization of potentially hazardous wastes shall be performed by one of the following means:

6.1.1 Chemical analysis by a third party certified testing laboratory in accordance with Reference 2.1.4 (required for all hazardous wastes with aggregate disposal costs above $5,000).

6.1.2 Reference to a material safety data sheet, (MSDS).

6.1.3 Applying knowledge and objective qualitative and quantitative data of the hazardous characteristics of the wastes based on the materials or process(es) used.

6.2 The contractor must provide a means to accurately measure and record/document the amount of potentially hazardous wastes generated in this work package.

6.3 The contractor shall provide the regulatory cite, referencing the threshold values exceeded which identify the material in question to be hazardous waste.

7.0 STATEMENT OF WORK REQUIRED

7.1 Hazardous waste management and control

7.1.1 The contractor shall have in place an effective hazardous waste management and control system for the identification, handling, storage, transportation and disposal of hazardous waste in accordance with Reference 2.1.1.

7.1.2 The contractor shall submit a hazardous waste management and control plan, signed by the contractor’s environmental manager, as part of the bidder’s proposal submittal package.

a. Additionally, the contractor shall submit up-to-date reference documentation delineating all hazardous waste regulations applicable for work performed at their facility. This document is to be in portable document format (PDF) and shall be part of the contractor’s bid proposal submittal package.

7.1.3 The contractor's control system shall be capable of limiting the amounts of hazardous waste generated in the performance of all work items and preventing the generation of all unnecessary hazardous waste materials during performance of the contract.

7.1.4 The control system shall ensure that all hazardous wastes are handled, stored, transported, and disposed of in accordance with References 2.1.1 and 2.1.2 and all

applicable international, federal, state, and local rules and regulations. It shall further ensure that all processes and procedures which have the potential to generate hazardous waste contain readily identifiable language (or other markings), which indicates that hazardous waste is a residual product of the work performance, and that such wastes are to be handled, stored, transported and disposed of in accordance with References 2.1.1 and 2.1.2 and all applicable international federal, state and local rules and regulations.

7.2 Generator numbers

7.2.1 Generator numbers shall be used on all Uniform Hazardous Waste Manifest Forms.

7.2.2 When the contractor or any of its sub-contractors performs work which in any manner results in the creation of hazardous waste, documentation related to such waste shall bear the contractor’s generator number.

7.2.3 When work is performed internationally, the international and local regulations shall be followed, however, in all cases, the contractor shall be the generator of the hazardous waste.

7.2.4 Per NAVSEA doctrine (OPNAVINST 5090.1c, Section 22-6.1.4), hazardous wastes generated solely by the ship shall be retained onboard and shall only be disposed of to a Naval Facility. Therefore, MSC should not be claimed as the generator of hazardous waste while the ship is at the contractor’s facility.

7.3 Procedure for initiating work

7.3.1 MSC has identified potentially hazardous wastes which may be produced during performance of this contract in Enclosure 2.2.1.

7.3.2 Upon vessel arrival at the contractor's facility, the contractor shall survey all ship spaces, areas, equipment, lockers, and storerooms in the presence of the OMT REP to identify material requiring disposal which may be characterized as hazardous waste. The nature of the potentially hazardous waste shall be determined through the testing requirements of this work item listed in 6.1. The survey results shall be tabulated in a spreadsheet format per Enclosure 2.2.2 of this work item.

7.3.3 Following the arrival survey, if potentially hazardous wastes are discovered through any work associated with a work item in this work package, the contractor is required to notify the OMT REP in writing. Each notification shall be in accordance with Enclosure 2.2.2.

7.3.4 Hazardous material is only to be handled, stored, transported and disposed of when authorized by the OMT REP.

7.3.5 In the event that a hazardous waste is identified onboard the ship and is authorized for removal by the OMT REP, and the OSHA regulations require containment and special personal protective equipment and health monitoring, these requirements shall be specifically identified by the contractor, and the costs shall be the subject of a change order to the generating work item.

7.3.6 In some states, bilge water may be determined to be hazardous waste due to the presence of oil in the water. When this occurs, the disposal costs shall not be charged against this item. Oil contaminated bilge water is covered in Work Item 011. In the event the bilge water is determined to be hazardous waste due to some contaminant other than oil, the disposal charges shall be charged against this work item.

7.3.7 In some states, tank wash water may be

determined to be hazardous waste due to the presence of oil in the water. When this occurs, the disposal costs shall not be charged against this item. Oil contaminated tank wash water is covered in Work Item 021. In the event the tank wash water is determined to be hazardous waste due to some contaminant other than oil, the disposal charges shall be charged against this work item.

7.3.8 The physical labor to accomplish the work requirements of a particular work item, including the removal of coverings and interferences, is covered under that work item. In the event that hazardous waste is discovered in preparation for the accomplishment of that work item, the following guidance is provided.

a. Special costs for containments, medical screening and other precautionary measures shall be in accordance with article 7.3.5 of this work item.

b. Cost associated with the testing, handling, segregation, movement off the ship, temporary storage, transportation, management and disposal shall be covered under this work item, as long as the requirements of this work item are fulfilled.

7.3.9 The contractor shall submit weekly reports via condition found report to the OMT rep itemizing all materials being handled as hazardous waste up to that time. This report shall be submitted whether hazardous wastes have been handled or not.

7.4 Hazardous Waste Disposal

7.4.1 Contractor’s offer shall include $50,000 towards the cost of hazardous waste disposal, plus the total price for contractor management and handling fees. If the actual cost of hazardous waste disposal exceeds $50,000 plus the

total price for contractor management and handling fees, a change order will be issued for the difference. If the actual cost of hazardous waste disposal is less than $50,000 plus the total price for contractor management and handling fees, a change order will be issued to credit the Government for the difference. The contractor shall receive the management and handling fee on a pro-rata basis. Change orders and credits due shall be on a pro-rata basis of the waste disposed.

7.4.2 Compensation will be based on properly identified hazardous waste and quantities as shown on the applicable Uniform Hazardous Waste Manifests. This will include matching the waste with the waste description identified in Enclosure 2.2.1 or additional items as appropriate. Compensation will be paid against actual invoices submitted for the transportation and disposal of the hazardous wastes. All applicable documentation, including invoices and proof of disposal at an authorized hazardous waste disposal site and signed by an authorized representative of the authorized disposal facility shall be required for reimbursement.

7.4.3 The contractor shall include a management and handling fee, as a percentage of the total estimated disposal costs, to account for the contractor’s efforts to identify, test, manage, handle and temporarily store the hazardous wastes in the yard. “Test” above includes all testing required in 6.1. This fee shall be added as a pro-rata expense to each submitted invoice to cover the contractor’s work efforts.

7.4.4 Submit Uniform Hazardous Waste Manifest Forms to the OMT REP when disposing of hazardous waste complete with the contractor’s EPA generator number.

a. Outgoing Uniform Hazardous Waste Manifest Form: Submit three copies of the completed form signed by the generator and the transporter prior to transporting hazardous waste from the contractor’s facility.

b. Returning Uniform Hazardous Waste Manifest Form: Submit three copies of the form completed and signed by the owner or operator of an authorized disposal facility acknowledging receipt of the hazardous waste within five days of receipt.

7.5 The contractor shall ship the hazardous waste to a facility legally authorized to accept the identified waste. The contractors shall ensure that transportation of hazardous waste is accomplished only by haulers registered to perform such transportation with cognizant local, state, federal, and international requirements for the locality that the work is being performed.

7.6 The contractor must submit the following in order to receive compensation under this work item: If any of the items listed in 7.6.1 through 7.6.5 are not provided, the contractor shall not receive compensation until such time as they are provided.

7.6.1 Shipyard’s invoice for the waste disposal. The invoice shall cover the pass-through charge from the waste disposal facility and the shipyard’s pro-rata charge for the management and handling fees.

7.6.2 A document identifying the regulatory reference and method utilized under article 6.1 to determine the material was hazardous waste. When analytical testing is utilized, test results shall be included.

7.6.3 Copies of the outgoing Uniform Hazardous Waste Manifests.

7.6.4 Copies of the return Uniform Hazardous Waste Manifests.

7.6.5 Copies of invoices from the hazardous waste transfer and disposal facilities submitted for the

transportation and disposal of the hazardous wastes. This invoice must be the invoice the shipyard receives from the transfer and disposal facility and show the amount the shipyard was charged for the hazardous waste disposal.

7.7 Upon completion of the work package, submit a Final Hazardous Waste Removal Summary Report to the OMT REP. The report shall provide an itemized list of the hazardous wastes removed by type, quantity, unit price, extended price, analysis method used, regulatory cite that determined the material hazardous waste, work item that generated the waste, generator assignment along with the applicable manifests for each item, and any third party chemical analysis conducted in accordance with article 6.1.

7.7.1 An electronic copy of the Final Hazardous Waste Removal Summary Report shall be sent to:

a. The OMT REP

b. The MSC Contracting Officer

c. The MSC Technical Library at email address MSC_N7_TechLibrary@us.navy.mil

7.8 Nothing contained in this work item shall relieve the contractor from complying with applicable international, federal, state, and local laws, codes, ordinances, and regulations, including the obtaining of licenses and permits, in connection with hazardous waste identification, handling, transportation, and disposal in the performance of this contract.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - LIST OF EXPECTED TYPES & QUANTITIES OF HAZARDOUS WASTES

Listing of Potentially Hazardous Wastes for Item 023				
Item	Description			
1	Asbestos			
2	PCB Contaminated Media			
3	Acid & Caustics (Sulfuric Acid)			
4	Ethlyene Glycol			
5	Diesel Engine Coolant (Maxigard)			
6	Cooling Water (Drew LiquidDEWT)			
7	Cleaning Solvents			
8	Fluorocarbons			
9	Spent Abrasive Grit (Contaminated – contaminated beyond hazardous waste thresholds)			
10	Paint Sludges (UHP Residue – contaminated beyond hazardous waste thresholds)			
11	Paint Chips (Contaminated – contaminated beyond hazardous waste thresholds)			

12	Misc. Chemicals (Flammable)			
13	Misc. Chemicals (Corrosive)			
14	Misc. Chemicals (Reactive)			
15	Misc. Chemicals (EP toxic)			
16	Paints (enamel, epoxy, non-skid, etc.)			
17	Paints (lead, cadmium, chrome)			
18	Paint Stripper & Thinners (phenols, lead, chromium)			
19	Used & Empty Paint Cans			
20	Oily Cloths			
21	Used Boiler Refractory/Magnesite Deck/Underlay & Deck Tile			
22	Electrical Cable Asbestos Insulation			
23	Batteries			
24	Lead Acid Batteries			

The items listed in the table above are examples of wastes that have, at times, been determined to be hazardous wastes based on the locality and characteristics of the substance. If an item on this list is not regarded as a hazardous waste in the locality where the work will be performed, then the contractor

shall cross out these items from the list, indicating that they are not considered to be hazardous wastes. Accordingly, the disposal of these non-hazardous wastes generated in the conduct of the work items shall be covered entirely in the bid costs presented by the contractor for the generating work item and shall not be claimed as a cost against WI 023.

ENCLOSURE 2.2.2 - HAZARDOUS MATERIALS SURVEY REQUIREMENTS

Asbestos, lead paint, PCB and general survey forms shall be separate.

1. Column 1: Indicates Contractor assigned identifier number for each sample.

2. Column 2: Indicates reason sample was obtained e.g. suspected Lead Paint, suspected Asbestos, etc.

3. Column 3: Indicates the general location from which the sample was obtained; for example, Store Space 2-50-1, forward bulkhead. Where sketches are used to indicate the location, enter “See Sketch” in column 3. Sketches must be serialized and reference the contractor assigned identifier in Column 1.

4. Column 4: Indicates the specific location from which the sample was obtained. Where sketches or photographs are used to indicate a specific location, enter “see sketch” or “see photograph” in column 4. Sketches and photographs must be serialized and reference the contractor assigned identifier in Column 1.

5. Column 5: Indicates whether the sample was hazardous or not and the method used to identify the nature of the waste. In instances where tests were required to be performed in accordance with Reference 2.1.4, the test results shall be included and serialized and reference the contractor assigned identifier in Column 1.

6. Column 6: Cites the specific reference and threshold that characterizes the material as hazardous waste for the particular locality that the work is being performed.

7. Column 7: Cites the work item that generated the waste.

8. All analysis results or copies of Material Safety Data Sheets (MSDS) which indicate a material’s hazardous condition

must be attached to the form and serialized according to the identifier number. The identifier number shall be entered directly on the laboratory test result sheets and the MSDSs.

1.0 ABSTRACT

This item describes the requirements for the contractor to continue delivering services described in the standard work items.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: As described in parent work item

3.1.2 Quantity: As described in parent work item

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Submit a unit price per day for 15 days for the continuation services described in parent work item 010 FURNISH OFFICE FOR OVERHAUL MANAGEMENT TEAM (OMT). The proposed daily rate will be used for the duration of the extension.

7.2 Submit a unit price per day for 15 days for the continuation services described in parent work item 011 GENERAL SERVICES FOR THE SHIP. The proposed daily rate will be used for the duration of the extension. Weekly reports shall continue and be charged against the base work item until exhausted. The daily rate will not include additional electrical power consumption, potable water consumption, distilled water provided, bilge water removed, and crane services. If additional quantities are needed, these shall be negotiated under a separate CCO.

7.3 Submit a unit price per day for 15 days for the

continuation services described in parent work item 012 INFORMATION TECHNOLOGY SERVICES. The proposed daily rate will be used for the duration of the extension.

7.4 Submit a unit price per day for 15 days for the continuation services described in parent work item 013 PROJECT PLANNING AND PRODUCTION STATUS MONITORING REPORTS. The proposed daily rate will be used for the duration of the extension.

7.5 Submit a unit price per day for 15 days for the continuation services described in parent work item 016 FIRE PROTECTION AND SHIP'S SAFETY PROGRAM. The proposed daily rate will be used for the duration of the extension.

7.6 Submit a unit price per day for 15 days for the continuation services described in parent work item 017 HANDLING SHIPS STORES. The proposed daily rate will be used for the duration of the extension.

7.7 Submit a unit price per day for 15 days for the continuation services described in parent work item 019 SHIPBOARD ACCESS AND SECURITY. The proposed daily rate will be used for the duration of the extension.

7.8 Submit a unit price per day for 15 days for the continuation services described in parent work item 020 GAS FREE CERTIFICATES. The proposed daily rate will be used for the duration of the extension.

7.9 Submit a unit price per day for 15 days for the continuation services described in parent work item 024 OCONUS FORCE PROTECTION. The proposed daily rate will be used for the duration of the extension.

7.10 Work items that are not separately priced continue to remain in effect and apply throughout the period of the performance extension.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This item describes the minimum Force Protection standards for facilities that repair MSC ships in operating areas outside of the US and its territories.

2.0 REFERENCES/ENCLOSURES: None

3.0 ITEM LOCATION AND DESCRIPTION

3.1 Location: Various

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor and subcontractors shall review other work items under this contract, to determine their effect on the work required by this item. Based on this review the contractor shall plan and schedule work to minimize conflicts between work items.

5.3 The definitions of many terms used in this work item are found in work item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 FORCE PROTECTION: The contractor shall, as a minimum, provide the following means of Force Protection while the vessel

is being repaired at their facility.

7.1.1 24 hours per day/7 days per week Access control. All facility access points will be locked when not in use. When not locked, facility access points will be manned by at least two Security guards. The facility access control guards will perform the following functions while MSC ships are moored at the facility:

a. The facility guards will check the identification of all personnel at the Facility Perimeter. Using access lists or other official correspondence, the guard will verify that the person entering the facility has official business that requires access to the facility. Turnstiles and badge systems, while not mandatory, are encouraged as these will help meet this requirement.

b. The facility will inspect vehicles, hand carried items, cargo, and stores at the Facility perimeter.

7.2 The facility will employ water-filled or concrete block barriers to keep unauthorized vehicles at least 100 feet from the ship.

7.3 The facility will have designated parking areas and parking restrictions. Any vehicles will be inspected before being allowed within 100 feet of the ship.

7.4 A continuous wooden, concrete or metal fence line (at least 6 feet high) will be maintained at the Facility boundaries. Buildings with wood, concrete and/or metal construction can be used to maintain boundaries in lieu of a fence line.

7.5 Consistent with Naval Vessel Protection Zones, whenever possible, MSC ships will be berthed or dry docked so as to be no closer than 100 yards to other facilities or 100 yards to ships which are moored at other facilities.

7.6 The facility will employ lighting sufficient to illuminate the pier to which the MSC ship is moored as well as 10 feet on either side of all landside perimeters. Portable lighting can be used to meet this requirement.

7.7 All Facility Security Guards shall have at least two separate means of communicating with MSC ships moored or dry docked at their facilities. At least one of these means shall be a two-way UHF or VHF portable radio. MSC ships' portable radios can be used to meet this requirement. Exception: Portable UHF/VHF radios and cell phones will not be used whenever hostile explosives are suspected. In that case, only hard-wired or non-electronic communications will be used.

7.8 Provide waterborne patrols, 24 hours per day/7 days per week, with two security guards onboard for the entire duration the vessel is at the contractor's facility.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT:

1.1 The intent of this Work Item is for the contractor to remove the existing PRC coating and underlayment, perform a blast/mechanically clean and renew with non-slip deck coating system in passageway 2-146-0-L.

2.0 REFERENCES

2.1 NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.4 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals – Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.7 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.8 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.9 PPG PMC – MSC Paint Handbook

2.10 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 Passageway 2-146-0-L.

3.1.2 Quantity:

3.1.2.1 Approximately 250 SF of deck surfaces

3.1.2.2 Approximately 50 SF of vertical surfaces up 6” off the deck.

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

Product	Type	Color	Quantity
PREP 88	Cleaner	Clear	3 Gal
Amercoat 240	Anti-Corrosion Epoxy	Buff	10 Gal
Amercoat 240	Anti-Corrosion Epoxy	Light Gray	10 Gal
Amercoat 5450	Alkyd	White	3 Gal
Amercoat T-10	Solvent	N/A	2 Gal
Amercoat 15	Solvent	N/A	1 Gal

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them operational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Master prior to the start of any surface

preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship's Master. **NO SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.**

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 **Surface Preparation**

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 Paint Application

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to proper coverage. Stripe coats shall extend a minimum of 1” from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat	Amercoat 240 Buff (Full Coat)	5-6 mils DFT
2nd Coat	Amercoat 240 Light Gray (Full Coat)	5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the bulk head surfaces listed in 3.1.2:

PPG Marine Paint

Top Coat	Amercoat 5450 White (Full Coat)	3-5 mils DFT

7.3.3.1 One (1) stripe coat as required using a brush of Amercoat 5450 White at 3- 5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.2 One (1) stripe coat as required using a brush of Amercoat 5450 Black at 3-5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.3 Use Amercoat 15 Solvent only.

7.3.4 Replace all ship markings, including hull numbers and draft marks with two coats of Amershield in the appropriate color (3-5 mils DFT) using the sketch developed in 7.4.1 as guidance.

7.3.5 The total coating system shall not exceed the maximum thickness tolerance for acceptable DFT in accordance with SSPC-PA2. If areas of the coating system exceed the maximum DFT tolerance, the excess coating shall be removed and the areas restored to the proper coating thickness and finish coat.

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a "as painted" Hull Marking report to MSCREP prior to any work being accomplished. The report is to include a diagram that shows all existing hull markings and identifies the size, type and location of all markings. This report will be used to establish the hull markings being installed in 7.3.4.

7.4.2 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.3 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

1.0 ABSTRACT:

1.1 This item describes the requirements for the contractor to preserve and paint the deck in SD Store Room (7-30-1-A).

2.0 REFERENCES

2.1 NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2 Steel Structures Painting Council, Systems and Specifications, Volume 2.

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 SD Store Room (7-30-1-A)

3.1.2 Quantity:

3.1.2.1 Approximately 350 SF of deck surfaces

3.1.2.2 Approximately 100 SF of vertical surfaces up 6” off the deck.

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

Product	Type	Color	Quantity
PREP 88	Cleaner	Clear	3 Gal
Amercoat 240	Anti-Corrosion Epoxy	Buff	10 Gal
Amercoat 240	Anti-Corrosion Epoxy	Light Gray	10 Gal
Amercoat 5450	Alkyd	White	3 Gal
Amercoat T-10	Solvent	N/A	2 Gal
Amercoat 15	Solvent	N/A	1 Gal

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 <u>NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.</u>

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them operational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.3.1 **Remove and Store Loose Material to gain access to the deck and vertical surfaces underneath and behind them**

7.1.3.2 **Remove and Store the bottom Shelves for the Storage Racks to gain access to the deck and vertical surfaces underneath and behind them.**

7.1.3.3 **When the preservation work is complete reinstall the Loose Material and Bottom Shelves in their original location using new 316 CRES hardware.**

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Master prior to the start of any surface preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship’s Master. **NO SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.**

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 **Surface Preparation**

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile

shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 **Paint Application**

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to proper coverage. Stripe coats shall extend a minimum of 1” from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat	Amercoat 240 Buff (Full Coat)	5-6 mils DFT
2nd Coat	Amercoat 240 Light Gray (Full Coat)	5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the bulk head surfaces listed in 3.1.2:

PPG Marine Paint

Top Coat Amercoat 5450 White (Full Coat) 3-5 mils DFT

7.3.3.1 One (1) stripe coat as required using a brush of Amercoat 5450 White at 3- 5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.2 Use Amercoat 15 Solvent Only.

7.3.4 Replace all ship markings, including hull numbers and draft marks with two coats of Amershield in the appropriate color (3-5 mils DFT) using the sketch developed in 7.4.1 as guidance.

7.3.5 The total coating system shall not exceed the maximum thickness tolerance for acceptable DFT in accordance with SSPC-PA2. If areas of the coating system exceed the maximum DFT tolerance, the excess coating shall be removed and the areas restored to the proper coating thickness and finish coat.

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a "as painted" Hull Marking report to MSCREP prior to any work being accomplished. The report is to include a diagram that shows all existing hull markings and identifies the size, type and location of all markings. This report will be used to establish the hull markings being installed in 7.3.4.

7.4.2 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.3 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

1.0 ABSTRACT:

1.1 This item describes the requirements for the contractor to preserve and paint the deck and cylinder storage racks in Inert Gas Cylinder Storeroom 6-112-2-A.

2.0 REFERENCES

2.1 NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2 Steel Structures Painting Council, Systems and Specifications, Volume 2.

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 Inert Gas Cylinder Storeroom 6-112-2-A

3.1.2 Quantity:

3.1.2.1 Approximately 400 sq. ft. of deck surface

3.1.2.2 Approximately 200 SF of vertical surfaces up 6” off the deck at the bulkheads and the full height of the cylinder storage racks.

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

Product	Type	Color	Quantity
PREP 88	Cleaner	Clear	5 Gal
Amercoat 240	Anti-Corrosion Epoxy	Buff	10 Gal
Amercoat 240	Anti-Corrosion Epoxy	Light Gray	10 Gal
Amercoat 385ASA	Pedestrain Non-Skid	Dark Gray	10 Gal
Amercoat 5450	Alkyd	White	5 Gal

Amercoat T-10	Solvent	N/A	2 Gal
Amercoat 15	Solvent	N/A	1 Gal

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work

package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 <u>NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.</u>

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them o/perational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.3.1 **Remove and Store Inert Gas Cylinders (approximately one hundred 50# cylinders from their racks to allow access to the deck surface below the racks**

NOTE: ALL INERT GAS CYLINDERS MUST BE REMOVED FROM THE SPACE AND STOWED IN SUITABLE CONTRACTOR FURNISHED RACKS ON THE PIER OR IN CONTRACTOR FACILITY. CYLINDERS SHALL NOT REMAIN ON BOARD AND MUST BE STOWED PROTECTED FROM THE ENVIRONMENT.

NOTE: CYLINDERS MUST BE TRANSPORTED USING APPROPRIATE CYLINDER LIFTING GEAR. CYLINDERS SHALL NOT BE LIFTED BY THE PROTECTIVE CAP.

7.1.3.2 **Cylinder rack hardware and fasteners to be removed, blasted and coated in accordance with the requirements of this work item. Threads to be protected from paint or wire wheeled clean after paint.**

7.1.3.3 **Restore the Inert Gas Cylinders removed in 7.1.3.1 to their original location.**

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Chief Mate / Commanding Officer prior to the start of any surface preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship's Master. **NO SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.**

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration

shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 **Surface Preparation**

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 **Paint Application**

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to proper coverage. Stripe coats shall extend a minimum of 1” from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat Amercoat 240 Buff (Full Coat)	5-6 mils DFT
2nd Coat Amercoat 240 Light Gray (Full Coat)	5-6 mils DFT
3rd Coat Amercoat 385ASA Dark Gray Full Coat)	5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the bulk head surfaces listed in 3.1.2:

PPG Marine Paint

Top Coat Amercoat 5450 White (Full Coat)	3-5 mils DFT

7.3.3.1 One (1) stripe coat as required using a brush of Amercoat 5450 White at 3- 5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.2 Use Amercoat 15 Solvent Only.

7.3.4 Replace all ship markings, including hull numbers and draft marks with two coats of Amershield in the appropriate color (3-5 mils DFT) using the sketch developed in 7.4.1 as guidance.

7.3.5 The total coating system shall not exceed the maximum thickness tolerance for acceptable DFT in accordance with SSPC-PA2. If areas of the coating system exceed the maximum DFT tolerance, the excess coating shall be removed and the areas restored to the proper coating thickness and finish coat.

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a "as painted" Hull Marking report to MSCREP prior to any work being accomplished. The report is to include a diagram that shows all existing hull markings and identifies the size, type and location of all markings. This report will be used to establish the hull markings being installed in 7.3.4.

7.4.2 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.3 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

1.0 ABSTRACT

The purpose of this item is to perform a vacuum blast and renew the non-slip deck coating systems in various 04 Level Weather Decks to include the elevator platforms for the SLQ-32 andWSC-9 Antennas.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.4 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals – Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.7 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.8 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.9 PPG PMC – MSC Paint Handbook

2.10 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 04 Level Port to Starboard, frame 64 to frame

76.

3.1.2 The deck grating in way of this location shall be removed and have preservation performed as per this Work Item.

3.2 Quantity

3.2.1 Approximately 2800 square feet

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Prep 88	Cleaner	Clear	5 gal
Amercoat 240	Epoxy (1st primer coat)	Buff	15 gal
Amercoat 240	Epoxy (2nd primer coat)	Light Gray	15 gal
Amercoat 385ASA	Pedestrian Non-Skid	Dark Gray	20 gal
Amershield	Polyurethane Topcoat	Haze Gray	5 gal
Amercoat 65	Solvent	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Government Coating Technical Representative will be in attendance, on the government’s account, to observe the surface preparation and coating application on the government’s behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. They are not for supervision of the contractor’s workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28 and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

5.5 **This work item shall be accomplished concurrently with the requirements of Work Item 134.**

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, interference mitigation, staging, tools, and equipment as required to perform weather deck non-slip renewal in locations identified in section 3.0 using References 2.1 through 2.10 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.4 Prior to the start of any surface preparation:

7.4.1 Record all hull and deck markings, labels and weld bead lines documenting their information (text), size, color, positions, and symbols. Submit a copy of the record to the OMT REP. After non-slip renewal and coating application, replace all markings and labels as original.

7.5 Coating material is to be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70° F.

7.6 Provide and maintain adequate lighting of a suitable nature during all surface preparation, coating, and inspection activities.

7.7 Temporarily install drop cloths, masking, temporary division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, and temporary openings during surface preparation and coating operations.

7.8 Prior to initiating surface preparation, the Contractor will ensure the vessels equipment is protected from damage caused by blasting, water jetting, dirt, dust, coating, or other foreign matter. Measures to be taken but are NOT limited to are:

7.8.1 Plug open ends of pipes, vents, and ducts. Vents will not be plugged without ship’s force approval.

7.8.2 Wrap all equipment, valve stems and exposed portions of hydraulic cylinders. Install filters, if required, on all air intake vents. Install covers on all fuel tank vents.

7.8.3 Temporarily install protective coverings on all port-lights, windows, and light globes to prevent damage due to inadvertent water-jetting or other means of non-slip removal.

7.8.4 Mask all normally uncoated surfaces.

7.8.5 Protect running rigging (cargo falls, lifts, cranes, etc.) and mooring lines which cannot be stowed or removed for the duration of non-slip removal.

7.8.6 Sprinklers will be covered with sheet metal disks to prevent damage during surface preparation and coating.

7.8.7 Prove all deck drains are free and clear in the presence of the OMT REP before non-slip removal.

7.9 Prior to the start of productive work, protective coverings will be inspected and approved by the OMT REP.

NOTE: PERFORM A CALL FOR INSPECTION PRIOR TO SURFACE PEREPARATION TO VERIFY THAT THE ALL EQUIPMENT IS PROTECTED TO PREVENT ANY DAMAGE FROM SURFACE PREPARATION TO INCLUDE DUST INTRUSION, WATER DAMAGE, GRIT BLAST DAMAGE, ETC.

7.9.1 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.10 Perform an inspection of the weather deck area as defined in section 3.0 with the OMT REP and the OMT Coating Representative to identify all areas to be Mechanically Cleaned to bare metal. For estimating purposes, assume 2,800 sq. ft. and at SSPC-SP-10/NACE 2 or WJ-2

7.10.1 Deficiencies noted during this inspection will be corrected and the OMT REP will be given the opportunity to inspect and approve the corrective measures before work begins.

Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.10.2 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and show that the contamination has not caused damage to the equipment or vessel. The cost to repair equipment damaged by such contamination will be borne by the Contractor.

NOTE: A CALL FOR INSPECTION SHALL BE PERFORMED TO INSPECT ALL THRU DECK PENETRATIONS FOR WASTAGE / CORROSION. ANY SUSPECT AREAS SHALL BE MECHANICALLY CLEANED AND THE INTEGRITY VERIFIED BEFORE PERFORMING ANY BLASTING. FOR BIDDING PURPOSES, THE CONTRACTOR SHALL PLAN ON THE FOLLOWING:

REPLACE TEN (10) ELECTRICAL CABLE STUFFING TUBES / THRU DECK PENERTRATTIONS TO INDCLUDE REMOVING ELECTRICAL WIRE (SHIP'S FORCE TO MAKE ELECTRICAL DISCONNECTIONS), REMOVAL OF INSULATION INSIDE THE SKIN OF THE SHIP, REPLACING WASTED STEEL, RESTORING ELECTRICAL AND INSULATION (SHIP'S FORCE TO PERFORM ELECTRICAL CONNECTIONS).

7.11 Surface Preparation

7.11.1 Areas to be surface prepared for coating will be inspected by the OMT REP prior to commencing work to verify all machinery and peripheral equipment is properly covered to prevent damage.

7.11.2 Accomplish the requirements of SSPC-SP1, Solvent Cleaning, using PREP 88 Biodegradable detergent to remove all oil, grease, dirt, and soluble salts from the surface of the specified decks.

7.11.3 The final wash-down will be made with clean, fresh water at 2,500 to 3,000 psi. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface area with the OMT

Coating Representative and OMT REP.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.5 Reclaim and dispose of all wash-water used during non-slip replacement.

7.11.6 Vacuum blast the entire deck area to a SSPC-SP-10 Near White Metal with a 3-4.5 mil surface profile.

7.11.7 Blasting material recovery will meet the local pollution control district regulations.

7.11.8 The blast profile achieved will be angular in nature and within the range set by the manufacturer’s product data sheet for the coating system being applied.

7.11.9 Profile will be determined using a Keane-Tator (or equal) surface profile comparator. Testex (or equal) replica tape will be used at a rate of one reading per 500 SF for verification. Replica tape will be mounted, identified as to location, and included as part of the final coating report.

7.11.10 Open abrasive blasting will not be permitted.

7.11.11 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal those areas inaccessible to the vacuum-blast machines and approximately six inches up all vertical surfaces of bulkheads, deck houses, foundations, fan housings, and other appendages in way of the aforementioned areas to bare metal. Ensure a minimum profile of 2 mil in way of power tool cleaned areas.

7.11.12 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering will provide a smooth transition between the area of surface preparation and

the existing coating.

7.11.13 Remove and dispose of all blasting material in accordance with Federal, State and Local Regulations. The cost for disposal of all non-hazardous blasting material will be included in the cost of this work item.

7.11.14 Prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 500 square feet of prepared area with the OMT Coating Representative and OMT REP. If contamination is found, additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.15 The surfaces will be inspected and approved by the OMT Coating Representative and the OMT REP prior to the application of each coat of paint or primer.

7.12 After cleaning and before coating, thoroughly inspect the weather deck noting any electrical issues, broken hangers and cable runs, deformation cracking, areas of corrosion, or broken welds on main mast and submit report to the OMT REP of findings. Should any repairs be noted and required to be repaired by the OMT REP, a change order will be issued.

7.13 Coating Application

7.13.1 Prior to application of any coating, the areas identified in section 3.0 to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Surface profile as determined by Keane-Tator Comparator (or equal) examination and/or replica tape

1. Upon completion of UHP Water jetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to

be used at a rate of one reading per 500 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet

7.13.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP10, Near White Metal Blast Cleaning or SSPC-SP WJ-2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High-Pressure and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition, as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see References 2.9 and 2.10.

d. Ambient Air temp during application and curing should be between:

1. 40°F (4°C) and 110°F (43°C) for the Primer.

2. 50°F (10°C) and 100°F (38°C) for the Non-Slip.

3. 40°F (4°C) and 120°F (49°C) for the Markings.

e. Surface temp during application should be between:

1. 40°F (4°C) and 120°F (49°C) for the Primer and Markings.

2. 40°F (4°C) and 110°F (43°C) for the Non-Slip.

f. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

g. The Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

7.13.3 No coating will be applied at temperatures below 40°F without prior written approval of the OMT REP.

7.13.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, Reference 2.10 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.13.6 Apply the primer to the entire prepared deck surfaces with two full coats of Amercoat 240 at 5-6 mils DFT per coat. The color will be Buff followed by Light Gray.

7.13.7 Stripe coats will be applied to all weldments, crevices, corners, edges treads, pitted surfaces, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 1 inch from each edge of the area being stripe coated. SSPC-PA1, Paint Application Specification No. 1 will be used for guidance in stripe coating.

7.13.8 Apply the entire deck surface with one full coat of Amercoat 385 ASA non-slip within 36 hours of the final application of Amercoat 240. Color will be Dark Gray.

a. If the application occurs between 36 and 72 hours after, first wipe the entire surface area with the

manufacturer's recommended solvent using clean lint free rags.

b. If the application occurs between 72 hours and seven days after, wipe the entire surface with the manufacturer's recommended solvent and then lightly abrade the surface and clean the resulting residue and then coat with a tack coat of Amercoat 240 at 1-2 mils DFT.

c. The application and curing time of the primer and non-slip coatings will be in accordance with the manufacturer's instructions.

d. For the perimeter areas, borders around the deck edge, around foundations, and other areas that normally do not receive non-slip coating will be primed with two coats of Amercoat 240 at 4-6 mils DFT each coat, Buff followed by Light Gray. Apply a topcoat of Amershield Haze Gray, as designated by the OMT REP, at 3-5 mils DFT to match surrounding areas. All cut in lines will be neat, straight, and square.

e. Thinning of the coating will be allowed for viscosity control if determined to be necessary by the OMT Coating Representative. Thinner utilized for viscosity control will be new and of the type recommended by the coating manufacturer. Recycled solvents will not be allowed.

f. Before the start of production application of any non-slip coating, a test patch will be applied. This test patch will be approved by the OMT Coating Representative and OMT REP.

g. Non-slip will be applied to within approximately two inches of all deck fittings and protrusions and approximately five inches off deck coaming and edges.

h. Vertical surfaces will be top coated to match the surrounding area. Dado lines will be cut in, straight, level, and even.

7.14 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting same. Those persons who are allowed in the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties

will be put on each time a person enters the area. Cordoning or barricading will remain in place until the non-slip and color markings are properly cured.

7.15 Remove all protective coverings, debris, and replace all interferences removed in the performance of this item. Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations.

7.16 Upon completion of work, ship’s force will conduct final operational testing of perimeter lights, recessed deck lights, flood, and spotlights, and drains in the vicinity of the non-slip work completed. Compare "post work" performance test results to the "as-found" conditions. Correct any discrepancies noted between the “as found” and “post work” conditions. All repaired items will be satisfactorily re-demonstrated to ship’s force and OMT REP.

7.17 Reports

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.17.2 The contractor is to prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report is to include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings of each coating

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

h. Submit a report that includes “as released” condition of the non-slip surfaces. Submit one electronic copy in Portable Document Format (PDF).

7.17.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company’s representative.

7.18 Painting/Lagging

7.18.1 Prepare, prime, coat and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.18.2 Renew lagging where damaged or disturbed.

7.19 Manufacturer’s Representative: None additional

7.20 Preparation of Drawings

7.20.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

DO NOT REPAINT THIS SURFACE

DANGER
CONFINED
SPACE
ENTRY BY PERMIT ONLY

1.0 ABSTRACT:

1.1 This item describes the requirements for the contractor to preserve and paint the deck in Wash Water RO Room 7-98-1-A.

2.0 REFERENCES

2.1 NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2 Steel Structures Painting Council, Systems and Specifications, Volume 2.

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

Wash Water RO Room (7-98-1-A)

This includes all space within the boundaries of Frames 98 thru 106 from the starboard hull to the inboard bulkhead that defines shaft alley. One compartment within this boundary is accessed thru Chemical Warfare Defense Equipment Storeroom (7-106-1-K).

3.1.2 Quantity:

3.1.2.1 Approximately 1,500 SF of deck surfaces

3.1.2.2 Approximately 200 SF of vertical surfaces up 6” off the deck.

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

Product	Type	Color	Quantity
PREP 88	Cleaner	Clear	3 Gal
Amercoat 240	Anti-Corrosion Epoxy	Buff	15 Gal
Amercoat 240	Anti-Corrosion Epoxy	Light Gray	15 Gal
Amercoat 5450	Alkyd	White	2 Gal
Amercoat T-10	Solvent	N/A	2 Gal

Amercoat 15	Solvent	N/A	1 Gal

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is

responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 <u>NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.</u>

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them operational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.3.1 **Remove and Store Loose Material to gain access to the deck and vertical surfaces underneath and behind them**

7.1.3.2 **When the preservation work is complete reinstall the Loose Material in it's original location.**

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Master prior to the start of any surface preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship’s Master.

NO SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 Surface Preparation

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 Paint Application

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to proper coverage. Stripe coats shall extend a minimum of 1” from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat	Amercoat 240 Buff (Full Coat)	5-6 mils DFT
2nd Coat	Amercoat 240 Light Gray (Full Coat)	5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the bulk head surfaces listed in 3.1.2:

PPG Marine Paint

Top Coat Amercoat 5450 White (Full Coat) 3-5 mils DFT

7.3.3.1 One (1) stripe coat as required using a brush of Amercoat 5450 White at 3- 5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.2 Use Amercoat 15 Solvent Only.

7.3.4 Replace all ship markings, including hull numbers and draft marks with two coats of Amershield in the appropriate color (3-5 mils DFT) using the sketch developed in 7.4.1 as guidance.

7.3.5 The total coating system shall not exceed the maximum thickness tolerance for acceptable DFT in accordance with SSPC-PA2. If areas of the coating system exceed the maximum DFT tolerance, the excess coating shall be removed and the areas restored to the proper coating thickness and finish coat.

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a "as painted" Hull Marking report to MSCREP prior to any work being accomplished. The report is to include a diagram that shows all existing hull markings and identifies the size, type and location of all markings. This report will be used to establish the hull markings being installed in 7.3.4.

7.4.2 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.3 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

1.0 ABSTRACT

The purpose of the item is to surface prepare and re-coat of the vessel's Engine Room and Fireroom bilges.

2.0 REFERENCES

2.1 NAVSEA 845-4458934, Booklet of General Plans

2.2 Surface Preparation Standard, SSPC-SP-11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.3 PPG Product Data Sheets, AMERCOAT 240

3.0 ITEM LOCATION/DESCRIPTION

3.1 Bilge Location(s):

Description	Location
Engine Room	8-86-0-E
Fireroom	8-76-0-E

3.2 For bidding purposes:

3.2.1 Assume 3000 sq. ft. in the engine room

3.2.2 3000 sq. ft. in the fire room (to include the Fuel Oil Service Pumps Enclosure)

3.2.3 500 sq. ft 6 inches up from the bilges on all foundations, bulkheads, and interferences at the bilge level.

NOTE: THE BILGES HAVE SIGNIFICANT INTERFERENCES TO BE REMOVED (DECKPLATES & ZINC ANODES) IN ORDER TO COMPLETE THIS AS OUTLINED IN SECTIONS 7.8, 7.9, 7.16 & 7.17 OF THIS WORK ITEM. THIS SHOULD BE TAKEN INTO ACCOUNT FOR BIDDING PURPOSES

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

Product	Type/Notes	Color	Qty
AMERCOAT 240	Epoxy (1st primer coat)	Pastel Green	12 gal
AMERCOAT 240	Epoxy (stripe coat)	Buff	8 gal
AMERCOAT 240	Epoxy (2nd primer coat)	Red Oxide	12 gal
AMERCOAT T-10	Solvent	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 PPG Coating Representative

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract, including but not limited to Work Items 001, 010, 015 and 901 to determine their effect on the work required under this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools and equipment as required to prepare and renew the paint coatings in the bilges identified in section 3.0 using References 2.1 through 2.4 as guidance. To include all necessary staging required to access all applicable surfaces as may be identified in the base work item. For purposes of this work item, bilge(s) are defined as the area below the deck plates/grates and to include all structure, foundations, ladders, tank tops, bulkheads, piping, hangers, valves, supports, conduit, pumps, motors and bilge wells.

7.2 Coordinate with ship’s force to tagout all valves, drains, level indicating and alarm systems associated with the bilges being worked. Install temporary blanks on drains to prevent entry of liquids into the bilge area during accomplishment of this item. Return to normal operating conditions on completion of work.

NOTE: Cleaning and gas free certification requirements for the subject areas are covered under other work items 020 and 021.

7.3 In conjunction with initial water washing, pump out liquids, and remove all mud, dirt and debris using contractor furnished pumps and hoses, as may be necessary to clean the designated bilges.

NOTE: Bilge water removal is covered by and will be priced in work item 011.

7.4 Provide and maintain adequate lighting and ventilation. Lighting will be sufficient for surface preparation, inspection and coating application requirements. Ventilation will be of sufficient size to dry all washed areas and maintain a clear atmosphere during surface prep and painting operations.

7.5 Prior to start of surface preparation and painting, take precautions to protect the vessel from contamination and over spray. The following actions, at a minimum will be taken:

7.5.1 Install protective coverings and take appropriate measures to ensure that the vessel's interior and its equipment are protected to prevent contamination from water, grit, dust, debris or paint spray; to include all open vents, ducting, drains, piping and bilge suctions, bilge lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, electrical equipment, and anything else that could be damaged by water, detergent, oil, debris, contamination and paint over spray.

7.5.2 In the area to be scaled and painted, cover all labels plates, cable tags, and identification markings. Record the location, size and color of any markings;

7.5.3 Protective covering will be inspected at regular intervals, but not less than at the start of each work shift. Degraded protective covering will be repaired prior to the restart of work.

7.6 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four (4) hours of the verbal notification. Clean the contaminated equipment and showing that the contamination has not caused damage to same. Cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.7 Provide the OMT REP a schematic that maps the location of each deck plate/grate. A numbering system will be used and metal tag attached to each plate/grate identifying its location. No deck plating/grating is to be removed from its location until the schematic and tagging is in place and provided to the OMT REP.

7.8 Temporarily remove the deck plating/grating and associated fasteners and clips in way of the affected bilges. Fasteners and clips will be stored in a safe place to prevent loss.

7.9 Install temporary walkways in the Engine Room and

Fireroom that meet OSHA requirements and provide for safe navigation of the space and access to all exits. Plywood or planking of adequate thickness to allow personnel to safely transit the areas will be used.

7.10 The contractor, ABS and OMT REP will inspect the bilge area to include foundations, structure, deck plating supports, piping and pipe hangers to determine if steel work will be required. Prepare and submit an as found condition report to the OMT REP identifying any discrepancies and recommended repair.

7.11 Temporarily remove zinc anodes (if applicable) in way of surface preparation and paint application.

7.12 Surface Preparation

CAUTION: Exercise care during the cleaning and surface preparation processes to avoid damage to wireways, level sensors, and lighting.

7.12.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning degreasing the bilge by performing a low pressure water wash with degreaser and warmed freshwater to 120°F of the entire bilge removing all oil, grease, slime, dirt, mud, soluble salts and other foreign matter. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible. Particular attention will be given to tank tops, piping, valves, the undersides of stiffeners, ledges, snipes, limber holes in longitudinals, crevices and areas of rust, rust scale, blistered, cracked, peeling or flaking coatings. Heavily soiled areas will be scrubbed and hand wiped with rags to remove excess oil and grease prior to pressure washing. Accomplish a final rinse with hot, clean, freshwater upon completion of the degreasing and solvent cleaning process.

7.12.2 Upon completion of all water washing, perform chloride testing at random locations as designated by the PPG Rep. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test

equipment.

7.12.3 For bidding purposes, assume 1000 sq ft in the engine room and 1000 sq ft in the fire room in four noncontiguous areas. Bilge areas including all tank tops, structural members, valves, manifolds, piping, pipe brackets, foundations, and manhole covers will be required to be power tool cleaned to bare metal removing mill scale, rust, paint, oxides, corrosion products, and other foreign matter using SSPC-SP-11, Power Tool Cleaning to Bare Metal as guidance. These areas will be identified by the OMT REP and OMT paint rep.

7.12.4 Upon completion of surface preparation all surfaces will be vacuumed clean and blown-down with dry, oil free air to remove all dust, dirt and debris.

7.13 Coatings Application

7.13.1 Prior to application of any coating, the area to be painted will be inspected and approved by the OMT REP and OMT Paint Representative. Conditions will follow PPGs Product Data sheets using Reference 2.4 as guidance. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include observation, measuring and recording:

a. Surfaces are clean, dry and free of all contaminants including salt deposits.

b. Verify surface appearance meets the definition of SSPC-SP-11, Power Tool Cleaning to Bare Metal as appropriate. Verify all edges feathered to intact coating.

c. Test for non-visual surface contaminates at random locations to ensure that surfaces have not been re-contaminated. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants.

d. Check surface profile.

e. Measure and record environmental conditions

(surface temperature, ambient air temperature, dew point temperature and relative humidity). Confirm they are within the paint manufacturers allowable range using Reference 2.4 as guidance.

1. During application and curing, the substrate temperature will be at least 5°F (3°C) above Dew Point.

2. The Relative Humidity will not exceed 85%.

f. Record over coating intervals (curing time) since previous application

g. Measure and record Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet.

7.13.2 No coating will be applied at temperatures below 35°F without prior written approval of the OMT REP.

7.13.3 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.4 All coatings will be prepared and applied in accordance with the manufacturer’s requirements outlined in the Product Data Sheets using Reference 2.4 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millages are being applied.

7.13.5 Stripe coating will be performed by brush, roller or other mechanical means that will ensure that the paint is applied to the areas where needed. Stripe all limber holes, snipes, corners, weldments, pitted areas, threaded surfaces or other areas that are not conducive to proper coverage by spray application. In no case will spray application of a stripe coat be allowed.

7.13.6 EPOXY

a. Apply the following Coats to all prepared surfaces:

b. One (1) full coat of AMERCOAT 240, (Pastel Green) at 5-6 mils DFT.

c. One (1) stripe coat of AMERCOAT 240, (Buff) at 2-3 mils DFT.

d. One (1) full coat of AMERCOAT 240, (Red Oxide) 5-6 mils DFT.

e. The stripe coat will be applied to all weldments, crevices, corners, edges and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

7.14 The environmental conditions, DFT of each coat, cure and over coating intervals are critical to the application of the bilge coatings. The application of all coatings will adhere to the Product Data Sheets and OMT Paint Rep. Consult the OMT Paint Representative for proper overcoat intervals.

7.14.1 Upon completion the bilges are to be ventilated to promote curing before being immersed in water. Drying times are greatly dependent on air and surface temperatures, film thickness, ventilation and relative humidity. The production schedule must consider this cure time. For planning purposes:

Substrate Temp	Dry to touch	Dry to handle	Cure time prior to immersion
23°F (-5°C)	36 hours	60 hours	21 days
32°F (0°C)	24 hours	36 hours	14 days
50°F (10°C)	10 hours	16 hours	10 days
68°F (20°C)	5 hours	10 hours	6 days
86°F (30°C)	3 hours	8 hours	3 days

7.15 During all surface preparation and coating operations, the area involved will only be accessed by persons directly involved in the work underway or those inspecting same. All persons entering the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be made available at the tank entry and be put on each time

a person enters the area.

7.16 Reinstall zinc anodes (if applicable) as original.

7.17 Reinstall all deck plating/grating and associated fasteners and clips in their original locations leaving them in a ready for service condition.

7.18 A final inspection of the bilges will be conducted by the OMT REP and Chief Engineer. Removal of all blanks, filters, and protective covers from all open vents, ducting, drains, piping and bilge suctions, bilge lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, and electrical equipment. With assistance of the Chief Engineer, verify proper operation of bilge lighting, bilge level indicating and alarm systems.

7.19 Upon completion the vessel will be cleaned of all residues resulting from the surface preparation and painting operations.

7.20 Reports

7.20.1 Prepare a Paint Report and submit same to the OMT REP within three (3) days of completing the coating application. The report will include the following data:

7.20.2 The location, date and time of each coating application.

7.20.3 Surface profile measurements of the metal substrate.

7.20.4 Results of testing for non-visible surface contaminants (soluble salts).

7.20.5 The air and substrate temperatures, relative humidity and dewpoint temperature at the time of each coating application.

7.20.6 Interval between coatings.

7.20.7 Dry film thickness readings at a rate of five (5) spot readings per 1,000 sq. ft. of surface for each coat of paint.

7.20.8 Paint Manufacturer, Product Identification Number, color and Batch Numbers for each coat of paint applied.

7.21 Painting: None additional

7.22 Manufacturer's Representative

7.22.1 A Government Paint Technical Representative will be in attendance, on the government’s account, to observe the surface preparation and coating application and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. The GPTR is not for supervision of the contractor’s workforce.

7.23 Preparation of Drawings: None additional

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT:

1.1 This item describes the requirements for the contractor to preserve and paint the deck in Engineering Spares Storeroom 7-48-0-A.

2.0 REFERENCES

2.1 NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2 Steel Structures Painting Council, Systems and Specifications, Volume 2.

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 Engineering Spares Storeroom

3.1.2 Quantity:

3.1.2.1 Approximately 1000 SF of deck surfaces

3.1.2.2 Approximately 200 SF of vertical surfaces up 6” off the deck.

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

Product	Type	Color	Quantity
PREP 88	Cleaner	Clear	5 Gal
Amercoat 240	Anti-Corrosion Epoxy	Buff	10 Gal
Amercoat 240	Anti-Corrosion Epoxy	Light Gray	10 Gal
Amercoat 385ASA	Pedestrain Non-Skid	Dark Gray	15 Gal
Amercoat 5450	Alkyd	White	2 Gal
Amercoat T-10	Solvent	N/A	2 Gal

Amercoat 15	Solvent	N/A	1 Gal

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontroactors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is

responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 <u>NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.</u>

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them o/perational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.3.1 **Remove and Store Engineering spares stored on the deck and bottom shelving necessary to gain access to the deck and vertical surfaces for surface preparation and painting.**

7.1.3.2 **Remove and Store the bottom Shelves for the storage racks to gain access to the deck and vertical surfaces underneath and behind them.**

7.1.3.3 **When the preservation work is complete reinstall the Bottom Shelves in their original location using new 316 CRES hardware.**

7.1.3.4 **Restore the Engineering Spares removed in 7.1.3.1 to its original location.**

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Chief Mate / Commanding Officer prior to the start of any surface preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship's Master. **NO SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.**

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 Surface Preparation

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride

testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 Paint Application

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to proper coverage. Stripe coats shall extend a minimum of 1" from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat Amercoat 240 Buff (Full Coat)	5-6 mils DFT
2nd Coat Amercoat 240 Light Gray (Full Coat)	5-6 mils DFT
3rd Coat Amercoat 385ASA Dark Gray Full Coat)	5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the bulk head surfaces listed in 3.1.2:

PPG Marine Paint

Top Coat Amercoat 5450 White (Full Coat)	3-5 mils DFT

7.3.3.1 One (1) stripe coat as required using a brush of Amercoat 5450 White at 3- 5 mil DFT on surfaces listed in 3.1.2.2

7.3.3.2 Use Amercoat 15 Solvent Only.

7.3.4 Replace all ship markings, including hull numbers and draft marks with two coats of Amershield in the appropriate color (3-5 mils DFT) using the sketch developed in 7.4.1 as guidance.

7.3.5 The total coating system shall not exceed the maximum thickness tolerance for acceptable DFT in accordance with SSPC-PA2. If areas of the coating system exceed the maximum DFT tolerance, the excess coating shall be removed and the areas restored to the proper coating thickness and finish coat.

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a "as painted" Hull Marking report to MSCREP prior to any work being accomplished. The report is to include a diagram that shows all existing hull markings and identifies the size, type and location of all markings. This report will be used to establish the hull markings being installed in 7.3.4.

7.4.2 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.3 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

1.0 ABSTRACT

The purpose of this item is to perform a blast and renew the non-slip deck coating systems on the deck of Trunk 4-143-1-T and blast and renew the coating on the bulkheads and overhead (hatch cover underside) of the trunk from the 4th deck up to the hatch at Main Deck.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.4 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals – Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.7 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.8 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.9 PPG PMC – MSC Paint Handbook

2.10 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 Trunk 4-143-1-T

NOTE: TRUNK RUNS FROM 4TH DECK TO MAIN DECK HATCH ON FLIGHT DECK. FLIGHT DECK NOT TO BE USED FOR ANY STAGING / RIGGING / STORAGE OF MATERIAL. FLIGHT DECK TO REMAIN CLEAR AND EVERY MEASURE SHALL BE TAKEN TO PREVENT DAMAGE TO COATING SYSTEM ON FLIGHT DECK.

3.2 Quantity

3.2.1 Approximately 1200 square feet of bulkhead.

3.2.2 Approximately 150 square feet of non-skid deck.

3.2.3 Approximately 200 square feet of overhead.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Prep 88	Cleaner	Clear	5 gal
Amercoat 240	Epoxy (1st primer coat)	Buff	40 gal
Amercoat 240	Epoxy (2nd primer coat)	Light Gray	40 gal
Amercoat 385ASA	Pedestrian Non-Skid	Dark Gray	5 gal
Amershield	Polyurethane Topcoat	Haze Gray	5 gal
Amercoat 65	Solvent	N/A	1 gal
Amercoat 5450	Alkyd	White	35 gal
Amercoat 15	Solvent	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Government Coating Technical Representative will be in attendance, on the government's account, to observe the surface preparation and coating application on the government's behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor's efforts. They are not for supervision of the contractor's workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28 and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

5.5 **This work item shall be accomplished concurrently with the requirements of Work Item 134.**

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, interference mitigation, staging, tools, and equipment as required to perform weather deck non-slip renewal in locations identified in section 3.0 using References 2.1 through 2.10 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.4 Prior to the start of any surface preparation:

7.4.1 Record all hull and deck markings, labels and weld bead lines documenting their information (text), size, color, positions, and symbols. Submit a copy of the record to the OMT REP. After non-slip renewal and coating application, replace all markings and labels as original.

7.5 Coating material is to be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70° F.

7.6 Provide and maintain adequate lighting of a suitable nature during all surface preparation, coating, and inspection activities.

7.7 Temporarily install drop cloths, masking, temporary division shields, seals, blanks, and filtering materials to

prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, and temporary openings during surface preparation and coating operations.

7.8 Prior to initiating surface preparation, the Contractor will ensure the vessels equipment is protected from damage caused by blasting, water jetting, dirt, dust, coating, or other foreign matter. Measures to be taken but are NOT limited to are:

7.8.1 Plug open ends of pipes, vents, and ducts. Vents will not be plugged without ship’s force approval.

7.8.2 Wrap all equipment, valve stems and exposed portions of hydraulic cylinders. Install filters, if required, on all air intake vents. Install covers on all fuel tank vents.

7.8.3 Temporarily install protective coverings on all port-lights, windows, and light globes to prevent damage due to inadvertent water-jetting or other means of non-slip removal.

7.8.4 Mask all normally uncoated surfaces.

7.8.5 Protect running rigging (cargo falls, lifts, cranes, etc.) and mooring lines which cannot be stowed or removed for the duration of non-slip removal.

7.8.6 Sprinklers will be covered with sheet metal disks to prevent damage during surface preparation and coating.

7.8.7 Prove all deck drains are free and clear in the presence of the OMT REP before non-slip removal.

7.9 Prior to the start of productive work, protective coverings will be inspected and approved by the OMT REP.

7.9.1 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.10 Perform an inspection of the weather deck area as defined in section 3.0 with the OMT REP and the OMT Coating

Representative to identify all areas to be Mechanically Cleaned to bare metal. For estimating purposes, assume 1,500 sq. ft. and at SSPC-SP-10/NACE 2 or WJ-2

7.10.1 Deficiencies noted during this inspection will be corrected and the OMT REP will be given the opportunity to inspect and approve the corrective measures before work begins. Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.10.2 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and show that the contamination has not caused damage to the equipment or vessel. The cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.11 Surface Preparation

7.11.1 Areas to be surface prepared for coating will be inspected by the OMT REP prior to commencing work to verify all machinery and peripheral equipment is properly covered to prevent damage.

7.11.2 Accomplish the requirements of SSPC-SP1, Solvent Cleaning, using PREP 88 Biodegradable detergent to remove all oil, grease, dirt, and soluble salts from the surface of the specified decks.

7.11.3 The final wash-down will be made with clean, fresh water at 2,500 to 3,000 psi. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface area with the OMT Coating Representative and OMT REP.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.5 Reclaim and dispose of all wash-water used during non-slip replacement.

7.11.6 Vacuum blast the entire deck area to a SSPC-SP-10 Near White Metal with a 3-4.5 mil surface profile.

7.11.7 Blasting material recovery will meet the local pollution control district regulations.

7.11.8 The blast profile achieved will be angular in nature and within the range set by the manufacturer’s product data sheet for the coating system being applied.

7.11.9 Profile will be determined using a Keane-Tator (or equal) surface profile comparator. Testex (or equal) replica tape will be used at a rate of one reading per 500 SF for verification. Replica tape will be mounted, identified as to location, and included as part of the final coating report.

7.11.10 Open abrasive blasting will not be permitted.

7.11.11 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal those areas inaccessible to the vacuum-blast machines and approximately six inches up all vertical surfaces of bulkheads, deck houses, foundations, fan housings, and other appendages in way of the aforementioned areas to bare metal. Ensure a minimum profile of 2 mil in way of power tool cleaned areas.

7.11.12 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering will provide a smooth transition between the area of surface preparation and the existing coating.

7.11.13 Remove and dispose of all blasting material in accordance with Federal, State and Local Regulations. The cost for disposal of all non-hazardous blasting material will be included in the cost of this work item.

7.11.14 Prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 500 square feet of prepared area with the OMT

Coating Representative and OMT REP. If contamination is found, additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.15 The surfaces will be inspected and approved by the OMT Coating Representative and the OMT REP prior to the application of each coat of paint or primer.

7.12 After cleaning and before coating, thoroughly inspect the weather deck noting any electrical issues, broken hangers and cable runs, deformation cracking, areas of corrosion, or broken welds on main mast and submit report to the OMT REP of findings. Should any repairs be noted and required to be repaired by the OMT REP, a change order will be issued.

7.13 Coating Application

7.13.1 Prior to application of any coating, the areas identified in section 3.0 to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Surface profile as determined by Keane-Tator Comparator (or equal) examination and/or replica tape

1. Upon completion of UHP Water jetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 500 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative

humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet

7.13.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP10, Near White Metal Blast Cleaning or SSPC-SP WJ-2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High-Pressure and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition, as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see References 2.9 and 2.10.

d. Ambient Air temp during application and curing should be between:

1. 40°F (4°C) and 110°F (43°C) for the Primer.

2. 50°F (10°C) and 100°F (38°C) for the Non-Slip.

3. 40°F (4°C) and 120°F (49°C) for the Markings.

e. Surface temp during application should be between:

1. 40°F (4°C) and 120°F (49°C) for the Primer and Markings.

2. 40°F (4°C) and 110°F (43°C) for the Non-Slip.

f. During application, the substrate temperature

will be at least 5°F (3°C) above Dew Point.

g. The Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

7.13.3 No coating will be applied at temperatures below 40°F without prior written approval of the OMT REP.

7.13.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, Reference 2.10 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.13.6 Apply the primer to the entire prepared deck and bulkhead surfaces with two full coats of Amercoat 240 at 5-6 mils DFT per coat. The color will be Buff followed by Light Gray.

7.13.7 Stripe coats will be applied to all weldments, crevices, corners, edges treads, pitted surfaces, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 1 inch from each edge of the area being stripe coated. SSPC-PA1, Paint Application Specification No. 1 will be used for guidance in stripe coating.

7.13.8 For the bulkheads apply a Top Coat of Amercoat 5450 White (Full Coat).

7.13.9 Apply the entire deck surface with one full coat of Amercoat 385 ASA non-slip within 36 hours of the final application of Amercoat 240. Color will be Dark Gray.

a. If the application occurs between 36 and 72 hours after, first wipe the entire surface area with the manufacturer’s recommended solvent using clean lint free rags.

b. If the application occurs between 72 hours and seven days after, wipe the entire surface with the manufacturer’s recommended solvent and then lightly abrade the surface and clean the resulting residue and then coat with a

tack coat of Amercoat 240 at 1-2 mils DFT.

c. The application and curing time of the primer and non-slip coatings will be in accordance with the manufacturer's instructions.

d. For the perimeter areas, borders around the deck edge, around foundations, and other areas that normally do not receive non-slip coating will be primed with two coats of Amercoat 240 at 4-6 mils DFT each coat, Buff followed by Light Gray. Apply a topcoat of Amershield Haze Gray, as designated by the OMT REP, at 3-5 mils DFT to match surrounding areas. All cut in lines will be neat, straight, and square.

e. Thinning of the coating will be allowed for viscosity control if determined to be necessary by the OMT Coating Representative. Thinner utilized for viscosity control will be new and of the type recommended by the coating manufacturer. Recycled solvents will not be allowed.

f. Before the start of production application of any non-slip coating, a test patch will be applied. This test patch will be approved by the OMT Coating Representative and OMT REP.

g. Non-slip will be applied to within approximately two inches of all deck fittings and protrusions and approximately five inches off deck coaming and edges.

h. Vertical surfaces will be top coated to match the surrounding area. Dado lines will be cut in, straight, level, and even.

7.14 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting same. Those persons who are allowed in the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be put on each time a person enters the area. Cordoning or barricading will remain in place until the non-slip and color markings are properly cured.

7.15 Remove all protective coverings, debris, and replace all interferences removed in the performance of this item. Upon

completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations.

7.16 Upon completion of work, ship’s force will conduct final operational testing of perimeter lights, recessed deck lights, flood, and spotlights, and drains in the vicinity of the non-slip work completed. Compare "post work" performance test results to the "as-found" conditions. Correct any discrepancies noted between the “as found” and “post work” conditions. All repaired items will be satisfactorily re-demonstrated to ship’s force and OMT REP.

7.17 Reports

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.17.2 The contractor is to prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report is to include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings of each coating

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

h. Submit a report that includes “as released” condition of the non-slip surfaces. Submit one electronic copy in Portable Document Format (PDF).

7.17.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company’s representative.

7.18 Painting/Lagging

7.18.1 Prepare, prime, coat and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.18.2 Renew lagging where damaged or disturbed.

7.19 Manufacturer’s Representative: None additional

7.20 Preparation of Drawings

7.20.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to perform preservation of the Forward Close In Weapons System (CIWS) vestibule located at passage 1-2-1-L. This is to include the replacement of four stanchion foundations in way of hatch down to fo'c'sle at 1-2-1-L. The performance of this Work Item is to be performed in conjunction with Work Item 0508 FWD & AFT CIWS COOLING LOOPS as they create interferences to accomplish.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.2 NAVSEA Drawing No. 506-6272485 Rev. A, LCC20 A5MD MK15 MOD 2 CIWS SALT WATER COOLING CIWS MOUNTS 21 & 22

2.3 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.4 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.5 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.6 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals – Very Thorough Cleaning (Available Commercially)

2.7 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.8 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.9 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.10 PPG PMC – MSC Paint Handbook

2.11 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 Trunk 1-2-1-L

3.2 Quantity

3.2.1 Approximately 150 square feet of bulkhead and overhead.

3.2.2 Approximately 30 square feet of non-skid deck.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Prep 88	Cleaner	Clear	5 gal
Amercoat 240	Epoxy (1st primer coat)	Buff	40 gal
Amercoat 240	Epoxy (2nd primer coat)	Light Gray	40 gal
Amercoat 385ASA	Pedestrian Non-Skid	Dark Gray	5 gal
Amershield	Polyurethane Topcoat	Haze Gray	5 gal
Amercoat 65	Solvent	N/A	1 gal
Amercoat 5450	Alkyd	White	35 gal
Amercoat 15	Solvent	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Government Coating Technical Representative will be in attendance, on the government's account, to observe the surface preparation and coating application on the government's behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor's efforts. They are not for supervision of the contractor's workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General

Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28 and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

5.5 **This work item shall be accomplished concurrently with the requirements of Work Item 0508 FWD & AFT CIWS COOLING LOOPS.**

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Upon completion of the removal of piping, valves, indicator, and switches required as part of Work Item 0508:

7.2 Provide all labor, materials, interference mitigation, staging, tools, and equipment as required to perform weather deck non-slip renewal and bulkhead preservation in locations identified in section 3.0 using References 2.1 through 2.10 as guidance.

7.3 Coordinate with ship's force to have associated equipment locked and/or tagged out per ship's lock out/tag out policy. When the maintenance is complete, coordinate with ship's force to have associated equipment unlocked and/or tagged in per ship's lock out/tag out policy.

7.4 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.5 Prior to the start of any surface preparation:

7.5.1 Record all hull and deck markings, labels and weld bead lines documenting their information (text), size, color, positions, and symbols. Submit a copy of the record to the OMT REP. After non-slip renewal and coating application, replace all markings and labels as original.

7.6 Coating material is to be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70° F.

7.7 Provide and maintain adequate lighting of a suitable nature during all surface preparation, coating, and inspection activities.

7.8 Temporarily install drop cloths, masking, temporary division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, and temporary openings during surface preparation and coating operations.

7.9 Prior to initiating surface preparation, the Contractor will ensure the vessels equipment is protected from damage caused by blasting, water jetting, dirt, dust, coating, or other foreign matter. Measures to be taken but are NOT limited to are:

7.9.1 Plug open ends of pipes, vents, and ducts. Vents will not be plugged without ship’s force approval.

7.9.2 Wrap all equipment, valve stems and exposed portions of hydraulic cylinders. Install filters, if required, on all air intake vents. Install covers on all fuel tank vents.

7.9.3 Temporarily install protective coverings on all port-lights, windows, and light globes to prevent damage due to inadvertent water-jetting or other means of non-slip removal.

7.9.4 Mask all normally uncoated surfaces.

7.9.5 Protect running rigging (cargo falls, lifts, cranes, etc.) and mooring lines which cannot be stowed or removed for the duration of non-slip removal.

7.9.6 Sprinklers will be covered with sheet metal disks to prevent damage during surface preparation and coating.

7.9.7 Prove all deck drains are free and clear in the presence of the OMT REP before non-slip removal.

7.10 Prior to the start of productive work, protective coverings will be inspected and approved by the OMT REP.

7.10.1 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.11 Perform an inspection of the weather deck area as defined in section 3.0 with the OMT REP and the OMT Coating Representative to identify all areas to be Mechanically Cleaned to bare metal. For estimating purposes, assume 150 sq. ft. and at SSPC-SP-10/NACE 2 or WJ-2

7.11.1 Deficiencies noted during this inspection will be corrected and the OMT REP will be given the opportunity to inspect and approve the corrective measures before work begins. Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work. **PERFORM NOT LESS THAN 100 UT SHOTS OF THE DECK AND BULKHEAD AND SUBMIT CONDITION FOUND REPORT TO OMT REPRESENTATIVE.**

7.11.2 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and show that the contamination has not caused damage to the equipment or vessel. The cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.12 Surface Preparation

7.12.1 Areas to be surface prepared for coating will be inspected by the OMT REP prior to commencing work to verify all machinery and peripheral equipment is properly covered to prevent damage.

7.12.2 Accomplish the requirements of SSPC-SP1, Solvent Cleaning, using PREP 88 Biodegradable detergent to remove all oil, grease, dirt, and soluble salts from the surface of the specified decks.

7.12.3 The final wash-down will be made with clean, fresh water at 2,500 to 3,000 psi. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface area with the OMT Coating Representative and OMT REP.

7.12.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.12.5 Reclaim and dispose of all wash-water used during non-slip replacement.

7.12.6 Vacuum blast the entire deck area to a SSPC-SP-10 Near White Metal with a 3-4.5 mil surface profile.

7.12.7 Blasting material recovery will meet the local pollution control district regulations.

7.12.8 The blast profile achieved will be angular in nature and within the range set by the manufacturer's product data sheet for the coating system being applied.

7.12.9 Profile will be determined using a Keane-Tator (or equal) surface profile comparator. Testex (or equal) replica tape will be used at a rate of one reading per 500 SF for verification. Replica tape will be mounted, identified as to location, and included as part of the final coating report.

7.12.10 Open abrasive blasting will not be permitted.

7.12.11 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal those areas inaccessible to the vacuum-blast machines and approximately six inches up all vertical surfaces of bulkheads, deck houses, foundations, fan housings, and other appendages in way of the aforementioned areas to bare metal. Ensure a minimum profile of 2 mil in way of power tool cleaned areas.

7.12.12 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering will provide a smooth transition between the area of surface preparation and the existing coating.

7.12.13 Remove and dispose of all blasting material in accordance with Federal, State and Local Regulations. The cost for disposal of all non-hazardous blasting material will be included in the cost of this work item.

7.12.14 Upon completion of surface preparation but prior to cleaning, replace / restore the stanchion foundations.

7.12.15 Prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 500 square feet of prepared area with the OMT Coating Representative and OMT REP. If contamination is found, additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.12.16 The surfaces will be inspected and approved by the OMT Coating Representative and the OMT REP prior to the application of each coat of paint or primer.

7.13 After cleaning and before coating, thoroughly inspect the weather deck noting any electrical issues, broken hangers and cable runs, deformation cracking, areas of corrosion, or broken welds on main mast and submit report to the OMT REP of findings. Should any repairs be noted and required to be repaired by the OMT REP, a change order will be issued.

7.14 Coating Application

7.14.1 Prior to application of any coating, the areas identified in section 3.0 to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Surface profile as determined by Keane-Tator Comparator (or equal) examination and/or replica tape

1. Upon completion of UHP Water jetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 500 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet

7.14.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP10, Near White Metal Blast Cleaning or SSPC-SP WJ-2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High-Pressure and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition, as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see References 2.9 and 2.10.

d. Ambient Air temp during application and curing should be between:

1. 40°F (4°C) and 110°F (43°C) for the Primer.

2. 50°F (10°C) and 100°F (38°C) for the Non- Slip.

3. 40°F (4°C) and 120°F (49°C) for the Markings.

e. Surface temp during application should be between:

1. 40°F (4°C) and 120°F (49°C) for the Primer and Markings.

2. 40°F (4°C) and 110°F (43°C) for the Non-Slip.

f. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

g. The Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

7.14.3 No coating will be applied at temperatures below 40°F without prior written approval of the OMT REP.

7.14.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.14.5 All coatings will be prepared and applied using the manufacturer's requirements outlined in the Product Data Sheets, Reference 2.10 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.14.6 Apply the primer to the entire prepared deck and bulkhead surfaces with two full coats of Amercoat 240 at 5-6 mils DFT per coat. The color will be Buff followed by Light Gray.

7.14.7 Stripe coats will be applied to all weldments, crevices, corners, edges treads, pitted surfaces, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 1 inch from each edge of the area being stripe coated. SSPC-PA1, Paint Application Specification No. 1 will be used for guidance in stripe coating.

7.14.8 For the bulkheads apply a Top Coat of Amercoat 5450 White (Full

Coat).

7.14.9 Apply the entire deck surface with one full coat of Amercoat 385 ASA non-slip within 36 hours of the final application of Amercoat 240. Color will be Dark Gray.

a. If the application occurs between 36 and 72 hours after, first wipe the entire surface area with the manufacturer's recommended solvent using clean lint free rags.

b. If the application occurs between 72 hours and seven days after, wipe the entire surface with the manufacturer's recommended solvent and then lightly abrade the surface and clean the resulting residue and then coat with a tack coat of Amercoat 240 at 1-2 mils DFT.

c. The application and curing time of the primer and non-slip coatings will be in accordance with the manufacturer's instructions.

d. For the perimeter areas, borders around the deck edge, around foundations, and other areas that normally do not receive non-slip coating will be primed with two coats of Amercoat 240 at 4-6 mils DFT each coat, Buff followed by Light Gray. Apply a topcoat of Amershield Haze Gray, as designated by the OMT REP, at 3-5 mils DFT to match surrounding areas. All cut in lines will be neat, straight, and square.

e. Thinning of the coating will be allowed for viscosity control if determined to be necessary by the OMT Coating Representative. Thinner utilized for viscosity control will be new and of the type recommended by the coating manufacturer. Recycled solvents will not be allowed.

f. Before the start of production application of any non-slip coating, a test patch will be applied. This test patch will be approved by the OMT Coating Representative and OMT REP.

g. Non-slip will be applied to within approximately two inches of all deck fittings and protrusions and approximately five inches off deck coaming and edges.

h. Vertical surfaces will be top coated to match the surrounding area. Dado lines will be cut in, straight, level, and even.

7.15 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting same. Those persons who are allowed in the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be put on each time a person enters the area. Cordoning or barricading will remain in place until the non-slip and color markings are properly cured.

7.16 Remove all protective coverings, debris, and replace all interferences removed in

the performance of this item. Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations.

7.17 Upon completion of work, ship's force will conduct final operational testing of perimeter lights, recessed deck lights, flood, and spotlights, and drains in the vicinity of the non-slip work completed. Compare "post work" performance test results to the "as-found" conditions. Correct any discrepancies noted between the "as found" and "post work" conditions. All repaired items will be satisfactorily re-demonstrated to ship's force and OMT REP.

7.18 Reports

7.18.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.18.2 The contractor is to prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report is to include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings of each coating

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

h. Submit a report that includes "as released" condition of the non-slip surfaces. Submit one electronic copy in Portable Document Format (PDF).

7.18.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company's representative.

7.19 Painting/Lagging

7.19.1 Prepare, prime, coat and restore all new, soiled, and disturbed surfaces to match surrounding surfaces as per the standard paint requirement for the surface being coated.

7.19.2 Renew lagging where damaged or disturbed to include 80 sqft on the aft bulkhead (CFM).

7.20 Manufacturer's Representative: None additional

7.21 Preparation of Drawings

7.21.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT:

This item describes the requirement to accomplish a Survey of the CONREP hardware on Main Deck, 01 and 02 Levels and conduct NDT and padeye Pull Tests and main deck D-Ring Pull Tests and replace missing hardware.

2.0 REFERENCES:

2.1 NAVSEA Dwg. 845-4458934, Booklet of General Plans

2.2 NAVSEA Dwg. 4402880, Test Data for Padeyes, Cleats, Etc.

2.3 NAVSEA Dwg. 528-2491364, Replenishment at Sea Arrangement

2.4 NAVSEA Dwg. 538-2491365_G RAS Det & Gear Lkr Mn Dk Fr 62-64 Rev. G

2.5 NAVSEA Dwg. 107-2491060_K1 Mn Dk Pltg Fr 51 ½ - 102 ¼

2.6 Enclosure 8.1

3.0 ITEM LOCATION/DESCRIPTION

3.1 Main Deck

4.0 GOVERNMENT FURNISHED MATERIAL (GFM):

4.1 Paint as needed.

5.0 NOTES:

5.1 Contractor shall obtain and maintain base/pier access all throughout the duration of Period of Performance (POP).

5.2 Contractor shall submit a Ships Access List within 96 hours prior to start of POP for all contractor and sub-contractor personnel all throughout the duration of POP.

5.3 Contractor shall notify MSCREP and ABS Surveyor no later than 24 HR to witness all inspection and testing specified in this Work Item.

5.4 MSCREP consist of Port Engineer and Chief Engineer or his designated representative.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirement of this Work Item shall be accomplished to the satisfaction of the MSC Representative.

6.2 The requirements of this Work Item shall be accomplished in accordance with reference 2.1, 2.2 and current ABS Regulatory Body Rules and Regulations

7.0 STATEMENT OF WORK REQUIRED:

7.1 Contractor shall provide all labor, tools and materials to pull test the CONREP padeyes and (46) D-Rings IAW Ref 2.2, 2.3 and 2.4.

7.2 Contractor to perform a survey of the Main Deck Replenishment At Sea Hull Fittings in accordance with Reference 2.4 RAS Det & Gear Lkr Man Dk.

7.2.1 Upon completion of Survey submit a CFR to OMT Representative. Any missing hardware will be addressed via CCO.

NOTE: Additional material/components necessary to accomplish work required by this work item, such as paints, Lead Abatement, Marine Chemist for Gas Free shall be provided by the Contractor as CFM.

7.2.2 Submit One (1) legible copy of the proposed test plan to the MSCREP for approval.

7.2.3 Accomplish approved test plan in accordance 2.2 in the presence of MSCREP and ABS Surveyor.

7.2.3.1 Conduct Non Destructive Test (NDT) VT and PT prior to and after pull test, submit report to the PPE.

7.2.3.2 Submit CFR on any padeyes or D-Rings that fail testing along with a proposed repair plan.

7.2.3.3 Accomplish paint touch up.

7.2.3.4 Provide and install new label plates in accordance with reference 2.2, 2.3 and 2.4.

7.2.3.4.1 Label plates to be manufactured of stainless steel (CRES 316/316L)

7.2.4 Provide three (3) copies of a written report of the results of the requirements of this work item to the MSCREP.

7.2.5 Accomplish paint touch up to all new and disturbed surfaces.

8.0 GENERAL REQUIREMENTS:

Enclosure 8.1
(Label Plates as per Ref. 4.3)

Item No.	Nomenclature	Qty	Pull Test
46	RAS Kingpost	1	
47	RAS Pad for Inhaul / Outhaul	3	15,000 lbs.
48	Pad for Messenger Line	3	10,000 lbs.
49	Pad for Steadying Line	1	
50	RAS Kingpost Brace	2	
51	RAS Station	2	
75	RAS Kingpost Foundation	2	
76	RAS KP Heel Foundation	1	
98	RAS Kingpost Brace	4	
99	RAS Wire Rope Pendant Test Load	2	50,000 lbs.
100	RAS Lead Block	6	
101	RAS Lead Block	4	
155	RAS Long Link Stow.	1	
156	RAS King Post Stow.	1	
157	RAS KP Brace Stow.	1	
158	RAS KP Pendant Stow.	2	
159	RAS KP Fdn Stow	1	
160	RAS Pelican Hook & Link Stow.	1	
103	Test Label Plate	2	

1.0 ABSTRACT

1.1 This item describes the static load of the Fueling At Sea (FAS) Station Hull Fittings at FAS Stations 1, 2, 7 & 8.

2.0 REFERENCES:

2.1 NAVSEA Dwg. 845-4458934, Booklet of General Plans

2.2 NAVSEA Dwg. 528-2491364 R.A.S. ARR

2.3 NAVSEA Dwg. 528-2491375 Fueling At Sea Arrgt & Det

2.4 NAVSEA Dwg. 538-2491829 FAS ARR Delivering

2.5 NAVSEA Dwg. 111-2491063 Dk Hse Encl BHD Mn Dk – 03 Level

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

3.1.1.1 FAS Station #1, 3rd Deck, Stbd., Frame 48
3.1.2.1 FAS Station #2, 3rd Deck, Port, Frame 48
3.1.2.2 FAS Station #7, 3rd Deck, Stbd., Frame102
3.1.2.3 FAS Station #8, 3rd Deck, Port, Frame 102

3.1.2 Static test loads and quantities for the hardware at each FAS Station.

3.1.2.1 20 inch F.A.S. Riding Line Cleat Test Load: 25,000 lbs.

3.1.2.1.1 Quantity: Ten (10) total

3.1.2.2 12 inch Jigger Tackle Cleat Test Load: 15,000 lbs.

3.1.2.2.1 Quantity: Eight (8) total

3.1.2.3 Jigger Tackle Pad & Link Test Load: 15,000 lbs.

3.1.2.3.1 Quantity: Eighteen (18) total

3.1.2.4 Messenger Line Pad Test Load: 10,000 lbs.

3.1.2.4.1 Quantity: Four (4) total

3.1.2.5 Spanwire Pad Test Load: 36,000 lbs.

3.1.2.5.1 Quantity: Four (4) total

3.1.2.6 Staple Test Load: 600 lbs.

3.1.2.6.1 Quantity: Twenty-two (22) total

3.1.2.7 Padeye Test Load: 22,500 lbs.

3.1.2.7.1 Quantity: Four (4) total

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 GFM: All required paint.

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and subcontractors regardless of tier must comply with the requirements of all applicable GTR's including but not limited to GTR's 1 through 7, 22, 23, 24, 27, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to the satisfaction of MSC Representative.

6.2 Contractor is to provide certificate and copy of calibration of testing equipment used.

6.3 The requirements of this Work Item shall be accomplished in accordance with References listed in 2.0 and current ABS Regulatory Body Rules and Regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 Contractor to provide all labor, material, and equipment necessary to perform this work item.

7.2 Contractor is to remove paint from hardware and mounting point at the hull.

7.3 Contractor shall perform NDT of the hardware and attachment point prior to and upon completion of pull test.

7.4 Inspection/Test: Contractor is to set up and apply a test load as indicated in paragraph 3.1.2. Hold each test load for ten (10) minutes, then inspect for any deformation or failure of any existing component. All tests shall be conducted in the presence of the MSCREP.

7.5 Any failure of NDT or Pull Test will be documented via CFR and submitted to the MSC Representative.

7.6 The Contractor is to remove old test plates and apply a new stainless steel (CRES 316/316L) inspection plates embossed with the information in the table below (and affix test plates in the proximity of each item listed in para. 3.1.2):

7.6.1 Test plates must be affixed to bare steel with a permanent epoxy type adhesive.

EQUIPMENT NOMENCLATURE:	STATION NUMBER:
TEST LOAD: LBS	
TESTING ACTIVITY AND DATE:	

7.7 Painting: Paint all new and disturbed surfaces to match surrounding existing color scheme (white for each hardware item, gray surrounding area).

7.8 Completion Report:

7.8.1 Completion Report shall be submitted to document each piece of hardware tested to include the following:

7.8.1.1 NDT Results prior to and upon completion of pull test.

7.8.1.2 Documentation of the pull test, duration and the load applied.

7.9 Manufacturer's Representative: None

8.0 GENERAL REQUIREMENTS: None additional

FIGURE 1
FAS Station 1 (Station 2 Similar)

FIGURE 2
FAS Station 7 (Station 8 Similar)

1.0 ABSTRACT:

1.1 This work item describes the removal of one steel door and the installation of one GSA Dutch Door Day Gate with issue port and one steel vault door at 7-101-2-A, Small Arms issue.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

2.2 MIL-DTL-32585A, Insulation, Thermal and Acoustic, Fibrous Glass (Approved for Public Release)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. Small Arms Issue (7-101-2-A)

3.1.2 Quantity:

a. One GSA Approved Armory Day Gate Door. Right Hand Opening. GFE.

b. One Steel Door 26” x 66”. Left Hand Opening. GFE.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Bill of Materials: See GFE Section 4.0.

3.2.2 Quantities where stated are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, bolts, nuts, washers, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, bus-work, etc., which are not included in the Bill of Materials, in order to install a fully

functional system which meets the requirements of this specification.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE):

PC No.	Qty	Description
1	1	Armory Day Gate Dutch Door, Double Hinge Door with Fixed Gasket. Right Hand Opening with Latch Set and Door Closer. Undrilled frame. Door Frame size 730mm x 1943mm. Door to be installed inside Small Arms Issue 7-101-2-A.
2	1	Steel door, single hinged, Left Hand Opening, to be installed in passageway 7-102-2-L for securing Small Arms Issue 7-101-2-A.

NOTE: ARMORY DAY GATE DOOR TO BE PROVIDED BY SHIP.

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR’s) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions

relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Door opening direction (Left Hand or Right Hand) can be determined by standing in the doorway with one foot on either side of the door and facing the hinge. A door opening towards your right side corresponds to a Right Handed Door. Similar and opposite for Left Hand doors.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment within 8 feet of door replacements shall be protected with plastic covers and fire retardant material prior to any hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2” thick acoustic insulation. Any insulation damaged during the execution of this work item shall be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent

reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Arrangements/Outfitting: None additional

7.1.1 Removals:

a. Remove insulation surrounding fire zone doors to create a 60mm wide band around the bulkhead opening to facilitate existing door removals and new door installations. Insulation shall be cleanly cut, level and plumb to form a consistent edge around the door opening. Insulation removed in this area is not required to be replaced.

b. Remove steel door and frame in passageway 7-102-2L. Frame is welded to bulkhead.

7.1.2 Modifications:

a. Any compartment deck coverings damaged during the execution of this work item shall be removed and replaced with Blue Marbleized Floor Matting, (NSN: 7220-01-024-9040), Electrically Resistant, heat/chemically sealable seams thickness: 0.125 Inches minimum, Width: 36 Inches Nominal. Thoroughly clean all glue remnants, dirt and debris to prepare surfaces for installation of new matting. All replacement matting to be glued directly to deck using manufacturer’s approved adhesive. Adhesive should form solid barrier at all edges and near all seams. Any remaining exposed corners of electrical grade matting shall be rounded off. Minimize the number of seams to the greatest extent possible. Heat-weld all seams using heat gun and seaming

material of at least the same dielectric properties of the matting.

7.1.3 Installations:

a. Install insulation seaming tape to seal edges of insulation removed in section 7.1.1.

7.2 Structural:

7.2.1 Removals:

a. Unbolt and remove existing doors, door frames, backing rings, thresholds, door closers and associated hardware in all locations identified in Section 3.1. Door frame hardware which is not mechanically removable shall be cold-cut using a grinder or similar equipment. Rivets shall be drilled out. Door frame welds shall be cold-cut using a grinder or similar equipment.

7.2.2 Modifications:

a. Mechanically clean bulkheads in way of door removals to remove all paint and create a 2” wide band extending around the existing opening. Both sides of the bulkheads shall be cleaned.

b. Plug weld door frame bolt holes in way of removed door. A temporary backer of dissimilar metal may be used to facilitate fill welding bolt holes. Grind smooth plug welds on both sides of the bulkhead and fair to existing bulkhead.

c. Plug weld unused mounting holes in bulkhead within a 3” radius around the bulkhead opening. For bidding purposes assume five (Qty = 5), 1/4" holes per door will require plug welding.

d. Temporarily fit GFM doors in bulkhead openings for all locations identified in Section 3.1. Adjust and align the doors in the openings to ensure doors are positioned level, plumb and flush with the deck. Position doors to ensure sufficient area for mounting holes. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Door flange bolt holes shall not be positioned closer than 6mm to the edge of the door flange. Door openings in bulkheads may require modification to accommodate new doors. For bidding purposes, Contractor shall assume 3mm of bulkhead width on all sides (6mm total) shall be ground and faired level and plumb to facilitate door installation. MSCREP to witness door position prior to drilling mounting holes. Template and punch-mark bolt holes in door frames. Bolt hole spacing shall not exceed 250mm, center to center. No exceptions.

e. Remove doors from bulkhead openings and drill mounting holes in door frames. Remove sharp edges.

f. Prior to re-mounting doors in bulkhead openings, prime and paint (2 top coats) bulkhead in way of mechanical cleaning and plug welding.

g. Reinstall door frames in bulkhead openings and temporarily support. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Adjust as required. Re-verify doors are positioned level and plumb. MSCREP to witness door position prior to drilling of bulkhead.

h. Drill bolt holes in bulkheads using templated door frames.

i. Install MPACT Marine Firestop Sealant (STI Marine Firestop) between door flange and bulkhead. Contractor furnished. Alternate, equivalent material must be ABS/IMO FTP Code Approved.

j. Furnish and install M8 x 35mm stainless steel bolts, washers and self-locking nuts. Final bolt length to be determined as required in accordance with bulkhead thickness. For bidding purposes, assume 35mm length bolts. Nuts to be installed with thread locker, Loctite 243 or equal. Bolts shall have a minimum of 3 threads protruding past the nuts.

k. Drill and bolt door thresholds to deck and support channel.

l. Weld door flanges to bulkheads.

7.3 Mechanical/Fluids:

7.3.1 Installations:

7.4 Electrical:

7.4.1 Removals:

a. Lock-Out, Tag-Out and temporarily disconnect, unbolt, dismount, pull back and relocate all switches, communication equipment, transformers, cables, and junction boxes within 12” of hot work, grinding and cutting. Items which are unable to be temporarily removed shall be protected in accordance with Section 6.0. MSCREP and CSPE to witness electrical removals prior to starting work.

7.4.2 Installations:

a. Reinstall all switches, communication equipment, transformers, cables, and junction boxes temporarily removed in Section 7.4.1.

MSCREP and CSPE to witness electrical reinstallations.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test:

7.7.1 Cable Insulation Resistance Test for all temporarily removed cables and equipment.

7.7.2 Completion Test.

7.7.3 Chalk Test. Chalk Test shall ensure even contact of door with gasket. Adjust gasket retainer as required to achieve even contact.

7.7.4 Functional Test. Door shall close and latch completely using only the door closer. Verify even seating of the door with gasket retainer.

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer’s Representative: None

8.0 General Requirements: None Additional

1.0 ABSTRACT:

1.1 This work item describes the installation of one NTD door at 7-106020A – Landing Force Equipment Store Room.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

2.2 MIL-DTL-32585A, Insulation, Thermal and Acoustic, Fibrous Glass (Approved for Public Release)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. Landing Force Equipment Store Room (7-106-2-A)

3.1.2 Quantity: One Baggerod HB-H, Single Hinged Fire Doors, A-0 Rated, Class Approved. GFE.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Bill of Materials: See GFE Section 4.0.

3.2.2 Quantities where stated are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, bolts, nuts, washers, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, bus-work, etc., which are not included in the Bill of Materials, in order to install a fully functional system which meets the requirements of this specification.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE):

PC No.	Qty	Description
1	1	BAGGEROD Drawing D-11, HB-H, Single Hinged Door with Fixed Gasket. Right Hand Opening with Latch Set and Door Closer. Undrilled frame. Door Frame size 730mm x 1943mm. Door to be installed near centerline between Component Planning Center 1 and Component Planning Center 2. See Section 3.0 for compartment numbers.

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR’s) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected**

hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Door opening direction (Left Hand or Right Hand) can be determined by standing in the doorway with one foot on either side of the door and facing the hinge. A door opening towards your right side corresponds to a Right Handed Door. Similar and opposite for Left Hand doors.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment within 8 feet of door replacements shall be protected with plastic covers and fire retardant material prior to any hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2” thick acoustic insulation. Any insulation damaged during the execution of this work item shall be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Arrangements/Outfitting: None additional

7.1.1 Removals:

a. Remove insulation surrounding fire zone doors to create a 60mm wide band around the bulkhead opening to facilitate existing door removals and new door installations. Insulation shall be cleanly cut, level and plumb to form a consistent edge around the door opening. Insulation removed in this area is not required to be replaced.

b. Temporarily remove electronic keypad lock from doors. Retain for reuse.

7.1.2 Modifications:

a. Any compartment deck coverings damaged during the execution of this work item shall be removed and replaced with Blue Marbleized Floor Matting, (NSN: 7220-01-024-9040), Electrically Resistant, heat/chemically sealable seams thickness: 0.125 Inches minimum, Width: 36 Inches Nominal. Thoroughly clean all glue remnants, dirt and debris to prepare surfaces for installation of new matting. All replacement matting to be glued directly to deck using manufacturer’s approved adhesive. Adhesive should form solid barrier at all edges and near all seams. Any remaining exposed corners of electrical grade matting shall be rounded off. Minimize the number of seams to the greatest extent possible. Heat-weld all seams using heat gun and seaming material of at least the same dielectric properties of the matting.

b. Modify GFM door latch set to remove existing door hardware and replace with electronic keypad removed in Section 7.1.1.

7.1.3 Installations:

a. Install insulation seaming tape to seal edges of insulation removed in section 7.1.1.

7.2 Structural:

7.2.1 Removals:

a. Unbolt and remove existing doors, door frames, backing rings, thresholds, door closers and associated hardware in all locations identified in Section 3.1. Door frame hardware which is not mechanically removable shall be cold-cut using a grinder or similar equipment. Rivets shall be drilled out. Door frame welds shall be cold-cut using a grinder or similar equipment.

7.2.2 Modifications:

a. Mechanically clean bulkheads in way of door removals to remove all paint and create a 2” wide band extending around the existing opening. Both sides of the bulkheads shall be cleaned.

b. Plug weld door frame bolt holes in way of removed door. A temporary backer of dissimilar metal may be used to facilitate fill welding bolt holes. Grind smooth plug welds on both sides of the bulkhead and fair to existing bulkhead.

c. Plug weld unused mounting holes in bulkhead within a 3” radius around the bulkhead opening. For bidding purposes assume five (Qty = 5), 1/4" holes per door will require plug welding.

d. Temporarily fit GFM doors in bulkhead openings for all locations identified in Section 3.1. Adjust and align the doors in the openings to ensure doors are positioned level, plumb and flush with the deck. Position doors to ensure sufficient area for mounting holes. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and

bulkhead opening. Door flange bolt holes shall not be positioned closer than 6mm to the edge of the door flange. Door openings in bulkheads may require modification to accommodate new doors. For bidding purposes, Contractor shall assume 3mm of bulkhead width on all sides (6mm total) shall be ground and faired level and plumb to facilitate door installation. MSCREP to witness door position prior to drilling mounting holes. Template and punch-mark bolt holes in door frames. Bolt hole spacing shall not exceed 250mm, center to center. No exceptions.

e. Remove doors from bulkhead openings and drill mounting holes in door frames. Remove sharp edges.

f. Prior to re-mounting doors in bulkhead openings, prime and paint (2 top coats) bulkhead in way of mechanical cleaning and plug welding.

g. Reinstall door frames in bulkhead openings and temporarily support. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Adjust as required. Re-verify doors are positioned level and plumb. MSCREP to witness door position prior to drilling of bulkhead.

h. Drill bolt holes in bulkheads using templated door frames.

i. Install MPACT Marine Firestop Sealant (STI Marine Firestop) between door flange and bulkhead. Contractor furnished. Alternate, equivalent material must be ABS/IMO FTP Code Approved.

j. Furnish and install M8 x 35mm stainless steel bolts, washers and self-locking nuts. Final bolt length to be determined as required in

accordance with bulkhead thickness. For bidding purposes, assume 35mm length bolts. Nuts to be installed with thread locker, Loctite 243 or equal. Bolts shall have a minimum of 3 threads protruding past the nuts.

k. Drill and bolt door thresholds to deck and support channel.

l. Stitch weld door flanges to bulkheads. Stitch welds to be 25mm in length. Four stitch welds shall be provided on either side of the door flange and two stitch welds on the top of the flange. Stitch welds are for security purposes only and not to affect fire tight integrity of the door installation.

7.3 Mechanical/Fluids:

7.3.1 Installations:

a. Install door closures on all doors identified in Section 3.1. Door closers are supplied loose with each door and are to be installed after installation of door and frame. Door Closers mounting bolts shall have Loctite 243 (Loctite Blue), or equal, applied to the threads prior to installation. Door closer to be adjusted to provide a smooth, even closing motion and latching. MSCREP to witness operation of door closers and ensure full and even seating of the door within the door frame. Contractor to adjust as required.

7.4 Electrical:

7.4.1 Removals:

a. Lock-Out, Tag-Out and temporarily disconnect, unbolt, dismount, pull back and relocate all switches, communication equipment, transformers, cables, and junction boxes within 12” of hot work, grinding and cutting. Items which are unable to be temporarily

removed shall be protected in accordance with Section 6.0. MSCREP and CSPE to witness electrical removals prior to starting work.

7.4.2 Installations:

a. Reinstall all switches, communication equipment, transformers, cables, and junction boxes temporarily removed in Section 7.4.1. MSCREP and CSPE to witness electrical reinstallations.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test:

7.7.1 Cable Insulation Resistance Test for all temporarily removed cables and equipment.

7.7.2 Completion Test.

7.7.3 Chalk Test. Chalk Test shall ensure even contact of door with gasket. Adjust gasket retainer as required to achieve even contact.

7.7.4 Functional Test. Door shall close and latch completely using only the door closer. Verify even seating of the door with gasket retainer.

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer’s Representative: None

8.0 General Requirements: None Additional

1.0 ABSTRACT:

1.1 This work item describes the installation of one high security ICD/ICS 705 door with integral lock with electronic keypad access.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

2.2 MIL-DTL-32585A, Insulation, Thermal and Acoustic, Fibrous Glass (Approved for Public Release)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location: SSES 3-86-6-C

3.1.2 Quantity: One high security door and frame.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Bill of Materials: See GFE Section 4.0.

3.2.2 Quantities where stated are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, bolts, nuts, washers, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, bus-work, etc., which are not included in the Bill of Materials, in order to install a fully functional system which meets the requirements of this specification.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE): High Security Door and Frame to be provided by Ship’s Force.

NOTE: DOOR TO BE PROCURED THROUGH/BY 6TH FLEET.

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR’s) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Door opening direction (Left Hand or Right Hand) can be determined by standing in the doorway with one foot on either side of the door and facing the hinge. A door opening towards your right side corresponds to a Right Handed Door. Similar and opposite for Left Hand doors.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment within 8 feet of door replacements shall be protected with plastic covers and fire retardant material prior to any hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2” thick acoustic insulation. Any insulation damaged during the execution of this work item shall be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Arrangements/Outfitting: None additional

7.1.1 Removals:

a. Remove insulation surrounding door to create a 60mm wide band around the bulkhead opening to facilitate existing door removals and new door installations. Insulation shall be cleanly cut, level and plumb to form a consistent edge around the door opening. Insulation removed in this area is not required to be replaced.

b. Temporarily remove electronic keypad lock from doors. Retain for reuse.

7.1.2 Modifications:

a. Any compartment deck coverings damaged during the execution of this work item shall be removed and replaced with Blue Marbleized

Floor Matting, (NSN: 7220-01-024-9040), Electrically Resistant, heat/chemically sealable seams thickness: 0.125 Inches minimum, Width: 36 Inches Nominal. Thoroughly clean all glue remnants, dirt and debris to prepare surfaces for installation of new matting. All replacement matting to be glued directly to deck using manufacturer's approved adhesive. Adhesive should form solid barrier at all edges and near all seams. Any remaining exposed corners of electrical grade matting shall be rounded off. Minimize the number of seams to the greatest extent possible. Heat-weld all seams using heat gun and seaming material of at least the same dielectric properties of the matting.

b. Modify GFM door latch set to remove existing door hardware and replace with electronic keypad removed in Section 7.1.1.

7.1.3 Installations:

a. Install insulation seaming tape to seal edges of insulation removed in section 7.1.1.

7.2 Structural:

7.2.1 Removals:

a. Unbolt and remove existing doors, door frames, backing rings, thresholds, door closers and associated hardware in all locations identified in Section 3.1. Door frame hardware which is not mechanically removable shall be cold-cut using a grinder or similar equipment. Rivets shall be drilled out. Door frame welds shall be cold-cut using a grinder or similar equipment.

7.2.2 Modifications:

a. Mechanically clean bulkheads in way of door removals to remove all paint and create a 2" wide band extending around the existing

opening. Both sides of the bulkheads shall be cleaned.

b. Plug weld door frame bolt holes in way of removed door. A temporary backer of dissimilar metal may be used to facilitate fill welding bolt holes. Grind smooth plug welds on both sides of the bulkhead and fair to existing bulkhead.

c. Plug weld unused mounting holes in bulkhead within a 3” radius around the bulkhead opening. For bidding purposes assume five (Qty = 5), 1/4" holes per door will require plug welding.

d. Temporarily fit GFM doors in bulkhead openings for all locations identified in Section 3.1. Adjust and align the doors in the openings to ensure doors are positioned level, plumb and flush with the deck. Position doors to ensure sufficient area for mounting holes. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Door flange bolt holes shall not be positioned closer than 6mm to the edge of the door flange. Door openings in bulkheads may require modification to accommodate new doors. For bidding purposes, Contractor shall assume 3mm of bulkhead width on all sides (6mm total) shall be ground and faired level and plumb to facilitate door installation. MSCREP to witness door position prior to drilling mounting holes. Template and punch-mark bolt holes in door frames. Bolt hole spacing shall not exceed 250mm, center to center. No exceptions.

e. Remove doors from bulkhead openings and drill mounting holes in door frames. Remove sharp edges.

f. Prior to re-mounting doors in bulkhead openings, prime and paint (2 top coats)

bulkhead in way of mechanical cleaning and plug welding.

g. Reinstall door frames in bulkhead openings and temporarily support. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Adjust as required. Re-verify doors are positioned level and plumb. MSCREP to witness door position prior to drilling of bulkhead.

h. Drill bolt holes in bulkheads using templated door frames.

i. Install MPACT Marine Firestop Sealant (STI Marine Firestop) between door flange and bulkhead. Contractor furnished. Alternate, equivalent material must be ABS/IMO FTP Code Approved.

j. Furnish and install M8 x 35mm stainless steel bolts, washers and self-locking nuts. Final bolt length to be determined as required in accordance with bulkhead thickness. For bidding purposes, assume 35mm length bolts. Nuts to be installed with thread locker, Loctite 243 or equal. Bolts shall have a minimum of 3 threads protruding past the nuts.

k. Drill and bolt door thresholds to deck and support channel.

l. Stitch weld door flanges to bulkheads. Stitch welds to be 25mm in length. Four stitch welds shall be provided on either side of the door flange and two stitch welds on the top of the flange. Stitch welds are for security purposes only and not to affect fire tight integrity of the door installation.

7.3 Mechanical/Fluids:

7.3.1 Installations:

a. Install door closures on all doors identified in Section 3.1. Door closers are supplied loose with each door and are to be installed after installation of door and frame. Door Closers mounting bolts shall have Loctite 243 (Loctite Blue), or equal, applied to the threads prior to installation. Door closer to be adjusted to provide a smooth, even closing motion and latching. MSCREP to witness operation of door closers and ensure full and even seating of the door within the door frame. Contractor to adjust as required.

7.4 Electrical:

7.4.1 Removals:

a. Lock-Out, Tag-Out and temporarily disconnect, unbolt, dismount, pull back and relocate all switches, communication equipment, transformers, cables, and junction boxes within 12” of hot work, grinding and cutting. Items which are unable to be temporarily removed shall be protected in accordance with Section 6.0. MSCREP and CSPE to witness electrical removals prior to starting work.

7.4.2 Installations:

a. Reinstall all switches, communication equipment, transformers, cables, and junction boxes temporarily removed in Section 7.4.1. MSCREP and CSPE to witness electrical reinstallations.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test:

7.7.1 Cable Insulation Resistance Test for all temporarily removed cables and equipment.

7.7.2 Completion Test.

7.7.3 Chalk Test. Chalk Test shall ensure even contact of door with gasket. Adjust gasket retainer as required to achieve even contact.

7.7.4 Functional Test. Door shall close and latch completely using only the door closer. Verify even seating of the door with gasket retainer.

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer’s Representative: None

8.0 General Requirements: None Additional

1.0 ABSTRACT:

1.1 This work item describes the installation of two (Qty = 2) A-0 Class Fire Zone Doors.

2.0 REFERENCES/ENCLOSURES:

2.1 BAGGEROD Drawing D-11, HB-H, Single Hinged Door with Fixed Gasket

2.2 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

2.3 MIL-DTL-32585A, Insulation, Thermal and Acoustic, Fibrous Glass (Approved for Public Release)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Locations:

a. Component Planning Center 1, (2-76-0-Q)

b. Component Planning Center 2, (2-94-2-Q)

c. Component Operation Center 1,(2-80-2-C)

3.1.2 Quantity: Two (Qty = 2) Baggerod HB-H, Single Hinged Fire Doors, A-0 Rated, Class Approved. GFE.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Quantities where stated are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, bolts, nuts, washers, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, bus-work, etc., which are not included in the Bill of Materials, in order to install a fully functional system which meets the requirements of this specification.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE):

PC No.	Qty	Description
1	1	BAGGEROD Drawing D-11, HB-H, Single Hinged Door with Fixed Gasket. Right Hand Opening with Latch Set and Door Closer. Undrilled frame. Door Frame size 730mm x 1943mm. Door to be installed near centerline between Component Planning Center 1 and Component Planning Center 2. See Section 3.0 for compartment numbers.
2	1	BAGGEROD Drawing D-11, HB-H, Single Hinged Door with Fixed Gasket. Left Hand Opening with Latch Set and Door Closer. Undrilled frame. Door Frame size 730mm x 1915mm. Door to be installed between Component Planning Center 2 and Component Operation Center 1. See Section 3.0 for compartment numbers.

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR’s) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Door opening direction (Left Hand or Right Hand) can be determined by standing in the doorway with one foot on either side of the door and facing the hinge. A door opening towards your right side corresponds to a Right Handed Door. Similar and opposite for Left Hand doors.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment within 8 feet of door replacements shall be protected with plastic covers and fire retardant material prior to any hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2” thick acoustic insulation. Any insulation damaged during the execution of this work item shall be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Arrangements/Outfitting: None additional

7.1.1 Removals:

a. Remove insulation surrounding fire zone doors to create a 60mm wide band around the bulkhead opening to facilitate existing door removals and new door installations. Insulation shall be cleanly cut, level and plumb to form a consistent edge around the door opening. Insulation removed in this area is not required to be replaced.

b. Temporarily remove electronic keypad lock from doors. Retain for reuse.

7.1.2 Modifications:

a. Any compartment deck coverings damaged during the execution of this work item shall be removed and replaced with Blue Marbleized Floor Matting, (NSN: 7220-01-024-9040), Electrically Resistant, heat/chemically sealable seams thickness: 0.125 Inches minimum, Width: 36 Inches Nominal. Thoroughly clean all glue remnants, dirt and debris to prepare surfaces for installation of new matting. All replacement matting to be glued directly to deck using manufacturer’s approved adhesive. Adhesive should form solid barrier at all edges and near all seams. Any remaining exposed corners of electrical grade matting shall be rounded off. Minimize the number of

seams to the greatest extent possible. Heat-weld all seams using heat gun and seaming material of at least the same dielectric properties of the matting.

b. Modify GFM door latch set to remove existing door hardware and replace with electronic keypad removed in Section 7.1.1.

7.1.3 Installations:

a. Install insulation seaming tape to seal edges of insulation removed in section 7.1.1.

7.2 Structural:

7.2.1 Removals:

a. Unbolt and remove existing doors, door frames, backing rings, thresholds, door closers and associated hardware in all locations identified in Section 3.1. Door frame hardware which is not mechanically removable shall be cold-cut using a grinder or similar equipment. Rivets shall be drilled out. Door frame welds shall be cold-cut using a grinder or similar equipment.

7.2.2 Modifications:

a. Mechanically clean bulkheads in way of door removals to remove all paint and create a 2” wide band extending around the existing opening. Both sides of the bulkheads shall be cleaned.

b. Plug weld door frame bolt holes in way of removed door. A temporary backer of dissimilar metal may be used to facilitate fill welding bolt holes. Grind smooth plug welds on both sides of the bulkhead and fair to existing bulkhead.

c. Plug weld unused mounting holes in bulkhead within a 3” radius around the bulkhead opening. For bidding purposes assume five (Qty = 5), 1/4" holes per door will require plug welding.

d. Temporarily fit GFM doors in bulkhead openings for all locations identified in Section 3.1. Adjust and align the doors in the openings to ensure doors are positioned level, plumb and flush with the deck. Position doors to ensure sufficient area for mounting holes. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Door flange bolt holes shall not be positioned closer than 6mm to the edge of the door flange. Door openings in bulkheads may require modification to accommodate new doors. For bidding purposes, Contractor shall assume 3mm of bulkhead width on all sides (6mm total) shall be ground and faired level and plumb to facilitate door installation. MSCREP to witness door position prior to drilling mounting holes. Template and punch-mark bolt holes in door frames. Bolt hole spacing shall not exceed 250mm, center to center. No exceptions.

e. Remove doors from bulkhead openings and drill mounting holes in door frames. Remove sharp edges.

f. Prior to re-mounting doors in bulkhead openings, prime and paint (2 top coats) bulkhead in way of mechanical cleaning and plug welding.

g. Reinstall door frames in bulkhead openings and temporarily support. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Adjust as required. Re-verify doors are positioned level and plumb. MSCREP to

witness door position prior to drilling of bulkhead.

h. Drill bolt holes in bulkheads using templated door frames.

i. Install MPACT Marine Firestop Sealant (STI Marine Firestop) between door flange and bulkhead. Contractor furnished. Alternate, equivalent material must be ABS/IMO FTP Code Approved.

j. Furnish and install M8 x 35mm stainless steel bolts, washers and self-locking nuts. Final bolt length to be determined as required in accordance with bulkhead thickness. For bidding purposes, assume 35mm length bolts. Nuts to be installed with thread locker, Loctite 243 or equal. Bolts shall have a minimum of 3 threads protruding past the nuts.

k. Drill and bolt door thresholds to deck and support channel.

l. Stitch weld door flanges to bulkheads. Stitch welds to be 25mm in length. Four stitch welds shall be provided on either side of the door flange and two stitch welds on the top of the flange. Stitch welds are for security purposes only and not to affect fire tight integrity of the door installation.

7.3 Mechanical/Fluids:

7.3.1 Installations:

a. Install door closures on all doors identified in Section 3.1. Door closers are supplied loose with each door and are to be installed after installation of door and frame. Door Closers mounting bolts shall have Loctite 243 (Loctite Blue), or equal, applied to the threads prior to installation. Door closer to be adjusted to provide a smooth, even closing

motion and latching. MSCREP to witness operation of door closers and ensure full and even seating of the door within the door frame. Contractor to adjust as required.

7.4 Electrical:

7.4.1 Removals:

a. Lock-Out, Tag-Out and temporarily disconnect, unbolt, dismount, pull back and relocate all switches, communication equipment, transformers, cables, and junction boxes within 12” of hot work, grinding and cutting. Items which are unable to be temporarily removed shall be protected in accordance with Section 6.0. MSCREP and CSPE to witness electrical removals prior to starting work.

7.4.2 Installations:

a. Reinstall all switches, communication equipment, transformers, cables, and junction boxes temporarily removed in Section 7.4.1. MSCREP and CSPE to witness electrical reinstallations.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test:

7.7.1 Cable Insulation Resistance Test for all temporarily removed cables and equipment.

7.7.2 Completion Test.

7.7.3 Chalk Test. Chalk Test shall ensure even contact of door with gasket. Adjust gasket retainer as required to achieve even contact.

7.7.4 Functional Test. Door shall close and latch completely using only the door closer. Verify even seating of the door with gasket retainer.

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer’s Representative: None

8.0 General Requirements: None Additional

1.0 ABSTRACT

1.1. This item describes the replacement of the door for the TLAM Room with one (1) A-0 Class Door.

2.0 REFERENCES/ENCLOSURES

2.1 N/A

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity:

3.1.1 TLAM Room (2-93-2-C)

3.2 Item Description/Manufacturer’s Data:

3.2.1 Door: A-O rated door that is equipped with an automatic, non-hold door-closer, which shall be installed internal to the door, if possible.

3.3 The contractor shall provide the exact quantities and additional material such as fasteners, connectors, weld material, fittings, etc., which are not included in this work item, to install a fully functional door that meets the requirements of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE): One (1) door as described in para. 3.2.

4.2 Government Furnished Material (GFM): Lag and Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult General Technical Requirements (GTR) to determine applicability to this work item. In terms of the performance of this work item, the contractor and all subcontractors of all applicable GTR's including but not limited to GTR's 1 through 7, 22, 23, 24, 27 28 and 29.

5.2 The contractor and all subcontractors regardless of their tier are advised to review other specification items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. **Unexpected** hazardous waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 The installation of A-0 Rated door for the TLAM Room is required to comply with Navy Physical Security.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 Ensure new door and locking mechanisms function in all aspects of this upgrade.

7.0 STATEMENT OF WORK REQUIRED:

7.1 Arrangement/Outfitting:

7.1.1 Removals

a. Remove old door and follow guidelines by MSC PPE for proper disposal of door from the TLAM Room 2-93-2-C.

7.2 Structural:

7.2.1 Removals

a. Remove old TLAM door and frame supporting the door in the TLAM room.

7.2.2 Installations

a. Install new GFM Class A-0 steel door in way of removed door in TLAM Room (see para. 3.2.1 for specifications). The new door arrangement shall be identical to that removed.

7.3 Inspection/Test:

7.3.1 Preliminary Tests: Contractor shall conduct preliminary tests on all completed work before calling for an official test.

7.3.2 Completion Test: The Contractor shall conduct a completion test that verifies that all aspects of the work item have been completed. For compartment, this means the door and locking

mechanisms, any electrical, etc. that is installed and tested and proves the compartment is complete and ready for service.

7.4 Lagging and Painting: Lag and Paint all new and disturbed surfaces to match surrounding surfaces.

7.5 Marking: None Additional.

7.6 Manufacturer’s Representative: None Additional

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT:

1.1 This work item describes the replacement of the Ship's Store Door.

NOTE: THIS WORK ITEM SHOULD BE PLANNED IN COORDINATION WITH WORK ITEM 0550 SHIP'S STORE REFRIGERATOR INSTALLATION.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

2.2 MIL-DTL-32585A, Insulation, Thermal and Acoustic, Fibrous Glass (Approved for Public Release)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Locations:

a. Ship's Store: 4-81-2-Q

3.1.2 Quantity: One Ship's Store Door.

3.2 Item Description/Manufacturer's Data:

3.2.1 Quantities where stated are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, bolts, nuts, washers, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, bus-work, etc., which are not included in the Bill of Materials, in order to install a fully functional system which meets the requirements of this specification.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE):

PC No.	Qty	Description

1	1	Single Hinged Door with Fixed Gasket. Right Hand Opening with Latch Set and Door Closer. Undrilled frame. Door Frame size 730mm x 1943mm. Door to be installed at Ship's Store entrance.

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR's) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR's including but not limited to GTR's 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be

responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Door opening direction (Left Hand or Right Hand) can be determined by standing in the doorway with one foot on either side of the door and facing the hinge. A door opening towards your right side corresponds to a Right Handed Door. Similar and opposite for Left Hand doors.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment within 8 feet of door replacements shall be protected with plastic covers and fire retardant material prior to any hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2" thick acoustic insulation. Any insulation damaged during the execution of this work item shall be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Arrangements/Outfitting: None additional

7.1.1 Removals:

a. Remove insulation surrounding fire zone doors to create a 60mm wide band around the bulkhead opening to facilitate existing door removals and new door installations. Insulation shall

be cleanly cut, level and plumb to form a consistent edge around the door opening. Insulation removed in this area is not required to be replaced.

b. Temporarily remove electronic keypad lock from doors. Retain for reuse.

7.1.2 Modifications:

a. Any compartment deck coverings damaged during the execution of this work item shall be removed and replaced with PRC.

7.1.3 Installations:

a. Install insulation seaming tape to seal edges of insulation removed in section 7.1.1.

7.2 Structural:

7.2.1 Removals:

a. Unbolt and remove existing doors, door frames, backing rings, thresholds, door closers and associated hardware in all locations identified in Section 3.1. Door frame hardware which is not mechanically removable shall be cold-cut using a grinder or similar equipment. Rivets shall be drilled out. Door frame welds shall be cold-cut using a grinder or similar equipment.

7.2.2 Modifications:

a. Mechanically clean bulkheads in way of door removals to remove all paint and create a 2" wide band extending around the existing opening. Both sides of the bulkheads shall be cleaned.

b. Plug weld door frame bolt holes in way of removed door. A temporary backer of dissimilar

metal may be used to facilitate fill welding bolt holes. Grind smooth plug welds on both sides of the bulkhead and fair to existing bulkhead.

c. Plug weld unused mounting holes in bulkhead within a 3″ radius around the bulkhead opening. For bidding purposes assume five (Qty = 5), 1/4" holes per door will require plug welding.

d. Temporarily fit GFM doors in bulkhead openings for all locations identified in Section 3.1. Adjust and align the doors in the openings to ensure doors are positioned level, plumb and flush with the deck. Position doors to ensure sufficient area for mounting holes. Verify bolt hole locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Door flange bolt holes shall not be positioned closer than 6mm to the edge of the door flange. Door openings in bulkheads may require modification to accommodate new doors. For bidding purposes, Contractor shall assume 3mm of bulkhead width on all sides (6mm total) shall be ground and faired level and plumb to facilitate door installation. MSCREP to witness door position prior to drilling mounting holes. Template and punch-mark bolt holes in door frames. Bolt hole spacing shall not exceed 250mm, center to center. No exceptions.

e. Remove doors from bulkhead openings and drill mounting holes in door frames. Remove sharp edges.

f. Prior to re-mounting doors in bulkhead openings, prime and paint (2 top coats) bulkhead in way of mechanical cleaning and plug welding.

g. Reinstall door frames in bulkhead openings and temporarily support. Verify bolt hole

locations allow at least 6mm of bulkhead structure between edge of hole and bulkhead opening. Adjust as required. Re-verify doors are positioned level and plumb. MSCREP to witness door position prior to drilling of bulkhead.

h. Drill bolt holes in bulkheads using templated door frames.

i. Install MPACT Marine Firestop Sealant (STI Marine Firestop) between door flange and bulkhead. Contractor furnished. Alternate, equivalent material must be ABS/IMO FTP Code Approved.

j. Furnish and install M8 x 35mm stainless steel bolts, washers and self-locking nuts. Final bolt length to be determined as required in accordance with bulkhead thickness. For bidding purposes, assume 35mm length bolts. Nuts to be installed with thread locker, Loctite 243 or equal. Bolts shall have a minimum of 3 threads protruding past the nuts.

k. Drill and bolt door thresholds to deck and support channel.

l. Stitch weld door flanges to bulkheads. Stitch welds to be 25mm in length. Four stitch welds shall be provided on either side of the door flange and two stitch welds on the top of the flange. Stitch welds are for security purposes only and not to affect fire tight integrity of the door installation.

7.3 Mechanical/Fluids:

7.3.1 Installations:

a. Install door closures on all doors identified in Section 3.1. Door closers are supplied loose with each door and are to be installed after installation of door and frame. Door

Closers mounting bolts shall have Loctite 243 (Loctite Blue), or equal, applied to the threads prior to installation. Door closer to be adjusted to provide a smooth, even closing motion and latching. MSCREP to witness operation of door closers and ensure full and even seating of the door within the door frame. Contractor to adjust as required.

7.4 Electrical:

7.4.1 Removals:

a. Lock-Out, Tag-Out and temporarily disconnect, unbolt, dismount, pull back and relocate all switches, communication equipment, transformers, cables, and junction boxes within 12" of hot work, grinding and cutting. Items which are unable to be temporarily removed shall be protected in accordance with Section 6.0. MSCREP and CSPE to witness electrical removals prior to starting work.

7.4.2 Installations:

a. Reinstall all switches, communication equipment, transformers, cables, and junction boxes temporarily removed in Section 7.4.1. MSCREP and CSPE to witness electrical reinstallations.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test:

7.7.1 Cable Insulation Resistance Test for all temporarily removed cables and equipment.

7.7.2 Completion Test.

7.7.3 Chalk Test. Chalk Test shall ensure even contact of door with gasket. Adjust gasket retainer as required to achieve even contact.

7.7.4 Functional Test. Door shall close and latch completely using only the door closer. Verify even seating of the door with gasket retainer.

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer's Representative: None

8.0 General Requirements: None Additional

1.0 ABSTRACT

This item describes the requirements for the contractor to survey cable penetrations in a limited area.

2.0 REFERENCES

2.1 MSC Drawing 085-8386886, Fire Control Plan

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location

a. Year 3: 1st Platform and Main Deck

3.2 Quantity

3.2.1 Various, see Reference 2.1

3.3 Item Description/Manufacturer’s Data: Class A boundaries and Watertight boundaries as specified in the ship’s Fire Control Plan (Reference 2.1), vertical boundaries (decks) and boundaries (bulkheads and decks).

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 In addition to the contractor’s duties under 29CFR1910.147 or similar local safety regulation, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the

program. Prior to the start of work, the contractor shall contact the OMT REP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to inspect the cable penetrations in the spaces identified in section 3.0 using References 2.1 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 Complete Initial inspection within the first twenty five percent (25 %) of the availability period of performance.

7.5 For estimating purposes, assume **15** multi-cable transit (MCT), **15** kick pipe, and **15** cable penetration replacements shall be required.

7.6 Survey both sides of all cable penetrations at the boundaries specified in Para 3.1 using Reference 2.1 as guidance. Inspect for the following:

7.6.1 Determine if collars filled with Magnarok are correctly filled having no damage resulting from cables being added or removed.

7.6.2 Verify that there is only one ABS approved sealant system being used. ABS approved sealant systems include but are not limited to Nelson, Rise, Neproseal, and Magnarok.

7.6.3 Check for damaged or improperly filled kick-pipes and stuffing tubes.

7.6.4 Check multi-cable transits (MCTs) to verify that all components (blocks, compression plates, hardware, etc.) are from the same manufacture and are correctly installed.

7.6.5 Determine if the cable transit has at least a minimum of 20% blank penetrations available.

a. For MCTs with less than 20% blanks, note the remaining number of available blank blocks installed.

b. For other types of penetrations, estimate the remaining available area without cabling.

7.6.6 Note any dead-ended cables found at a given penetration fitting.

a. Use due caution with any dead ended cables found. All are assumed to be de-energized but should be verified.

b. Any dead ended cable found energized shall be brought immediately to the attention of the OMT REP and the CHENG. Any required repairs or other actions will be the subject of a change order.

c. For each cable penetration type, verify that there are no visible signs of gaps or damage which would compromise the fire class integrity of the boundary.

7.7 Reports

7.7.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.7.2 Submit a report that includes “as released” condition of the cable penetrations. Submit one electronic copy in Portable Document Format (PDF).

7.7.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.7.4 The Contractor shall mark each cable transit with a numerical inspection tag for indexing purposes. Ensure that the inspection tag is secured so it cannot be easily removed or fall off over time. For most spaces, paper tags are sufficient. Bright colors preferred.

7.8 Painting/Lagging

7.8.1 Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas.

7.9 Manufacturer’s Representative: None

7.10 Preparation of Drawings/Documentation: The following minimum documentation is required.

7.10.1 Condition reports on noted discrepancies.

7.10.2 Provide a table in Excel format detailing the results of the inspection. This final report shall be delivered no later than seven days after the completion of the survey. The spreadsheet shall list all cable penetrations in the areas inspected. The following information shall be provided for each cable penetration found in the inspected area:

a. Inspection Tag Number.

b. Location (Space #)

c. Location Description: Describe the location of the transit within the space. For example: Transit located in the Engine Room, Port Side, Lower Level, above hose station 6-62-2

d. Type of Cable Transit (packed collar, MCT, stuffing tube, etc.)

e. For MCTs and MCPs identify the manufacture if possible (i.e. Roxtec, etc.)

f. Identify all discrepancies noted with the particular cable transit.

g. For cable transits with insufficient growth

space remaining include the following:

h. Approximate number of cables going through the transit.

i. Estimated % growth space remaining

j. Provide photographs of penetrations found with discrepancies in PDF format.

7.10.3 Ensure the respective inspection tag number is visible in the photo to facilitate future repair work. Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this work item is to assist with the inspections of the vessel’s ballast tanks, combined cargo/ballast tanks and peak tanks for an ABS Annual Tank Survey.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.1.2 MSC Drawing No. 845-4458939, Tank Capacity Booklet

2.1.3 MSC Drawing No. 605-4322549, Paint Schedule

2.2 Enclosure

2.2.1 Tank Survey Status Form

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: Ballast and Peak Tanks

3.1.2 Quantity: **Ten (10)** Tanks

3.2 Tanks to be inspected:

3.2.1 Tank No:

a. 9-FP-0 W

b. 9-40-1 W

c. 9-40-2 W

d. 9-52-0 W

e. 9-52-1 W

f. 9-52-2 W

g. 9-64-1 W

h. 9-64-2 W

i. 9-98-1 W

j. 9-98-2-W

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Fall protection must be provided to all personnel when the possibility of a fall of 4 feet or more is present on elevated surfaces, with unprotected sides, edges, or openings per SMS Procedure 2.1-014-ALL (latest revision). In addition, 29 CFR §1910.28 covers personal fall arrest system and ladder safety requirements for vertical ladders.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, ladders, lighting, and equipment as required to facilitate the internal examination of tanks identified below by ABS and OMT REP using references 2.1.1 through 2.1.3 and Enclosures 2.2.1 and 2.2.2 As guidance.

7.1.1 Provide six personal fall arrest systems to the OMT REP for use during the entire performance period. The personal fall arrest systems will be used by the OMT REP, ABS Surveyors, and Government furnished Technical Representatives while accessing tanks. The personal fall arrest systems are to

consist of six sets of fall protection harnesses and six "Y" lanyards (six feet). The personal fall arrest systems are to be ANSI Z359 (current revision) and OSHA compliant and be maintained in good condition. The fall protection harnesses are to have four or more D-Rings, adjustable restraint lanyards, adjustable twin leg fall arrest lanyards (Y-type), and single shock absorber lanyards fitted with large “ladder” hooks and double locking carabineers.

7.1.2 Provide six personal floatation devices (PFD) to the OMT REP whenever working over the side or fall to water exists.

7.1.3 Provide a portable davit or tripod with block and tackle equal to a G4 Rescue System by Gravitec. The system is to be maintained onboard the vessel at the ships gangway for the entire period of performance for use by rescue personnel in the event of an emergency to aid in the extraction of personnel from tanks.

7.1.4 Provide a safety observer during all tank surveys to remain at the tank entrance to monitor the safety of all survey personnel inside the tank or space and raise the alarm if an emergency arises.

7.1.5 Provide a portable, explosion proof communication system between the survey party in the tank or space and the safety observer on deck. This communication system is to also include the personnel in charge of ballast pump operations if boats or rafts are to be used inside the tanks.

7.1.6 Provide the services of an ABS certified Thickness Measurement firm to perform thickness measurements of tank components in areas of substantial corrosion, where found or identified at previous surveys, or when considered necessary by the ABS Surveyor and as authorized by the OMT REP. Assume approximately **500** measurements.

7.2 Clean all tanks prior to ABS Surveyor and OMT REP inspection. Tanks are to be sufficiently clean and free from water, scale, dirt, and oil residues to reveal corrosion, deformation, fractures, damages, other structural deterioration, and condition of the coating. Remove from surfaces all loose accumulated corrosion scale.

7.3 Provide sufficient lighting to reveal corrosion, deformation, fractures, damages, other structural deterioration, and condition of the coating.

7.4 Provide a safe means of access to conduct the survey for all tanks being inspected using Reference 2.1.1 as guidance.

7.5 Provide a shipfitter to accompany the ABS Surveyor and OMT REP to record conditions and locations of all deficiencies as noted by the ABS Surveyor and OMT REP during tank inspections.

7.6 Submit a condition report for all tanks noting all the “as found” conditions and recommendations.

7.7 Reports

7.7.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.7.2 Complete and submit a weekly status report of the tank survey progress using Enclosure 2.2.1. The report is to identify completion of applicable survey milestones in each tank; Visual exam, UT exam, Close-Up survey, and Hydrostatic testing. The report shall be submitted to the OMT REP prior to the weekly Production and Progress meeting, refer to Work Item 013.

7.7.3 Submit a report that includes “as released” condition of the tanks effected by this work item. Submit one electronic copy in Portable Document Format (PDF).

7.7.4 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.8 Paintings: None

7.9 Manufacturer’s Representative: None

7.10 Preparation of Drawings

7.10.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 TANK SURVEY STATUS

Tank (description)	Location (frame)	Tank Type (*)	Overall Survey (**)	Close-Up Survey (**)	Thickness Measurement (**)	Tank Testing (**)	Remarks: (wastage, structural damage, fractures, suspect areas, tank vents, sounding tubes, striker plates, ladders, anodes, …)

* - Ballast(B), Fuel Oil(FO), Lube Oil(LO), Freshwater(FW), Potable Water(PW), Void(V)

** - Not Started (Date), In Progress (Date), Complete (Date)

1.0 ABSTRACT:

1.1 This item describes the requirements for the contractor to preserve and paint the deck in No.2 Ships Service EDG Room (5-125-2-E).

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Booklet of General Plans

2.2 Surface Preparation Standard, SSPC-SP-3, Power Tool Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP-11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.4 PPG Product Data Sheets, Amercoat 240

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 SD No.2 Ships Service EDG Room Main Platform and Catwalk (5-125-2-E)

3.1.2 Quantity:

3.1.2.1 Approximately 550 SF of deck surfaces

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Government to furnish the following paint system.

PPG Marine Paint

QTY	NOMENCLATURE
5 gallons	1st coat 240 buff
5 gallons	Stripe coat 240 haze gray
10 gallons	Topcoat 240 oxide red
5 gallons	5450 machinery gray
5 gallons	5450 white
2 gallons	91-92 Thinner

2 gallons	21-06 Thinner

(Thinners are supplied for spray viscosity control only and shall not be used for equipment cleanup.).

4.2.2 MSC Form 10360/5 will be used by shipyard/contractor to accept paint at beginning of work, and to return overage to supplier at conclusion.

4.2.2.1 Paint Material Return Authorization section of Form will be legibly signed and dated by the MSCREP, the MSC Paint Supplier Representative, and a responsible Contractor Representative.

4.2.3 Contractor will notify MSCREP at least 10 days in advance of any additional paint requirements.

4.3 Government Furnished Services (GFS):

4.3.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

4.4 Government Furnished Information (GFI)

4.4.1 ENCL (1); MSC Form 10360/2

4.4.2 ENCL (2); MSC Form 10360/5

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTRs 1-7, 21,22,25,26 and 29.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work

package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.5 <u>NO PAINT SHALL BE APPLIED UNTIL ALL HOT WORK IS COMPLETED. THE MSCREP WILL DETERMINE WHEN ALL HOTWORK IS COMPLETE AND WILL DIRECT THE CONTRACTOR TO PROCEED WITH THE APPLICATION OF PAINT.</u>

6 QUALITY ASSURANCE REQUIREMENTS:

6.1 The requirements of this Work Item shall be accomplished to satisfaction of the MSCREP.

6.2 The requirements of this Work Item shall be accomplished in accordance with current Regulatory Body rules and regulations.

7.0 STATEMENT OF WORK REQUIRED

7.1 General Requirements

7.1.1 Provide all labor and equipment to accomplish preservation and painting of the deck and catwalk in SD No.2 Ships Service EDG Room (5-125-2-E). this work item

7.1.1.1 Provide, install and maintain staging required to facilitate scope of work. Remove equipment and all required staging when all requirements of this Work Item are complete.

7.1.2 Prior to starting the requirements of this Work Item accomplish an operational test of all deck drains to the satisfaction of the MSCREP. Submit a report listing the existing condition of all deck drains to the MSCREP. Upon completion of the requirements of this work item accomplish an operational test of all deck drains to the satisfaction of the MSCREP.

7.1.3 Remove all interference items necessary to accomplish the requirements of this Work Item. Mark, protect and properly store all interference items removed. Reinstall interference items and prove them operational to the satisfaction of the MSCREP when the requirements of this Work Item are complete.

7.1.3.1 Remove and Store Loose Material to gain access to the deck and vertical surfaces underneath and behind them

7.1.3.2 When the preservation work is complete reinstall the Loose Material and Bottom Shelves in their original location using new 316 CRES hardware.

7.1.4 Provide and maintain lighting and ventilation required to accomplish all requirements of this Work Item. Remove lighting and ventilation when all requirements of this Work Item are complete.

7.1.5 In areas to be painted, record all ship's markings, including information, size, and color. After painting areas, replace markings as original, or as directed by MSCREP or this specification. **See 7.4.1**

7.1.6 Adequately cover or protect all areas where:

-- dust and debris may impinge on ship's equipment.

-- dust and debris may settle on ship's equipment.

-- dust and debris may enter any air intakes, air exhausts, hatches, doorways or penetrations to interior of ship.

Installation and maintenance of protective coverings must be acceptable to the MSCREP and Ship's Master prior to the start of any surface preparation. After completing work, remove protective coverings and ensure normal operation.

7.1.7 Plug open ends of all penetrations including pipes, drains, valves, vents, and ducts. Submit a typed written report listing the location of all temporary plugs installed to the MSCREP. After completing work, remove all temporary plugs installed. Ensure pipes, drains, vents, and ducts operate normally to the satisfaction of the MSCREP.

7.1.8 Adequately protect all areas that will not be painted, including plastic, rubber, and nonferrous metal (including propellers and thrusters) to the satisfaction of the MSCREP.

7.1.9 Before beginning surface preparation, abrasive blasting, or painting, ensure all surfaces are clean, dry and free of all oil, grease, and salt.

7.1.10 Install protective covers over all electrical / electronic equipment. After painting is complete, remove covers and ensure no paint is located on equipment.

7.1.11 After completion of the protective covering installation and prior to commencing surface preparation conduct an inspection between the Contractors Paint Supervisor, MSCREP and Ship’s Master. **NO**

SURFACE PREPARATION SHALL COMMENCE WITH OUT THE APPROVAL OF THE MSCREP.

7.1.12 Ensure paint materials are stored within paint manufacturer's recommended temperature range. While applying paint materials, ensure materials range between 70 deg. F. and 90 deg F.

7.1.13 Before applying any paint, ensure the following conditions are met:

-- Air and metal surface temperatures are within the permissible range published by the paint manufacturer.

-- The ambient air and metal temperatures register at least 5 deg. F. above the dew-point temperature.

-- The relative humidity is no higher than 85 percent.

-- The MSCREP has been notified of intent to apply paint and has consented.

7.1.14 Ensure application, thinning, and recoating times comply with the manufacturer's published data.

7.1.15 All paint application shall be accomplished within the manufacturer's published standards.

7.1.16 **CONTRACTOR SHALL NOT APPLY ANY PAINT WITHOUT PRIOR APPROVAL FROM THE MSCREP. THE PAINT MANUFACTURE REPRESENTATIVE WILL ADVISE THE MSCREP IF THE CONDITIONS (SURFACE PREPARATION AND WEATHER) ARE ACCEPTABLE FOR THE APPLICATION OF PAINT.**

7.1.17 Complete MSC Form 10360/2 daily, and submit to MSCREP.

7.1.18 Take and record DFT readings for each coat of paint at a rate of five spot readings per 10 square feet of painted surface. DFT Gauge calibration shall be performed and spot readings shall be taken in accordance with SSPC-PA2. The tolerances for acceptable DFT shall be in accordance with SSPC-PA2. Submit records daily to MSCREP.

7.2 **Surface Preparation**

7.2.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning to the surfaces listed in 3.1.2 to remove all dirt, oil, grease, soluble salts or other organic matter. PREP 88 will be used to the greatest extent possible. Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride

contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.2.1.1 Remove all water and debris generated by this repair.

7.2.1.2 Dry the surfaces to remove any residual water prior to the surface preparation in 7.2.2.

7.2.2 Accomplish an inspection of the surface preparation accomplished 7.2.1 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.3 Accomplish the requirements of surface preparation specification SSPC-SP11 to the deck and vertical surfaces in the Spaces listed in 3.1.2. Profile shall be determined using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) replica tape shall be used at a rate of one (1) reading per 10 sq.ft. for verification. Replica tape shall be mounted, identified as to location and included as part of the final paint report.

7.2.4 Accomplish an inspection of the surface preparation accomplished 7.2.3 with the Contractors Paint Supervisor, MSCREP and PPG Marine Paint Representative.

7.2.5 Submit a typed written report to the MSCREP listing the results of the inspection in 7.2.2 and 7.2.4.

7.2.6 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering shall provide a smooth transition between the area of surface preparation and the existing coating.

7.2.7 Remove and Dispose of all remove paint and debris. The material shall be disposed of in accordance with Federal, State and Local Regulations. The total cost for disposal of all material shall be included in the cost of this Work Item.

7.3 **Paint Application**

7.3.1 Ensure all surfaces to be painted are free of dust, oil, grease, salt deposits, moisture, "rust bloom," and any other foreign materials. The surface appearance shall meet the requirements as defined in SSPC-SP11. Prior to applying each coat of paint, conduct an inspection with the MSCREP and PPG Marine Paint Representative. **NO PAINT SHALL BE APPLIED WITHOUT THE APPROVAL OF THE MSCREP.**

NOTE: Stripe coats shall be applied to all weldments, crevices, corners, edges treads, pitted surfaces, window edges and other areas not conductive to

proper coverage. Stripe coats shall extend a minimum of 1" from each hedge of the area being stripe coated.

7.3.2 Apply the following paint system to all of the surfaces prepared in 7.2.3:

PPG Marine Paint

1st Coat Amercoat 240 Buff (Full Coat) 5-6 mils DFT
2nd Coat Amercoat 240 Oxide Red (Full Coat) 5-6 mils DFT

7.3.2.1 One (1) stripe coat as required using a brush of Amercoat 240 Light Gray at 5- 6 mil DFT on surfaces listed in 3.1.2.

7.3.2.2 Use Amercoat T-10 Solvent Only.

7.3.3 Apply the following paint system to all of the deck surfaces listed in 3.1.2:

7.4 Preparation of Drawings/Documentation:

7.4.1 Prepare and submit a typed written paint report for the Service Area 2 to the MSCREP within three (3) days of completion the coating application. The report shall include the following:

--Date, Time, Type and Total Square Footage of Surface preparation accomplished.

--Date, time and type (full coat, stripe coat, touchup) for each coating application.

--Temperature, humidity and dew point at the time of each coating application.

--Dry Film Thickness readings (minimum 5 per 100 sq. ft. of surface area) for each coating application.

--Manufacture, Product Identification No. and Batch Nos. for each type of coating applied.

7.4.2 Prepare and submit a typed written paint usage report for the Service Area 2 to the MSCREP within three (3) days of the completion of the coating application. The report shall include the following:

--Total quantity of each type of coating material provided by the MSCREP

--Total quantity of each type of coating material used to accomplish the requirements of this Work Item.

--Total quantity of each type of unused coating material returned to the MSCREP.

7.5 Manufacture's Representative:

7.5.1 The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

8.0 General Requirements: None additional

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	0800				1200				1600			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
DAILY LOG OF AMBIENT WEATHER CONDITIONS

USNS _____ Location: _____ Contractor: _____

Date	2000				2400				0400			
200__	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point	Air Temp	Surf Temp	RH	Dew Point

MILITARY SEALIFT COMMAND, EAST
SHIP AVAILABILITY SUMMARY
OF GFM PAINT SUPPLIED, USED AND RETURNED FOR CREDIT

USNS _____ Location: _____
Paint Supplier: _____ Arrival Date: _____
MSC EAST POC: _____ Phone: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL DELIVERY ACCEPTANCE

Authorized MSC Rep:
Name: _____ Signature: _____ Date: _____

PAINT MATERIALS RECEIVED				
Supplier's Code & Description	Color	Batch Number	Gallons Received	Condition of Containers

PAINT MATERIAL RETURN AUTHORIZATION

Authorized Supplier Rep.
Name: _____ Signature: _____ Date: _____

USS Mt Whitney		
(LCC-20)		
HULL AND STRUCTURAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0162	CATEGORY "A"	2026-05-16
LCC-CCSI-WATERTIGHT CLOSURE INSPECTION (5 YR)		Simpson, Eric H.

1.0 ABSTRACT

The purpose of this item is to inspect, service and test watertight closures.

2.0 REFERENCES/ENCLOSURES

2.1 References:

2.1.1 NAVSEA Dwg. 123-4399871, Structural Doors List and Orders

2.1.2 NAVSEA Dwg. 123-4399870, Hatch and Scuttle List and Orders

2.1.3 NFPA 80, Standard for Fire Doors and Other Openings (Commercially Available)

2.1.4 MSC Drawing 085-8386886, Fire Control Plan

2.1.5 46 CFR §91.25-25-Hull Equipment

2.1.6 46 CFR §170 Subpart H—Watertight Bulkhead Doors

2.2 Enclosures:

2.2.1 Exterior Watertight Closure List

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: Various; see references 2.1.1 and 2.1.2 and enclosure 2.2.1

3.1.2 Quantity: 21 exterior watertight closures

a. 13 exterior watertight doors

b. Four exterior watertight scuttles

c. Four exterior watertight hatches

3.2 Item Description/Manufacturer's Data: Watertight doors, scuttles, and hatches

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with hazardous waste remediation and removal are to be attributed to Work Item 023, rather than to the individual work items. Waste removed throughout the course of work package accomplishment are to be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, maintain and test the watertight closures identified in enclosure 2.2.1 in accordance with IMO, SOLAS, and manufacturer’s requirements using reference 2.1.1 through 2.1.6 for guidance.

7.2 With the assistance of ship’s force, tag-out all required systems and equipment.

7.3 Conduct an inspection of watertight closures to verify their condition and performance. The inspection should include/verify:

7.3.1 Note any damage, warpage, leaks, and missing or non-standard components.

7.3.2 The knife edges for height and straightness.

7.3.3 The frames and knife edges for twisting and warpage.

7.3.4 Condition of the gaskets.

7.3.5 Hinge assemblies.

7.3.6 Dog assemblies and wedges.

7.3.7 Verify the holdback mechanism is in good working order.

7.3.8 Scuttles and hatches, check the handwheels and spindles, dogging arms, and springs for movement and wear.

7.4 Conduct maintenance on all watertight closures to meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements.

7.4.1 Renew the gasket material on ten (10) exterior watertight closures. For bidding purposes assume 100 ft of gasket (total) is to be replaced.

a. The gaskets shall be glued-in. Only one butt joint shall be allowed. Butt joint shall not be located in a corner of the closure, but rather in the mid-length of the closure bottom. The butt joint shall be at right angle to the length of the gasket and shall be glued together. No gaps are permitted. The gasket installation shall be inspected and approved by the OMT REP.

7.5 Coordinate with ship’s force to conduct five-year testing of all watertight closures and controls listed in Enclosure 2.2.1. Conduct all testing to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. Coordinate testing with the MSCREP. The testing includes/verifies:

7.5.1 An operational test of all exterior watertight closures.

7.5.2 Prove the effectiveness of sealing arrangements by chalk testing. The impression of the knife edge shall be continuous around the closure and shall be center on the gasket. For bidding purposes assume four doors, two scuttles, and two hatches listed in Enclosure 2.2.1 requires testing. Present the results to the OMT REP and ABS Surveyor.

7.5.3 Perform a hose test on all exterior closures. A 1-1/2 inch hose with not less than 70 psi water pressure shall be directed all around the closure from a distance of not more than 10 feet. The water shall be applied from the weather deck side of the closure. The stream of water shall be moved slowly to ensure that the entire sealing surface, particularly the butt joint of the gasket is subject the full force of the water. No leakage shall be allowed. The attending ABS Surveyor and OMT REP shall witness the hose test.

NOTE: Neither hammers, mauls, materials of like intent nor cheater pipes more than one foot in length shall be used to operate the dogs for securing the closure for testing. Use of force greater than normally expected from one man, utilizing a

one foot cheater pipe shall be grounds for rejecting the test.

7.5.4 After any repairs, the door, scuttle, or hatch must be retested for proper operation.

7.5.5 Testing is to be coordinated with the MSCREP and ABS to allow for observation if deemed necessary.

7.6 Maintain work spaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.7 Upon completion of all inspections, tests, and repairs, return the watertight closures to a ready for service condition.

7.8 Reports

7.8.1 When inspections, maintenance, servicing and testing reveal any deficiency, a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.8.2 Upon completion of all inspections, maintenance, servicing, and testing, prepare and submit a typewritten Service Report documenting the final “as released” condition of all watertight closures affirming they are safe for use. Submit one electronic copy in Portable Document Format (PDF).

7.8.3 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.9 Painting:

7.9.1 Mechanically clean, prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match

surrounding surfaces.

7.10 Manufacturer’s Representative: None.

7.11 Preparation of Drawings

7.11.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

USS Mt Whitney		
(LCC-20)		
HULL AND STRUCTURAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0162	CATEGORY "A"	2026-05-16
LCC-CCSI-WATERTIGHT CLOSURE INSPECTION (5 YR)		Simpson, Eric H.

Closure ID	Type	OP Test	Chalk Test	Discrepancies
Door No. 3-51-4 (Weather)	QAWT			
Door No. 3-51-5 (Weather)	QAWT			
Door No. 1-62-1 (Weather)	QAWT			
Door No. 1-70-2 (Weather)	QAWT			
Door No. 1-71-3 (Weather)	QAWT			
Door No. 1-112-2 (Weather)	QAWT			
Door No. 01-76-2 (Weather)	QAWT			
Door No. 02-66-1 (Weather)	QAWT			
Door No. 02-66-2 (Weather)	QAWT			
Door No. 03-65-1 (Weather)	QAWT			
Door No. 03-65-2 (Weather)	QAWT			
Door No. 03-70-4 (Weather)	QAWT			
Door No. 03-70-3 (Weather)	QAWT			
Hatch No. 4-68-1 (Weather)	FWTE			
Hatch No. 4-68-2 (Weather)	FWTE			
Hatch No. 4-102-1 (Weather)	FWTE			
Hatch No. 4-102-2 (Weather)	FWTE			
Scuttle No. 1-62-2 (Weather)	WT PASSING			
Scuttle No. 1-62-4 (Weather)	WT PASSING			
Scuttle No. 1-62-6 (Weather)	WT PASSING			
Scuttle No. 1-62-8 (Weather)	WT PASSING			

LEGEND

FWTE – Flush Watertight Escape
QAWT – Quick Acting Watertight
WT Passing – Watertight Cover on One Side and Seal Cover on Opposite Side

1.0 ABSTRACT

The purpose of the item is to surface prepare and re-coat of the vessel's Aux. Machinery Space and Pump Room bilge(s).

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Booklet of General Plans

2.2 Surface Preparation Standard, SSPC-SP-3, Power Tool Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP-11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.4 PPG Product Data Sheets, Amercoat 240

3.0 ITEM LOCATION/DESCRIPTION

3.1 Locations/Quantity

3.1.1 Assured Power UPS No.1, (7-30-0-E), approximately 1500 square feet

3.1.2 Assured Power Battery Room No.2, (7-109-1-E), approximately 1292 square feet

3.1.3 Assured Power UPS No.2, (7-111-1-E), approximately 1000 square feet

3.1.4 Assured Power Battery Room No.1, (7-38-0-E), approximately 500 square feet

3.1.5 Pump Room No.1, (8-40-0-E), approximately 512 square feet

3.1.6 Pump Room No.2 & Air Conditioning Machinery Room #2, (7-109-2-E), approximately 864 square feet

3.1.7 Air Conditioning Machinery Room No.3, (7-64-2-E), approximately 1024 square feet

3.1.8 SS/EDG Room No.1, (5-121-1-E), approximately 1600 square feet

3.1.9 Steering Gear Room, (5-137-0-E), approximately 1683 square feet

3.1.10 Total: Approx. 9,975 square feet

3.2 Description: Aux. Machinery Space and Pump Room Bilges

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

Product	Type/Notes	Color	Qty
Amercoat 240	Epoxy (1st primer coat)	Pastel Green	100 gal
Amercoat 240	Epoxy (stripe coat)	Buff	70 gal
Amercoat 240	Epoxy (2nd primer coat)	Red Oxide	100 gal
Amercoat T-10	Solvent	N/A	15 gal

4.3 Government Furnished Services (GFS)

4.3.1 PPG Coating Representative

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools and equipment as required to prepare and renew the paint coatings in the bilges identified in section 3.0 using References 2.1 through 2.4 as guidance. To include all necessary staging required to access all applicable surfaces as may be identified in the base work item. For purposes of this work item, bilge(s) are defined as the area below the deck plates/grates and to include all structure, foundations, ladders, tank tops, bulkheads, piping, hangers, valves, supports, conduit, pumps, motors and bilge wells.

7.2 Coordinate with ship’s force to tagout all valves, drains, level indicating and alarm systems associated with the bilges being worked. Install temporary blanks on drains to prevent entry of liquids into the bilge area during accomplishment of this item. Return to normal operating conditions on completion of work.

NOTE: Cleaning and gas free certification requirements for the subject areas are covered under other work items 020 and 021.

7.3 In conjunction with initial water washing, pump out liquids, and remove all mud, dirt and debris using contractor furnished pumps and hoses, as may be necessary to clean the designated bilges.

NOTE: Bilge water removal is covered by and will be priced in work item 011.

7.4 Provide and maintain adequate lighting and ventilation. Lighting will be sufficient for surface preparation, inspection and coating application requirements. Ventilation will be of sufficient size to dry all washed areas and maintain a clear atmosphere during surface prep and painting operations.

7.5 Prior to start of surface preparation and painting, take precautions to protect the vessel from contamination and over spray. The following actions, at a minimum will be taken:

7.5.1 Install protective coverings and take appropriate measures to ensure that the vessel's interior and its equipment are protected to prevent contamination from water, grit, dust, debris or paint spray; to include all open vents, ducting, drains, piping and bilge suctions, bilge lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, electrical equipment, and anything else that could be damaged by water, detergent, oil, debris, contamination and paint over spray.

7.5.2 In the area to be scaled and painted, cover all labels plates, cable tags, and identification markings. Record the location, size and color of any markings;

7.5.3 Protective covering will be inspected at regular intervals, but not less than at the start of each work shift. Degraded protective covering will be repaired prior to the restart of work.

7.6 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and showing that the contamination has not caused damage to same. Cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.7 Provide the OMT REP a schematic that maps the location of each deck plate/grate. A numbering system will be used and metal tag attached to each plate/grate identifying its location. No deck plating/grating is to be removed from its location until the schematic and tagging is in place and provided to the OMT REP.

7.8 Temporarily remove the deck plating/grating and associated fasteners and clips in way of the affected bilges. Fasteners and clips will be stored in a safe place to prevent loss.

7.9 Install temporary walkways in the spaces identified in 3.1 that meet OSHA requirements and provide for safe navigation of the space and access to all exits. Plywood or planking of adequate thickness to allow personnel to safely transit the

areas will be used.

7.10 The contractor, ABS and OMT REP will inspect the bilge area to include foundations, structure, deck plating supports, piping and pipe hangers to determine if steel work will be required. Prepare and submit an as found condition report to the OMT REP identifying any discrepancies and recommended repair.

7.11 Temporarily remove zinc anodes (if applicable) in way of surface preparation and paint application.

7.12 Surface Preparation

CAUTION: Exercise care during the cleaning and surface preparation processes to avoid damage to wireways, level sensors, and lighting.

7.12.1 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning degreasing the bilge by performing a low pressure water wash with degreaser and warmed freshwater to 120°F of the entire bilge removing all oil, grease, slime, dirt, mud, soluble salts and other foreign matter. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible. Particular attention will be given to tank tops, piping, valves, the undersides of stiffeners, ledges, snipes, limber holes in longitudinals, crevices and areas of rust, rust scale, blistered, cracked, peeling or flaking coatings. Heavily soiled areas will be scrubbed and hand wiped with rags to remove excess oil and grease prior to pressure washing. Accomplish a final rinse with hot, clean, freshwater upon completion of the degreasing and solvent cleaning process.

7.12.2 Upon completion of all water washing chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.12.3 The entire bilge, including all tank tops, structural members, valves, manifolds, piping, pipe brackets, foundations, and manhole covers will be power tool cleaned removing all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter using Surface Preparation

Standard SSPC-SP3, Power Tool Cleaning, Reference 2.2 as guidance.

7.12.4 For bidding purposes, assume 10% of the bilge area including all tank tops, structural members, valves, manifolds, piping, pipe brackets, foundations, and manhole covers will be required to be power tool cleaned to bare metal removing mill scale, rust, paint, oxides, corrosion products, and other foreign matter using SSPC-SP-11, Power Tool Cleaning to Bare Metal as guidance. These areas will be identified by the OMT REP and PPG Paint Representative.

7.12.5 Upon completion of surface preparation all surfaces will be vacuumed clean and blown-down with dry, oil free air to remove all dust, dirt and debris.

7.13 Coatings Application

7.13.1 Prior to application of any coating, the area to be painted will be inspected and approved by the OMT REP and OMT Paint Representative. Conditions will follow PPGs Product Data sheets using Reference 2.4 as guidance. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include observation, measuring and recording:

a. Surfaces are clean, dry and free of all contaminants including salt deposits.

b. Verify surface appearance meets the definition of SSPC-SP3, Power Tool Cleaning or SSPC-SP-11, Power Tool Cleaning to Bare Metal as appropriate.

c. Test for non-visual surface contaminates at random locations to ensure that surfaces have not been re-contaminated. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants.

d. Check surface profile.

e. Measure and record environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity). Confirm they are within the paint manufacturers allowable range using Reference 2.4 as

guidance.

1. During application and curing, the substrate temperature will be at least 5°F (3°C) above Dew Point.

2. The Relative Humidity will not exceed 85%.

f. Record over coating intervals (curing time) since previous application

g. Measure and record Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet.

7.13.2 No coating will be applied at temperatures below 35o F without prior written approval of the OMT REP.

7.13.3 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.4 All coatings will be prepared and applied in accordance with the manufacturer’s requirements outlined in the Product Data Sheets using Reference 2.4 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millages are being applied.

7.13.5 Stripe coating will be performed by brush, roller or other mechanical means that will ensure that the paint is applied to the areas where needed. Stripe all limber holes, snipes, corners, weldments, pitted areas, threaded surfaces or other areas that are not conducive to proper coverage by spray application. In no case will spray application of a stripe coat be allowed.

7.13.6 EPOXY

a. Apply the following Coats to all prepared surfaces:

b. One full coat of Amercoat 240, (Pastel Green) at 5-6 mils DFT.

c. One stripe coat of Amercoat 240, (Buff) at 2-3 mils DFT.

d. One full coat of Amercoat 240, (Red Oxide) 5-6 mill DFT.

e. The stripe coat will be applied to all weldments, crevices, corners, edges and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

7.14 The environmental conditions, DFT of each coat, cure and over coating intervals are critical to the application of the bilge coatings. The application of all coatings will adhere to the Product Data Sheets and OMT Paint Rep. Consult the OMT Paint Representative for proper overcoat intervals.

7.14.1 Upon completion the bilges are to be ventilated to promote curing before being immersed in water. Drying times are greatly dependent on air and surface temperatures, film thickness, ventilation and relative humidity. The production schedule must consider this cure time. For planning purposes:

Substrate Temp	Dry to touch	Dry to handle	Cure time prior to immersion
23°F (-5°C)	36 hours	60 hours	21 days
32°F (0°C)	24 hours	36 hours	14 days
50°F (10°C)	10 hours	16 hours	10 days
68°F (20°C)	5 hours	10 hours	6 days
86°F (30°C)	3 hours	8 hours	3 days

7.15 During all surface preparation and coating operations, the area involved will only be accessed by persons directly involved in the work underway or those inspecting same. All persons entering the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be made available at the tank entry and be put on each time a person enters the area.

7.16 Reinstall zinc anodes (if applicable) as original.

7.17 Reinstall all deck plating/grating and associated fasteners and clips in their original locations leaving them in a ready for service condition.

7.18 A final inspection of the bilges will be conducted by the OMT REP and Chief Engineer. Removal of all blanks, filters, and protective covers from all open vents, ducting, drains, piping and bilge suctions, bilge lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, and electrical equipment. With assistance of the Chief Engineer, verify proper operation of bilge lighting, bilge level indicating and alarm systems.

7.19 Upon completion the vessel will be cleaned of all residues resulting from the surface preparation and painting operations.

7.20 Reports

7.20.1 Prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report will include the following data:

a. The location, date and time of each coating application.

b. Surface profile measurements of the metal substrate.

c. Results of testing for non-visible surface contaminants (soluble salts).

d. The air and substrate temperatures, relative humidity and dewpoint temperature at the time of each coating application.

e. Interval between coatings.

f. Dry film thickness readings at a rate of five spot readings per 1,000 sq. ft. of surface for each coat of paint.

g. Paint Manufacturer, Product Identification Number, color and Batch Numbers for each coat of paint applied.

7.21 Painting: None additional

7.22 Manufacturer's Representative

7.22.1 A Government Paint Technical Representative will be in attendance, on the government’s account, to observe the surface preparation and coating application and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. He/She is not for supervision of the contractor’s workforce.

7.23 Preparation of Drawings

7.23.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to conduct vacuum blast and renew the high profile non-skid preservation of weather decks.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.4 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals - Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.7 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.8 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.9 PPG PMC - MSC Paint Handbook

2.10 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location

a. Main deck, Frame FP to Frame 28

3.1.2 Quantity

a. 13,230 sq. ft. of surface area

3.2 Item Description/Manufacturer's Data: None

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Amercoat 137/240	Epoxy (1st primer coat)	Buff	130 gal
Amercoat 137/240	Epoxy (stripe coat)	Buff	130 gal
Amercoat 137/240	Epoxy (2nd primer coat)	Dark Gray	130 gal
Amercoat 138G Ty 1	Non-Skid	Dark Gray	610 gal
Amercoat 240	Trim/edges	Dark Gray	130 gal
Amercoat 229T	Markings	White	65 gal
Amercoat 229T	Markings	Red	65 gal
Amercoat T-10	Solvent for 137 and 138G	N/A	130 gal
Amercoat 65	Solvent	N/A	65 gal

4.3 Government Furnished Service (GFS)

4.3.1 OMT Coating Representative

a. A Government Coating Technical Representative will be in attendance, on the government's account, to observe the surface preparation and coating application on the government's behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor's efforts. They are not for supervision of the contractor's workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of

this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item, including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to preserve the weather deck non-skid identified in section 3.0 using References 2.1 through 2.10 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.4 Prior to the start of any surface preparation:

7.4.1 Record all hull and deck markings, labels and weld bead lines documenting their information (text), size, color, positions, and symbols. Submit a copy of the record to the OMT REP. After non-skid renewal and coating application, replace all markings and labels as original.

7.5 Coating material is to be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70° F.

7.6 Provide and maintain adequate lighting during all surface preparation, coating, and inspection activities.

7.7 Temporarily install drop cloths, masking, division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, tank vents, valve stems, motor shafts, seals and temporary openings during surface preparation and coating operations.

7.8 Prior to initiating surface preparation, the Contractor will ensure the vessels equipment is protected from damage caused by blasting, water jetting, dirt, dust, coating, or other foreign matter. Measures to be taken but are NOT limited to are:

7.8.1 Plug open ends of pipes, vents, ducts, scuppers and drains overboard. Vents will not be plugged without ship’s force approval.

7.8.2 Wrap all equipment, valve stems and exposed portions of hydraulic cylinders. Install filters, if required, on all air intake vents. Install covers on all fuel tank vents.

7.8.3 Temporarily install protective coverings on all port-lights, windows, and light globes to prevent damage due to

inadvertent water-jetting or other means of non-skid removal.

7.8.4 Mask all normally uncoated surfaces.

7.8.5 Protect running rigging (cargo falls, lifts, cranes, etc.) and mooring lines which cannot be stowed or removed for the duration of non-skid removal.

7.8.6 Sprinklers will be covered with sheet metal disks to prevent damage during surface preparation and coating.

7.8.7 Prove all deck drains are free and clear in the presence of the OMT REP before non-skid removal.

7.9 Prior to the start of productive work, protective coverings will be inspected and approved by the OMT REP.

7.9.1 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restarting work.

7.10 Perform an inspection of the weather deck area as defined in section 3.0 with the OMT REP and the OMT Coating Representative to identify all areas to be Mechanically Cleaned to bare metal. For estimating purposes, assume **1,323** sq. ft. and at SSPC-SP-10/NACE 2 or WJ-2

7.10.1 Deficiencies noted during this inspection will be corrected and the OMT REP will be given the opportunity to inspect and approve the corrective measures before work begins. Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restarting work.

7.10.2 Contamination of the vessel and its equipment will be reported to the OMT REP verbally immediately upon discovery. The Contractor will be responsible for cleaning the contaminated equipment and showing that the contamination has not caused damage to the equipment or vessel. The cost of repairing equipment damage due to contamination will be the Contractor's responsibility.

7.11 Surface Preparation

7.11.1 Areas to be surface prepared for coating will be inspected by the OMT REP prior to commencing work to verify all machinery and peripheral equipment is properly covered to prevent damage.

7.11.2 Accomplish the requirements of SSPC-SP1, Solvent Cleaning, using biodegradable detergent to remove all oil, grease, dirt, and soluble salts from the surface of the specified decks.

7.11.3 The final wash-down will be done with clean, fresh water at 2,500 to 3,000 psi. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface area.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.5 Reclaim and dispose of all wash-water used during non-skid replacement.

7.11.6 Vacuum blast the entire deck area to a SSPC-SP-10 Near White Metal with a 3-4.5 mil surface profile.

7.11.7 Blasting material recovery will meet the local pollution control district regulations.

7.11.8 The blast profile achieved will be angular in nature and within the range set by the manufacturer’s product data sheet for the coating system being applied.

7.11.9 Profile will be determined using a Keane-Tator (or equal) surface profile comparator. Testex (or equal) replica tape will be used at a rate of one reading per 1,000 SF for verification. Replica tape will be mounted, identified as to location, and included as part of the final coating report.

7.11.10 Open abrasive blasting will not be permitted.

7.11.11 Accomplish the requirements of SSPC-SP11 Power Tool Clean to Bare Metal those areas inaccessible to the vacuum-blast machines and approximately six inches up all vertical surfaces of bulkheads, deck houses, foundations, fan housings, and other appendages in way of the aforementioned areas to bare metal. Ensure a minimum profile of 2 mil in way of power tool cleaned areas.

7.11.12 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering will provide a smooth transition between the area of surface preparation and the existing coating.

7.11.13 Remove and dispose of all blasting material in accordance with Federal, State and Local Regulations. The cost for disposal of all non-hazardous blasting material will be included in the cost of this work item.

7.11.14 Prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 1,000 square feet of prepared area. If contamination is found, additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.15 The surfaces will be inspected and approved by the OMT Coating Representative and the OMT REP prior to the application of each coat of paint or primer.

7.12 After cleaning and before coating, thoroughly inspect weather decks noting any electrical issues, broken hangers and cable runs, deformation cracking, areas of corrosion, or broken welds submit report to the OMT REP of findings. Should any repairs be noted and required to be repaired by the OMT REP, a change order will be issued.

7.13 Coatings Application

7.13.1 Prior to application of any coating, the areas identified in section 3.0 to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and

recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Upon completion of UHP Waterjetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 1,000 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet

7.13.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP10, Near White Metal Blast Cleaning or SSPC-SP WJ-2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High-Pressure and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition, as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see References 2.9 and 2.10.

d. Ambient Air temp during application and curing

should be between:

1. 40°F (4°C) and 110°F (43°C) for the Primer.

2. 50°F (10°C) and 100°F (38°C) for the Non-Skid.

3. 40°F (4°C) and 120°F (49°C) for the Markings.

e. Surface temp during application should be between:

1. 40°F (4°C) and 120°F (49°C) for the Primer and Markings.

2. 40°F (4°C) and 110°F (43°C) for the Non-Skid.

f. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

g. Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

7.13.3 No coating will be applied at temperatures below 40°F without prior written approval of the OMT REP.

7.13.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, Reference 2.10 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.13.6 EPOXY

a. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surfaces. A stripe coat is also required between primer coats.

b. The primer coats must be applied by spraying to obtain a uniform DFT and coverage. Rolling the primer is not

permitted.

c. One full coat of Amercoat 137, (buff) at 5-6 mils DFT.

d. One stripe coat of Amercoat 137, (dark gray) at 2-3 mils DFT.

e. One full coat of Amercoat 137, (dark gray) at 5-6 mils DFT.

f. The stripe coat must be applied by brush to all weldments, crevices, corners, edges, tie-downs, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated. SSPC-PA1, Paint Application Specification No. 1 will be used for guidance in stripe coating.

7.13.7 NON-SKID

a. Apply one Coat of Amercoat 138G Non-Skid to the deck.

b. Amercoat 138G must be applied with a napless phenolic roller to obtain the necessary raised ridge profile. The thinning of the non-skid product is not permitted.

c. Apply at a rate of approximately 30 square feet per gallon.

d. The surface will show a uniform pattern of peaks and ridges. The ridge profile will be continuous and reasonably uniform. Peaks and ridges will be generally in the same direction (fore-aft preferred), approximately 1/2 to 1 inch apart, and approximately 1/16 to 3/32 inch high. Aggregate will present a rough, uniformly coarse appearance over the entire surface with no loosely bound clumps of particles.

e. All longitudinal weld seams will be cross-rolled, perpendicular to the direction of peaks and valleys of the non-skid, 3 to 6 inches minimum on either side of the weld, and welds 8 inches or less apart will be treated as one weld.

f. Non-skid will be applied to within

approximately 2” of all deck fittings and protrusions and approximately 5” off deck coaming and edges.

7.13.8 DECK EDGES, GUTTERS, AND TIE DOWNS

a. Apply one coat of Amercoat 240, (dark gray) at 5-6 mils DFT.

7.13.9 MARKINGS

a. Layout chalk lines for all deck markings effected by non-skid repair using the prepared sketch.

b. OMT REP is to inspect, verify and approve the chalk lines prior to application of any paint coating to the markings. MSC is to be given 48 hours advance notice as a minimum.

c. Apply one Coat of Amercoat 229T (white) at 2-3 mils DFT to all deck markings.

7.13.10 The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application of non-skid. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 50°F (10°C) through 90°F (32°C) range consult the OMT Coating Rep for proper overcoat intervals.

7.14 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by people other than those directly involved in the work underway or those inspecting the same. Those people who are allowed in the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be put on each time a person enters the area. Cordoning or barricading will remain in place until the non-skid and color markings are properly cured.

7.15 Remove all protective coverings, debris and replace all interferences removed in the performance of this item. Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations.

7.16 Upon completion of work, ship's force will conduct final operational testing of perimeter lights, recessed deck lights, flood, and spotlights, and drains in the vicinity of the non-skid work completed. Compare "post work" performance test results to the "as-found" conditions. Correct any discrepancies noted between the "as found" and "post work" conditions. All repaired items will be satisfactorily re-demonstrated to ship's force and OMT REP.

7.17 Reports

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.17.2 The contractor is to prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report is to include the following data:

a. The location, date, quantity of product applied, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings of each coating

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

h. Submit a report that includes "as released" condition of the non-slip surfaces. Submit one electronic copy

in Portable Document Format (PDF).

7.17.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company’s representative.

7.18 Painting/Lagging: None additional

7.19 Manufacturer’s Representative: None additional

7.20 Preparation of Drawings

7.20.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to perform a vacuum blast and renew the non-slip deck coating systems in various locations.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.4 Surface Preparation Standard SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2, Waterjet Cleaning of Metals - Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-PA1, Paint Application Specification No. 1 (Available Commercially)

2.7 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.8 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.9 PPG PMC - MSC Paint Handbook

2.10 PPG Product Data Sheets, Amercoat and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 01 Level Port, frame 76 to frame 83

3.2 Quantity

3.2.1 Approximately 375 square feet

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Amercoat 240	Epoxy (1st primer coat)	Red Oxide	5 gal
Amercoat 240	Epoxy (2nd primer coat)	Buff	5 gal
Amercoat 385ASA	Pedestrian Non-Skid	Red	10 gal
Amercoat 385ASA	Pedestrian Non-Skid	Gray	10 gal
Amercoat 385ASA	Pedestrian Non-Skid	White	10 gal
Amercoat 229T	Non-Skid Color Topping	White	5 gal
Amercoat 5450	Alkyd Enamel	White	5 gal
Amershield	Polyurethane Topcoat	White	5 gal
Amercoat 65	Solvent	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Government Coating Technical Representative will be in attendance, on the government’s account, to observe the surface preparation and coating application on the government’s behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. They are not for supervision of the contractor’s workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to

determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28 and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, interference mitigation, staging, tools, and equipment as required to perform weather deck non-slip renewal in locations identified in section 3.0 using References 2.1 through 2.10 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per

ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.4 Prior to the start of any surface preparation:

7.4.1 Record all hull and deck markings, labels and weld bead lines documenting their information (text), size, color, positions, and symbols. Submit a copy of the record to the OMT REP. After non-slip renewal and coating application, replace all markings and labels as original.

7.5 Coating material is to be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70° F.

7.6 Provide and maintain adequate lighting of a suitable nature during all surface preparation, coating, and inspection activities.

7.7 Temporarily install drop cloths, masking, temporary division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, and temporary openings during surface preparation and coating operations.

7.8 Prior to initiating surface preparation, the Contractor will ensure the vessels equipment is protected from damage caused by blasting, water jetting, dirt, dust, coating, or other foreign matter. Measures to be taken but are NOT limited to are:

7.8.1 Plug open ends of pipes, vents, and ducts. Vents will not be plugged without ship’s force approval.

7.8.2 Wrap all equipment, valve stems and exposed portions of hydraulic cylinders. Install filters, if required, on all air intake vents. Install covers on all fuel tank vents.

7.8.3 Temporarily install protective coverings on all port-lights, windows, and light globes to prevent damage due to inadvertent water-jetting or other means of non-slip removal.

7.8.4 Mask all normally uncoated surfaces.

7.8.5 Protect running rigging (cargo falls, lifts, cranes, etc.) and mooring lines which cannot be stowed or removed for the duration of non-slip removal.

7.8.6 Sprinklers will be covered with sheet metal disks to prevent damage during surface preparation and coating.

7.8.7 Prove all deck drains are free and clear in the presence of the OMT REP before non-slip removal.

7.9 Prior to the start of productive work, protective coverings will be inspected and approved by the OMT REP.

7.9.1 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restarting work.

7.10 Perform an inspection of the weather deck area as defined in section 3.0 with the OMT REP and the OMT Coating Representative to identify all areas to be Mechanically Cleaned to bare metal. For estimating purposes, assume **38** sq. ft. and at SSPC-SP-10/NACE 2 or WJ-2

7.10.1 Deficiencies noted during this inspection will be corrected and the OMT REP will be given the opportunity to inspect and approve the corrective measures before work begins. Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restarting work.

7.10.2 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and show that the contamination has not caused damage to the equipment or vessel. The cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.11 Surface Preparation

7.11.1 Areas to be surface prepared for coating will be inspected by the OMT REP prior to commencing work to verify all machinery and peripheral equipment is properly covered to prevent damage.

7.11.2 Accomplish the requirements of SSPC-SP1, Solvent Cleaning, using biodegradable detergent to remove all oil, grease, dirt, and soluble salts from the surface of the specified decks.

7.11.3 The final wash-down will be made with clean, fresh water at 2,500 to 3,000 psi. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface area.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.5 Reclaim and dispose of all wash-water used during non-slip replacement.

7.11.6 Vacuum blast the entire deck area to a SSPC-SP-10 Near White Metal with a 3-4.5 mil surface profile.

7.11.7 Blasting material recovery will meet the local pollution control district regulations.

7.11.8 The blast profile achieved will be angular in nature and within the range set by the manufacturer’s product data sheet for the coating system being applied.

7.11.9 Profile will be determined using a Keane-Tator (or equal) surface profile comparator. Testex (or equal) replica tape will be used at a rate of one reading per 1,000 SF for verification. Replica tape will be mounted, identified as to location, and included as part of the final coating report.

7.11.10 Open abrasive blasting will not be permitted.

7.11.11 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal those areas inaccessible to the vacuum-blast machines and approximately six inches up all vertical surfaces of bulkheads, deck houses, foundations, fan housings, and other appendages in way of the aforementioned areas to bare metal. Ensure a minimum profile of 2 mil in way of power tool cleaned areas.

7.11.12 Feather the edges of the existing coatings surrounding all areas where surface preparation is accomplished using an 80-120 grit abrasive paper. The feathering will provide a smooth transition between the area of surface preparation and the existing coating.

7.11.13 Remove and dispose of all blasting material in accordance with Federal, State and Local Regulations. The cost for disposal of all non-hazardous blasting material will be included in the cost of this work item.

7.11.14 Prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 1,000 square feet of prepared area. If contamination is found, additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.15 The surfaces will be inspected and approved by the OMT Coating Representative and the OMT REP prior to the application of each coat of paint or primer.

7.12 After cleaning and before coating, thoroughly inspect the weather deck noting any electrical issues, broken hangers and cable runs, deformation cracking, areas of corrosion, or broken welds on main mast and submit report to the OMT REP of findings. Should any repairs be noted and required to be repaired by the OMT REP, a change order will be issued.

7.13 Coating Application

7.13.1 Prior to application of any coating, the areas identified in section 3.0 to be coated will be inspected and

approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Surface profile as determined by Keane-Tator Comparator (or equal) examination and/or replica tape

1. Upon completion of UHP Water jetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 1,000 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet

7.13.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP10, Near White Metal Blast Cleaning or SSPC-SP WJ-2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High-Pressure and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition, as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see References 2.9 and 2.10.

d. Ambient Air temp during application and curing should be between:

1. 40°F (4°C) and 110°F (43°C) for the Primer.

2. 50°F (10°C) and 100°F (38°C) for the Non-Slip.

3. 40°F (4°C) and 120°F (49°C) for the Markings.

e. Surface temp during application should be between:

1. 40°F (4°C) and 120°F (49°C) for the Primer and Markings.

2. 40°F (4°C) and 110°F (43°C) for the Non-Slip.

f. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

g. Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

7.13.3 No coating will be applied at temperatures below 40°F without prior written approval of the OMT REP.

7.13.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, Reference 2.10 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.13.6 Apply the primer to the entire prepared deck surfaces with two full coats of Amercoat 240 at 5-6 mils DFT per

coat. The color will be red followed by buff.

7.13.7 Stripe coats will be applied to all weldments, crevices, corners, edges treads, pitted surfaces, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 1 inch from each edge of the area being stripe coated. SSPC-PA1, Paint Application Specification No. 1 will be used for guidance in stripe coating.

7.13.8 Apply the entire deck surface with one full coat of Amercoat 385 ASA non-slip within 36 hours of the final application of Amercoat 240. Color will be designated by the OMT REP.

a. If the application occurs between 36 and 72 hours after, first wipe the entire surface area with the manufacturer’s recommended solvent using clean lint free rags.

b. If the application occurs between 72 hours and seven days after, wipe the entire surface with the manufacturer’s recommended solvent and then lightly abrade the surface and clean the resulting residue and then coat with a tack coat of Amercoat 240 at 1-2 mils DFT.

c. The application and curing time of the primer and non-slip coatings will be in accordance with the manufacturer’s instructions.

d. For the perimeter areas, borders around the deck edge, around foundations, and other areas that normally do not receive non-slip coating will be primed with two coats of Amercoat 240 at 4-6 mils DFT each coat, red followed by buff. Apply a topcoat of Amershield White or Amercoat 5450, as designated by the OMT REP, at 3-5 mils DFT to match surrounding areas. All cut in lines will be neat, straight, and square.

e. Thinning of the coating will be allowed for viscosity control if determined to be necessary by the OMT Coating Representative. Thinner utilized for viscosity control will be new and of the type recommended by the coating manufacturer. Recycled solvents will not be allowed.

f. Before the start of production application of any non-slip coating, a test patch will be applied. This test patch

will be approved by the OMT Coating Representative and OMT REP.

g. Non-slip will be applied to within approximately two inches of all deck fittings and protrusions and approximately five inches off deck coaming and edges.

h. Vertical surfaces will be top coated to match the surrounding area. Dado lines will be cut in, straight, level, and even.

7.14 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by people other than those directly involved in the work underway or those inspecting same. Those people who are allowed in the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be put on each time a person enters the area. Cordoning or barricading will remain in place until the non-slip and color markings are properly cured.

7.15 Remove all protective coverings, debris, and replace all interferences removed in the performance of this item. Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations.

7.16 Upon completion of work, ship’s force will conduct final operational testing of perimeter lights, recessed deck lights, flood, and spotlights, and drains in the vicinity of the non-slip work completed. Compare "post work" performance test results to the "as-found" conditions. Correct any discrepancies noted between the “as found” and “post work” conditions. All repaired items will be satisfactorily re-demonstrated to ship’s force and OMT REP.

7.17 Reports

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.17.2 The contractor is to prepare a Paint Report and submit same to the OMT REP within three days of completing the coating application. The report is to include the following

data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings of each coating

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

h. Submit a report that includes “as released” condition of the non-slip surfaces. Submit one electronic copy in Portable Document Format (PDF).

7.17.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company’s representative.

7.18 Painting/Lagging

7.18.1 Prepare, prime, coat and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.18.2 Renew lagging where damaged or disturbed.

7.19 Manufacturer’s Representative: None additional

7.20 Preparation of Drawings

7.20.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical

manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to surface prepare, inspect, and coat approximately 2,000 square feet of the vessel's topside items.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NAVSEA Drawing No. 845-4458934, Booklet of General Plans

2.1.2 MSC Drawing No. 445-7544199, PILOT HOUSE ARRANGEMENT INCIDENTAL NAVSSI INSTALLATION

2.1.3 MSC Technical Manual S9086-TL-STM-010 NSTM CHAPTER 572, SHIPBOARD STORES AND PROVISION HANDLING

2.1.4 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2 Waterjet Cleaning of Metals - Very Thorough Cleaning (Available Commercially)

2.1.5 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.1.6 Surface Preparation Standard, SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.1.7 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.1.8 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.1.9 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.1.10 PPG-MSC Paint Handbook

2.1.11 PPG Product Data Sheets, Amercoat 240 and Amershield

2.2 Enclosure

2.2.1 Spot Blast Locations

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations

a. Topside: Decks, Masts and foundations, Cranes, Kingposts: **To be designated by PPE during walkthrough**

3.1.2 Quantity

a. Topside: 2,000 sq. ft. of surface area

3.2 Description: All vertical surfaces and including overhangs and handrails, decks only calling for coating covering, masts including all attachments and platforms, all normally coated surfaces of davits and foundation, all normally coated surfaces of cranes and foundation, booms, and all normally coated surfaces of underway replenishment kingposts.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

For Decks, Store Cranes, Masts, Kingposts			
Product	**Type/Notes**	**Color**	**Qty**
Amercoat 240	Epoxy (1st primer coat)	Red Oxide	20 gal

For Decks, Store Cranes, Masts, Kingposts			
Product	**Type/Notes**	**Color**	**Qty**
Amercoat 240	Epoxy (stripe coat)	Off-White	20 gal
Amercoat 240	Epoxy (2nd primer coat)	Off-White	20 gal
Amershield	Polyurethane (topcoat)	Haze Gray	15 gal
Amercoat T-10	Solvent	N/A	5 gal
Amercoat 65	Solvent	N/A	5 gal
Prep 88	Cleaner	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Coating Technical Representative will be in attendance, on the government’s account, to provide guidance, and observe the surface preparation and coating application on the government’s behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. They are not for supervision of the contractor’s workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH THIS LEVEL OF EFFORT, WHERE REQUIRED OR FOUND NECESSARY, SHALL BE INCLUDED IN THE PRICE OF THIS WORK ITEM.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 The main mast is defined as all surfaces and appendages from the base up to and including the top of the highest point on the mast. The surfaces include, but are not limited to, the platforms, port and starboard yardarms, antenna foundations, ladders, handrails, and stanchions.

5.5 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item, including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to renew the paint coatings on the topside of the vessel as identified in section 3.0 using References 2.1.1 through 2.1.11 as guidance.

7.2 Drain and dispose of any liquid and materials generated as result of this work in accordance with all local, state, and federal laws.

7.3 Prior to the start of any surface preparation:

7.3.1 Record all markings, label plates and placards documenting their positions, symbols, and text. Submit a copy of the record to the OMT REP.

7.3.2 Note the condition of any damaged cable hanger, wireway supports, speakers, lights, switches, ladders, foundation, and climbing aids.

7.3.3 With assistance from the Ship’s Force, conduct an operational test in the presence of the OMT REP documenting “as found” conditions of all lighting, speakers, and deck drains.

7.3.4 In the first 10 Days of the availability and with assistance from the Ship’s Force, conduct an operational test of equipment with areas defined in 3.0 in the presence of the OMT REP documenting “as found” condition. This includes but is not limited to Cranes/Davits/Booms/UNREP gear/Radars.

7.4 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.5 Plug all overboard discharges in way of surfaces being prepared and coated.

7.6 Provide and erect staging required to access all applicable surfaces as identified in Section 3.0.

7.7 Coating material will be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70°F.

7.8 Provide and maintain adequate lighting during all surface preparation, coating, and inspection activities.

7.9 Temporarily remove interferences, label plates and placards in way of surface preparation and coating application.

Reinstall upon completion of all coatings work. Label plates that are riveted to the hull or otherwise permanently installed need not be removed.

7.10 Prior to the start of surface preparation and coating, take precautions to protect the vessel from contamination. Install drop cloths, masking, division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, tank vents, valve stems, motor shafts, seals, and temporary openings during surface preparation and coating operations. The following actions, at a minimum will be taken:

7.10.1 Mask all normally uncoated surfaces

7.10.2 Plug deck drains, deck sprinkler nozzles, and open pipes.

7.10.3 Wrap all valve stems and exposed portions of motor shafts, and hydraulic cylinders.

7.10.4 Install filter media on all tank vents and air intake vents.

7.10.5 Install protective coverings on all installed equipment, port lights, windows, permanently installed label plates, light globes, switches and pushbuttons, equipment, uncoated surfaces, vent screens and appurtenances not intended to be coated.

7.10.6 Protect mooring lines which cannot be stowed or removed for the duration of coating.

7.10.7 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restarting work.

7.11 Surface Preparation

7.11.1 Solvent Clean the vessel topside using Reference 2.1.7; SSPC-SP1 as guidance, using biodegradable detergent to remove all dirt, oil, grease, soluble salts, or

other organic matter from the specified surfaces. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible.

7.11.2 Final wash-down will be made with clean, fresh water at 2,500 to 3,000 PSI with 500 to 1,000 PSI around electrical cabling and equipment washdown. Upon completion of all water washing, chloride testing will be performed at a rate of no less than one test per 500 Square Feet of surface.

7.11.3 The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.5 Method

a. Ultra-High-Pressure water jet the vessel topside area identified in section 3.0 using SSPC-SP WJ-2/NACE WJ-2 to a WJ-2 finish using Reference 2.1.4 as guidance. Ensure that the surface profile of the vacuum blasted decking is 2 to 3 mils. Report any areas under 2 mils to OMT Representative.

b. Blast the vessel topside area identified in section 3.0 using SSPC-SP10/NACE 2, Near White Metal Blast Cleaning, using Reference 2.1.5 as guidance. The surface profile achieved will be angular in nature, and within the range set by the coating manufacturer’s product data sheet for the coating system being applied. Prior to the start of blasting, the blast media will be tested to ensure that it is not contaminated with chlorides, as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.6 Where spot blasting has been specified in Enclosure 2.2.1, edges of adjacent intact coating will be feathered-in.

7.11.7 No more than a light (L) grade flash rust will be allowed on the steel at the time of coating application. If

heavier flash rust is present, the surface will be pressure washed at 2,500 to 3,000 PSI and allowed to air dry to restore the surface to a coat-able condition.

7.11.8 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal to any areas inaccessible to the blast or water jetting including foundations, fan housings, hose racks, pad eyes, life ring clips, scupper extensions, areas behind equipment mounted on stand-offs (small items like speakers, light globes, switches and pushbuttons are to be lifted free during power tooling), and other appendages in way of the aforementioned areas to bare metal using Reference 2.1.6 as guidance.

7.11.9 After surface preparation, all surfaces will be blown down using clean dry air to remove all dust, dirt, and debris. Perform a joint inspection to identify areas that need investigation or repair because of corrosion or damage.

7.11.10 Regardless of whether the surfaces are blasted or UHP Water Jetted, immediately prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of no less than one test per 1,000 square feet of prepared area. The maximum allowable contamination concentrations for surfaces prepared by means of blasting will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment. For those surfaces prepared by means of UHP water jetting, the limits of NV-2 found in the appendix of SSPC-SP WJ-2/NACE WJ-2 will apply.

7.12 Coatings Application

7.12.1 Prior to application of any coating, the area to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Upon completion of UHP Water jetting, measure

the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 1,000 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet. DFT gages will be calibrated, spot readings will be taken, and DFT tolerances will be using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages.

7.12.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP WJ2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition or SSPC-SP10/NACE 2, Near White Metal Blast Cleaning as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see Reference 2.1.10.

d. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

e. Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

f. Condensation and/or rain is not to contact the uncured Amershield as it may change the color and gloss.

7.12.3 No coating will be applied below 35°F (1.7°C) without prior written approval of the OMT REP.

7.12.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.12.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, using Reference 2.1.11 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.12.6 Decks and vertical areas: Apply coating to areas defined in section 3.0 using References 2.1.1 through 2.1.11 as guidance.

a. EPOXY: Only the areas that were selected for preparation to bare metal and adjacent feathered area will receive Epoxy.

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One stripe coat of Amercoat 240, (off-white) at 2-3 mils DFT.

4. One coat of Amercoat 240, (off-white) at 5-6 mils DFT.

5. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to be coated shall be prepared for overcoating by washing with Prep

88 in accordance with manufacturer’s instruction, Reference 2.1.10.

2. Minimum concentration shall be two parts of water to one part concentrate for general cleaning and to restore “overcoat ability.”

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) at 3-4 mils DFT to the vessel topside.

5. The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.12.7 Mast: Apply coating to areas defined in section 3.0 using References 2.1.1 through 2.1.11 as guidance.

a. EPOXY: Only the areas that were selected for preparation to bare metal and adjacent feathered area will receive Epoxy

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One stripe coat of Amercoat 240, (off-white) at 2-3 mils DFT.

4. One coat of Amercoat 240, (off-white) at 5-6 mils DFT.

5. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to be coated shall be prepared for overcoating by washing with Prep 88 in accordance with manufacturer's instruction, Reference 2.1.10.

2. Minimum concentration shall be two parts of water to one part concentrate for general cleaning and to restore "ovecoat ability."

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) at 3-4 mils DFT to the vessel topside.

5. The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.12.8 Stores Crane: Apply coating to areas defined in section 3.0 using References 2.1.1 through 2.1.11 as guidance.

a. EPOXY: Only the areas that were selected for preparation to bare metal and adjacent feathered area will receive Epoxy

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One stripe coat of Amercoat 240, (off-white) at 2-3 mils DFT.

4. One coat of Amercoat 240, (off-white) at 5-6 mils DFT.

5. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to be coated shall be prepared for overcoating by washing with Prep 88 in accordance with manufacturer’s instruction, Reference 2.1.10.

2. Minimum concentration shall be two parts of water to one part concentrate for general cleaning and to restore “overcoat ability.”

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) at 3-4 mils DFT to the vessel topside.

5. The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.12.9 Kingpost Apply coating to areas defined in section 3.0 using References 2.1.1 through 2.1.11 as guidance.

a. EPOXY: Only the areas that were selected for preparation to bare metal and adjacent feathered area will receive Epoxy

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One stripe coat of Amercoat 240, (off-white)

at 2-3 mils DFT.

4. One coat of Amercoat 240, (off-white) at 5-6 mils DFT.

5. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to be coated shall be prepared for overcoating by washing with Prep 88 in accordance with manufacturer’s instruction, Reference 2.1.10.

2. Minimum concentration shall be two parts of water to one part concentrate for general cleaning and to restore “overcoat ability.”

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) at 3-4 mils DFT to the vessel topside.

5. The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.12.10 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting the same. Cordoning or barricading will remain in place until the topcoat is properly cured.

7.13 Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating

operations. Remove all protective coverings, debris and replace all interferences removed in the performance of this item.

7.14 Upon completion of work, ship's force will conduct final operational testing of ALL lights, speakers, floodlights, and spotlights, sprinkler heads, and drains in the vicinity of the vessel topside work completed. Contractor and ship's force will compare "post work" performance test results to the "as-found" conditions previously recorded in paragraphs 7.2.1 through 7.2.3. Correct any discrepancies noted between the "as found" and "post work" conditions. All repaired items will be satisfactorily re-demonstrated to ship's force and OMT REP.

7.15 Reports

7.15.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.15.2 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company's representative.

7.15.3 Prepare a Coating Report and submit same to the OMT REP within three days of completing the coating application. The report will include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings at a rate of five spot readings per 1,000 sq. ft. of surface for each coat of paint. DFT gages will be calibrated, and spot readings will be taken using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages as guidance.

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

7.16 Painting: None additional

7.17 Manufacturer's Representative: None additional

7.18 Preparation of Drawings

7.18.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - Spot Blast Locations

Location	Description	Square Footage

1.0 ABSTRACT

The purpose of this item is to surface prepare, inspect, and coat approximately 2,000 square feet of machinery space.

2.0 REFERENCES

2.1 MSC Drawing No. **845-4458934** General Arrangement

2.2 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.3 Surface Preparation Standard, SSPC-SP3, Power Tool Cleaning (Available Commercially)

2.4 Surface Preparation Standard, SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.5 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.6 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.7 PPG Product Data Sheets, Amercoat 240 and 5450

2.8 PPG Protective and Marine Coatings - MSC Paint Handbook

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: **To be designated during walkthrough**

a. **Engine Room (8-86-0-E)**

b. **Pump Rm No.1, (8-40-0-E)**

c. **Fire Room, (8-76-0-E)**

d. **Pump Rm No.2 & AC Mach Rm No.2, (7-109-2-E)**

e. **AC Mach Rm No.1 & Refrigeration Mach Rm, (7-40-**

0-E)

f. **Potable Water Heating Plant Rm, (6-30-0-Q)**

g. **SS/EDG Rm No.1, (5-121-1-E)**

3.1.2 Quantity

a. Approx. 2,000 sq. ft. to be surface prepared and coated

b. Approx. 100 sq. ft. to be insulated

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Amercoat 240	Epoxy (1st primer coat)	Red Oxide	20 gal
Amercoat 240	Epoxy (stripe coat)	Off-White	15 gal
Amercoat 240	Epoxy (2nd primer coat – bulkheads and overheads)	White	20 gal
Amercoat 5450	Epoxy (Topcoat-bulkheads and overheads if insulation not used)	Soft White	10 gal
Amercoat T-10	Solvent	N/A	5 gal
Amercoat 15	Solvent	N/A	5 gal

4.3 Government/Operator Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Coating Technical Representative will be in attendance, on the government’s account, to provide guidance, and observe the surface preparation and coating application on the government’s behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. They are not for supervision of the contractor’s workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH THIS LEVEL OF EFFORT, WHERE REQUIRED OR FOUND NECESSARY, SHALL BE INCLUDED IN THE PRICE OF THIS WORK ITEM.

5.3 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item, including, but not limited to, Blotter Test, Vial Test, Ph Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to prepare and renew the paint coatings and insulation in the spaces identified in section 3.0 using

References 2.1 through 2.8 as guidance. **Perform walkthrough with OMT and Ship's Force to identify areas for preservation.**

7.2 Coordinate with ship's force to tagout all valves, drains, level indicating, and alarm systems associated with the areas being worked. Install temporary blanks on drains to prevent entry of liquids during accomplishment of this item. Return to normal operating conditions on completion of work.

NOTE: Cleaning and gas free certification requirements for the subject areas are covered under other work items 020 and 021.

7.3 In conjunction with initial water washing, pump out liquids, and remove all mud, dirt, and debris using contractor furnished pumps and hoses, as may be necessary to clean the machinery spaces.

NOTE: Water removal needed to support this item shall be priced into the item. It is not considered Bilge water removal which is covered by and will be priced in work item 011.

7.4 Provide and maintain adequate lighting and ventilation. Lighting will be sufficient for surface preparation, inspection, and coating application requirements. Ventilation will be of sufficient size to dry all washed areas and maintain a clear atmosphere during surface prep and coating operations.

7.5 Prior to the start of surface preparation and coating, take precautions to protect the vessel from contamination and overspray. The following actions, at a minimum will be taken:

7.5.1 Install protective coverings and take appropriate measures to ensure that the vessel's interior and its equipment are protected to prevent contamination from water, grit, dust, debris, or coating spray; to include all open vents, ducting, drains, piping, and suction lines, lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, electrical equipment, and anything else that could be damaged by water, detergent, oil, debris, contamination and coating overspray.

7.5.2 In the areas to be scaled and coated, cover all

labels plates, cable tags, and identification markings. Record the location, size, and color of any markings.

7.5.3 Protective covering will be inspected at regular intervals, but not less than at the start of each work shift. Degraded protective covering will be repaired prior to the restart of work.

7.5.4 Contamination of the vessel and its equipment will be reported to the OMT REP verbally, immediately upon its discovery, followed by a written report within four hours of the verbal notification. Clean the contaminated equipment and show that the contamination has not caused damage to the equipment or vessel. The cost to repair equipment damaged by such contamination will be borne by the Contractor.

7.6 The contractor, ABS and OMT REP will inspect the areas to include foundations, structure, piping, and pipe hangers to determine if steel work will be required. Prepare and submit an as found condition report to the OMT REP identifying any discrepancies and recommended repair.

7.7 Surface Preparation

CAUTION: Exercise care during the cleaning and surface preparation processes to avoid damage to wireways, level sensors, and lighting.

7.7.1 Remove insulation within one foot from overheads, bulkheads, attached structural members, piping, and protuberances, where installed in areas described in Section 3.0 or as directed by OMT rep.

7.7.2 Clean the overheads of each space using hot water and detergent.

7.7.3 Perform a hand wipe down of all bulkheads using hot water and detergents. Collect all cleaning materials and dispose of them in accordance with environmental rules and regulations.

7.7.4 Perform a walkdown of the spaces to be worked on with the OMT REP to identify all areas that shall be scaled to bare metal.

7.7.5 Accomplish the requirements of Surface Preparation Standard SSPC-SP1, Solvent Cleaning, Reference 2.2, degreasing by performing a low-pressure water wash with degreaser and warmed freshwater to 120°F of the entire machinery space removing all oil, grease, slime, dirt, mud, soluble salts, and other foreign matter. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible. Particular attention will be given to piping, valves, the undersides of stiffeners, ledges, snipes, limber holes in longitudinals, crevices, and areas of rust, rust scale, blistered, cracked, peeling, or flaking coatings. Heavily soiled areas will be scrubbed, and hand wiped with rags to remove excess oil and grease prior to pressure washing. Accomplish a final rinse with hot, clean, freshwater upon completion of the degreasing and solvent cleaning process.

7.7.6 Upon completion of all water washing, chloride testing will be performed at random locations. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.7.7 2,000 square feet of the machinery space, including structural members, valves, manifolds, piping, pipe brackets, foundations, and manhole covers will be power tool cleaned removing all loose mill scale, loose rust, loose coating, and other loose detrimental foreign matter using Surface Preparation Standard SSPC-SP3, Power Tool Cleaning, Reference 2.3 as guidance.

7.7.8 For bidding purposes, assume 10% of the machinery space area including structural members, valves, manifolds, piping, pipe brackets, foundations, and manhole covers will be required to be power tool cleaned to bare metal removing mill scale, rust, coating, oxides, corrosion products, and other foreign matter using SSPC-SP11, Power Tool Cleaning to Bare Metal, Reference 2.4 as guidance. These areas will be identified by the OMT REP and OMT Coating Representative.

7.7.9 Upon completion of surface preparation, all surfaces will be vacuumed clean and blown down with dry, oil free air to remove all dust, dirt, and debris.

7.8 Coatings Application

7.8.1 Prior to application of any coating, the areas to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. Conditions will follow Product Data sheets using Reference 2.7 as guidance. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include observation, measuring and recording:

a. Type of surface preparation used.

b. Surfaces are clean, dry, and free of all contaminants including salt deposits.

c. Verify surface appearance meets the definition of SSPC-SP3, Power Tool Cleaning or SSPC-SP-11, Power Tool Cleaning to Bare Metal as appropriate.

d. Test for non-visual surface contaminants at random locations to ensure that surfaces have not been re-contaminated. The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants.

e. Check surface profile.

f. Measure and record environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity). Confirm they are within the coating manufacturers' allowable range using References 2.7 and 2.8 as guidance.

1. During application and curing, the substrate temperature will be at least 5°F (3°C) above Dew Point.

2. The Relative Humidity will not exceed 85%.

g. Record over coating intervals (curing time) since previous application.

h. Measure and record Dry Film Thickness (DFT) of previous coating taken at a rate of five per 1,000 square feet. DFT gages will be calibrated, spot readings will be taken, and DFT tolerances will be using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages

7.8.2 No coating will be applied at temperatures below 45°F without prior written approval of the OMT REP.

7.8.3 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.8.4 All coatings will be prepared and applied in accordance with the manufacturer’s requirements outlined in the Product Data Sheets using Reference 2.7 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millages are being applied.

7.8.5 Stripe coating will be performed by brush, roller or other mechanical means that will ensure that the coating is applied to the areas where needed. Stripe all limber holes, snipes, corners, weldments, pitted areas, threaded surfaces, or other areas that are not conducive to proper coverage by spray application. In no case will spray application of a stripe coat be allowed.

7.8.6 EPOXY

a. Apply the following Coats to prepared surfaces:

b. For all surfaces - One full coat of Amercoat 240, (Pastel Green) at 5-6 mils DFT.

c. For all surfaces - One stripe coat of Amercoat 240, (Buff) at 2-3 mils DFT.

d. For Bulkheads and Overheads – One full coat of Amercoat 240, (Red Oxide) at 5-6 mils DFT.

e. For Foundations – One full coat of Amercoat 240, (Red) at 5-6 mils DFT.

f. For Bulkheads and Overheads – One full coat of Amercoat 5450, (White) at 2-3 mils DFT.

g. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a

minimum of 2" from each edge of the area being stripe coated.

7.9 The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application of the area coatings. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. Consult the OMT Coating Representative for proper overcoat intervals.

7.9.1 Upon completion, the areas are to be ventilated to promote curing. Drying times are greatly dependent on air and surface temperatures, film thickness, ventilation, and relative humidity. The production schedule must consider this cure time. For planning purposes:

Substrate Temp	Dry to touch	Dry to handle	Cure time prior to immersion
23°F (-5°C)	36 hours	60 hours	21 days
32°F (0°C)	24 hours	36 hours	14 days
50°F (10°C)	10 hours	16 hours	10 days
68°F (20°C)	5 hours	10 hours	6 days
86°F (30°C)	3 hours	8 hours	3 days

7.10 During all surface preparation and coating operations, the area involved will only be accessed by persons directly involved in the work underway or those inspecting the same. All persons entering the work area will wear disposable booties over their shoes to prevent contamination of the surface. New booties will be made available at the tank entry and be put on each time a person enters the area.

7.11 Renew lagging/insulation removed in 7.7.1

7.12 A final inspection of the spaces will be conducted by the OMT REP and Chief Engineer. Removal of all blanks, filters, and protective covers from all open vents, ducting, drains, piping, and suctions, lighting, valve stems, reach rod universal joints, sight glasses, gauges, sensors, pump rotating elements, seals, rubber expansion joints, switches, motor casing vents, and electrical equipment. With the assistance of the Chief Engineer, verify proper operation of lighting, level indicating and alarm systems.

7.13 Upon completion, the vessel will be cleaned of all

residues resulting from the surface preparation and coating operations.

7.14 Reports

7.14.1 Prepare a Coating Report and submit same to the OMT REP within three days of completing the coating application. The report will include the following data:

a. The location, date, and time of each coating application.

b. Surface profile measurements of the metal substrate.

c. Results of testing for non-visible surface contaminants (soluble salts).

d. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

e. Interval between coatings.

f. Dry film thickness readings at a rate of five spot readings per 1,000 sq. ft. of surface for each coat of paint. DFT gages will be calibrated, and spot readings will be taken using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages as guidance.

g. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

7.15 Painting/Lagging

7.15.1 Prepare, prime, coat, and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.15.2 Renew lagging where damaged or disturbed.

7.16 Manufacturer’s Representative: None additional

7.17 Preparation of Drawings

7.17.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to surface prepare, inspect, and coat the vessel's mooring structures.

2.0 REFERENCES

2.1 MSC Drawing No. 845-4458934, General Arrangement

2.2 Newport News Shipbuilding Drawing No. 520-2491350, Mooring Arrangement

2.3 Newport News Shipbuilding Drawing No. 600-4365098, Recessed Mooring Bitt

2.4 Technical Manual 0920-072-3010, Model CUEH 7.5/6 Mooring Line Capstan

2.5 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2 Waterjet Cleaning of Metals – Very Thorough Cleaning (Available Commercially)

2.6 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.7 Surface Preparation Standard, SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.8 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.9 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.10 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.11 PPG-MSC Paint Handbook

2.12 PPG Product Data Sheets, Amercoat 240 and Amershield

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 Second Deck Forward Frames 2 – 14 (2-F-0-Q), Third Deck Aft Frames 140 – 149 (3-140-0-Q)

3.2 Quantity

3.2.1 Eight Recessed Shell Bitts

3.2.2 Five Closed Chocks

3.2.3 One Bow Chock

3.2.4 One Stern Chock

3.2.5 11 Paired Bitts

3.2.6 9 Mooring Capstans

3.2.7 Approx. 1,000 square feet total

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

For Mooring Structures			
Product	**Type/Notes**	**Color**	**Qty**
Amercoat 240	Epoxy (1st primer coat)	Red Oxide	10 gal
Amercoat 240	Epoxy (2nd primer coat)	Off-White	10 gal
Amershield	Polyurethane (topcoat)	Haze Gray	5 gal
Amercoat T-10	Solvent	N/A	10 gal
Amercoat 65	Solvent	N/A	5 gal
Prep 88	Cleaner	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Coating Technical Representative will be in attendance, on the government's account, to provide guidance, and observe the surface preparation and coating application on the government's behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor's efforts. They are not for supervision of the contractor's workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.3 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. All labor and material costs associated with this level of effort, where required or found necessary, shall be included in the price of this work item.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional

cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item, including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to renew the paint coatings on the topside mooring structure of the vessel as identified in section 3.0 using References 2.1 through 2.12 as guidance.

7.2 Drain and dispose of any liquid and materials generated because of this work in accordance with all local, state, and federal laws.

7.3 Prior to the start of any surface preparation:

7.3.1 Record all markings, label plates and placards documenting their positions, symbols, and text. Submit a copy of the record to the OMT REP.

7.3.2 Note the condition of any damaged cable hanger, wireway supports, speakers, lights, sprinkler heads, switches, ladders, foundation, and climbing aids. After coating renewal and coating application, replace all markings and labels as original.

7.3.3 With assistance from the Ship’s Force, conduct an operational test in the presence of the OMT REP documenting “as found” conditions of all lighting, speakers, and deck drains.

7.4 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.5 Plug all overboard discharges in way of surfaces being prepared and coated.

7.6 Provide and erect staging required to access all

applicable surfaces as identified in Section 3.0.

7.7 Coating material will be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70°F.

7.8 Provide and maintain adequate lighting during all surface preparation, coating, and inspection activities.

7.9 Temporarily remove interferences, label plates and placards in way of surface preparation and coating application. Reinstall upon completion of all coatings work. Label plates that are riveted to the hull or otherwise permanently installed need not be removed.

7.10 Prior to the start of surface preparation and coating, take precautions to protect the vessel from contamination. Install drop cloths, masking, division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, tank vents, valve stems, motor shafts, seals, and temporary openings during blasting and coating operations. The following actions, at a minimum will be taken:

7.10.1 Mask all normally uncoated surfaces.

7.10.2 Plug deck drains, deck sprinkler nozzles, and open pipes.

7.10.3 Wrap all valve stems and exposed portions of motor shafts, and hydraulic cylinders.

7.10.4 Install filter media on all tank vents and air intake vents.

7.10.5 Install protective coverings on all installed equipment, port lights, windows, permanently installed label plates, light globes, switches and pushbuttons, equipment, uncoated surfaces, vent screens and appurtenances not intended to be coated.

7.10.6 Protect mooring lines which cannot be stowed or removed for the duration of coating.

7.10.7 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.11 Surface Preparation

7.11.1 Solvent Clean the vessel topside mooring structure using Reference 2.8; SSPC-SP1 as guidance, using biodegradable detergent to remove all dirt, oil, grease, soluble salts, or other organic matter from the specified surfaces. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible.

7.11.2 Final wash-down will be made with clean, fresh water at 2,500 to 3,000 PSI with **500** to **1,000** PSI around electrical cabling and equipment washdown. Upon completion of all water washing, chloride testing will be performed at a rate of **2** spot readings per mooring structure.

7.11.3 The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.4 If contamination is found, additional water washing will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.11.5 Method

a. Ultra-High-Pressure water jet the vessel topside mooring structure identified in section 3.0 using SSPC-SP WJ-2/NACE WJ-2 to a WJ-2 finish using Reference 2.5 as guidance. Ensure that the surface profile of any vacuum blasted decking is 2 to 3 mils.

b. Dry abrasive blast the areas identified in section 3.0 using SSPC-SP10/NACE 2, Near White Metal Blast Cleaning; using Reference 2.6 as guidance. The surface profile

achieved will be angular in nature, and within the range set by the coating manufacturer’s product data sheet for the coating system being applied. Prior to the start of abrasive blasting, the blast media will be tested to ensure that it is not contaminated with chlorides, as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.11.6 Where blasting occurs, edges of adjacent intact coating will be feathered in.

7.11.7 No more than a light (L) grade flash rust will be allowed on the steel at the time of coating application. If heavier flash rust is present, the surface will be pressure washed at 2,500 to 3,000 PSI and allowed to air dry to restore the surface to a coat-able condition.

7.11.8 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal to any areas inaccessible to the abrasive blast or water jetting using Reference 2.7 as guidance.

7.11.9 After surface preparation, all surfaces will be blown down using clean dry air to remove all dust, dirt, and debris. Perform a joint inspection to identify areas that need investigation or repair because of corrosion or damage.

7.11.10 Regardless of whether the surfaces are abrasive blasted or UHP Water Jetted, immediately prior to coating, the surface will be re-tested for non-visual surface contaminants at a rate of **2** spot readings per mooring structure prepared area. The maximum allowable contamination concentrations for surfaces prepared by means of dry abrasive blasting will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment. For those surfaces prepared by means of UHP water jetting, the limits of NV-2 found in the appendix of SSPC-SP WJ-2/NACE WJ-2 will apply.

7.12 Coatings Application

7.12.1 Prior to application of any coating, the area to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used.

b. Surface cleanliness.

c. Upon completion of UHP Water jetting, measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of **2** spot readings per mooring structure for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity).

e. Overcoating interval (curing time) since previous application.

f. Dry Film Thickness (DFT) of previous coating taken at a rate of **5** spot readings per mooring structure. DFT gages will be calibrated, spot readings will be taken and DFT tolerances will be using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages.

7.12.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP WJ2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition or SSPC-SP10/NACE 2, Near White Metal Blast Cleaning as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see Reference 2.11.

d. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

e. The Relative Humidity is within the range set by the manufacturer, will not exceed 85%.

f. Condensation and/or rain is not to contact the uncured Amershield as it may change the color and gloss.

7.12.3 No coating will be applied below 35°F (1.7°C) without prior written approval of the OMT REP.

7.12.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.12.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, using Reference 2.12 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millage are being applied.

7.12.6 Apply coating to areas defined in section 3.0 using References 2.1 through 2.12 as guidance.

a. EPOXY:

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One coat of Amercoat 240, (off-white) 5-6 mils DFT.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to be coated shall be prepared for overcoating by washing with Prep 88 in accordance with manufacturer’s instruction, Reference 2.12.

2. Minimum concentration shall be two parts water to one part concentrate for general cleaning and to

restore “overcoat ability.”

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) 3-4 mils DFT to the vessel topside mooring structure.

5. The environmental conditions, DFT of each coat, cure and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.12.7 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting the same. Cordoning or barricading will remain in place until the topcoat is properly cured.

7.13 Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations. Remove all protective coverings, debris, and replace all interferences removed in the performance of this item.

7.14 Upon completion of work, ship’s force will conduct final operational testing of ALL lights, speakers, sprinkler heads and drains in the vicinity of the work completed. Contractor and ship’s force will compare "post work" performance test results to the "as-found" conditions previously recorded in Paragraphs 7.3.1 through 7.3.3. Correct any discrepancies noted between the “as found” and “post work” conditions. All repaired items will be satisfactorily re-demonstrated to ship force and OMT REP.

7.15 Reports

7.15.1 When inspection, service, and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one

electronic copy in Portable Document Format (PDF).

7.15.2 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company.

7.15.3 Prepare a Coating Report and submit same to the OMT REP within three days of completing the coating application. The report will include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings at a rate of **5** spot readings per mooring structure surface for each coat of paint. DFT gages will be calibrated, and spot readings will be taken using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages as guidance.

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

7.16 Painting: None additional

7.17 Manufacturer's Representative: None additional

7.18 Preparation of Drawings

7.18.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test

data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to surface prepare, inspect, and coat the vessel's topside Cradles and Foundations.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. 845-4458934, Booklet of General Plans (Assured Power General Arrangement)

2.1.2 Surface Preparation Standard, SSPC-SP WJ-2/NACE WJ-2 Waterjet Cleaning of Metals - Very Thorough Cleaning (Available Commercially)

2.1.3 Surface Preparation Standard, SSPC-SP10/NACE 2, Near White Metal Blast Cleaning (Available Commercially)

2.1.4 Surface Preparation Standard, SSPC-SP11, Power Tool Cleaning to Bare Metal (Available Commercially)

2.1.5 Surface Preparation Standard, SSPC-SP1, Solvent Cleaning (Available Commercially)

2.1.6 ASTM D4417, Method C, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

2.1.7 Surface Preparation Standard, SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages (Available Commercially)

2.1.8 PPG-MSC Paint Handbook

2.1.9 PPG Product Data Sheets, Amercoat 240 and Amershield

2.2 Enclosure

2.2.1 Preservation Locations

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 See enclosure 2.2.1

3.2 Quantity

3.2.1 Approximately 850 sq. ft. of surface area

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

4.2.1 Coatings List

Product	Type/Notes	Color	Qty
Amercoat 240	Epoxy (1st primer coat)	Red Oxide	5 gal
Amercoat 240	Epoxy (stripe coat)	Off-White	5 gal
Amercoat 240	Epoxy (2nd primer coat)	Off-White	5 gal
Amershield	Polyurethane (topcoat)	Haze Gray	5 gal
Amercoat T-10	Solvent	N/A	10 gal
Amercoat 65	Solvent	N/A	5 gal
Prep 88	Cleaner	N/A	5 gal

4.3 Government Furnished Services (GFS)

4.3.1 OMT Coating Representative

a. A Coating Technical Representative will be in attendance, on the government’s account, to provide guidance, and observe the surface preparation and coating application on the government’s behalf and to advise the OMT REP as to the quality, and appropriateness of the contractor’s efforts. They are not for supervision of the contractor’s workforce.

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Solvents supplied as GFM are for viscosity control only. Solvents required for equipment clean-up are the responsibility of the contractor.

5.3 The contractor is responsible for all costs associated with monitoring, containment, handling, collection, processing, clean up, recycling, disposing of wash water, rinse water, dissolved solvents, used and generated during work accomplished by this work item, whether on the ship, on the pier adjacent to the ship, or in the dry dock basin. ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH THIS LEVEL OF EFFORT, WHERE REQUIRED OR FOUND NECESSARY, SHALL BE INCLUDED IN THE PRICE OF THIS WORK ITEM.

5.4 Contractors must conform to all Local, State, and Federal environmental requirements and that the extent and cost of those additional requirements must be included in the work item bid.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 MSC reserves the right to require at no additional cost that the contractor perform additional tests or inspections where required to ensure compliance with this Work Item, including, but not limited to, Blotter Test, Vial Test, pH Test, Non-Visual Surface Contaminant Tests, Adhesion Tests and Sieve Tests

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools, and equipment as required to renew the paint coatings on the topside cradles and foundations of the vessel as identified in section

3.0 using References 2.1.1 through 2.1.9 as guidance.

7.2 Drain and dispose of any liquid and materials generated because of this work in accordance with all local, state, and federal laws.

7.3 Prior to the start of any surface preparation:

7.3.1 Record all markings, label plates and placards documenting their positions, symbols, and text. Submit a copy of the record to the OMT REP.

7.3.2 Note the condition of any damaged cable hanger, wireway supports, speakers, lights, switches, ladders, foundation, and climbing aids.

7.3.3 With assistance from the Ship’s Force, conduct an operational test in the presence of the OMT REP documenting “as found” conditions of all lighting, speakers, and deck drains.

7.4 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.5 Coordinate with ship’s force to move, temporarily store, then restore on completion of preservation, any booms, life rafts, or equipment from their storage cradles.

7.6 Plug all overboard discharges in way of surfaces being prepared and coated.

7.7 Provide and erect staging required to access all applicable surfaces as identified in Section 3.0.

7.8 Coating material will be stored within the Coating Manufacturer's recommended temperature range. When coating material is being applied, ensure that the material's temperature is within the Manufacturer's recommended range, but in any case, not less than 70°F.

7.9 Provide and maintain adequate lighting during all

surface preparation, coating, and inspection activities.

7.10 Temporarily remove interferences, label plates and placards in way of surface preparation and coating application. Reinstall upon completion of all coatings work. Label plates that are riveted to the hull or otherwise permanently installed need not be removed.

7.11 Prior to the start of surface preparation and coating, take precautions to protect the vessel from contamination. Install drop cloths, masking, division shields, seals, blanks, and filtering materials to prevent abrasives and foreign substances from entering lights, machinery, piping, hatches, deck drains, ventilation systems, tank vents, valve stems, motor shafts, seals and temporary openings during surface preparation and coating operations. The following actions, at a minimum will be taken:

7.11.1 Mask all normally uncoated surfaces

7.11.2 Plug deck drains, deck sprinkler nozzles, and open pipes.

7.11.3 Wrap all valve stems and exposed portions of motor shafts, and hydraulic cylinders.

7.11.4 Install filter media on all tank vents and air intake vents.

7.11.5 Install protective coverings on all installed equipment, port lights, windows, permanently installed label plates, light globes, switches and pushbuttons, equipment, uncoated surfaces, vent screens and appurtenances not intended to be coated.

7.11.6 Protect mooring lines which cannot be stowed or removed for the duration of coating.

7.11.7 Protective covering will be inspected at regular intervals, but not less than the start of each work shift. Degraded covering will be repaired prior to restart of work.

7.12 Surface Preparation

7.12.1 Solvent Clean the vessel topside cradles and foundations using Reference 2.1.5; SSPC-SP1 as guidance, using biodegradable detergent to remove all dirt, oil, grease, soluble salts, or other organic matter from the specified surfaces. Biodegradable cleaners or other eco-friendly methods/agents will be used to the greatest extent possible.

7.12.2 Final wash-down will be made with clean, fresh water at 2,500 to 3,000 PSI with **500** to **1,000** PSI around electrical cabling and equipment washdown. Upon completion of all water washing, chloride testing will be performed at a rate of **2** spot readings per cradle/foundation.

7.12.3 The maximum allowable contamination concentrations will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.12.4 If contamination is found, an additional water wash will be performed. Additional tests will be made as necessary to determine the extent of contamination and to prove the success of remediation.

7.12.5 Method

a. Ultra High-Pressure water jet the vessel topside areas identified in section 3.0 using SSPC-SP WJ-2/NACE WJ-2 to a WJ-2 finish using Reference 2.1.2 as guidance. Ensure that the surface profile of the vacuum blasted decking is 2 to 3 mils. Report any areas under 2 mils to OMT Representative.

b. Dry abrasive blast the vessel topside area identified in section 3.0 using SSPC-SP10/NACE 2, Near White Metal Blast Cleaning, using Reference 2.1.3 as guidance. The surface profile achieved will be angular in nature, and within the range set by the coating manufacturer’s product data sheet for the coating system being applied. Prior to the start of abrasive blasting the blast media will be tested to ensure that it is not contaminated with chlorides, as determined by field or laboratory analysis using reliable, reproducible test equipment.

7.12.6 Where blasting has been specified, edges of adjacent intact coating will be feathered in.

7.12.7 No more than a light (L) grade flash rust will be allowed on the steel at the time of coating application. If heavier flash rust is present, the surface will be pressure washed at 2,500 to 3,000 PSI and allowed to air dry to restore the surface to a coat-able condition.

7.12.8 Accomplish the requirements of SSPC-SP-11 Power Tool Clean to Bare Metal to any areas inaccessible to the abrasive blast or water jetting including foundations, fan housings, hose racks, pad eyes, life ring clips, scupper extensions, areas behind equipment mounted on stand-offs (small items like speakers, light globes, switches and pushbuttons are to be lifted free during power tooling), and other appendages in way of the aforementioned areas to bare metal using Reference 2.1.4 as guidance.

7.12.9 After surface preparation, all surfaces will be blown down using clean dry air to remove all dust, dirt, and debris. Perform a joint inspection to identify areas that need investigation or repair because of corrosion or damage.

7.12.10 Regardless of whether the surfaces are abrasive blasted or UHP Water Jetted, immediately prior to coating the surface will be re-tested for non-visual surface contaminants at a rate of **2** spot readings per cradle/foundation prepared area. The maximum allowable contamination concentrations for surfaces prepared by means of blasting will be less than 10 ug/cm2 of chloride contaminants as determined by field or laboratory analysis using reliable, reproducible test equipment. For those surfaces prepared by means of UHP water jetting, the limits of NV-2 found in the appendix of SSPC-SP WJ-2/NACE WJ-2 will apply.

7.13 Coatings Application

7.13.1 Prior to application of any coating, the area to be coated will be inspected and approved by the OMT REP and the OMT Coating Representative. This includes not only the initial coat of paint, but all subsequent coats as well. Inspection will include measuring and recording:

a. Type of surface preparation used

b. Surface cleanliness

c. Upon completion of UHP Waterjetting measure the surface profile using a Keane-Tator (or equal) Surface Profile Comparator. Testex (or equal) Replica Tape is to be used at a rate of one reading per 1,000 SF for verification. Record and submit the measured surface profile readings to the OMT Rep within 24 hours. If the surface profile is below 2 mils, immediately notify the OMT Rep and await guidance prior to proceeding with application of the paint coating. Replica Tape is to be mounted, identified as to location, and included as part of the final paint report.

d. Environmental conditions (surface temperature, ambient air temperature, dew point temperature and relative humidity)

e. Overcoating interval (curing time) since previous application

f. Dry Film Thickness (DFT) of previous coating taken at a rate of **5** spot readings per cradle/foundation. DFT gages will be calibrated, spot readings will be taken and DFT tolerances will be using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages.

7.13.2 Ensure the following conditions are met prior to coating:

a. Surfaces will be clean, dry, and free of oil, grease, or residue.

b. Surface appearance meets the definition of SSPC-SP WJ2/NACE WJ-2 Surface Preparation of Steel and Other Hard Materials by High and Ultra-High Pressure Water Jetting Prior to Recoating, WJ-2 Condition or SSPC-SP10/NACE 2, Near White Metal Blast Cleaning as applicable.

c. Air and substrate temperatures will be within the range published by the coating manufacturer, see Reference 2.1.8.

d. During application, the substrate temperature will be at least 5°F (3°C) above Dew Point.

e. The Relative Humidity is within the range set

by the manufacturer, will not exceed 85%.

f. Condensation and/or rain is not to contact the uncured Amershield as it may change the color and gloss.

7.13.3 No coating will be applied below 35°F (1.7°C) without prior written approval of the OMT REP.

7.13.4 No coating will be applied between the hours of sunset and 0800 without prior written approval of the OMT REP.

7.13.5 All coatings will be prepared and applied using the manufacturer’s requirements outlined in the Product Data Sheets, using Reference 2.1.9 as guidance. Random Wet Film Thickness (WFT) readings are to be taken during the application of coatings to verify correct millages are being applied.

7.13.6 Apply coating to areas defined in section 3.0 using References 2.1.1 through 2.1.9 as guidance.

a. EPOXY: Only the areas that were selected for preparation to bare metal and adjacent feathered area will receive Epoxy.

1. Apply the following 1st and 2nd Coats of Primer to all blasted and power tool cleaned surface.

2. One coat of Amercoat 240, (red oxide) at 5-6 mils DFT.

3. One stripe coat of Amercoat 240, (off-white) at 2-3 mils DFT.

4. One coat of Amercoat 240, (off-white) 5-6 mils DFT.

5. The stripe coat will be applied to all weldments, crevices, corners, edges, and other areas not conducive to proper coverage. Stripe coats will extend a minimum of 2" from each edge of the area being stripe coated.

b. POLYURETHANE

1. Prior to applying Amershield, all areas to

be coated shall be prepared for overcoating by washing with Prep 88 in accordance with manufacturer's instruction, Reference 2.1.9.

2. Minimum concentration shall be two parts water to one part concentrate for general cleaning and to restore "overcoat ability."

3. Strictly adhere to dwell times, wetting and rinsing instructions.

4. Apply One topcoat of Amershield, (haze gray) 3-4 mils DFT to the vessel topside cradles and foundations.

5. The environmental conditions, DFT of each coat, cure, and overcoating intervals are critical to the application. The application of all coatings will adhere to the Product Data Sheets and OMT Coating Representative. For weather conditions outside 35°F (1.7°C) through 90°F (32°C) range consult the OMT Coating Representative for proper overcoat intervals.

7.13.7 During all surface preparation and coating operations, the area involved will be roped off or otherwise barricaded to prevent entry by persons other than those directly involved in the work underway or those inspecting the same. Cordoning or barricading will remain in place until the topcoat is properly cured.

7.14 Upon completion, the vessel will be cleaned of all residues resulting from the surface preparation and coating operations. Remove all protective coverings, debris, and replace all interferences removed in the performance of this item.

7.15 Upon completion of work, ship's force will conduct final operational testing of ALL lights, speakers, flood and spotlights, sprinkler heads and drains in the vicinity of the vessel topside work completed. Contractor and ship's force will compare "post work" performance test results to the "as-found" conditions previously recorded in paragraphs 7.3.1 through 7.3.3. Correct any discrepancies noted between the "as found" and "post work" conditions. All repaired items will be satisfactorily re-demonstrated to ship's force and OMT REP.

7.16 Reports

7.16.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.16.2 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the company.

7.16.3 Prepare a Coating Report and submit same to the OMT REP within three days of completing the coating application. The report will include the following data:

a. The location, date, and time of each coating application.

b. The air and substrate temperatures, relative humidity, and dewpoint temperature at the time of each coating application.

c. Interval between coatings.

d. Dry film thickness readings at a rate of **5** spot readings per cradle/foundation surface for each coat of paint. DFT gages will be calibrated, and spot readings will be taken using SSPC-PA2, Measurement of Dry Coating Thickness with Magnetic Gages as guidance.

e. Coating Manufacturer, Product Identification Number, quantity, color, and Batch Numbers for each coat of paint applied.

f. Surface profile measurements of the metal substrate.

g. Results of testing for non-visible surface contaminants (soluble salts).

7.17 Painting: None additional

7.18 Manufacturer's Representative: None additional

7.19 Preparation of Drawings

7.19.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - Preservation Locations

Location	Cradle/Foundation	Description	Area (sqft)
Main Deck Frs. 12 thru 30 Stbd.	Cradle/Foundation	Lifeboat Cradles	300
Main Deck Frs. 12 thru 30 Port.	Cradle/Foundation	Lifeboat Cradles	300
3-76-1	Cradle/Foundation	Rescue Boat Cradles	125
3-76-2	Cradle/Foundation	Rescue Boat Cradles	125

1.0 ABSTRACT

1.1 This item describes the requirements for the contractor to accomplish preservation of 8,000 square feet of Miser Tower Exterior.

2.0 REFERENCES: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location: Main Deck MISER Tower and all associated platforms, railings and appendages.

3.2 Quantity: 8,000 sqft Surface preparation to SSPC-SP 10 and two coats of primer and one topcoat.

4.0 GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICES:

4.1 Government Furnished Material (GFM)

DIMETCOTE 9H Green	80 Gals.
AMERCOAT 240 Red	80 Gals.
AMERSHIELD 26270 Haze Gray	80 Gals.
AMERCOAT 15 Thinner	20 Gals.
AMERCOAT T10 Thinner	20 Gals.
AMERCOAT 65	20 Gals.

4.2 Government Furnished Services (GFS): The Government will supply the services of a PPG Marine Paint Technical Representative to provide technical assistance and advice to the MSCREP for the requirements of this Work Item.

5.0 NOTES

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 22, 23, 24, 27, 28 and 29.

5.2 The Contractor and all subcontractors regardless of tier are advised to review the other work items under this

contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK

7.1 Location of Work is on the Main Deck thru 05 Level frame 113 – 118. To include all four sides of MISER Tower, both cat-walks platforms, hand rails on 04 and 05 level, associated appendages, Helicopter Control Tower, Watertight Doors (3), Gear Lockers.

7.2 Prior to initiating blasting, the Contractor shall ensure that the vessel’s equipment is protected from damage caused by blasting, dust, or paint. Measures to be taken include, but are not limited to the following:

7.2.1 Plug open ends of pipe, vents, and ducts.

7.2.2 Wrap all valve stems.

7.2.3 Protect all lights, deck machinery, controllers, lights, etc subject to invasion or contamination as a result of blasting and painting by covering with tarps or plastic sheeting and taping the edges to prevent entrance of dust, dirt, and any other such contaminants or foreign matter.

7.2.4 Install barriers on railing and in way of access ladders to prevent dust, dirt, paint, and hydro blast debris from contaminating areas outside the work area.

7.2.5 Contractor shall cover/mask all antenna surfaces to protect them from overspray. Take and record all hull markings and submit one (1) copy to Officers Representative (COR) for record purposes.

7.3 HP Water wash the entire Miser Tower (8,000 sq. ft) to remove salt deposits and rust stains prior to abrasive blasting. The surfaces to be blasted shall be void of all oil, grease, dirt, soil, salts, and contaminants. After cleaning has been performed, chloride testing shall be performed on random areas to be blasted, one test per 400 sq. ft. The maximum allowable contamination concentrations shall be less than 10 ug/cm^2 of chloride contaminants.

7.4 Dry abrasive blast to SSPC SP-10 all surfaces **excluding antenna surfaces.** Degrease/clean where needed to remove any visible oil and fender contamination before blasting.

7.5 Power tool all areas inaccessible to blast of corrosion, rust scale, pinpoint rusting and loose or peeling paint to surface preparation standard of SSPC-SP-11.

NOTE: The edges of the existing coating surrounding the prepared area to be feathered-in and roughened to provide adhesion when over-lapping with the new paint.

7.6 Apply the following system on all cleaned and approved prepared surfaces by the MSC Rep:

One Full Coat of DIMETCOTE 9H Green	5-6 Mils DFT

"plus"

One Full Coat of AMERCOAT 240 Red	5-6 Mils DFT

"plus"

One Full Coat of AMERSHIELD 26270 Haze Gray	5-6 Mils DFT

7.7 After application of each coat with exception of tack coat (if any), take and record DFT readings IAW SSPC-PA2.

8.0 GENERAL REQUIREMENTS: None

1.0 ABSTRACT

1.1 This item describes the renewal of fiber glass /resin handrails and vertical deck supports the MISER TOWER 04 and 05 levels.

2.0 REFERENCES/ENCLOSURES:

2.1 Handrail / Vertical deck support photograph(s)

3.0 LOCATION/QUANTITY:

3.1 Location/Quantities: MISER TOWER (04) level safety fiber glass / resin railings / vertical deck supports and catwalk angle iron replacement.

3.2 MISER TOWER (05) level safety fiber glass / resin railings / vertical deck supports

3.3 As noted in Enclosure 2.1

3.3.1 Fiber glass / resin for fabricating handrails and A36 steel for vertical deck supports.

3.3.1.1 1 – Fabricate 50 steel vertical deck supports
3.3.1.2 1 – 30 feet of fiber glass /resin handrail material

3.4 Quantities are considered estimates. The contractor shall provide the exact quantities and additional material to install a fully functional system which meets the requirements of this specification.

4.0 GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICES: NONE

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs, including but not limited to GTR 1-7, 22, 23, 24, 28 and 29.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract, to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS**:** None additional

7.0 STATEMENT OF WORK:

7.1 Arrangements/Outfitting

7.1.1 Provide all material and special equipment and make all removals and restorations. Remove and replace all interferences, stage and un-stage, make all disassembly and subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. Material shall be supplied by the contractor.

7.1.2 In accordance with guidance provided in Work Item 0016, contractor shall establish fire watches for all boundaries and areas affected by any welding, burning, or cutting activities.

7.1.3 Contractor provides all labor, services and materials to make permanent repairs in way of locations as described in ENCLOSURE 2.1.

7.1.4 Upon completion of work, MSCREP to inspect to confirm satisfactory repairs.

7.1.5 All new disturbed areas need to be cleaned and painted to match surrounding area. Painting conditions are to be verified with the MSC Paint Rep.

7.2 Handrail Renewal

7.2.1 Provide all labor, materials, services, and equipment required to crop and renew the handrail assemblies as detailed in this work item and highlighted in Enclosure 2.1.

7.2.1.1 Blast all new steel to Steel Structure Painting Council, Surface Preparation Standard SSPC-SP10, Near White Blast.

7.2.1.2 Prep, prime, and paint new sections using PPG/Ameron marine coating system. Paint representative to witness processes.

7.2.1.3 Target, template, roll, bend, shape, fit, weld, and install new sections. New sections shall be templated from existing sections.

7.2.1.4 Prepare, prime, and paint disturbed areas post hot work (includes opposite/adjacent sides).

7.2.1.5 Renew disturbed areas of insulation.

8.0

8.1.1 Use existing handrail as template for new handrail installation. Prior to commencement of work, the job is to be walked with ships force and MSC rep to confirm scope of work. Handrail intended for renewal is to be marked by MSC rep and contractor as per attached reference 2.1.

8.1.2 Where handrail vertical supports are mounted to the exterior of fishplate/combing, the new vertical supports are to be welded to the deck on the inside of fishplate/combing and welded vertically to the fishplate.

8.0 GENERAL REQUIREMENTS: None Additional

1. ABSTRACT

   1.1. This item describes the requirements for the contractor to renew steel plating in various areas of the vessel. Quantities under this item are also meant to support work on interior structure, exterior weather decks, as well as the hull area above and below the waterline.

2. REFERENCES/ENCLOSURES

   2.1. References:

      2.1.1 Steel Structures Painting Council, Systems and Specifications, Volume 2.

   2.2. Enclosures:

      2.2.1. Misc. Steel Renewal- Location and Quantity Matrix for area not yet unidentified

      2.2.2. Locations

3. ITEM LOCATION/DESCRIPTION

   3.1. Location/Quantity

      3.1.1. Location: Various locations throughout the vessel

      3.1.2. Quantity: As per Para. 7.2.3

   3.2. Item Description/Manufacturer's Data: Steel as described in Para. 7.2.3

   3.3. Quantities are considered estimates. The contractor shall provide the exact quantities and additional material such as miscellaneous fittings, elbows, caps, valves, pipe hangers, weld material, cable hangers, cable tags, insulation, bus-work, etc., in order to install a fully functional system which meets the requirements of this specification.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5. NOTES

   5.1. The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29.

   5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

6. QUALITY ASSURANCE REQUIREMENTS

6.1. In addition to the contractor's duties under 29CFR1910.147 or similar local safety regulation, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the program. Prior to the start of work, the contractor shall contact the MSCREP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

7. STATEMENT OF WORK

7.1. Arrangements/Outfitting:

7.1.1. Provide all material and special equipment. Make all removals and restorations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. Material, unless specifically stated as Government Furnished Material (GFM), shall be supplied by the contractor.

7.2. Structural:

7.2.1. Crop out and remove to scrap, the designated sectional structural steel areas listed under paragraph 7.2.3. NOTE: Contractor to assume removals include insulation on opposite sides and these areas must be reinsulated when the repair work has been completed.

7.2.2. Install and renew sectional structural steel area listed under paragraph 7.2.3. The following shall be accomplished:

7.2.2.1. All steel shall be ABS certified.

7.2.2.2. ABS surveyor to review material certification prior to steel installation.

7.2.2.3. ABS inspection required of all aspects of installation and materials used.

7.2.2.4. Blast all new steel to Steel Structure Painting Council, Surface Preparation Standard SSPC-SP10, Near White Blast.

7.2.2.5. Prep, prime, and paint new sections using PPG/Ameron marine coating system. Paint representative to witness processes.

7.2.2.6. Target, template, roll, bend, shape, fit, weld, and install new sections. New sections shall be templated from existing section.

7.2.2.7. Back gouge, NDT dye penetrant test, and re-weld.

7.2.2.8. Accomplish integrity test; air or other per ABS.

7.2.2.9. Prepare, prime, and paint disturbed areas post hot work (includes opposite/adjacent sides).

7.2.2.10. Renew sectional areas of insulation.

7.2.3. Submit a unit price per pound steel, up to a total amount indicated in paragraph 7.2.3.1 thru 7.2.3.11 below (Note: pricing shall reflect and include all requirements specified in paragraphs 7.1 and 7.2 above):

7.2.3.1. Miscellaneous plate, bulkheads and decks; 1000 pounds.

7.2.3.2. Shell or rudder plating; 1000 pounds.

7.2.3.3. Shell or rudder plating, shaped; 1000 pounds.

7.2.3.4. Tank bulkheads; 500 pounds.

7.2.3.5. Tank internals; 500 pounds.

7.2.3.6. Shell plate framing; 800 pounds.

7.2.3.7. Tank top in machinery spaces; 800 pounds.

7.2.3.8. Machinery foundations in engine room; 500 pounds.

7.2.3.9. Floor and intercostals in double bottom tanks; 500 pounds.

7.2.3.10. Double bottom stiffeners and bulkhead; 500 pounds.

7.2.3.11. Machinery foundations on deck; 600 pounds.

7.3. Steel plating repairs will be defined to the contractor by written change orders. .

7.3.1. Additional repairs may include new work, supplemental work to existing work items, and emergent work that will be added to the contract via change orders.

7.3.2. The contractor agrees that additional repairs shall be completed during the performance period without impacting, accelerating, or causing delay or disruption to the work required by any other work item.

7.3.3. Any additional repairs NOT expended during the course of the availability will be credited back to the Government at the completion of the availability via a final credit change order.

7.4. Preparation of Drawings/Documentation: None

7.5. Inspection/Test: Per 7.2.2.8 and as required by ABS.

7.6. Painting: Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas. Use manufacturer's product data sheets as guidance for coating application.

7.7. Marking: Where originally installed or marked; install name plates, notices, cable tags, and markings as applicable (replace with same as existing) for all new/modified sections.

8.0 GENERAL REQUIREMENTS

8.1 Submit a unit price and extended price to accomplish a level of effort as stated in the statement of work, for the quantities listed below in enclosure 2.2.1. Prices submitted shall be inclusive of labor, materials, rigging, staging, special tools, and miscellaneous support equipment.

8.2 Work requirements in the Work Item shall be finalized and/or completed as required for meeting scheduled milestones as outlined in Item 013, para. 7.2.8.

Enclosure 2.2.1 -Insulation & Lagging Renewal Quantity List

Steel Shape	Unit Measure	Unit price	Units	Total Price
Misc Plate, Bulkheads and decks	Pounds		1000 lbs.	
Shell or Rudder Plating	Pounds		1000 lbs.	
Shell or Rudder Plating, Shaped	Pounds		1000 lbs.	
Tank Bulkhead	Pounds		500 lbs	
Tank Internals	Pounds		500 lbs	
Shell Plate Framing	Pounds		800 lbs	
Tank Top in Machinery Spaces	Pounds		800 lbs	
Machinery Foundations in Machinery Spaces	Pounds		500 lbs.	
Floors and intercostals in double bottom tanks	Pounds		500 lbs.	
Double bottom stiffeners and bulkheads	Pounds		500 lbs.	
Machinery Foundations on Deck	Pounds		600 lbs.	

Enclosure 2.2.2 – Locations

1. 4-64-4-Q Port Sponson Troop Ladder – shell plating holed.
    a. Crop and renew ~1 foot x 2 foot of shell plating. Piping interference and overboard plate where pipe meets shell.

    Note: Any pipe renewal shall be applied to WI 0599 Miscellaneous Pipe.
2. 01-80-0 Exterior bulkhead of Uptake (5-76-0-Q)
    a. Crop and renew ~ 1 foot x 2 foot section of bulkhead and 1 feet of 3 inch angle support.
3. 03-75-2 Port corner of house and wing girder.
    a. Crop and renew ~ 1 foot x 2 foot section of bulkhead.
4. 03-64-1 Bulwark
    a. Crop and renew ~ 4 foot x 2 foot section of plate.
5. 03-71-4 Longitudinal bulwark
    a. Crop and renew ~4 foot x 5 foot section of plate and angle iron.
6. 04-63 -1 & 2 Bulwark
    a. Crop and renew 3 feet of 3” angle support x 8 locations
7. 7-40-0-E A/C Machinery Room No. 1
    a. Crop and renew 2 foot x 3 foot deck plating in way of port bilge pocket.
8. 1-85-0 Main Deck
    a. Crop and renew 2 foot x 2 foot section of deck plating.
9. 1-116-1 & 2 Foam & Fireplug Stations
    a. Crop and renew station ~ 75 square feet of steel
    b. Crop and renew station ~ 75 square feet of steel
10. 1-36-1 Fan Room
    a. Crop and renew 10 foot x 4 foot steel at hatch coamings.
11. 04-75-1 Intermediate deck
    a. Crop and renew 10 foot x 15 foot of deck plating
12. 8-86-0-E Engine Room Transvers Bulkhead
    a. Crop and renew 3 foot x 3 foot steel plating.
13. Fuel Oil Service Tank 7-82-1-F
    a. Clad weld ~ 9 square feet in bottom of tank in vicinity of striker plate / sounding tube.
14. 02 Level (02-64-0-C Pelorus)

a. Crop and renew ~6 square feet of bulwark steel.

15. Passage 1-2-1-L
    a. Crop and renew ~24 square feet of steel deck.
    b. Interference with hatch to deck below.
16. 1-115-2 Main Deck Antena (Port Side)
    a. Crop and renew ~4 square feet of antenna foundation (steel plate)
    b. Crop and renew ~ 12 linear feet of 3 inch angle iron
17. 1-69-3-A Swab Locker
    a. Crop and renew ~ 6 square feet of forward bulkhead
    b. Crop and renew ~ 24 square feet of deck plate
18. 7-67-1-A Storage
    a. Replace ~ 36 square feet of steel grate
19. Ladder foundations – crop and renew approximately 4 pieces of 2 inch flat bar
    a. 04-71-3 Vertical ladder foundations
    b. 04-71-4 Vertical ladder foundations
    c. 4-147-0 Ladder foundations
    d. 2-54-5-Q Ladder foundations
    e. 2-13-1-Q Ladder foundations
    f. 3-103-6 Ladder foundations
20. Port & Starboard Bridge Wings (03 Level)
    a. Crop and renew ~ 30 feet Wind Deflector (12 inch wide) each side
21. Starboard Bridge Wing (03 Level)
    a. Crop and renew ~ 4 square feet bulwark on forward of Bridge Wing
22. Main Deck
    a. Crop and renew ~ 20 square feet of Main Deck Plate between frames 50 and 60

NOTE: SIGNIFICANT INTERFERENCES EXIST DUE TO ACCESS FOR FIREWATCH IN SPACE BELOW.

23. Countermeasure Washdown System Pipe Hangers
    a. Crop and renew ~50 pipe hangrs
    b. Pipe hangars are fabricated from 1” x 8” steel flat bar and ¾” pipe
    c. Locations are external to main house

d. Assume 20 locations in overhead and 30 locations on vertical bulkhead

1.0 ABSTRACT

The purpose of this item is to perform a waterborne inspection of the propulsion shaft outboard bearings.

2.0 REFERENCES/ENCLOSURES

2.1 NAVSEA 203-4399773 Rev G, Arrangement of Shafting, Arrangement of Line Shafting.

2.2 NAVSEA 203-2492035 Rev D, Stern Tube and Strut Bearings, Stern Tube, Propeller Shaft and Bearings

2.3 NAVSEA 203-4456205 Rev F, Shafting Details, Line Shaft Details.

2.4 NAVSEA 203-2492036 Rev D1, Stern Tube Stuffing Box Assy. and Details

2.5 NAVSEA 119-2491184 Rev B/1, Amphibious Flagship, Stern Tube

2.6 NAVSEA 119-4325772 Rev D, Amphibious Force Flagship AGC-20, Shaft 203-4456205 Rev F, Shafting Details, Strut

2.7 NAVSEA 203-2492033 Rev B1, Fairwaters Rope Guards

2.8 NAVSEA Tech Manual Chapter 244, Propulsion Bearings and Seals, TMNIS# S9086-HN-STM-010

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Strut Bearing

a. Location: Below waterline, Centerline AFT, Fr. **124-137**

b. Quantity: One

c. Manufacturer: Duramax

3.1.2 Stern Tube Bearing

a. Location: Below waterline, Centerline AFT, Fr. **124-137**

b. Quantity: One

c. Manufacturer: Duramax

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, interference mitigation, staging, tools, and equipment as required to perform a waterborne inspection of the propulsion shaft outboard bearing(s) as identified in section 3.0 using References 2.1 through 2.8 as guidance.

7.2 When required, coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When required and when the maintenance is complete, coordinate with ship’s force to have associated

equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 In coordination with Ship’s Force, perform an operational test of the stern tube flushing system before and after all work using Reference 2.8 as guidance. Take note of applicable pressures and flowrates that could be used to determine flowrate of water through the outboard bearings and record these parameters in “as found” and “as released” condition reports.

7.5 Remove interferences and perform a thorough cleaning and inspection of the outboard bearing(s) identified in Section 3.0. Ensure replacement hardware is available to replace hardware that cannot be reused in reassembly.

7.5.1 Principal interferences are the stern tube and strut fair-water covers and the rope guard.

7.6 Clean all marine growth from bearing surfaces.

7.7 Inspect each bearing listed in Section 3.0 using References 2.1 through 2.8 as guidance. At a minimum, perform the following inspections:

7.7.1 Anode condition

a. Include anode replacement recommendation in an ‘as found’ condition report.

7.7.2 The extent of marine growth

7.7.3 The extent of bearing stave water flow passage blockage

7.7.4 Bearing clearances for the bearings listed in

Section 3.0

a. Clearance measurements to be taken:

1. Stern tube bearing: AFT end of bearing

2. Strut bearing: FWD and AFT end of bearing

7.8 Prior to bearing/interference reassembly provide OMT REP with a report of findings from the inspections to allow for repairs to occur if desired. If repairs are deemed necessary, those repairs will be handled via separate change order.

7.9 Upon satisfactory condition of the outboard bearings has been verified by OMT REP, reassemble interferences and return to a ready for use condition using References 2.1 through 2.8 as guidance.

7.10 Reports

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.10.2 Submit a report that includes “as released” condition of the propulsion shaft outboard bearings inspected. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11 Painting/Lagging

7.11.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.12 Manufacturer’s Representative: None

7.13 Preparation of Drawings

7.13.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1. ABSTRACT

   1.1. This item describes the requirements for the contractor to submit a unit and total price to recondition various electric motors in accordance with this item.

2. REFERENCES/ENCLOSURES

   2.1. References:

      2.1.1. NSTM 503, TMNIS# S9086-KE-STM-010

   2.2. Enclosures:

      2.2.1. Price Breakdown Sheet

3. ITEM LOCATION/DESCRIPTION

   3.1. Location/Quantity

      3.1.1. Location:

         3.1.1.1. 01-76-1-Q

         3.1.1.2. 02-77-1

      3.1.2. Quantity: Two Electric Motors

         3.1.2.1. R-01-76-1

            3.1.2.1.1. Mfr: Reliance; Frame IM56CZ; 3 Phase; 1 ¾ Horsepower; 60 Hertz; 3450 RPM; 2.4 amp; 440 Volts

            3.1.2.1.2. Mfr: General Battery Corp.; 1.5 Horsepower; 60 Hertz; 2350 RPM; 3.0 amp; 440 Volts.

   3.2. Item Description/Manufacturer's Data:

      3.2.1. Electric motors, 440-460 Volts, 60 cycle, 3 phase, AC of the following horse power ratings:

         3.2.1.1. 1 – 7 horsepower, up to two (2) each.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

   4.1. Government Furnished Information (GFI):

      4.1.1. Technical manuals are available aboard the vessel.

5. NOTES

   5.1. The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29. GTRs can be obtained from the following URL: http://www.msc.navy.mil/instructions/pdf/m470016.pdf

   5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work

item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

6. QUALITY ASSURANCE REQUIREMENTS

6.1. In addition to the contractor's duties under 29CFR1910.147 or similar local safety regulation, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the program. Prior to the start of work, the contractor shall contact the MSCREP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

7. STATEMENT OF WORK

7.1. Arrangements/Outfitting:

7.1.1. Provide all material and special equipment. Make all removals and restorations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor).

7.1.2. Provide unit and extended price to accomplish paragraph 7.3 through 7.4.3 and paragraphs 7.6 through 7.9.2 on motors listed in paragraph 3.

7.1.3. Provide unit and extended price to accomplish paragraph 7.4.4.1 through 7.4.4.14 on motors listed in paragraph 3.

7.1.4. This unit price is the additional price for re-winding a motor once it has been worked exclusive of the pricing quoted as per 7.1.1.

7.2. Structural: None

7.3. Mechanical/Fluids:

7.3.1. Contractor shall disconnect the motors both electrically and mechanically. Transport the motors to the electric shop for overhaul.

7.3.2. Dynamically balance the rotor. The MSCREP or Representative shall witness final balancing. Final unbalance shall not exceed the manufacturer's specification for a new unit or, in the absence of this, the value determined by:

7.3.3. "Unbalance (ounce inches)"=("4" × "weight of rotor (lbs.)")/"Max. operating RPM of unit"

7.3.4. Dress all bearing housings to accept new bearings. Bearing fit shall be ABEC fit per design of the bearing.

7.3.5. Install new manufacturer recommended bearings and grease seals equal to original and lubricate. Renew internal leads as required. Completely reassemble the motor. Renew assembly hardware and gaskets on covers, inspection plates, and between the external connection box and frame.

7.3.6. If sealed bearings are installed, remove and plug any Zerk fittings.

7.3.7. Upon completion of all repairs, and inspection and approval by the MSCREP, return the motor to the ship, re-install, connect, and align in accordance with equipment instruction manual and reference 2.1.1. Test under actual operating conditions for a minimum of one (1) hour after temperature stabilize. Record current, voltage, speed, and frame / bearing temperature rise at 15 minute intervals. Prove proper operation to the MSCREP.

7.4. Electrical:

7.4.1. Prior to disassembly, perform the following electrical tests and record results:

7.4.1.1. Voltage Surge Comparison in accordance with the manufacturer instructions for the tester and the following:

7.4.1.2. Test voltage to be applied shall be 1.4 times voltage computed in the following table.

E = Operating voltage of equipment under test		
	Armature Circuits	Field Circuits
Motors rated above 250V	2E + 1000	10E, but not less than1500V or more than 3500V
Motors rated not more than 250V or ½ HP except those listed below	900	900
Bracket fan motors	600	-
Motors rated not more than 35V	500	-

7.4.1.3. Direct Current Hi-Pot Test.

Et = Maximum voltage to be applied
E = Operating voltage of equipment under test
Et = 1.6(2E + 1000)

7.4.1.4. Locked Rotor Test

7.4.2. Completely disassemble the motor, thoroughly clean and examine all parts. Protect machined surfaces. Inspect the armature for defective bars. Inspect and dimensionally measure end bells, frame, shaft sleeve, bearing, keyways, and running surfaces for wear, eccentricity, and other defects. Contractor shall pay close attention to the end bell and bearing clearances.

7.4.2.1. Record as found readings.

7.4.2.2. If further repairs are necessary submit a condition report and consult with MSCREP for instructions before proceeding. Additional repairs deemed necessary by the MSCREP will be covered by a change order.

7.4.3. The windings and rotor shall be baked to remove all moisture. The windings shall be impregnated and baked with Class F insulating varnish IAW latest IEEE STD 45.

7.4.4. If the condition is such that the motor requires re-winding and the MSCREP approves the same, the contractor shall re-wind the motor.

7.4.4.1. Remove each winding. Record winding data. Verify conformance of recorded data to manufacturer's winding data.

7.4.4.2. Inspect non-wound rotor for loose or cracked bars, localized overheating, and rubbing.

7.4.4.3. Rewind the equipment in accordance with original equipment manufacturers (OEM) winding data.

7.4.4.4. Select the proper insulation process based on winding insulation classification and to meet state or local air pollution standards.

7.4.4.5. Insulate windings having Class A, B, or F insulation as follows:

7.4.4.6. Bake the windings for four (4) hours at 300° F.

7.4.4.7. Cool windings to 140, plus or minus 10° F. and immerse windings in clear baking varnish until air bubbles cease.

7.4.4.7.1. Do not immerse leads.

7.4.4.8. Maintain the varnish temperature and viscosity as identified by the manufacturer's data sheet.

7.4.4.9. Remove and drain the windings.

7.4.4.9.1. Drain vertically and air dry for 15 – 30 minutes, rotating components end-for-end every 15 minutes to prevent pocketing of the varnish. Draining and air drying horizontally is acceptable if a rotisserie is used.

7.4.4.9.2. After draining, but before baking, the armature inside bore, field pole faces, and surfaces that affect assembly such as rabbit fits and mounting flanges should be wiped with a cloth moistened with a solvent.

7.4.4.10. Place the windings in an air-circulating, forced-exhaust baking oven preheated to 300° F. and bake for six to eight hours depending on the size. Bake time begins when the equipment reaches the baking temperature.

7.4.4.11. Cool to ambient temperature and accomplish a 500 – volt megger insulation resistance test. Record data.

7.4.4.12. Repeat the varnish and bake procedure of 7.4.4.6 through 7.4.4.11 (for a total of two procedures), except that the additional immersion shall be for a minimum of one (1) minute.

7.4.4.13. Allow the windings to cool to ambient temperature.

7.4.4.14. After baking, remove excess varnish runoff for the component locations described in 7.4.4.9.2. If necessary, after removing excess varnish runoff, apply a thin coat of air dry varnish to metal surfaces exposed by the removal process.

7.5. Electronics: None

7.6. Preparation of Drawings/Documentation:

7.6.1. Upon reassembly of motor, complete the following tests:

7.6.2. Perform a 500 volt megger insulation and continuity test on all windings record results. Measure and record air gaps. Inspect shaft for freedom of rotation. Turn by hand at least three turns. Measure resistance value of each winding temperature detector using a low voltage ohmmeter. Test equipment at operating speed(s) for a minimum of 15 minutes.

7.6.3. Measure and record voltage and current.

7.6.4. Re-conduct the three (3) tests outlined in 7.4.1 of this item.

7.7. Inspection/Test: None

7.8. Painting:

7.8.1. The motor frame exterior shall be grit blasted to bare metal or surface prepared to SSPC-SP11, Power Tool Cleaning to Bare Metal. Apply one (1) coat primer and one (1) finish coat to match the motors existing color. Units exposed to weather deck areas shall receive two (2) coats of primer and one (1) finish coat. All coating shall be MSCREP approved prior to application.

7.8.2. Mechanically clean, prime and paint all foundations and new and disturbed surfaces to match surrounding areas. Cleaning shall be done to Steel Structure Painting Council, Surface Preparation Standard SSPC-SP3, Power Tool Clean standard.

7.8.3. Many motor have a vibration puck installed to mount an accelerometer for vibration testing. Contractor shall record the exact location and orientation of this puck prior to work. Upon completion of work, ensure the puck is properly in place and clean, free of all paint and the threaded hole chased. If there is a problem with this puck, obtain a new puck from the Chief Engineer and install properly.

7.9. Marking:

7.9.1. Contractor shall install a placard on the motor indicating if the bearings are open or sealed and if they are to be periodically lubricated or not. Exact wording shall be approved by the MSCREP prior to installing the placard.

7.9.2. Install name plates, notices, cable tags, and markings for all new and modified systems.

7.10. Manufacturer's Representative: None

8. GENERAL REQUIREMENTS

8.1. In addition to total labor and material bid costs for this work item, bid submission for this work item must include in entirety enclosure 2.2.1 Price Breakdown Sheet for the specific items identified.

Enclosure 2.2.1

PRICE BREAKDOWN SHEET

MOTORS Overhaul/ para 7.3 – 7.9.2	**UNIT PRICE**	**×**	**TOTAL**
2—7 horsepower, up to two (2) each.	$_____/Mtr	(2) each	$_____
8—15 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
16—25 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
26—40 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
41—60 horsepower, up to two (2) each.	$_____/Mtr	(4) each	$_____
75—100 horsepower, up to one (1) each.	$_____/Mtr	(4) each	$_____
MOTORS Rewind/ para 7.4.4.1 – 7.4.4.14	**UNIT PRICE**	**×**	**TOTAL**
2—7 horsepower, up to two (2) each.	$_____/Mtr	(2) each	$_____
8—15 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
16—25 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
26—40 horsepower, up to four (4) each.	$_____/Mtr	(4) each	$_____
41—60 horsepower, up to two (2) each.	$_____/Mtr	(4) each	$_____
75—100 horsepower, up to one (1) each.	$_____/Mtr	(4) each	$_____

TOTAL EXTENDED PRICE = $_____

Notes:

1. Contractor to provide the unit prices, extended prices and extended total in the spaces provided. Return enclosure 2.2.1, completed, to the Contracting Officer with your price proposal submission.

USS Mt Whitney		
(LCC-20)		
ELECTRICAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0353	CATEGORY "A"	2026-05-18
LCC-CCSI-THERMOGRAPHIC SURVEY (1 YR)		Simpson, Eric H.

1.0 ABSTRACT

This work item describes the requirement to conduct a thermographic survey of the ship’s service switchboards, emergency switchboards, 400 Hz switchboards, load centers, motor control centers, and miscellaneous electrical equipment.

2.0 REFERENCES/ENCLOSURES:

2.1 References:

2.1.1 MSC Drawing 302-8386882, Power Distribution System One-Line Diagram

2.1.2 NAVSEA Technical Manual 0962-LP-039-0010, Ship’s Service and Emergency Switchboards Vol. 1 and 2

2.1.3 NAVSEA Technical Manual S9324-FU-MMA-010, Shipboard Switchgear Group

2.1.4 MSFSC SWIRRR 020, Switchboard and Electrical Control Cabinet Survey, Cleaning and Repair

2.1.5 ASTM E 1934-99a Examining Electrical and Mechanical Equipment with Infrared Thermography (Available commercially)

2.2 Enclosures:

2.2.1 Equipment List

2.2.2 Quantitative Infrared Inspection Report (Sample)

2.2.3 Thermographic Survey, Suggested Action Based on Temperature Rise

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. Ship’s Service Switchboards 1S, 2S, and 3S/E Engine Room (8-68-0-E)

b. Shore Power Switchboards, Engine Room (8-68-0-E)

c. Load Center Switchboard No. 11, General Power, Load Center Switchboard Room No. 1 (4-34-1-Q)

d. Load Center Switchboard No. 21, General Power, Load Center Switchboard Room No. 2 and Degaussing Switchboard Room (4-57-2-Q)

e. Load Center Switchboard No. 22, General Power, Load Center Switchboard Room No. 2 and Degaussing Switchboard Room, (4-57-2-Q)

f. Load Center Switchboard No. 23, Air Conditioning Machinery Room No. 1 and Refrigeration Machinery Room (7-40-0-E)

g. Load Center Switchboard No. 31, General Power

h. Load Center Switchboard No. 32A, Fire Room Busses “A1” and “A2”, Fire Room (8-76-0-E)

i. Load Center Switchboard No. 32B, Fire Room Bus “B”, Fire Room Upper Level (8-76-0-E)

j. Load Center Switchboard No. 33, A/C Plants 6 and 7, Auxiliary Machinery Room 3

k. Load Center Switchboard No. 41, General Power, Load Center Switchboard Room No. 4 (4-106-4-Q)

l. Load Center Switchboard No. 42, Electronics, Load Center Switchboard Room No. 4 (4-106-4-Q)

m. Load Center Switchboard No. 43A, Unit 1 Engine

Room Bus “A1” and Unit 2 Engine Room Bus “A2”, Engine Room (8-86-0-E)

n. Load Center Switchboard No. 43B, Unit 1 Engine Room Bus “B1” and Unit 2 Engine Room Bus “B2”, Engine Room (8-86-0-E)

o. Load Center Switchboard No. 44 (Unit 1 and 2), Cutler Hammer POW-R-Line Switchboard, Load Center Switchboard Room 44

p. Load Center Switchboard No. 51 (Unit 1 and 2), General Power, Load Center Switchboard Room No 5 (4-133-6-Q)

q. Load Center Switchboard No. 61 (Unit 1 and 2), Cutler Hammer POW-R-Line Switchboard, Load Center Switchboard Room 61

r. 400 Hz Ship’s Service Load Center No. SF 1

s. 400 Hz Ship’s Service Load Center No. SF 2

t. Emergency Load Center 1E

u. Emergency Load Center 1EA

v. Emergency Load Center 2E

w. Emergency Load Center 2EA

x. UPS Equipment Room, 5-83-0-Q

y. Motor Control Centers, Various, see enclosure 2.2.1.

z. Additional miscellaneous equipment including transformers, motor starters, fan control unit controllers, power and lighting distribution panels, and circuit breakers identified in enclosure 2.2.1.

3.1.2 Quantity: Various

NOTE: Switchboards and load centers listed in 3.1.1 may also be listed in enclosure 2.2.1.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Electrical Equipment identified in enclosure 2.2.1.

3.2.2 Manufacturer: Various

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE:

4.1 Government Furnished Equipment: None.

4.2 Government Furnished Material: None.

4.3 Government Furnished Services:

4.3.1 A ship’s force representative will escort and assist the thermographic survey technician to identify the location of equipment during the inspection.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 Do not apply insulation test voltage to electronic devices or equipment with solid state components.

5.3 Do not defeat any safety interlocks.

5.4 Always remove the breakers/contactor from the enclosure before performing any maintenance. Failure to do so

could result in electrical shock leading to death, sever personal injury or property damage.

5.5 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule.

5.6 Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.7 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide the services of a qualified contractor to perform a quantitative infrared inspection of electrical equipment identified in 3.0 and Enclosure 2.2.1 in accordance with reference 2.1.6 using References 2.1.1 through 2.1.5 and Enclosures 2.2.2 and 2.2.3 for guidance.

7.1.1 Thermographic survey representatives will have to ride the vessel prior to arrival of the ship to the shipyard to inspect propulsion related items listed in enclosure 2.2.1. Propulsions equipment must be under a 40% load to obtain

proper readings.

7.1.2 For bidding purposes, assume the thermographic survey representative will be onboard an additional 16 hours at the end of the availability to recheck areas where significant discrepancies were discovered and repaired and to inspect other areas as directed by OMT REP.

7.2 The infrared thermographer is to perform calibration tests, before each quantitative infrared examination, to ensure that all temperature-measuring equipment is within the manufacturers' standard specifications for accuracy.

7.3 In coordination with the Chief Engineer and OMT REP, perform a quantitative infrared inspection (thermographic survey) of all equipment identified in 3.0 and Enclosure 2.2.1. Inspections should take place during periods of maximum possible loading but not less than 40 percent of rated load of the equipment being inspected.

7.4 Accomplish the survey, identifying any hotspots found and their severity. Ship's force electrician will accompany the survey team to assist in locating and safely exposing live circuits. Any condition categorized as Immediate or Mandatory is to be brought to the attention of the OMT REP immediately.

7.5 All work is only to be accomplished by experienced and qualified personnel. They are also to be trained in electrical safety to avoid personnel injury. Infrared inspection requires the inspector to take pictures of equipment while energized and operating under normal conditions. This may expose the inspector to risks from rotating machines, pressurized pipes and energized conductors. These risks are compounded by potential loss of depth perception that may occur while operating a camera. As such the worker must be fully aware of the risks associated with his surroundings and be fully knowledgeable of health and safety standards. When necessary an assistant is to be assigned to ensure the safety of the camera operator.

7.6 Coordinate all work contained in this item with the

OMT REP to reduce interference and impact with system operation and shift work.

7.7 Prior to departure, the Infrared Thermographic Survey contractor is to provide a verbal report to the OMT REP disclosing any significant and/or emergent recommendations classified as Immediate or Mandatory.

7.8 Reports

7.8.1 The Contractor is to provide a quantitative infrared thermographic survey report in accordance with Section 7 of reference 2.1.6 using enclosure 2.2.2 for guidance to the OMT REP within three days after completion of the survey. The report is to at a minimum identify the;

a. Name, affiliation, address, and telephone number of the infrared thermographer

b. Thermographer certification level and number

c. The manufacturer, model and serial number of the infrared imaging system used

d. Description of equipment to be tested

e. Discrepancies and their severity

f. Temperature difference between the area of concern and the reference area

g. Probable cause of temperature difference

h. Identify load conditions at time of inspection

i. Provide both digital color photographs and thermograms of the deficient area

j. Recommended actions to repair each hot spot found

7.9 Any repairs deemed necessary by the OMT REP will be addressed via a change order. The infrared thermographer is to re-examine each exception after repair to assure that its operating temperature is normal and the potential problem corrected.

7.10 Upon completion of all work, replace equipment covers and close the Switchboards, Motor Control Centers, UPS and other miscellaneous electrical equipment leaving them in a ready for service condition.

7.11 Manufacturer’s Representative: The thermographer is to be at least Level 2 certified using either NETA (International Electrical Testing Association) or ANSI (American National Standards Institute) training standards. Submit proof of qualifications, certificates and experience to the OMT REP for review and approval prior to the start of any inspections.

7.11.1 Thermographer Training and Qualification Levels

a. Level 1 - Level 1 training and qualification is ideal for those who are new to thermography. It will enable you to gather high-quality data and sort the data based on written pass/fail test criteria.

b. Level 2 - Level 2 is for thermographers who are experienced in thermography and troubleshooting. The level 2 training along with your prior experience qualifies you to set up and calibrate equipment, interpret data, create reports, and supervise Level 1-qualified personnel.

c. Level 3 - Level 3 is the most advanced level thermographer. This training qualifies you to develop inspection procedures and severity criteria, interpret relevant codes, and manage a thermography program including overseeing and providing training and testing, and calculating the return on investment for the program.

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

EQUIPMENT	LOCATION	REPAIR PRIORITY (OBSERVED)
TRANSFORMER	01-114-0-Q	
TRANSFORMER PWR DISTRN	01-114-0-Q	
TRANSFORMER BANK 01-71-2	01-67-01	
R01-69-2 RECIRC FAN MOTOR CONTROLLER	01-67-1-L	
STARTER MOTOR MNL LVRE SZ 0 440/220/110V DRPR	01-70-1-Q	
STARTER MOTOR MNL LVRE SZ 1 440/220/110V DRPR	01-70-1-Q	
S01-72-1 SUPPLY FCU CONTROLLER	01-72-1-Q	
XFMR BANK 02-72-2	02-67-0-C	
S02-75-1 SUPPLY FAN MOTOR CONTROLLER	02-67-0-L	
S02-75-3 SUPPLY FCU CONTROLLER	02-67-0-L	
2SF SWITCHBOARD PWR	03-64-0-Q	
PANEL PWR DISTRN 9-S-5196-L	03-64-0-Q	
R03-68-2 RECIRC FAN MOTOR CONTROLLER	03-67-0-L	
R04-74-4 RECIRC FCU CONTROLLER	04-73-0-Q	
S04-74-2 SUPPLY FAN MOTOR CONTROLLER	04-73-0-Q	
S04-75-2 SUPPLY FAN MOTOR CONTROLLER	04-73-0-Q	
S01-114-1 SUPPLY FAN MOTOR CONTROLLER	1-113-0-Q	
S01-119-0 SUPPLY FAN MOTOR CONTROLLER	1-113-0-Q	
R1-69-4 RECIRC FAN MOTOR CONTROLLER	1-64-0-L	
R1-70-2 RECIRC FAN MOTOR CONTROLLER	1-64-0-L	
R01-76-1 RECIRC FAN MOTOR CONTROLLER	1-72-0-C	
PANEL PWR DISTRN C7313	1-79-1-Q	
TRANSFORMER PWER STPDN 50.0VA	1-79-1-Q	
TRANSFORMER PWR DISTRN 0003.000KVA 450/120V	1-79-1-Q	
TRANSFORMER PWR DISTRN 15 KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR DISTRN 3.000KVA 450/117V	1-79-1-Q	
TRANSFORMER PWR DISTRN 37.5 KVA 450/ 230V	1-79-1-Q	
TRANSFORMER PWR DISTRN 5 KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR DISTRN 5.000KVA 120/120V	1-79-1-Q	
TRANSFORMER PWR DISTRN 7.5 KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR DISTRN 7.500KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR DISTRNH 0003.000KVA	1-79-1-Q	

TRANSFORMER PWR SPTDN 15 KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR STPDN .2KVA 120/32 60CYC	1-79-1-Q	
TRANSFORMER PWR STPDN 100.0VA 115/ 7-5 6-5V	1-79-1-Q	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
TRANSFORMER PWR STPDN 100.0VA 120/ 78V	1-79-1-Q	
TRANSFORMER PWR STPDN 10KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR STPDN 10KVA 450/230V 60CYC	1-79-1-Q	
TRANSFORMER PWR STPDN 25 KVA 450/ 120V	1-79-1-Q	
TRANSFORMER PWR STPDN 3.0KVA 450/120V 60CYC	1-79-1-Q	
TRANSFORMER PWR STPDN 5000.0VA 450/ 120	1-79-1-Q	
TRANSFORMER PWR STPDN 5000.0VA 450/120V	1-79-1-Q	
TRANSFORMER PWR STPDN 7.5KVA 450/230V	1-79-1-Q	
TRANSFORMER PWR STPDN 705KVA 450/120V 60CYC	1-79-1-Q	
TRANSFORMER VAR PWR 10AMP 0-120V W10M	1-79-1-Q	
TRANSFORMER VAR PWR 605AMP 0-135V	1-79-1-Q	
TRANSFORMER VARI PWR 20AMP 0-120V W20M	1-79-1-Q	
TRANSSFORMER PWR DISTRN 10 KVA 450/120V	1-79-1-Q	
TRANSFORMER PWR STPDN 15 KVA 450/120V	1-79-2-Q	
CONT (1-82-2) FOR RECIRC FAN R1-83-2	1-82-2-Q	
R1-83-2 RECIRC FAN MOTOR CONTROLLER	1-82-2-Q	
E1-FP-1 EXAUST FAN MOTOR CONTROLLER	1-C-0-Q	
R2-121-1 RECIRC FAN MOTOR CONTROLLER	1-C-0-Q	
R2-107-3 RECIRC FAN MOTOR CONTROLLER	2-100-0-C	
R2-100-1 RECIRC FAN MOTOR CONTROLLER	2-101-1-Q	
E2-109-2 EXHAUST FAN MOTOR CONTROLLER	2-109-01-L	
R2-110-1 RECIRC FAN MOTOR CONTROLLER	2-109-01-L	
R2-110-2 RECIRC FAN MOTOR CONTROLLER	2-109-01-L	
R2-119-1 RECIRC FAN MOTOR CONTROLLER	2-109-01-L	
R2-119-2 RECIRC FAN MOTOR CONTROLLER	2-109-01-L	
R2-120-1 RECIRC FAN MOTOR CONTROLLER	2-109-01-L	
S2-109-3 SUPPLY FAN MOTOR CONTROLLER	2-109-01-L	
ISOL. RCPT. ZONE 5 XFMER 2-124-2	2-121-0-L	
ISOL. RCPT. ZONE 5 XFMER 2-124-4	2-121-0-L	

R2-109-1 RECIRC FAN MOTOR CONTROLLER	2-121-0-L	
E2-135-1 EXHAUST FAN MOTOR CONTROLLER	2-131-3-L	
R2-145-2 RECIRC FAN MOTOR CONTROLLER	2-135-0-L	
E1-17-2 EXHAUST FAN MOTOR CONTROLLER	2-14-4-L	
S1-18-1 SUPPLY FAN MOTOR CONTROLLER	2-14-4-L	
ISOL. RCPT. ZONE 1 XFMER 2-18-2	2-18-0-L	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
R2-19-1 RECIRC FAN MOTOR CONTROLLER	2-18-0-L	
R2-36-1 RECIRC FAN MOTOR CONTROLLER	2-30-1-Q	
TRANSFORMER BANK, (2-40-1)	2-36-1-L	
R2-44-1 RECIRC FAN MOTOR CONTROLLER	2-39-1-L	
S2-45-1 SUPPLY FAN MOTOR CONTROLLER	2-39-1-L	
R2-44-2 RECIRC FAN MOTOR CONTROLLER	2-39-2-L	
E1-40-2 EXHAUST FAN MOTOR CONTROLLER	2-40-0-L	
E2-45-2 EXHAUST FAN MOTOR CONTROLLER	2-40-0-L	
E3-48-2 EXHAUST FAN MOTOR CONTROLLER	2-40-0-L	
E4-42-2 BOOSTER EXHAUST FAN MOTOR CONTROLLER	2-40-0-L	
R1-44-1 RECIRC FAN MOTOR CONTROLLER	2-40-0-L	
R2-53-1 RECIRC FAN MOTOR CONTROLLER	2-40-0-L	
R2-53-2 RECIRC FAN MOTOR CONTROLLER	2-40-0-L	
S1-40-1 SUPPLY FAN MOTOR CONTROLLER	2-40-0-L	
S2-45-1 SUPPLY FAN MOTOR CONTROLLER	2-40-0-L	
S2-52-2 SUPPLY FAN MOTOR CONTROLLER	2-40-0-L	
S4-42-1 BOOSTER SUPPLY FAN MOTOR CONTROLLER	2-40-0-L	
NATO C-LAN ISO XFMR NO1	2-46-1-Q	
NATO C-LAN ISO XFMR NO2	2-46-1-Q	
NATO C-LAN ISO XFMR NO3	2-46-1-Q	
NATO C-LAN ISO XFMR NO4	2-46-1-Q	
NATO C-LAN XFMR NO1	2-46-1-Q	
NATO C-LAN XFMR NO2	2-46-1-Q	
NATO C-LAN XFMR NO3	2-46-1-Q	
S2-48-1 SUPPLY FAN MOTOR CONTROLLER	2-49-3-Q	
R2-53-4 RECIRC FAN MOTOR CONTROLLER	2-52-4-L	

LARGE PULPER CONTROLLER	2-54-5-Q	
ISOL XFMR 2-63-1 J3 OPS OFFICE RECEPTACLES	2-62-1-Q	
ISOL XFMR 2-63-3 J3 OPS OFFICE RECEPTACLES	2-62-1-Q	
CONT (2-75-2) FOR RECIRC FAN R2-73-2	2-64-0-L	
CONT (2-76-2) FOR RECIRC FAN R2-76-1	2-64-0-L	
E2-74-2 EXHAUST FAN MOTOR CONTROLLER	2-64-0-L	
R1-70-2 RECIRC FAN MOTOR CONTROLLER	2-64-0-L	
R2-73-2 RECIRC FAN MOTOR CONTROLLER	2-64-0-L	
R2-73-4 RECIRC FAN MOTOR CONTROLLER	2-64-0-L	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
R2-76-1 RECIRC FAN MOTOR CONTROLLER	2-64-0-L	
STARTER MOTOR MNL LVRE SZ 0 440/220/110V DRPR	2-64-0-L	
AIR CONDITIONING SELF CONTAINED 7.5 TON	2-65-2-C	
PANEL POWER DISTRN	2-76-0-C	
E2-89-1 EXHAUST FAN MOTOR CONTROLLER	2-86-1-L	
R2-91-1 RECIRC FAN MOTOR CONTROLLER	2-86-1-L	
R2-91-3 RECIRC FAN MOTOR CONTROLLER	2-86-1-L	
R2-101-2 RECIRC FAN MOTOR CONTROLLER	2-86-4-L	
R2-98-2 RECIRC FAN MOTOR CONTROLLER	2-86-4-L	
STARTER MOTOR MNL LVRE SZ 0 440/220/110V DRPR	2-86-4-L	
S2-87-1 SUPPLY FAN MOTOR CONTROLLER	2-87-1-Q	
R2-93-2 RECIRC FCU CONTROLLER	2-93-2-C	
S2-107-1 SUPPLY FAN MOTOR CONTROLLER	2-98-0-L	
PORT CAPSTAN	2-F-0-Q	
STBD ANCHOR WINDLASS	2-F-0-Q	
STBD CAPSTAN	2-F-0-Q	
R3-109-1 RECIRC FAN MOTOR CONTROLLER	3-109-1-L	
R3-120-1 RECIRC FAN MOTOR CONTROLLER	3-109-1-L	
E2-109-4 EXHAUST FAN MOTOR CONTROLLER	3-109-6-L	
S2-109-1 SUPPLY FAN MOTOR CONTROLLER	3-109-6-L	
ISOL. RCPT. ZONE 5 XFMER 3-123-1	3-121-01-L	
R3-121-1 RECIRC FAN MOTOR CONTROLLER	3-121-1-Q	
ISOL XFMR 3-134-2 J7 OPS OFFICE RECEPTACLES	3-133-0-C	

R3-134-2 RECIRC FAN MOTOR CONTROLLER	3-133-2-Q	
E2-145-2 EXHAUST FAN MOTOR CONTROLLER	3-133-4-L	
R3-134-2 RECIRC FAN MOTOR CONTROLLER	3-133-4-L	
S2-147-2 SUPPLY FAN MOTOR CONTROLLER	3-133-4-L	
R3-142-2 RECIRC FAN MOTOR CONTROLLER	3-134-2-Q	
R3-138-1 RECIRC FCU CONTROLLER	3-137-1-L	
AFT WARPING CAPSTAN MOTOR CONTROLLER	3-140-4-L	
TRANSFORMER PWR DISTRN	3-14-1-Q	
TRANSFORMER PWR STPDN	3-14-1-Q	
E2-145-1 EXHAUST FAN MOTOR CONTROLLER	3-148-0-Q	
R2-146-4 RECIRC FAN MOTOR CONTROLLER	3-148-0-Q	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	3-148-0-Q	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
ISOL. RCPT. ZONE 1 XFMER 3-18-1	3-18-0-L	
R3-29-1 RECIRC FAN MOTOR CONTROLLER	3-19-0-Q	
R3-29-2 RECIRC FAN MOTOR CONTROLLER	3-19-0-Q	
R3-30-1 RECIRC FAN MOTOR CONTROLLER	3-30-01-L	
R3-30-2 RECIRC FAN MOTOR CONTROLLER	3-30-01-L	
S1-39-1 SUPPLY FAN MOTOR CONTROLLER	3-30-01-L	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	3-30-01-L	
MOTOR CONTROLLER	3-32-2-Q	
MOTOR CONTROLLER	3-34-0-Q	
OFFICERS GALLEY - DUMBWAITER MOTOR CONTROLLER	3-34-0-Q	
E3-48-1 EXHAUST FAN MOTOR CONTROLLER	3-40-1-L	
E3-61-1 EXHAUST FAN MOTOR CONTROLLER	3-40-1-L	
S3-88-1 SUPPLY FAN MOTOR CONTROLLER	3-40-1-L	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	3-40-1-L	
VS E-2-62-1 FAN MOTOR CONTROLLER	3-40-1-L	
E3-49-3 EXHAUST FAN MOTOR CONTROLLER	3-48-1-Q	
R3-49-1 RECIRC FAN MOTOR CONTROLLER	3-48-1-Q	
E3-49-2 EXHAUST FAN MOTOR CONTROLLER	3-48-2-L	
ISOL. RCPT. ZONE 2 XFMER 3-53-1	3-52-0-L	
ISOL. RCPT. ZONE 2 XFMER 3-53-3	3-52-0-L	

R3-40-0 RECIRC FAN MOTOR CONTROLLER	3-52-0-L	
R3-53-1 RECIRC FAN MOTOR CONTROLLER	3-52-0-L	
R3-54-1 RECIRC FAN MOTOR CONTROLLER	3-52-0-L	
CIRCUIT BREAKER NQB 100FR	3-52-1	
CIRCUIT BREAKER NQB 100FR	3-52-2	
AIR CONDITIONING COOLING SYSTEM MOTOR CONTROLLER	3-53-2-Q	
R3-60-1 RECIRC FAN COIL FCU CONTROLLER	3-56-0-Q	
E1-69-4 EXHAUST FAN MOTOR CONTROLLER	3-64-0-L	
R3-66-2 RECIRC FAN MOTOR CONTROLLER	3-64-0-L	
R3-67-2 RECIRC FAN MOTOR CONTROLLER	3-64-0-L	
S01-77-1 SUPPLY FAN MOTOR CONTROLLER	3-64-0-L	
S3-67-4 SUPPLY FAN MOTOR CONTROLLER	3-64-0-L	
STARTER MOTOR MAG LVP SZ 0	3-64-0-L	
XFMR BANK 3-64-1 PH A	3-64-0-L	
XFMR BANK 3-64-1 PH B	3-64-0-L	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
XFMR BANK 3-64-1 PH C	3-64-0-L	
S01-77-3 SUPPLY FAN MOTOR CONTROLLER	3-76-0-L	
CIRCUIT BREAKER NQB 100FR	3-76-1	
E1-70-4 EXHAUST FAN MOTOR CONTROLLER	3-76-1-L	
ELECT PWR DIST POWER DISTRIBUTION PANEL 3-76-3	3-76-1-L	
S1-83-2 SUPPLY FAN MOTOR CONTROLLER	3-76-1-L	
CIRCUIT BREAKER NQB 100FR	3-76-2	
ANCHOR WINDLASS FILL & DRAIN TK PUMP MOTOR CONTROLLER	3-8-0-Q	
MOTOR CONTROLLER	3-8-0-Q	
PORT ANCHOR WINDLASS HPU PUMP MOTOR CONTROLLER	3-8-0-Q	
STBD ANCHOR WINDLASS HPU MOTOR CONTROLLER	3-8-0-Q	
R3-98-1 RECIRC FAN MOTOR CONTROLLER	3-81-0-C	
E2-90-3 EXHAUST FAN MOTOR CONTROLLER	3-86-1-L	
S3-100-1 SUPPLY FAN MOTOR CONTROLLER	3-86-1-L	
POWER SUPPLY 115V AC INP 120V DC OTP	3-86-2-C	
E4-97-1 EXHAUST FAN MOTOR CONTROLLER	3-86-4-L	
E4-97-2 EXHAUST FAN MOTOR CONTROLLER	3-86-4-L	

S3-86-1 SUPPLY FAN MOTOR CONTROLLER	3-86-4-L	
S4-95-2 SUPPLY FAN MOTOR CONTROLLER	3-86-4-L	
CIRCUIT BREAKER NQB 100FR	3-87-1	
CIRCUIT BREAKER NQB 100FR	3-87-2	
ABT-A3 NO BREAK CONTROL PANEL 400 HZ	3-89-1-Q	
R3-98-3 RECIRC FAN MOTOR CONTROLLER	3-98-3-L	
E2-100-2 EXHAUST FAN MOTOR CONTROLLER	3-98-4-L	
E2-99-2 EXHAUST FAN MOTOR CONTROLLER	3-98-4-L	
S3-103-2 SUPPLY FAN MOTOR CONTROLLER	3-98-4-L	
S3-105-2 SUPPLY FAN MOTOR CONTROLLER	3-98-4-L	
ELEX COOLING WTR-NTDS COOLING WTR MOTOR CONTROLLER	3-98-6-Q	
ISOL. RCPT. ZONE 4 XFMER 4-101-1	4-101-0-L	
R4-102-1 RECIRC FAN MOTOR CONTROLLER	4-101-0-L	
R4-102-2 RECIRC FAN MOTOR CONTROLLER	4-101-0-L	
LC SWBD 41 MBT/PP 7-111-2 CB	4-106-4-Q	
LOAD CENTER SWBD.31 CKT.31-4P-B	4-106-4-Q	
LOAD CENTER SWBD.41 CKT. 41-4P-D	4-106-4-Q	
SWBD LC 41 SWITCHBOARD	4-106-4-Q	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
SWBD LC 42 SWITCHBOARD	4-106-4-Q	
EPD VENT PP 4-120-4	4-109-01-L	
ISOL. RCPT. ZONE 5 XFMER 4-121-1	4-109-01-L	
PWR PNL 4-120-2 CB RECIRC SYS 6-109-2	4-109-01-L	
E4-121-1 EXHAUST FAN MOTOR CONTROLLER	4-109-1-L	
R4-113-1 RECIRC FAN MOTOR CONTROLLER	4-113-0-L	
MOTOR CONTROLLER	4-115-4-Q	
E4-122-1 EXHAUST FAN MOTOR CONTROLLER	4-121-1-Q	
E4-123-1 EXHAUST FAN MOTOR CONTROLLER	4-121-1-Q	
PANEL PWR DISTRN 185458ASSY1	4-121-1-Q	
PANEL PWR DISTRN 185459	4-121-1-Q	
NO.7 MOORING CAPSTAN MOTOR CONTROLLER	4-121-3-L	
E3-132-2 EXHAUST FAN MOTOR CONTROLLER	4-121-4-L	
E4-116-2 EXHAUST FAN MOTOR CONTROLLER	4-121-4-L	

E5-112-2 EXHAUST FAN MOTOR CONTROLLER	4-121-4-L	
NO.8 MOORING CAPSTAN MOTOR CONTROLLER	4-121-4-L	
S2-146-2 SUPPLY FAN MOTOR CONTROLLER	4-121-4-L	
S3-131-1 SUPPLY FAN MOTOR CONTROLLER	4-121-4-L	
S3-133-2 SUPPLY FAN MOTOR CONTROLLER	4-121-6-Q	
STARTER MOTOR MNL LVRE SZ 1 400V 1SPD 1WDG DRPR	4-124-0-Q	
STARTER MOTOR MNL LVRE SZ 1 440V 1SPD 1WDG DRPR	4-124-0-Q	
ABT 4-134-1	4-133-1-L	
EPD PP 4-135-1	4-133-1-L	
A/C 5 LC SWBD 51 VIA MBT 7-109-2 CB	4-133-6-Q	
A/C 6 LC SWBD 51 VIA MBT 7-110-2 CB	4-133-6-Q	
E3-136-2 EXHAUST FAN MOTOR CONTROLLER	4-133-6-Q	
S3-137-2 SUPPLY FAN MOTOR CONTROLLER	4-133-6-Q	
SWITCHBOARD PWR LC NO 51	4-133-6-Q	
R4-29-2 RECIRC FAN MOTOR CONTROLLER	4-18-0-L	
VS 4-29 FAN MOTOR CONTROLLER	4-29-2-Q	
R4-30-1 RECIRC FAN MOTOR CONTROLLER	4-30-1-L	
R4-30-3 RECIRC FAN MOTOR CONTROLLER	4-30-1-L	
MOTOR CONTROLLER	4-30-7-Q	
SWBD LC 11 SWITCHBOARD	4-34-1-Q	
GARBAGE DISPOSAL CKT BREAKER	4-35-0-Q	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
STARTER MOTOR MAG LVP SZ 0	4-35-1-L	
VS 4-30 FAN MOTOR CONTROLLER	4-35-1-L	
CREW MESS - NO.2 SALAD BAR (DDV 4-49-1)	4-40-0-L	
S4-42-1 BOOSTER SUPPLY FAN	4-40-0-L	
R4-50-2 RECIRC FAN MOTOR CONTROLLER	4-50-0-L	
E1-63-2 EXHAUST FAN MOTOR CONTROLLER	4-52-1-L	
NO.1 ACCOM LADDER MOTOR CONTROLLER	4-52-1-L	
NO.1 MOORING CAPSTAN MOTOR CONTROLLER	4-52-1-L	
NO.2 ACCOM LADDER MOTOR CONTROLLER	4-52-1-L	
NO.2 MOORING CAPSTAN MOTOR CONTROLLER	4-52-1-L	
NO.3 MOORING CAPSTAN MOTOR CONTROLLER	4-52-1-L	

NO.4 MOORING CAPSTAN MOTOR CONTROLLER	4-52-1-L	
R4-62-1 RECIRC FAN MOTOR CONTROLLER	4-52-1-L	
S1-63-1 SUPPLY FAN MOTOR CONTROLLER	4-52-1-L	
S2-47-1 SUPPLY FAN MOTOR CONTROLLER	4-52-1-L	
S2-52-1 SUPPLY FAN MOTOR CONTROLLER	4-52-1-L	
SWBD LC 21 SWITCHBOARD	4-57-2-Q	
SWITCHBOARD DEGUSG	4-57-2-Q	
SWITCHBOARD PWR LC NO 22	4-57-2-Q	
SWITCHBOARD PWR LC NO SF1 SF2	4-57-2-Q	
LD CTR SWBD RM 4-57-2-Q ISLN XFMR BK 4-58-2	4-58-2-Q	
ISOL. RCPT. ZONE 3 XFMER 02-68-1	4-64-0-L	
ISOL. RCPT. ZONE 3 XFMER 4-70-2	4-64-0-L	
R4-65-2 RECIRC FAN MOTOR CONTROLLER	4-64-0-L	
R4-66-2 RECIRC FAN MOTOR CONTROLLER	4-64-0-L	
STARTER MOTOR MNL LVRE SZ 0 440/220/110V DRPR	4-65-1-Q	
R4-66-2 RECIRC FAN MOTOR	4-65-2-Q	
VENT FAN	4-65-2-Q	
SWBD LC 31 SWITCHBOARD	4-76-1-Q	
SWITCHBOARD PWR LC NO SF1 SF2	4-76-1-Q	
TRANSFORMER PWR DISTRN 37.500KVA 450/120V	4-76-1-Q	
R4-85-2 RECIRC FAN MOTOR CONTROLLER	4-76-4-L	
MOTOR CONTROLLER	4-79-1-Q	
SWITCHING UNIT PWR TFR ABT-A1 50AMP 3PH 120VV	4-79-1-Q	
SWITCHING UNIT PWR TFR ABT-A1 50AMP 3PH A120V	4-79-1-Q	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
SWITCHING UNIT PWR TFR ABT-A1 AMP PH V	4-79-1-Q	
R4-83-1 RECIRC FAN MOTOR CONTROLLER	4-81-1-Q	
R4-83-3 RECIRC FAN MOTOR CONTROLLER	4-83-1-Q	
E6-85-2 RMT PB STA FAN MTR CONT	4-84-1-L	
VENT FAN E5-76-2 CONTROLLER RMT PB STA	4-84-1-L	
VENT FAN E5-79-1 CONTROLLER RMT PB STA	4-84-1-L	
VENT FAN E5-79-2 CONTROLLER RMT PB STA	4-84-1-L	
VENT FAN S5-76-1 CONTROLLER RMT PB STA	4-84-1-L	

NO.5 MOORING CAPSTAN MOTOR CONTROLLER	4-86-0-L	
NO.6 MOORING CAPSTAN MOTOR CONTROLLER	4-86-0-L	
VENT FAN E5-91-2 CONTROLLER RMT PB STA#2	4-87-3-L	
VENT FAN S2-87-2 CONTROLLER RMT PB STA#2	4-87-3-L	
VENT FAN S3-87-1 CONTROLLER RMT PB STA#2	4-87-3-L	
VENT FAN E5-91-2 CONTROLLER RMT PB STA#1	4-87-4-L	
VENT FAN S2-87-2 CONTROLLER RMT PB STA#1	4-87-4-L	
VENT FAN S5-76-2 CONTROLLER RMT PB STA#1	4-87-4-L	
ISOL. RCPT. ZONE 4 XFMER 4-93-1	4-91-01-L	
R4-93-1 RECIRC FAN MOTOR CONTROLLER	4-91-01-L	
NO.4 ACCOMM LADDER WINCH MOTOR CONTROLLER	4-98-5-L	
NO.5 ACCOMM LADDER WINCH MOTOR CONTROLLER	4-98-5-L	
R5-120-2 RECIRC FAN MOTOR CONTROLLER	5-109-0-L	
STARTER MOTOR MAG LVP SZ 0	5-109-0-L	
E5-109-2 EXHAUST FAN MOTOR CONTROLLER	5-109-2-L	
E3-133-4 EXHAUST FAN MOTOR CONTROLLER	5-121-0-A	
E3-136-1 EXHAUST FAN MOTOR CONTROLLER	5-121-0-A	
E4-124-1 EXHAUST FAN MOTOR CONTROLLER	5-121-0-A	
S3-136-1 SUPPLY FAN MOTOR CONTROLLER	5-121-0-A	
S4-124-1 SUPPLY FAN MOTOR CONTROLLER	5-121-0-A	
S4-124-2 SUPPLY FAN MOTOR CONTROLLER	5-121-0-A	
3 EMER DSL ENG BUS XFER	5-121-1-E	
3 EMER DSL ENG BUS XFER BRKR	5-121-1-E	
3 EMER DSL ENG BUSTIE DISCONN	5-121-1-E	
AUXILIARY LUBE OIL STRIPPING PUMP MOTOR CONTROLLER	5-121-1-E	
EPD PNL 5-130-3, CB (5-130-3)-4P-A	5-121-1-E	
EPD PNL 5-130-3, CB (5-130-3)-4P-B	5-121-1-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
EPD PNL 5-130-3, CB (5-130-3)-4P-C	5-121-1-E	
EPD PNL 5-130-3, CB (5-130-3)-4P-D	5-121-1-E	
EPD PP 5-130-1	5-121-1-E	
EPD PP 5-130-3	5-121-1-E	
EPD XFMR 5-121-1	5-121-1-E	

FUEL OIL STRIPPING PUMP MOTOR CONTROLLER	5-121-1-E	
GRAY WATER PUMP MOTOR CONTROLLER	5-121-1-E	
NO.1 AUX FO TRANSFER PUMP MOTOR CONTROLLER	5-121-1-E	
NO.2 AUX FO TRANSFER PUMP MOTOR CONTROLLER	5-121-1-E	
OILY WASTE TRANSFER PUMP MOTOR CONTROLLER	5-121-1-E	
SSDG CONTROL SWITCHBOARD	5-121-1-E	
SSDG GENERATOR	5-121-1-E	
TRANSFORMER PWR DISTRN	5-121-1-E	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	5-12-1-A	
VS 1-17 FAN MOTOR CONTROLLER	5-12-1-A	
VS 1-18 FAN MOTOR CONTROLLER	5-12-1-A	
VS 4-62-1 FAN MOTOR CONTROLLER	5-12-1-A	
EPD XFMR BANK 5-135-1 A	5-133-1-E	
EPD XFMR BANK 5-135-1 B	5-133-1-E	
EPD XFMR BANK 5-135-1 C	5-133-1-E	
R5-136-1 RECIRC FCU MOTOR CONTROLLER	5-133-1-E	
IC SWITCHBOARD STEER PWR PNL ABT	5-137-0-E	
IC SWITCHBOARD STEERING GEAR ROOM	5-137-0-E	
PORT STEERING GEAR HPU PUMP MOTOR CONTROLLER	5-137-0-E	
R5-137-2 RECIRC FAN MOTOR CONTROLLER	5-137-0-E	
STBD STEERING GEAR HPU PUMP MOTOR CONTROLLER	5-137-0-E	
STEERING GEAR BILGE PUMP MOTOR CONTROLLER	5-137-0-E	
SWITCH TRY TY 1SR3B4-2	5-137-0-E	
E1-18-2 EXHAUST FAN MOTOR CONTROLLER	5-15-1-L	
S1-17-1 SUPPLY FAN MOTOR CONTROLLER	5-15-1-L	
PP 5-33-1	5-33-0-L	
ISOL RCPT ZONE 2 XFMR 5-40-1	5-37-1-L	
PP 5-40-1	5-37-1-L	
PP 5-40-3 (N)	5-37-1-L	
XFMR (PHASE A) 5-40-3	5-37-1-L	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
XFMR (PHASE A) 5-40-5	5-37-1-L	
XFMR (PHASE B) 5-40-3	5-37-1-L	

XFMR (PHASE B) 5-40-5	5-37-1-L	
XFMR (PHASE C) 5-40-3	5-37-1-L	
XFMR (PHASE C) 5-40-5	5-37-1-L	
TRANSFORMER PWR STPDN	5-52-1-L	
SWGR&PNLS VENT SYS 5-62 NO.2 TRANSFORMER	5-60-1-T	
SWGR&PNLS VENT SYS 5-62 NO.3 TRANSFORMER	5-60-1-T	
XFMR 5-63-1	5-60-1-T	
R5-63-1 RECIRC FAN MOTOR CONTROLLER	5-62-3-Q	
STARTER MOTOR MAG LVP SZ 0	5-62-3-Q	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	5-62-3-Q	
E5-67-1 EXHAUST FAN MOTOR	5-64-1-L	
S5-66-1 SUPPLY FAN	5-64-1-L	
S5-66-1 SUPPLY FAN MOTOR	5-64-1-L	
S5-76-1 SUPPLY FAN	5-76-0-E	
S5-76-2 SUPPLY FAN MOTOR	5-76-0-E	
E5-83-0 EXHAUST FAN MOTOR CONTROLLER	5-83-2-L	
S4-85-4 SUPPLY FAN MOTOR CONTROLLER	5-83-2-L	
ABT-A3 AFT MAIN IC SWBD 400 HZ	5-86-0-C	
ABT-A3 AFT MN IC SWBD 60 HZ	5-86-0-C	
IC SWITCHBOARD AFT MAIN	5-86-0-C	
R5-92-2 RECIRC FAN MOTOR CONTROLLER	5-86-0-C	
SWITCHING UNIT PWR TFR AB-A1 50AMP 3PH 120V	5-86-0-C	
TRANSFORMER PWR DISTRN 3 KVA 120/120V	5-86-0-C	
TRANSFORMER PWR STPDN 10KVA 450/ 120V	5-86-0-C	
TRANSSFORMER PWR DISTRN 3 KVA 120/120V	5-86-0-C	
VS GYRO ROOM FAN MOTOR CONTROLLER	5-86-0-C	
R5-98-1 RECIRC FAN MOTOR CONTROLLER	5-98-01-L	
VS 5-98 FAN MOTOR CONTROLLER	5-98-2-Q	
XFMR (PHASE A) 6-109-4	6-106-4-L	
XFMR (PHASE B) 6-109-4	6-106-4-L	
XFMR (PHASE C) 6-109-4	6-106-4-L	
2E EMERGENCY SWITCHBOARD	6-109-1-E	
ELECTRIC POWER DISTRIBUTION, TRANSFORMER INST PT	6-109-1-E	

USS Mt Whitney		
(LCC-20)		
ELECTRICAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0353	CATEGORY "A"	2026-05-18
LCC-CCSI-THERMOGRAPHIC SURVEY (1 YR)		Simpson, Eric H.

EQUIPMENT	LOCATION	REPAIR PRIORITY (OBSERVED)
EMER SWBD 2E CB FOR MBT/PP 7-111-2	6-109-1-E	
TRANSFORMER PWR DISTRN 1.0 KVA 450/120V	6-109-1-E	
PP 6-109-4	6-109-2-L	
VS 2-100 {P	6-109-2-L	
VS 2-109-6 FAN MOTOR	6-109-2-L	
VS 2-109-8 FAN	6-109-2-L	
VS 2-109-8 FAN MOTOR	6-109-2-L	
1E EMERGENCY SWITCHBOARD	6-30-2-E	
1SF SWITCHBOARD	6-30-2-E	
E1-37-2 EXHAUST FAN MOTOR CONTROLLER	6-30-2-E	
ELECTRIC POWER DISTRIBUTION, TRANSFORMER INST PT	6-30-2-E	
S1-37-1 SUPPLY FAN MOTOR CONTROLLER	6-30-2-E	
TRANSFORMER PWR DISTRN 1.0 KVA 450/120V	6-30-2-E	
R6-50-2 RECIRC FAN MOTOR CONTROLLER	6-50-1-Q	
VS 5-112-2 FAN	6-50-1-Q	
BELOW ZERO STOREROOM FREEZER	6-60-0-L	
DAIRY CHILL STOREROOM REFRIGERATOR	6-60-0-L	
VEGETABLE CHILL STOREROOM REFRIGERATOR	6-60-0-L	
BELOW ZERO STOREROOM FREEZER CONTROLLER	6-61-2-L	
DAIRY CHILL STOREROOM REFRIGERATOR CONTROLLER	6-61-2-L	
R6-56-1 RECIRC FAN MOTOR CONTROLLER	6-61-2-L	
R6-57-1 RECIRC FAN MOTOR CONTROLLER	6-61-2-L	
R6-57-2 RECIRC FAN MOTOR CONTROLLER	6-61-2-L	
VEGETABLE CHILL STOREROOM REFRIGERATOR CONTROLLER	6-61-2-L	
VS 6-56 FAN MOTOR CONTROLLER	6-61-2-L	
LIGHT DISTR-LGT XFMR 6-65-4	6-64-4-L	
ISOL. RCPT. ZONE 3 XFMER 6-67-2	6-64-5-L	
E5-67-1 EXHAUST FAN MOTOR CONTROLLER	6-64-7-Q	
S5-66-1 SUPPLY FAN MOTOR CONTROLLER	6-64-7-Q	
5-112 FAN MOTOR	6-68-0-Q	
R6-68-2 RECIRC FAN MOTOR	6-68-0-Q	
R6-68-2 RECIRC FAN MOTOR CONTROLLER	6-68-2-Q	

VENT FAN E5-91-1 CONTROLLER RMT PB STA EOS	6-86-0-C	
VENT FAN E5-91-2 CONTROLLER RMT PB STA EOS	6-86-0-C	
VENT FAN S2-87-2 CONTROLLER RMT PB STA EOS	6-86-0-C	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
VENT FAN S3-87-1 CONTROLLER RMT PB STA EOS	6-86-0-C	
IC SWITCHBOARD LOCAL IC ABT	6-86-0-E	
A/C 5 CONT PNL	7-109-2-E	
A/C 5 MTR CONT PNL	7-109-2-E	
A/C 6 CONT PNL	7-109-2-E	
A/C 6 MTR CONT PNL	7-109-2-E	
CHILLED WTR SYS MOTOR AC	7-109-2-E	
JP-5 SERVICE PUMP MOTOR CONTROLLER	7-109-2-E	
MBT 7-109-2 CB	7-109-2-E	
MBT 7-110-2 CB	7-109-2-E	
MBT/PWR PNL 7-111-2 25A CB FOR 440V RCPT	7-109-2-E	
MBT/PWR PNL 7-111-2 CB FOR A/C SW PMP NO 5	7-109-2-E	
MBT/PWR PNL 7-111-2 CB FOR A/C SW PMP NO 6	7-109-2-E	
NO.2 JP-5 FUEL TRANSFER PUMP MOTOR CONTROLLER	7-109-2-E	
NO.2 JP-5 STRIPPING PUMP MOTOR CONTROLLER	7-109-2-E	
NO.4 FIRE PUMP MOTOR CONTROLLER	7-109-2-E	
NO.5 A/C CHW PUMP FR-116-P CONTROLLER	7-109-2-E	
NO.5 A/C SW PUMP CONTROLLER	7-109-2-E	
NO.6 A/C CHILL WATER PUMP MOTOR CONTROLLER	7-109-2-E	
NO.6 A/C SW PUMP CONTROLLER	7-109-2-E	
NO4 CHILLED WATER PUMP STARTER MOTOR	7-109-2-E	
NO5 CHILLED WATER PUMP STARTER MOTOR	7-109-2-E	
JP-5 STRIPPING PUMP MOTOR CONTROLLER	7-119-2-E	
A/C 1 CONT PNL	7-40-0-E	
LC SWBD 23 CB 23-4P-A A/C PLANT NO 1	7-40-0-E	
LC SWBD 23 CB 23-4P-B A/C PLANT NO 2	7-40-0-E	
LC SWBD 23 CB 23-4P-H A/C SEAWTR PMP NO 1	7-40-0-E	
LC SWBD 23 CB 23-4P-J A/C SEAWTR PMP NO 2	7-40-0-E	
LC SWBD 23 CB 23-4P-K A/C PURGE/PMPOUT UN NO 1	7-40-0-E	

LC SWBD 23 CB 23-4P-L A/C PURGE/PMPOUT UN NO 2	7-40-0-E	
NO.1 A/C CHILL WATER PUMP MOTOR CONTROLLER	7-40-0-E	
NO.1 A/C SW PUMP MOTOR CONTROLLER	7-40-0-E	
NO.1 CHT BLOWER MOTOR CONTROLLER	7-40-0-E	
NO.1 COMMINUTOR CONTROLLER	7-40-0-E	
NO.1 FIRE PUMP MOTOR CONTROLLER	7-40-0-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
NO.1 REFR COMPRESSOR MOTOR CONTROLLER	7-40-0-E	
NO.2 A/C CONTROLLER	7-40-0-E	
NO.2 A/C PURGE & PUMPOUT UNIT CONTROLLER	7-40-0-E	
NO.2 A/C SW PUMP MOTOR CONTROLLER	7-40-0-E	
NO.2 CHT BLOWER MOTOR CONTROLLER	7-40-0-E	
NO.2 CHT COMMINUTOR MOTOR CONTROLLER	7-40-0-E	
NO.2 SHIPS SERVICE REFRIG. COMP. MOTOR CONTROLLER	7-40-0-E	
NO1 CHILLED WATER PUMP STARTER MOTOR	7-40-0-E	
NO2 CHILLED WATER PUMP STARTER MOTOR	7-40-0-E	
SWBD LC 23 SWITCHBOARD	7-40-0-E	
ABT-A3 FWD MN IC SWBD 400 HZ	7-60-0-C	
ABT-A3 FWD MN IC SWBD 60 HZ	7-60-0-C	
IC SWITCHBOARD FWD MAIN	7-60-0-C	
NO.1 CATHODIC PROTECTION SYSTEM POWER SUPPLY	7-60-0-L	
NO.2 CATHODIC PROTECTION SYSTEM POWER SUPPLY	7-60-0-L	
NO.3 CATHODIC PROTECTION SYSTEM POWER SUPPLY	7-60-0-L	
R7-63-2 RECIRC FAN MOTOR CONTROLLER	7-60-0-L	
4 A/C CONT PNL	7-64-2-E	
A/C 3 CONT PNL	7-64-2-E	
NO.3 A/C CHILL WATER PUMP CONTROLLER	7-64-2-E	
NO.3 A/C CONTROLLER	7-64-2-E	
NO.3 A/C PURGE & PUMPOUT UNIT CONTROLLER	7-64-2-E	
NO.3 A/C SW PUMP CONTROLLER	7-64-2-E	
NO.4 A/C CHILL WATER PUMP MOTOR CONTROLLER	7-64-2-E	
NO.4 A/C PURGE & PUMPOUT UNIT CONTROLLER	7-64-2-E	
NO.4 A/C SW PUMP CONTROLLER	7-64-2-E	

R-7-75-2 RECIRC FAN FCU CONTROLLER	7-64-2-E	
VENT MACH SP-RECIRC FCA 7-75-2 FAN MOTOR CONT	7-64-2-E	
SHORE PWR SWITCHBOARD DISTRIBUTION	7-76-0-E	
CHT PUMP MOTOR CONTROLLER	8-40-0-E	
FO STRIPPING PMP NO 1 STARTER	8-40-0-E	
FUEL TRANS PMP NO 1 STARTER MOTOR	8-40-0-E	
NO.1 AVIATION FUEL PUMP CONTROLLER	8-40-0-E	
NO.1 CHT PUMP CONTROLLER	8-40-0-E	
NO.1 FO STRIPPING PUMP MOTOR CONTROLLER	8-40-0-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
NO.1 FUEL OIL TRANSFER PUMP MOTOR CONTROLLER	8-40-0-E	
NO.1 JP-5 STRIPPING PUMP MOTOR CONTROLLER	8-40-0-E	
NO.1 REFR COMPRESSOR MOTOR CONTROLLER	8-40-0-E	
NO.2 REFR COMPRESSOR MOTOR CONTROLLER	8-40-0-E	
1A BOILER	8-76-0-E	
1A FO SERVICE PUMP MOTOR CONTROLLER	8-76-0-E	
1A MAIN CONDENSATE PUMP MOTOR CONTROLLER	8-76-0-E	
1A MAIN FEED BOOSTER PUMP MOTOR CONTROLLER	8-76-0-E	
1A MAIN FEED PUMP AUX LO PUMP MOTOR CONTROLLER	8-76-0-E	
1A SSTG AC GENERATOR	8-76-0-E	
1A SSTG CIRC PUMP MOTOR CONTROLLER	8-76-0-E	
1A SSTG CONDENSATE PUMP MOTOR CONTROLLER	8-76-0-E	
1A SSTG GLAND EXHAUST FAN MOTOR CONTROLLER	8-76-0-E	
1A SSTG LO PUMP MOTOR CONTROLLER	8-76-0-E	
1A1 FORCED DRAFT BLOWER MOTOR CONTROLLER	8-76-0-E	
1A2 FORCED DRAFT BLOWER MOTOR CONTROLLER	8-76-0-E	
1B BOILER	8-76-0-E	
1B FO SERVICE PUMP MOTOR CONTROLLER	8-76-0-E	
1B MAIN FEED BOOSTER PUMP MOTOR CONTROLLER	8-76-0-E	
1B MAIN FEED PUMP AUX LO PUMP CONTROLLER	8-76-0-E	
1B1 FORCED DRAFT BLOWER MOTOR CONTROLLER	8-76-0-E	
1B2 FORCED DRAFT BLOWER MOTOR CONTROLLER	8-76-0-E	
1C INPORT FO SERVICE PUMP MOTOR CONTROLLER	8-76-0-E	

1C MAIN FEED BOOSTER PUMP MOTOR CONTROLLER	8-76-0-E	
1C MAIN FEED PUMP AUX LO PUMP CONTROLLER	8-76-0-E	
BROMINE TREATMENT RECIRC MOTOR CONTROLLER	8-76-0-E	
E5-79-1 EXHAUST FAN MOTOR CONTROLLER	8-76-0-E	
E5-79-2 EXHAUST FAN MOTOR CONTROLLER	8-76-0-E	
E6-85-2 EXHAUST FAN MOTOR CONTROLLER	8-76-0-E	
ELECT PWR DIST PNL(6-77-2)-4P-A,HALON RLY PNL CB	8-76-0-E	
ELECT PWR DIST PNL(6-77-2)-4P-D,VENT E6-85-2 CB	8-76-0-E	
ELECTRIC POWER DISTRIBUTION	8-76-0-E	
ER OILY WASTE TRANSFER PUMP MOTOR CONTROLLER	8-76-0-E	
FUEL OIL STRIPPING PUMP MOTOR CONTROLLER	8-76-0-E	
NO.1 FRESH WATER DRAIN PUMP MOTOR CONTROLLER	8-76-0-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
NO.1 POTABLE WATER PUMP MOTOR CONTROLLER	8-76-0-E	
NO.1 PRIMING PUMP MOTOR CONTROLLER	8-76-0-E	
NO.2 FIRE PUMP MOTOR CONTROLLER	8-76-0-E	
NO.2 FRESH WATER DRAIN PUMP MOTOR CONTROLLER	8-76-0-E	
NO.2 FUEL TRANSFER PUMP CONTROLLER	8-76-0-E	
NO.2 POTABLE WATER PUMP MOTOR CONTROLLER	8-76-0-E	
NO.2 PRIMING PUMP MOTOR CONTROLLER	8-76-0-E	
NO.3 FUEL TRANSFER PUMP MOTOR CONTROLLER	8-76-0-E	
NO.3 POTABLE WATER PUMP CONTROLLER	8-76-0-E	
NO.4 FUEL TRANSFER PUMP MOTOR CONTROLLER	8-76-0-E	
NO.4 POTABLE WATER PUMP MOTOR CONTROLLER	8-76-0-E	
OWTP CONTROLLER (7-85-2)-4P-A(2)	8-76-0-E	
POWER PANEL 6-77-2	8-76-0-E	
PWR STPDN TRANSFORMER	8-76-0-E	
R2-100-2 RECIRC FAN MOTOR CONTROLLER	8-76-0-E	
S5-76-1 SUPPLY FAN MOTOR CONTROLLER	8-76-0-E	
S5-76-2 SUPPLY FAN MOTOR CONTROLLER	8-76-0-E	
TRANSFOERMER PWR DISTRN	8-76-0-E	
TRANSFORMER	8-76-0-E	
TRANSFORMER INST PTL 300 VA 460/115V 60CYC	8-76-0-E	

TRANSFORMER POWER DISTRN	8-76-0-E	
TRANSFORMER PWR	8-76-0-E	
TRANSFORMER PWR DISTRN	8-76-0-E	
TRANSFORMER PWR SPTDN 10KVA 450/230 V 60CYC	8-76-0-E	
SWITCHBOARD PWR LC NO 32B	8-76-0-E-1-U	
SWITCHBOARD PWR LC NO 32A	8-76-0-E-2-U	
SWITCHING UNIT PWR TFR ABT-43 100AMP 3PH 450V	8-76-0-E-2-U	
1A MAIN CONDENSATE PUMP MOTOR CONTROLLER	8-86-0-E	
1B MAIN CONDENSATE PUMP MOTOR CONTROLLER	8-86-0-E	
1B SSTG AC GENERATOR	8-86-0-E	
1B SSTG CIRC PUMP MOTOR CONTROLLER	8-86-0-E	
1B SSTG CONDENSATE PUMP MOTOR CONTROLLER	8-86-0-E	
1B SSTG GLAND EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
1B SSTG LO PUMP MOTOR CONTROLLER	8-86-0-E	
1C SSTG AC GENERATOR	8-86-0-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
1C SSTG CIRC PUMP MOTOR CONTROLLER	8-86-0-E	
1C SSTG CONDENSATE PUMP MOTOR CONTROLLER	8-86-0-E	
1C SSTG GLAND EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
1C SSTG LO PUMP MOTOR CONTROLLER	8-86-0-E	
1S SHIPS SERVICESWITCHBOARD	8-86-0-E	
1S SHOREPOWER SWITCHBOARD	8-86-0-E	
2S SHIPS SERVICE SWITCHBOARD	8-86-0-E	
2S SHOREPOWER SWITCHBOARD	8-86-0-E	
CIRCUIT BREAKER ACB 600FR 160TRP KN	8-86-0-E	
CIRCUIT BREAKER ALB-10 3P 200AMP FR 100AMP TRP	8-86-0-E	
CIRCUIT BREAKER AQB101F 75TRP 60CYC 3P	8-86-0-E	
DISTN PANEL	8-86-0-E	
E5-91-1 EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
E5-91-2 EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
E5-92-2 EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
EMERGENCY LO SERVICE PUMP MOTOR CONTROLLER	8-86-0-E	
IC SWITCHBOARD ENGINE ROOM	8-86-0-E	

JACKING GEAR MOTOR CONTROLLER	8-86-0-E	
LTG DIST XFMR BANK 6-98-2 A	8-86-0-E	
LTG DIST XFMR BANK 6-98-2 B	8-86-0-E	
LTG DIST XFMR BANK 6-98-2 C	8-86-0-E	
MAIN CIRC PUMP MOTOR CONTROLLER	8-86-0-E	
MAIN COND. GLAND EXHAUST FAN MOTOR CONTROLLER	8-86-0-E	
MOTOR CONTROLLER	8-86-0-E	
NO.1 BROMINE TREATMENT RECIRC PUMP MOTOR CONTROLLER	8-86-0-E	
NO.1 DISTILLER BRINE PUMP MOTOR CONTROLLER	8-86-0-E	
NO.1 DISTILLER DISTILLATE PUMP MOTOR CONTROLLER	8-86-0-E	
NO.1 DISTILLER SW FEED PUMP MOTOR CONTROLLER	8-86-0-E	
NO.1 DISTILLER SW HEATER DRN PUMP MOTOR CONTROLLER	8-86-0-E	
NO.1 HPAC CONTROLLER	8-86-0-E	
NO.1 MAIN LUBE OIL PURIFIER MOTOR CONTROLLER	8-86-0-E	
NO.1 SS/CONTROL LPAC MOTOR CONTROLLER	8-86-0-E	
NO.2 BROMINE TREATMENT PUMP MOTOR CONTROLLER	8-86-0-E	
NO.2 DISTILLER BRINE PUMP MOTOR CONTROLLER	8-86-0-E	
NO.2 DISTILLER CHEM TREATMENT PUMP CONTROLLER	8-86-0-E	
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
NO.2 DISTILLER DISTILLATE PUMP MOTOR CONTROLLER	8-86-0-E	
NO.2 DISTILLER SW FEED PUMP MOTOR CONTROLLER	8-86-0-E	
NO.2 DISTILLER SW HEATER DRN PUMP MOTOR CONTROLLER	8-86-0-E	
NO.2 HPAC CONTROLLER	8-86-0-E	
NO.2 SS/CONTROL LPAC CONTROLLER	8-86-0-E	
NO.3 CHT BLOWER MOTOR CONTROLLER	8-86-0-E	
NO.3 CHT COMMINUTOR MOTOR CONTROLLER	8-86-0-E	
NO.3 FIRE PUMP MOTOR CONTROLLER	8-86-0-E	
NO.3 LPAC MOTOR CONTROLLER	8-86-0-E	
NO.3/4 CHT PUMP MOTOR CONTROLLER	8-86-0-E	
NO.4 CHT BLOWER MOTOR CONTROLLER	8-86-0-E	
NO.4 CHT COMMINUTOR MOTOR CONTROLLER	8-86-0-E	
NO.4 CHT PUMP MOTOR CONTROLLER	8-86-0-E	
NO.4 LPAC MOTOR CONTROLLER	8-86-0-E	

OIL/WATER SEG PUMP MOTOR CONTROLLER	8-86-0-E	
PANEL PWR	8-86-0-E	
PANEL PWR DISTRN 185458ASSY1	8-86-0-E	
PANEL PWR DISTRN 9S4759LALT8	8-86-0-E	
PANEL PWR DISTRN 9-S-5196-L	8-86-0-E	
PWR PANEL	8-86-0-E	
S2-87-2 SUPPLY FAN MOTOR CONTROLLER	8-86-0-E	
S3-87-1 SUPPLY FAN MOTOR CONTROLLER	8-86-0-E	
S3-88-1 SUPPLY FAN MOTOR CONTROLLER	8-86-0-E	
STARTER MOTOR MAG LVP SZ 0 440V	8-86-0-E	
STARTER MOTOR MAG LVP SZ 0 440V 1SPD	8-86-0-E	
STARTER MTR MAG LVP SZ 2 440V 2SPD 2WDG DRPR	8-86-0-E	
SWBD LC 43A SWITCHBOARD	8-86-0-E	
SWITCHING UNIT PWR TFR ABT-A3 100AMP 3PH 450V	8-86-0-E	
TRANSFORMER	8-86-0-E	
SWITCHBOARD PWR LC NO 43B	8-86-0-E-3-M	
SWITCHING UNIT PWR TFR ABT-A3 150AMP 3PH 440V	8-86-0-E-3-M	
E1-39-2 EXHAUST FAN MOTOR CONTROLLER		
E2-146-1 EXHAUST FAN MOTOR CONTROLLER		
E2-44-4 EXHAUST FAN MOTOR CONTROLLER		
E3-66-2 EXHAUST FAN MOTOR CONTROLLER		
EQUIPMENT	**LOCATION**	**REPAIR PRIORITY (OBSERVED)**
E3-86-1 EXHAUST FAN MOTOR CONTROLLER		
E3-88-3 EXHAUST FAN MOTOR CONTROLLER		
E6-64-7 EXHAUST FAN MOTOR CONTROLLER		
R01-69-4 RECIRC FAN MOTOR CONTROLLER		
R01-77-1 RECIRC FAN MOTOR CONTROLLER		
R03-73-2 RECIRC FAN MOTOR CONTROLLER		
R2-77-1 RECIRC FAN MOTOR CONTROLLER		
R4-108-1 RECIRC FAN MOTOR CONTROLLER		
S01-76-1 SUPPLY FAN MOTOR CONTROLLER		
S2-F-0 SUPPLY FAN MOTOR CONTROLLER		
S6-68-1 SUPPLY FAN MOTOR CONTROLLER		

ENCLOSURE 2.2.2 - QUANTITATIVE INFRARED INSPECTION REPORT (SAMPLE)

USS Mt Whitney		
(LCC-20)		
ELECTRICAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0353	CATEGORY "A"	2026-05-18
LCC-CCSI-THERMOGRAPHIC SURVEY (1 YR)		Simpson, Eric H.

[redacted]

QUANTITATIVE INFRARED THERMOGRAPHIC INSPECTION REPORT (SAMPLE)

ITEM	REPAIR PRIORTY	TEMP O/A °C	ABSOLUTE TEMP
26	IMMEDIATE	°71.29	°99.49

EQUIPMENT

#1 WATER HEATER CONTROLLER 2nd BREAKER FROM LEFT

LOCATION

02 LEVEL WATER HEATER ROOM

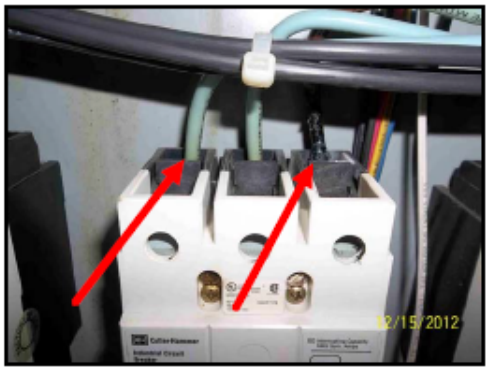
STATEMENT OF ANALYSIS

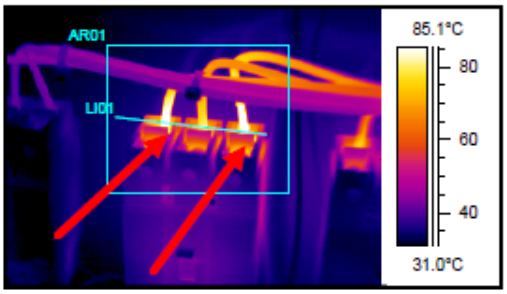
"A" & "C" PHASE TERMINAL CONNECTIONS ON THE TOP OF THE BREAKER ARE EXTREMELY OVERHEATED. MILLIVOLT DROP TEST RESULTS ARE 650MV, 110MV, 650MV

RECOMMENDATION

Replace the breaker. Pull the affected leads,(inspect leads for discoloration, trim back and recrimp if necessary) clean all metal contact points on the affected leads and fasteners until shiny (use a clean green scotchbrite pad if available). Replace the affected leads (securing firmly) and return the equipment to its normal operating condition.

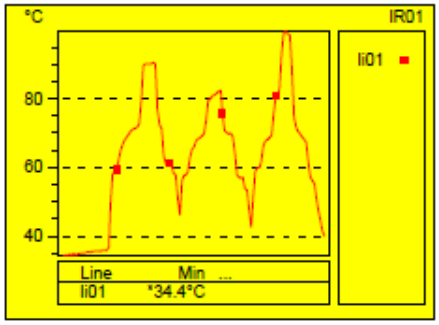
IR information	Value
Date of creation	12/16/2012
Time of creation	1:38:04 AM
Camera type	MIKRON
Object parameter	**Value**
Emissivity	1.00
Object distance	0.0 m
Ambient temperature	20.0°C
Label	**Value**
IR : max	>99.6°C
IR : min	<28.2°C
LI01 : cursor	-
LI01 : max	°99.5°C
LI01 : min	°34.4°C
LI01 : max-min	°65.1°C
AR01 : max	°99.5°C
AR01 : min	°30.9°C
AR01 : max-min	°68.5°C





MAINTENANCE ACTION

TEMPERATURE PROFILE



ENCLOSURE 2.2.3 - THERMOGRAPHIC SURVEY

Suggested Actions Based on Temperature Rise

Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures (O/A)	Recommended Action	Repair Priority (Established by MSC)
0º C – 24º C	Electrical **failure improbable** but corrective action required at next maintenance period	**Desirable (green)**
25º C – 39º C	Component **failure probable** unless corrective action taken	**Important (yellow)**
40º C – 69º C	Component **failure almost certain** unless corrective action taken	**Mandatory (orange)**
>70º C	Component **failure imminent**, repair immediately	**Immediate (red)**

O/A = Over ambient

Source ΔT criteria: Systems Energy Audit Company per direction of N7X.
Note: Temperature specifications vary depending on the exact type of equipment. Even in the same class of equipment (i.e., cables) there are various temperature ratings. Heating is generally related to the square of the current; therefore, the load current will have a major impact on T. In the absence of consensus standards for T, the values in this table will provide reasonable guidelines.

USS Mt Whitney		
(LCC-20)		
ELECTRICAL		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0382	CATEGORY "A"	2026-05-18
LCC-CSI-BATTERY REPLACEMENT (3 YR)		Simpson, Eric H.

1.0 ABSTRACT

The purpose of this item is to replace the batteries in the UPS systems.

2.0 REFERENCES

2.1 Tech Manual GEPB007_002_A_0, Eaton 9395-550-F1-M-IP22 450V User’s and Installation Guide

2.2 Tech Manual L-T7261-COT-010, Always On UPS

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. No. 1 Assured Power UPS

b. No. 2 Assured Power UPS

3.1.2 Quantity:

1. Two Hundred Forty (240) DDM85-27 cells on each battery rack for each UPS installation, four hundred and eighty (480) total.

3.2 Item Description/Manufacturer’s Data: As defined in paragraph 3.1.

4.0 GOVERNMENT FURNISHED MATERIAL:

4.1 (480) ENERSYS POWERSAFE DDM85-27 BATTERIES

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, including but not limited to Work Item 023 to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 With the assistance of ships force, tag out all required systems and equipment.

7.2 Remove all batteries and battery banks identified in 3.0. Special care must be taken as batteries are on live trickle charge circuits.

7.3 Install new replacement batteries using References 2.1 through 2.3 for guidance.

7.4 Ensure terminals are covered in a manufacturer recommended protectant to prevent corrosion.

7.5 With the assistance of ships force, remove tags and ensure all batteries and battery banks are returned to a ready for service capacity.

7.6 Reports

7.6.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.6.2 Submit a report that includes “as released” condition of each separate battery bank. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.6.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.7 Manufacturer’s Representative: None.

7.8 Preparation of Drawings: None.

8.0 GENERAL REQUIREMENTS: **This Work Item must be accomplished prior to / in conjunction with Work Item 0383 Assured Power UPS Servicing.**

1.0 ABSTRACT:

1.1 This work item describes the inspection and testing of the Assured Power UPS system power conversion equipment and battery storage systems.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. 8393238, ASSURED POWER UPS SYSTEM ELECTRICAL INSTALLATIONS

2.2 MSC Drawing No. 8393223, ASSURED POWER LOAD CENTER 1E, 1EA, 2E and 2EA ELECTRICAL INSTALLATIONS

2.3 MSC Drawing No. 8393222, ASSURED POWER UPS and EMERGENCY LOAD CENTER ARRANGEMENTS and OUTFITTING

2.4 MSC Drawing No. 8386882, POWER DISTRIBUTION SYSTEM ONE-LINE DIAGRAM

2.5 Eaton UPS Technical Manual 9395-550-FI-M-IP22 450V

2.6 Enersys PowerSafe Battery Operating and Maintenance Manual

2.7 MSC Drawing No. 8393220, ASSURED POWER FWD AND AFT UPS ROOM HVAC MODIFICATIONS

2.8 IEEE 1188 – Recommended Practice for Maintenance, Testing and Replacement of Valve Regulated Lead Acid (VRLA) Batteries for Stationary Applications

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. Emergency Load Center Room #1 (6-30-2-E)

b. Assured Power UPS Room #1 (7-30-0-E)

c. Assured Power Battery Room #1 (7-38-1-E)

d. Emergency Load Center Room #2 (6-109-3-E)

e. Assured Power UPS Room #2 (7-111-1-E)

f. Assured Power Battery Room #2 (7-109-1-E)

3.1.2 Quantity on board: Qty = 2 x UPS and Battery Storage Systems. Each UPS and Battery

storage system includes (See Reference 2.3 for equipment locations):

a. Qty = 1 x Eaton UPS Model 9395-550-FI-M-IP22 450V UPS

- UPS/Battery System Design Load Rating: 550 kVA
- UPS/Battery System Design Power Factor: 0.9
- UPS/Battery System Design Load duration: 15 Minutes

b. Qty = 1 x Maintenance Bypass Switch, Eaton Model PRLC

c. Qty = 1 x DC Eaton Disconnect Switch Model PRLC

d. Qty = 240 battery cell modules, Enersys battery model m85-27

3.2 Item Description/Manufacturer’s Data: None

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR’s) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 24, 27 and 28 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 Before starting all work, provide 48 hour notification to the Chief Engineer and MSCREP to secure all equipment powered by battery and UPS distribution systems.

5.5 Before starting work, all required equipment shall be locked out and tagged out using the ship’s lock out procedures.

5.6 UPS and Battery System testing requires the operation of the UPS HVAC, Chill Water and Condensate Pumping Systems shown in Reference 2.7 as well as a minimum of one (1) ship’s air conditioning plant. Testing shall be scheduled and coordinated **while the vessel is waterborne**.
NOTE: Alternatively, the contractor may, at their expense, provide a source of chilled water, condensate removal and power to the HVAC equipment to conduct testing while the ship is in dry dock.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All UPS related work shall be completed by **Eaton** Authorized Service Personnel (contractor supplied).

6.2 All UPS battery related work shall be completed by **Enersys Authorized** Service Personnel (contractor supplied).

7.0 STATEMENT OF WORK REQUIRED:

7.1 Arrangements/Outfitting: None additional

7.2 Structural: None additional

7.3 Mechanical/Fluids:

7.3.1 See Work Item Note 5.6.

7.3.2 Prior to testing, measure and record UPS and Battery Room HVAC System air flows using reference 2.7 as guidance. Air flows shall be measured using a volumetric air flow hood. Following completion of testing, balance system air flows in accordance with Reference 2.7.

7.4 Electrical:

7.4.1 All work described herein shall be accomplished on each UPS and Battery Storage System.

7.4.2 Open & inspect Eaton UPS, maintenance bypass switch and DC disconnect switch. Provide As-Found Condition Report. Check all bolted connections and re-torque in accordance with Reference 2.5, Table 3-6.

7.4.3 Conduct UPS Annual Preventative Maintenance in accordance with Reference 2.5.

7.4.4 Replace UPS air filters in accordance with Reference 2.5.

7.4.5 Clean UPS internals and provide Condition Report.

7.4.6 Disconnect all batteries and battery cells.

7.4.7 In accordance with Reference 2.8, conduct internal ohmic test of each battery cell

and provide condition report. Test method, test equipment and test temperature shall be included with the report.

7.4.8 Measure and record each battery cell voltage in accordance with the Battery Maintenance Report in Reference 2.6. Provide typewritten report of findings along with recommendations prior to reconnection.

7.4.9 Clean battery cell taps, connectors and contact surfaces in accordance with Reference 2.6, Section 11.

7.4.10 Replace all connections and torque in accordance with Reference 2.6.

7.4.11 Apply NO-OX-ID grease to all contact surfaces in accordance with Reference 2.6.

7.4.12 Measure and record cell-to-cell and terminal connection resistances in accordance with Reference 2.6.

7.4.13 A minimum of three (3) days prior to the Battery Capacity Testing, perform an equalizing charge on the battery bank in accordance with References 2.6 and 2.8.

7.4.14 Provide a variable reactive load bank sufficient to test one UPS system at a time. Load bank shall be sized in accordance with the system requirements shown in References 2.5, 2.6 and this work item and further include a 20% margin. Load bank operator shall be provided with load bank.

7.4.15 Provide and install load bank cables and connect to UPS system in a location approved by the Chief Engineer and MSCREP using Reference 2.1 as guidance. Connection location shall ensure all UPS components including the maintenance bypass switch are tested. Remove load bank cables at the completion of testing and shift to remaining UPS and Battery Storage System.

Remove cables and load bank at completion of testing.

7.4.16 UPS Room Cooling Systems, Condensate Pumps and Supply/Exhaust Ventilation shall be operated a minimum of three (3) hours before each test and a minimum of three (3) hours after completion of post-test equalizing charge. UPS Room and Battery Room Temperatures shall be recorded each hour.

7.4.17 Prior to battery system testing and while battery system is on float, record voltage of each cell and temperature of every tenth cell. Provide condition report.

7.4.18 Immediately prior to testing, disconnect/disable the charging source (AC Input) to the UPS.

7.4.19 Conduct battery capacity testing in accordance with References 2.6, 2.8 and this item. The Rate Adjustment Method of capacity testing shall be used. Enersys authorized service personnel shall determine if the end-of-life or full published rate version of testing shall be conducted. The following system parameters shall be measured and recorded immediately following test start and immediately prior to test completion:

a. UPS Output Voltage

b. UPS Output Frequency

c. UPS Input Voltage

d. UPS Input Frequency

e. UPS Output Load (Percent)

f. UPS Output (Watts)

g. UPS Output (VA)

h. UPS Output Current (A)

i. Battery Charge Percentage

j. Battery Terminal Float Voltage

k. UPS Room Temperature

l. Battery Room Temperature

m. Any additional parameters required by Eaton or Enersys Service Personnel

7.4.20 Provide a condition report showing all recorded parameters of battery capacity testing. Condition report shall include test method and calculations documenting battery capacity in accordance with References 2.6 and 2.8.

7.4.21 At the completion of testing and with approval from the battery manufacturer authorized service personnel, conduct an equalizing charge of the battery in accordance with References 2.6 and 2.8.

7.4.22 At the completion of the equalizing charge, disconnect and secure UPS system and batteries. Provide and install protective coverings over all UPS equipment, switches and battery banks. Prior to main plant light off, uncover equipment and conduct visual inspection in the presence of MSCREP. Contractor shall re-clean and remove any dirt or debris and submit a Condition Report. Reconnect all batteries and UPS equipment 48 hours prior to equipment light off. Prove batteries and system fully functional prior to equipment light off to the satisfaction of MSCREP.

7.5 Electronics: None additional

7.6 Preparation of drawings: None additional

7.7 Inspection and Test: None additional

7.8 Painting:

7.8.1 Prepare, prime and paint all new and disturbed surfaces to match surrounding surfaces. Paint will be provided as GFM.

7.9 Markings: None additional

7.10 Manufacturer’s Representative:

7.10.1 Provide the services of an Eaton and Enersys manufacturer's representative (or authorized technical representative) during all UPS and Battery System Maintenance and Testing.

8.0 General Requirements: None Additional

1.0 ABSTRACT

The purpose of this item is to remove the Forward EOS VCS UPSS and Battery Backup Unit and convey to the OEM for overhaul. Upon return, install new batteries and install in original position.

2.0 REFERENCES

2.1 Tech Manual L-T7261-COT-010, Always On UPS

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. Forward EOS VCS UPS – 8-86-0-E

3.1.2 Quantity:

1. One Always UPS.

3.2 Item Description/Manufacturer’s Data: As defined in paragraph 3.1.

4.0 GOVERNMENT FURNISHED MATERIAL:

4.1 Sixty (60) Yuasa type SW280 batteries

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs

including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, including but not limited to Work Item 023 to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 With the assistance of ships force, tag out all required systems and equipment.

7.2 Remove all batteries and battery banks identified in

3.0. Special care must be taken as batteries are on live trickle charge circuits.

7.3 Electrically disconnect the UPS and Battery Bank.

7.4 Rig both units ashore for shipment to the OEM for servicing. Units to be crated in material suitable for international shipment.

7.5 Once returned, rig units into position. Electrically connect and install new batteries.

7.6 With the assistance of ship’s force, remove lock out / tag out and perform an operational test of the unit as a Call for Inspection.

7.7 Reports

7.7.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.7.2 Submit a report that includes “as released” condition of each separate battery bank. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.7.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.8 Manufacturer’s Representative: None.

7.9 Preparation of Drawings: None.

8.0 GENERAL REQUIREMENTS:

1.0 ABSTRACT

1.1 This item describes the installation of scaffolding from the 04 Level to the top of the main mast (to include the port and starboard yard arms) to allow Ship’s Force to perform an inspection and survey of the electrical cables.

Scaffolding must be available for a minimum of ten (10) working days. Extension may be granted via CCO if it is to the benefit of the government. If contractor work requires use of the scaffolding greater than ten (10) working days, the cost of the extension shall be borne by the contractor.

2.0 REFERENCES/ENCLOSURES:

2.1 NAVSEA Dwg. 845-4458934 LCC-20 GENERAL ARRANGEMENT
2.2 ENCLOSURE 1 SMS 2.1-014-ALL FALL PROTECTION PROGRAM
2.3 ENCLOUSRE 2 PHOTO REPRESENTATIVE OF PRIOR INSTALLATION

3.0 LOCATION/QUANTITY:

3.1 Location/Quantities:

3.1.1 Locations: 04 Level, Frames 70 – 74, Port and Starboard sides.

3.1.2 Quantity: Extending from the deck at the 04 Level up 70 feet (21.3 meters) to the Aft Masthead Light. To provide access to the full length of the yard arms, the scaffolding need to extend outboard from Centerline 26 feet, port and starboard.

4.0 GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICES: NONE

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the

requirements of all applicable GTRs, including but not limited to GTR 1-7, 22, 23, 24, 28 and 29.

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract, to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 The scaffolding needs to be well secured to prevent failure due to heavy weather, winds, and rain.

6.2 The contractor is responsible for the safety of the scaffolding and must perform and document daily inspections before 0900, Monday thru Saturday for the duration of the inspection.

7.0 STATEMENT OF WORK

7.1 Arrangements/Outfitting

7.1.1 This work item does not necessarily identify all interferences or boundaries. The Contractor is responsible for the identification and resolution of all interferences and boundaries affecting the accomplishment of this work item. The Contractor shall temporarily remove, relocate, alter, and reroute all interferences, mechanical, electrical, furnishings, insulations and/or misc. equipment to facilitate the completion of this work item. All interferences shall be reinstalled using contractor furnished hardware, fasteners, gaskets, seals, O-Rings, thermal and acoustic insulation, etc.

7.1.2 Contractor shall take measures to provide protection to the deck coatings and superstructure to preclude damage of same from scaffolding foundations and attachment points.

7.1.3 Contractor to install scaffolding from 04 Level to the top of the main mast.

7.1.3.1 Scaffolding to consist of no less than eight (8) levels starting at the 04 Level and extending to the Upper Task Light for a total heigh of ~ 70 feet.

7.1.4 Scaffolding to meet the requirements of Enclosure 1 SMS Fall Protection Program – Scaffolding.

7.2 Scaffolding to be inspected by qualified personnel on a daily basis. Inspection to occur during morning Safety Walk Thru. Inspection tag with date and signature to be posted at each access to the scaffolding on the 04 Level.

7.3 As per Enclosure 1:

7.3.1 Scaffolds and components must be capable of supporting at least four times the maximum intended load.

7.3.2 Contractor shall provide the maximum number of personnel allowed on the scaffolding at any given time.

7.3.3 Guard rails, mid-rails, and toe-boards must be installed on all open sides and ends of platforms more than 10 feet above the deck.

7.3.4 Access must be provided to all work platforms. If it is not available from the structure, access ladders, frames with built-in ladders, or stairways must be provided.

8.0 GENERAL REQUIREMENTS: None Additional

Attachment 4: Scaffolding

Ship owned scaffold may only exceed a single tier height when the erector is a trained and qualified scaffolder.

1 Scaffolding General Guidelines

1.1 A qualified individual, usually a contractor, shall supervise the erection of scaffolding. Contractor erected scaffolding must be erected in accordance with the contract.

1.2 Scaffolds and their components shall be capable of supporting at least four times the maximum intended load. The sides of scaffolds usually have maximum load markings.

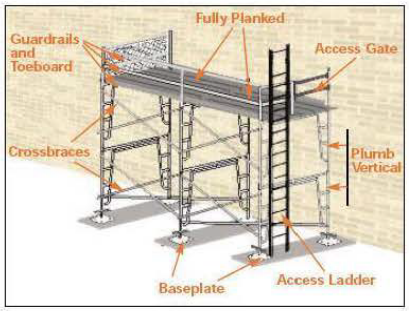
1.3 Damaged or weakened scaffolds shall not be used until repairs have been completed.

1.4 Guardrails, mid-rails, and toe-boards must be installed on all open sides and ends of platforms more than 10 feet above the deck.

2 Erection of Fixed Scaffold

2.1 Hard hats must be worn by all persons erecting, moving, dismantling or using scaffolding.

2.2 Access must be provided to all work platforms. If it is not available from the structure, access ladders, frames with built-in ladders, or stairways must be provided.



Enclosure 1: SMS Fall Protection Program – Scaffolding

Enclosure 2: Representative Photo of Main Mast Scaffolding Requirement as seen from Main Deck, forward of the house.

1.0 ABSTRACT:

1.1 This work item installs three new LAN drops and CAT5E cables to support the use of eDock.

2.0 REFERENCES/ENCLOSURES:

2.1 References:

2.1.1 MSC Drawing 803-7081122, Military Sealift Command General Technical Requirements (GTRs)

2.1.2 MSC Drawing 845-4458934, Selected Record Drawing (SRD) General Arrangement

2.1.3 MSC Drawing 409-2233761, Shipboard PC Network Cabling Diagram

2.1.4 MSC Drawing 605-2491449, Painting Schedule

2.1.5 MSC Drawing No. 803-7080803, Preparation of Computer Aided Design (CAD) Drawings

2.1.6 NAVSEA Drawing No. 607-4399618, Insulation Details (Acoustic)

2.1.7 NAVSEA Drawing No. 607-4399617, Insulation Details (Thermal)

2.2 Enclosures:

2.2.1 Cable routes for eDock LAN drops

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location:

3.1.1 ISNS & Storage (4-103-2-Q)

3.1.1.1 Edge switch location

3.1.2 Pilot House (03-64-0-C)

3.1.2.1 Location: Adjacent to LAN Drop

3.1.3 Engine Log Department Office (4-98-8-Q)

3.1.3.1 Location: Adjacent to LAN Drop

3.1.4 Enclosed Operating Station (6-86-0-E)

3.1.4.1 Location: Adjacent to existing LAN Drop

3.2 ITEM DESCRIPTION/MANUFACTURER'S DATA:

3.2.1 Bill of Material (BOM) (CONTRACTOR FURNISHED):

PC NO.	QTY.	Item	Part Number
1	3	DeK box, 3" (2.77" Single Gang Junc Box)	TSRI-JB3
2	3	Faceplate, CAT5E	41080-4IP
3	12	CAT5E (CAT5E Coupler)	5S180-SH5
4	1	Roover's Tape	2636-5/16" tape, gauge and width-14 rolls per carton, appr. Length per roll 85
5	150	Cable Tags and Engraving	Cable Tags and Fabrication
6	200	Channel Rubber (5/8" Wide Neoprene Rubber U-Channel	RUC625
7	1	Strapping, 5/8"	43VN02
8	1	Wing seal 5/8"	ST203SS
9	1	Magnarock Cable Sealing Cement	2050441
10	550	CABLE,CAT5E	LS4POS24-CAT5E

3.2.2 Alternate material can be used if technically equivalent to part numbers listed in BOM. Quantities are considered estimates. The Contractor will provide the exact quantities and additional material such as miscellaneous weld material, hardware, cable banding, cable hangers, cable tags, sealant, transit packing, etc., which are not listed in the Bill of Materials, to install a fully functional system which meets the requirement of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES/INFORMATION: None.

5.0 NOTES:

5.1 The ship’s force will provide access to required spaces.

5.2 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR), Reference 2.1.1, to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 22, 25, 28, and 29.

5.3 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.4 This ship contains High Voltage (HV) electrical systems. The contractor and subcontractors will obey all posted and verbal instructions regarding safety and exclusion from High Voltage areas. At no time will a contractor or subcontractor approach, work on, or enter a High Voltage area without proper authorization.

5.5 ELECTRICAL COLOR CODING DOES NOT FOLLOW CONSISTENT COLOR SCHEME. THE SHIP IS KNOWN TO HAVE CURRENT CARRYING CONDUCTORS COLORED GREEN, BLUE, BLACK AND WHITE. THE CONTRACTOR WILL ASSUME ALL ELECTRICAL CABLES ARE HOT UNTIL TESTED OTHERWISE.

5.6 The Contractor will obtain approval from the PPE, Chief Engineer or OMT REP prior to securing any system. Systems in way of this work item will be secured in accordance with the ship’s standard lock-out/tag-out procedure.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 Work accomplished per this task will be to the satisfaction of the Chief Engineer and Principal Port Engineer (PPE).

6.2 All work performed will be in accordance with Regulatory Body rules and regulations.

6.3 Contractor will be responsible for notifying all applicable Regulatory Bodies, the PPE, and the Chief Engineer of scheduled inspections and testing. Failure to obtain Regulatory Body representatives to witness testing or inspections will require rescheduling the test or inspection at the Contractor’s expense.

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting:

7.1.1 The Contractor will provide all labor, materials and tools to accomplish this work item.

7.1.2 All new and disturbed MCTs, transits, penetrations, will be re-sealed with the existing product in way of new electrical installations. If the existing product is not available, known, or identifiable, the entire transit will be repacked with an ABS/USCG type approved system for the fire rating of that space and tested to the satisfaction of the attending ABS Surveyor and the Chief Engineer.

7.1.3 All shipboard structure, hull insulation, sheathing, paint, etc. damaged or disturbed by the removals and installation will be repaired similar to the original or surrounding materials by the installing contractor.

7.1.4 The Contractor will remove and reinstall interference as necessary to accomplish this work item.

7.1.5 All work and materials will be in accordance with ABS, USCG, and IEEE-45; MIL-STD-1310(G) requirements.

7.1.6 Install network jack and associated wall plate in all locations identified in section 3.1. Location of LAN Drops on bulkhead will be approved by the PPE or Chief Engineer.

7.1.7 Perform inspection of areas to be prepared and painted before surface preparation begins to ensure that protective measures are implemented.

7.2 Structural: None additional.

7.3 Mechanical/Fluids: None additional.

7.4 Electrical:

7.4.1 Using Ref. 2.1.1 through 2.1.7 as guidance, route and install new fiber optic cables, BOM PC No. 10. Cables will be run within existing cable ways, through existing cable penetrations and bundled together (where practicable). Route and install:

7.4.1.1 One approx. 300 foot cable run from the ISNS & Storage (4-103-2-Q) to the Pilot House (03-64-0-C) using Enclosure 2.2.1 as guidance. Cable designation will be “C-LAN-eDock 1”.

7.4.1.2 One approx. 50 foot cable run from the ISNS & Storage (4-103-2-Q) to the Engine Log Department Office (4-98-8-Q) using Enclosure 2.2.1 as guidance. Cable designation will be “C-LAN-eDock 2”.

7.4.1.3 One approx. 200 foot run from the ISNS & Storage (4-103-2-Q) to the EOS (6-86-0-E) using Enclosure 2.2.1 as guidance. Cable designation will be “C-LAN-eDock 3”.

7.4.1.4 Exact termination location of each cable noted in 3.1 to be verified with the CHENG and PPE.

7.4.2 Reinstall cable penetration packing and cable transits where disturbed. Packing installation will be to the satisfaction of the MSC or ABS rep.

7.4.3 Newly installed cabling will be tagged in each compartment it passes through and on each side of any bulkhead penetration. Route cables using existing cableways, where possible, and /or modify new cable runs using standard methods. Material which is required to modify and/or build new cableways will be considered installing activity furnished material.

7.4.4 Utilize existing bulkhead penetrations or multi cable transits wherever possible for installation of new cables.

7.4.5 Bulkhead and deck penetrations are to be made using ABS approved stuffing tubes or transit devices which will maintain the watertight, fire tight, fume tight or smoke tight (where applicable)

integrity of the bulkheads or deck. Contractor will procure all material for penetrations which will be approved by the attending ABS/USCG surveyor and OMT REP.

7.4.6 Terminate the ends of all cables using RJ45 connections specified in the BOM after cutting to proper length. Cable terminations will conform to and be performed by certified personnel per the current industry standards for that type of cabling. Proof of certifications and standards will be provided to the OMT REP prior to termination work.

7.4.6.1 All terminations points will be labeled per their cabled designation per current industry standards.

7.4.6.2 When terminations points are not connected, the connections will be protected from moisture, dust/debris, and damage until connected at ultimate destination.

7.4.7 Connect/install all drop box cable terminations in applicable LAN drop boxes when boxes are verified ready for cables.

7.4.8 Stage all signal source cable terminations in the vicinity of applicable LAN switches/servers in preparation for installation per Chief Engineer or OMT REP guidance.

7.5 Electronics: None Additional.

7.6 Preparation of Drawings/Documentation:

7.6.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied. All submitted drawings shall be reviewed by OMTREP prior to final acceptance.

7.7 Inspection/Tests:

7.7.1 All tests will be accomplished on all new and modified material, equipment and systems using GTR 1-3 as guidance and to the satisfaction of the PPE or Chief Engineer.

7.7.1.1 New, repaired, and modified ship's tanks, cofferdams, void spaces, and structures designated as oil tight, watertight, airtight, smoke tight, fire tight or fume tight will be tested to ensure tightness. New weather decks and interior steel

decks, coamings, and deck connections of steel bulkheads, in way of toilets, washrooms, and other wet spaces will be tested to ensure tightness before installing deck or bulkhead coverings.

7.7.1.2 Connectivity test of all new LAN drops will be verified satisfactory by the PPE, Chief Engineer, or SCO.

7.7.1.3 Perform cable transit air testing to the satisfaction of the OMTREP and ABS surveyor.

7.8 Reports

7.8.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.8.2 Submit a report that includes “as released” condition of the Local Area Network (LAN). Submit one electronic copy in Portable Document Format (PDF).

7.8.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.9 Painting:

7.9.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.9.2 Renew lagging where damaged or disturbed.

7.10 Markings:

7.10.1 Create label plates for all cables in accordance with Reference 2.1.1, and using 2.1.3 for guidance.

8.0 GENERAL REQUIREMENTS: None additional.

ENCLOSURE 2.2.1 CABLE ROUTES FOR EDOCK LAN DROPS

Booklet of General Plans with Cable Ru

USS Mt Whitney		
(LCC 20 20)		
COMMUNICATION AND NAVIGATION	CONTRACT NO. N00000-00-X-0000	
ITEM NO. 0451	CATEGORY "A"	2026-05-18
LCC-CCSI-ANNUAL RADAR SERVICE	Simpson, Eric H.	

1.0 ABSTRACT

This work item describes the requirements to inspect and service the ship’s RADAR systems.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Dwg. No. 426-8498199, IBS Upgrade Radar System Installation Circuit “R-RN” Black Cabling Diagram

2.1.2 VisionMaster FT Radar/Chart User Guide Manual# 65900011V1-14

2.1.3 VisionMaster FT Ship’s Manual Volume 1 (Installation, Servicing and Maintenance) Manual# 6590011V1-18

2.1.4 VisionMaster FT Ship’s Manual Volume 2 (Configuration and Commissioning) Manual# 6590011V2-18

2.1.5 IMO MSC.192 (79), Adoption of the Revised Performance Standards for Radar Equipment

2.2 Enclosures:

2.2.1 Table 2 of Reference 2.1.5, Minimum Detection Ranges in Clutter-free Conditions

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 Locations

a. Pilot House (03-64-0-C)

b. Chart Rm (03-67-2-C)

3.2 Description/Quantity

Equipment	Manufacturer	Model/P/N	Quantity
10CM "S" Band Radar	Sperry Marine	VisionMaster FT	1
3CM "X" Band Radar	Sperry Marine	VisionMaster FT	1
Radar Display	Sperry Marine	VisionMaster FT P/N 659266	3

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The RADAR antenna emits electromagnetic radio frequency (RF) energy which can be harmful, particularly to your eyes. All personnel are to be trained on the risks and safety procedures.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and

disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the inspection and servicing of the RADARs using References 2.1.1 through 2.1.5 and Enclosure 2.2.1 for guidance.

7.2 Coordinate with the Chief Engineer for the isolation and lock-out/tag-out of any equipment or systems. Prevent the potential risk of being struck by the rotating antenna while men are aloft. Turn off the RADAR power switch before servicing the antenna unit. Post a warning sign near the switch indicating men are aloft and it should not be turned on while the antenna is being serviced.

7.3 All work shall only be accomplished by experienced and qualified personnel. They are also to be trained in RADAR and electrical safety to avoid personnel injury. As such the worker must be fully aware of the risks associated with his surroundings and be fully knowledgeable of health and safety standards.

7.4 Temporarily remove access panels for cleaning and inspection. Retain and mark all fasteners for reinstallation.

7.5 Record the running hours of the Antenna motors,

Monitor displays and Magnetrons.

7.6 Record the version of software loaded on the systems.

7.7 Visually inspect the physical condition of the antennas, processors, monitors, control stations, wave guides and wiring for any damage, corrosion, contamination, deterioration or signs of overheating.

7.7.1 Open antenna covers to check terminal strips and plug connections inside. Check for loose connections and contacts and plugs for proper seating. Inspect the rubber gaskets on these covers for deterioration.

7.7.2 Inspect the Antenna drive mechanism.

7.7.3 Check processors, monitors and control stations for loose connections and contacts and plugs for proper seating. Verify all grounds straps and cable shielding are secure and in good condition.

7.7.4 Check all foundations, bracing, fittings, wireways, bolts and clamps for condition and tightness.

7.7.5 Check all stuffing tubes and cable transits verifying all penetrations are watertight.

7.8 Clean the Antenna Radiators of all dirt, salt and debris using a soft cloth, fresh water and mild soap detergent. Inspect for cracks on the radiator surface.

7.9 Thoroughly clean the processors, monitors and control stations with vacuum, brush and lint free rags. Use a soft cloth to clean the monitor screens. If available, use an anti-static spray. Water, isopropyl, alcohol and similar nonabrasive cleaning fluids may also be used to clean the screen. Do not use solvents or chemical-based cleaners. Check for loose connections and contacts and plugs for proper seating. Verify all grounds straps and cable shielding are secure and in good

condition.

7.10 Replace the following components:

7.10.1 All fan filters (annual)

7.10.2 All fuses (annual)

7.10.3 The Magnetrons

a. 4,000 hrs for Furuno X Band

b. 7,000 hrs for Furuno S Band

c. 6,000 hrs for Sperry Vision Master

7.10.4 The Antenna gear motor (10,000 hrs for Furuno)

7.10.5 The hard disk in Processor Unit (10 yrs for Sperry Vision Master)

7.10.6 The Batteries (as recommended by OEM or 5 years)

7.11 Check and adjust alignment with ships Gyro systems. The accuracy of azimuth alignment of the RADAR presentation should be within 0.5°.

7.12 Test, inspect and verify proper operation of all features, warnings and alarms of the RADAR systems using Manufacturer and IMO requirements as guidance. To include:

7.12.1 Display Mode: True Motion, North Up and Course Up

7.12.2 Independent, Interswitch and Repeater modes

7.12.3 Range Scales and Range Rings

7.12.4 Auto and manual target acquisition

7.12.5 Range and Bearings

7.12.6 Range detection, see Table 2 below

7.12.7 Target Tracking

7.12.8 ARPA

7.12.9 AIS

7.12.10 Closest Point of Approach (CPA) and predicted Time to CPA (TCPA)

7.12.11 Target Data: actual range of target, actual bearing of target, predicted target range at the CPA, predicted time to CPA (TCPA), true course of target, true speed of target

7.12.12 AIS Target Data: ship’s identification, navigational status, position, range, bearing, COG, SOG, CPA and TCPA.

7.12.13 Operation with SARTs and RADAR beacons

7.12.14 Watch Zones (infringe limits)

7.12.15 Target Trails

7.12.16 Heading Lines, Electronic Bearing Lines (EBLs) and Parallel Index lines (PI)

7.12.17 Routes and Waypoints

7.12.18 Collision avoidance

7.12.19 Operational Alarms

7.12.20 Display of Charts (if applicable)

7.13 Provide a condition report to the OMT REP by individual RADAR summarizing all as found conditions to include

running hours and revision of software and any recommended parts and repairs.

7.14 Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas.

7.15 Upon approval, reinstall all access panels and covers using existing fasteners leaving the RADARs in a ready for service condition. The OMT REP and Chief Mate shall inspect the RADAR antennas prior to reinstalling any covers.

7.16 Upon completion of repairs, adjustments and tests optimize and tune the systems. Demonstrate satisfactory operation of the ship's RADAR systems to the OMT REP, Captain and Navigator. Complete all final tests and adjustments with RADAR when vessel is on ships power.

7.17 Provide four (4) hours of onboard training to the ship’s Crew.

7.18 Reports

7.18.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.18.2 Submit a report that includes “as released” condition of the RADAR. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.18.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.19 Painting/Lagging

7.19.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.19.2 Renew lagging where damaged or disturbed.

7.20 Manufacturer’s Representative

7.20.1 Provide the services of a Manufacturer’s Authorized Technical Representative to perform any and all system tests and adjustments to ensure proper operation of the RADAR systems using manufacturer’s performance specifications as guidance.

7.20.2 Provide the OMT REP with a signed letter of qualification from the original equipment manufacturer and certificate of training for the RADAR systems technician working on the RADAR systems identified in paragraph 3.0 prior to the start of any work.

7.20.3 The Manufacturer's Representative is to ride the ship for Sea Trials demonstrating satisfactory operation of the RADAR systems at sea.

7.21 Preparation of Drawings: None additional

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1

TABLE 2 OF REFERENCE 2.1.5

MINIMUM DETECTION RANGES IN CLUTTER-FREE CONDITIONS

Target Description	Target Feature	Detection Range in NM	
	Height above sea level (Meters)	X-Band (NM)	S-Band (NM)
Shorelines	Rising to 60	20	20
Shorelines	Rising to 6	8	8
Shorelines	Rising to 3	6	6
SOLAS ships (>5,000 gross tonnage)	10	11	11
SOLAS ships (>500 gross tonnage)	5	8	8
Small vessel with radar reflector meeting IMO Performance Standards	4	5	3.7
Navigation buoy with corner reflector	3.5	4.9	3.6
Typical Navigation buoy	3.5	4.6	3
Small vessel of length 10 m with no radar Reflector	2	3.4	3

1.0 ABSTRACT

The purpose of this item is to inspect and service the ship’s electronic chart display and information (ECDIS) system.

2.0 REFERENCES

2.1 MSC Dwg. No. 420-8498202, IBS Modification ECDIS System Installation IC Circuit “5IN” Block Cabling Diagram

2.2 Sperry Marine VisionMaster FT ECDIS User Guide, Manual# 65900012

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations

a. Pilot House (03-64-0-C)

b. Chart Rm (03-67-2-C)

c. Starboard Bridge Wing (03-64-1-C)

d. Port Bridge Wing (03-64-2-C)

e. CIC (02-67-1-C)

f. CO Cabin (01-64-1-L)

g. CO In-Port Cabin (02-71-2-L)

h. OIC Cabin (2-34-1-L)

i. CO Stateroom (01-64-2-L)

3.1.2 Quantity: Various, see References 2.1 and 2.2 and paragraph 3.2 for details.

3.2 Item Description/Manufacturer’s Data

Equipment	Manufacturer	P/N	Quantity
VisionMaster FT ECDIS LCD Display 25.5”	Sperry Marine	65926L	2

Control Panel Assy VMFT	Sperry Marine	65903AG-3	2
VisionMaster FT Processor Unit	Sperry Marine	65901AU	3
PC I/O Unit - Standard Compass	Sperry Marine	65900AA	3
26” Monitor (Planning)	ISIC	Duramon 26WS	1
24” Screen LCD Monitor, 1920 x 1200	Dell	V2415	1
Monitor, Sealed ECDIS	Aydin Marine	88245	2
Printer	HP	HP Envy 7640	1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the inspection and servicing of the ECDIS system using References 2.1 and 2.2 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 All work will only be accomplished by experienced and qualified personnel. They are also to be trained in electrical safety to avoid personnel injury. As such the worker must be fully aware of the risks associated with his surroundings and be fully knowledgeable of health and safety standards. The equipment may contain Electrostatic Sensitive Devices (ESSDs). Take care not to damage these devices by discharge of electrostatic voltages.

7.4 Temporarily remove access panels for cleaning and inspection. Retain and mark all fasteners for reinstallation.

7.5 Record the latest version of software, patches and cartography loaded on the systems.

7.6 Visually inspect the physical condition of the processors, monitors, control stations and wiring for any damage, corrosion, contamination, deterioration or signs of overheating.

7.6.1 Check processors, monitors and control stations for loose connections and contacts and plugs for proper seating. Verify all grounds straps and cable shielding are secure and in good condition.

7.6.2 Check all foundations, bracing, fittings, wireways, bolts and clamps for condition and tightness.

7.6.3 Check all stuffing tubes and cable transits verifying all penetrations are watertight.

7.7 Clean the GPS Antennas of all dirt, salt and debris using a soft cloth, fresh water and mild soap detergent. Inspect for cracks on the surface.

7.8 Thoroughly clean the processors, monitors and control stations with vacuum, brush and lint free rags. Use a soft cloth to clean the monitor screens. If available, use an anti-static spray. Water, isopropyl, alcohol and similar nonabrasive cleaning fluids may also be used to clean the screen. Do not use solvents or chemical-based cleaners.

7.9 Replace the following components:

7.9.1 All fan filters (annual)

7.9.2 All fuses (annual)

7.9.3 The hard disk in Processor Unit (as recommended by OEM or 10 years Sperry Vision Master)

7.9.4 **The UPS Batteries (as recommended by OEM or 5 years)**

7.10 Check the last change out date of UPS batteries, if more than 5 years or OEM recommended time period, submit a condition report to replace UPS batteries.

7.11 Verify Gyro input matches Gyrocompass system heading. Adjust ECDIS to match Gyrocompass.

7.12 Test, inspect and verify proper operation of all features, warnings and alarms of the ECDIS systems using Manufacturer and IMO requirements as guidance. To include:

7.12.1 Display Mode: True Motion, North Up and Course Up (if applicable):

7.12.2 Multi-Nodes,

7.12.3 Scales and Range,

7.12.4 Range and Bearings,

7.12.5 ARPA and AIS Targets,

7.12.6 Target Tracking,

7.12.7 Closest Point of Approach (CPA) and predicted Time to CPA (TCPA),

7.12.8 Target Data: range, bearing, COG, SOG, CPA and TCPA,

7.12.9 AIS Target Data: ship’s identification, heading, range, bearing, COG, SOG, CPA and TCPA,

7.12.10 GPS / DGPS input,

7.12.11 Gyrocompass input,

7.12.12 Sounder input,

7.12.13 Wind Speed and Direction input (if applicable),

7.12.14 Tides,

7.12.15 Watch Zones (infringe limits),

7.12.16 Target Trails,

7.12.17 Heading Lines, Electronic Bearing Lines (EBLs) and Parallel Index lines (PI),

7.12.18 Route Planning,

7.12.19 Route Monitoring,

7.12.20 Waypoints,

7.12.21 Voyage Recording (Logging),

7.12.22 Backup Arrangement,

7.12.23 Operational Alarms,

7.12.24 Emergency source of electrical power, and

7.12.25 Radar overlay (if applicable).

7.13 Provide a condition report to the OMT REP by individual ECDIS summarizing all as found conditions to include revision of software and cartography and any recommended parts and repairs.

7.14 Upon approval, reinstall all access panels and covers using existing fasteners leaving the ECDIS systems in a ready for service condition.

7.15 Upon completion of repairs, adjustments and tests optimize and tune the systems. Demonstrate satisfactory operation of the ship's ECDIS systems to the OMT REP, Captain and Navigator.

7.16 Provide four hours of onboard training to the ship’s Crew.

7.17 Reports

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.17.2 Submit a report that includes “as released” condition of the ECDIS. Submit one electronic copy in Portable Document Format (PDF).

7.17.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.18 Painting: None additional

7.19 Manufacturer’s Representative

7.19.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the ECDIS identified in section 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.19.2 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item.

Only original equipment manufacturer (OEM) authorized technical field service providers or MSC qualified non-OEM technical field service providers and OEM authorized or MSC qualified non-OEM parts will be used to accomplish the requirements of this work item for this ship critical safety item including oversight and guidance on all aspects of equipment as-found condition inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. The technical service provider is to attend dock and sea trials.

7.20 Contractors interested in gaining MSC qualification as a non-OEM parts and/or service provider should visit this website for qualification and submittal requirements: https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/.

7.20.1 Possible Sources

Sperry Marine
1500 Technology Dr. Suite 104
Chesapeake, VA 23320
Tel: (757)312-8375

7.20.2 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.21 Preparation of Drawings

7.21.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

1.0 ABSTRACT

The purpose of this item is to inspect and service the ship’s gyrocompass systems.

2.0 REFERENCES

2.1 MSC Dwg. No. 426-8498210, IBS Upgrade Gyro System Installation, IC Circuit “LC” Modification Detail

2.2 Sperry Marine NAVIGAT 2200 Technical Manual

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. Chart Room (03-67-2-C)

b. Pilot House (03-64-0-C)

c. After Steering (5-137-0-E)

d. Port Bridge Wing (03-64-0 Port)

e. Starboard Bridge Wing (03-64-0 Stbd)

f. CO at Sea Cabin (03-67-1-L)

g. CO In-port Cabin (02-71-2-L)

3.1.2 Quantity: Various, see References 2.1 and 2.2 and paragraph 3.2 for details.

3.2 Item Description/Manufacturer’s Data:

Equipment	Manufacturer	P/N	Quantity
Gyrocompass	Sperry Marine	NAVIGAT 2200 with Converter and Amplifier Board (CAB)	2
Data Distribution Unit	Sperry Marine	074907	1
DDU Processor Module	Sperry Marine	025786	2
NAVITWIN V CDU	Sperry Marine	074902	2
Bulkhead Repeater Compass	Sperry Marine	074883	1
Bearing Repeater Compass	Sperry Marine	074880	3
Bearing Repeater Stand w/Terminal Box	Sperry Marine	074887	2
RS422 Distribution Box	Sperry Marine	074800	1
Digital Gyro Repeater	Scan Micro Systems	SR01-02-MK2	5
Azimuth Device	Sperry Marine	075135	2
Course Recorder	Sperry Marine	044470	1
Console Mount Repeater Compass	Sperry Marine	074881	1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and

29.

5.2 After a cold power up, the gyrocompass requires a minimum of 30 minutes out before reliable heading data is available. Power down during long docking periods only.

5.3 The permitted ambient temperature for operating the gyrocompass system is 0° to 30°C.

5.4 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Accomplish the inspection and servicing of the ship’s gyrocompasses using references 2.1 and 2.2 for guidance; SOLAS V/12 and 19.

7.2 Coordinate with the Chief Engineer for the isolation

and lock-out/tag-out of any equipment or systems.

7.3 All work shall only be accomplished by trained, experienced and authorized service personnel for the specific system. They are also to be trained in electrical safety to avoid personnel injury. As such the worker must be fully aware of the risks associated with his surroundings and be fully knowledgeable of health and safety standards. The equipment does contain Electrostatic Sensitive Devices (ESSDs). Take care not to damage these devices by discharge of electrostatic voltages.

7.4 Temporarily remove access panels for cleaning and inspection. Retain and mark all fasteners for reinstallation.

7.5 Record the manufacturer name, model and serial number of the systems.

7.6 Visually inspect the physical condition of the gyrocompass, switchover unit, repeaters and wiring for any damage, corrosion, contamination, deterioration or signs of overheating.

7.6.1 Inspect gyrocompass system for loose connections and contacts and plugs for proper seating. Verify all ground straps and cable shielding are secure and in good condition. Verify with the Chief Engineer that there are no known issues with gyro signal data being received by repeaters, radars, ECDIS, autopilot, course recorder, and AIS.

7.6.2 Inspect all foundations, bracing, fittings, wireways, bolts and clamps for condition and tightness.

7.6.3 Inspect all stuffing tubes and cable transits verifying all penetrations are watertight.

7.7 Clean the outside of compass housing and repeaters of all dirt, salt and debris using a soft cloth, fresh water and mild soap detergent. Do not use acetone, solvents or chemical-

based cleaners.

7.8 Check and adjust alignment of ship’s gyrocompass systems. The compass is to display the ship’s true heading to an accuracy of at least 0.5°.

7.8.1 Check for any variable error

7.8.2 Verify speed and latitude automatic correction inputs are valid

7.9 Test, inspect and verify proper operation of all features, warnings and alarms of the gyrocompass systems in accordance with manufacturer and IMO requirements to include:

7.9.1 Gyro Failure

7.9.2 Loss of Magnetic Compass Data

7.9.3 Variation of Magnetic Compass

7.9.4 Loss of Speed Data

7.9.5 Variation of Speed Data

7.9.6 Loss of Position Data

7.9.7 Heading Differential

7.9.8 Failure of Main Power

7.9.9 Failure of Backup Power

7.9.10 Operational Alarms

7.9.11 Emergency source of electrical power

7.9.12 All illuminations function properly

7.9.13 Auto-shift functionality

7.10 Select Gyroscope No.1 and verify all repeaters follow.

7.11 Select Gyroscope No.2 and verify all repeaters follow.

7.12 Check Gyrocompass system repeater outputs for correct output.

7.13 Ensure Binnacle is free in shock mounts.

7.13.1 Ensure cable(s) from Binnacle is/are free, clean and flexible.

7.14 Verify synchro outputs from synchro distribution panel.

7.15 Provide a condition report to the OMT REP by individual gyro summarizing all as found conditions to include revision of software and any recommended parts and repairs.

7.16 Upon approval, reinstall all access panels and covers using existing fasteners leaving the gyrocompass systems in a ready for service condition.

7.17 Upon completion of repairs, adjustments and tests optimize and tune the systems. Demonstrate satisfactory operation of the ship's gyrocompass systems to the OMT REP, Captain and Navigator. Ensure Gyro Speed Correction is turned ON at the conclusion of testing and demonstrations.

7.18 Provide four hours of onboard training to the ship’s crew.

7.19 Reports

7.19.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one

electronic copy in Portable Document Format (PDF).

7.19.2 Submit a condition report that includes “as released” condition of the ship’s gyrocompass systems. Submit one electronic copy in Portable Document Format (PDF).

7.19.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.20 Painting/Lagging:

7.20.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.21 Manufacturer’s Representative:

7.21.1 Provide the services of a manufacturer’s authorized technical representative to perform any and all system tests and adjustments to ensure proper operation of the gyrocompass systems in accordance with manufacturer’s performance specifications.

7.21.2 Provide the OMT REP with a signed letter of qualification from the original equipment manufacturer and certificate of training for the gyro systems identified in 3.0 prior to the start of any work.

7.21.3 The manufacturer's representative is to ride the ship for sea trials demonstrating satisfactory operation of the gyro systems at sea.

7.22 Preparation of Drawings:

7.22.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

1.0 ABSTRACT

This work item describes the requirements to inspect and service the ships radio communication equipment.

2.0 REFERENCES/ENCLOSURES

2.1 References: None

2.2 Enclosures

2.2.1 ABS CHECK SHEET FOR SOLAS SURVEY FOR SLR/GMDSS; Latest Revision Available at https://ww2.eagle.org/en/rules-and-resources/forms.html

2.2.2 ABS CHECK SHEET FOR SOLAS SURVEY FOR "AIS" RADIO TECHNICIANS SURVEY; Latest Revision Available at https://ww2.eagle.org/en/rules-and-resources/forms.html

2.2.3 ABS CHECK SHEET FOR SOLAS SURVEY FOR SSAS; Latest Revision Available at https://ww2.eagle.org/en/rules-and-resources/forms.html

2.2.4 FCC GMDSS Inspection Check Sheet; Latest Revision Available at https://www.fcc.gov/sites/default/files/gmdss-checklist.pdf

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location: Bridge, 03-64-0-C

3.2 Description/Quantity

Equipment	Manufacturer	Model Number	Quantity
AIS	SAAB	R5 Supreme	1
GPS	FURUNO	GP-170	2
VHF	FURUNO	FM-8900S	2
GMDSS SCT	ACR	SR203	4
SART	JOTRON	TRON	2
NAVTEX	JRC	NCR 333	1

Equipment	Manufacturer	Model Number	Quantity
EPIRB	JOTRON	TRON 60S	1
SSAS			
Two-Way VHF Radiotelephone	ACR	SR203	3
ECDIS	Sperry Marine	VisionMaster Ft	1
LRIT			

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Perform this work item in conjunction with work item 451 Annual RADAR Service.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of using Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the inspection and servicing of the systems using Enclosures 2.2.1 through 2.2.4 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 All work shall only be accomplished by trained, experienced and authorized service personnel for the specific system. They are also to be trained in electrical safety to avoid personnel injury. As such the worker must be fully aware of the risks associated with his surroundings and be fully knowledgeable of health and safety standards. The equipment may contain Electrostatic Sensitive Devices (ESSDs). Take care not to damage these devices by discharge of electrostatic voltages.

7.4 Temporarily remove access panels for cleaning and inspection, where applicable. Retain and mark all fasteners for reinstallation.

7.5 Record the Manufacturer’s Name, Model and Serial number including revision of software of the equipment identified in section 3.0.

7.6 Visually inspect the physical condition of the equipment and systems identified in section 3.0 including associated antennas and wiring for any damage, corrosion, contamination, deterioration or signs of overheating.

7.6.1 Check the systems for loose connections and contacts and plugs for proper seating. Verify all grounds straps and cable shielding are secure and in good condition.

7.6.2 Check all foundations, bracing, fittings, wireways, bolts and clamps for condition and tightness.

7.6.3 Check all stuffing tubes and cable transits

verifying all penetrations are watertight.

7.7 Clean the system components of all dirt, salt and debris using a soft cloth, fresh water and mild soap detergent. Do not use acetone, solvents or chemical-based cleaners.

7.8 Using SOLAS IV as guidance, conduct an annual performance check and certification of the Radio and GMDSS systems identified in section 3.0 using Enclosures 2.2.1 through 2.2.4 as guidance. Complete and submit the ABS survey forms in Enclosures 2.2.1 through 2.2.4 to the OMT REP. The tests must be conducted by approved testing or servicing facilities as outlined in paragraph 7.16. In addition, tests and inspections are to be conducted to determine the serviceability of all protective enclosures, hydrostatic releases, antennas and devices fitted to aid location. A copy of the certificate of compliance issued by the testing facilities, stating the date of compliance and the applicable performance standards, must be retained on board the ship.

7.8.1 Test, inspect and verify proper operation of all features, warnings and alarms of the systems using Manufacturer and IMO requirements as guidance.

7.8.2 The inspection is also to ensure emergency sources of power, antennas, batteries, hydrostatic releases, enclosures and location aids are in periodicity, good condition and operational. This should be undertaken using the manufacturer's instructions as guidance by qualified, trained and experienced personnel. Successful completion of the maintenance should be recorded in the ship’s onboard planned maintenance log.

7.8.3 Check that emergency sources of power including UPS and batteries have capacity to operate the basic equipment for a minimum of 1 hour per SOLAS IV/3. Check that the chargers are the automatic type and can recharge the reserve batteries within 10 hrs.

7.8.4 Verify the ships identification information has been programmed correctly into the AIS.

7.8.5 Inspect and test the EPIRBs using MSC/Circ.1040 as guidance. Check hydrostatic release and batteries for

expiration date.

7.8.6 Inspect and test the LRIT system for proper operation.

7.9 Provide a condition report to the OMT REP summarizing all as found conditions and any recommended parts and repairs.

7.10 Upon approval, reinstall all access panels and covers using existing fasteners leaving the systems in a ready for service condition.

7.11 Upon completion of repairs, adjustments and tests optimize and tune the system. Demonstrate satisfactory operation of the ship's systems to the OMT REP, Captain and Navigator.

7.12 Verify all shipboard and equipment manuals required to be on board with latest revisions.

7.13 Provide four hours of onboard training to the ship’s Crew.

7.14 Provide the Master with new annual Shore Based Maintenance Agreement.

7.15 Reports

7.15.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.15.2 Submit a report that includes “as released” condition of the radio communication equipment recertification. Submit one electronic copy in Portable Document Format (PDF).

7.15.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.16 Painting: None

7.17 Manufacturer’s Representative

7.17.1 Provide the services of a Manufacturer's Authorized Technical Representative to perform any and all system tests, adjustments and maintenance to ensure full and complete operation of the systems using IMO and manufacturer's performance specifications as guidance. In addition, the Technical Rep is to be an ABS recognized External Specialist for the specific system.

https://ww2.eagle.org/en/rules-and-resources/recognized-external-specialists.html.

https://www.eagle.org/ABSEaglePrograms/es/es-search.jsp

7.17.2 Provide the OMT REP with a signed letter of qualification from the original equipment manufacturer, certificate of training for the system identified in section 3.0 and ABS Certificate # prior to the start of any work.

7.18 Preparation of Drawings

7.18.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This work item describes the requirements to inspect, service and test the ships Manually Operated Alarms.

2.0 REFERENCES

2.1 MSC Drawing No. 475-8498334, IBS Upgrade CKTS 1MC and 21 MC Mods

2.2 MSC Drawing No. 432-8498339, IBS Upgrade IC CKTS “CS” System Modification Details

2.3 MSC Drawing No. 426-8498329, IBS Upgrade Bell and Gong Circuit “BG” Modification Details

2.4 MSC Drawing No. 426-8498330, IBS Upgrade Bell and Gong Circuit “BG” Modification Details

2.5 MSC Drawing No. 401-7490079, Remote Alarm and Indicating System

2.6 NAVSEA Drawing No. 401-2493312, General Announcing, Helicopter Announcing, Inter-ship Announcing System CKTS 1MC, 3MC, and 6MC Elementary Wiring Diagram and List of Loadspeakers

2.7 NAVSEA Drawing No. 401-2493313, General Announcing, Helicopter Announcing, Inter-ship Announcing System CKTS 1MC, 3MC, and 6MC ISO Wiring Diagram

2.8 NAVSEA Drawing No. 1B-2490-101, Reefer Alarm Panel Wiring Connections

2.9 NAVSEA Tech Manual SE168-AN-MMC-010, Maintenance Manual for Alarm Switchboard Type IC/SM

2.10 NAVSEA Drawing No. 302-7039660, Elevator Cont Sys Elem and Cabling Diagram

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location: Various throughout the vessel

3.2 Description

3.2.1 General Alarm

3.2.2 Refrigerated Space Alarm

3.2.3 Elevator’s Alarm

3.2.4 Public Address System

3.3 Quantity: Four systems

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE:

4.1 Government Furnished Equipment: None

4.2 Government Furnished Material: None

4.3 Government Furnished Services: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be

attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the inspection and servicing of the Manually Operated Alarm systems identified in Paragraph 3.0 using References 2.1 through 2.9 for guidance.

7.2 Coordinate with the Chief Engineer for the isolation and lock-out / tag-out of any equipment or systems as appropriate. Coordinate any public address announcements notifying all those onboard of imminent tests.

7.3 Coordinate any public address announcements notifying all those onboard of imminent tests.

7.4 All work shall only be accomplished by trained, experienced and authorized service personnel for the specific system. They are also to be trained in electrical safety to avoid personnel injury.

7.5 Temporarily remove access panels for cleaning and inspection. Retain and mark all fasteners for reinstallation.

7.6 Using ABS (7-6-2 / 1.1.11) as guidance and with assistance from ships force, conduct an annual performance check of the Manually Operated Alarm systems to include General Alarm, Refrigerated Space Alarm, Elevator’s Alarm and Public Address Systems.

7.6.1 Visually inspect the physical condition of the alarm systems including all contact makers, power sources, klaxons, visual alarms (red-flashing or rotating beacon), speakers, push buttons and wiring for any damage, corrosion, contamination, missing components, deterioration or signs of overheating.

7.6.2 Test, inspect and verify proper operation of all features, warnings and alarms of the alarm systems identified in Paragraph 3.0.

7.6.3 Verify the general emergency alarm system is capable of sounding the alarm signal consisting of seven or more short blasts followed by one long blast on the ship's whistle and additionally on an electrically operated klaxon warning system. Inspect and verify proper operation of both the main and emergency sources of electrical power.

7.6.4 The inspection is also to ensure batteries, chargers and enclosures are in good condition and operational. This should be undertaken using the manufacturer's instructions as guidance by qualified, trained and experienced personnel.

7.6.5 Verify the Public Address system can be heard from the navigation bridge throughout spaces where crew members or passengers are normally present, the muster stations, the embarkation stations and the machinery spaces.

7.6.6 Troubleshoot **4** loudspeakers and **3** general alarm bells. Contractor to replace with GFM where items found to be

defective.

7.6.7 For estimating purposes assume 40 hours for troubleshooting are required and time for replacing up to **4** speakers.

7.7 Provide a condition report to the OMT REP summarizing all as found conditions to include any recommended parts and repairs.

7.8 Upon approval, reinstall all access panels and covers using existing fasteners leaving the systems in a ready for service condition.

7.9 Upon completion of repairs, adjustments and tests demonstrate satisfactory operation of the ship's Manually Operated Alarm systems to the ABS Surveyor, OMT REP and Captain.

7.10 Reports

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.10.2 Submit a report that includes “as released” condition of the Manually Operated Alarms. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11 Painting/Lagging: None additional

7.12 Manufacturer’s Representative: None

7.13 Preparation of Drawings

7.13.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

1.1 Provide the services of a certified calibration laboratory with RF microwave capabilities to calibrate General Purpose Electronic Test Equipment (GPETE).

2.0 REFERENCES:

2.1 References:

2.1.1 NAVSEA LETTER 4734 POLICY FOR USE OF CERTIFIED/ACCREDITED OEM CALIBRATIONS

2.1.2 OPNAVINST 3960.16A NAVY TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE); AUTOMATIC TEST EQUIPMENT (ATS); AND METROLOGY AND CALIBRATION (METCAL)

2.2 Enclosure:

2.2.1 List of GPETE Equipment

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity

3.1.1 Location: Contractor’s Facility

3.1.2 Quantity: as per enclosure 2.2.1

3.2 Item Description/Manufacturer's Data

3.2.1 As per enclosure 2.2.1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: NONE

5.0 NOTES:

5.1 All Standards used in the Calibration are to be traceable back to the National Institute of Standards and Technology (NIS).

5.2 All GPETE is to be calibrated to its full range of capability IAW the approved calibration procedure. If this cannot be performed, then a written report asking for a special calibration stating the GPETE’s limitation needs to be summited.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED:

7.1 Provide pick-up and delivery service from the USS MOUNT WHITNEYto the calibration lab, and return delivery services back

to the USS MOUNT WHITNEY. The transportation vehicle shall be outfitted for handling sensitive instruments to include being equipped with padded shelving to minimize shock and vibration.

7.2 Provide the services of a certified calibration lab in accordance with reference 2.1.1 qualified in RF microwave equipment. The lab shall calibrate the test equipment listed in enclosure 2.2.1. Test equipment may include, but not be limited to Power meters, multi-meters, watt meters, signal generators, COMM analyzers, oscilloscopes, attenuators, sensors, counters, power supplies, detectors, couplers and termination loads.

7.2.1 If an item does not meet the minimum standards during calibration checks, provide alignment services to bring within tolerance. If an item is deemed broken submit a written report to the MSC TPOC and contracting officer with details of the findings. If it is believed an item can be economically repaired submit repair estimate with report. If an item is deemed “Beyond Economical Repair” (BER) and should be replaced advise of that in the report as well.

7.2.2 Provide a list of calibration certification records for each item tested that includes the following minimum information:

7.2.2.1 All Calibration Standards used in the calibration, include the following information Model, Serial number, Date of calibration, Expiration date and calibration Lab where calibrated.

7.2.2.2 Calibration procedure used

7.2.3 Submit in final report to the MSC TPOC.

8.0 **GENERAL REQUIREMENTS:** None Additional

Enclosure 2.2.1: List of GPETE Equipment

Type	Manufacturer	Qty

1.0 ABSTRACT

This work item describes the inspection, testing, and grooming of the Vessel Control System and performing the Periodic Safety Test Procedure.

2.0 REFERENCES

2.1 Technical Manual **GEPB007 003**, General Electric Vessel Control System, Consisting of the Power Management System (PMS) and Machinery Alarm and Monitoring System (MAMS)

2.2 Periodic Safety Test Procedure, Document LCC-20-PSTP, Revision B

2.3 MSC Drawing No. 438-8393265, Assured Power VCS Communication Network

2.4 MSC Drawing No. 504-8393311, VCS Equipment Installations

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations of Major Components

a. Pump Room No. 1 (8-40-0-E)

b. Pilot House (03-64-0-C)

c. CIC (02-67-1-C)

d. Fire Room (8-76-0-E)

e. Engine Room (8-86-0-E)

f. Engineering Dept Log Office (4-98—8-Q)

g. Chief Engineer’s Office (4-109-0-L)

h. SS/EDG Room No. 1 (5-121-1-E)

i. Aft EOS (5-121-2-E)

j. Steering Gear Room (5-137-0-E)

3.2 Item Description/Manufacturer’s Data

3.2.1 Vessel Control System (VCS) furnished by General Electric Power Conversion.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 All work performed shall be to the satisfaction of the OMT REP.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide the services of authorized original equipment manufacturer (OEM) technical representatives to inspect, service, test, and groom the Vessel Control System using References 2.1 through 2.4 as guidance.

7.2 Technical Representative is to provide oversight and perform all maintenance, tests, and adjustments.

7.3 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.4 Work Stations

7.4.1 Inspect all work stations. Ensure all equipment is properly and securely installed. Verify all connections and cabling are properly installed. Correct as required. Ensure all I/O ports are functional. Verify redundant power supplies are functioning properly. Update system software as required. Inspect condition of enclosure and verify IP rating is maintained. Where applicable, ensure monitors are functioning properly and clearly. Provide a condition report noting any necessary repairs including recommended parts and part numbers.

7.5 Network Switch Boxes

7.5.1 Inspect all Network Switch boxes. Ensure all equipment is properly and securely installed. Verify all connections and cabling are properly installed. Correct as required. Inspect condition of enclosure and verify IP rating is maintained.

7.6 Field Stations

7.6.1 Inspect all Field Station Controllers, Serial Converters, I/O rails, blocks, modules, and terminals to ensure they are properly and securely installed. Correct as required. Update controller software/firmware as required. Identify any temporarily disconnected or ‘jumped’ connections. Secure loose wiring and reinstall ‘Panduit’ cable manager covers. Provide a condition report noting any necessary repairs including recommended parts and part numbers.

7.7 Data Historian

7.7.1 Verify data historian is recording all alarms and events. Download all data and provide it to the Chief Engineer. Troubleshoot any operational or connection issues. Verify ability to print records from the historian. Correct as required.

7.8 Touch Screen Calibration

7.8.1 All VCS HMI touchscreens included in References 2.3 and 2.4 and locations identified in 3.1 shall be calibrated. Work Station mouse touchpads shall be checked and corrected as required.

7.9 Alarm Columns

7.9.1 Verify all alarm columns are operating properly and producing the correct audible and visual notifications according to the alarm severity. Simulate vital and non-vital alarms to test proper operation of all column lights and horns. Provide a condition report noting any necessary repairs including recommended parts and part numbers. Alarm column locations are identified in Reference 2.3.

7.10 System Updates

7.10.1 Record operator requested changes made to VCS inputs including alarm set points, time delays, offsets, blocking, nomenclature, and display naming. Changes shall be hard coded to VCS software settings which will be unaffected by a system reboot. For bidding purposes, assume not more than twenty (Qty = 20) inputs, outputs, or alarms will require updates.

7.11 In conjunction with the Chief Engineer and ABS, conduct the Periodic Safety Test Procedure (PSTP), Reference 2.2. Assist the Chief Engineer to troubleshoot any sections of the PSTP which are not in accordance with the procedure.

Note: Sections of the PSTP do not apply to the VCS. GE is not responsible for any procedures or results which do not interface with the VCS.

7.12 Verify each Field Station enclosure includes hard copies of the latest version of the applicable I/O schedule. Replace missing or outdated I/O schedules with current version.

7.13 Reports

7.13.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.13.2 Submit a report that includes “as released” condition of the Vessel Control System (VCS). Submit one electronic copy in Portable Document Format (PDF).

7.13.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.13.4 Provide the OMT REP and MSC Engineering POC an updated VCS I/O Schedule no later than seven days after the completion of all work. I/O schedule shall include all changes performed during the service period. I/O schedule shall be submitted in Microsoft Excel format.

7.13.5 Provide the OMT REP with a completed and signed version of the Periodic Safety Test Procedure after the completion of all work. Procedure to be signed by GE, Chief Engineer, and ABS.

7.17 Provide the OMT REP with a completed electronic service report no more than seven days after the completion of all work. Submit one electronic copy in Portable Document Format (PDF). The report will contain, at minimum, all conditions found, as found/as released settings and clearances, corrective actions taken, parts renewed (include OEM identifying part numbers) and any recommended future repairs.

7.18 Painting/Lagging: None

7.19 Manufacturer's Representative

7.19.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the Vessel Control System (VCS) identified in section 3.0 ensuring compliance with the manufacturer's standards and performance specifications.

7.19.2 Possible Source

GE Power Conversion

Contacts: Ibrahim Chebib or Michael Kircher

Email: Ibrahim.Chebib@ge.com or michael.kircher@ge.com

Phone: +1-412-315-5306

7.19.3 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.20 Preparation of Drawings

7.20.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This Work Item describes the work required for the removal and replacement of the SSDG/EDG Sea Water Cooling Pumps. This installation includes installation of upgraded motors, removal and installation of new foundations, and electrical modifications.

NOTE: THIS WORK ITEM SHOULD BE COORDINATED WITH WORK ITEMS 0533 SSEDG HEAT EXCHANGERS AND COOLING SYSTEM AND WORK ITEM 0594 SHIP'S SERVICE DIESEL GENERATOR – TURBOCHARGER OVERHAUL

2.0 REFERENCES

2.1 MSC Drawing No. 524-8882643, SSDG/EDG Sea Water Cooling Piping Modifications

2.2 MSC Drawing No. 180-8882644, SSDG/EDG Sea Water Cooling Structural Modifications

2.3 MSC Drawing No. 342-8882645, SSDG/EDG Sea Water Cooling Electrical Modifications

2.4 MSC Drawing No. 803-7081122, General Technical Requirements

3.0 ITEM LOCATION/DESCRIPTION

3.1 Locations:

a. Assured Power Aux Machinery Room (7-109-3-E)

3.2 Item Description/Manufacturer's Data:

3.2.1 Use References 2.1, 2.2, and 2.3 as guidance.

3.2.2 Quantities are considered estimates. The Contractor shall provide the exact quantities and any additional material that is not included in the List of Materials that is required to install a fully functional system that meets the requirements of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE):

a. AMPCO Centrifugal Pump; Qty: Four (4)

4.2 Government Furnished Material (GFM): None additional

4.3 Government Furnished Services (GFS): None additional

4.4 Government Furnished Information (GFI): None additional

5.0 NOTES:

5.1 The vessel’s staff will provide access to any required spaces.

5.2 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR), Reference 2.4, to determine applicability to this work item. In performance of this item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 25, 26, 28 and 29.

5.3 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item.

5.4 The contractor shall be responsible to certify that all affected spaces are safe for entry, safe for hot work, provide ventilation to the space while people are working in the space.

5.5 The contractor shall provide the required fire watch personnel. Fire watch personnel shall be properly trained and equipped. Fire watch shall remain until 30 minutes after welding/burning has been completed.

5.6 Welding shall be completed in accordance with Part 2, Chapter 4, ABS Rules for Materials and Welding.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 Inspection and acceptance of all work shall be by the Port Engineer.

6.2 All work performed shall be in accordance with Regulatory Body rules and regulations.

6.3 Government will furnish ABS Surveyor attendance. Contractor is responsible for coordinating all onsite visits required for ABS representative to witness testing and inspections.

7.0 STATEMENT OF WORK REQUIRED:

7.1 Outfitting: None

7.2 Mechanical:

7.2.1 Removal

7.2.2 Remove the three existing pumps as shown in Reference 2.1.

7.2.3 Installation

7.2.4 Install three new pumps as shown in Reference 2.1.

7.3 Structural: Structural:

7.3.1 Removal

7.3.2 Remove the three existing foundations as shown in Reference 2.2.

7.3.3 Installation

7.3.4 Fabricate and install three new foundations as shown in Reference 2.2.

7.4 Electrical:

7.4.1 Removal

7.4.2 Label, disconnect, pull back, and protect existing cables, and remove the three existing motors, as shown in Reference 2.3.

7.4.3 Installation

7.4.4 Install three new motors and reconnect existing cables, as shown in Reference 2.3.

7.5 Electronics: None

7.6 Preparation of Drawings/Documentation:

7.6.1 Provide red-lined mark ups of Reference 2.1, 2.2 and 2.3, to reflect all installations, modifications, and any changes accomplished. This should include all material substitutions and all change orders.

7.6.2 Red-lined mark ups shall be provided in ADOBE PDF (Portable Data File). All drawing deliverable submissions shall include one (1) hard copy and one (1) electronic copy on CD.

7.6.3 All submitted drawings shall be reviewed by MSCREP prior to final acceptance. Final drawings shall be provided to the MSCREP and Tech Library.

7.6.4 Inspection/Test:

7.6.5 Visual Inspection: all welds shall be visually inspected

7.6.6 Perform a pressure test of the SSDG/EDG Sea Water Cooling System per Reference 2.1.

7.6.7 Perform an operational test of the SSDG/EDG Sea Water Cooling System per Reference 2.1.

7.7 Painting:

7.7.1 Prepare, prime, and paint all new and disturbed areas to match the surrounding surfaces using contractor-supplied paint. This includes the new pipe hangers, any decks, bulkheads, lagging and all adjacent space coatings that have been damaged by heat from welding. Surface preparation and paint coating application requirements are outlined in References 2.4.

7.8 Marking:

7.8.1 Install label plates, notices, and markings for all new modified systems using References 2.4 as guidance.

7.8.2 Manufacturer’s Representative: None

8.0 GENERAL REQUIREMENTS:

8.1 The contractor shall perform a ship check to retrieve accurate measurements and information before conducting work or procuring material for the installation.

8.2 Contractor shall maintain all work areas onboard the ship, clean and free of debris at all times and ensure work area is clean at the end of each day.

1.0 ABSTRACT

1.1 This Work item describes modifications to replace obsolete A/C seawater cooling pump #2 in A.C. Machinery Room No. 1 & Refrigeration Machinery Room (7-40-0-E).

NOTE: This Work Item will require coordination with Work Item 0801 AC Plant Servicing.

2.0 REFERENCES

2.1 MSC Drawing No. 256-8616147 - A/C SW Pump No. 2 Replacement

2.2 MSC Standard Drawing 803-7080803, Preparation of Computer Aided Designed (CAD) Drawings for USNS Ships

2.3 MSC Drawing No. 803-7081122, MSC General Technical Requirements (GTRs)

2.4 MSC Drawing No.G1030-0086_C, Assured Power One Line

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: A/C Machinery Room No. 1 & Refrigeration Machinery Room (7-40-0-E).

3.1.2 Quantity: None

3.2 Item Description/Manufacturer's Data

3.2.1 Material/Components, including specific quantities and manufacturer make and model numbers, necessary to accomplish work required by this work item are included in the List of Materials of Reference 2.1.

3.2.2 Quantities specified in the List of Materials of Reference 2.1 are considered estimates. The contractor shall provide the exact quantities of additional material such as fittings, weld

material, pipe hangers, etc., which are not included in the Lists of Materials of Reference 2.1 in order to install fully functional systems that meet the requirements of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

4.1 Government Furnished Equipment (GFE):

4.1.1 ASW Pump and Motor

4.2 Government Furnished Material (GFM):

4.2.1 Material as per Ref.2.1.

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 22, 23, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 All dimensions and quantities are approximate and should be verified on-board ship prior to the modifications. Template all work from ship and equipment.

5.4 Provide and install suitable temporary plugs, caps or covers to prevent debris from entering systems and

equipment or contamination of surrounding areas during industrial work modifications.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting: None Additional

7.2 Structural:

7.2.1 Removals

a. After removing existing pump assembly, cut angle legs of foundation approximately 1” above deck doubler plates; remove and retain foundation.
b. Plug weld all bolting holes in foundation and grind smooth. NDT plug welds to ensure they are complete penetration and free of linear indications.

7.2.2 Installations

a. Template required foundation height from new pump assembly.
b. Modify foundation to achieve new required height for equipment (remove approximately 2” from each leg).
c. Reinstall foundation angles to existing deck pads using complete joint penetration 100% efficient welds. NDT the final installation welds to ensure they are free of linear indications.
d. Drill new holes through mounting structure, template size and placement of holes from new pump.

e. Install new angles and chocks, sized to match original and positioned to suit bolting footpring of new pump and motor.
f. Weld new structure to base (4-legged foundation) using filet-reinforced, single bevel welds all around.
g. Clean and re-preserve base foundation.
h. Preserve all new structure to match existing base.
i. Welding, testing and inspections must meet ABS specifications and MSC’s General Technical Requirements.
j. For any discrepancies during foundation fitup, immediately notify MSC Technical Branch N04721.

7.3 Mechanical/Fluids:

7.3.1 Removals

c. Remove pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.3.2 Modifications/Relocations

k. None Additional

7.3.3 Installations

a. Install pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.4 Electrical:

7.4.1 Removals

a. Disconnect circuit IP12 according to reference 2.4 Assure Power One Line drawing, fed from Load Center 23, located in Air Condition Machinery Room No. 1(7-40-0-E), to #2 a/c/ seawater cooling pump on way of equipment removal. Cabling shall be coiled

back and protected in way of pump removal/installation. Use Reference 2.1 as guidance for equipment location.

b. Document cables for reconnection after the installation of the new equipment. Do not cut conductors.

7.4.2 Installations

a. After installation of (1) new Carver Pump in the A/C Machinery Room No.1 & Refrigeration Machinery Room (7-40-0-E), reconnect cable for circuit IP12 to new pump utilizing documentation obtained at time of removal to ensure proper connection. Utilize Reference 2.1 as guidance for equipment location.

7.5 Electronics: None Additional

7.6 Preparation of Drawings:

7.6.1 Provide working drawings showing a/c seawater pump #2 replacement details and submit to MSCREP for approval prior to beginning work.

7.6.2 Provide as-built drawings in AutoCAD format sized to scale F (28 in x 40 in) in accordance with Reference 2.2.

7.6.3 All drawings developed shall be delivered as follows: one electronic submittal on CD/DVD containing the drawing files in both AutoCAD (*.dwg) and Adobe (*.pdf) formats. Drawing number(s) will be provided by the MSCREP.

7.7 Inspection/Test:

7.7.1 Inspections:

a. Throughout the work in all areas affected by this work item, the Contractor shall maintain a listing of each space, with annotations for work performed, inspection

points, and acceptances. This listing shall be presented to the MSCREP after final walk-through of all affected compartments.

b. Contractor and MSCREP shall conduct a joint inspection of areas to be prepared and painted before surface preparation begins to ensure that protective measures are implemented.

c. Contractor shall perform inspections after completion of each stage of surface preparation, each coat, and each stripe coat, to verify surface condition, DFT and space cleanliness, and before securing space. At least 2 DFT readings shall be taken per 100 square feet.

7.7.2 Tests

a. Conduct preliminary tests on all completed work before calling for an official test.

b. Completion Test

c. Functional Test

d. Tightness Test of new and disturbed bulkhead and deck penetrations

e. Hydrostatically test new and modified piping to the following pressures:

PIPING SYSTEM	TEST PRESSURE
AC SW CLG	75.0 Psig

After satisfactory completion of hydrostatic test, remove residual test fluids, reinstall and reconnect components that were temporarily removed. Demonstrate unobstructed flow and proper operation to the attending MSC representative.

f. Operational Test

7.8 Insulation and Painting

7.8.1 Prior to painting, all piping, bulkhead, and overhead insulation shall be repaired or replaced in all spaces affected by this specification work item.

7.8.2 Clean, Prime, and Paint all surfaces, piping, and insulation of all spaces to match existing coatings in service spaces on T-EPF class ships, using GTR 7 (Reference 2.3) as guidance.

7.8.3 Confirm painting schedule is in accordance with the ship’s color coordination manual.

7.9 Marking

7.9.1 Stencil system markings on piping installed or modified in the course of this specification.

7.10 Manufacturer’s Representative: None Additional

8.0 GENERAL REQUIREMENTS: None Additional

1.0 ABSTRACT

1.1 This Work item describes modifications to replace obsolete A/C seawater cooling pump #6 in A.C. Pump RM No. 2 & Air Conditioning Machinery RM No. 2 (7-109-2-E).

NOTE: This Work Item will require coordination with Work Item 0801 AC Plant Servicing.

2.0 REFERENCES

2.1 MSC Drawing No. 256-8616318 - A/C SW Pump No. 6 Replacement

2.2 MSC Standard Drawing 803-7080803, Preparation of Computer Aided Designed (CAD) Drawings for USNS Ships

2.3 MSC Drawing No. 803-7081122, MSC General Technical Requirements (GTRs)

2.4 MSC Drawing No.G1030-0086_C, Assured Power One Line

2.5 NAVSEA Drawing No. 7088468, MOD 60HZ Power Distr. System A/C Machinery Room No. 2

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: A.C. Pump RM No. 2 & Air Conditioning Machinery RM No. 2 (7-109-2-E).

3.1.2 Quantity: None

3.2 Item Description/Manufacturer's Data

3.2.1 Material/Components, including specific quantities and manufacturer make and model numbers, necessary to accomplish work required by this work item are included in the List of Materials of Reference 2.1.

3.2.2 Quantities specified in the List of Materials of Reference 2.1 are considered estimates. The contractor shall provide the exact quantities of additional material such as fittings, weld material, pipe hangers, etc., which are not included in the Lists of Materials of Reference 2.1 in order to install fully functional systems that meet the requirements of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

4.1 Government Furnished Equipment (GFE):

4.1.1 ASW Pump & Motor

4.2 Government Furnished Material (GFM):

4.2.1 Material as per Ref. 2.1.

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 22, 23, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 All dimensions and quantities are approximate and should be verified on-board ship prior to the

modifications. Template all work from ship and equipment.

5.4 Provide and install suitable temporary plugs, caps or covers to prevent debris from entering systems and equipment or contamination of surrounding areas during industrial work modifications.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting: None Additional

7.2 Structural:

7.2.1 Removals

a. After removing existing pump assembly, cut angle legs of foundation approximately 1” above deck doubler plates; remove and retain foundation.
b. Plug weld all bolting holes in foundation and grind smooth. NDT plug welds to ensure they are complete penetration and free of linear indications.

7.2.2 Installations

a. Template required foundation height from new pump assembly.
b. Modify foundation to achieve new required height for equipment (remove approximately 2” from each leg).
c. Reinstall foundation angles to existing deck pads using complete joint penetration 100% efficient welds. NDT the final installation

welds to ensure they are free of linear indications.

d. Drill new holes through mounting structure, template size and placement of holes from new pump.
e. Install new angles and chocks, sized to match original and positioned to suit bolting footprint of new pump and motor.
f. Weld new structure to base (4-legged foundation) using filet-reinforced, single bevel welds all around.
g. Clean and re-preserve base foundation.
h. Preserve all new structure to match existing base.
i. Welding, testing and inspections must meet ABS specifications and MSC’s General Technical Requirements.
j. For any discrepancies during foundation fit-up, immediately notify MSC Technical Branch N04721.

7.3 Mechanical/Fluids:

7.3.1 Removals

c. Remove pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.3.2 Modifications/Relocations

k. None Additional

7.3.3 Installations

a. Install pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.4 Electrical:

7.4.1 Removals

a. Tag and lock out circuit (7-111-2)-4P-D according to reference 2.5, fed from A.C. Pump Room No. 2 & Air Conditioning Machinery Room No. 2 (7-109-2-E), to #6 a/c saltwater cooling pump in way of equipment removal. Cabling shall be coiled back and protected in way of pump removal/installation. Use Reference 2.1 as guidance for equipment location.

b. Document cables for reconnection after the installation of the new equipment. Do not cut conductors.

7.4.2 Installations

a. After installation of (1) new Carver Pump in the A/C Plants 6 & 7 Auxiliary Machinery Room 3, reconnect cable for circuit (7-111-2)-4P-D to new pump utilizing documentation obtained at time of removal to ensure proper connection. Utilize Reference 2.1 as guidance for equipment location.

7.5 Electronics: None Additional

7.6 Preparation of Drawings:

7.6.1 Provide working drawings showing a/c seawater pump #5 replacement details and submit to MSCREP for approval prior to beginning work.

7.6.2 Provide as-built drawings in AutoCAD format sized to scale F (28 in x 40 in) in accordance with Reference 2.2.

7.6.3 All drawings developed shall be delivered as follows: one electronic submittal on CD/DVD containing the drawing files in both AutoCAD

(*.dwg) and Adobe (*.pdf) formats. Drawing number(s) will be provided by the MSCREP.

7.7 Inspection/Test:

7.7.1 Inspections:

a. Throughout the work in all areas affected by this work item, the Contractor shall maintain a listing of each space, with annotations for work performed, inspection points, and acceptances. This listing shall be presented to the MSCREP after final walk-through of all affected compartments.

b. Contractor and MSCREP shall conduct a joint inspection of areas to be prepared and painted before surface preparation begins to ensure that protective measures are implemented.

c. Contractor shall perform inspections after completion of each stage of surface preparation, each coat, and each stripe coat, to verify surface condition, DFT and space cleanliness, and before securing space. At least 2 DFT readings shall be taken per 100 square feet.

7.7.2 Tests

a. Conduct preliminary tests on all completed work before calling for an official test.

b. Completion Test

c. Functional Test

d. Tightness Test of new and disturbed bulkhead and deck penetrations

e. Hydrostatically test new and modified piping to the following pressures:

PIPING SYSTEM	TEST PRESSURE
AC SW CLG	75.0 Psig

After satisfactory completion of hydrostatic test, remove residual test fluids, reinstall and reconnect components that were temporarily removed. Demonstrate unobstructed flow and proper operation to the attending MSC representative.

f. Operational Test

7.8 Insulation and Painting

7.8.1 Prior to painting, all piping, bulkhead, and overhead insulation shall be repaired or replaced in all spaces affected by this specification work item.

7.8.2 Clean, Prime, and Paint all surfaces, piping, and insulation of all spaces to match existing coatings in service spaces on T-EPF class ships, using GTR 7 (Reference 2.3) as guidance.

7.8.3 Confirm painting schedule is in accordance with the ship’s color coordination manual.

7.9 Marking

7.9.1 Stencil system markings on piping installed or modified in the course of this specification.

7.10 Manufacturer’s Representative: None Additional

8.0 GENERAL REQUIREMENTS: None Additional

1.0 ABSTRACT

1.1 This Work item describes modifications to replace obsolete A/C seawater cooling pump #5 in A.C. Pump RM No. 2 & Air Conditioning Machinery RM No. 2 (7-109-2-E).

NOTE: This Work Item will require coordination with Work Item 0801 AC Plant Servicing.

2.0 REFERENCES

2.1 MSC Drawing No. 256-8612691 - A/C SW Pump No. 5 Replacement

2.2 MSC Standard Drawing 803-7080803, Preparation of Computer Aided Designed (CAD) Drawings for USNS Ships

2.3 MSC Drawing No. 803-7081122, MSC General Technical Requirements (GTRs)

2.4 MSC Drawing No.G1030-0086_C, Assured Power One Line

2.5 NAVSEA Drawing No. 7088468, MOD 60HZ Power Distr. System A/C Machinery Room No. 2

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: A.C. Pump RM No. 2 & Air Conditioning Machinery RM No. 2 (7-109-2-E).

3.1.2 Quantity: None

3.2 Item Description/Manufacturer's Data

3.2.1 Material/Components, including specific quantities and manufacturer make and model numbers, necessary to accomplish work required by this work item are included in the List of Materials of Reference 2.1.

3.2.2 Quantities specified in the List of Materials of Reference 2.1 are considered estimates. The contractor shall provide the exact quantities of additional material such as fittings, weld material, pipe hangers, etc., which are not included in the Lists of Materials of Reference 2.1 in order to install fully functional systems that meet the requirements of this specification.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

4.1 Government Furnished Equipment (GFE):

4.1.1 ASW Pump and Motor

4.2 Government Furnished Material (GFM):

4.2.1 Material as per Ref. 2.1.

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR’s including but not limited to GTR’s 1 through 7, 22, 23, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 All dimensions and quantities are approximate and should be verified on-board ship prior to the

modifications. Template all work from ship and equipment.

5.4 Provide and install suitable temporary plugs, caps or covers to prevent debris from entering systems and equipment or contamination of surrounding areas during industrial work modifications.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Arrangements/Outfitting: None Additional

7.2 Structural:

7.2.1 Removals

a. After removing existing pump assembly, cut angle legs of foundation approximately 1″ above deck doubler plates; remove and retain foundation.
b. Plug weld all bolting holes in foundation and grind smooth. NDT plug welds to ensure they are complete penetration and free of linear indications.

7.2.2 Installations

a. Template required foundation height from new pump assembly.
b. Modify foundation to achieve new required height for equipment (remove approximately 2″ from each leg).
c. Reinstall foundation angles to existing deck pads using complete joint penetration 100% efficient welds. NDT the final installation

welds to ensure they are free of linear indications.

d. Drill new holes through mounting structure, template size and placement of holes from new pump.
e. Install new angles and chocks, sized to match original and positioned to suit bolting footpring of new pump and motor.
f. Weld new structure to base (4-legged foundation) using filet-reinforced, single bevel welds all around.
g. Clean and re-preserve base foundation.
h. Preserve all new structure to match existing base.
i. Welding, testing and inspections must meet ABS specifications and MSC’s General Technical Requirements.
j. For any discrepancies during foundation fitup, immediately notify MSC Technical Branch N04721.

7.3 Mechanical/Fluids:

7.3.1 Removals

c. Remove pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.3.2 Modifications/Relocations

k. None Additional

7.3.3 Installations

a. Install pipe, fittings, valve, and pump using Reference 2.1 as guidance.

7.4 Electrical:

7.4.1 Removals

a. Tag and lock out circuit (7-111-2)-4P-C according to reference 2.5, fed from A.C. Pump Room No. 2 & Air Conditioning Machinery Room No. 2 (7-109-2-E), to #5 a/c/ seawater cooling pump on way of equipment removal. Cabling shall be coiled back and protected in way of pump removal/installation. Use Reference 2.1 as guidance for equipment location.

b. Document cables for reconnection after the installation of the new equipment. Do not cut conductors.

7.4.2 Installations

a. After installation of (1) new Carver Pump in the A/C Plants 6 & 7 Auxiliary Machinery Room 3, reconnect cable for circuit (7-111-2)-4P-C to new pump utilizing documentation obtained at time of removal to ensure proper connection. Utilize Reference 2.1 as guidance for equipment location.

7.5 Electronics: None Additional

7.6 Preparation of Drawings:

7.6.1 Provide working drawings showing a/c seawater pump #5 replacement details and submit to MSCREP for approval prior to beginning work.

7.6.2 Provide as-built drawings in AutoCAD format sized to scale F (28 in x 40 in) in accordance with Reference 2.2.

7.6.3 All drawings developed shall be delivered as follows: one electronic submittal on CD/DVD containing the drawing files in both AutoCAD

(*.dwg) and Adobe (*.pdf) formats. Drawing number(s) will be provided by the MSCREP.

7.7 Inspection/Test:

7.7.1 Inspections:

a. Throughout the work in all areas affected by this work item, the Contractor shall maintain a listing of each space, with annotations for work performed, inspection points, and acceptances. This listing shall be presented to the MSCREP after final walk-through of all affected compartments.

b. Contractor and MSCREP shall conduct a joint inspection of areas to be prepared and painted before surface preparation begins to ensure that protective measures are implemented.

c. Contractor shall perform inspections after completion of each stage of surface preparation, each coat, and each stripe coat, to verify surface condition, DFT and space cleanliness, and before securing space. At least 2 DFT readings shall be taken per 100 square feet.

7.7.2 Tests

a. Conduct preliminary tests on all completed work before calling for an official test.

b. Completion Test

c. Functional Test

d. Tightness Test of new and disturbed bulkhead and deck penetrations

e. Hydrostatically test new and modified piping to the following pressures:

PIPING SYSTEM	TEST PRESSURE
AC SW CLG	75.0 Psig

After satisfactory completion of hydrostatic test, remove residual test fluids, reinstall and reconnect components that were temporarily removed. Demonstrate unobstructed flow and proper operation to the attending MSC representative.

f. Operational Test

7.8 Insulation and Painting

7.8.1 Prior to painting, all piping, bulkhead, and overhead insulation shall be repaired or replaced in all spaces affected by this specification work item.

7.8.2 Clean, Prime, and Paint all surfaces, piping, and insulation of all spaces to match existing coatings in service spaces on T-EPF class ships, using GTR 7 (Reference 2.3) as guidance.

7.8.3 Confirm painting schedule is in accordance with the ship’s color coordination manual.

7.9 Marking

7.9.1 Stencil system markings on piping installed or modified in the course of this specification.

7.10 Manufacturer’s Representative: None Additional

8.0 GENERAL REQUIREMENTS: None Additional

1.0 ABSTRACT

1.1 This item describes the overhaul of the Forward and Aft CIWS Cooling Loop Systems to include valve and strainer overhaul, relief valve testing and replacement of all the fixtures for mounting the piping, gauges, strainers and associated equipment.

NOTE: This Work Item may create interferences with WI 0117 FWD CIWS Vestibule.

2.0 REFERENCES

2.1 NAVSEA Dwg. 845-4458934, General Arrangement Rev. W

2.2 NAVSEA Dwg. 521-8392724; Firemain System Diagram

2.3 NAVSEA Dwg. 506-6272485, CIWS Salt Water Cooling MTS 21 & 22

2.4 Enclosure 2.2.1 Valve List

3.0 ITEM LOCATION / DESCRIPTION

3.1 4-147-0-A Unassigned, Aft CIWS Cooling

3.2 1-2-1-L Passage, Fwd CIWS Cooling

3.3 Sixteen valves for overhaul. See Enclosure 2.2.1.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM):

4.2.1 Four (4) 1 ½” Three-Way Ball valves; 3 ports (Two silver braze sockets; 1 flanged)

4.2.2 Ten (10) 1 ½” Navy Standard CuNi Flanges – Six (6) bolt hole pattern

4.2.3 Twenty (20) Feet of 1 ½” CuNi piping

NOTE: GFM TO BE PROVIDED BY THE SHIP.

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0

6.0 NOTES:

4.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 20.

4.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many definitions relating to the performance of this work item are found in Work Item 001.

4.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

7.0 QUALITY ASSURANCE REQUIREMENTS:

7.1 Ensure that all welders have appropriate certification from the American Bureau of Shipping (ABS).

7.2 All welding shall be accomplished in accordance with ABS Marine Vessel Rules (current edition) and using ABS approved procedures/consumables/welders. Contractor shall use an ABS qualified welder and ABS approved repair procedure for this work.

8.0 STATEMENT OF WORK REQUIRED

8.1 Ship's Force to Lock Out Tag Out Forward and Aft CIWS Cooling Loops for the duration of the availability to include Fire Main Supply and electrical to switches and alarms.

8.2 Ship's Force to electrically disconnect switches and gauges and protect ends of cable.

8.3 The **contractor shall furnish** all material, equipment, and labor required to accomplish this work item. The contractor shall make all removals and restorations as necessary to perform the work. Any disturbed insulation must be removed and replaced with equal. Staging is likely to be required in some areas in order to access the piping and valves.

8.4 The areas of the ship where work is conducted shall be cleaned daily and all debris shall be collected and properly disposed of ashore in accordance with all local requirements.

8.5 For any additional work required that is not specified in this work item, submit a condition report to the Port Engineer and a change order will be issued.

8.6 Perform checkpoint callout for survey of scope of work with MSCREP, Ship's force representative, and yard piping department personnel. Checkpoint shall confirm location of required repairs as well as quantities. Results of checkpoint.

8.7 Replace identified in paragraph 3.1 with new to match existing and drawing in size and type.

8.8 Disassemble piping system and remove gauges and switches. Secure all equipment not scheduled for overhaul for re-installation.

8.9 Temporarily install bolted steel blanks with gaskets on all openings through any piping systems. Steel blanks shall be a minimum of 1/8" thickness and secured in place with four bolts or have the total bolts, whichever is greater. Contractor is responsible for any flooding or contamination of interior areas or systems resulting from contractor failure to install blanks. Any/all damages resulting shall be addressed, repaired, and/or corrected, at Contractor's expense.

8.10 Valves to be conveyed to Contractor's facility for overhaul.

8.11 Cut pipe hangars and brackets and Gauge Boards. Pipe hangers to be renewed. Gauge boards to be brought down to bare metal and painted and then installed on bulkhead.

8.12 Upon completion of valve overhauls, restore the piping system in sequence to insure pipe hangars are welded at the proper location to preclude tensioning / bending of piping for installation. Piping to have rubber gasket material installed in way of hangars to prevent metal to metal contact.

8.13 Restore switches and gauges.

8.14 If existing does not match drawing, submit the pertinent information to MSCREP in a CFR for direction.

8.15 All welds are to be dye penetrant tested (PT) in the presence of MSCREP and attending ABS surveyor. All PT inspections are to be recorded as official checkpoint callouts.

8.16 Paint all new and disturbed surfaces to match surrounding surfaces.

8.17 All piping is to be insulated as per with closed cell foam insulation and then lagged and painted. Material is to be contractor furnished.

8.18 When all work is completed Ship's Force will restore the electrical connections and the remove the Lock Out Tag Out. Perform a Call for Inspection for an operation test of the system to verify no leakage **for all repair areas**.

8.19 Submit a final report that includes the results of all testing (UTs, PTs, and operational testing).

9.0 GENERAL REQUIREMENTS: None Additional

Enclosure 2.2.1 VALVE LIST – USS Mt. Whitney

Item#	Location	Size	Description
13	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	1 ½" Angle, Hose	V2 – Quantity of two (2)
14	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	1 ¼" Gate IPS	V3 – Quantity of six (6)
15	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	1 ½" Gate IPS	V4 – Quantity of two (2)
16	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	1 ¼" Swing Check	V6 – Quantity two (2)
17	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	1 ¼" Relief, IPS	V7 – Set at 80 PSI (5.5 bar)- Quantity two (2)
18	Fwd & Aft CIWS (1-2-1-L)&(4-147-0-A)	RDC 1 ½"	V8 – Pressure reducing 125 psig (8.6 bar) inlet – 50 psig outlet (3.44 bar) – Quantity two (2)

1.0 ABSTRACT

This Work Item addresses the requirement for Industrial Assistance for replacement of the 5” and 2.5” CLA-VAL Combined Control and Test Valves located in the overhead of the Ammo Handling Room (7-68-2-A) and the 25 MM Magazine (1-62-2-M). This work requires coordination with Ship’s Force for the duration of the work.

Primary Points of Contact for Ship’s Force is:

Weapons Officer and Combat Systems Maintenance Officer

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NAVSEA Dwg. 506-2492276, Magazine Sprinkling - Diag

2.1.2 NAVSEA Dwg. 845-4458934, General Arrangements Rev. W

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. (7-68-2-A) Ammo Handling Room

b. (1-62-2-M) 25 MM Magazine

3.1.2 Quantity:

a. One (1) 5” Combined Control & Test Valve, 500 lbs.

b. One (1) 2.5” Combined Control & Test Valve, 89 lbs.

3.1.3 Item Description/Manufacturer’s Data: 5” and 2.5” Combined Control andTest Valve, CLA-VAL

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM):

a. One (1) 5” Combined Control & Test Valve, 500 lbs.

b. One (1) 2.5” Combined Control & Test Valve, 89 lbs.

NOTE: The new valves will be provided by Ship’s Force.

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Coordinate with ship’s force to have the magazine sprinkling system locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.2 Rigging:

7.2.1 Contractor is responsible for rigging the new valve from the warehouse (or if stowed onboard, from that location) for installation.

7.2.2 Contractor is responsible for rigging the removed valve from the ship to the warehouse to include constructing a wooden crate suitable for international shipment.

7.2.3 Method of rigging for removal and installation of the valves must be approved by the MSC Rep.

NOTE: All rigging equipment shall be attached to the hull of the vessel. Use of piping systems for rigging points is not acceptable. Any deviation due to location or interferences requires the expressed permission of the MSC Representative.

7.3 Valve Removal and Installation:

7.3.1 Disconnect all valve actuating tubing, gauges and interferences to prevent damage to same. Stow in a secure location for installation once the new valve is installed.

7.3.2 Note direction of flow prior to valve removal.

7.3.3 Upon removal of valve, perform a call for inspection for the condition of the pipe, pipe flanges and fasteners. Submit a Condition Found Report to the OMT Representative.

NOTE: Fasteners must be CARBON STEEL GALVANIZED grade MIL-B-857 Grade to or commercial equivalent.

7.3.4 Temporarily install bolted steel blanks with gaskets on all openings through any open piping systems. Steel blanks shall be minimum 1/8” thickness and secured in place with four bolts or half the total bolts, whichever is greater. Contractor is responsible for any flooding or contamination of interior areas or systems resulting from contractor failure to install blanks. Any/all damages resulting shall be addressed, repaired, and/or corrected, at contractor’s expense.

7.3.5 Contractor shall fabricate and install new gaskets. As per Ref. 2.1.1. gasket material is to be Full Face Rubber Sheet, Cloth Inserted that meets MIL-SPEC HH-P-151 or Commercial Equivalent.

7.3.6 Retain hardware and fasteners for re-use. Damaged or missing hardware or fasteners shall be renewed. For bidding purposes assume that 30 percent of flange fasteners will require replacement.

7.3.7 Chase and tap all threaded areas. Dress and true gasket mating surfaces on all flanges that have been disassembled.

7.3.8 All flanges or interferences removed during completion of this work item, shall be reassembled with contractor furnished gasket material as per Ref. 2.1.1. This includes but is not limited to waster pieces, dutchmen (spacers), or any other flanged interferences removed during completion of this work item.

7.3.9 All fasteners shall be coated with "Anti-Seize" compound prior to installation.

With ship's force assistance, remove tags and operationally test all motor operated valves (MOV) and reach rod operated valves to ensure they are installed and function correctly.

7.4 Upon installation of valve and restoration of all associated piping and gauges, Ship's Force will remove Lock Out / Tag Out and restore system. Perform a Call for Inspection for Ship's Force to perform an operational test of the valve. No leakage is allowed at any disturbed joints.

7.4.1 When examination, servicing and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repair and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.5 Painting/Lagging

7.5.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.5.2 Restore all disturbed lagging.

7.6 Manufacturer's Representative: None.

7.7 Preparation of Drawings: None.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to describe the requirements to replace the control valves and seats in the throttle valve body of SSTG “Alpha.”

2.0 REFERENCES

2.1 NAVSEA Tech Manual No. 0961-LP-020-8010, Operation and Maintenance Instructions for 2000-kW AC Geared Turbine Driven Generator

2.2 NAVSEA Tech Manual No. S9086-G9-STM-010, NSTM Chapter 231, Propulsion and SSTG Steam Turbines

2.3 Technical Manual 37708J, Governor Actuator

2.4 Technical Manual 82389_L 2301A, Electronic Load Sharing and Speed Control, Installation, Operation and Calibration

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: Fire Room (8-76-0-E), 1A SSTG

3.1.2 Quantity: One

3.2 Item Description/Manufacturer’s Data

3.2.1 Turbine

a. Manufacturer: Worthington

b. Type: S-5

c. Speed: 9576 RPM

d. Steam Pressure: 570 PSIG

e. Steam Temperature: 850°F

f. Case Upper Half Weight: 2,200 lbs.

3.2.2 Governor

a. Manufacturer: Woodward, Inc.

b. Model EGB 13P

c. Designation: 8241-996

d. Serial No. 13416348

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE:

4.1 SSTG THROTTLE VALVE SEATS

4.1.1 QUANTITY: THREE (3)

a. Valve Seat 7.12 (LB106302) – Two (2)

b. Valve Seat 7.13 (LB106300) – One (1)

4.2 SSTG THROTTLE CONTROL VALVES

4.2.1 QUANTITY: THREE (3)

a. Control Valve 7.14 (LA106297) – Two (2)

b. Control Valve 7.15 (LA106301) – One (1)

NOTE: GFM WILL BE PROVIDED BY THE SHIP AS ON HAND SPARES.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 This work item is intended to meet the requirements of an OEM documented deficiency. All work to be completed as per OEM specifications and to be witnessed by ABS. Any required

repairs or overhauls found in the execution of this Work Item shall be submitted via CFR to the OMT Representative. No overhaul work will be accomplished without a fully authorized change order in place prior to commencing work not identified in this Work Item.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all material and special equipment. Make all removals and restorations. Remove and replace all interferences, rig, unrig, stage, unstage, make all disassembly's, subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor).

7.2 Coordinate with ship's force to have associated equipment locked and/or tagged out per ship's lock out/tag out policy. When the maintenance is complete, coordinate with ship's force to have associated equipment unlocked and/or tagged in per ship's lock out/tag out policy.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 Initial Inspection:

7.4.1 Prior to disassembly of the SSTG Turbine accomplish the following in the presence of the OMTREP and ABS Surveyor:

a. With the assistance of the ship's force perform a vibration analysis to establish their vibration level prior to accomplishing inspection.

b. Verify proper operation of the SSTG in both loaded and unloaded condition.

7.4.2 Submit a typed written report to the OMTREP listing the results of the inspections. The report shall provide the "As Found" conditions for the SSTG Turbine prior to disassembly.

7.5 Turbine Disassembly:

7.5.1 Lift and secure the SSTG turbine casing at a location suitable for machining of the valve seats. Protect exposed areas of SSTG with suitable means from contamination and possible damage. Remove the Nozzle Control Valves for each SSTG Turbine.

a. NOTE: If machining cannot reasonably be completed in place, submit a CFR for rigging of the upper half of the turbine casing to/from a machine shop for performance of the work.

7.5.2 Inspect and perform NDT on the new GFM Nozzle Control Valves and seats in the presence of the OMTREP, OEM REP and ABS Surveyor using Reference 2.1 for guidance.

7.5.3 Submit a typewritten report to the OMTREP listing the results of the inspections. The report shall provide the “As Found” conditions for the Nozzle Control Valves and seats and any recommendations for repair.

7.5.4 The installed valve seats require precision machining for removal and to maintain the correct tolerances of the valve body for the installation of the new valve seats.

7.5.5 Upon completion of machining of each valve seat, perform a call for inspection to verify the correct dimensions exist for the installation of the new valve seats.

a. Dimensions are to be documented and submitted to the OMT REP via CFR.

7.5.6 Install new valve seats.

a. Note: New valves seats will have an interference fit with the valve body.

b. Weld procedure must be ABS approved and submitted to the OMT REP and OEM prior to commencement of work.

c. Welder to have certification for the weld procedure provided.

d. Upon completion of each valve installation conduct NDT, to be documented and submitted to OMT REP via CFR. After final valve welding is complete, NDT to be completed on all three repairs and the results submitted via CFR.

e. Perform Control Valve / Seat alignment checks between control valves and new seats. Record results and submit to OMT REP via CFR.

7.6 Reassemble the turbine using new gasket material for required fittings and joints.

7.7 Perform operational start up, perform checks, adjustments, and verify all safety settings including over-speed trip. Make necessary adjustments to bring operating parameters in accordance with Ref 2.1.

7.7.1 For start up, checks and adjustments, and OEM certified representative for the SSTG Governors is required to verify correct governor settings.

a. OEM: Woodward Governor, Inc.

7.8 Inspection/Test:

7.8.1 Accomplish an operational test of the SSTG Turbine and Reduction Gear during Dock Trial and Sea Trials to the satisfaction of the OMTREP and ABS Surveyor using Reference 2.1 for guidance.

7.9 Reports

7.9.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMTREP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.9.2 Submit a report that includes “as released” condition of the SSTG set. Submit one electronic copy in Portable Document Format (PDF).

7.9.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s

representative.

7.10 Painting/Lagging

7.10.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.10.2 Renew lagging where damaged or disturbed.

7.10.3 Install name plates, notices, cable tags, and markings for all new and modified systems.

7.11 Manufacturer’s Representative

7.11.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the SSTG sets identified in section 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.11.2 Provide the services of an OEM authorized field service representative to oversee accomplish governor adjustment and testing as identified in section 3.0 ensuring compliane with the manufacturer’s standards and performance specifications.

7.11.3 Possible Source

Curtiss-Wright
1101 Cavalier Blvd Chesapeake, VA 23323
POC: Bryan Murphy
Phone: 757-592-0973
Email: bryan.murphy@siemensgovt.com

MI-Tech Inc.
6685 Jet Park Rd. North Charleston, SC 29406
POC: Bill Totten
Phone: 843-553-2743
Email: bill@mi-tech.net

PJ Schwalbenberg & Associates Inc.

26 Spear Mill Rd. Cushing, MA 04563
Phone: 207-354-0700

7.11.4 For the name of the nearest Woodward Full-Service Distributor or service facility, consult their worldwide directory at www.woodward.com/directory.

Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The work item describes the requirements to examine, service and test valves and their attachment to piping systems.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NAVSEA Dwg. 208-6217859, Feedwater System Diagram

2.1.2 ABS Rules for Survey After Construction, Part 7, Chapter 4, Section 1, Drydock Surveys (Commercially Available)

2.2 Enclosure

2.2.1 Valve List

NOTE: Valves 1 thru 11 of Enclosure 2.2 are welded in position.

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: Various.

3.1.2 Quantity: 11

3.1.3 Item Description/Manufacturer’s Data: None additional.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM): None

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.2 Examine, service and test the valves and their attachments to the associated piping systems using ABS, USCG, IMO and manufacturer requirements using References 2.1.1 through 2.1.7 and Enclosure 2.2.1 as guidance.

7.2.1 Prior to removal and/or completion of

maintenance, inspect all associated valve actuators and reach rods. Exercise them both locally and remotely (coordinate with Chief Engineer for ships force assistance with operation of the equipment). Grease and free up all joints, bulkhead and deck penetrations, and gear boxes and prove free in the presence of the OMT REP. Replace all missing or deteriorated pins. For bidding purposes assume 2 pins will require renewal.

7.3 Accomplish the following maintenance to the valves shown in References 2.1.1 through 2.1.7 and Enclosure 2.2.1 using ABS, IMO and manufacturer requirements as guidance:

NOTE: VESSELS 10 YEARS OF AGE OR OLDER ARE TO HAVE THEIR VALVES REMOVED FROM THE VESSEL TO THE SHOP FOR REPAIR, INSPECTION, AND TESTING.

7.3.1 Temporarily remove motor operators and actuators from the valves. Protect and secure them in an out of the way location. Do not electrically disconnect the motor operators and actuators. Do not allow the motor operators and actuators to hang from their electrical cables and ensure they are protected from damage.

7.3.2 When possible temporarily remove valves from the vessel to the shop for repair, inspection and testing. Tag and match mark each sea valve to its original location.

7.3.3 For valves welded in position, disassemble valves in position for repair, inspection and testing.

7.3.4 Where valves have been removed, temporarily install bolted steel blanks with gaskets on all openings through the sea chests and any open piping systems. Steel blanks shall be minimum 1/8” thickness and secured in place with four bolts or half the total bolts, whichever is greater. Contractor is responsible for any flooding or contamination of interior areas or systems resulting from contractor failure to install blanks. Any/all damages resulting shall be addressed, repaired, and/or corrected, at contractor’s expense.

7.3.5 Submit Condition Found Report to OMT REP for fasteners including damaged fasteners requiring replacement. Only ABS approved gasket materials that are not readily rendered ineffective by heat shall be used (e.g. reddish brown Garlock

Series 9900 or equal ABS Type Approved material).

7.3.6 Disassemble the valves, bonnet, packing gland, and internals. Matchmark and clean all parts. Layout all parts and components for inspection by the OMT REP and ABS Surveyor.

7.3.7 Retain hardware and fasteners for re-use. Damaged or missing hardware or fasteners shall be renewed. For bidding purposes assume that 30 percent of flange fasteners will require replacement.

7.3.8 Chase and tap all threaded areas. Dress and true gasket mating surfaces on all flanges that have been disassembled. Clean and prepare the valve body interior for painting.

7.3.9 Straighten valve stems to within 0.002 inch total indicator run-out. Polish stems to a 32 finish (RMS). Remove any raised edges and foreign matter.

7.3.10 Machine, grind and lap valve seats and discs. Spot in the gate or disc to its seat obtaining a 360 degree contact. Verify contact using the bluing method in the presence of the OMT REP and the ABS Surveyor and USCG Inspector.

a. For gate valves, the transfer line shall be of uniform width within the center of disc seating surface;

b. For globe valves, transfer line shall be of uniform width covering one third of the seating surface within the center fifty percent of disc seating surface and at the bottom edge of the conical seat;

c. For plug and ball valves, vertical misalignment of parts with the plug or ball fully seated is not to not exceed 1/16 inch;

d. For butterfly valves, provide and renew bushings, O-rings, valve boot (butyl seat), washers, pins, fasteners, packing and seals.

7.3.11 For valves with steel bodies, coat valve body interiors with two coats of Apexior No. 3.

7.3.12 Replace all bonnet gaskets, flange gaskets and valve stem packing with new material. Only ABS approved gasket materials that are not "readily rendered ineffective by heat" (e.g. reddish brown Garlock Series 9900 or equal ABS Type Approved material).

7.3.13 All flanges or interferences removed during completion of this work item, shall be reassembled with contractor furnished Garlock 9900 gasket material. This includes but is not limited to waster pieces, dutchmen (spacers), or any other flanged interferences removed during completion of this work item.

7.3.14 All fasteners shall be coated with "Anti-Seize" compound prior to installation.

7.3.15 Upon satisfactory inspection of all valve components and seat contact checks by the OMT REP and ABS Surveyor reassemble the valves leaving them in a ready for service condition.

7.4 Coordinate and conduct tests of the valves and their attachments listed in Enclosure 2.2.1 in the presence of the OMT REP and ABS Surveyor:

7.4.1 For valves repaired, conduct;

a. Liquid penetrant inspections of the seats, disc, and body inlay areas for cracks.

b. Hydrostatic tests on each valve to a pressure equal to 1.5x the rated working pressure of the valve. Test shall be applied to each side of valve seat and disc. Demonstrate that the valves are leak free in the presence of the OMT REP and ABS Surveyor and USCG Inspector.

c. After successful testing, convey valves back to ship and reinstall in their original locations using new system/location appropriate gasket material that matches original thickness (Only ABS approved gasket materials that are not "readily rendered ineffective by heat" (e.g. reddish brown Garlock Series 9900 or equal ABS Type Approved material) shall be used for flanged connections to fire mains and hydrants, hull shell connections, lube oil and fuel oil tanks per ABS Rules 4-

6-1/3.5, 4-6-2/9.5 vi), 4-7-3/1.11.1). Submit Condition Found Report to OMT REP for fasteners including damaged fasteners requiring replacement.

7.4.2 Provide the services of a manufacturer’s authorized representative to assist with installing/setting MOVs and ensuring the valve network is operational after all MOVs are installed. Demonstrate to the OMT REP that local and remote indicators match actual valve position.

7.4.3 With ship’s force assistance, remove tags and operationally test all motor operated valves (MOV) and reach rod operated valves to ensure they are installed and function correctly.

7.4.4 Visually examine the sea valves during restoration of the associated system in conjunction with Ship’s Force and an OMT Representative. No leakage is allowed at valve stems or disturbed joints.

7.4.5 Operationally test all the valves during plant restoration to the satisfaction of OMT REP and Chief Engineer. Verify they operate correctly and are leak free.

7.5 Reports

7.5.1 Contractor is to submit a weekly valve matrix to track the progress of removed, tested, and reinstalled valves. Matrix is to note any valves that require GFM/CFM replacement. Matrix is to be updated weekly until final closeout of work item.

7.5.2 When examination, servicing and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repair and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.5.3 Submit one electronic copy in Portable Document Format (PDF) of the sea valve hydrostatic test results the OMT REP and one electronic copy in Portable Document Format (PDF) to the ABS Surveyor.

7.6 Painting/Lagging

7.6.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.6.2 Restore all disturbed lagging.

7.7 Manufacturer’s Representative

None.

7.8 Preparation of Drawings

7.8.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

Enclosure 2.2.1 VALVE LIST – USS Mt. Whitney

Item#	Location	Size	Description
1	Fire Room	8″ Gate	1MF-1A - MN FD BSTR PUMP 1A
2	Fire Room	5″ Swing Check	V9 - DISCH MN FD BSTR PUMP 1A
3	Fire Room	5″ Gate	V12 – DISCH BYP MN FD PMP 1A
4	Fire Room	8″ Gate	1MF-1B - MN FD BSTR PUMP 1B
5	Fire Room	5″ Swing Check	V10 - DISCH MN FD BSTR PUMP 1B
6	Fire Room	5″ Gate	V13 – DISCH BYP MN FD PMP 1B
7	Fire Room	8″ Gate	1MF-1C - MN FD BSTR PUMP 1C
8	Fire Room	5″ Swing Check	V11 - DISCH MN FD BSTR PUMP 1C
9	Fire Room	5″ Gate	V14 – DISCH BYP MN FD PMP 1C
10	Fire Room	5″ Gate	V15 – MN FD BYP XCON CUTOUT
11	Fire Room	5″ Gate	V16 – MN FD BYP XCON CUTOUT

1.0 ABSTRACT

The purpose of this item is to accomplish the annual servicing and inspection of the steering gear system.

2.0 REFERENCES

2.1 NAVSEA Tech Manual No. S9561-BY-OMI-010, Electro-Hydraulic Steering Gear Model SHRE-11.75B

2.2 NAVSEA Tech Manual No. 0965-LP-040-6010, Steering Control Console and Ship Control Console

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location

3.1.1 Steering Gear Room (2-134-0)

3.1.2 Wheel House (04-34-0)

3.2 Item Description/Manufacturer’s Data

3.2.1 Western Gear Co. Model SHRE-11.75B Steering Gear

3.2.2 PLC Siemens Simatic S7 1200

3.2.3 Two Rotary Power Hydraulic Units (RPHUs)

3.2.4 The GBS Group Ships Control Console

3.2.5 Two Dennison Model PvP61-122-31(R/L) Steering Gear Pumps

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier, must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor, and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7,

22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.2 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.3 Accomplish the following adjustments to return system to OEM specification.

7.3.1 Verify steering gear servo system relief valves set to proper pressure (+0%/-5%) using Reference 2.1 as guidance.

7.3.2 Verify steering gear system relief valves set to proper pressure (+0%/-5%) using Reference 2.1 as guidance.

7.3.3 Restore Port and Starboard Trick Wheel differential boxes to original OEM specifications.

7.3.4 Restore Rotary Hydraulic Power Units to original OEM specifications.

7.3.5 Restore Rudder Angle Indicators to original OEM specifications.

7.3.6 Adjust Rudder Angle Indicating System on the Steering Gear to eliminate excessive play in the various linkages and restore to OEM as new specifications.

7.3.7 Steering Gear oil sump

a. Open each hydraulic oil sump cover and wipe clean with lint-free rags. Remove any loose rust or debris using soft brushes and scrapers. While cleaning, protect the sump from contamination. Inspect sump internals for cleanliness and submit

a report to OMT REP.

b. Reinstall all sump covers on completion of work. Conduct a final closure inspection.

c. Renew all hydraulic oil system filters with type equal to existing.

d. On completion of all other work, the ship’s force will fill the hydraulic oil sumps with new hydraulic oil from the ship’s storage tanks.

7.4 Inspect hydraulic system integrity:

7.4.1 Document existing leaks

7.4.2 Any repairs found required will be the subject of a change order.

7.5 Inspect gauges and indicators for current calibration. Provide a condition report of any gauges found near to or out of calibration. Any repairs found to be required will be the subject of a change order.

7.6 Measure and report motor current draw per phase during normal operation on each system. Provide a condition report of any unusual conditions noted and to document motor current readings.

7.7 Calibrate all rudder angle indicators to read the same at each station and to match the mechanical indication in the Steering Gear Room.

7.7.1 Inspect the rudder angle feedback systems for tightness and unusual wear.

7.7.2 Conduct an acceptance test of the entire rudder angle indicating system to prove proper operation. The test shall include operation of each half of the steering system through its entire range of motion. Performance shall be identical on each hydraulic system. OMT REP, Chief Engineer, ABS Surveyor and USCG inspector shall attend.

7.7.3 Inspect the steering alarm system. Test all

alarms for correct activation and set point. Provide a condition report of any unusual conditions noted.

7.8 Clean and inspect all electrical connections and components for damage, wear, tightness, and integrity.

7.9 Inspection/Test

7.9.1 Carry out an operational test of the steering gear. OMT REP, Chief Engineer, ABS Surveyor and USCG Inspector to attend. Specific items to be tested are:

a. Verify the setting of the steering gear servo system relief valves at proper pressure (+0%/-5%) using Reference 2.1 as guidance.

b. Verify the setting of the steering gear system relief valves at proper pressure (+0%/-5%) using Reference 2.1 as guidance.

c. Steering gear range of motion on each pump, 70 degrees (35 Left to 35 Right).

d. Steering gear speed of motion, maximum of 27.9 seconds stop to stop using Reference 2.1 as guidance.

e. Prove steering control in remote control at each steering station, in local electrical control and mechanical control via the trick wheels on each steering hydraulic system.

f. Prove emergency hand pump operation moves the rudder both left and right.

g. Prove all rudder angle indicators agree in all modes.

7.9.2 Perform an underway steering system test using Reference 2.1 as guidance.

7.10 Reports

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one

electronic copy in Portable Document Format (PDF).

7.10.2 Submit a report that includes “as released” condition of the Steering Gear. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11 Painting/Lagging

7.11.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.11.2 Renew lagging where damaged or disturbed.

7.12 Manufacturer’s Representative

7.12.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the Steering Gear identified in section 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.12.2 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Steering Gear electronics are a ship critical safety item. Only original equipment manufacturer (OEM) authorized technical field service providers or MSC qualified non-OEM technical field service providers and OEM authorized or MSC qualified non-OEM parts shall be used to accomplish the requirements of this work item for this ship critical safety item including oversight and guidance on all aspects of equipment as-found condition inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. The technical service provider is to attend dock and sea trials.

7.12.3 Contractors interested in gaining MSC qualification as a non-OEM parts and/or service provider should visit this website for qualification and submittal requirements: https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-

Shipboard-Safety-on-MSC-Vessels/.

7.12.4 Required Source for Electronics (Ship Critical Safety Item)

Rudder indicators:

GBS Group
2696 Reliance Dr, Ste. 100
Virginia Beach, VA 23452
POC: Seth Heinrich
Email: sethheinrich@thegbsgroup.us
Phone: 757-965-4274

7.12.5 Possible Source for Hydraulics (Non-Ship Critical Safety Item)

Hydraulics:

Global Hydraulic

POC: Dave Jarrett

Phone: 757-621-7152

7.12.6 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.13 Preparation of Drawings: None additional

7.14 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY	CONTRACT NO. N00000-00-X-0000	
ITEM NO. 0533	CATEGORY "A"	2026-05-26
LCC-VR(25-0066)	Simpson, Eric H.	

1.0 ABSTRACT:

This item describes the requirement to provide the OEM labor, technical services, material, and industrial support to accomplish cleaning of the Plate Heat Exchangers, Jacket Water System cleaning and replacement of Jacket Water Thermostats on each of the SS/EDGs (3).

NOTE: THIS WORK ITEM SHOULD BE COORDINATED WITH WORK ITEMS 0501 T-ALT SSEDG SALT WATER COOLING MODIFICATIONS AND WORK ITEM 0594 SHIP'S SERVICE DIESEL GENERATOR – TURBOCHARGER OVERHAUL

2.0 REFERENCES/ENCLOSURES:

2.1 References:

2.1.1 Caterpillar Diesel 3516C Marine Engines, Generators and Coupling GEPB007(001)E (includes SEBU 8793, 3516 Engine Operation and Maintenance Manual).

2.2 Enclosures:

2.2.1 Caterpillar 3516C SSDG Engine Model Data

2.2.2 Diesel Engine Maintenance Start-up and Dormant Start-up Readiness Assessment (One Checklist per Diesel Engine)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. EDG Room (P) (5-125-2-E)

b. EDG Room (S) (5-121-1-E)

3.1.2 Quantity: three (3) Diesel Generator Engines.

3.2 Item Description/Manufacturer's Data:

3.2.1 Caterpillar Engine Model 3516C.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE): None.

4.2 Government Furnished Material (GFM):

4.2.1 Lube oil as required.

4.2.2 Engine coolant additive as required.

4.3 Government Furnished Services (GFS): None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, including but not limited to Work Items 011, 023 and XXX to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 Turbocharger overhaul, if required, will be covered by a separate work item.

5.4 The following definitions explain the terminology used in Section 7 for the service that is performed during an overhaul. These terms are used by Caterpillar to define diesel engine inspection and repair and complement definitions in Work

Item 001:

5.4.1 Inspect – Inspect the components according to the instructions that are in Caterpillar reusability publications. Refer to Guidelines for Reusable Parts and Salvage Operations, SEBF8029, “Index of Publications on Reusability or Salvage of Used Parts”.

5.4.2 Rebuild – The component is reconditioned by OEM or authorized representative in order to comply with reusability guidelines.

5.4.3 Replace – The service life of the part is exhausted. The part may fail before the next maintenance interval. The part must be replaced with a part that meets functional specifications. The replacement part may be a new CAT part or a CAT remanufactured part. Some parts have an associated core charge for which credit is received when returned to a CAT dealer.

5.5 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.6 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 At least one member of ship's force will be assigned to assist with quality assurance efforts whenever diesel work is being accomplished.

6.2 Make known to all personal working on the engine and generator unit, that electrical and electronic controls and devices are present and may require necessary precautions and isolations that must be protected from damage during the overhaul period.

6.3 Enclosure 2.2.1 for engine specific model and serial number data. This information is required for identification of correct parts for completion of work identified in section 7.0.

7.0 STATEMENT OF WORK REQUIRED:

7.1 Tagout all required systems and equipment. Drain and dispose of any liquid in accordance with all federal, state and local regulations.

7.2 Only OEM authorized or qualified representatives will be permitted to temporarily remove, inspect, refurbish, and reinstall main diesel engine components.

7.2.1 The lead Original Equipment Manufacturer (OEM) representative is to remain on-site from the beginning of work until completion of work with satisfactory dock trials. If there is a need to change the lead OEM representative during this scheduled maintenance action, the shipyard quality assurance department is to schedule a turnover meeting with the departing and arriving lead OEM representatives, shipyard quality assurance personnel and MSCREPs in attendance to ensure a proper turnover is accomplished.

7.3 At the halfway point of the work item, the contractor representative will contact ABS to conduct an inspection for credit towards the unit's Continuous Machinery Survey. The unit

will not be closed until approval is granted by the ABS surveyor. Provide the attending ABS Surveyor, MSC Port Engineer and Chief Engineer with a minimum of 24-hour notice as to when the unit will be open and ready for inspection by the ABS Surveyor.

7.4 Provide all tools and material required, including, but not limited to special tools, rags, degreaser, lubricant and loctite for accomplishment of all elements of this work item. Ship’s force will NOT provide any tools.

7.5 Only OEM parts are to be used in the accomplishment of work under this work item.

7.6 Perform a Jacket Water System flush using OEM provided cleaner. Coolant system cleaning is to be performed prior to cleaning of the plate heat exhangers.

7.6.1 OEM gasket material for plate heat exchangers shall be replaced with new OEM gaskets.

7.7 Inspect, recondition (rebuild) or the plate heat exchangers.

7.7.1 PHEX gaskets shall be replaced with OEM approved material.

7.7.2 Both the Jacket Water and Salt Water sides of each individual plate shall be high pressure washed to remove any film.

NOTE: PERFORM A CALL FOR INSPECTION ONCE THE PLATES ARE CLEAN AND PRIOR TO REASSEMBLY OF THE HEAT EXCHANGER.

7.7.3 Reassemble and restore the plate heat exchangers on the engine.

7.8 Replace Jacket Water Thermostats with new OEM material.

7.8.1 Thermostats are to be CAT Part Number 6I-4955 with an operating range of 153-178 degrees Farenheit.

7.9 Inspection/Test:

7.9.1 Test all engine alarms and safety devices. Record all alarm and safety device set points and submit to MSCREP.

7.9.2 Notify the Chief Engineer and the attending Port Engineer when the overhauled engine and generator unit is ready to be tested under ship's electrical load for an approximate period of two hours. The Chief Engineer or his representative will be responsible for engaging the unit on the vessel’s main bus. Notify the ABS Surveyor in order to attend the final testing so credit can be given for the Continuous Machinery Survey on the unit. Record cylinder operating temperatures, fluid operating temperatures and pressures during load test. Submit an “as found” condition report.

a. Prior to engine start-up the checklist in Enclosure 2.2.2 is to be completed. This evolution is to be accounted for in the scheduling of work under this item and related items.

7.9.3 During the operational load testing verify proper protection is provided by installed engine heat screening and insulation to protect from fire in the event of oil or fuel spray. Use a thermal imaging camera to note any surfaces hotter than the maximum SOLAS requirement of 220 Deg C (428 Deg F). Inspect for the below noted conditions and provide a condition report for any noted discrepancies.

a. Screening and insulation are in place and mounted correctly.

b. Gaps in screening where fuel or oil spray can contact hot surfaces.

c. Where insulation mats are used, evaluate if an oil leak can contaminate or soak the material and be a fire risk.

d. Inspect insulation and screening around exhaust bellows and expansion joints for exhaust smell, discoloration and cracks.

e. Inspect insulation and screening for oil contamination or soaking. Any insulation or screening found in this condition should be noted in a condition report for replacement.

7.10 Reports:

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.10.2 Provide the MSCREP with a report for each engine no more than seven (7) days after the completion of all work. Provide three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF). The report will contain the following, at minimum:

a. Engine operating hours and serial number.

b. Photographs of the engine condition at disassembly and any unusual conditions.

c. Description of any abnormal or usual conditions found during maintenance.

d. Measurements taken and recorded. "As-found", "As-released" and acceptable ranges for measurements are to be

listed in the report.

e. Include comments on any defects found in arrangements for removals and lifting of engine components.

f. Include a listing of any additional special tools found to be needed for successful maintenance on engine.

g. Include a listing of all parts used during maintenance. The parts list to include the Sub-Assembly drawing number and Caterpillar part number.

h. Include a listing of all parts included in the parts kits or ordered and not used as well as items turned over to ship’s Force.

i. Engine to generator alignment readings

j. Valve lash measurements with OEM acceptable limits.

7.11 Paint/Lagging:

7.11.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces. Renew lagging where existing lagging was removed.

7.11.2 Paint new cylinder heads to match existing engine color prior to installation.

7.12 Manufacturer's Representative:

7.12.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the diesels identified in paragraph 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.12.2 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only original equipment manufacturer (OEM) authorized technical field

service providers or MSC qualified non-OEM technical field service providers and OEM authorized or MSC qualified non-OEM parts shall be used to accomplish the requirements of this work item for this ship critical safety item including oversight and guidance on all aspects of equipment as-found condition inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. The technical service provider is to attend dock trials.

7.17.3 Contractors interested in gaining MSC qualification as a non-OEM parts and/or service provider should visit this website for qualification and submittal requirements: https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/.

Possible Source(s):

CATERPILLAR CORPORATE
100 NE Adams St,
Peoria, IL, 61629
+1 (309) 675-2337

7.12.3 Provide the MSCREP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in paragraph 3.0 prior to the start of any work.

7.12.4 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.12.5 Assist ship’s force in completion of Enclosure 2.2.2 checklist.

7.12.6 Prepare and submit an Engine Start-Up Certification to MSCREP within one (1) day of work completion.

This document certifies that work is compete and the engine may be started.

7.13 Preparation of Drawings: None.

8.0 GENERAL REQUIREMENTS: None additional.

ENCLOSURE 2.2.1

LCC 20 CATERPILLAR 3516C SSDG ENGINE MODEL DATA

SSDG 4
Model 3516C
Serial Number:

SSDG 5
Model 3516C
Serial Number:

SSDG 6
Model 3516C
Serial Number:

USNS/USS _____ Hull No: _____

Diesel Engine Examined for Start-up: _____

Port / Shipyard: _____ Date: _____

72 Hours (notional) Prior to Dock Trial (Machinery Space Turnover)

- ☐ Verification received from Contractor / Tech Rep that all work is complete and Engine is ready and safe to start.
- ☐ Verify machinery space fire and smoke detection systems are fully operational.
- ☐ Verify all Lockout / Tag out locks / tags are cleared IAW SMS 2.1-004-ALL “Lockout / Tag out.”
- ☐ Verify that diesel exhaust systems are intact and no fire hazards exist in the uptake spaces.
- ☐ Verify all tanks are closed.
- ☐ Verify all machinery space doors are operating correctly including any installed door closers.
- ☐ Verify fixed, semi-portable and portable firefighting systems are fully certified and operational.
- ☐ Verify Damage Control Locker and equipment are available.
- ☐ Verify that all machinery space reach rods and remote pull stations are fully functional where fitted.
- ☐ Verify all hoses, staging, covers, rigging, etc., temporarily installed in support of ship maintenance and repair, are removed from the machinery spaces.
- ☐ Verify machinery space bilges are clean with no accumulations of liquids or debris.
- ☐ Verify that machinery space supply and exhaust ventilation and fire dampers are functioning properly.
- ☐ Verify that all installed engine hoses have been checked for wear and compliance with the COMSC 5-year replacement mandate.

48 Hours (notional) Prior to Startup

- ☐ Check engine oil level in sump.
- ☐ Check governor oil level.
- ☐ Check cooling water level.
- ☐ Check central fresh water treatment and level.
- ☐ Check oil levels in reduction gear, lineshaft bearings and auxiliary sumps.
- ☐ Verify fuel oil lines on engine are secure.
- ☐ Transfer fuel oil from storage tanks to settler.
- ☐ Check fuel oil service tanks for water or contamination. Conduct fuel oil analysis.

- ☐ Check lube oil service tanks and sumps for water or contamination. Conduct lube oil analysis.
- ☐ Verify all engine filters cleaned or renewed.

24 Hours (notional) Prior to Startup

- ☐ Remove stack covers.
- ☐ Walk around the engine and check for leaks on and under the engine.
- ☐ Verify 115V / 24VDC control voltage available.
- ☐ Perform lamp test locally and at EOS console.
- ☐ Run the lube oil and fuel oil purifiers on sumps and service tanks.
- ☐ Run auxiliary systems; check pressures and temperatures.
- ☐ Verify auto start of standby pumps.
- ☐ Verify machinery space bilges are clean with no accumulations of liquids or debris.

Pre-Start

- ☐ Check oil level in sump.
- ☐ Check head tank levels.
- ☐ Disengage barring gear.
- ☐ Review USCG Periodic Safety Test Plan (PSTP) and verify that all engine related safety and alarm features are functioning properly.
- ☐ Verify that salt water cooling / fresh water cooling systems and heat exchangers are on-line and fully operational.
- ☐ Verify that lube oil service pumps / lube oil service system is fully functional.
- ☐ Verify that lube oil purifiers are operating properly.
- ☐ Verify that fuel oil service pumps / fuel oil service system is fully functional.
- ☐ Verify that fuel oil purifiers are operating properly.
- ☐ Verify that compressed air / start air systems are fully functional.
- ☐ Verify shafts and props are clear to spin.
- ☐ Stop all fuel transfers.
- ☐ Test sliding watertight doors.
- ☐ Verify EDG is available and ready; test run off line.
- ☐ Open all Engine cocks and roll the engine.
- ☐ Check local emergency stop.
- ☐ Check remote emergency stop.
- ☐ Chief Engineer to notify Master and Port Engineer that start-up readiness assessment has been completed for all prime movers, and associated support systems and that machinery is ready / not-ready for start-up.
- ☐ Master to provide concurrence for start-up or not and conveys same to Type Desk and PM for information.

Chief Engineer

Port Engineer

1.0 ABSTRACT:

This work item describes the requirement to provide test weights and rigging assistance in the performance of SOT III weight testing of the vessel's Ammunition Whip Hoist.

2.0 REFERENCES & ENCOSURES

2.1 NAVSEA Drawing No. 701-2491581, Ammo Whip Hoist Arr. & Det.

2.2 Sanders Cranes Dwg. No. 1117_D, Whip Hoist, 1000# Capacity

2.3 Enclosure 1.0 SOT Level III Testing Data Sheet

2.4 NSTM 0700 Shipboard Arms, Ammunition, and Explosives Handling and Stowage

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Ammunition Whip Hoist (700 pound) (1-72-2-L)

Static Weight Test Required: 1400 lbs. (200%)

Dynamic Weight Test Required: 1050 lbs. (150%)

Operational Load Weight Test Required: 700. Lbs. (100%)

3.2 Item Description/Manufacturer’s Data:

3.2.1 Ammunition Whip Hoist
Mfg.: Sanders Cranes & Hoist Co.
Model:
Design capacity: 700 lbs.
Hoist Machinery: 50/8.3 HP Electric Motor

Hoist Rate: 100 FPM Minimum

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine the effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED:

7.1 Provide the following services to perform weight tests for the one (1) Ammunition Whip Hoist using References 2.1 through 2.4 as guidance.

7.1.1 Demonstrate current documentation certifying all test weights and calibration of equipment prior to testing.

7.1.2 Provide certified test weights equal to a total of 1400 lbs for weight tests of the Hoist. Weights are to be provided in 50 lb. and 100 lb. increments. The weights are to be lead weights with ideal size of 2′ x 2′ to fit the Hoist basket. No concrete weights are allowed. Uniformly distribute the weights in the basket to the maximum extent possible. Weights must be

broken down to allow the static test load of 1400 lbs., dynamic test load of 1050 lbs. and the operational test load of 700 lbs.

7.1.3 Provide riggers to rig the test weights onboard and off the ship, to the hoist as required by the MSCREP.

a. Provide a total of three (3) days of rigger services to accomplish weight tests of one (1) Ammunition Whip Hoist.

NOTE: Three (3) days of rigger services may not be continuous days. MSCREP will schedule rigger services 24 hours prior to required attendance.

NOTE: Weight testing shall be accomplished with the hoist lowered to 7th deck and raised no more than 6 inches from the deck.

NOTE: Wooden supports constructed of 4” x 4” to be placed underneath the hoist for support while conducting tests.

NOTE: Whip hoist may be used to lower test weights to the 7th deck provided the following requirements are met:

a) Component Operational Criteria and No-load test have been accomplished as per Reference 2.4.
b) Quantity of weight to be lowered shall not exceed 350 lbs. (50% of rated capacity) per lift.

7.1.4 Perform the SOT Level III test as per Ref. 2.3.

7.1.5 Upon conclusion of the test remove all test weight. Whip hoist may be used with load not to exceed 350 lbs.

7.1.6. Remove all equipment used in the execution of this work item

7.2 Contractor to fabricate metal plate and affix to the hoist. Required information:

7.2.1 Static Load (200%) - 1400 lbs.

Dynamic Load (150%) - 1050 lbs.

Safe Working Load (100%) - 700 lbs.

Date – Date of Testing

Activity – Contractor / Subcontractor Information

7.3 Submit a final Condition Found Report to the OMT Representative documenting the test. CFR to include Ref. 2.3 SOT Level III Test completed in its entirety, signed, dated and stamped. Submit three (3) copies of Test report.

8.0 GENERAL REQUIREMENTS: None additional.

Enclosure 1.0

SOT Level III Test
Ammunition Whip Hoist

Sequence of Load Testing and Inspections:

All referenced items are from Ref. 4 (NSTM 0700).

1. Component operational criteria (700-5.6.8.7)
2. No-load test (700-5.6.8)
3. Static load test (700-5.6.9)
4. Dynamic load test (700-5.6.10)
5. Rated load test (700-5.6.11)

1. Component operational criteria

   a. Inspect all fasteners
   b. Check limit switches
   c. Check for delay, overheating, restriction in brake operation, smooth application and proper stopping
   d. Observe for evidence of binding, warping, permanent deformation and cracking or malfunction of structural and operating components

2. Check for abnormal noise or vibration and overheating in machinery drive components
3. Check wire rope sheaves, drum spooling, wire rope fastenings, and terminal hardware for proper operation, freedom of movement, lack of unusual noise or vibration, and satisfactory operation of sheave guards and wire rope spooling. Check for a minimum of

1 ½ turns of wire rope left on the drum for the extreme position of lowered or extended hoist rope.

4. Check electrical drive components for proper operation and freedom from chatter, noise, vibration, or over heating.
5. Check electrical interlocks for proper operation.

No-load test

1. Crane and hoist load hook(s) shall raise and lower through the full

range of travel at rated speed for three complete cycles. A cycle is the full travel of the hoist from terminal level

to terminal level and back again.

NOTE: During the test, all travel-limiting devices (such as switches, valves, or mechanical stops)

shall be operated enough times to demonstrate proper operation. All safety devices shall be tested and inspected

separately for proper operation. Equipment shall be operated using normal operating and control procedures.

Static Load Test

NOTE: The equipment shall not be used to move more than 150% (1050 lbs.) of rated load in the performance of this test.

NOTE: The static load test shall be equal to 200% (1400 lbs.) of the rated load and shall be transferred to the equipment under test.

NOTE: This test shall be conducted with the hoist basket lowered to the 7th Deck and supported by cribbing on the deck; e.g. wood blocks.

1. Attach a partial test load, equal to 150% (1050 lbs.) of rated load (700 lbs.), to the hoist basket and lift clear of deck / support.
2. Add remainder of static load test by auxiliary means.
3. Additional loads must be added and removed slowly.
4. Hold load for ten (10) minutes

NOTE: During the ten (10) minute holding period, there can be no slippage of the brake. Any drop in basket height once the load is applied, must be investigated to determine the cause.

5. Remove additional load and lower partial test load (equal to or less than 150% [1050 lbs.]) back to the support.

Observations and Inspections:

1. All load-bearing parts, strength welds, and repaired areas shall be visually inspected for evidence of permanent deformations, cracking, binding, warping, or wire rope slippage in sockets and fittings.

NOTE: If any cracking or deformation is note, paint shall be removed and NDT shall be performed and the results submitted to the OMT Representative.

2. Hooks and shackles shall be inspected for deformation.

DYNAMIC LOAD TEST

Following completion of an ACCEPTABLE static load test, the hoist shall be subject to the following dynamic load test procedure.

1. While conducting the dynamic load test, motor voltage, current and phase balance shall be continually monitored and recorded.

2. With the basket fully lowered, add the dynamic test load of 150% (1050 lbs.) of rated capacity to the basket.
3. Operate the hoist through the full range (7th Deck to Main Deck)
4. The equipment with test load shall be stopped at least three times in each direction to insure proper brake operation.
    a. The hoist shall be stopped once from full speed in the down direction, at least 4 feet above the cribbing; the load shall stop within 3 vertical feet of travel. The brake shall be allowed to cool prior to additional testing.

Observations:

1. Check for delay, overheating, restriction in brake operation, smooth application, and proper stopping.
2. Observe for evidence of binding, warping, permanent deformation, and cracking or malfunctioning of structural and operational components.
3. Check for abnormal noise or vibration and overheating in machinery drive components (take infrared thermometer readings while testing and record results)
4. Check wire rope sheaves, drum, spooling, wire rope fastenings, and terminal hardware for proper operations, freedome of movement, lack of unusual noise or vibration, and satisfactory operation of sheave guards and wire rope spooling.
5. Check electrical drive components for operation and freedom from chatter, noise, vibration, or overheating.
6. Check electrical interlocks for proper operation.
7. Note and log any discrepancies.

Upon completion of satisfactory Static and Dynamic Load Tests, perform the Rated Load Test.

Rated Load Test of 100% (700 lbs.) requires the load be moved through the full travel of the hoist for ten continuous cycles or one-half hour (whichever is greater).

The performance of all interlock and limit switches shall be tested.

To demonstrate adequacy of control and braking, emergency stop controls shall be actuated with equipment operating with the rated load at the highest rated speed in the lowering direction.

WHIP HOIST SLACK ROPE/CHAIN (RAIL CLAMP) SAFETY DEVICE OPERATIONAL TEST

Slack rope or chain devices and track clamps shall be tested to demonstrate proper operation (for whip hoists in accordance with 700-5.6.12.

Handling equipment using guide rails within an enclosed trunk shall have a mechanical safety device to stop the platform or weapons basket in case of a wire rope or chain failure.

Preparations.

a. Tools required:

(1) Quick-release hook or equivalent (see Figure 700-5-1).

(2) Test weights equivalent to the rated capacity of system, sized to ®t the platform with a +5/-0 tolerance.

(3) Wooden pallets (2 each) or equivalent shock absorbing materials to protect the deck under the skipbox.

(4) Rope, 1/4-inch, 20 to 30 feet long, for actuating the quick-release hook.

(5) Ladder (if required).

(6) Test shackles, as required to support testing

Procedures.

a. Slowly run the unloaded hook of the hoist to both extremes of travel and observe the operations of the UP and DOWN stops.
b. Place the wooden pallets (or other suitable shock-absorbing device) on the level directly below the skipbox.
c. Connect the hoist hook to the platform/skipbox.
d. Raise the unloaded platform through the full level of travel, ensuring there is no binding or abnormalities. Stop the hoist in the downward direction at least three times, ensuring the ability of the hoist braking sys tem to stop and hold the load without slippage.
e. Lower the skipbox to the lowest level and onto the pallet or shock-absorbing device. Continue lowering until the hoist chain or cable is slack. Inspect the slack rope (or broken chain) devices and ensure the safeties fully engage the guide rails. If the safeties do not engage, stop the test and determine the cause of the problem. If engaged, continue the testing.
f. Disconnect the hoist hook from the skipbox.
g. Assemble the quick-release hook onto the hoist hook and connect it to the rigging of the skipbox (see Figure 700-5-2). To avoid inadvertent release, ensure that the quick-release hook snaps shut.

NOTE: If the skipbox drops more than 12 inches, repeat the test without increasing the load. If the skipbox does not drop more than a 12 inches, continue testing.

h. Secure one end of the rope to the eye of the quick-release hook. Check twice to ensure that the hook releases properly when the rope is pulled.
i. Load a 50-pound test weight into the skipbox.
j. Raise the skipbox, stopping it approximately 3 feet above the pallets (or shock absorbing material).
k. Pull the rope to release the hook. The skipbox should not drop more than 6 inches.

NOTE: If the skipbox drops more than 6 inches, repeat the test without increasing the load. If the skipbox does not drop more than 6 inches, continue testing.

l. Reattach the quick-release hook to the rigging on the skipbox.
m. Lower the skipbox until it rests on the pallets.
n. Place the full working load into the skipbox.
o. Raise the skipbox with the full load. When the skipbox (traveling upward) is approximately 5 feet above the pallets, pull the rope to release the quick-release hook.

NOTE: The skipbox should not drop more than 12 inches. If the skipbox drops more than 12 inches before stopping, stop the test. If the skipbox does not drop more than 12 inches before stopping, continue testing.

p. Reattach the quick-release hook to the rigging on the skipbox.
q. Lower the skipbox until it rests on the pallets (or shock absorbing material).

r. Raise the skipbox, stopping it approximately 8 feet above the pallets (or shock absorbing material).
s. Start lowering the skipbox. When the skipbox (traveling downward) is approximately 5 feet above the pal lets (or shock absorbing material), pull the rope to release the quick-release hook.

NOTE: The skipbox should not drop more than 12 inches. If the skipbox drops more than 12 inches before stopping, stop the test. If the skipbox does not drop more than 12 inches before stopping, the test is complete.

1.0 ABSTRACT:

This work item describes the requirement to provide test weights and rigging assistance in the performance of SOT III weight testing of the vessel's cargo elevator and assessments of the cargo and galley dumbwaiters.

2.0 REFERENCES:

2.1 Technical Manual 0920-LP-052-8010 Equipment Manual for Vehicle Elevator

2.2 Technical Manual 766-01, Matot Ambassador Model 110 Drum Dumbwaiter System

2.3 NAVSEA Drawing No. 528-2491368, Cargo Vehicle Installation Details

2.4 NAVSEA Drawing No. 528-2491369, Cargo Vehicle Installation Details

2.5 NSTM 772 S9086-ZN-STM-010, Cargo and Weapons Elevators

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 #1 Cargo Elevator (5-121-0-A), Static Test Weight Required: 10,000 lbs

3.1.2 #1 Cargo Dumbwaiter (7-29-1-T), Static Test Weight Required: 500 lbs

3.1.3 #2 Cargo Dumbwaiter (7-51-1-T), Static Test Weight Required: 500 lbs

3.1.4 #3 Cargo Dumbwaiter (7-62-1-T), Static Test Weight Required: 500 lbs

3.1.5 #4 Cargo Dumbwaiter (7-75-1-T), Static Test Weight Required: 500 lbs

3.1.6 Galley Dumbwaiter (3-34-0-Q), Static Test Weight Required: 300 lbs

3.2 Item Description/Manufacturer's Data:

3.2.1 Cargo Elevator
Mfg: Jered Industries, Inc
Model: M20031
Platform Surface: 8 ft X 19 ft
Designed capacity: 10,000 lbs
Hoist Machinery: 50/8.3 HP Electric Motor
Hoist Rate: 50 FPM in high speed
10 FPM in the low speed

3.2.2 Cargo Dumbwaiters
Mfg: MATOT Inc.
Model: 110
Serial: Various
Designed Capacity: 500 lbs
Hoist Rate: 50 FPM

3.2.3 Galley Dumbwaiter
Mfg: Vincent Whitney Co.
Model: 3933
Designed Capacity: 300 lbs
Hoist rate: 60 FPM

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all

applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine the effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED:

7.1 Provide the following services to perform weight tests for the one (1) Cargo Elevator, four (4) Cargo Dumbwaiters and one (1) Galley Dumbwaiter using References 2.1 through 2.5 as guidance.

7.1.1 Demonstrate current documentation certifying all test weights and calibration of equipment prior to testing.

7.1.2 Cargo Elevators: Provide certified test weights equal to a total of 10,000 lbs for weight tests of the Cargo Elevators. Weights are to be provided in 500 lb. and 1000 lb. increments. The weights are to be lead weights with ideal size of 2’ x 2’ to fit the elevator platforms. No concrete weights are allowed. Uniformly distribute the weights on the cargo elevator platforms to the maximum extent possible.

7.1.3 Cargo and Galley Dumbwaiters: Provide certified test weights of 300 lbs and 500 lbs for weight tests of the Cargo and Galley Dumbwaiters.

7.1.4 Provide riggers to rig the test weights onboard and off the ship, to each elevator and dumbwaiter location and rig on and off the elevators and dumbwaiters as required by Naval Surface Warfare Center, Philadelphia Division (NSWCPD) and MSCREP.

a. Provide a total of ten (10) days of rigger services to accomplish weight tests of one (1) cargo elevators and five (5) dumbwaiters.

NOTE: Ten (10) days of rigger services may not be continuous days. MSCREP will schedule rigger services 24 hours prior to required attendance.

8.0 GENERAL REQUIREMENTS: None additional.

1.0 ABSTRACT:

1.1 This work item describes the installation of a refrigerator in the ship's store, to include removal of installed shelf structure, fabrication of a foundation for the new and existing refrigerators, restoration of the deck in way of the foundations, and replacement of the PRC.

NOTE: THIS WORK ITEM TO BE ACCOMPLISHED IN CONJUNCITON WITH WORK ITEM 0126 SHIP'S STORE DOOR REPLACEMENT.

2.0 REFERENCES/ENCLOSURES:

2.1 MSC Drawing No. MSC Drawing No. 845-4458934, General Arrangement

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. Ship's Store (4-81-2-Q)

3.1.2 Quantity: One reach-in refrigerator

a. Dim. 55" wide x 30" deep x 78" high

3.2 Item Description/Manufacturer's Data:

3.2.1 Bill of Materials: See GFE Section 4.0.

4.0 GOVERNMENT & VENDOR FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Equipment (GFE): Refrigerator

4.2 Government Furnished Material (GFM): Paint – As Required

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES:

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR's) to determine applicability to this item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR's including but not limited to GTR's 1 through 7, 21, 22, 25, 26 and 29 to determine applicability of this work item.

5.2 The contractor and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item. Many of the definitions relating to the performance of this Work Item are found in Work Item 0001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed during work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All work performed shall be to the satisfaction of the MSCREP.

6.2 All equipment, computers, decking, outfitting, cabling, placards, and related equipment shall be protected with plastic covers and fire retardant material prior to any surface preparation, hot work, grinding or cutting.

6.3 Bulkhead insulation in locations identified in section 3.1 is 2" thick acoustic insulation. Any insulation damaged during the execution of this work item shall

be replaced with insulation meeting the requirements of Reference 2.3. No substitutions will be allowed.

7.0 STATEMENT OF WORK REQUIRED: Provide all material and special equipment. Make all removals and installations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies, provide and operate equipment, dispose of all removed items and material, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor.) All work below applies to each location identified in Section 3.1.

7.1 Contractor is responsible for rigging new refrigerator from the warehouse to the Ship's Store.

7.2 Removal of the door will be required to rig refrigerator into the space and shall be accomplished under work item 0126 Ship's Store Door Replacement.

7.3 Remove currently installed refrigerator and retain for installation.

7.4 Remove 36 inches of shelving on the forward bulkhead. Removal is to be sufficient to install both the new and existing refrigerators on the port side of the forward bulkhead.

7.5 Fabricate a metal foundation of 1 inch angle iron for securing the refrigerators. Foundation to provide minimum clearance of 4 inches below and behind for cleaning and ventilation.

7.6 Foundation to be welded to the deck.

7.7 Contractor to perform a Call for Inspection prior to surface preparation.

7.8 Restore deck in way of refrigerator and shelving removal. For bidding purposes plan on 50 Sq.Ft. of deck preservation prior to installation of PRC to bring level with existing PRC. Deck and PRC work is to be charged to Work Item 0603 PRC Renewal.

7.9 Apply a color coat over the entire surface of the ship's store. Color is to be white (similar to existing).

7.9.1 Thoroughly clean/degrease entire deck.

7.9.2 Mechanically abrade deck to insure adhesion.

7.9.3 Vacuum and tack clean.

7.9.4 Spot repair damage.

7.9.5 Contractor to perform a Call for Inspection prior to applying any coating system.

7.9.6 Application of tie coat / recoat primer.

7.9.7 Prior to application of sealer coats, coordinate with the Ship's Force the installation of a deck decal.

7.10 Ship's Force to make electrical connections for both refrigerators.

8.0 General Requirements: None Additional

Installed Refrigerator: Remove, expand area for installation of foundation to fit installed and new units. Restore deck similar to existing PRC in white.

1.0 ABSTRACT

The purpose of this item is to inspect, test, and certify machinery space cranes and hoists.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 ASME B30.2: Overhead and Gantry Cranes (Available Commercially)

2.1.2 ASME B30.11: Monorails and Underhung Cranes (Available Commercially)

2.1.3 ASME B30.16: Overhead Underhung and Stationary Hoists (Available Commercially)

2.2 Enclosures

2.2.1 List of Machinery Space Cranes and Hoists

2.2.2 Inspection, Test, and Certification Form

2.2.3 Equipment Definitions

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: Various

3.1.2 Quantity

a. Three Chain Hoists

3.2 Item Description/Manufacturer’s Data

3.2.1 **One** Harrington, Size C, Duty Class H4, One Ton (2,000 lb) Chain Hoists.

Two Harrington, Size D, Duty Class H4, One Ton (2,000 lb) Chain Hoists.

a. Lift Speed: 14.5 and 14 feet per minute (4.4

meters/minute).

b. Serial Numbers: 00046563, **073446, 074437.**

c. Lot Numbers: ER1A-5ASY3997, **ER2B-743770, ER2B-757505.**

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Monorail hoists/engine room cranes not listed in the vessel’s ABS Register of Lifting Appliances will be maintained and tested to ASME standards.

5.3 The replacement of load chain or wire rope does not necessitate a load test. However, an operational test of the hoist should be made in accordance with ASME prior to putting the hoist back in service. The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with hazardous waste remediation and removal are to be attributed to Work Item 023, rather than to the individual work items. Waste removed throughout the course of work package accomplishment are to be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. The contractor is expected to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort should be to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work

package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, test, and certify machinery space cranes and hoists identified in section 3.0. Accomplish all tasks in accordance with IMO, SOLAS, and the Manufacturer’s requirements.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Conduct an annual inspection of the machinery space cranes and hoists, to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. Coordinate the inspection with the Chief Engineer to ensure the vessel is always aware of system status.

7.4 The inspection will determine whether conditions found constitute a hazard, and whether repairs or disassembly are required for additional inspection. Inspect the following items:

7.4.1 Operating mechanisms for proper functionality, proper adjustment, and unusual sounds

7.4.2 Crane structure including bridge, runway rails, trolley, hoist, load-carrying flange of all track systems, hangers and sway braces for deformation, excessive wear, corrosion, damage or fractures

7.4.3 Loose or missing fasteners, bolts, nuts, pins or rivets

7.4.4 Cracked or worn sheaves, drums, drive/load/idler chain sprockets, and excessive drive chain stretch

7.4.5 Cracked, worn or distorted parts such as load blocks, suspension housing, chain attachments, clevises, yokes, suspension bolts, pins, bearings, wheels, shafts, gears,

rollers, locking and clamping devices, bumpers, end stops, switch baffles, and interlock bolts

7.4.6 Hooks and hook latches for deformation, excessive wear, or fractures. Accomplish nondestructive testing of hooks and inspect for fractures.

7.4.7 Hook attachment and securing means

7.4.8 Excessive wear of drive tires, trolley guide, and drive wheels

7.4.9 Leakage in pneumatic or hydraulic systems (if applicable)

7.4.10 Wire rope for proper reeving through sheaves and spooling onto drums

7.4.11 Brake system parts for evidence of excessive wear, glazed or oil-contaminated friction disks; worn pawls, cams, or ratchets; and corroded, stretched, or broken pawl springs

7.4.12 Excessive wear of drive chain sprockets and excessive drive chain stretch

7.4.13 Deterioration of controllers, master switches, contacts, limit switches, and push button stations

7.4.14 Travel limit devices for proper operation, including the motion limiting devices that interrupt power or cause audible or visual warnings/alarms to be activated. Each motion must be executed at low speed into the limit device with no load on the hoist

7.4.15 Missing guards, covers, stops or bumpers

7.4.16 Wire rope including end attachments. Identify any gross damage that may become a hazard, such as:

a. Distortion of the wire rope, such as: kinking, crushing, un-stranding, bird-caging, main strand displacement or core protrusion

b. General corrosion

c. Broken or cut strands

d. Quantity, distribution, and type of visible broken or damaged wires

7.4.17 Welded link chain including end attachments. Identify any gross damage that may become a hazard, such as:

a. Gouges, nicks, weld spatter, corrosion, and distorted links

b. Wear or stretch

7.4.18 Roller chain including end attachments. Identify any gross damage that may become a hazard, such as:

a. Elongation

b. Twist

c. Sidebow

7.4.19 If chain or wire rope damage is discovered, the chain/rope must either be removed from service or inspected as detailed in Reference 2.1.1 and 2.1.3. This additional inspection or replacement will be covered by a change order if deemed necessary by the OMT REP.

7.4.20 Inspect all function, instruction, caution, and warning labels, markings, or placards for legibility.

7.4.21 Immediately report any adverse conditions to the OMT REP. The report is to include photographs for record-keeping purposes.

7.5 Conduct maintenance on all machinery space cranes and hoists, to meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements. The maintenance includes/verifies:

7.5.1 Clean and lubricate all moving parts, where specified in Reference 2.1.4 and 2.1.5.

7.6 Conduct testing of the machinery space cranes and hoists meeting the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. Coordinate testing with OMT REP. Install barricades and warning signs to prevent access to areas of active testing. Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas. The testing includes/verifies:

7.6.1 Conduct a functional test, under no load, evaluating the performance of individual machinery space cranes and hoists. The test includes the following functions:

a. Lifting and Lowering

b. Trolley Travel

c. Bridge Travel

d. Hoist Limit Devices

e. Travel Limiting Devices

f. Locking and Indicating Devices

7.7 Testing is to be coordinate with the OMT REP, ABS, and the USCG to allow observation if deemed necessary.

7.8 Maintain workspaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.9 Upon completion of all inspections, tests and repairs, return the machinery space cranes and hoists to a ready for service condition.

7.10 With the assistance of ship’s force, tag-in all required systems and equipment.

7.11 Reports

7.11.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one

electronic copy in Portable Document Format (PDF).

7.11.2 Submit a report that includes “as released” condition of the machinery space cranes and hoists. Submit one electronic copy in Portable Document Format (PDF).

7.11.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11.4 Prepare and submit an Inspection, Test and Certification Form (Enclosure 2.2.2) detailing all machinery space cranes and hoists examined, tested and certified. All certificates are to be signed by the attending manufacturer’s representative (or authorized technical representative) that performed the inspections and testing.

7.12 Painting

7.12.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.13 Manufacturer’s Representative

7.13.1 Provide the services of a Contractor recognized as a crane certifying authority to inspect, test and certify the machinery space cranes and hoists using Reference 2.1.1 through **2.1.3** as guidance.

7.13.2 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.14 Preparation of Drawings

7.14.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 LIST OF MACHINERY SPACE CRANES AND HOISTS

No.	Description	Location	Mfg.	Model No.	Serial No.	Capacity SFWL (lbs)
1	Chain Hoist	Engine Room	Harrington	Size C/Duty Class H4	00046563	2,000
2	Chain Hoist	Engine Room	Harrington	Size D/Duty Class H4	073446	2,000
3	Chain Hoist	Engine Room	Harrington	Size D/Duty Class H4	074437	2,000

ENCLOSURE 2.2.2 INSPECTION, TEST AND CERTIFICATION FORM

Equipment Identification:	
Location:	
Mfg:	
Serial No:	
Safe Working Load (SFWL):	
Hoist Type (chain/wire):	

Inspect	**Periodic Inspection** (Annual - Normal Service)	
	Acceptable (✓)	Discrepancy (✗)
Operating mechanisms for proper operation, adjustment and unusual sounds		
Structural members for deformation, cracks, or excessive wear on any part of the crane		
For loose or missing fasteners, bolts, nuts, pins or rivets		
For cracked or worn sheaves, drums, sprockets or chain stretch		
For cracked, worn or distorted parts		
Load hooks, latches, support clevises and pins for deformation, cracks, or excessive wear		
Load hook attachment and securing means		
For excessive wear of drive tires, trolley guide and drive wheels		
For leakage in pneumatic or hydraulic systems (if applicable)		
wire rope for proper reeving and spooling		
Condition of Brake system including friction disks/pads, pawls, cams or ratchets		
Wear of drive chain sprockets and drive chain stretch		
Controllers, switches, contacts, limit switches, pushbutton stations, lights, beacons, gongs, sirens, horns for damage, excessive wear, maladjustment or adverse condition on any part		
Travel limit devices for proper performance.		
For missing guards, covers, stops or bumpers		
Wire rope for damage that may be a hazard		
Load chain for damage that may be a hazard		
Missing or illegible function, instruction, caution and warnings, markings or placards		

ENCLOSURE 2.2.2 INSPECTION, TEST AND CERTIFICATION FORM

Test	Functional Test (Annual - Normal Service)	
	Acceptable (✓)	Discrepancy (✗)
Lifting and lowering		
Trolley travel		
Bridge travel		
Hoist limit devices		
Travel limiting devices		
Locking and indicating devices		

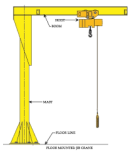
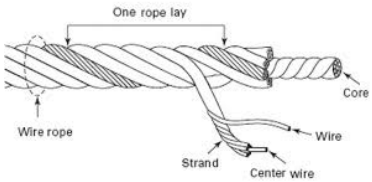
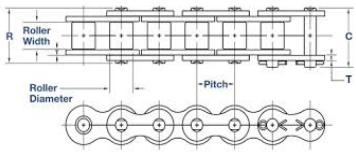
Deficiencies Noted (✗): _____

Name of Certifying Company _____

Name of Person Certifying _____

Date _____

ENCLOSURE 2.2.3 EQUIPMENT DEFINITIONS

Overhead Crane – An overhead crane, commonly called a Bridge Crane or Traveling Bridge Crane, is a type of crane found in industrial environments. An overhead crane runs on an elevated runway system consisting of parallel rails with a traveling beam (bridge) spanning the gap. A hoist travels along the bridge and provides three axes of hook motion.	
Gantry Crane – Is a type of overhead crane that is similar to a bridge crane, but instead of moving on suspended runways, the crane uses legs to support the bridge, trolley, and hoist. These legs travel on tires or on rails that are embedded in the floor or ground structure.	
Jib Crane - A type of crane, which has a horizontal member (known as jib or boom) that supports a moveable hoist fixed to a wall or to a floor-mounted pillar is known as jib crane. The jib may swing through an arc, giving additional lateral movement.	
Monorail Crane - This type of overhead lifting system is specialized where the hoist and trolley run along a single stationary beam. They are very effective where materials are to be moved from one fixed point to another fixed location. However, only two directions of hook travel are possible: up/down and along the axis of the monorail beam.	
Hoists - A machinery unit that is used for lifting or lowering a freely suspended (unguided) load. There are two main types; **Chain hoists** and **Wire rope hoists**.	
Wire Lay - a rope lay is the length along the rope in which one strand makes a complete revolution around the rope.	
Chain - Roller chain is a power chain consisting of parallel pairs of flat links joined by pins covered with rollers and engaging with the teeth of sprockets.	
Chain - Welded Link chain is a series of links or rings connected to or fitted into one another.	

1.0 ABSTRACT

The purpose of this item describes the requirements to inspect, test and calibrate various gauges, thermometers, meters and special tools.

2.0 REFERENCES

2.1 ISO/IEC 17025:2017, General Requirements for the Competence of Testing and Calibration Laboratories (Available Commercially)

2.2 MSC QMS N7.71.4734.101-Q Shipboard Instrumentation Calibration Requirements

2.3 USS MT WHITNEY (LCC 20) Annual SMS Calibration List Mechanical

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location: Throughout the vessel

3.2 Description: See References 2.3 and 2.4.

3.3 Quantity

3.3.1 60 Gauges

3.3.2 0 Thermometers

3.3.3 0 Meters

3.3.4 0 Special tools

NOTE: Gauges, thermometers, meters, and special tools to be calibrated are highlighted in References 2.3 and 2.4.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to

determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the thorough examination, testing and calibration of the ship’s gauges, thermometers, meters and special tools using ANSI and ISO requirements as guidance.

7.1.1 Gauges, thermometers, meters, and special tools to be examined, tested, and calibrated are highlighted in References 2.3 and 2.4.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.2.1 Ensure that all power to switchboards, power panels, controllers or other equipment that is to be worked on are secured and tagged out.

7.3 Isolate gauges, meters, and thermometers designated for calibration. Clear gauge lines of obstructions by blowing clean dry air through the lines.

7.4 Coordinate the inspection, testing and calibration of equipment with the Chief Engineer to ensure the vessel is always aware of system status until the work is completed.

7.5 Examine, test, adjust and calibrate gauges, meters, thermometers and special tools highlighted in References 2.3 and 2.4 to a transfer measurement standard, traceable to the National Institute of Standards and Technology (NIST), using manufacturer's specifications, ANSI and Reference 2.1 as

guidance. Utilize standards which have an accuracy level at least four times that of the instrument being calibrated. Demonstrate current calibration of all test equipment prior to any testing.

7.6 All gauges, meters, thermometers and accessories are to be calibrated in place with calibrated test equipment and standards. All gauges, thermometers and meters located out on the weather decks will have their calibration stickers installed on the inside of the glass cover where applicable.

7.7 Affix a tamper proof calibration label/sticker denoting the name of the calibrating facility, the date of calibration and the due date of the next calibration to the face of the unit. Use References 2.2, 2.3, 2.4 and the Table below as guidance for identifying the time period between calibration. Labels are to be placed over calibration adjusting screws where applicable. The sticker shall be affixed in a visible location that does not interfere with reading the instrument, the name of the process the instrument measures, or the units the instrument measures.

Periodicity (year)	**Instrument**
Annual	Test equipment including any device used for periodic assessment of machinery, components, or the environment such as tachometers, torque wrenches, dynameters, flow meters, test gages and electrical test equipment.
Annual	Magazine sprinkler system pressure gages [open loop, fire main pressure, and pneumatically released pilot valve (PRPV)] are to be calibrated every 12 months.

7.8 Calibration Exceptions: The following are to be replaced on an as needed basis and are not to be calibrated using Reference 2.2 as guidance:

7.8.1 Direct reading fluid thermometers,

7.8.2 Control gages on low pressure (0-60 psi)

pneumatic regulators,

7.8.3 Pressure gages on pneumatic stations designed for general use,

7.8.4 Manometers, and

7.8.5 FM-200-cylinder liquid level gages

7.9 Bi-metallic thermometers and fire main gages will have tamper-resistant seals (Calibration Void if Seal Broken) affixed to controls or adjustments that, if moved, will invalidate the calibration. Seals should not be used to cover adjustments or controls, which are part of the normal use and operation of the instrument. This label may also be used to prevent removal and/or interchange of plug-ins, modules, and subassemblies when such removal or interchange will affect the calibration.

7.10 Any instrument failing calibration will have a label affixed indicating the calibration activity, date of calibration attempt, and either the word “Failed” or “Rejected.” This label will differ (size, color, or shape) from labels used for successful calibration.

7.11 Replace with new all seals, packing, gaskets, mounts, defective terminal lugs and fasteners.

7.12 All gauges, thermometers, meters, and their disturbed connections will be tested under operational conditions during Dock and Sea Trials. Correct any deficiencies noted.

7.13 Reports

7.13.1 When examination, testing and calibration reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repair and parts required. Submit one copy in Portable Document Format (PDF).

7.13.2 Provide a certificate of calibration for each instrument which will include the ID number, location of the instrument, description of the measuring point of the gage, or functional description of the test instrument, manufacturer,

model and serial number, range, units, date of calibration, full name of the individual performing the calibration, and the traceability number of the standard used in the calibration.

7.13.3 Provide a final service report and Calibration Certificates detailing all examines, tests and calibrations. All certificates are to be signed by the attending Technical Representative who performed the exam and calibration. Submit one copy in Portable Document Format (PDF).

7.13.4 Update references 2.3 and 2.4 based on the results of calibrations performed and provide an updated calibration list in Microsoft Excel format to the OMT REP.

7.14 Painting

7.14.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.15 Manufacturer’s Representative

7.15.1 Provide the services of an accredited gauge calibration company meeting ANSI Z540 or ISO/IEC 17025:2017. Submit proof of accreditation, qualifications and any certificates for the company and field service rep to the OMT REP for review and approval prior to starting any work.

7.15.2 Provide skilled technicians, portable instruments, standards and all necessary equipment to calibrate all designated gauges, meters, and thermometers.

7.16 Preparation of Drawings

7.16.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification, and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to inspect, service, test, and certify the Scott Safety Self-Contained Breathing Apparatus (SCBA).

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 Tech Manual, **595160-01-F**, Scott Air Pak

2.1.2 49 CFR §180, Subpart C - Qualification, Maintenance and Use of Cylinders

2.1.3 NFPA 1852 Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA) - (Available Commercially)

2.1.4 NFPA 1989 Standard on Breathing Air Quality for Emergency Services Respiratory Protection - (Available Commercially)

2.1.5 MSC Drawing No. 085-8386886, Fire Control Plan

2.1.6 MOUNT WHITNEY (LCC 20) 20**25** SCBA Service Report

2.2 Enclosures

2.2.1 SCBA Facepiece and Pack Inventory

2.2.2 SCBA Cylinder Inventory

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location/Description/Quantity

3.1.1 Locations: Damage Control Lockers: 4-30-1-Q, 4-79-1-Q, 4-115-4-Q, 1-76-2-Q

3.1.2 Description

SCBA Mfg:	Scott Safety (3M), **Luxfer**

SCBA Model:	Model 4.5, Series 50 or 75
Cylinder Material:	Carbon Fiber
Cylinder Duration:	60 minute
Cylinder Pressure:	4500 psig
Cylinder Lifespan:	**15** years
Cylinder Hydro Date:	See Enclosure 2.2.2
Special Permit (15yr)	SP-10915
Special Permit (30yr)	SP-14232

3.1.3 Quantity

a. 42 SCBA outfits, complete.

b. **126** cylinders

3.2 Item Description/Manufacturer’s Data

3.2.1 See Enclosure 2.2.1 for the Scott Safety Model 4.5 SCBA Outfits (facepiece and pack assemblies).

3.2.2 See Enclosure 2.2.2 for the Scott High-Pressure Air Cylinders.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of

tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Each self-contained breathing apparatus must be of the pressure-demand, open-circuit type, approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) per 46 CFR §35.20(Tanker), 46 CFR §77.35-5(Passenger Vessels), 46 CFR §96.35(General Cargo). Additionally, each SCBA must be accredited to NFPA 1981.

5.3 SCBA that are built to NFPA 1981 Edition 2007 or earlier will alarm at 25% remaining air, whereas NFPA 1981 Edition 2013 or later will alarm at 33% remaining air.

5.4 When using the term “SCBA”, “SCBA” refers to the SCBA pack, mask and cylinder.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Contractor must only provide the service of an Original Equipment Manufacturers (OEM) Scott SCBA Authorized Service Center (ASC) and OEM Scott technician(s) to perform service on the Scott SCBAs identified in section 3.0.

7.2 Prior to the removal of the Scott SCBAs from the vessel, provide the OMT REP with documents in a condition report that verify the Scott SCBA ASC and Scott SCBA technician are eligible to provide service on the SCBAs identified in section 3.0. All documents must be current at the time of serving.

7.2.1 Scott ASC must have letter(s) or certificate(s) issued by Scott stating the service facility is permitted to provide service and repair for Scott SCBAS, to the NFPA standard. Other societies standards such as EN(European) are not permitted to be substituted. ASC must have access to the following OEM Scott items; service bulletins, repair manuals, repair parts, specialized repair tools and a SCBA functional

testing machine meeting the standards of Reference 2.1.3. A Posicheck3 Test Machine by Honeywell Analytics, or equal, is to be used, and must be running the most recent version of software from Scott, version 4.1.1.166S or later, additionally it must have been calibrated with the last 12 months.

7.2.2 Technician providing service on the Scott SCBA must be factory trained by Scott and possess a minimum Scott Repair Technician Certificate Level II for the model/type of SCBA identified in section 3.0.

7.2.3 Cylinder hydro testing facility must be certified as U.S. Department of Transportation (DOT) cylinder re-qualifier facility. Facility must have a U.S. DOT Requalification Identification Number (RIN) Letter that states that facility is permitted to requalify Scott cylinders identified in section 3.0. List of approved cylinder re-qualifier facilities and their U.S. DOT RIN can be found at the following URLs:

https://www.phmsa.dot.gov/hazmat/pressure-vessels-approvals/cylinders-requalifiers

https://www.phmsa.dot.gov/approvals-and-permits/hazmats/approvals-search

7.2.4 The above Scott ASC, Scott SCBA Technician and U.S. DOT RIN cylinder re-qualification facility is not permitted to be changed without prior approval from the OMT REP.

7.3 Inspect, service, test, and certify the Self-Contained Breathing Apparatus (SCBA) using References 2.1.1 through 2.1.6 and Enclosures 2.2.1 and 2.2.2 as guidance.

7.3.1 With assistance from ship’s force, take custody of the SCBA outfits and spare cylinders, and temporarily remove from the ship and transport to the OEM Scott Safety certified authorized service facility. Only half (50%) of the SCBA outfits and cylinders are to be removed from the vessel at a time to maintain ship's force firefighting capabilities.

7.3.2 Custody for removal of the Scott Safety SCBAs must be arranged through the OMT REP and the vessel’s Safety Officer.

7.4 SCBA technician will conduct a biannual visual inspection of the SCBA outfits and cylinders to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. The inspection must encompass the entire SCBA outfit and cylinder with attention to the following:

7.4.1 Inspection of the face mask assembly includes the following:

a. Inspect all sealing surface and edges for damage, cracks, tears, holes, pliability and tackiness.

b. Inspect the head harness buckles, straps, and webbing for breakage, loss of elasticity and excessive wear.

c. Inspect the lens for holes, cracks, scratches, distortion, heat-damaged areas, and a proper seal with the face piece.

d. Inspect the regulator seating surface.

e. Inspect the nose cup for cuts or damage.

f. Inspect the regulator connections for damage and proper functionality.

g. Inspect voicemitters for dents or damage and properly installed in the ducts.

h. Inspect the EPIC/EPIC 3 voice amplification unit to ensure it operates.

7.4.2 Inspection of the backframe and harness assembly includes the following:

a. Inspect harness straps and backframe for broken welds, cuts, tears, abrasions, and indications of heat damage or chemical- related damage.

b. Inspect all buckles, fasteners, and adjustments to ensure proper functionality.

c. Inspect the cylinder retention system for

damage and proper functionality.

d. Inspect the cylinder for secure attachment to the backframe.

e. Inspect harness straps for full extension.

f. Ensure waist belt has a regulator holder.

7.4.3 Inspection of the SCBA breathing air cylinder assembly includes the following:

a. Verify the hydrostatic test date on the cylinder is valid.

b. Record the serial number, age, and date of the latest hydrostatic test.

c. Inspect gauges for damage and pressure accuracy.

d. Inspect cylinder body for cracks, dents, weakened areas, and indications of heat damage or chemical damage.

e. Inspect the composite portions of the cylinder for cuts, gouges, loose composite materials, and the absence of resin.

f. Inspect the cylinder valve outlet sealing surface and threads for damage.

g. Inspect the cylinder valve handwheel for damage, alignment, serviceability, and secure attachment.

h. Inspect the burst disc outlet area for debris.

i. Verify full charge of each cylinder.

7.4.4 Inspection of the HP and LP hoses includes the following:

a. Inspect hoses for cuts, splitting, brittleness abrasions, bubbling, cracks, heat damage, and chemical damage.

b. Inspect external fittings for visual signs of damage.

c. Verify hoses have proper tight connections.

7.4.5 Inspection of the regulator includes the following:

a. Inspect the regulator for damage or missing components.

b. Inspect the regulator gasket is in good condition.

c. Inspect purge valve for damage and turns smoothly one-half turn by hand.

d. Inspect housing and components for damage.

e. Inspect the regulator and bypass (bleeder valve) for proper functionality.

f. Inspect the Heads Up Display (HUD) for damage and ensure unit operates. Verify that the rubber guard is in place and is not torn or damaged.

g. Inspect regulator for any unusual sounds such as whistling, chattering or rattling during operation.

7.4.6 Inspection of the remote gauge console includes the following:

a. Inspect the remote pressure gauge for damage.

b. Verify the cylinder pressure gauge and remote pressure gauge read within 10% of each other.

7.4.7 Inspection of any optional accessories and components must meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements. Include the following:

a. Verify complete assembly of components.

b. Conduct assessment of wear and damage.

c. Verify secure attachment.

d. Verify adequate power source.

e. Verify all operating modes are inspected for proper functionality.

7.4.8 Identify any cylinders that have reached their maximum service life of 15/30 years, maximum for carbon fiber.

7.5 During the SCBA Inspection the following must be accomplished:

7.5.1 Each SCBA must have a fully functional HUD and voice amplification unit. No exceptions.

7.5.2 SBCA technician must clean and disinfect each regulator and face piece identified in section 3.0 only using OEM recommendations using Reference 2.1.1 as guidance. OEM recommends using Wescodyne-G disinfectant-detergent. CAUTION: Bleach, alcohol and products containing alcohol should not be used on the facemask or other rubber based components.

7.5.3 SCBA technician must replace HUD batteries in the remote gauge console and EPIC Voice Amp using Reference 2.1.1 as guidance.

Remote Gauge Console (Two each AA batteries)
-Energizer Max E91
-Energizer Industrial EN91
-Duracell Copper Top MN1500
-Duracell Pro-Cell PC1500

EPIC 3 Voice Amp (Three each AAA batteries)
-Energizer Max E92
-Energizer Industrial EN92
Duracell Copper Top MN2400
Duracell Pro-Cell PC2400
Rayovac 824

7.5.4 Service Notice: All Scott Safety SCBAs labeled as CBRN must be rated for CBRN use. CBRN breathing valves are the color black, whereas non-CBRN breathing valves are the color orange. Breathing valves that are the color orange are not

permitted on the Scott Safety SCBA detailed in section 3.0 of this work item. Orange, Non-CBRN breathing valves must be replaced with black CBRN breathing valves. All SCBAs must be CBRN rated.

7.5.5 Service Notice: CBRN rated SCBA masks have grey nose cones. Non-CBRN SCBA masks have a black nose cone. Black, non-CBRN rated nose cones must be replace with grey CBRN nose cones. All SCBA masks must be CBRN rated.

a. For estimating purposes assume that **0** non-CBRN nose cones require replacement.

7.5.6 Conduct an air exchange by fully depleting the air and refilling each cylinder to 4500 psi with minimum grade D air using Reference 2.1.4 as guidance.

7.6 SCBA technician must conduct a functional performance test on each SCBA. The serial number of the Honeywell Analytics PosiChek3 machine, or equal, must be printed on the report for each SCBA. Coordinate testing with the OMT REP and the ship’s Safety Officer to witness testing. The functional performance test must include but not limited to the following per OEM requirements:

7.6.1 Visual inspection

7.6.2 Exhalation pressure

7.6.3 Facepiece leakage

7.6.4 Positive Pressure

7.6.5 Primary Lockup

7.6.6 Primary Creep

7.6.7 Air Saver Switch Activation

7.6.8 Transfer

7.6.9 Secondary Lockup

7.6.10 Secondary Creep

7.6.11 High Pressure Leakage

7.6.12 Secondary Pressure at High Cylinder

7.6.13 Purge

7.6.14 Pressure gauge accuracy at 3000 PSI, 2000 PSI and 1000 PSI rated cylinder pressure

7.6.15 First stage pressure during breathing resistance test at standard (40 LPM) work rate

7.6.16 First stage pressure during breathing resistance test at maximum (100 LPM) work rate

7.6.17 Heads Up Display (HUD) display and Vibralert

7.7 SCBA technician must collect and record the SCBA details required to complete Enclosures 2.2.1 and 2.2.2.

7.8 Conduct a visual examination on each cylinder to validate if the cylinder has reached its maximum service life or requires hydrostatic testing. SCBA cylinder manufacture month and year will be displayed on the cylinder label.

7.8.1 Scott cylinders have a service life of 15/30 years maximum. SCBA cylinders that have reached its maximum service life or fail hydrostatic testing are to be removed from service and disposed. Additionally, each cylinder must have a label affixed to it with the words “CONDEMNED” overcoated with epoxy, but not obscuring the original manufactures label using Reference 2.1.2 as guidance.

7.8.2 Certified cylinder re-qualifier facility must conduct a hydrostatic test on each Scott Safety SCBA cylinder during this service period for Scott Safety SCBA cylinders that have less than 10 months remaining before the next overhaul date.

a. For estimating purposes assume that **0** SCBA Cylinders require hydrostatic testing.

b. Apply hydro testing label to the cylinder. The label must bear the company name, month and year of hydro

testing using Reference 2.1.2 as guidance.

7.9 Compressed, gaseous, breathing air must meet the requirements specified in Reference 2.1.4.

7.10 Maintain workspaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.11 Upon completion of all inspections, tests and repairs, return the SCBA and cylinders to a ready for service condition.

7.12 Return the SCBA outfits and cylinders to the vessel, place them in their original Damage Control Locker, and turn over to the OMT REP upon completion.

7.13 Reports

7.13.1 Submit an initial report with all documents detailed in paragraph 7.2 through 7.2.3.

7.13.2 Complete and submit one electronic copy in Portable Document Format (PDF) of Enclosures 2.2.1 and 2.2.2 documenting all inspections, tests and certifications. All certificates are to be signed by the attending manufacturer’s representative (or authorized technical representative) who performed the inspections and calibration.

7.13.3 When inspections, maintenance, servicing and testing reveal any deficiency, a condition report is to be submitted with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.13.4 Submit a final report that includes “as released” condition of the SCBAs affirming they are safe for use. Each report and checklist must be completed and signed by the person who carried out the inspections, maintenance servicing and testing then by countersigned by the ASC manger. Submit one electronic copy in Portable Document Format (PDF) containing the following:

a. PosiChek3, or equal, functional test results for each SCBA, all pages required.

b. Hydrostatic testing results for each cylinder.

c. Completed copies of Enclosures 2.2.1 and 2.2.2.

d. A detailed list of all parts that were replaced for each SCBA.

e. Letter and certificates for the ASC and SCBA technician certificate.

7.13.5 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.14 Painting: None additional

7.15 Manufacturer’s Representative

7.15.1 Provide the services of an Original Equipment Manufacturers (OEM) Scott service facility and factory trained SCBA technician to perform all examinations, servicing, testing and certification of the SCBAs and cylinders in accordance with manufacturer’s performance specifications.

7.15.2 Provide the OMT REP with a signed letter of qualification from the OEM, certificate of training for the SCBA identified in section 3.0 prior to the start of any work. Functional tests are to be performed by a manufacturer certified technician.

7.15.3 Provide skilled Level II technicians, service bulletins, standards, spare parts and all necessary equipment and tools to service and certify the SCBAs and cylinders.

7.15.4 The SCBA technician is to conduct a two hour group instruction with ship’s force personnel on the proper maintenance, care and use of the SCBA outfits.

7.16 Preparation of Drawings

7.16.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test

data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 – FACEPIECE AND PACK INVENTORY

2024 Mt Whitney
SCBA Service Report

No.	Location	Manufacturer	SCBA Model NFPA 1981 - Edition (1981-XXXX)	Facepiece Model Number	HP Regulator Serial No.	Breathing Valve Assembly Serial No.	LP Hose Change (last date)	Annual Functional Test (last date)	Remarks
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									

Service Facility (name) _____

Date _____

Service Technician (name) _____ _____

ENCLOSURE 2.2.2 – SCBA CYLINDER INVENTORY

No.	Location	Manufacturer	Serial No.	DOT No. (DOT-SP XXXX)	Cyl. Rating (45/60 min.)	Cyl. Rating (pressure)	Date of Mfr. (DOM)	1st Hydro Test (date)	2nd Hydro Test (date)	End of Service Life (**)	Remarks
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

****NOTE:** ESL is typically 5 years from the 2nd Hydrostatic Test.

Service Facility (name) _____

Service Technician (name) _____ Date _____

1.0 ABSTRACT

The purpose of this item is to inspect, service, test, and certify the Self-Contained Breathing Apparatus (SCBA) Compressor and Refilling Station.

NOTE: WHEN SCBA COMPRESSOR IS REMOVED FROM SERVICE, CONTRACTOR IS TO MAKE AVAILABLE AN ALTERNATE COMPRESSOR FOR REFILLING THE SHIP'S SCBA BOTTLES.

2.0 REFERENCES

2.1 **T6220-B1-MMC-010**, Operation and Maintenance, Breathing Air Quality Compressor and Refilling Station

2.2 NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection (Available Commercially)

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: SCBA Compressor Room (2-140-2-Q)

3.1.2 Quantity

a. SCBA Compressor and Refilling Station, Current Operating Hours on Compressor: **To be provided upon request**

3.2 Item Description/Manufacturer's Data

3.2.1 SCBA Compressor, MAKO Model No. 9400E3MSC (5,000 psi, 12.9 cfm).

3.2.2 SCBA Refilling Station, MAKO Model No. M3100.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of

this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, test, and certify the Self-Contained Breathing Apparatus (SCBA) Compressor and Refilling Station identified in section 3.0, using References 2.1 through 2.2 as guidance. Accomplish all tasks in accordance with IMO, SOLAS, and the Manufacturer’s requirements.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

CAUTION: Verify that all pressure has been released from the system before carrying out any work.

7.3 Conduct an inspection of the SCBA Compressor and Refilling Station to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. The inspection must encompass the entire system with particular attention to the following:

7.3.1 Conduct a visual inspection of the system including: SCBA cylinder enclosure including door and tray, operator’s panel, compressor, purification system, motor, hour meter, breakers and fuses, gauges, controls, all labels and plates such as caution, warning and instruction placards, alarms, cooling systems, condensate traps and drains, pneumatic piping, hoses, pressure maintaining valve, pressure regulator, relief valves, valves and fittings.

7.3.2 Verify no unauthorized alterations have been made to the system and components.

7.3.3 Verify a sign or placard is posted near the air intake identifying it as an intake source for breathing air.

7.3.4 Verify a WARNING label is installed at the purification chamber, instructing: Prior to changing purifier cartridges, performing service or maintenance, to release all air pressure in the compressor system.

7.3.5 Inspect purification cartridges and filters. Record their expiration dates and verify they meet OEM requirements.

7.3.6 Inspect the audible and visual alarms and any controls that shutdown the compressor:

a. Carbon Monoxide (CO) Alarm

b. Discharge Air High Temperature Alarm

c. Low Oil Level and Low Oil Pressure Alarm

d. Moisture in the compressed air at the Purification System Outlet

e. Compressor Compartment High Temperature Alarm

f. Inclination alarm

7.3.7 Inspect the pressure relief valves. Verify and document the calibration date.

7.3.8 Inspection of any optional accessories and components must meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements. Include the following:

a. Verify complete assembly of components.

b. Conduct assessment of wear and damage.

c. Verify all operating modes are inspected for proper functionality.

7.4 Conduct annual maintenance on the SCBA Compressor and Refilling Station to meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements. The maintenance includes/verifies:

7.4.1 Verify all operating fluids, including lubricant and coolant, are at the manufacturer’s recommended levels.

7.4.2 Drain the crankcase and replace the oil and oil filters using Reference 2.1 as guidance.

7.4.3 Inspect the condition of the drive belts including the alignment and tension.

7.4.4 Verify the expiration dates of the purification cartridges and filters.

7.4.5 Lubricate all parts.

7.5 Conduct testing of the SCBA Compressor and Refilling Station to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. Coordinate testing with OMT REP. The testing includes the following:

7.5.1 Conduct a one hour functional performance test of the SCBA Compressor and Refilling System. The test is to include the following:

a. Verify proper operation using Reference 2.1 as guidance.

b. Verify inter-stage pressures are within the manufacturer’s specifications.

c. Verify proper operation of all audible and visual alarms.

d. Verify proper operation of all shutdowns.

e. Verify set point of the Pressure Relief Valve.

f. Verify set point of the Pressure Maintaining and Regulator Valves.

g. Verify proper operation of the Emergency Stop.

7.5.2 Draw an air sample and submit to an accredited laboratory for air quality testing using Reference 2.2 as

guidance. The breathing air must be tested for:

a. Oxygen Content

b. Carbon Monoxide Content

c. Carbon Dioxide Content

d. Condensed Oil and Particulate Content

e. Water Content

f. Non-methane Volatile Organic Compounds (VOC) Content

g. Nitrogen Content

h. Odor

7.6 Compressed, gaseous breathing air must meet the requirements for breathing air specified in Reference 2.2.

7.7 Maintain workspaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.8 Upon completion of all inspections, tests and repairs, return the SCBA Compressor and Refilling Station to a ready for service condition.

7.9 Reports

7.9.1 Submit one electronic copy in Portable Document Format (PDF) of the examination, servicing, and certification report for the SCBA Compressor and Refilling Station to the OMT REP and ship’s Master upon completion of testing.

7.9.2 Submit one electronic copy in Portable Document Format (PDF) of the Air Quality Sample results to the OMT REP and ship’s Master. All certificates are to be signed by the manufacturer’s representative (or authorized technical representative) performing the test at the accredited laboratory.

7.9.3 When inspections, maintenance, servicing and

testing reveal any deficiency, a condition report is to be submitted with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.9.4 Submit a report that includes “as released” condition of the SCBAs. Submit one electronic copy in Portable Document Format (PDF).

7.9.5 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.10 Painting: None additional

7.11 Manufacturer’s Representative

7.11.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the air compressor and filling stations identified in section 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.11.2 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

7.11.3 Provide the services of a Laboratory accredited to test compressed breathing air quality in accordance with Reference 2.2. Provide the OMT REP with written proof of qualification and accreditation from the Authority Having Jurisdiction (AHJ).

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to inspect, service and certify the ship's fixed CO2, Halon 1301 fire extinguishing and semi-fixed CO2 hose reel systems.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing 085-8386886, Fire Control Plan

2.1.2 NAVSEA Tech Manual **S9555-A6-MMA-010**, Halon 1301 Total Flooding System

2.1.3 NAVSEA S9555-D1-MMO-010, Carbon Dioxide Fixed Flooding System and Hose Reel System

2.1.4 IMO MSC.1/Circ.1432, 31 May 2012, Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances

2.1.5 IMO MSC.1/Circ.1318, Rev 1, 25 May 2021, Guidelines for the Maintenance and Inspection of Fixed Carbon Dioxide Fire-Extinguishing Systems

2.1.6 46 CFR § 91.25-20(a)(1) Fire Extinguishing Equipment (Portable and semi-portable extinguishers)

2.2 Enclosures

2.2.1 Halon 1301 FIREFIGHTING SYSTEM – 1YR Checksheet

2.2.2 CO_2 FIREFIGHTING SYSTEM – 1YR Checksheet

2.2.3 Halon 1301 Firefighting System – Cylinder Service Record

2.2.4 CO_2 Firefighting System - Cylinder Service Record

2.2.5 Placards and Markings

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

a. Spaces Protected by Halon 1301 Firefighting Systems

1. Engine Room (8-86-0-F)

2. Fire Room (8-76-0-E)

3. Fwd Pump Room (8-40-0-E)

4. Aft Pump Room (7-109-2-E)

b. Spaces Protected by Fixed CO2 Firefighting Systems

1. Paint Locker (3-5-0-K)

2. Gas Cylinder Storeroom (6-118-2-K)

3. Flammable Liquids Storeroom (7-12-0-K)

4. Fwd Pump Room (8-40-0-E)

5. Aft Pump Room (7-102-2-E)

c. Fixed CO2 Hose Reel Locations

1. Fwd Pump Room (8-40-0-E)

2. Aft Pump Room (7-102-2-E)

d. Locations/Quantity of Fixed Halon 1301 Bottles

1. Engine Room (8-86-0-F): Thirteen 125# Halon cylinders and three 5# CO2 pilot cylinders

2. Fire Room (8-76-0-E): Twelve 125# Halon cylinders and three 5# CO2 pilot cylinders

3. Fwd Pump Room (8-40-0-E): One 125# Halon cylinder and two 5# CO2 pilot cylinders

4. Aft Pump Room (7-102-2-E): Two 125# Halon cylinders and two 5# CO2 pilot cylinders

5. Spare 125# Halon cylinders: Sixteen

6. Spare 5# CO2 pilot cylinders for Halon: Fourteen

e. Locations/Quantity of Fixed CO2 Bottles

1. Paint Locker (3-5-0-K): Four 50# CO2 cylinders and two pull stations

2. Gas Storeroom (6-118-2-K): Two 50# CO2 cylinders and two pull stations

3. Hazmat Storeroom (7-12-0-K): Nine CO2 cylinders and two pull stations

4. Fwd Pump Room (8-40-0-E): Two 50# CO2 cylinders

5. Aft Pump Room (7-102-2-E): Two 50# CO2 cylinders

6. Spare CO2 cylinders: Fifteen 50# and seven 23 KG

3.2 Item Description: Fixed Gas firefighting systems and CO2 hose reels.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 46 CFR §95.16-1(a) “Clean agent” means a halocarbon or inert gas used as a fire extinguishing agent. Inert gases are defined as using one or more of the gasses nitrogen, argon, or helium.

5.3 MSC QMS N7.722.10440.5-WP, FLEXIBLE HOSE ASSEMBLY INSPECTION AND REPLACEMENT established policy for the test and replacement periodicities for all MSC vessels.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, test and certify the fixed gas fire extinguishing and CO2 semi-fixed hose reel systems identified in section 3.0 using References 2.1.1 through 2.1.6 and Enclosures 2.2.1 through 2.2.3 as guidance. Accomplish inspection, service, and testing in accordance with IMO, SOLAS, and the Manufacturer’s requirements.

7.2 Coordinate with ship’s force to have the associated equipment and system locked and/or tagged out per ship’s lock out/tag out policy to prevent accidental discharge. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.2.1 Tag-out the fixed gas firefighting systems and controls to prevent accidental discharge.

7.3 Prior to accomplishing any work, conduct a meeting with the vessels Chief Engineer and OMT Rep to determine what ship’s equipment will be shut down by the testing. It may be necessary to temporarily disconnect interlock circuits before beginning the work. Any ship’s circuits that are disconnected during the servicing must be re-connected and functionally tested when the servicing is completed to ensure the extinguishing system is operable.

7.4 Conduct an annual inspection of all fixed gas firefighting systems identified in paragraphs 3.1.1 through 3.1.3 and record the results on Enclosures 2.2.1 and 2.2.2.

7.4.1 Inspect all piping, controls, actuators, remote pulls, valves, time delays, pressure switches, sirens and alarms, extinguishing agent, expelling means and physical condition to verify the system is in good order.

7.4.2 Verify all markings, operating instructions and warning placards are in place, unobstructed and marked legible using Enclosure 2.2.3, 46 CFR §97.37 and §95.15 as guidance. Ensure operating instructions are located in a conspicuous place at or near pull boxes, stop valve controls and in the cylinder storage room. On systems where the cylinders are within the protected space, ensure the instructions include a schematic diagram of the system and instructions detailing alternate methods of discharging the system should the manual release or stop valve fail to operate.

7.4.3 Conduct an external visual examination of all cylinders identified in paragraphs 3.1.1 through 3.1.3 and complete Enclosures 2.2.1 through 2.2.2 for each system by location. Identify any with leaks or show obvious physical damage, dents, bulging, and corrosion or have been involved in a fire. Verify each cylinder is clearly marked and record all data

including name of manufacturer, year of manufacturer, serial number and size and determine if a hydrostatic test is due.

7.4.4 Weigh the extinguishing agent cylinders and pilot cylinders for gross weight, subtract the cylinders tare weight to determine the net weight of the charge in each. Record the net weight results on Enclosure 2.2.2. Identify the Design Required Charge Weight and Supplied Charge Weight using References 2.1.1 through 2.1.6 and record the results on Enclosure 2.2.2. Compare the measured charge weight or liquid level to the systems required values. If the weight loss of a cylinders charge exceeds the thresholds below immediately notify the OMT and submit a condition report. A cylinder recharge is required if the loss exceeds:

a. CO2 – 10% of charge weight

b. Inert gas – 5% of cylinder gauge pressure (adjusted for temperature)

c. Halon, Halocarbons, FM-200, NOVEC 1230 – 5% of charge weight

OR

d. Halon, Halocarbons, FM-200, NOVEC 1230 – if the cylinder is fitted with a pressure gauge 10% of the cylinder pressure (adjusted for temperature)

OR

e. Halon, Halocarbons, FM-200, NOVEC 1230 – if the cylinder is fitted with an integral floating dipstick liquid level indicator 5% of the liquid level (adjusted for temperature)

1. Any recharging will be the subject of a Contract Change Order (CCO) only as approved by the OMT Rep. When recharging is required it is to be performed using the

manufacturer’s service manual as guidance.

2. After recharging, a leak test is to be performed proving the cylinder is tight.

3. In no case is a cylinder/container to be recharged if it is beyond its specified hydrostatic test date.

7.4.5 Verify containers/cylinders fitted with a pressure gauge are in the proper range and the installation is free from leakage.

7.4.6 Check connections of all manifolds and distribution piping for tightness.

7.4.7 Inspect all hoses for damage or decay.

7.4.8 Visually examine all flexible hoses (hoses, loops,..) and their associated components connecting the high pressure cylinders and pilot cylinders to the distribution manifold/piping using the manufacturer’s recommendations as guidance. Submit a condition report identifying any found damaged, decayed, or unserviceable.

7.4.9 Verify the discharge piping and nozzles are clear of any external obstructions. Nozzles should be inspected to ensure they have not been blocked or obstructed by the storage of spare parts or a new installation of structure or machinery.

7.4.10 Verify the discharge piping and nozzles are clear of any internal obstructions. Isolate the discharge piping from the system and blow dry compressed air or nitrogen through the piping to confirm the pipework and nozzles are clear. To be demonstrated in the presence of an OMT Rep.

7.4.11 Verify all control/section valves are in the correct position.

7.4.12 Visually inspect the boundaries of the protected space to confirm that no modifications have been made to the enclosure that have created un-closeable openings that would render the system ineffective. If cylinders are installed inside the protected space, verify the integrity of the double release lines inside the protected space, and check low pressure or circuit integrity monitors on release cabinet, as applicable.

7.5 Submit a condition report to OMT REP with recommended repairs and parts required when inspections reveal any deficiency.

7.5.1 For estimating purposes, assume 10% of the cylinders identified in 3.1.1 through 3.1.3 will be due for a hydrostatic test. Perform a hydrostatic test and internal visual examination of those cylinders using References 2.1.1 through 2.1.6 for guidance in accordance with 46 CFR §147.60 through 67.

7.5.2 Temporarily remove the fire extinguishing agent and store during the hydrostatic testing and internal exams. Refill the cylinders upon successful completion.

7.5.3 Upon successful completion, re-mark the cylinders in accordance with 46 CFR §147.60 through 67.

7.6 Secure a tag or label to all cylinder indicating inspection and maintenance was performed. The tag at a minimum is to include the type of extinguishing agent, test date (month/year) and name of test facility.

7.7 With the assistance of ship’s force, functionally test

all remote pulls, fuel shut-off controls, actuators, main stop and distribution valves, time delays, audible and visual alarms, and ventilation shutdowns interconnected with fire protection systems using References 2.1.1 through 2.1.2 and manufacturer’s instruction manual as guidance.

7.7.1 Establish and implement a safety plan to prevent personnel entry into the protected spaces until testing is completed and the spaces have been ventilated and determined to be safe for human occupancy. In cases where the agent storage tank or high pressure cylinders are physically disconnected from the manifold before testing, the need for evacuation should be determined on a case-by-case basis.

7.7.2 The time delay devices must have an accuracy of -0/+20 percent of the rated time delay period through the operating temperature range and range of delay settings.

a. Test cylinders are to be sized for a minimum of 50lbs for the delay plus an additional 15lbs/min for each siren in the system.

b. b. Test cylinders must be equipped with a syphon tube.

c. c. Test cylinders must be allowed to stabilize a minimum of 72 hours after filling prior to use in testing.

d. d. Install a new nitrogen cartridge on Time Delays (if fitted) prior to testing.

e. e. Upon completion of testing, reset the Time Delay and replace nitrogen cartridge (if fitted) returning it to service.

f. f. Test cylinder is to be used only once per time delay device test. New test cylinder shall be used for each test.

7.7.3 Measure the force on remote pulls to ensure they require less than 40 lbs to operate and do not require an excessive amount of travel to activate the system.

7.8 Inspect the CO2 hose reels identified in 3.1.1.

7.8.1 Inspection should include, but not be limited to, the cylinder, cylinder discharge hose, hose reel, hose reel hose, hose connections & fittings, horn and valve assembly, cylinder brackets.

7.8.2 Examine, weigh, refill, hydrostatically test, and tag cylinders in accordance with above paragraphs 7.4.3, 7.4.4, 7.5. and 7.6.

7.8.3 Inspect the condition of the flexible hose from the cylinder to the piping.

7.8.4 Unwind hose from reel to its full length. Verify the hose moves freely. Grease if there are any grease points. Inspect the entire length of hose.

7.8.5 Inspect the condition and tightness of hose connection to reel.

7.8.6 Operate horn valve to ensure it does not stick.

7.9 Affix cylinder and system tags and labels documenting inspection, maintenance, recharging or hydrostatic testing so as not to obstruct system use, classification, or manufacturer’s labels.

7.10 Coordinate and conduct a final functional test demonstrating satisfactory operation of the fixed gas firefighting systems and CO2 hose reels in the presence of OMT REP and ABS.

7.11 Upon completion of all inspections, tests and repairs return the Firefighting Systems to a ready for service condition. Conduct a final walk around survey with the ships Master and OMT REP to verify status.

7.12 Reports

7.12.1 Upon completion of all inspections, tests, maintenance and recharging, prepare and submit the System Check sheet and Service Record forms (Enclosures 2.2.1 through 2.2.2). The reports are to be typewritten and detail the examination of the systems and final “as released” conditions. Submit one electronic copy in Portable Document Format (PDF) to the OMT.

7.12.2 For cylinders being requalified, Pressure test and visual inspection records are to adhere to 49 CFR §180.215.

7.12.3 Upon completion, submit a final report certifying that the fixed gas firefighting systems have been inspected and returned to active service. Submit one electronic

copy in Portable Document Format (PDF) to the OMT.

7.12.4 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.13 Painting

7.13.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.14 Manufacturer’s Representative

7.14.1 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only fire extinguishing system service companies certified and recognized as an ABS Recognized Service Supplier shall be used, to include oversight of all aspects of equipment inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. In addition, only OEM authorized parts will be used.

https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/

7.14.2 It is critical that all persons working on the system must be certified and fully knowledgeable in its operation and repair. Persons in training to be certified are permitted to perform maintenance and recharging of extinguishing systems under the direct supervision and in the immediate presence of a certified person.

7.14.3 Companies and persons performing maintenance and recharging of extinguishing systems are to have available the appropriate servicing manuals, correct tools, recharging materials, lubricants, and manufacturer’s replacement parts.

7.15 Preparation of Drawings

7.15.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 – HALON 1301 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

Vessel: _____ **IMO #:** _____
System Location: _____
Space Protected: _____ **FX Agent:** _____

Shipyard: _____
Service Company: _____ **Inspector:** _____
RIN #: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the firefighting system shall at a minimum include checks and tests of the following:

ENCLOSURE 2.2.1 – HALON 1301 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
1	Fire extinguishing system and controls secured to prevent accidental discharge	☐	☐	☐	
2	Placards and Instructions in place and legible	☐	☐	☐	
3	Cylinder hydrostatic test due dates verified and recorded	☐	☐	☐	
4	Hose replacement due dates verified and recorded	☐	☐	☐	
5	Cylinder pressure gauge reading or indicator is in the operable range	☐	☐	☐	
6	Cylinder charge determined by weighing or other authorized means	☐	☐	☐	
7	Cylinders and cylinder valves visually examined externally	☐	☐	☐	
8	Flexible hoses visually examined	☐	☐	☐	
9	All cylinder clamps, brackets and connections checked for tightness	☐	☐	☐	
10	Manifold visually inspected	☐	☐	☐	
11	Control valves externally examined (main and distribution)	☐	☐	☐	
12	Control valves internally examined (5YRs) (main and distribution)	☐	☐	☑	Not due
13	Control valves tested (main and distribution)	☐	☐	☐	
14	Activating heads on cylinder valves removed and tested,	☐	☐	☑	Not due

ENCLOSURE 2.2.1 – HALON 1301 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
	where possible (5YR)				
15	Cylinders and pilot cylinders visually examined internally (10YRs)	☐	☐	☑	Not due
16	Cylinders and pilot cylinders hydrostatically pressure tested (10YRs)	☐	☐	☑	Not due
17	Flexible hoses were tested (5YR) (ONLY:FM-200/ Novec 1230/N2)	☐	☐	☑	Not due
18	Flexible hoses were renewed (10YR)	☐	☐	☑	Not due
19	Check the connections of all pilot release piping and tubing for tightness	☐	☐	☐	
20	Servo tubing/pilot lines pressure tested at working pressure and checked for leakage and blockage (5YR)	☐	☐	☑	Not due
21	Automatic Timers and Time Delays tested	☐	☐	☐	
22	Remote release stations and system inspected	☐	☐	☐	
23	Remote release system tested	☐	☐	☐	
24	Manual pull cables, pulleys, gang releases tested, serviced and tightened/adjusted as necessary	☐	☐	☐	
25	Inspect discharge piping and nozzles verifying they are clear of external obstruction	☐	☐	☐	
26	Discharge piping and nozzles proved clear by blowing dry air or nitrogen thru system (2YR and 5YR)	☐	☐	☐	
27	Boundaries of the protected space visually examined to confirm no mods have been made creating un-closeable openings	☐	☐	☐	
28	Alarms tested (Audible and Visual)	☐	☐	☐	
29	Test shutdown of ventilation fans	☐	☐	☐	
30	Test closure of vent dampers	☐	☐	☐	

ENCLOSURE 2.2.1 – HALON 1301 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
31	Auto shutdown of engines tested	☐	☐	☐	
32	Remote fuel shutoffs tested	☐	☐	☐	
33	System returned to active service	☐	☐	☐	
34	Test and inspection tags attached	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.2 – CO_2 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

Vessel: _____ **IMO #:** _____
System Location: _____
Space Protected: _____ **FX Agent:** _____

Shipyard: _____
Service Company: _____ **Inspector:** _____
RIN #: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the firefighting system shall at a minimum include checks and tests of the following:

ENCLOSURE 2.2.2 – CO_2 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
1	Fire extinguishing system and controls secured to prevent accidental discharge	☐	☐	☐	
2	Placards and Instructions in place and legible	☐	☐	☐	
3	Cylinder hydrostatic test due dates verified and recorded	☐	☐	☐	
4	Hose replacement due dates verified and recorded	☐	☐	☐	
5	Cylinder pressure gauge reading or indicator is in the operable range	☐	☐	☐	
6	Cylinder charge determined by weighing or other authorized means	☐	☐	☐	
7	Cylinders and cylinder valves visually examined externally	☐	☐	☐	
8	Flexible hoses visually examined	☐	☐	☐	
9	All cylinder clamps, brackets and connections checked for tightness	☐	☐	☐	
10	Manifold visually inspected	☐	☐	☐	
11	Control valves externally examined (main and distribution)	☐	☐	☐	
12	Control valves internally examined (5YRs) (main and distribution)	☐	☐	☑	Not due
13	Control valves tested (main and distribution)	☐	☐	☐	
14	Activating heads on cylinder valves removed and tested, where possible (5YR)	☐	☐	☑	Not due

ENCLOSURE 2.2.2 – CO_2 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
15	Cylinders and pilot cylinders visually examined internally (10YRs)	☐	☐	☑	Not due
16	Cylinders and pilot cylinders hydrostatically pressure tested (10YRs)	☐	☐	☑	Not due
17	Flexible hoses were tested (5YR) (ONLY:FM-200/ Novec 1230/N2)	☐	☐	☑	Not due
18	Flexible hoses were renewed (10YR)	☐	☐	☑	Not due
19	Check the connections of all pilot release piping and tubing for tightness	☐	☐	☐	
20	Servo tubing/pilot lines pressure tested at working pressure and checked for leakage and blockage (5YR)	☐	☐	☑	Not due
21	Automatic Timers and Time Delays tested	☐	☐	☐	
22	Remote release stations and system inspected	☐	☐	☐	
23	Remote release system tested	☐	☐	☐	
24	Manual pull cables, pulleys, gang releases tested, serviced and tightened/adjusted as necessary	☐	☐	☐	
25	Inspect discharge piping and nozzles verifying they are clear of external obstruction	☐	☐	☐	
26	Discharge piping and nozzles proved clear by blowing dry air or nitrogen thru system (2YR and 5YR)	☐	☐	☐	
27	Boundaries of the protected space visually examined to confirm no mods have been made creating un-closeable openings	☐	☐	☐	
28	Alarms tested (Audible and Visual)	☐	☐	☐	
29	Test shutdown of ventilation fans	☐	☐	☐	
30	Test closure of vent dampers	☐	☐	☐	
31	Auto shutdown of engines tested	☐	☐	☐	

ENCLOSURE 2.2.2 – CO_2 FIREFIGHTING SYSTEM – 2YR CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
32	Remote fuel shutoffs tested	☐	☐	☐	
33	System returned to active service	☐	☐	☐	
34	Test and inspection tags attached	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.3 – HALON 1301 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

VESSEL _____ SHIPYARD _____ DATE _____

SYSTEM LOCATION _____ SERVICE COMPANY _____

SPACE PROTECTED _____ INSPECTOR _____

ENCLOSURE 2.2.3 – HALON 1301 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

CYL No.	BANK (Main/ Reserve/ Pilot)	FX AGENT	CYLINDER MARKINGS				SYSTEM DESIGN		WEIGHED CHARGE (Net WT) (lbs)	EXTERNAL VISUAL EXAM (date)	INTERNAL VISUAL EXAM (date)	CYLINDER HYDRO TEST (date)	CYLINDER HYDRO TEST (psi)	HOSE VISUAL EXAM (last date)	HOSE REPLACED (last date)
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0565B	CATEGORY "A"	2026-05-20
LCC-CCSI-FIXED GAS FIREFIGHTING SYSTEM INSPECTION AND TEST (2 YR) (SCSI)		Simpson, Eric H.

ENCLOSURE 2.2.3 – HALON 1301 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

CYL No.	BANK (Main/ Reserve/ Pilot)	FX AGENT	CYLINDER MARKINGS				SYSTEM DESIGN		WEIGHED CHARGE (Net WT) (lbs)	EXTERNAL VISUAL EXAM (date)	INTERNAL VISUAL EXAM (date)	CYLINDER HYDRO TEST (date)	CYLINDER HYDRO TEST (psi)	HOSE VISUAL EXAM (last date)	HOSE REPLACED (last date)
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
13															
14															
15															
16															
17															
18															
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28															
29															
30															

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0565B	CATEGORY "A"	2026-05-20
LCC-CCSI-FIXED GAS FIREFIGHTING SYSTEM INSPECTION AND TEST (2 YR) (SCSI)		Simpson, Eric H.

ENCLOSURE 2.2.3 – HALON 1301 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

CYL No.	BANK (Main/ Reserve/ Pilot)	FX AGENT	CYLINDER MARKINGS				SYSTEM DESIGN		WEIGHED CHARGE (Net WT) (lbs)	EXTERNAL VISUAL EXAM (date)	INTERNAL VISUAL EXAM (date)	CYLINDER HYDRO TEST (date)	CYLINDER HYDRO TEST (psi)	HOSE VISUAL EXAM (last date)	HOSE REPLACED (last date)
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
31															

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0565B	CATEGORY "A"	2026-05-20
LCC-CCSI-FIXED GAS FIREFIGHTING SYSTEM INSPECTION AND TEST (2 YR) (SCSI)		Simpson, Eric H.

ENCLOSURE 2.2.4 – CO_2 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

VESSEL _____ SHIPYARD _____ DATE _____

SYSTEM LOCATION _____ SERVICE COMPANY _____

SPACE PROTECTED _____ INSPECTOR _____

ENCLOSURE 2.2.4 – CO_2 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

CYL No.	BANK (Main/ Reserve/ Pilot)	FX AGENT	CYLINDER MARKINGS				SYSTEM DESIGN		WEIGHED CHARGE (Net WT) (lbs)	EXTERNAL VISUAL EXAM (date)	INTERNAL VISUAL EXAM (date)	CYLINDER HYDRO TEST (date)	CYLINDER HYDRO TEST (psi)	HOSE VISUAL EXAM (last date)	HOSE REPLACED (last date)
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0565B	CATEGORY "A"	2026-05-20
LCC-CCSI-FIXED GAS FIREFIGHTING SYSTEM INSPECTION AND TEST (2 YR) (SCSI)		Simpson, Eric H.

ENCLOSURE 2.2.4 – CO_2 FIREFIGHTING SYSTEM – CYLINDER SERVICE RECORD

CYL No.	BANK (Main/ Reserve/ Pilot)	FX AGENT	CYLINDER MARKINGS				SYSTEM DESIGN		WEIGHED CHARGE (Net WT) (lbs)	EXTERNAL VISUAL EXAM (date)	INTERNAL VISUAL EXAM (date)	CYLINDER HYDRO TEST (date)	CYLINDER HYDRO TEST (psi)	HOSE VISUAL EXAM (last date)	HOSE REPLACED (last date)
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
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27															
28															
29															
30															

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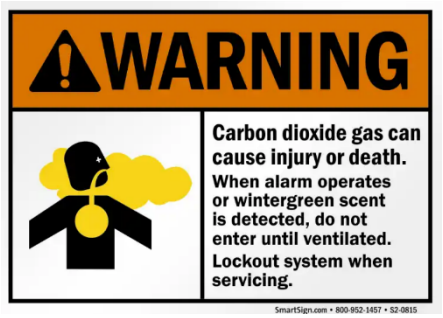
			SERIAL No.	MFG DATE	LAST TEST DATE	WORKING PRESSURE (psi)	CHARGE REQUIRED (Net WT) (lbs)	CHARGE SUPPLIED (Net WT) (lbs)							
31															

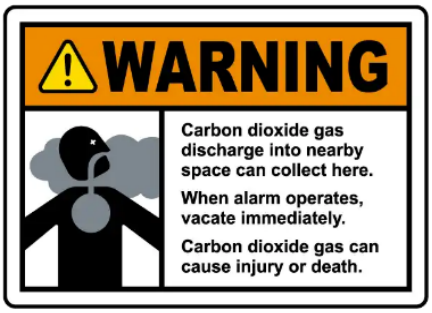
ENCLOSURE 2.2.5 - PLACARDS AND MARKINGS

Gas	Requirement	Placard verbiage
All	46 CFR §97.37-9	Each fire extinguishing alarm must be conspicuously marked: "WHEN ALARM SOUNDS VACATE AT ONCE. CARBON DIOXIDE/HALON/FM-200/NOVEC 1230 BEING RELEASED."
All	46 CFR §97.37-10 and §95.15-10	Each control valve to branch lines of all fire extinguishing systems will be plainly and permanently marked indicating the spaces served.
All	46 CFR §97.37-13	Control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems must be distinctly marked in conspicuous red letters at least 2 inches high: "CARBON DIOXIDE/HALON/FM-200/NOVEC 1230 FIRE APPARATUS."
CO_2	46 CFR §97.37-11(a)	Each entrance to spaces storing carbon dioxide must be conspicuously marked — "CARBON DIOXIDE GAS CAN CAUSE INJURY OR DEATH. VENTILATE THE AREA BEFORE ENTERING. A HIGH CONCENTRATION CAN OCCUR IN THIS AREA AND CAN CAUSE SUFFOCATION."

ENCLOSURE 2.2.5 - PLACARDS AND MARKINGS

Gas	Requirement	Placard verbiage
		https://www.safetysign.com/
CO_2	46 CFR §97.37-11(b)	Each entrance to spaces protected by carbon dioxide must be conspicuously marked — "CARBON DIOXIDE GAS CAN CAUSE INJURY OR DEATH. WHEN ALARM OPERATES OR WINTERGREEN SCENT IS DETECTED, DO NOT ENTER UNTIL VENTILATED. LOCK OUT SYSTEM WHEN SERVICING." The reference to wintergreen scent may be omitted for carbon dioxide systems not required to have odorizing units and not equipped with such units.  https://www.mysafetysign.com/
CO_2	46 CFR §97.37-11(c)	Each entrance to spaces into which carbon dioxide might migrate must be conspicuously marked — "CARBON DIOXIDE GAS CAN CAUSE INJURY OR DEATH. DISCHARGE INTO NEARBY SPACE CAN COLLECT HERE. WHEN ALARM OPERATES OR WINTERGREEN SCENT IS DETECTED VACATE IMMEDIATELY." The

ENCLOSURE 2.2.5 - PLACARDS AND MARKINGS

Gas	Requirement	Placard verbiage
		reference to wintergreen scent may be omitted for carbon dioxide systems not required to have odorizing units and not equipped with such units  https://www.safetysign.com/
CO2	46 CFR §95.15-60 Odorizing units	Each carbon dioxide extinguishing system installed or altered after July 9, 2013, must have an approved odorizing unit to produce the scent of wintergreen, the detection of which will serve as an indication that carbon dioxide gas is present in a protected area and any other area into which the carbon dioxide may migrate.

1.0 ABSTRACT

The purpose of this item is to inspect and test the ship's fixed foam firefighting systems.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing 085-8386886, Fire Control Plan

2.1.2 MSC Drawing No. 555-8386915, Fixed Foam Fire Extinguishing System Diagram

2.1.3 NAVSEA Tech Manual S9555-AG-MMM-A10, Fire Extinguishing System (AFFF)

2.1.4 IMO MSC.1/Circ.1432, 31 May 2012, Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances (Available Commercially)

2.1.5 Foam Concentrate Safety Data Sheet, National Foam, Universal CGC6

2.1.6 MSC SMS Memo#: 198; Memo to Masters, Chief Engineers, and Shore Staff – Aqueous Film Forming Foam (AFFF) Conservation

2.2 Enclosures

2.2.1 Fixed Foam Firefighting System – Check Sheet

2.2.2 Fixed Foam Firefighting System – Service Record

2.2.3 Placards and Markings

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations Protected by Fixed Foam Firefighting

Systems

a. Engine Room Bilges (8-86-0-E)

b. **Fire Room (8-76-0-E)**

c. Cargo and Vehicle Stowage (5-121-0-A)

d. Flight Deck and Hangar (1-127-0)

3.2 Description

3.2.1 See References 2.1.1 through 2.1.2.

3.3 Location/Quantity of Foam Proportioning Systems

3.3.1 Forward Foam Station (4-83-1-Q): **300** gals of 3% Ansul Ansulite 3X3 Low Viscosity Alcohol Resistant Foam Concentrate

3.3.2 Aft Foam Station (4-131-2-Q): **300** gals of 3% Ansul Ansulite 3X3 Low Viscosity Alcohol Resistant Foam Concentrate

3.3.3 AFFF Tank (7-109-3-E): 33 gals

3.4 Location/Quantity of Foam Equipment

3.4.1 Foam Hose Reels - 11 locations as identified on Reference 2.1.1: (7-79-2), (8-95-1), (8-95-2), (6-81-1), (6-81-2), (6-87-1), (6-89-2), (4-84-1), (4-87-1), (1-107-1), (1-107-2)

3.4.2 Portable Foam Applicators - Four total identified on Reference 2.1.1: one located at (3-98-3-L), one located at (3-98-4-L), one located at (1-115-1), and one located at (1-115-2)

3.4.3 Spare AFFF - Pails and drums at eleven locations identified in Reference 2.1.1:(Repair

2(4-79-1-Q), **Repair 3(4-115-4-Q)**, (8-77-2-T), (4-133-1-L), **(4-76-3-L)**,(3-40-1-L), (3-40-2-L), (3-108-0-L), (3-121-0-L), (2-86-1-L), (2-121-O-L)

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The Oily Water Separator (OWS) cannot process foam. Secure the OWS before draining foam to the bilges. Foam should be stored for discharge to a shore facility if the ship is in restricted waters. Foam may be discharged overboard if not in restricted waters.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor, materials, staging, tools and equipment as required to inspect, maintain and test the ship’s fixed foam firefighting systems identified in section 3.0 using References 2.1.1 through 2.1.6 and Enclosure 2.2.1 through 2.2.3 as guidance. Accomplish inspections and testing in accordance with USCG, IMO/SOLAS, and the Manufacturer’s requirements.

7.2 Coordinate with the ship’s Chief Engineer (CHENG) to have associated equipment locked out and tagged out per ship’s policy. Secure and tag out the fixed foam extinguishing system and controls to prevent accidental discharge. Ensure manual valves at the tanks are closed to prevent the loss of foam or possible dilution or contamination by water in the lines.

7.3 When the maintenance is complete, coordinate with the CHENG to have the locks and tags removed from the associated equipment.

7.4 Conduct an **INSPECTION** of all fixed foam firefighting systems using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance.

7.4.1 Inspect the fixed foam fire extinguishing systems and fill out Enclosures 2.2.1 and 2.2.2. It is to be a thorough examination of the system including all piping, pipe supports, controls, actuators, release stations, monitors, nozzles, valves, pressure-vacuum vent, proportioner system, gauges, pressure switches, flow switches, hoses, hose reels, portable applicators, audible and visual alarms, foam, expelling means and physical condition to verify that the system is in good operating condition. Immediately report any deficient conditions to the OMT REP.

7.4.2 Verify all markings, operating instructions and warning placards are in place, unobstructed and clearly legible. Use Enclosure 2.2.3 as guidance. Operating instructions are to be located in a conspicuous place at or near the controls.

7.4.3 Conduct an external visual examination of all foam concentrate storage tanks and complete Enclosure 2.2.1 and 2.2.2. Identify any obvious physical damage, dents, bulging, corrosion, and leaks. Verify each tank is clearly marked and record the foam data including name of manufacturer, type, concentration, and tank capacity.

7.4.4 Visually inspect the pressure and temperature gauges and tank level indicators. Identify any damage, incorrect indication and range, or issues inhibiting their proper function.

7.4.5 Verify and record the level of the foam concentrate in each tank. Compare the measured liquid levels with the recommended fill levels and previous readings to verify the proper quantity of foam concentrate is in the tank.

7.4.6 Confirm with the ships Master the foam concentrate has been maintained within the manufacturer's limits for temperature, 35°F and 120°F (2°C and 49°C). Verify the foam concentrate is being stored in a cool, dry, well-ventilated area under cover and out of direct sunlight.

7.4.7 Visually inspect all valves, fittings, piping, expansion joints and connections for valve alignment, system tightness, condition and evidence of leakage.

7.4.8 Externally examine the foam concentrate pumps, couplings and motors. Check alignment of the pumps and motors. Rotate the pumps by hand to confirm freedom of movement. With assistance from ships force run the concentrate pumps and check for proper rotation, output pressure, leakage, excessive noise or vibration or overheating. Check electrical voltage to motors.

7.4.9 Inspect and verify all pump and system relief valves are properly set and operating correctly.

7.4.10 Visually inspect all nozzles focusing particular attention in areas where nozzles are subject to weather or physical damage (Cargo Tank deck, RO-RO decks, Flight decks, Hangars, etc…).

7.4.11 Visually verify all control and distribution valves are in the correct position.

7.4.12 Cycle all control valves manually. Verify proper operation and identify any damage or degradation.

7.4.13 Cycle all automated control valves from the control panel. Verify their proper operation and identify any damage, degradation or deficient conditions.

7.4.14 Inspect all remote release stations for physical condition and proper operation. Identify any damage, degradation or deficient conditions.

7.4.15 Inspect all foam monitors (if applicable) for

damage, blockage, and freedom of movement.

7.4.16 Inspect all foam hose reels and hoses identified in paragraph 3.4.

a. Inspection should include, but not be limited to, the hose reel, hose, hose connections and fittings and vari-nozzle assembly.

b. Unwind hose from reel to its full length. Verify the hose moves freely. Grease if there are any grease points. Inspect the entire length of hose.

c. Inspect the condition and tightness of hose connection to reel.

d. Operate vari-nozzle to ensure it does not stick.

7.4.17 Vessels fitted with fixed deck firefighting systems, shall inspect any Fiber Reinforced Plastic (FRP) gratings in platforms and access ways for firefighting equipment. FRP gratings must be USCG class L1 (NVIC 9-97 Ch1) which provides the highest degree of safety and protection after fire exposure. All FRP gratings should be permanently stamped with the USCG Type Approval Number and Approval Level (L1, L2 or L3) to facilitate inspections.

7.4.18 Visually examine all Portable Foam Applicators as shown on the ships Fire Control Plan, Reference 2.1.1 and listed in paragraph 3.4. Identify any that are missing or damaged. Verify all portable foam applicators are set to the correct proportioning ratio for the foam concentrate supplied.

7.4.19 Verify all portable foam concentrate containers listed in paragraph 3.4 are factory sealed and the manufacturer’s service life interval has not been exceeded.

7.4.20 When inspections reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required.

7.5 Accomplish the following **MAINTENANCE** on the fixed foam firefighting system:

7.5.1 Temporarily remove and inspect the pressure-vacuum vent valve on the concentrate storage tanks. While vent is removed, make certain that the opening is not blocked and that dirt or other foreign objects do not enter the tank. Flush, clean, inspect and lubricate the valve and all components ensuring proper operation. Reassemble and install with new gaskets upon completion.

7.5.2 Open all filters/strainers, saltwater supply sensing lines and foam sensing lines. Examine, clean and flush all debris and contamination and reassemble with new gaskets.

7.6 Conduct the following **TESTS** on the fixed foam firefighting system using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 and 2.2.2 as guidance. Testing is to be coordinated and conducted in the presence of the OMT REP and ABS Surveyor. Fill out and submit Enclosure 2.2.1 and 2.1.2 upon completion.

7.6.1 Upon vessel arrival at the contractor’s facility, blow test each fixed foam firefighting system confirming the discharge piping and nozzles are clear of any obstructions, debris and contamination. The test shall be performed by isolating the discharge piping from the system and flowing dry air or nitrogen, or other suitable means as recommended by manufacturer, through the piping to confirm the pipework and nozzles are clear of any debris and obstructions. This may require the removal of nozzles, if applicable. Identify, record and report the location and quantity of any non-functioning nozzles.

7.6.2 Within the first two weeks of an availability, draw a two pints (1L) representative sample of the foam concentrate from each concentrate storage tank and submit to the manufacturers listed below for testing:

Drew Marine Chemical

Attn: Analytical Services
400 Captain Neville Drive
Waterbury, CT 06705 USA
Phone: 475-557-7407
Alt. Phone: 757-858-3830

Sample Collection: While a thief sample obtained through the manhole access is ideal, a bottom sample drawn from the drain valve is acceptable for practicality. If obtaining a bottom sample, utilize a clean five-gallon bucket to collect foam concentrate from the bottom drain valve. Continue drawing concentrate until the color appears consistent, then obtain the two-pint (1L) sample. The remaining foam concentrate in the bucket should be returned to the tank.

7.6.3 The foam manufacturer is to issue a lab certificate indicating specific gravity, sedimentation, pH value, expansion ratio, drainage time, volumetric mass and percentage of water dilution using MSC.1/Circ.1312 for low expansion foam or MSC/Circ.670 for high expansion foam as guidance. Submit a copy in Portable Document Format (PDF) format to the OMT REP upon receipt.

7.6.4 Test the diaphragm valve for holes or tears in accordance with the OEMs procedures. With assistance of ships force, pressurize either the foam concentrate side or the water side of the proportioning system. Open the diaphragm valve Flush-Out Petcock for the side of the proportioning system not pressurized. Observe the liquid being discharged from the appropriate flush-out petcock. If liquid from pressurized side is found in discharge from flush-out petcock, the valve diaphragm has a hole or tear.

7.6.5 Functionally test all audible and visual alarms warning of the release of the system. Test for their satisfactory operation in each machinery space, cargo pump-room, vehicle space, RO-RO space and special category space being protected by the fixed foam systems. Test all alarms ensuring they operate for the length of time needed to evacuate the

space, but in no case less than 20 seconds.

7.6.6 Functionally test all remote release stations for proper operation. This is to include demonstration of system automation such as auto startup of fire pumps, etc... upon activation.

7.6.7 Functionally test all ventilation and fuel shut-off controls connected to fire-protection systems for proper operation.

7.6.8 Test all system cross connections to other sources of water supply for proper operation.

7.6.9 Hydrostatically test the hose reel hoses to working pressure.

7.7 Tags and Labels

7.7.1 Tags and labels documenting inspection, maintenance, recharging or testing shall be affixed so as not to obstruct the equipment use, classification or manufacturers labels.

7.7.2 Each storage tank shall have a tag or label securely attached that indicates inspection and maintenance was performed. The tag at a minimum shall identify the following:

a. Date (month/day/year) of Inspection

b. Gallons of AFFF

c. Name of the Agency/Company performing the Inspection

7.8 Upon completion of all inspections, tests and repairs return the Foam Firefighting Systems to a ready for service condition. Conduct a final walk around survey with the vessels Master and OMT REP to verify system alignment and status.

7.9 Reports

7.9.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.9.2 Upon completion of all inspections, maintenance and tests, prepare and submit the results of the foam concentrate tests, foam mix ratio tests, System Check sheet and System Service form shown in Enclosure 2.2.1 and 2.2.2. The report is to document the examination of the system and final “as released” conditions. Submit one electronic copy in Portable Document Format (PDF) to the OMT REP.

7.9.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.10 Painting/Lagging

7.10.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.10.2 Renew lagging where damaged or disturbed.

7.11 Manufacturer’s Representative

7.11.1 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only fire extinguishing system service companies certified and recognized as an ABS Recognized Service Supplier shall be used. To include oversight of all aspects of equipment inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. In addition, only OEM authorized parts will be used.

https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/

7.11.2 It is critical that all persons working on the

system must be certified and fully knowledgeable in its operation and repair. Persons in training to be certified are permitted to perform maintenance and recharging of extinguishing systems under the direct supervision and in the immediate presence of a certified person.

7.11.3 Companies and persons performing maintenance and recharging of extinguishing systems are to have available the appropriate servicing manuals, correct tools, recharging materials, lubricants, and manufacturer’s replacement parts.

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.sed and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - FIXED FOAM FIREFIGHTING SYSTEM – CHECKSHEET

Vessel: _____ **IMO #:** _____

System Location: _____

Area Protected: _____ **Foam Mfg:** _____

Tank Capacity: _____ **Foam Type:** _____

Shipyard: _____ **Inspector:** _____

Service Company: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the fire fighting system will at a minimum include checks and tests of the following:

#	COMPONENT	SAT	UNSAT	NA	COMMENTS
1	Fire extinguishing system and controls secured to prevent accidental discharge	☐	☐	☐	
2	Placards and Instructions in place and legible	☐	☐	☐	
3	Visually examine foam concentrate storage tank externally	☐	☐	☐	
4	Verify tank level indicator is functioning properly	☐	☐	☐	
5	Foam concentrate level is in the operable range	☐	☐	☐	
6	PV valve on the concentrate storage tank inspected.	☐	☐	☐	
7	Foam concentrate sampled from storage tanks and sent to Mfg for analysis	☐	☐	☐	
8	Foam concentrate being stored within Mfg's environmental parameters	☐	☐	☐	
9	System piping, hoses, valves and nozzles visually inspected	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

ENCLOSURE 2.2.1 - FIXED FOAM FIREFIGHTING SYSTEM – CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTS
10	Relief valve setting verified and tested	☐	☐	☐	
11	Control valves cycled manually	☐	☐	☐	
12	Control valves cycled from control panel	☐	☐	☐	
13	Internally examine control valves (5YR)	☐	☐	☑	Not due
14	Remote release stations examined and tested	☐	☐	☐	
15	Monitors visually examined (if applicable)	☐	☐	☐	
16	Hose reels and applicators visually examined	☐	☐	☐	
17	Hydrostatically test hoses to working pressure	☐	☐	☐	
18	Examine foam concentrate pump and motor alignment, freedom of movement, correct rotation	☐	☐	☐	
19	Test foam concentrate pump operation; output pressure, vibration and motor voltage	☐	☐	☐	
20	Discharge piping and nozzles on foam systems proved clear by blowing air thru system (5YR)	☐	☐	☑	Not due
21	Discharge piping and nozzles on **weather deck and flight deck** foam systems proved clear by flowing water thru system (2.5YR)	☐	☐	☑	Not due
22	Perform functional test of system at sea	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

ENCLOSURE 2.2.1 FIXED FOAM FIREFIGHTING SYSTEM – CHECKSHEET

#	COMPONENT	SAT	UNSAT	NA	COMMENTS
23	Alarms tested (Audible and Visual)	☐	☐	☐	
24	Test ventilation and fuel shut-off controls interconnected to the foam system (if applicable)	☐	☐	☐	
25	Sample and test the mix ratio from each proportioner (2.5YR)	☐	☐	☑	Not due
26	Flush RO-RO deck deluge system piping w/water, drain and purge w/air (if applicable) (5YR)	☐	☐	☑	Not due
27	System returned to active service	☐	☐	☐	
28	Inspection tags attached	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.2 - FIXED FOAM FIREFIGHTING SYSTEM – SERVICE RECORD

Vessel: _____ **IMO #:** _____
System Location: _____
Area Protected: _____ **Foam Mfg:** _____
Tank Capacity: _____ **Foam Type:** _____

Shipyard: _____ **Inspector:** _____
Service Company: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the fire fighting system will at a minimum include checks and tests of the following:

ENCLOSURE 2.2.2 – FIXED FOAM FIREFIGHTING SYSTEM – SERVICE RECORD

COMPONENT	EXAM	RECORDED DATA	SET POINT
Proportioner Skid	MFG		
	Model No.		
	Serial No.		
AFFF Storage Tank	Capacity (gals)		300 gals
	External Visual Inspection (date)		1YR
	Internal Visual Inspection (date)		1YR
	Measured AFFF Charge (date)		1YR
	Measured AFFF Charge (gals)		___ gal
	AFFF Liquid Level (% Full)		__ %
	PV Valve examined		1YR
	Low level alarm setting (%)		___ %
	Samples of foam concentrate tested by MFG (date)		1YR
AFFF System	Visual inspection of system made (date)		1YR
	Flow test all water supply and foam pumps for proper		1YR

ENCLOSURE 2.2.2 – FIXED FOAM FIREFIGHTING SYSTEM – SERVICE RECORD

COMPONENT	EXAM	RECORDED DATA	SET POINT
	pressure and capacity		
	Test all system cross connections to other sources of water supply		1YR
	Blow test discharge piping and nozzles proving clear		5YR
	Test all ventilation and fuel shut-off controls connected to the fire extinguishing system		1YR
	Functional test of weather deck and flight deck foam systems at sea. Discharge foam for 15 sec from nozzles chosen by ABS Surveyor. Discharge water from all lines and nozzles proving they are clear of obstruction		2.5YR
	Test all proportioners to confirm mix ratio tolerance within +30 to – 10% of design approval		5YR
Alarms	Functional Test (audible and visual alarms)		1YR
Relief valve	Pump relief valve pop test (date)		1YR
	Pump relief valve pop test (psi)		___ psi
Control valves	Verify all Control and Distribution valves are in correct position		1YR
	Main Stop valve internally examined (date)		5YR
	Distribution valves internally examined (date)		5YR
	Balanced Proportioner valves internally examined (date)		5YR
Filters & Strainers	Examined and verified free of debris and contamination		1YR
Release Stations	Functional test		1YR
Portable Foam Applicators	Verify eqpt is in place and in proper order		1YR

ENCLOSURE 2.2.2 – FIXED FOAM FIREFIGHTING SYSTEM – SERVICE RECORD

COMPONENT	EXAM	RECORDED DATA	SET POINT
	Verify portable foam concentrate containers are factory sealed and within service life		1YR
Foam Hose Reels	Inspect hose reel, hose and vari-nozzle		1YR
	Hydro test hose to working pressure		1YR
	Functional test		2.5YR
Foam Monitors (if applicable)	Inspect		1YR
	Functional test		2.5YR
Firemain	Pressure		___ psi
RO-RO Deck Deluge system	Flush w/water, drain and purge w/air (if applicable)		5YR

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.3 - PLACARD AND MARKINGS

Foam	Requirement	Placard verbiage
Cargo and Miscellaneous Vessels	46 CFR §97.37-10 and §95.15-10	Each branch line control valve of all fire extinguishing systems will be plainly and permanently marked indicating the spaces served.
Cargo and Miscellaneous Vessels	46 CFR §97.37-13 and §35.40-10	Control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems must be distinctly marked in conspicuous red letters at least 2 inches high: “FOAM FIRE APPARATUS.”
Tank vessels	46 §35.40-10	Each foam firefighting apparatus must be marked “FOAM FIRE APPARATUS” in red letters at least 2 inches high. Branch pipe valves leading to the several compartments must be distinctly marked to indicate the compartments or parts of the vessel to which they lead.
Tank vessels	46 §35.40-17	At each required foam hose/monitor valve there will be marked in not less than 2-inch red letters and figures: “FOAM STATION 1,” 2, 3, etc.

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0568A	CATEGORY "A"	2026-05-20
LCC-CCSI-WATER MIST-SPRAY-SPRINKLER INSPECTION AND TEST (1 YR) (SCSI)		Simpson, Eric H.

1.0 ABSTRACT

The purpose of this item is to describe the requirements to inspect, service and test the fixed water mist, water spray and sprinkler firefighting systems (non-magazine).

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing No. 085-8386886, Fire Control Plan

2.1.2 MSC Drawing No. 555-8496614, Water Mist/Water Spray/Sprinkler Fire Extinguishing System Diagram

2.1.3 Tech Manual P13RNG8521, Novenco Xflow Water Mist System System Manual

2.1.4 IMO MSC.1/Circ.1432, 31 May 2012, Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances

2.2 Enclosures

2.2.1 Mist/Spray/Sprinkler Firefighting System - Check sheet

2.2.2 Mist/Spray/Sprinkler Firefighting System – Service Record

2.2.3 Placards and Markings

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location/Quantity

3.1.1 Locations: See References 2.1.1 and 2.1.2

3.1.2 Quantity

a. **30** ea Sprinkler Heads SS/DG RM. 2 (5-125-2-E)

b. **52** ea Sprinkler Heads SS/DG RM. 1 (5-121-1-E)

3.2 Description: See Reference 2.1.2 and 2.1.3

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Definitions

5.2.1 Dry Standpipe: A standpipe system designed to have piping contain water only when the system is being utilized.

5.2.2 Wet Standpipe: A standpipe system designed to have piping contain water at all times.

5.2.3 Automatic System: A fire suppression or control device that operates immediately and automatically when its heat activated element is opened by heat from a fire, allowing water to discharge over a specified area. Automatic sprinkler systems are of the wet pipe type.

5.2.4 Deluge System: A sprinkler system employing open sprinklers or nozzles attached to a piping system and water supply. When the water supply valve opens, water flows into the piping system and discharges from all sprinklers or nozzles attached.

5.2.5 Nozzle: A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristic.

5.2.6 Sprinkler: The component of a fire sprinkler

system that discharges water when the effects of a fire have been detected. They can be open or thermally activated.

5.3 This work item is not intended for systems protecting Ammunition Magazines.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the thorough examination, testing and repair of the fixed Water Mist/Water Spray/Sprinkler firefighting systems using IMO/SOLAS and USCG requirements as guidance.

7.2 Coordinate with ship’s Chief Engineer (CHENG) to have the associated equipment and system locked and/or tagged out during the performance of this work item. Secure and tag out the fixed Water Mist/Water Spray/Sprinkler firefighting systems and controls to prevent accidental discharge.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 Conduct an annual **INSPECTION** of the fixed Water Mist/Water Spray/Sprinkler firefighting systems using References 2.1.1 through 2.1.4 and Enclosures 2.2.1 through 2.2.3 as guidance.

7.4.1 Inspect the fixed Water Mist/Water Spray/Sprinkler firefighting systems and fill out Enclosures 2.2.1 and 2.2.2. It is to be a thorough examination of the entire system including all sprinklers, nozzles, piping, pipe supports, controls, sensors, actuators, release stations, pressure tank, control/section valves, system valves, gauges, switches, signal devices, sirens and alarms and physical condition to verify that the system is in good operating condition.

7.4.2 Verify all markings, operating instructions and

warning placards are in place, unobstructed and clearly legible. See Enclosure 2.2.3 for guidance. Operating instructions are to be in a conspicuous place at or near the controls.

7.4.3 Conduct an external visual examination of the associated tanks (pressure and accumulator) completing Enclosures 2.2.1 and 2.2.2. Identify any obvious physical damage, dents, bulging, corrosion, and leaks. Verify each tank is clearly marked and record the water treatment data including name of manufacturer, type, concentration, and tank capacity.

7.4.4 Inspect the condition of the tank level and pressure indicating system.

7.4.5 Verify and record the air pressure and water level in each tank. The measured data must be compared with the manufacturers recommended parameters and previous readings.

7.4.6 Draw a representative sample of the freshwater and/or antifreeze solution from each tank and test its specific gravity. Inspect the water quality for evidence of sedimentation, corrosion, or scale-forming minerals. Test for adequate freeze protection. Provide a copy of the test results to the OMT REP.

7.4.7 Verify all control/section valves are in the correct position.

7.4.8 Check all valves, fittings, piping and connections for valve alignment, damage, corrosion, and evidence of leakage.

7.4.9 Inspect sprinkler pipe hangers, braces, and supports verifying they are not damaged, loose or unattached.

7.4.10 Inspect all alarms (control valve monitoring, fire pump status, sprinkler pump status, water tank low level, water tank pressure, zone waterflow, etc…), pressure switches, flame detectors, smoke detectors and supervisory signal initiating devices for proper operation. An audible alarm shall be given at the central safety station and the navigation bridge

within 30 seconds of waterflow.

7.4.11 Inspect heat tracing (if applicable).

7.4.12 Externally examine the sprinkler pumps, couplings, and motors. Check alignment of the pumps and motors. Rotate the pumps by hand to confirm freedom of movement. With assistance from ships force run the sprinkler pumps and check for proper rotation, output pressure, leakage, excessive noise or vibration or overheating. Check electrical voltage to motors.

7.4.13 Verify all pump relief valves are properly set and operating correctly.

7.4.14 Cycle all control valves manually.

7.4.15 Cycle all automated control valves from the control panel.

7.4.16 Inspect and test all remote release stations.

7.4.17 Visually inspect all sprinklers, nozzles and sprinkler guards. Any that show signs of leakage, corrosion that would impair performance, physical damage, loss of fluid in the glass bulb heat-responsive element, loading detrimental to performance or paint other than applied by the Manufacturer require replacement.

7.4.18 Inspect and verify the discharge piping, sprinklers and nozzles are clear of any obstructions. Sprinklers and nozzles should be visually examined to ensure they have not been obstructed by the storage of spare parts or a new installation of structure or machinery.

7.4.19 Inspect and verify the necessary quantity of spare sprinkler heads are carried onboard for all types and ratings installed on the ship as follows:

Total number of heads in the system	*Required number of spares*
< 300	6

Total number of heads in the system	*Required number of spares*
300 to 1000	12
> 1000	24

7.4.20 Inspect and verify that a sprinkler wrench is onboard.

7.4.21 Inspect the International Shore Connection fittings, both port and starboard side. Verify the connections are colored and marked so they are easily located and identified.

7.4.22 If the system is pre-primed with water containing a fire suppression enhancing additive and/or an antifreeze agent, it is to be inspected and tested as specified by the manufacturer to verify its effectiveness.

7.4.23 When inspections reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required.

7.5 Conduct annual **MAINTENANCE** of the fixed Water Mist/Water Spray/Sprinkler firefighting systems using References 2.1.1 through 2.1.4 and Enclosures 2.2.1 through 2.2.3 as guidance.

7.5.1 Open all filters/strainers (including saltwater supply as applicable), examine, clean of all debris and contamination and reassemble.

7.6 Conduct annual **TESTING** of the fixed Water Mist/Water Spray/Sprinkler firefighting systems using References 2.1.1 through 2.1.4 and Enclosures 2.2.1 through 2.2.3 as guidance.

7.6.1 Temporarily install plastic socks using transparent four mil poly tubing roll over all water mist nozzles (inclusive of nozzles in the overhead) directing water to bilge or containment area away from equipment. Remove socks after all testing is completed.

NOTE: Contractor shall be responsible for removal of all liquids generated and cleaning of bilges, to ensure affected bilges are left in a clean and dry condition.

7.6.2 Test all system cross connections to other sources of water supply for proper operation.

7.6.3 Test emergency power supply switchover (where applicable).

7.6.4 Flow test all pumps for proper pressure and capacity.

7.6.5 For Dry Pipe systems, confirm the sprinklers, nozzles and pipes are free of obstructions, by blowing through the lines with compressed air or nitrogen as applicable or other suitable means recommended by the manufacturer. Nozzles are to be removed for this test. To be coordinated and conducted in the presence of the OMT REP and ABS Surveyor.

7.6.6 For automatic systems, functionally test two randomly selected sprinkler head/nozzles per section in ten sections; 20 sprinkler head/nozzles in total. Sprinkler heads/nozzles are to be chosen by the ABS Surveyor but are to be different from any previously tested within the last five years. The functional test is defined as a test that demonstrates operation and flow of the water from sprinkler head/nozzle. To be coordinated and conducted in the presence of the OMT REP and ABS Surveyor.

a. Test the water quality of each corresponding section for evidence of sedimentation, corrosion, or scale-forming minerals. Test for adequate freeze protection.

b. Document any sprinkler head/nozzles that fail and note where any two have failed within the same test section.

c. Submit a test report summary to the OMT REP.

d. If three or more of each type sprinkler head/nozzle fails then ‘Part 2 - Extended Testing’ is required

per Reference 2.1.4. Extended Testing will be the subject of a CCO if deemed necessary by the OMT REP.

7.6.7 Coordinate and conduct a functional test of the system, with assistance from ships force, demonstrating satisfactory operation of the fixed Water Mist/Water Spray/Sprinkler firefighting systems in the presence of the OMT REP and ABS Surveyors (without releasing water into the space). Verify proper operation using the test valves for each section. To include satisfactory operation of all sources of water supply, release stations, power sources, controls, automation, sensors, actuators, valves, pumps, audible and visual alarms as stated in References 2.1.2 through 2.1.4.

7.6.8 Each section drained or flushed shall be refilled upon completion in accordance with the manufacturer’s guidelines. Test and record the water quality as a baseline for future monitoring. Submit results to the OMT REP.

7.7 Tags and Labels

7.7.1 Tags and labels documenting inspection, maintenance, recharging or testing shall be affixed so as not to obstruct the equipment use, classification or manufacturers labels.

7.7.2 Each storage tank shall have a tag or label securely attached that indicates inspection and maintenance was performed. The tag at a minimum shall identify the following:

a. Date (month/day/year) of Inspection

b. Name of the Agency/Company performing the Inspection

7.8 Upon completion of all inspections, tests and repairs return the Water Mist/Water Spray/Sprinkler Firefighting Systems to a ready for service condition. Conduct a final walk around survey with the OMT REP and ships Master to verify system alignment and status.

7.9 Reports

7.9.1 Upon completion of all inspections, maintenance and tests the contractor will prepare and submit the results of the water quality tests, System Check & Service Record forms shown in Enclosures 2.2.1 and 2.2.2. They will document the examination of the system and final “as released” conditions. Submit one electronic copy in Portable Document Format (PDF) to the OMT REP.

7.9.2 All reports, records and checklists will be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.10 Painting/Lagging

7.10.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.10.2 Renew lagging where damaged or disturbed.

7.11 Manufacturer’s Representative

7.11.1 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only fire extinguishing system service companies certified and recognized as an ABS Recognized Service Supplier shall be used. To include oversight of all aspects of equipment inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. In addition, only OEM authorized parts will be used.

https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/

7.11.2 It is critical that all persons working on the system must be certified and fully knowledgeable in its operation and repair. Persons in training to be certified are permitted to perform maintenance and recharging of extinguishing

systems under the direct supervision and in the immediate presence of a certified person.

7.11.3 Companies and persons performing maintenance and recharging of extinguishing systems are to have available the appropriate servicing manuals, correct tools, recharging materials, lubricants, and manufacturer’s replacement parts.

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

MIST/SPRAY/SPRINKLER FIREFIGHTING SYSTEM – CHECKSHEET

Vessel: _____ **IMO #:** _____
System Location: _____
Area Protected: _____ **System Operation:** automatic/manual
Tank Capacity: _____ **Water Treatment:** _____

Shipyard: _____ **Inspector:** _____
Service Company: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the firefighting system will at a minimum include checks and tests of the following:

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
1	Fire extinguishing system and controls secured to prevent accidental discharge	☐	☐	☐	
2	Placards and Instructions in place and legible	☐	☐	☐	
3	Externally examine storage/pressure tanks	☐	☐	☐	
4	Internally examine storage/pressure tanks (5YR)	☐	☐	☑	Not due
5	Verify tank level and pressure indicators are functioning properly	☐	☐	☐	
6	Water level and pressure are in the operable range	☐	☐	☐	
7	Fresh water sampled from tanks and analyzed	☐	☐	☐	
8	System piping, valves and sprinklers/nozzles visually inspected	☐	☐	☐	

ENCLOSURE 2.2.1

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0568A	CATEGORY "A"	2026-05-20
LCC-CCSI-WATER MIST-SPRAY-SPRINKLER INSPECTION AND TEST (1 YR) (SCSI)		Simpson, Eric H.

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
9	Sprinkler pipe hangers, braces and supports inspected	☐	☐	☐	
10	Inspect waterflow device, pressure switches and signal devices	☐	☐	☐	
11	Inspect heat tracing (if applicable)	☐	☐	☐	
12	Replace system batteries (5YR)	☐	☐	☑	Not due
13	Examine sprinkler pump and motor alignment, freedom of movement, correct rotation	☐	☐	☐	
14	Test sprinkler pump operation; output pressure, vibration and motor voltage	☐	☐	☐	
15	Relief valve setting verified and tested	☐	☐	☐	
16	Verify all Control/Section valves are in correct position	☐	☐	☐	
17	Control valves cycled manually	☐	☐	☐	
18	Control valves cycled from control panel	☐	☐	☐	
19	Internally examine control/section valves (5YR)	☐	☐	☑	Not due
20	Internally examine the non-return valve connecting the sprinkler system to firemain (5YR)	☐	☐	☑	Not due
21	Remote release stations examined and tested	☐	☐	☐	

ENCLOSURE 2.2.1

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
22	Inspect all sprinklers and nozzles	☐	☐	☐	
23	Verify qty of spare nozzles and sprinkler wrench carried onboard	☐	☐	☐	
24	Inspect international shore connections	☐	☐	☐	
25	Test quality of system water and additives	☐	☐	☐	
26	Open and clean SW strainers	☐	☐	☐	
27	Test all system cross connections to other sources of water supply	☐	☐	☐	
31	Test emergency power supply switchover	☐	☐	☐	
32	Flow test all sprinkler pumps for proper pressure and capacity	☐	☐	☐	
33	Dry System - Blow test discharge piping and nozzles proving clear (if applicable)	☐	☐	☐	
34	Automatic System – functionally test randomly selected sprinkler/nozzles (if applicable)	☐	☐	☐	
	Flush all RO-RO deck deluge system piping. (if applicable) (5YR)	☐	☐	☑	Not due
	Gas and water cylinders hydrostatically pressure tested and internal exam (10YRs)	☐	☐	☑	Not due

ENCLOSURE 2.2.1

#	COMPONENT	SAT	UNSAT	NA	COMMENTs
35	Perform a final functional test of system	☐	☐	☐	
36	Alarms tested (Audible and Visual)	☐	☐	☐	
37	Detectors and supervisory signal initiating devices tested	☐	☐	☐	
38	System refilled and treated	☐	☐	☐	
39	System returned to active service	☐	☐	☐	
40	Inspection tags attached	☐	☐	☐	

SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.1

MIST/SPRAY/SPRINKLER FIREFIGHTING SYSTEM – 1YR SERVICE RECORD

Vessel: _____ **IMO #:** _____
System Location: _____
Area Protected: _____ **System Operation:** automatic/manual
Tank Capacity: _____ **Water Treatment:** _____

Shipyard: _____ **Inspector:** _____
Service Company: _____ **Date:** _____

To be completed by the system inspector at the time of inspection or test. The inspection of the fire fighting system will at a minimum include checks and tests of the following:

COMPONENT	EXAM	RECORDED DATA	SET POINT
Detector-Alarm System	MFG		
	Model No.		
	Serial No.		
Sprinkling Pump(s)	MFG		
	Model No.		
	Serial No.		
	Serial No.		
	Serial No.		
Fixed Sprinklers and Nozzles	Mfg		
	Model No.		___ qty
	Mfg		
	Model No.		___ qty
	Mfg		
	Model No.		___ qty

ENCLOSURE 2.2.2

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0568A	CATEGORY "A"	2026-05-20
LCC-CCSI-WATER MIST-SPRAY-SPRINKLER INSPECTION AND TEST (1 YR) (SCSI)		Simpson, Eric H.

COMPONENT	EXAM	RECORDED DATA	SET POINT
Fresh Water Storage Tank	Capacity (gals)		___ gals
	External Visual Inspection (date)		1YR
	Internal Visual Inspection (date)		5YR
	Measured FW Charge (date)		1YR
	Measured FW Charge (gals)		___ gal
	FW Liquid Level (% Full)		__ %
	FW Tank Pressure (psi)		__-__ psi
	Low level alarm setting (%)		__ %
	Samples of water tested (date)		1YR
	Hydro test and internal exam on gas and water cylinders (date)		10YR
Water Mist/Water Spray/Sprinkler System	Visual inspection of system made including sprinklers/nozzles(date)		1YR
	Test all system cross connections to other sources of water supply		1YR
	Obstruction test of Dry Pipe systems. Blow dry compressed air or N2 through discharge piping and nozzles proving clear		1YR
	Functional test of Automatic systems. Flow test 2 randomly selected sprinklers/nozzles per section in 10 sections as chosen by ABS surveyor. Discharge water proving they are clear of obstruction		1YR
	Examine all sprinkler pumps and motors		1YR
	Flow test all water supply and sprinkler pumps for proper pressure and capacity		1YR

ENCLOSURE 2.2.2

COMPONENT	EXAM	RECORDED DATA	SET POINT
	Emergency power switchover tested		1YR
	Test all ventilation and fuel shut-off controls connected to the fire extinguishing system		1YR
	Functional test of system demonstrating SAT operation		1YR
	International Shore Connection examined		1YR
	System batteries replaced (date)		5YR
	Flush RO-RO deck deluge system (date)		5YR
Alarms	Inspect all alarms including status indication, flame/heat/smoke detectors, switches and signal initiating devices		1YR
	Functional Test (audible and visual alarms)		1YR
Relief valve	Pump relief valve pop test (date)		1YR
	Pump relief valve pop test (psi)		__ psi
Control valves	Verify all Control/Section valves are in correct position (date)		1YR
	Control valves cycled by local and remote (date)		1YR
	Control/Section valves internally examined (date)		5YR
	Sprinkler System-Firemain cross connection valve internally examined (date)		5YR
Filters & Strainers	Examined and verified free of debris and contamination		1YR
Release Stations	Functional test		1YR
Firemain	Pressure		150 psi

ENCLOSURE 2.2.2

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Date: _____

Printed Name: _____ Phone: _____

Title: _____

Organization: _____

ENCLOSURE 2.2.2

PLACARD AND MARKINGS

Vessel Type	Requirement	Placard verbiage
Cargo and Miscellaneous Vessels	46 CFR §97.37-10	Each branch line control valve of all fire extinguishing systems will be plainly and permanently marked indicating the spaces served.
Cargo and Miscellaneous Vessels	46 CFR §97.37-13	The control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems must be distinctly marked in conspicuous red letters at least 2 inches high: "[STEAM/CARBON DIOXIDE/CLEAN AGENT/FOAM/WATER SPRAY—as appropriate] FIRE APPARATUS.".
Tank Vessels	§35.40-18	(a) Water spray system apparatus will be marked: "WATER SPRAY SYSTEM," as appropriate, in not less than 2-inch red letters. (b) The control valve, and its control if located remotely, will be distinctly marked to indicate the compartment protected.
Passenger Vessels	46 CFR §78.47-13	(a) The fire detection, alarm, and automatic sprinkler indicators in the engine room must be identified by at least 1-inch red lettering as "FIRE ALARM" or "SPRINKLER ALARM" as appropriate. Where such alarm indicators on the bridge or in the fire control station do not form a cabinet, the indicators must be suitably identified as above.
Passenger Vessels	46 CFR §78.47-17	Each control cabinet or space containing valves or manifolds for a fire extinguishing system must be distinctly marked in conspicuous red letters at least 2

PLACARD AND MARKINGS

Vessel Type	Requirement	Placard verbiage
		inches high: "[CARBON DIOXIDE/STEAM/FOAM/WATER SPRAY/MANUAL SPRINKLING/AUTOMATIC SPRINKLING/CLEAN AGENT—as appropriate] FIRE SYSTEM.".
All	MSC.1/Circ.1387	Where automatically operated systems are installed for localized fire protection without the necessity of engine shut-down, personnel evacuation, shutting down of forced ventilation fans, or sealing of the space a warning notice must be posted outside each entry point stating the type of medium being used and the possibility of automatic release.
Ships above 500 tons gross ton	SOLAS II-2, 10 46 §76.10-10(C)	International Shore Connection shall be colored and marked so they are easily access from the shore access point (ie; gangway location)

ENCLOSURE 2.2.3

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY	CONTRACT NO. N00000-00-X-0000	
ITEM NO. 0569	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)	Simpson, Eric H.	

1.0 ABSTRACT

The purpose of this item is to inspect, service, and test the ship’s fire and smoke detection system and associated alarm systems.

2.0 REFERENCES/ENCLOSURES

2.1 References:

2.1.1 MSC Drawing 8394052, Fire Detection System Upgrade

2.1.2 Tech Manual A6V10211076_0_0, Fire Control Panel/Fire Terminal Operations Manual

2.1.3 Tech Manual A6V10211088-B-EN, Alarm Procedure with AVC

2.1.4 46 CFR §76.27 — Fire Detection and Alarm System, Details, §76.33 — Smoke Detection System, Details, § 76.35 — Manual Alarm System, Details

2.1.5 SOLAS II-2, Part C, Regulation 7; Detection and Alarm (Available commercially)

2.1.6 NFPA Code 72 National Fire Alarm and Signaling Code (Available Commercially)

2.2 Enclosure:

2.2.1 Fire and Smoke Detection and Alarm System – Inspection and Test Form

2.2.2 Fire and Smoke Detection and Alarm System – Initiating Device Test Results Form

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: See reference 2.1.1.

3.1.2 Quantity:

a. 33 heat detectors

b. 44 thermal detectors

c. 224 smoke detectors

d. 118 pull stations

3.2 Item Description/Manufacturer’s Data: Fire and smoke detection and alarm system
Manufacturer: Siemens

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be

attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, and test the fire and smoke detection system identified in paragraph 3.0 using References 2.1.1 through 2.1.6 for guidance. Accomplish inspection and testing in accordance with IMO, SOLAS, and manufacturer’s requirements.

7.2 Fire detection and alarm systems may output signals to other fire safety systems including, but not limited to, paging systems, fire alarm or public address systems, fan stops, fire doors, fire dampers, sprinkler systems, smoke extraction systems, low-location lighting systems, fixed local application fire extinguishing systems, and closed-circuit television systems.

7.3 With the assistance of ship’s force, secure and tag systems including any associated fire extinguishing system and controls to prevent accidental discharge.

7.4 Conduct an annual inspection of all fire and smoke detection and alarm systems and complete enclosures 2.2.1 and

2.2.2. It is to be a thorough examination of the equipment and system ensuring there are no changes that affect performance and verifying that the system and components are in good operating condition. It is to include inspection for ship modifications, changes in environmental conditions, device locations, physical obstruction, physical damage and degree of cleanliness.

7.4.1 Examine the control equipment to verify normal system condition to include fuses, interfaced equipment, lamps and LEDs, power supply and trouble signals.

7.4.2 Verify location and condition of emergency communication equipment including public address system, or general alarm and emergency elevator phone.

7.4.3 Examine batteries for corrosion or leakage. Verify month and year of manufacture, tightness of connections and level of electrolyte.

7.4.4 Examine UPS and verify meters, lamps and LEDs indicate normal operating status. Verify proper fuse ratings.

7.4.5 Examine location and condition of the remote annunciators.

7.4.6 Verify location and condition of fiber optic cable connections.

7.4.7 Conduct an external visual examination of all detectors and pull stations. Identify any obvious physical damage, dirt, corrosion, and missing device. Verify each is in the correct location, rigidly mounted, clearly marked and record all data including device/sensor type, name of manufacturer, sensitivity/range, explosion proof, and if weather proof. For air sampling devices, verify that any in-line filters are clean. For detectors, verify the area requiring detection is not obstructed or outside the detectors field of view.

7.4.8 Clean detectors whenever there is evidence of dirt or other contamination.

7.4.9 Verify condition of any fire alarm control interface with other safety systems to include such as fire dampers, fire zone doors, sliding watertight doors, and automatic releases.

7.4.10 Verify location and condition of all notification appliances (audible alarms, visual alarms, combination a/v alarms, and exit markings).

7.4.11 Verify audible alarms are identified by at least 1-inch red lettering as “FIRE ALARM” as required by 46 CFR §78.47-13.

7.4.12 Verify location of the mass notification system and inspect to ensure the system is functioning properly. Inspection is to include control equipment, fuses, interfaces, lamps and LEDs, main power supply, UPS, initiating devices, notification devices, antennas and transceivers.

7.4.13 Verify system devices comply with the following standards, per 46 CFR §161.002-1:

a. Control units

b. Detectors

c. Smoke detectors

d. Flame detectors

e. Audible alarms

f. Visual alarms

g. Manual Signaling Boxes

7.4.14 Verify location and condition of supervising station - receivers.

7.4.15 Verify that clear information about the operation of the fire detection and alarm system is displayed on or adjacent to its control panels.

7.4.16 Verify the detection and alarm system has had no modifications made since last inspection.

7.4.17 When inspections reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repairs and parts required.

7.5 Functionally test the fire and smoke detection and alarm system. It is to include all devices, fault alarms and signals, and visual and audible alarms using references 2.1.1 through 2.1.3 for guidance. Complete enclosures 2.2.1 and 2.2.2 recording the results of all inspections and tests.

7.5.1 Coordinate all testing prior to accomplishment. Advance notification is to be given to the Shipyard Superintendent and MSCREP. With assistance from ship crew, make announcements over the public address system prior to initiating any alarms.

7.5.2 Test and verify the control equipment functions by receiving correct alarm, supervisory and trouble signals (input); operation of evacuation signals and auxiliary functions (outputs); circuit supervision including detection of open circuits and ground faults; and power supply supervision for detection of loss of AC power and disconnection of secondary batteries. Verify rating and supervision of fuses. Illuminate all lamps and LEDs. Test the primary power under maximum load conditions, including all alarm appliances requiring simultaneous operation. Test the secondary power supply separately.

7.5.3 Develop a testing schedule to ensure that every initiating device is tested. Actuate every initiating device, including detectors and pull stations and verify proper operation and receipt of correct signal at the supervising station within 90 seconds. Upon completion of the test, restore the system to its functional operating condition. Activation of any detector or manual pull station must cause an audible and visual alarm signal at the control panel. Complete enclosures 2.2.1 and 2.2.2 recording the results.

7.5.4 Verify that the detector/alarm initiating device is alarming the proper zone on the Master Panel and all Remote Annunciators.

7.5.5 Arrange the testing schedule so that all zones will be alarmed during testing. Conduct a cross-zone detection test. The last alarm given on a particular zone should be silenced only (not reset), then, to verify that the subsequent alarm is functioning properly, place another zone into alarm, then the system can be reset.

7.5.6 Test the detectors in accordance with the manufacturer’s guidance. Care and caution are to be used to prevent damage to the detectors and pull stations while testing.

7.5.7 In addition, test all smoke and flame type detectors to ensure that each is within its listed and marked sensitivity range using one of the following methods:

a. Calibrated test method

b. Manufacturers calibrated sensitivity test instrument

c. Listed control unit arranged for the purpose

d. Other approved calibrated flame sensitivity test method that is directly proportional to the input signal

from a fire.

e. Other calibrated smoke sensitivity test method that is approved by the authority having jurisdiction (AHJ).

7.5.8 If detectors are designed to be adjustable, adjust to bring them into the approved range.

NOTE

DO NOT DETERMINE FLAME DETECTOR SENSITIVITY BY USING A LIGHT SOURCE THAT ADMINISTERS AN UNMEASURED QUANTITY OF RADIATION AT AN UNDEFINED DISTANCE FROM THE DETECTOR

7.5.9 Verify that the detectors are self-restoring.

7.5.10 Verify that if the alarm signal has not been acknowledged within two minutes, an audible fire alarm is automatically sounded throughout the crew accommodations and service spaces, control stations, and manned machinery spaces. Verify that each Bridge, Quarter-Deck Office and the Engine Room Control Station is receiving the proper delay before any alarms are sent.

7.5.11 Demonstrate that all detection and alarm system monitors have functional power supplies necessary for the operation of the system during loss of power and fault conditions. Disconnect the primary (main) power supplies and verify a trouble or fault indication is given. Measure the systems standby and alarm current demand and verify the batteries ability to meet these requirements. Verify communication between sending and receiving units under both primary and secondary power. Reconnect the primary power upon completion.

7.5.12 Test the UPS for proper operation.

7.5.13 Prior to conducting any battery test, verify

that all system software stored in volatile memory is protected from loss. Test the performance of the battery charger by measuring the voltage across the battery when they are fully charged and connected to the charger. Test the performance of the batteries by disconnecting the charger and conducting a load test (full fire alarm load) on the batteries verifying the voltage does not fall below the manufacturer’s specified levels.

7.5.14 Verify the local and remote annunciators operate and identify correctly under all conditions.

7.5.15 Test every notification device (audible and visual alarm) verifying each operates properly.

7.5.16 Check the supervisory circuits and indicators on the control panel and each annunciator panel by operating the Lamp Test Switch. All visual indicators should be lit, and the trouble horn should sound.

7.5.17 Test for automatic supervision (monitoring) of any fault in all external wiring such as an open circuit, short circuit, or ground. Any of these conditions should result in a visual fault/trouble signal.

7.5.18 Verify that every fault (such as an open circuit, short circuit, or ground fault) does not prevent the continued individual identification of the remaining detectors and manual pull stations.

7.5.19 Test and verify that the system automatically resets to a normal operating condition after alarm and fault situations are cleared.

7.5.20 Detection and alarm systems may accept signals from other safety systems. Test proper functioning of all signals received from other safety systems (For example, a signal initiated from actuation of an automatic sprinkler valve or fusible link may be sent to a fire detection and alarm

system).

7.5.21 Test all interconnected auxiliary equipment or systems such as remotely controlled fire doors, sliding watertight doors, fire dampers, fan shutdowns, elevator recall, and equipment shutdowns for proper activation.

7.6 Accomplish maintenance on the fire and smoke detection system:

7.6.1 Replace those smoke or flame detectors found outside the approved range of sensitivity.

7.6.2 For estimating purposes assume five thermal, five heat and 20 smoke detectors and ten pull stations will require replacement.

7.6.3 Replace any system batteries when the recharged battery voltage or current falls below the manufacturer’s recommendation.

7.6.4 Install new detector labels where found missing. Replace detector labels where found to be incorrectly labeled. Estimate for 3% of all labels on systems listed in 3.1.1 to be replaced.

7.7 Coordinate and conduct a final functional test demonstrating satisfactory operation of the fire and smoke detection and alarm systems in the presence of the MSCREP.

7.8 Upon completion of all inspections, tests and repairs return the Fire and Smoke Detection and Alarm Systems to a ready for service condition. Conduct a final walk around survey with the MSCREP to verify status.

7.9 Reports

7.9.1 Upon completion of all inspections, tests and

maintenance, prepare and submit the System Check sheet and Test Result forms shown in Enclosure 2.2.1 and 2.2.2. The reports are to be typewritten reports documenting the examination of the system and final “as released” conditions. Submit one electronic copy in Portable Document Format (PDF).

7.9.2 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.10 Painting: None additional

7.11 Manufacturer’s Representative

7.11.1 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only fire extinguishing system service companies certified and recognized as an ABS Recognized Service Supplier shall be used. To include oversight of all aspects of equipment inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. In addition, only OEM authorized parts will be used.

https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/

7.11.2 It is critical that all persons working on the system must be certified and fully knowledgeable in its operation and repair. Persons in training to be certified are permitted to perform maintenance under the direct supervision and in the immediate presence of a certified person.

7.11.3 Companies and persons performing maintenance are to have available the appropriate servicing manuals, correct tools, materials, lubricants, and manufacturer’s replacement parts.

7.12 Preparation of Drawings

7.12.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

FIRE & SMOKE DETECTION & ALARM SYSTEM INSPECTION & TEST FORM

Vessel: _____ **IMO #:** _____
Shipyard: _____ **Date of Inspection:** _____

Service Company: _____ **Inspector:** _____
Phone: _____
Email address: _____

To be completed by the system inspector at the time of inspection or test. The inspection of the fire & smoke detection system shall at a minimum include checks and tests of the following:

SYSTEM VERIFICATION

1. TYPE

- ☐ Fire Alarm System
- ☐ Smoke Alarm System
- ☐ Security System
- ☐ Fire/Smoke Combination
- ☐ Other (specify): _____

2. CONTROL UNIT

Manufacturer: _____ Model: _____
Serial #: _____

☐ An owner's manual, manufacturer's instructions, a written sequence of operation and a copy of the system drawing is stored onboard.

3. SYSTEM SOFTWARE

Software revision number: _____ Last updated: _____

☐ A copy of the ship specific software is stored onboard.

4. SYSTEM POWER

Primary Power

Control Panel Input voltage: _____ Control panel amps: _____

Secondary System

Nominal voltage: _____ Amp/hour rating: _____

In standby mode: _____ In alarm mode: _____

Batteries (date of mfg): _____

5. ANNUNCIATORS

Manufacturer - No.1: _____ Model: _____

Manufacturer - No.2: _____ Model: _____

Manufacturer - No.3: _____ Model: _____

Manufacturer - No.4: _____ Model: _____

6. DETECTORS

Thermal (qty): _____

Smoke (qty): _____

Flame (qty): _____

Other (qty): _____

7. PULL STATIONS

Manual stations (qty): _____

8. ALARMS

Audible (qty): _____ A/V Combination (qty): _____

Visual (qty): _____

9. NOTIFICATIONS MADE PRIOR TO TESTING

<table>
<tr><td colspan="3">USS Mt Whitney</td></tr>
<tr><td colspan="3">(LCC-20)</td></tr>
<tr><td colspan="2">AUXILIARY MACHINERY</td><td>CONTRACT NO. N00000-00-X-0000</td></tr>
<tr><td>ITEM NO. 0569</td><td>CATEGORY "A"</td><td>2026-05-20</td></tr>
<tr><td colspan="2">LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)</td><td>Simpson, Eric H.</td></tr>
</table>

Shipyard Superintendent: _____ (time/date)
Vessel Master: _____ (time/date)
Vessel Chief Engineer: _____ (time/date)
Port Engineer: _____ (time/date)

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0569	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)		Simpson, Eric H.

FIRE & SMOKE DETECTION & ALARM SYSTEM INSPECTION & TEST FORM

1. SUMMARY of RESULTs

#	DESCRIPTION	VISUAL INSPECTION	FUNCTIONAL TEST	SAT	UNSAT	NA	COMMENTs
1	Secure interconnected fire extinguishing systems and controls to prevent accidental discharge	☐	☐	☐	☐	☐	
2	Placards & Instructions in place & legible	☐	☐	☐	☐	☐	
3	Verify no modifications have been made since last inspection.	☐	☐	☐	☐	☐	
4	Control Unit & Related Equipment	☐	☐	☐	☐	☐	
	Lamps/LEDs/LCDs	☐	☐	☐	☐	☐	
	Fuses	☐	☐	☐	☐	☐	
	Input Signals (alarm/supervisory/trouble)	☐	☐	☐	☐	☐	
	Output Signals	☐	☐	☐	☐	☐	
	Supervision (wire faults/power loss/fuses)	☐	☐	☐	☐	☐	

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY	CONTRACT NO. N00000-00-X-0000	
ITEM NO. 0569	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)	Simpson, Eric H.	

	Local Annunciators	☐	☐	☐	☐	☐	
	Remote Annunciators	☐	☐	☐	☐	☐	
#	DESCRIPTION	VISUAL INSPECTION	FUNCTIONAL TEST	SAT	UNSAT	NA	COMMENTs
	Input from other safety systems	☐	☐	☐	☐	☐	
	Fiber Optic Cable Connections	☐	☐	☐	☐	☐	
	Other (specify)	☐	☐	☐	☐	☐	
5	Power Supplies	☐	☐	☐	☐	☐	
	Primary AC power	☐	☐	☐	☐	☐	
	Secondary Power	☐	☐	☐	☐	☐	
	UPS	☐	☐	☐	☐	☐	
	Battery condition	☐	☐	☐	☐	☐	
	Load voltage	☐	☐	☐	☐	☐	
	Discharge test	☐	☐	☐	☐	☐	
	Charger test	☐	☐	☐	☐	☐	
6	Notification Appliance	☐	☐	☐	☐	☐	
	Audible alarm	☐	☐	☐	☐	☐	
	Visual alarm	☐	☐	☐	☐	☐	

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	Combination A/V alarm	☐	☐	☐	☐	☐	
	General alarm	☐	☐	☐	☐	☐	
7	Initiating Device – Detectors	☐	☐	☐	☐	☐	
	Heat	☐	☐	☐	☐	☐	
#	DESCRIPTION	VISUAL INSPECTION	FUNCTIONAL TEST	SAT	UNSAT	NA	COMMENTs
	Flame	☐	☐	☐	☐	☐	
	Security	☐	☐	☐	☐	☐	
	Flooding	☐	☐	☐	☐	☐	
	Other (specify)	☐	☐	☐	☐	☐	
8	Initiating Device - Pull Stations	☐	☐	☐	☐	☐	
9	Emergency Communications	☐	☐	☐	☐	☐	
	Public Address system	☐	☐	☐	☐	☐	
	Phone handsets	☐	☐	☐	☐	☐	
	Emergency Elevator comm	☐	☐	☐	☐	☐	
	Other	☐	☐	☐	☐	☐	
10	Other Monitored Systems	☐	☐	☐	☐	☐	
	Fire Pumps	☐	☐	☐	☐	☐	

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LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)	Simpson, Eric H.	

	Special Fire Suppression system	☐	☐	☐	☐	☐	
	Other (specify)	☐	☐	☐	☐	☐	
11	Auxiliary Functions	☐	☐	☐	☐	☐	
	Door releasing device	☐	☐	☐	☐	☐	
	Door unlocking	☐	☐	☐	☐	☐	
	Fan shutdown	☐	☐	☐	☐	☐	
#	**DESCRIPTION**	VISUAL INSPECTION	FUNCTIONAL TEST	SAT	UNSAT	NA	**COMMENTs**
	Smoke damper operation	☐	☐	☐	☐	☐	
	Elevator recall	☐	☐	☐	☐	☐	
	Elevator shunt trip	☐	☐	☐	☐	☐	
	Paging system	☐	☐	☐	☐	☐	
	Mass notification system	☐	☐	☐	☐	☐	
	Closed-circuit television systems	☐	☐	☐	☐	☐	
	Other (specify)	☐	☐	☐	☐	☐	
12	Alarm Initiating Device	☐	☐	☐	☐	☐	
	Device test result sheets attached listing all devices and test results	☐	☐	☐	☐	☐	
13	Supervisory Alarm Initiating Device	☐	☐	☐	☐	☐	

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	Device test result sheets attached listing all devices and test results	☐	☐	☐	☐	☐	
14	Alarm Notification Appliances	☐	☐	☐	☐	☐	
	Appliance test result sheets attached listing all appliances and test results	☐	☐	☐	☐	☐	
15	Supervisory Station Monitoring	☐	☐	☐	☐	☐	
	Alarm signal	☐	☐	☐	☐	☐	
	Alarm restoration	☐	☐	☐	☐	☐	
#	**DESCRIPTION**	VISUAL INSPECTION	FUNCTIONAL TEST	SAT	UNSAT	NA	**COMMENTs**
	Fault/Trouble restoration	☐	☐	☐	☐	☐	
	Supervisory signal	☐	☐	☐	☐	☐	
	Supervisory restoration	☐	☐	☐	☐	☐	
16	Final functional system test with MSC and ABS in attendance	☐	☐	☐	☐	☐	
17	System returned to active service	☐	☐	☐	☐	☐	
18	Inspection tags attached	☐	☐	☐	☐	☐	
SAT = Satisfactory **UNSAT** = Unsatisfactory **N/A** = Not applicable							

INSPECTION & TEST FORM

2. CERTIFICATION

Inspector Certification:

This system, as specified, has been inspected and tested according to the standards cited in the work item.

Signed: _____ Printed Name: _____ Date: _____
Organization: _____ Title: _____ Phone: _____

FIRE & SMOKE DETECTION & ALARM SYSTEM INITIATING DEVICE TEST RESULTS FORM

(attach additional sheets if required)

Device Type	Address	Location	Test Results Function	Test Results Sensitivity
Thermal detector	Zone 1			
Heat detector	Zone 1			
Smoke detector	Zone 1			
Manual pull station	Zone 1			
Thermal detector	Zone 2			
Heat detector	Zone 2			
Smoke detector	Zone 2			
Manual pull station	Zone 2			
Ground fault detector	Control			
Short circuit detector	Control			
Open circuit detector	Control			
Loss of primary power	Control			

USS Mt Whitney		
(LCC-20)		
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ITEM NO. 0569	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DETECTION AND ALARM SYSTEM (1 YR) (SCSI)	Simpson, Eric H.	

1.0 ABSTRACT

The purpose of this item is to inspect, service, and test the ships portable and semi-portable fire extinguishers.

2.0 REFERENCES/ENCLOSURES

2.1 References:

2.1.1 MSC Drawing 085-8386886, Fire Control Plan

2.1.2 MOUNT WHITNEY (LCC 20) Portable Fire Extinguisher Service Record – N**ovember 2024**

2.1.3 Resolution A.951(23), Adopted on 5 December 2003, Improved Guidelines for Marine Portable Extinguishers (Available Commercially)

2.1.4 National Fire Protection Association, NFPA 10, Standard for Portable Fire Extinguishers (Available commercially)

2.2 Enclosure:

2.2.1 Portable Fire Extinguisher - Service Record

2.2.2 Portable Fire Extinguisher – Periodic Inspection

2.2.3 NFPA 10, Annex I, Maintenance Procedures

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location: See Reference 2.1.1.

3.2 Description/Quantity: See Reference 2.1.2.

3.2.1 Two hundred and two (202) 6.8 KG CO2 extinguishers

3.2.2 Forty-four (44) 2.5 KG CO2 extinguishers

3.2.3 Sixteen (16) 12 KG dry powder extinguishers

3.2.4 Twenty-one (21) 9 KG dry powder extinguishers

3.2.5 Thirty-seven (37) 8 KG dry powder extinguishers

3.2.6 Five (5) 2.2 KG dry powder extinguishers

3.2.7 Twenty-one (21) 9 Liter foam extinguishers

3.2.8 Nine (9) 6 Liter foam extinguishers

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, including but not limited to Work Item 023 to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs

associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, recharge, and test the ship’s portable and semi-portable fire extinguishers identified in 3.0 in accordance with IMO and SOLAS requirements using references 2.1.1 through 2.1.4 and enclosures 2.2.1 through 2.2.3 for guidance.

7.2 Dispose of any liquids and powders removed to accomplish this item in accordance with all federal, state, and local regulations.

7.3 Conduct inspection, maintenance and recharging of all portable and semi-portable fire extinguishers using references 2.1.1 through 2.1.4 and enclosures 2.2.1 thru 2.2.3 for guidance.

7.3.1 Inspection

a. Conduct a periodic inspection of all extinguishers within the first week of the vessel’s arrival in

the contractor’s facility.

b. 15# aluminum CO2 extinguishers are to be replaced with approved 15# USCG approved or US Navy Class I steel CO2 fire extinguishers per MSC Safety Notice 19-001, N04732 15# Fire Extinguishing Safety Bulletin.

c. Submit completed enclosure 2.2.2 to the MSCREP along with any recommended service and parts required.

7.3.2 Maintenance

a. Temporarily remove the extinguishers off the ship to the authorized service facility. No more than 25% may be removed from the vessel at any point. Care is to be used not to remove all fire protection from anyone space at a time.

b. Conduct annual inspection and maintenance on all extinguishers and complete enclosure 2.2.1. It is to be a thorough examination of the extinguisher including mechanical parts, extinguishing agent, expelling means and physical condition. Maintenance is to include those tasks detailed in the manufacturers service manual.

c. Verify each fire extinguisher is clearly marked with the: name of the manufacturer, class fire rating, type and quantity of extinguishing medium, approval details, instructions for use and recharge, year of manufacture, temperature range for SAT operation and test pressure.

d. Conduct an annual external examination of all extinguishers using enclosures 2.2.1 through 2.2.3 for guidance. All removable extinguisher boots, foot rings and attachments are to be temporarily removed to accommodate the cylinder exams. Identify obvious physical damage, corrosion, hose or nozzle blockage, operating instructions are present and legible and facing forward and determine if internal exam or hydrostatic test is due.

e. Conduct an internal examination of the extinguishers at intervals not to exceed those specified in NFPA 10.

Extinguisher Type	Internal Examination Interval (years)
Dry Chemical, cartridge & cylinder operated, with mild steel shells	1
Dry Powder, cartridge & cylinder operated, with mild steel shells	1
AFFF (aqueous film-forming foam)	3*
FFFP (film-forming fluoroprotein foam)	3*
Dry chemical, stored pressure, with stainless steel shells	5
Carbon Dioxide	5
Wet Chemical	5
Dry chemical, stored pressure, with mild steel shells, brazed brass shells and aluminum shells	6
Halogenated agents	6
Dry powder, stored pressure, with mild steel shells	6

NOTE

The extinguishing agent in liquid charge AFFF and FFFP extinguishers is to be replaced every 3 years and an internal exam is conducted at that time.

f. Perform an annual conductivity test on all Carbon Dioxide hose assemblies. Any hose that fails the test is to be replaced. Carbon dioxide hose assemblies have a continuous metal braid that connects to both couplings to minimize the static shock hazard. The reason for the conductivity test is to determine that the hose is conductive from the inlet coupling to

the outlet orifice.

g. Discharge hoses on wheeled type fire extinguishers are to be completely uncoiled and examined annually. They are to be recoiled preventing kinks and to allow rapid deployment.

h. Pressure regulators on wheeled type fire extinguishers are to be tested annually for outlet static pressure and flow rate in accordance with the manufacturer’s instructions.

i. When the inspection reveals any deficiency a condition report is to be submitted to the MSCREP with recommended repair and parts required using enclosure 2.2.3 for guidance.

7.3.3 Recharging

a. When recharging is required, perform in accordance with the manufacturers service manual.

b. Verify the amount of the recharge by weighing.

c. After recharging, perform a leak test on stored-pressure and self-expelling types of extinguishers.

d. In no case is an extinguisher to be recharged if it is beyond its specified hydrostatic test date.

e. Recharge CO2 extinguishers if weight loss exceeds 10 percent of weight of charge.

7.4 Conduct a hydrostatic test on all portable and semi-portable fire extinguishers using references 2.1.1 and 2.1.4 for guidance. See reference 2.1.2 for last available hydrostatic test dates.

7.4.1 Include in estimate the internal examination, hydrostatic testing, and recharging of:

a. **Sixty-nine (69)** 6.8 KG CO2 extinguishers

b. **Eight (8)** 12 KG dry powder extinguishers

c. **Two (2)** 8 KG dry powder extinguishers

7.4.2 Cylinders and cartridges with US Department of Transportation (DOT) or Transport Canada (TC) markings are to be retested in accordance with applicable DOT or TC regulations.

7.4.3 Per 29 CFR §1910.157 (Table L-1) and Reference 2.1.4, test intervals are not to exceed those shown below:

Extinguisher Type	Test Interval (years)
Stored-pressure water, water mist, loaded stream, and/or antifreeze	5
Wetting Agent	5
AFFF (aqueous film-forming foam)	5
FFFP (film-forming fluoroprotein foam)	5
Dry chemical, stored pressure, with stainless steel shells	5
Carbon Dioxide	5
Wet Chemical	5
Dry chemical, stored pressure, with mild steel shells, brazed brass shells and aluminum shells	10**
Dry Chemical, cartridge or cylinder-operated, with mild steel shells	10**
Halon 1211 or 1301	10**
Dry powder, stored pressure, cartridge or cylinder-operated, with mild steel shells	10**

NOTE

29 CFR and NFPA 10 permit test intervals of 12 years however IMO Resolution A.951(23) mandates intervals not to exceed 10 years.

7.4.4 Conduct a hydrostatic test on all hose assemblies that have a shut-off nozzle at the discharge end of the hose and are due using references 2.1.1, 2.1.3, and 2.1.4 for guidance. In addition, hydrostatically test all high-pressure and low-pressure accessory hoses (other than agent discharge hose) used on wheeled extinguishers. Test intervals are the same as those for the fire extinguisher or cylinder. Per para 8.6.3 of NFPA 10, Hose assemblies that require a hydrostatic test is to be tested at:

a. CO2 - 1250 psi (8619 kPa)***

b. Dry Chem, Dry Powder, Water, Foam or Halogenated 300 psi (2068 kPa) or service pressure if higher

c. Wheeled extinguisher - Low pressure accessory hose - 300 psi (2068 kPa)

d. Wheeled extinguisher - High pressure accessory hose - 3000 psi (20.68 MPa)

NOTE

46 CFR§147.65 (a)(4) permits test pressure of 1000 psig however NFPA 10 mandates 1250 psi.

7.4.5 Hydrostatic testing is to be performed by persons certified and trained in pressure testing procedures and safeguards. Conduct testing using clean fresh water as the test medium.

a. Hydrostatic testing is to always include an internal and external visual examination of the cylinder prior.

b. Tags and labels documenting inspection documenting inspection, maintenance, recharging or hydrostatic testing are to be installed so as not to obstruct the extinguishers use, classification or manufacturers labels.

7.4.6 Securely attached a tag or label to each extinguisher that indicates inspection and maintenance was performed. The tag at a minimum shall identify the following:

a. Month and Year of maintenance

b. Name of person performing the work

c. Name of the company performing the work

7.4.7 Each cylinder that has undergone maintenance that included an internal examination or has been recharged requiring the removal of the valve assembly is to also have a verification-of-service collar installed around the neck of the container using reference 2.1.4 for guidance. The collar is not to interfere with the operation of the extinguisher and be a single circular piece unable to move over the neck of the container unless the valve is completely removed. The collar as a minimum is to identify the following:

a. Month and Year of the recharge or internal exam

b. Name of the company performing the work.

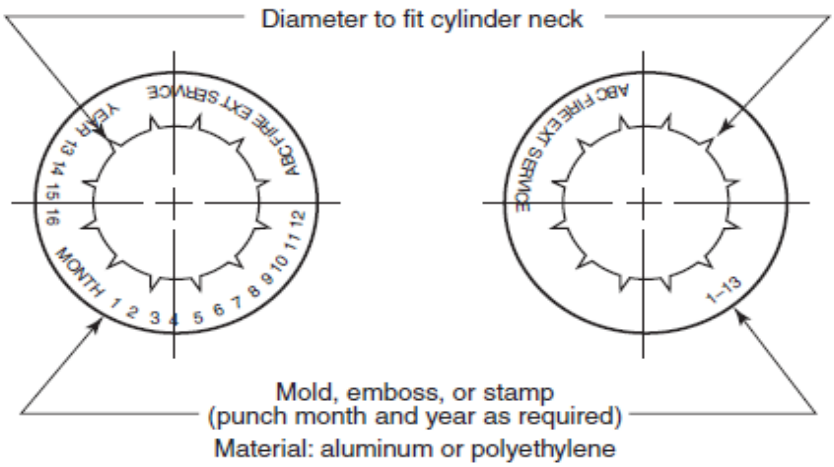

FIGURE A.7.10 Design of a Verification-of-Service Collar.

NOTE

Service Collar Exemptions: New AFFF, FFFP or Wet Chemical extinguishers that required an initial charge in the field. Liquefied gas, halogenated agent and CO2 extinguishers that have been recharged without valve removal. Cartridge and cylinder-operated extinguishers.

7.4.8 Fire extinguishers identified in 7.3.2.d that require the Six-Year Internal Examination and pass are to have the maintenance info recorded on a durable weatherproof label that is a minimum of 2” x 3.5” (51mm x 89mm) affixed to the shell. Remove any previous six-year exam labels. The labels are to be of the self-destructive type when their removal is attempted. The label is to at a minimum identify the following:

a. Month and Year of six-year internal examination

b. Name of person performing the work

c. Name of the company performing the work

7.4.9 Fire extinguishers that are low pressure non-DOT type that pass a hydrostatic test are to have the info recorded on a durable weatherproof label that is a minimum of 2″ x 3.5″ (51mm x 89mm) affixed by to the shell. Remove any previous test labels. The labels are to be of the self-destructive type when their removal is attempted. The label is to at a minimum identify the following:

a. Month and Year of test

b. Test pressure used

c. Name or initials of person performing the test

d. Name of the company performing the test

7.4.10 High pressure cylinders or cartridges that pass a hydrostatic test are to be stamped with the retesters ID number and the month and year of the retest per DOT/TC requirements. Stamping is to be placed on the shoulder, top, head, neck or foot ring of the cylinder or in accordance with 49 CFR 180.213 (c)(1).

7.4.11 Carbon Dioxide hose assemblies that pass a conductivity test are to have the test information recorded on a durable weatherproof label that is a minimum of ½″ x 3″ (13mm x 76mm) affixed to the hose by a heatless process. Remove any previous labels. The label is to include the following:

a. Month and Year of test, indicated by perforation, such as done by hand punch

b. Name or initials of person performing the work

c. Name of the company performing the work

7.5 Testing is to be coordinated with the MSCREP and ABS.

7.6 Upon completion of all inspections, tests and repairs return the fire extinguishers to the vessel to their original locations and leave them in a ready for service condition. Conduct a final inspection aboard with the MSCREP.

7.7 Reports

7.7.1 Complete the Periodic Inspection form shown in Enclosure 2.2.2, documenting the initial condition of every Fire Extinguisher. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.7.2 Upon completion of all inspections, tests, maintenance and recharging, prepare and submit the Service Record form shown in Enclosure 2.2.1. The report is to be typewritten report documenting the final “as released” condition of all extinguishers. Submit three (3) typewritten copies, one (1) electronic copy in Portable Document Format (PDF), and one (1) electronic copy in Microsoft Excel format.

7.7.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.8 Manufacturer’s Representative:

7.8.1 Companies and persons performing maintenance and testing are to be ABS Recognized External Specialists and have available the appropriate certificates, servicing manuals, service bulletins, correct tools, materials, and manufacturer’s replacement parts.

7.9 Preparation of Drawings: None

8.0 GENERAL REQUIREMENTS: None additional

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0570	CATEGORY "A"	2026-05-20
LCC-CCSI-PORTABLE FIRE EXTINGUISHER SERVICE (1 YR)		Simpson, Eric H.

PORTABLE FIRE EXTINGUISHER - SERVICE RECORD

Vessel: _____ **Date:** _____

Location: _____ **Company:** _____

Inspector: _____

2024 Mt Whitney
Fire Extinguisher Se

FX No.	Location	Size (lbs)	Class A/B/C	FX Medium	Serial No.	Year of Mfg	Visual Inspection		Hydrostatic Test		Recharge	Hose Inspection
							Last External	Last Internal	Last Test	Pressure (psi)		

LEGEND

Fire Extinguishing Medium

Carbon Dioxide	(CO2)
Halogenated	(H)
Dry Powder	(DP)
Dry Chemical	(DC)
Wet Chemical	(WC)
Aqueous film-forming foam	(AFFF)
Film-forming fluoroprotein foam	(FFFP)

PORTABLE FIRE EXTINGUISHER - SERVICE RECORD

FX No.	Location	Size (lbs)	Class A/B/C	FX Medium	Serial No.	Year of Mfg	Visual Inspection		Hydrostatic Test		Recharge	Hose Inspection
							Last External	Last Internal	Last Test	Pressure (psi)		

USS Mt Whitney		
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LCC-CCSI-PORTABLE FIRE EXTINGUISHER SERVICE (1 YR)		Simpson, Eric H.

PORTABLE FIRE EXTINGUISHER - PERIODIC INSPECTION

Vessel: _____ **IMO #:** _____
Shipyard: _____ **Date:** _____
Company: _____ **Inspector:** _____

To be completed by the extinguisher inspector at the time of inspection or test. The inspection of the extinguishers shall at a minimum include checks and tests of the following:

1) Extinguisher is in designated place
2) No obstruction to access or visibility
3) Pressure gauge reading or indicator is in the operable range or position
4) Fullness determined by weighing
5) Condition of tires, wheels, carriage, hose and nozzle for wheeled extinguishers
6) Indicator for non-rechargeable extinguishers using push-to-test indicators
7) Verify the operating instructions are legible and face forward
8) Check for missing or broken safety seals and tamper indicators
9) Examine for obvious physical damage, corrosion, leakage or clogged nozzle.
10) Note deficiencies.

Y = Satisfactory **N** = Unsatisfactory (explain below) **N/A** = Not applicable

No.	Location	1	2	3	4	5	6	7	8	9	10

PORTABLE FIRE EXTINGUISHER - PERIODIC INSPECTION

No.	Location	1	2	3	4	5	6	7	8	9	10

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0570	CATEGORY "A"	2026-05-20
LCC-CCSI-PORTABLE FIRE EXTINGUISHER SERVICE (1 YR)		Simpson, Eric H.

Description of any unsatisfactory conditions noted:

Annex I Maintenance Procedures

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

I.1 Maintenance Checklists. For convenience, the following checklists are organized into two parts. The first, Table I.1(a), is arranged by mechanical parts (components and containers) common to most fire extinguishers. The second, Table I.1(b), is arranged by extinguishing material and expelling means and involves a description of the problems peculiar to each agent.

Table I.1(a) Mechanical Parts Maintenance Checklist

Cylinder/Shell	Corrective Action
1. Hydrostatic test date or date of manufacture	1. Retest, if needed
2. Corrosion	2. Conduct hydrostatic test and refinish, or condemn
3. Mechanical damage (denting or abrasion)	3. Conduct hydrostatic test and refinish, or condemn
4. Paint condition	4. Refinish
5. Presence of repairs (welding, soldering, brazing, etc.)	5. Condemn
6. Damaged threads (corroded, crossthreaded, or worn)	6. Condemn
7. Broken hanger attachment, carrying handle lug	7. Condemn
8. Sealing surface damage (nicks or corrosion)	8. Condemn
Nameplate	**Corrective Action**
1. Illegible wording	1. Clean or replace (Note: Only labels without a listing mark can be replaced.)
2. Corrosion or loose plate	2. Inspect shell under plate (see cylinder/shell check points) and reattach plate
Nozzle or Horn	**Corrective Action**
1. Deformed, damaged, or cracked	1. Replace
2. Blocked openings	2. Clean
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace
4. Aged (brittle)	4. Replace
Hose Assembly	**Corrective Action**
1. Damaged (cut, cracked, or worn)	1. Replace
2. Damaged couplings or swivel joint (cracked or corroded)	2. Replace
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace
4. Inner tube cut at couplings	4. Replace or consult manufacturer
5. Electrically nonconductive between couplings (CO_2 hose only)	5. Replace
6. Hose obstruction	6. Remove obstruction or replace
7. Hydrostatic test date	7. Retest if needed
Pull/Ring Pin	**Corrective Action**
1. Damaged (bent, corroded, or binding)	1. Replace
2. Missing	2. Replace
Gauge or Pressure-Indicating Device	**Corrective Action**
1. Immovable, jammed, or missing pointer (pressure test)	1. Depressurize and replace gauge
2. Missing, deformed, or broken crystal	2. Depressurize and replace gauge
3. Illegible or faded dial	3. Depressurize and replace gauge
4. Corrosion	4. Depressurize and check calibration, clean and refinish, or replace gauge
5. Dented case or crystal retainer	5. Depressurize and check calibration, or replace gauge
6. Immovable or corroded pressure-indicating stem (nongauge type)	6. Depressurize and discard shell
7. Verify gauge compatibility	7. Depressurize and replace

Table I.1(a) *Continued*

Shell or Cylinder Valve	Corrective Action
1. Corroded, damaged, or jammed lever, handle, spring, stem, or fastener joint	1. Depressurize, check freedom of movement, and repair or replace
2. Damaged outlet threads (corroded, crossthreaded, or worn)	2. Depressurize and replace
Nozzle Shutoff Valve	**Corrective Action**
1. Corroded, damaged, jammed, or binding lever, spring, stem, or fastener joint	1. Repair and lubricate, or replace
2. Plugged, deformed, or corroded nozzle tip or discharge passage	2. Clean or replace
Puncture Mechanism	**Corrective Action**
1. Damaged, jammed, or binding puncture lever, stem, or fastener joint	1. Replace
2. Dull or damaged cutting or puncture pin	2. Replace
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace
Expellant/Gas Cartridge	**Corrective Action**
1. Corrosion	1. Replace with correct expellant gas cartridge
2. Damaged seal disc (injured, cut, or corroded)	2. Replace with correct expellant gas cartridge
3. Damaged threads (corroded, crossthreaded, or worn)	3. Replace with correct expellant gas cartridge
4. Illegible weight markings	4. Replace with correct expellant gas cartridge
5. Improper gas cartridge	5. Replace with correct expellant gas cartridge
6. Improper cartridge seal	6. Replace with correct expellant gas cartridge
Gas Cylinders	**Corrective Action**
1. Hydrostatic test date or date of manufacture	1. Retest if needed
2. Corrosion	2. Conduct hydrostatic test and refinish, or discard
3. Paint condition	3. Refinish
4. Presence of repairs (welding, soldering, brazing, etc.)	4. Condemn
5. Damaged threads (corroded, crossthreaded, or worn)	5. Condemn
Fill Cap	**Corrective Action**
1. Corroded, cracked, or broken	1. Replace
2. Damaged threads (corroded, crossthreaded, or worn)	2. Replace
3. Sealing surface damage (nicked, deformed, or corroded)	3. Clean, repair, and leak test, or replace
4. Obstructed vent hole or slot	4. Clean
Nonrechargeable Shell/Cylinder	**Corrective Action**
1. Corrosion	1. Depressurize and discard
2. Damaged seal disc (injured, cut, or corroded)	2. Depressurize and discard
3. Damaged threads (corroded, crossthreaded, or worn)	3. Depressurize and discard
4. Illegible weight or date markings	4. Depressurize and discard
Carriage and Wheels	**Corrective Action**
1. Corroded, bent, or broken carriage	1. Repair or replace
2. Damaged wheel (buckled or broken spoke, bent rim or axle, loose tire, low pressure, jammed bearing)	2. Clean, repair, and lubricate, or replace
Carrying Handle	**Corrective Action**
1. Broken handle lug	1. Condemn cylinder or consult manufacturer regarding repair
2. Broken handle	2. Replace
3. Corroded, jammed, or worn fastener	3. Clean or replace

(continues)

Table I.1(a) *Continued*

Tamper Seals or Indicators	Corrective Action
1. Broken or missing	1. Check Table I.1(b) for specific action
2. Fill cap indicator corroded or inoperative	2. Repair, clean, or replace
3. Fill cap indicator operated	3. Depressurize unit, check content, refill
Hand Pump	**Corrective Action**
1. Corroded, jammed, or damaged pump	1. Repair and lubricate, or replace
2. Improper adjustment of packing nut	2. Adjust
Pressurizing Valve	**Corrective Action**
1. Leaking seals	1. Depressurize and replace valve or core
Gasket and "O" Ring Seals	**Corrective Action**
1. Damaged (cut, cracked, or worn)	1. Replace and lubricate
2. Missing	2. Replace and lubricate
3. Aged or weathered (compression set, brittle, cracked)	3. Replace and lubricate
Brackets and Hangers	**Corrective Action**
1. Corroded, worn, or bent	1. Repair and refinish, or replace
2. Loose or binding fit	2. Adjust fit or replace
3. Worn, loose, corroded, or missing screw or bolt	3. Tighten or replace
4. Worn bumper, webbing, or grommet	4. Replace
5. Improper type	5. Replace
Gas Tube and Siphon or Pickup Tube	**Corrective Action**
1. Corroded, dented, cracked, or broken	1. Replace
2. Blocked tube or openings in tube	2. Clean or replace
Safety Relief Device	**Corrective Action**
1. Corroded or damaged	1. Depressurize and replace
2. Broken, operated, or plugged	2. Depressurize and replace
Pressure Regulators	**Corrective Action**
1. External condition: damaged or corroded	1. If damaged, replace regulator; if corroded, clean regulator or replace
2. Pressure relief (corroded, plugged, dented, leaking, broken, or missing)	2. Disconnect regulator from pressure source, replace pressure relief, or replace regulator
3. Protective bonnet relief hole (tape missing or seal wire broken or missing)	3. Replace regulator
4. Adjusting screw (lock pin missing)	4. Replace regulator

Table I.1(b) Agent and Expelling Means Maintenance Checklist

AFFF and FFP	Corrective Action
1. Recharging date due	1. Empty, clean, and recharge
2. Improper fill levels	2. Empty, clean, and recharge
3. Agent condition (check for sediment)	3. Empty, clean, and recharge
4. Improper fill level (by weight or observation)	4. Empty and recharge with new solution
5. Agent condition (presence of precipitate or other foreign matter)	5. Empty and recharge with new solution
6. Improper gauge pressure	6. Repressurize and leak test
7. Broken or missing tamper indicator	7. Leak test, replace indicator
Self-Expelling	
Carbon Dioxide	**Corrective Action**
1. Improper weight	1. Recharge to proper weight
2. Broken or missing tamper indicator	2. Leak test and weigh, also recharge or replace seal

Table I.1(b) *Continued*

Halon 1301 Bromotrifluoromethane	**Corrective Action**
1. Punctured cylinder seal disc	1. Replace shell
2. Improper weight	2. Replace shell or return to manufacturer for refilling
3. Broken or missing tamper seal	3. Examine cylinder seal disc, replace seal
Combination Halon 1211/1301	**Corrective Action**
1. Improper weight	1. Return to manufacturer *(See 7.2.3.3.)*
2. Broken or missing tamper seal	2. Return to manufacturer *(See 7.2.3.3.)*
Manually Operated	
Mechanical Pump Water and Loaded Stream	**Corrective Action**
1. Improper fill level	1. Refill to proper level
2. Defective pump	2. Clean, repair, and lubricate, or replace
Dry Powder Pail	**Corrective Action**
1. Improper fill level	1. Refill
2. Agent condition (contamination or caking)	2. Discard and replace
3. Missing scoop	3. Replace
Gas Cartridge or Cylinder	
Dry Chemical and Dry Powder Types	**Corrective Action**
1. Improper weight or charge level	1. Refill to correct weight or charge level
2. Agent condition (contamination, caking, or wrong agent)	2. Empty and recharge with new agent
3. Cartridge	3.
(a) Punctured seal disc	(a) Replace cartridge
(b) Improper weight	(b) Replace cartridge
(c) Broken or missing tamper indicator	(c) Examine seal disc, replace
(d) Improper cartridge seal	(d) Replace cartridge seal
4. Gas cylinder with gauge	4.
(a) Low pressure	(a) Replace or recharge cylinder
(b) Broken or missing tamper seal	(b) Leak test, replace
5. Gas cylinder without gauge	5.
(a) Low pressure (attach gauge and measure pressure)	(a) Leak test (if low, replace or recharge cylinder)
(b) Broken or missing tamper seal	(b) Measure pressure, leak test, replace seal
Stored-Pressure	
Combination Halon 1211/1301	**Corrective Action**
1. Refillable	1.
(a) Improper extinguisher agent	(a) Return to manufacturer *(See 7.2.3.3.)*
(b) Improper gauge pressure	(b) Return to manufacturer *(See 7.2.3.3.)*
(c) Broken or missing tamper seal	(c) Examine extinguisher, leak test, replace tamper seal
2. Nonrechargeable extinguisher with pressure indicator	2.
(a) Low pressure	(a) Return to manufacturer *(See 7.2.3.3.)*
(b) Broken or missing tamper seal	(b) Return to manufacturer *(See 7.2.3.3.)*
Dry Chemical and Dry Powder Types	**Corrective Action**
1. Rechargeable	1.
(a) Improper extinguisher weight	(a) Leak test and refill to correct weight
(b) Improper gauge pressure	(b) Repressurize and leak test
(c) Broken or missing tamper seal	(c) Leak test, check weight, and replace seal
2. Disposable shell with pressure indicator	2.
(a) Punctured seal disc	(a) Depressurize and discard
(b) Low pressure	(b) Depressurize and discard
(c) Broken or missing tamper indicator	(c) Depressurize and discard

(continues)

Table I.1(b) *Continued*

3. Disposable shell without pressure indicator	3.
(a) Punctured seal disc	(a) Depressurize and discard
(b) Low weight	(b) Depressurize and discard
(c) Broken or missing tamper seal	(c) Depressurize and discard
4. Nonrechargeable extinguisher with pressure indicator	4.
(a) Low pressure	(a) Depressurize and discard
(b) Broken or missing tamper indicator	(b) Depressurize and discard
Wet Chemical Type	**Corrective Action**
1. Improper fill level (by weight or observation)	1. Empty and recharge with new agent to correct weight fill line
2. Improper gauge pressure	2. Repressurize and leak test or consult manufacturer
3. Broken or missing tamper seal	3. Verify fill level, recharge if required, replace tamper seal
Halogenated-Type Agents	**Corrective Action**
1. Broken or missing tamper seal	1. Verify level and pressure, recharge if required, replace tamper seal
2. Improper gauge pressure	2. Weigh, repressurize, and leak test or consult manufacturer
3. Improper weight	3. Leak test and recharge to correct weight
Water and Loaded Stream	**Corrective Action**
1. Improper fill level (by weight or observation)	1. Recharge to correct level in accordance with the manufacturer's manual
2. Agent condition if antifreeze or loaded stream	2. Empty and recharge with new agent
3. Improper gauge pressure	3. Repressurize and leak test or consult manufacturer
4. Broken or missing tamper seal	4. Leak test, replace seal

1.0 ABSTRACT

The purpose of this item is to inspect, service and test the fire and smoke dampers.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 MSC Drawing 085-8386886, Fire Control Plan

2.2 Enclosures

2.2.1 USS MOUNT WHITNEY Fire Damper List

2.2.2 NFPA Form 17-C

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations: Various; See Enclosure 2.2.1

3.1.2 Quantity: 89 Fire Dampers

a. Twenty-four (24) Automatic Fire Dampers

b. Thirty-seven (37) Manual Fire Dampers

c. Ten (10) Automatic and/or Remote Operated Fire Dampers

3.2 Item Description/Manufacturer’s Data: None.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of

this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 Definitions

5.2.1 An automatic fire damper is a fire damper that closes independently in response to exposure to fire products.

5.2.2 A manual fire damper is a fire damper that is intended to be opened or closed by the crew by hand at the damper itself.

5.2.3 A remotely operated fire damper is a fire damper that is closed by the crew through a control located at a distance away from the controlled damper.

5.3 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. Expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with hazardous waste remediation and removal are to be attributed to Work Item 023, rather than to the individual work items. Waste removed throughout the course of work package accomplishment are to be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service and test the Fire and Smoke Dampers identified in Enclosure 2.2.1 in accordance with SOLAS and USCG requirements using Reference 2.1.1 as guidance. Fill in any missing information in Enclosure 2.2.1 and submit to OMT REP.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Temporarily remove all overhead access doors and panels in staterooms, passageways, and compartments, as well as any other interferences to gain access to all fire dampers, fire damper reach rods, and reach rod universals.

7.4 Inspect, service, and test each fire and smoke damper identified in Enclosure 2.2.1. Ensure that all fire and smoke dampers are:

7.4.1 Accessible and unobstructed.

7.4.2 Fitted with a marked inspection door that clearly identifies the damper. Ensure remote controls for applicable dampers are also marked as such.

7.4.3 Marked with red letters at least one-half inch (½”) or twelve and seven-tenths millimeters (12.7 mm) in height stating, “VENTILATION FIRE DAMPER”.

7.4.4 Fitted with an indicator showing whether the damper is “OPEN” or “CLOSED”.

7.4.5 Manually cycled between “OPEN” and “CLOSED”. Visually examine the damper blades. When “CLOSED”, the fire dampers must make contact with the steel strip that runs along the edge of their internal cross-section.

7.4.6 Free of rusting, bending, misaligned components, damaged blades, or defective hinges that would interfere with or hinder proper operation of the damper.

7.4.7 Not penetrated by foreign objects.

7.4.8 Maintaining fire integrity of the divisions at openings and penetrations.

7.4.9 Where damper is fitted with a fusible link, temporarily disconnect link and verify damper functions as designed.

7.4.10 Closing completely and latching “CLOSED” (where latches are applicable).

7.4.11 Not damaged or painted. Special attention is required for fusible links. If a fusible link is damaged or painted, it must be replaced.

7.4.12 Dry-lubricated, including all exposed moving parts, using the manufacturer’s instructions.

7.4.13 Re-tested for proper operation following any repairs.

7.5 Fire dampers which are operated automatically must be in the “CLOSED” position within two minutes after the commencement of the test [(2010 FTP CODE) ANNEX 1 - FIRE TEST PROCEDURES; 2.2.5].

7.6 Fire dampers which are operated manually must be “CLOSED” within one minute after the commencement of the test. [(2010 FTP CODE) ANNEX 1 - FIRE TEST PROCEDURES; 2.2.6].

7.7 Each automatic fire damper is subject to additional testing aside from the tasks outlined in paragraph 7.4. Each automatic fire damper must:

7.7.1 Be operated both automatically and manually

from both sides of the division.

7.7.2 Demonstrate proper operation of the fail-safe mechanism in the event of a fire, by closing the damper upon loss of electrical power, hydraulic or pneumatic pressure.

7.7.3 Demonstrate remote-control capability for de-energizing the Galley Range Hood, Laundry, and Drying Room Exhaust and Supply Fans from within the space, as well as for providing operation of the fire damper.

7.7.4 Complete Enclosures 2.2.1 and 2.2.2 for each fire and smoke damper and submit, along with a report, to the OMT REP.

7.8 Testing is to be coordinated with the OMT REP.

7.9 Maintain workspaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.10 Upon completion of all inspections, tests and repairs, return the fire and smoke dampers to a ready for service condition.

7.11 Reports

7.11.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.11.2 Upon completion of all inspections, maintenance, servicing, and testing, prepare and submit a typewritten Service Report documenting the final “as released” condition of all fire and smoke dampers affirming they are safe for use. Submit one electronic copy in Portable Document Format (PDF) of Enclosures 2.2.1 and 2.2.2.

7.11.3 All reports and checklists are to be completed

and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.12 Painting: None additional

7.13 Manufacturer’s Representative: None

7.14 Preparation of Drawings

7.14.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0571	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DAMPER SERVICE (1 YR)		Simpson, Eric H.

FITTING NUMBER	LOCATION	SYSTEM NUMBER	FUNCTION	
7-30-1	7-30-0-E FWD UPS	7-30-0 RECIRC	AUTOMATIC	
7-30-3	7-30-0-E FWD UPS	7-30-0 RECIRC	AUTOMATIC	
7-52-2	3-58-2 PORT SPONSON	SUPPLY	MANUAL	
7-60-2	3-59-2 PORT SPONSON	EXHAUST	MANUAL	
7-63-1	7-60-0-C FWD IC ROOM	2-52-2 SUPPLY	MANUAL	
7-63-2	7-60-0-C FWD IC ROOM	3-48-2 EXHAUST	MANUAL	
7-64-4	7-64-0-E 3&4 A/C	EXHAUST	MANUAL	
7-68-2	7-68-2M 50CAL MAG	1-69-4 EXHAUST	MANUAL	
7-72-1	7-68-0-M 50CAL MAG	01-77-1 SUPPLY	MANUAL	
7-115-2	7-109-2-E 5&6 A/C	EXHAUST	MANUAL	
7-110-2	7-109-2-E 5&6 A/C	SUPPLY	MANUAL	
7-112-1	7-112-1-E AFT UPS	RECIRC	AUTOMATIC	
7-112-2	7-112-1-E AFT UPS	RECIRC	AUTOMATIC	
7-112-3	7-112-1-E WATER MIST ROOM	RECIRC	AUTOMATIC	
6-70-1	6-68-01-L GYM	RECIRC	MANUAL	
6-71-4	6-68-01-L GYM	RECIRC	MANUAL	
6-71-2	6-68-01-L GYM	RECIRC	MANUAL	
6-86-1	6-86-0-E FWD EOS	1-37-1 SUPPLY	MANUAL	
6-86-2	6-86-0-E FWD EOS	3-105-2 SUPPLY	MANUAL	
6-113-1	6-109-1-E E BOILER ROOM	2-109-3 SUPPLY	MANUAL	
6-118-1	6-118-1	SUPPLY		
5-15-1	5-15-1-L PASSAGE	1-18-1 EXHAUST	MANUAL	

5-17-1	5-17-1-L PASSAGE	1-17-1 SUPPLY	MANUAL	
5-64-1	5-64-3 WATCH STANDERS BERTHING	NATURAL EXHAUST	AUTOMATIC	
FITTING NUMBER	**LOCATION**	**SYSTEM NUMBER**	**FUNCTION**	
5-66-1	5-64-3 WATCH STANDERS BERTHING	NATURAL EXHAUST	AUTOMATIC	
5-68-1	5-64-3 WATCH STANDERS BERTHING	NATURAL EXHAUST	AUTOMATIC	
5-83-0	CREW LAUNDER CONTROL STA 2	SUPPLY/EXHAUST	AUTOMATIC	
5-84-1	5-83-1-Q OIL LAB	4-83-3 RECIRC	MANUAL	
5-88-0	MAIN LANDRY CONTROL STA 8	SUPPLY/EXHAUST	AUTOMATIC	
5-88-1	5-86-0-C AFT IC ROOM	2-90-3 EXHAUST	MANUAL	
5-90-2	5-86-0-C AFT IC ROOM	3-105-2 SUPPLY	MANUAL	
5-107-2	5-109-2-L CREW W/C		MANUAL	
5-112-2	5-112-0-E FWD UPS		MANUAL	
5-115-2	5-112-2-L CREW WR, SH & DECON	2-109-4 EXHAUST	MANUAL	
5-121-2	AFT EOS	RECIRC	MANUAL	
5-144-2	5-137-0-E AFT STEERING	2-146-1 EXHAUST	MANUAL	
5-144-4	5-137-0-E AFT STEERING	2-146-1 SUPPLY	MANUAL	
4-35-1	4-34-1-Q LOAD CENTER 11	1-37-1 SUPPLY	MANUAL	
4-35-3	4-34-1-E LOAD CENTER 11	1-37-2 EXHAUST	MANUAL	
4-57-2	4-57-2-Q LOAD CENTER 21	2-52-2 SUPPLY	MANUAL	
4-61-2	4-57-2-Q LOAD CENTER 21	3-48-2 EXHAUST	MANUAL	
4-76-1	4-76-1-Q LOAD CENTER 31	3-48-2 EXHAUST	MANUAL	
4-78-1	4-76-1-Q LOAD CENTER 31	01-77-3 SUPPLY	MANUAL	
4-81-1	4-81-1-Q DAMAGE CONTROL CENTER	1-70-4 EXHAUST	MANUAL	

4-85-1	4-81-1-Q ET SHOP	1-70-4 EXHAUST	MANUAL	
4-97-2	4-96-2-Q POST OFFICE STORE ROOM	2-98-2 RECIRC	MANUAL	
4-97-4	4-96-2-Q POST OFFICE STORE ROOM	2-98-2 RECIRC	MANUAL	
4-105-2	4-106-4-Q LOAD CENTER 41	3-105-2 SUPPLY	MANUAL	
FITTING NUMBER	**LOCATION**	**SYSTEM NUMBER**	**FUNCTION**	
4-120-3	4-121-1 DECK DAYWORKER BERTHING		MANUAL	
4-108-2	4-106-4-Q LOAD CENTER 41	2-99-2 EXHAUST	MANUAL	
4-136-2	4-133-6-Q LOAD CENTER 51	3-136-2 EXAUST	MANUAL	
4-136-4	4-133-6-Q LOAD CENTER 51	3-137-2	MANUAL	
3-8-1	3-8-0-Q WINDLASS ROOM	1-17-1 SUPPLY	MANUAL	
3-8-2	3-8-0-Q WINDLASS ROOM	1-18-2 EXHAUST	MANUAL	
3-19-2	3-19-0-C RADIO XMTR ROOM NO1	RECIRC	MANUAL	
3-37-2	WARD, 1&2 A/C, AFT UPS	1-18-1 SUPPLY	MANUAL	
3-54-1	OUTSIDE TRASH ROOM FR40	SUPPLY/EXHAUST	MANUAL	
1-65-2	1-62-2-M 50 CAL RS ROOM	01-77-1 SUPPLY	MANUAL	
1-66-2	1-62-2-M 50 CAL RS ROOM	1-69-4 EXHAUST	MANUAL	
2-14-0	OFFICER LAUNDRY ROOM	2-14-0-L	MANUAL	
2-14-1	2-14-3-L PASSAGE WAY	1-17-1 SUPPLY	MANUAL	
2-14-2	2-14-4-L PASSAGE WAY	1-18-2 EXHAUST	MANUAL	REMOTE
2-36-1	STAFF GALLEY CONTROL STA NO2	SUPPLY/EXHAUST	AUTOMATIC	REMOTE
2-49-1	FLAG GALLEY CONTOL STA NO3	SUPPLY/EXHAUST	AUTOMATIC	
2-132-1	2-131-3-L PASSAGEWAY LIBRARY	NATURAL EXHAUST	MANUAL	
2-132-2	2-121-0-L PASSAGEWAY CTR1	NATURAL EXHAUST	MANUAL	

2-140-2	2-140-0-E QUINCY ROOM	SUPPLY	MANUAL	
2-140-4	2-140-0-E QUINCY ROOM	EXHAUST	MANUAL	
5-120-2	COMPRESSED GAS STOREROOM	EXHAUST	MANUAL	

FIRE AND SMOKE DAMPERS
NFPA FORM 17-C

Inspection and Maintenance

Vessel: _____ **IMO #:** _____

Shipyard: _____ **Date:** _____

Service Company: _____ **Inspector:** _____

1) Full unobstructed access to dampers is provided.
2) Smoke damper needs to be cycled through its closure and opening in accordance with NFPA 72.
3) Fusible link, if provide, is removed and damper closes completely and latches closed (where latch provided).
4) No interference with damper operation by rusted, bent, or misaligned parts, damaged blades, or defective hinges.
5) Damper frame not penetrated by foreign objects to prevent proper operation.
6) Fusible link is not damaged or painted. If damaged, it should be replaced.
7) All exposed moving parts to be dry lubricated per manufacturer's instructions.
8) Note deficiencies and how they were corrected. After any repairs, the damper should be retested for proper operation.

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0571	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DAMPER SERVICE (1 YR)		Simpson, Eric H.

Y = Satisfactory **N** = Unsatisfactory (explain below) **N/A** = Not applicable

No.	Location	1	2	3	4	5	6	7	8

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0571	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DAMPER SERVICE (1 YR)		Simpson, Eric H.

USS Mt Whitney		
(LCC-20)		
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No.	Location	1	2	3	4	5	6	7	8

USS Mt Whitney		
(LCC-20)		
AUXILIARY MACHINERY		CONTRACT NO. N00000-00-X-0000
ITEM NO. 0571	CATEGORY "A"	2026-05-20
LCC-CCSI-FIRE AND SMOKE DAMPER SERVICE (1 YR)		Simpson, Eric H.

Description of any unsatisfactory conditions noted:

1.0 ABSTRACT

The purpose of this item is to inspect, service, recharge, and test the Deep Fat Fryer, Grill and Range Hood Fire Extinguishing Systems.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NFPA 17 Standard for Dry Chemical Extinguishing Systems (Available Commercially)

2.1.2 NFPA 17A Standard for Wet Chemical Extinguishing Systems (Available Commercially)

2.1.3 ISO 15371, Ships and Marine Technology — Fire-Extinguishing Systems for Protection of Galley Cooking Equipment

2.1.4 SOLAS Chapter II-2 Construction - Fire Protection, Fire Detection and Fire Extinction, Part C Suppression of Fire, Regulation 10 Firefighting, Para 6 (Available Commercially)

2.1.5 Tech Manual 87-122000-**001**, Kiddie WHDR System

2.2 Enclosures

2.2.1 Design of a Verification of Service Collar

2.2.2 Deep Fat Fryer, Grill and Range Hood Fire Extinguishing Systems – Annual Inspection

2.2.3 Deep Fat Fryer, Grill and Range Hood Fire Extinguishing Systems - Service Record

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations

a. Crew and Troop Galley (4-52-0-Q)

b. CPO Galley (4-65-1-Q)

c. Officer Galley (3-34-0-Q)

d. Staff/Officer Pantry and Scullery (**2-36-01-Q**)

e. Flag Galley (2-49-1-Q)

3.1.2 Quantity

a. **Nine** Deep Fat Fryer

b. **Five** Grills

c. **Sixteen** Range Hoods

3.1.3 Item Description/Manufacturer’s Data

a. Range Hood Extinguishing System Manufacturer: Kidde.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, recharge, and test all Deep Fat Fryer, Grill and Range Hood Fire Extinguishing Systems using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s

force to have associated equipment unlocked and/or tagged in per ship's lock out/tag out policy.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 Temporarily remove bulkhead and overhead panels only as necessary to gain access to the ducting and thermostatic switches. Temporarily remove access covers and plates to the ventilation systems to allow inspection. Existing openings will be used to the maximum extent possible. New access openings will be approved in advance by the OMT REP only. New openings in watertight ducting sections are not permitted. Upon completion and acceptance of all work, reinstall access covers and panels using new gaskets and sheet metal fasteners.

7.5 Conduct an annual inspection of Deep Fat Fryer, Grill and Range Hood Fire Extinguishing Systems meeting the manufacturer's design, installation, maintenance instructions and service bulletin requirements using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance. The inspection includes/verifies:

7.5.1 Neither the extinguishing system nor the protected equipment has been modified or relocated.

7.5.2 The exhaust system and filters have been cleaned.

7.5.3 The Deep Fat Fryer is fitted with an automatic or manual extinguishing system tested to an international standard using Reference 2.1.4 as guidance.

7.5.4 The grease extraction hood is equipped with a dry or wet chemical fire extinguishing system meeting 46 CFR§118.425.

7.5.5 Using Reference 2.1.2 as guidance, ensure that upon activation of the fire extinguishing system, electrical power is automatically shut off to the cooking appliances.

7.5.6 Using Reference 2.1.4 as guidance, ensure there is an alarm in the galley for indicating activation of the fire extinguishing system

7.5.7 The detectors, the expellant gas containers, the agent containers, releasing devices, dampers, piping, hose assemblies, nozzles, signals, fire extinguishing agent levels and all auxiliary equipment are in proper operating condition.

7.5.8 The systems show no physical damage, corrosion, leakage or condition that might prevent operation.

7.5.9 The pressure gauges are indicating within their operable range.

7.5.10 Using Reference 2.1.3 as guidance, ensure there is at least one manual actuator located in the path of egress.

7.5.11 The manual actuators are marked, visible and unobstructed.

7.5.12 The operating instructions are visible and legible.

7.5.13 Electrical breakers are properly marked.

7.5.14 The tamper indicators and seals are intact.

7.5.15 The maintenance tag or certificate is in place.

7.5.16 Using Reference 2.1.3 as guidance, ensure a placard is conspicuously displayed near each Class K portable fire extinguisher that states that the fixed fire protection system is to be activated prior to using the portable extinguisher.

7.5.17 The nozzle blow off caps or foil sealing discs installed in the nozzles are intact and undamaged.

7.5.18 The agent distribution piping is not obstructed. Use dry air or nitrogen and blow through the agent distribution piping with the nozzle blow-off caps removed, verifying that dry air or nitrogen is discharging at each nozzle location.

7.5.19 Verify upon activation of the ventilation hood fire protection system, the fire dampers close, and the ventilation fans stop. If equipped, fire smothering water spray

is released into the interior of the ventilator.

7.5.20 Verify and record the date the temperature sensing elements of the fusible metal alloy were last replaced.

7.5.21 Using Reference 2.1.3 as guidance, in locations where automatic fire extinguishing systems provide protection for hoods and ducts containing a water wash system, the water wash system must be delayed for a minimum of 60 seconds upon operation of the automatic fire extinguishing system using Reference 2.1.3 as guidance.

7.6 Conduct annual maintenance of Deep Fat Fryer, Grill and Range Hood Fire Detection, Alarm and Fire Extinguishing Systems meeting the manufacturer’s design, installation, maintenance instructions and service bulletin requirements using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance. The maintenance includes/verifies:

7.6.1 Verify each fire extinguisher is clearly marked with the name of the manufacturer, class fire rating, type and quantity of extinguishing medium, approval details and year of manufacture.

7.6.2 Examination of all extinguishers. All removable extinguisher boots, foot rings and attachments are to be removed to accommodate the cylinder exams. Identify physical damage, corrosion, or any condition that may lead to improper operation, and determine if internal exam or hydrostatic test is due.

7.6.3 Using Reference 2.1.1 as guidance, verify dry chemical within a stored pressure system is examined at least every 6 years.

7.6.4 Where inspection or maintenance of any dry or wet chemical containers reveal pitting or corrosion in excess of the manufacturer’s limits, or show symptoms of structural damage, fire damage, or repair by welding or brazing, the container is to be hydrostatically tested or replaced.

7.6.5 Using Reference 2.1.1 as guidance, perform the following minimum maintenance of the restorable type heat detectors:

a. Clean and visually exam all fixed temperature sensing heat detectors for damage or buildup of debris.

b. Perform an operational/functional test of the detectors using the manufacturer’s instructions to verify their settings.

c. Conduct a calibration verification test of the detector using the manufacturer’s instructions for guidance.

7.6.6 Fixed temperature sensing elements of the fusible metal alloy type are to be replaced at least annually from the date of installation. The old sensing elements are to be destroyed when removed. The year of manufacture and date of installation of the fixed temperature sensing element are to be marked on the system inspection tag.

7.6.7 Calibrate all Detroit switches associated with each range hood.

7.7 If hydrostatic test is due or insufficient charge is noted during inspection or maintenance:

7.7.1 The system is to be recharged using the manufacturers design, installation, and service manual requirements for guidance.

7.7.2 Using References 2.1.1 through 2.1.5 as guidance, discard dry and wet chemical agents removed from the containers prior to hydrostatic testing.

7.7.3 After recharging, a leak test must be performed on stored-pressure and self-expelling types of extinguishers.

7.7.4 In no case is an extinguisher to be recharged if it is beyond its specified hydrostatic test date.

7.8 Conduct hydrostatic testing of Deep Fat Fryer, Grill and Range Fire Extinguishing Systems meeting the manufacturer’s design, installation, maintenance instructions and service bulletin requirements using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance. The hydrostatic testing includes/verifies:

7.8.1 Wet and dry chemical containers, auxiliary pressure containers, and hose assemblies are hydrostatically tested every 10 years per SOLAS/II-2/14.

NOTE: 29 CFR AND NFPA 17 AND A7A (7.5.1) PERMIT TEST INTERVALS OF 12 YEARS HOWEVER SOLAS/II-2/14 MANDATES INTERVALS NOT TO EXCEED TEN YEARS

7.8.2 Hydrostatic testing is to be performed by persons certified and trained in pressure testing procedures and safeguards. All testing is to be conducted using clean fresh water as the test medium.

7.8.3 Hydrostatic testing always includes an internal and external visual examination prior to beginning the test.

7.9 Conduct annual system test of Deep Fat Fryer, Grill and Range Hood Fire Detection, Alarm and Fire Extinguishing Systems meeting the manufacturer’s design, installation, maintenance instructions and service bulletin requirements using References 2.1.1 through 2.1.5 and Enclosures 2.2.1 through 2.2.3 as guidance. The maintenance includes/verifies:

7.9.1 Simulate a functional test of the fire detection, control, alarm and extinguishing systems demonstrating proper operation both in manual and automatic mode. Using Reference 2.1.3 as guidance, manual activation using cable operated pull stations is not to require more than 40 lbs. of force.

7.9.2 Demonstrate proper operation of the ventilator hood as related to fire protection (damper closure, vent fan shutdown, and water mist).

7.9.3 Using References 2.1.1 through 2.1.3 and 2.1.5 as guidance, demonstrate proper operation of the deep fat fryer and cooking appliances as related to fire protection (power is shut off upon activation of the fire extinguishing system).

7.10 Tags and Labels

7.10.1 Tags and labels documenting inspection, maintenance, recharging or hydrostatic testing are to be affixed so as not to obstruct the extinguishers use, classification or

manufacturers labels.

7.10.2 Each extinguishing system is to have a tag or label securely attached that indicates inspection and maintenance performed. The tag at a minimum identifies the following:

a. Month and year of maintenance.

b. Name of person performing the work.

c. Name of the company performing the work.

d. The year of manufacture and date of installation of the fixed temperature sensing element.

7.10.3 Using Reference 2.1.3 as guidance, ensure each cylinder that has undergone maintenance that included an internal examination or has been recharged requiring the removal of the valve assembly must also have a verification-of-service collar installed around the neck of the container as shown in Enclosure 2.2.1. The collar must not interfere with the operation of the extinguisher and must be a single circular piece unable to move over the neck of the container unless the valve is completely removed. The collar at a minimum identifies the following:

a. Month and year of the recharge or internal exam.

b. Name of the company performing the work.

7.10.4 Using Reference 2.1.1 as guidance, determine the Dry Chemical extinguishers that passed the 6-year internal examination. The maintenance info for each of the identified cylinders are to be recorded on a durable weatherproof label that is a minimum of 2″ x 3.5″ (51mm x 89mm) affixed to the shell. Any previous exam labels are to be removed. The labels are to be of the self-destructive type when their removal is attempted. The label, at a minimum, identifies the following:

a. Month and year of six-year internal examination.

b. Name of person performing the work.

c. Name of the company performing the work.

7.10.5 Fire extinguishers that are low pressure non-DOT type that pass a hydrostatic test are to have the info recorded on a durable weatherproof label that is a minimum of 2” x 3.5” (51mm x 89mm) affixed by to the shell. Any previous test labels are to be removed. The labels must be of the self-destructive type when their removal is attempted. The label, at a minimum, identifies the following:

a. Month and year of test.

b. Test pressure used.

c. Name or initials of person performing the test.

d. Name of the company performing the test.

7.10.6 Fire extinguishers that are high pressure cylinders or cartridges that pass a hydrostatic test are to be stamped with the retesters’ ID number and the month and year of the retest as per DOT/TC requirements. Stamping is to be placed on the shoulder, top, head, neck or foot ring of the cylinder or in other acceptable locations as identified by 49 CFR 180.213.

7.10.7 Testing is to be coordinated with the OMT REP and ABS and USCG to allow for observation if deemed necessary.

7.10.8 Upon completion of all inspections, tests and repairs, return the Fire Extinguishing Systems to a ready for service condition. Demonstrate and verify system status with the OMT REP and ship’s Master.

7.11 Maintain work spaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.12 Reports

7.12.1 When inspections, service and testing reveal any deficiency, a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one

electronic copy in Portable Document Format (PDF).

7.12.2 Complete the Annual Inspection form included as Enclosure 2.2.2 of this work item. The initial condition of every Fire Extinguishing system must be documented. Submit one electronic copy in Portable Document Format (PDF).

7.12.3 Upon completion of all inspections, maintenance, servicing, recharging, and testing, prepare and submit a Service Record, included in Enclosure 2.2.3 of this work item, documenting the final “as released” condition of all Fire Extinguishing Systems affirming they are safe for use. Submit one electronic copy in Portable Document Format (PDF).

7.12.4 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, recharging, and testing and are to be countersigned by the Company's representative.

7.13 Painting: None additional

7.14 Manufacturer’s Representative

7.14.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the deep fat fryer and range hood identified in section 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.14.2 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only original equipment manufacturer (OEM) authorized technical field service providers or MSC qualified non-OEM technical field service providers and OEM authorized or MSC qualified non-OEM parts will be used to accomplish the requirements of this work item for this ship critical safety item including oversight and guidance on all aspects of equipment as-found condition inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. All tests shall be completed prior to Galley/Habitability turn over.

7.14.3 Contractors interested in gaining MSC qualification as a non-OEM parts and/or service provider should visit this website for qualification and submittal requirements:

https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/

7.14.4 Possible Sources

TECNO RISTORAZIONE BOLGIANI S.R.L.
VIA delle Genziane, 154
16148 GENOVA - QUARTO
TEL. 010/377.33.20
TEL e FAX. 010/377.46.12
E.mail : info@tecnoristorazionebolgiani.com

7.14.5 Provide the OMT REP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in section 3.0 prior to the start of any work.

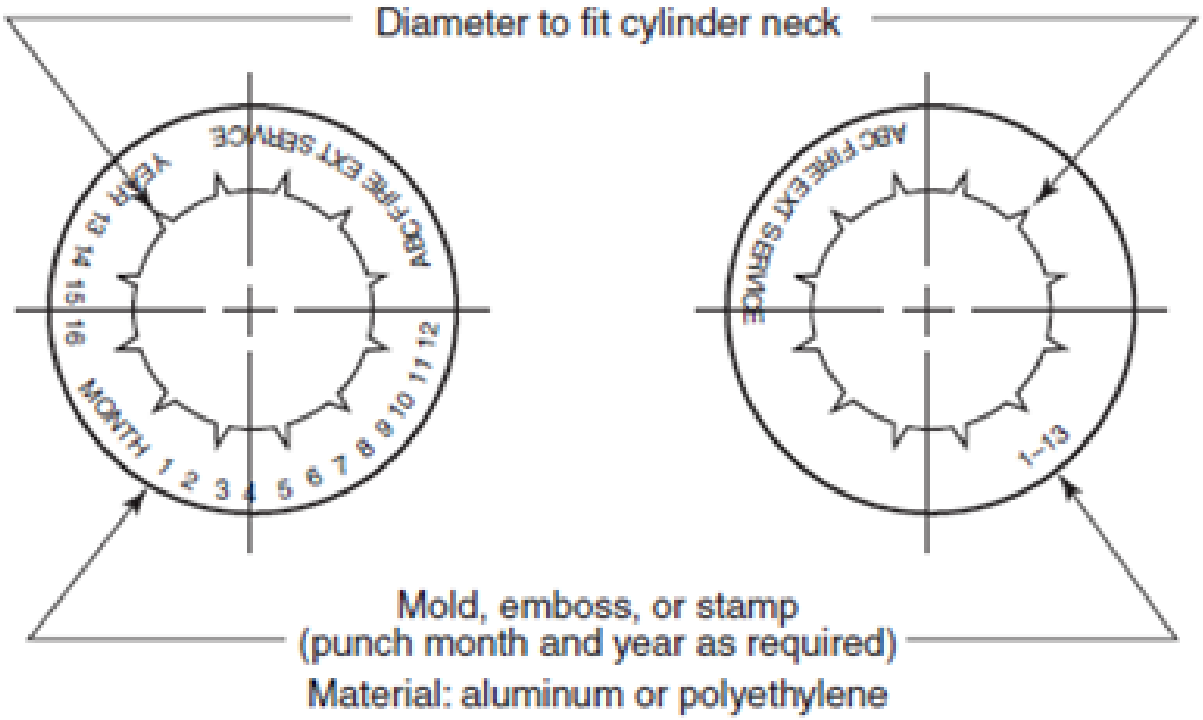
7.15 Preparation of Drawings

7.15.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - DESIGN OF A VERIFICATION OF SERVICE COLLAR

FOR GUIDANCE ONLY



ENCLOSURE 2.2.2 - DEEP FAT FRYER, GRILL AND RANGE HOOD FIRE EXTINGUISHING SYSTEMS - ANNUAL INSPECTION

Vessel: _____ **IMO #:** _____

Shipyard: _____ **Date:** _____

FX Company: _____ **Inspector:** _____

To be completed by the extinguishing system inspector at the time of inspection or test. The annual inspection shall at a minimum include checks and tests of the following:

S = Satisfactory U = Unsatisfactory (explain below) **N/A** = Not applicable

ENCLOSURE 2.2.2 – DEEP FAT FRYER, GRILLL AND RANGE HOOD FIRE EXTINGUISHING SYSTEMS – ANNUAL INSPECTION

No.	Description	Condition (S/U/NA)	Initials
1	Neither the extinguishing system nor the protected equipment has been modified or relocated.		
2	The exhaust system and filters have been cleaned.		
3	Record the type of deep fat fryer oil used and its flashpoint. Type: Flashpoint:		
4	The flashpoint of the deep fat fryer oil is in accordance with the User Manual requirements.		
5	The deep fat fryer is fitted with an automatic or manual extinguishing system tested to an international standard per ref 2.1.4.		
6	The grease extraction hood is equipped with a dry or wet chemical fire extinguishing system meeting NFPA 17 or 17A per 46 CFR§118.425.		
7	That upon activation of the fire		

ENCLOSURE 2.2.2 – DEEP FAT FRYER, GRILLL AND RANGE HOOD FIRE EXTINGUISHING SYSTEMS – ANNUAL INSPECTION

No.	Description	Condition (S/U/NA)	Initials
	extinguishing system electrical power is automatically shut off to the cooking appliances per ref 2.1.2 (9.3.5) and 2.1.6.		
8	There is an alarm in the galley for indicating activation of the fire extinguishing system per ref 2.1.4.		
9	The systems show no physical damage, corrosion, leakage or condition that might prevent operation.		
10	The pressure gauge(s), if provided, are indicating within their operable range.		
11	There is at least one manual actuator located in the path of egress, ref 2.1.3 (10.5.1.1).		
12	The manual actuators are marked, visible and unobstructed.		
13	The operating instructions are visible and legible.		
14	Electrical breakers are properly marked.		
15	The tamper indicators and seals are intact.		
16	The maintenance tag or certificate is in place.		
17	A placard is conspicuously displayed near each Class K portable extinguisher that states that the fixed fire protection system shall be activated prior to using the portable extinguisher per ref 2.1.3.		
18	The nozzle blowoff caps or foil sealing discs installed in the nozzles, preventing grease buildup, are intact and undamaged.		
19	Verify the agent distribution piping is not obstructed. Use dry air or nitrogen and blow through the agent distribution piping with the nozzle blow-off caps removed, verifying that dry air or nitrogen is discharging at each nozzle		

ENCLOSURE 2.2.2 – DEEP FAT FRYER, GRILLL AND RANGE HOOD FIRE EXTINGUISHING SYSTEMS – ANNUAL INSPECTION

No.	Description	Condition (S/U/NA)	Initials
	location.		
20	Verify internal condition of ducting and thermostatic switches.		
21	Verify upon activation of the ventilation hood fire protection system the fire dampers close and the ventilation fans stop. And if so equipped, fire smothering water spray is released into the interior of the ventilator.		
22	Verify & record the date the temperature sensing elements of the fusible metal alloy type were last replaced. Date:		
23	Verify where automatic fire extinguishing systems, in accordance with NFPA 17A, are providing protection for hoods & ducts containing a water wash system that the water wash system is delayed for a minimum of 60 seconds upon activation of the automatic fire extinguishing system.		
24	Verify the detectors, the expellant gas container(s), the agent container(s), releasing devices, dampers, piping, hose assemblies, nozzles, signals, fire extinguishing agent levels and all auxiliary equipment are in good operating condition.		

Description of any unsatisfactory conditions noted:

ENCLOSURE 2.2.3 DEEP FAT FRYER, GRILL AND RANGE HOOD FIRE EXTINGUISHING SYSTEMS - SERVICE RECORD (TO BE FILLED OUT/PROVIDED BY PPE)

Vessel: _____ **IMO #:** _____

Shipyard: _____ **Date:** _____

FX Company: _____ **Inspector:** _____

Location	Size (lbs.)	Class A/B/K	FX Medium	Serial No.	Year of Mfg.	Visual Inspection		Hydrostatic Test		Recharge (date)	Hose Inspection	Fusible Link Replaced (date)
						Last External (date)	Last Internal (date)	Last Test (date)	Pressure (psi)			
XXXXX	XX	X	XXXXX	XXXXX	XXXX	XXXXX	XXXXX	XXXXX	XXX	XXXXX	XXXXX	XXXXX

LEGEND -Fire Extinguishing Medium

Dry Chemical (DC)

Wet Chemical (WC)

1.0 ABSTRACT

The purpose of this item is to inspect, service and test the ship’s fire hoses and stations.

2.0 REFERENCES

2.1 MSC Drawing 085-8386886, Fire Control Plan

2.2 46 CFR §95.10-10, Fire Hydrants and Hose

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. One hundred and eleven (111) fire stations locations identified in Reference 2.1.

b. Fwd Repair #1 (4-30-7-Q)

c. DC Central (4-81-1-Q)

d. Secondary DC and Aft Repair (4-115-4-Q)

3.1.2 Quantity:

a. **379,** 50-foot lengths of 1 ½ inch fire hose

b. **18,** hoses 50-foot length of 2 ½ inch fire hose located in Damage Control Repair Lockers

c. **4,** hoses length of 4 inch fire hoses located in Damage Control Repair Lockers.

3.2 Item Description: Fire Hoses

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of

this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

5.4 Per MSC-USCG MOA dtd 2018, approval is granted for the use of MILSPEC MIL-H-24606B 1.75 inch diameter fire hose with 1.50 inch brass couplings with NH thread in lieu of UL 19. In addition, the use of wye-gate valves with 2-1/2” inlet and 1-1/2” outlets for fire hose connections in which the closure is composed of resilient nonmetallic material is permissible provided the station can be isolated from the firemain by a cut-out valve (COV) with metal to metal seats. The couplings for all fire hydrants, nozzles, hose connections, and other fittings are to have uniform thread configuration, for each diameter hose, to accommodate interchangeability.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All items will be serviced and maintained in accordance with OEMs specifications and certification requirements as set forth by the USCG, ABS, and National Fire Protection Agency (NFPA).

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, and test the ship's fire hoses and fire stations identified in Reference 2.1 and section 3.0 using Reference 2.2 as guidance. Accomplish inspection, servicing, and testing in accordance with IMO, SOLAS, USCG and the Manufacturer's requirements.

7.2 Coordinate with ship's force to tagout all required systems and equipment. Drain and dispose of any liquid, to vessel tanks.

7.3 Provide temporary fire hoses and equipment to adequately protect the ship from fire during the accomplishment of this item. No more than 25% of the ship's hoses should be removed at any one time. Coordinate removals with OMT REP to ensure the vessel always has adequate coverage until the hoses are returned and reinstalled.

7.4 Conduct an annual inspection of the fire hoses and stations using Reference 2.2 as guidance. The inspection is to verify:

7.4.1 Each fire hydrant has at least one length of fire hose, a spanner wrench, and a hose rack or other device for stowing the hose. Spanners are suitable for use on the hose at that station.

7.4.2 Each fire station hydrant or "y" branch is equipped with a valve so that the hose may be removed while there is pressure on the fire main.

a. Inspect all flanged connections to fire main piping and hydrants for gasket material that has been identified by APB to be "readily rendered ineffective by heat". An example of gasket material that has been accepted by ABS for us in fire main and hydrant flanged connections is reddish brown Garlock Series 9900 or equal ABS Type Approved material per ABS Rules 4-6-1/3.5, 4-6-2/9.5 vi), 4-7-3/1.11.1. Include a listing of connection that are unacceptable or questionable to the OMT REP.

7.4.3 Firehoses are connected to the outlets. On open decks where no protection is afforded to the hose in heavy weather, or where the hose may be liable to damage from the

handling of cargo, the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

7.4.4 Each firehose on each hydrant has a combination solid stream and water spray firehose nozzle approved under subpart 46 CFR §162.027.

7.4.5 Visually examine each hose for broken, damaged, or missing parts.

7.4.6 In each propulsion machinery space containing an oil-fired boiler or internal combustion machinery, each fire hose having combination nozzle must have a low-velocity water spray applicator that is approved under subpart §162.027. The length of the applicator must be less than 1.8 meters (6 feet). For Tank Vessel requirements see 46 CFR Table 34.10-10(E).

7.4.7 Each low-velocity water spray applicator has fixed brackets, hooks, or other means for stowing next to the hydrant.

7.4.8 Firehose is not being used for any other purpose than fire extinguishing, drills, and testing.

7.4.9 Inspect the physical condition of all hoses checking for damage, cuts, abrasions, and mildew.

7.4.10 Visually examine the hose lining at each end for signs of delamination.

7.4.11 Fire station hydrant connections are brass, bronze, or other equivalent metal.

7.4.12 Fire hydrants, nozzles, hose couplings, and other fittings have threads to accommodate the hose connections noted below. Couplings are to:

a. Use National Standard firehose coupling threads for the 1-1⁄2 inch (38 millimeter) and 2-1⁄2 inch (64 millimeter) hose sizes (9 threads per inch for 1-1⁄2 inch hose, and 7-1⁄2 threads per inch for 2-1⁄2 inch hose); or

b. To be a uniform design, for each diameter hose, throughout the vessel to allow for interchangeability.

c. Each section of firehose is lined commercial firehose that conforms to Underwriter's Laboratories, Inc. Standard 19 or Federal Specification ZZ-H-451E.

d. Ensure there is a shore connection to the fire main on each side of the vessel in an accessible location. Ensure there is an international voyage complying with ASTM F 1121. The international connection is to be capable of being used on either side of the vessel.

7.5 Conduct annual maintenance on all fire hoses and stations in accordance with the manufacturer's design, installation, maintenance instructions and service bulletins. The maintenance will include/verify:

7.5.1 Thoroughly wash out and clean the interior surfaces of all exterior fire station boxes, removing all dirt, debris, mildew, and water prior to re-stowing fire hoses.

7.6 Conduct annual testing of the fire hoses using Reference 2.2 as guidance and per 46 CFR §91.25-20(4). The testing is to include:

7.6.1 Hydrostatically test all firehoses to a test pressure equivalent to the maximum pressure to which they may be subjected in service, but not less than 100 psi (690 kPa). Before testing, the firehoses should be removed from any space containing cargo.

7.6.2 The total length of any hose line in the hose test layout to be service tested is not to exceed 300 feet per Reference 2.2.

7.6.3 The hose test layout will be straight, without kinks or twists.

7.6.4 The test medium is to be clean fresh water.

7.6.5 Ensure all air has been bled from the hoses before pressure testing.

7.6.6 Test pressure will be held for a minimum of three minutes.

7.6.7 Ensure the test gauge has been calibrated within the last 12 months.

7.6.8 Upon successful completion, stencil the fire hoses with date of each service test and the service test pressure. Any new hoses will also be stenciled with the Vessel's Name. Only a paint marker, spray paint, or fast drying stenciling ink that meets MILSPEC A-A-00508D is permitted to stencil or cover each fire hose. Apply product as recommended by the stenciling ink manufacturer. Apply the minimal amount of coverage over the previous hydrostatic testing date so that it no longer shows. Stencil and covering should be white or black, whichever color provides the most contrast. Recommend a non-toxic/non-corrosive metal barrel tube type permanent paint marker; spray paint that is exclusively used for stenciling, or a fast drying stenciling ink applied by a roller.

7.7 Testing is to be coordinated with OMT REP and ABS and USCG. Any firehose found to be defective and incapable of repair is to be destroyed in the presence of OMT REP. Once the failed firehoses are destroyed the area must be cleaned up and all debris removed from the vessel. Defective hoses are to be replaced with new ship's spares.

7.8 Care is to be used to protect the hoses and coupling threads from damage during the accomplishment of this work item. To prevent mechanical damage, firefighting appliances are not to be dropped or dragged.

7.9 Upon completion of all inspections, tests and repairs, return the fire hoses to the vessel and their respective station, apply a light coat of silicon-based lubricant to coupling threads, and leave fire hoses in a ready for service condition. All hoses are to be drained and thoroughly dried before being placed in storage.

7.10 Reports

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.10.2 Submit a report that includes "as released"

condition of the firehoses. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11 Painting: None additional

7.12 Manufacturer’s Representative: None

7.13 Preparation of Drawings

7.13.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This work item describes the annual requirements to inspect, service, and test ships critical fire doors and shutters.

2.0 REFERENCES/ENCLOSURES

2.1 References:

2.1.1 MSC Drawing No. 085-8386886, Fire Control Plan

2.1.2 Tech Manual 04-138_0_0, 26” x 54” H, Electro-Hydraulic Sliding Watertight Door

2.1.3 Tech Manual 4114_8_0, Fire Doors

2.1.4 **Tech Manual L-T7563-COT-010, Electrically Operated Rolling Shutter**

2.1.5 Subpart 46 CFR 111.99, Fire Door Holding and Release Systems

2.1.6 SOLAS II-2, Construction, Fire Protection, Fire Detection and Fire Extinction, Part C Suppression of Fire, Regulation 9 Containment of Fire (Available commercially)

2.2 Enclosure:

2.2.1 Fire Door and Shutter List

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. See Enclosure 2.2.1

3.1.2 Description/Quantity:

a. **114** hinged fire doors

b. **Seven** roller curtain doors

c. Two horizontal sliding doors

3.2 Item Description/Manufacturer's Data:

3.2.1 **Rolling Shutter: Bolton Gate Co.**

3.2.2 Engine Room/Fire Room Sliding Watertight Door Manufacturer: Walz & Krenzer

Dwg. No. 859-36, 26" x 54" Left Hand Sliding

Watertight Door

3.2.3 SS/EDG Room (Port)/SS/EDG Room (Stbd)

Manufacturer: Rapp-Bomek

Firetight Sliding Door, Electrically Actuated

P/N RBFDS050S

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 Fire door; means a door that is in a fire boundary, such as a stairway enclosure or main vertical zone bulkhead, that is not usually kept closed.

5.3 Fire door holding magnet; means an electromagnet for holding a fire door open.

5.4 Local control panel; means a manually-operated device next to a fire door for releasing the door so that the fire door

self-closing mechanism may close the door.

5.5 Central control panel; means a manually-operated device on the navigating bridge or in the fire control room for releasing one or more fire doors.

5.6 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.7 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Examine, test, and repair fire doors and shutters identified in 3.0 in accordance with NFPA, SOLAS, and ABS requirements using references 2.1.1 through 2.1.6 and enclosure 2.2.1 for guidance.

7.2 With ship’s force assistance, tag out equipment and systems. Temporarily remove access doors/panels, overhead panels in passageways and compartments, paneling and any other interferences to access all fire doors and shutters and their operators listed in enclosure 2.2.1.

7.3 Conduct inspections, maintenance, and testing of the fire doors, shutters and controls using references 2.1.1 through

2.1.5 for guidance.

7.4 Conduct an annual inspection of the fire doors, shutters and controls listed in enclosure 2.2.1 using references 2.1.1 through 2.1.6 for guidance. The examination shall include/verify:

7.4.1 A visual inspection of both sides of the door or shutter.

7.4.2 No field modifications have been made.

7.4.3 Full unobstructed access to doors and shutters is provided.

7.4.4 There is no rusted, bent, misaligned, defective or missing parts.

7.4.5 The door or shutter frame and guides are not warped, damaged or penetrated and the fire boundary integrity is maintained at openings and penetrations.

7.4.6 With assistance from ships force, cycle each door through its closure and opening. Check for proper operation and full closure as well as travel and proper operation of limit switches. Verify it is possible for each door to be opened and closed from each side of the bulkhead by one person only.

7.4.7 Doors in stairtowers, stairways, main vertical zone bulkheads and galley boundaries are self-closing and hold-back hooks are not fitted, unless subject to central control station release.

7.4.8 Chains and cables are in good operating condition. Inspect chains and cables for excessive wear, stretching and binding and verify they are not kinked, pinched, twisted, inflexible, painted or coated in grease.

7.4.9 The fusible link, if fitted, is temporarily removed and shutter closes completely and latches closed (where latch provided).

7.4.10 The fusible link is not damaged or painted. If damaged, it is to be replaced.

7.4.11 Each remotely operated fire door or shutter indicator displays whether the door or shutter is OPEN or CLOSED.

7.5 Conduct maintenance of all fire doors, shutters and controls listed in enclosure 2.2.1 using references 2.1.1 through 2.1.6 and manufacturers maintenance instructions and service bulletins for guidance. The maintenance is to include/verify:

7.5.1 All exposed moving parts are lubricated per manufacturer’s instructions.

7.5.2 Grease roller doors internal gearbox components for proper function of hand cranks using Reference 2.1.3 and 2.1.4 for guidance.

7.5.3 Adjust spring tensioning of roller doors using Reference 2.1.3 and 2.1.4 for guidance.

7.5.4 Realign hard stops of roller doors for unobstructed operation using Reference 2.1.3 and 2.1.4 for guidance.

7.6 With assistance from ships force, conduct an operational test of all fire doors, shutters and controls listed in enclosure 2.2.1 to verify the assemblies operate correctly and will close under fire conditions.

7.6.1 Check the clearance between the hydraulic sliding door and its frame with a .003” (0.08mm) feeler gage. Degree of contact should be such to reject the gage at any sealing point around the perimeter.

7.6.2 Sliding or rolling fire doors and shutters are to have an average closing speed of not less than 6”/sec or not more than 24”/sec in accordance with NFPA 80, Standard for Fire Doors and Other Openings, 5.2.3.6.2 (15).

7.6.3 The approximate time of closure for hinged fire doors is to be no more than 40 seconds and no less than 10 seconds from the beginning of their movement with the ship in upright position per reference 2.1.5.

7.6.4 Automatic and Centrally Controlled doors per reference 2.1.5 are to:

a. Be able to be operated both automatically and manually from both sides of the division.

b. Demonstrate the failsafe mechanism closing the door or shutter in a fire upon loss of electrical power or hydraulic or pneumatic pressure loss.

c. Demonstrate remote-control arrangements for shutting of the fire doors and shutters from the central control station. Verify indication at the fire door indicator panel in the continuously manned central control station displays door status; open and closed.

d. Remote-released sliding or power-operated doors are to be equipped with an alarm that sounds at least five seconds but no more than ten seconds after the door being released from the central control station and before the door begins to move and continues sounding until the door is completely closed.

e. A door closed remotely from the central control station is to be capable of being re-opened from both sides of the door by local control. After such local opening, the door is to automatically close again.

7.6.5 After any repairs, the door and shutters are to be retested for proper operation.

7.7 Reset all automatic closing devices in accordance with the manufacturer’s instructions. Verify that the automatic closing device has been reset correctly.

7.8 Testing is to be coordinated with the MSCREP and ABS Surveyors to allow for random observation if deemed necessary.

7.9 Upon completion of all inspections, tests and repairs leave the fire doors and shutters in a ready for service condition. Conduct a final inspection with the MSCREP.

7.10 Reports

7.10.1 When inspections, maintenance, servicing and testing reveal any deficiency, a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.10.2 Upon completion of all inspections, maintenance, servicing, and testing, prepare and submit a typewritten Service Report documenting the final “as released” condition of all fire doors and shutters affirming they are safe for use. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.11 Painting/Lagging:

7.11.1 Prepare, prime, and paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.12 Manufacturer’s Representative:

7.12.1 Provide the services of a manufacturer’s representative (or authorized technical representative) to perform all inspections, maintenance, servicing and testing of the sliding watertight doors identified in 3.2.1 and 3.2.2.

7.12.2 Possible Sources:

Walz & Krenzer, Inc.

91 Willenbrock Rd., Unit B4

Oxford, CT 06478 USA

Phone: (203)267-5712

Rapp-Bomek AS

Kvitberget S, 8012 Bodo, Norway

Phone: +4775591600

7.13 Preparation of Drawings

7.13.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional.

Door Location	Type	Op. Type	Operator	Location Description
7-115-1-E	Hinged Fire Door	S	MECH	Assured Power UPS RM#2
7-112-1-E	Hinged Fire Door	S	MECH	Assured Power Battery Room #2
8-97-2-T	Hinged Fire Door	S	MECH	Escape Trunk Engine Room
8-77-2-T	Hinged Fire Door	S	MECH	Escape Trunk Fire Room
7-68-2A	Hinged Fire Door	M	MECH	Ammo Handling Room
7-72-2A	Hinged Fire Door	M	MECH	Ammo Handling to **Passage 7-72-2-L**
7-73-2A	Hinged Fire Door	M	MECH	Small Arms Mag
7-74-2M	Hinged Fire Door	M	MECH	**40MM Storeroom**
7-74-0M	Hinged Fire Door	M	MECH	**Pyro Magazine**
7-75-2T	Hinged Fire Door	M	MECH	Small Arms Mag Elevator Trunk
7-63-1	Hinged Fire Door	M	MECH	Stores Elevator #3
7-62-1	Hinged Fire Door	M	MECH	IC & Gyro Room Entrance
7-60-1-T	Hinged Fire Door	M	MECH	Trunk to MSC Dry Prov.
7-38-1	Hinged Fire Door	S	MECH	Assured Power Battery Rm#1
6-118-2-K	Hinged Fire Door	M	MECH	Gas Cylinder Storeroom (Flammable)
6-115-1-E	Hinged Fire Door	S	MECH	Aux Boiler RM to Aft

				400Hz
6-118-1-E	Hinged Fire Door	S	MECH	Emer SWBD to Aft 400Hz
8-86-0-E	Sliding WTR and Fire Tight Door	P	HYD	Engine Room to Fire Room
6-67-2-L	Hinged Fire Door	S	MECH	Passage to Gym
6-68-0-Q	Hinged Fire Door	S	MECH	Fan Room in Gym
6-39-0-Q	Hinged Fire Door	S	MECH	Potable Water Heating plant to Emer Load Ctr
6-31-1-Q	Hinged Fire Door	S	MECH	Passage to Pot Wtr Heating
5-128-4	Hinged Fire Door	S	MECH	Entrance CAT EOS
5-128-2-E	Hinged Fire Door	S	MECH	CAT EOS into Space
5-125-0-E	Hinged Fire Door	S	MECH	CAT Space to Elevator
5-128-0-E	Auto Close Sliding Fire Door	P	EM	Between CAT Spaces
5-117-2-L	Hinged Fire Door	S	MECH	Trunk to MSC Crew Space (Port)
5-111-1-L	Hinged Fire Door	S	MECH	Trunk to MSC Crew Space (STBD)
5-105-4-L	Hinged Fire Door	S	MECH	Passage to Crew Lounge
5-105-1-l	Hinged Fire Door	S	MECH	Passage to Crew Living
Door Location	Type	Op. Type	Operator	Location Description
5-101-1-L	Hinged Fire Door	S	MECH	Passage to Living Space
5-94-2-E	**Hinged Fire Door**	**S**	**MECH**	**Engine Room**

5-97-2	**Hatch**	**M**	**MECH**	**Engine Room Escape Hatch**
5-88-0-Q(P)	Hinged Fire Door	S	MECH	Passage to Fan Room
5-88-0-Q(S)	Hinged Fire Door	S	MECH	Passage to Laundry
5-85-2-Q	Hinged Fire Door	S	MECH	Door to Crew Laundry
5-68-2-L	Hinged Fire Door	S	MECH	To CPO Lounge
5-67-0-L	Hinged Fire Door	S	MECH	To CPO Living Space
5-64-3-L	Hinged Fire Door	S	MECH	Passage
5-61-1-T	Hinged Fire Door	S	MECH	Trunk
5-37-6-L	Hinged Fire Door	S	MECH	**Passage 5-37-6-L**
5-29-2	Hinged Fire Door	S	MECH	**Passage 5-26-2 to Female Berthing Lounge**
4-133-1	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
4-133-2	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
4-133-3	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
4-133-5	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
4-109-2-L	Hinged Fire Door	M	MECH	Frame 109 Fire Boundary
4-109-1	Hinged Fire Door	M	MECH	Frame 109 Fire Boundary
4-90-1-Q	Hinged Fire Door	S	MECH	Officer/CPO Laundry
4-88-6	**Hinged Fire Door**	**S**	**MECH**	**Passage PORT E/R**
4-87-1	**Hinged Fire Door**	**S**	**MECH**	**Passage STBD E/R**
4-76-3	**Hinged Fire Door**	**S**	**MECH**	**Passage STBD F/R**

4-86-1	Hinged Fire Door	M	MECH	Frame 86 Fire Boundary
4-86-2	Hinged Fire Door	M	MECH	Frame 86 Fire Boundary
4-81-1-Q	Hinged Fire Door	M	MECH	DC Central
4-71-1-Q	Hinged Fire Door	S	MECH	Mess to CPO Galley
4-67-3-Q	Hinged Fire Door	S	MECH	Passage to CPO Galley
4-61-0	**Roller Shutter**	**M**	**MECH**	**CPO Galley**
4-61-1	**Roller Shutter**	**M**	**MECH**	**CPO Galley**
4-64-1	Hinged Fire Door	M	MECH	Frame 64 Fire Boundary
4-64-2	Hinged Fire Door	M	MECH	Frame 64 Fire Boundary
4-63-2	Hinged Fire Door	S	MECH	Entrance to Bakery
4-59-2-A	Hinged Fire Door	S	MECH	Bread Room
4-61-1	Hinged Fire Door	S	MECH	**Break Out Room**
4-57-1	Hinged Fire Door	S	MECH	Entrance Crew/Troop Galley
4-57-2	Hinged Fire Door	S	MECH	Entrance Galley
4-53-2	**Roller Shutter**	**M**	**MECH**	**Crew/Troop Galley**
4-53-1	**Roller Shutter**	**M**	**MECH**	**Crew/Troop Galley**
4-40-1	Hinged Fire Door	M	MECH	Frame 40 Fire Boundary
4-40-4	Hinged Fire Door	M	MECH	Frame 40 Fire Boundary
4-18-1	Hinged Fire Door	M	MECH	Frame 18 Fire Boundary
3-133-4	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary

3-133-1	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
3-133-5	Hinged Fire Door	M	MECH	Frame 133 Fire Boundary
3-109-2	Hinged Fire Door	M	MECH	Frame 109 Fire Boundary
3-109-1	Hinged Fire Door	M	MECH	Frame 109 Fire Boundary
3-109-3	Hinged Fire Door	M	MECH	Frame 109 Fire Boundary
3-109-7	Hinged Fire Door	M	MECH	Oil Spill Locker
3-109-9	Hinged Fire Door	M	MECH	SS/EDG Exhaust Void
3-86-6	Hinged Fire Door	M	MECH	SSES to SSES TTY
3-86-1	Hinged Fire Door	M	MECH	Frame 86 Fire Boundary
3-86-2	Hinged Fire Door	M	MECH	Frame 86 Fire Boundary
3-86-0-C	Hinged Fire Door	M	MECH	CCR to Radio
3-86-0	Hinged Fire Door	M	MECH	Term. Equip to Tech CTL
3-64-1	Hinged Fire Door	M	MECH	Frame 64 Fire Boundary
3-64-2	Hinged Fire Door	M	MECH	Frame 64 Fire Boundary
3-40-1	Hinged Fire Door	M	MECH	Frame 40 Fire Boundary
3-40-2	Hinged Fire Door	M	MECH	Frame 40 Fire Boundary
3-40-0	Hinged Fire Door	M	MECH	Entrance to Officer Mess
3-39-2	Hinged Fire Door	M	MECH	Officers Scullery
3-39-1	Hinged Fire Door	M	MECH	Officers Galley
3-32-4	Hinged Fire Door	M	MECH	CPO Laundry

3-14-1-Q	Hinged Fire Door	M	MECH	Enter Anchor Windlass Rm
2-147-1-M	Hinged Fire Door	M	MECH	Aft CIWS MAG
2-133-4	Hinged Fire Door	M	MECH	Fire Boundary Frame 133
2-133-1	Hinged Fire Door	M	MECH	Fire Boundary Frame 133
2-133-9	Hinged Fire Door	M	MECH	Fire Boundary Frame 133
2-133-2	Hinged Fire Door	M	MECH	Fire Boundary Frame 133
2-109-2	Hinged Fire Door	M	MECH	Fire Boundary Frame 109
2-109-3	Hinged Fire Door	M	MECH	Fire Boundary Frame 109
2-86-5	Hinged Fire Door	M	MECH	Fire Boundary Frame 86
2-86-4	Hinged Fire Door	M	MECH	Fire Boundary Frame 86
2-86-0-C	Hinged Fire Door	M	MECH	CPC1 to CPC2
2-86-0	Hinged Fire Door	M	MECH	CPC2 to RCPS
2-64-2	Hinged Fire Door	M	MECH	Fire boundary Frame 64
2-64-3	Hinged Fire Door	M	MECH	Fire boundary Frame 64
2-64-4	Hinged Fire Door	M	MECH	Fire boundary Frame 64
2-50-0	Hinged Fire Door	M	MECH	Flag Galley
2-49-1-Q	Hinged Fire Door	M	MECH	Flag Galley
2-51-0	**Service Window**	**M**	**MECH**	**Flag Galley**
2-40-2	Hinged Fire Door	M	MECH	Fire Boundary Frame 40
2-40-1	Hinged Fire Door	M	MECH	Fire Boundary Frame 40

2-39-1	Hinged Fire Door	M	MECH	Staff/Officer Pantry/Scullery
2-37-1	**Roller Shutter**	**M**	**MECH**	**Staff/Officer Pantry/Scullery**
2-36-2	**Roller Shutter**	**M**	**MECH**	**Staff/Officer Pantry/Scullery**
2-14-1-Q	Hinged Fire Door	M	MECH	Officer & CPO Laundry
2-14-2	Hinged Fire Door	M	MECH	Fire Boundary Frame 14
2-14-1	Hinged Fire Door	M	MECH	Fire Boundary Frame 14
1-65-0	Hinged Fire Door	M	MECH	Magazine Entrance
1-64-2-A	Hinged Fire Door	M	MECH	Cartridge Case Disposal
1-5-1	Hinged Fire Door	M	MECH	FWD CIWS Magazine
03-69-2	Hinged Fire Door	M	MECH	Entrance to Pilot House (P)
03-67-0	Hinged Fire Door	M	MECH	Entrance to Pilot House (S)

Legend (door type)

M = Manual Closing

S = Self Closing

P = Power Operated

Legend (operator)

MECH = Mechanical

EM = Electro-Mechanical

HYD = Hydraulic

PNU = Pneumatic

FL = Fusible Link

1.0 ABSTRACT:

The purpose of this item is to provide OEM labor, technical services, material, and industrial support to accomplish the inspection and overhaul of turbochargers on Caterpillar 3516 diesel engines.

2.0 REFERENCES/ENCLOSURES:

2.1 References:

2.1.1 Caterpillar Diesel 3516C Marine Engines, Generators and Coupling GEPB007(001)E (includes SEBU 8793, 3516 Engine Operation and Maintenance Manual).

2.1.2 Caterpillar Reusability or Salvage of Used Parts Manual (SEBF8029)

2.2 Enclosures:

2.2.1 Caterpillar 3516C SSDG Engine Model Data

2.2.2 Diesel Engine Maintenance Start-up and Dormant Start-up Readiness Assessment (One Checklist per Diesel Engine)

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location/Quantity:

3.1.1 Location:

a. EDG Room (P) (5-125-2-E)

b. EDG Room (S) (5-121-1-E)

3.1.2 Quantity: Six (6) Diesel Engines Turbochargers.

3.2 Item Description/Manufacturer's Data:

3.2.1 Caterpillar Engine Model 3516C turbochargers.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract, including but not limited to Work Items 023, 501 and 533 to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The following definitions explain the terminology used in Section 7 for the service that is performed during the overhaul. These terms are used by Caterpillar to define diesel inspection and repair actions and complement definitions in Work Item 001:

5.3.1 Inspect – Inspect the components according to the instructions that are in Caterpillar reusability publications. Refer to Guidelines for Reusable Parts and Salvage Operations, SEBF8029, “Index of Publications on Reusability or Salvage of Used Parts”.

5.3.2 Rebuild – The component is reconditioned by OEM or authorized representative in order to comply with reusability guidelines.

5.3.3 Replace – The service life of the part is

exhausted. The part may fail before the next maintenance interval. The part must be replaced with a part that meets functional specifications. The replacement part may be a new CAT part or a CAT remanufactured part. Some parts have an associated core charge for which credit is received when returned to a CAT dealer.

5.4 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 At least one member of ship's force will be assigned to assist with quality assurance efforts whenever turbocharger work is being accomplished.

6.2 Make known to all personal working on the engine and generator unit, that electrical and electronic controls and devices are present and may require necessary precautions and isolations that must be protected from damage during the overhaul period.

6.3 Enclosure 2.2.1 for engine specific model and serial number data. This information is required for identification of correct parts for completion of work identified in section 7.0.

7.0 STATEMENT OF WORK REQUIRED

7.1 Tagout all required systems and equipment. Drain and dispose of any liquid in accordance with all federal, state and local regulations.

7.2 Only OEM authorized or qualified representatives will be permitted to temporarily remove, inspect, refurbish, and reinstall diesel engine turbocharger components. Only OEM parts are to be used in the accomplishment of work under this item.

7.2.1 The lead Original Equipment Manufacturer (OEM) representative is to be on-site from the beginning of work until completion of work with satisfactory dock trials. If there is a need to change the lead OEM representative during this scheduled maintenance action, the shipyard quality assurance department is to schedule a turnover meeting with the departing and arriving lead OEM representatives, shipyard quality assurance personnel and MSCREPs in attendance to ensure a proper turnover is accomplished.

7.3 At the halfway point of the turbocharger overhaul, the contractor representative will contact ABS to conduct an inspection for credit towards the unit's Continuous Machinery Survey. The unit will not be closed until approval is granted by the ABS surveyor. Provide the attending ABS Surveyor, MSC Port Engineer and Chief Engineer with a minimum of 24-hour notice as to when the unit will be open and ready for inspection by the ABS Surveyor.

7.4 Provide all tools and material required, including, but not limited to special tools, rags, degreaser, lubricant and loctite for accomplishment of all elements of this work item. Ship’s force will NOT provide any tools.

7.5 Only OEM parts are to be used in the accomplishment of work under this work item.

7.6 If the turbocharger has over 15,000 operating hours inspection is not necessary and should be replaced per OEM guidelines. If less than 15,000 operating hours proceed with inspection starting in paragraph 7.7.

7.7 Temporarily remove the exhaust outlet piping and remove the air inlet piping from the turbocharger. Visually inspect the piping for the presence of oil. Clean the interior of the pipes in order to prevent dirt from entering during reassembly.

7.8 Turn the compressor wheel and the turbine wheel by hand. The assembly should turn freely. Inspect the compressor wheel and the turbine wheel for contact with the turbocharger housing. There should not be any visible signs of contact between the turbine wheel or compressor wheel and the turbocharger housing. If there is any indication of contact between the compressor wheel and the turbocharger housing, the turbocharger must be replaced.

7.9 Check the compressor wheel for cleanliness. If only the blade side of the wheel is dirty, dirt and/or moisture is passing through the air filtering system. If oil is found only in the back side of the wheel, there is a possibility of a failed turbocharger oil seal. The presence of oil may be the result of extended engine operation at low idle. The presence of oil may also be the result of a restriction of the line for the inlet air (plugged air filters), which causes the turbocharger to slobber.

7.10 Use a dial indicator to check the end clearance of the shaft. If the measured end play is greater that the Service Manual Specifications, the turbocharger is to be replaced. An end play measurement that is less than the minimum Service Manual specifications (See Reference 2.1.1) could indicate carbon buildup on the turbine wheel. The turbocharger should be disassembled for cleaning and inspection if the measured end play is less than the minimum Service Manual specifications.

7.11 Inspect the bore of the turbine housing for corrosion.

7.12 Clean the turbocharger housing with standard shop solvents and soft bristle brush.

7.13 Fasten the air inlet piping and exhaust outlet piping to the turbocharger housing.

7.14 Replace engine air filters.

7.15 Inspect all electrical connections, test all turbocharger readings (boost pressure, RPM, and oil pressure) to the electronic and external monitoring system, wire standoffs and chafing protections installed on the associated components and provide a condition report stating general condition and any abnormal findings with recommended repairs.

7.16 Inspection/Test:

7.16.1 Test all turbocharger related engine alarms and safety devices. Record all alarm and safety device set points and submit to MSCREP.

7.16.2 Notify the Chief Engineer and the attending Port Engineer when the engine associated with the turbocharger overhaul is ready to be tested under ship's electrical load for approximately two hours. Notify the ABS Surveyor in order to attend the final testing so credit can be given for the Continuous Machinery Survey on the unit. The Chief Engineer or his representative will be responsible for engaging the unit on the vessel’s main bus. Record cylinder operating temperatures, fluid operating temperatures and pressures during load test. Submit an “as found” condition report.

a. Prior to engine start-up the checklist in Enclosure 2.2.2 is to be completed. This evolution is to be accounted for in the scheduling of work under this item and related items.

7.16.3 During the operational load testing verify proper protection is provided by installed engine heat screening and insulation to protect from fire in the event of oil or fuel spray. Use a thermal imaging camera to note any surfaces hotter

than the maximum SOLAS requirement of 220 Deg C (428 Deg F). Inspect for the below noted conditions and provide a condition report for any noted discrepancies.

a. Screening and insulation are in place and mounted correctly.

b. Gaps in screening where fuel or oil spray can contact hot surfaces.

c. Where insulation mats are used, evaluate if an oil leak can contaminate or soak the material and be a fire risk.

d. Inspect insulation and screening around exhaust bellows and expansion joints for exhaust smell, discoloration and cracks.

e. Inspect insulation and screening for oil contamination or soaking. Any insulation or screening found in this condition should be noted in a condition report for replacement.

7.17 Reports:

7.17.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repairs and parts required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.17.2 Provide the MSCREP with a report for each turbocharger no more than seven (7) days after the completion of all work. Provide three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF). The report will contain the following, at minimum:

a. Engine operating hours and serial number.

b. Photographs of the turbocharger condition at disassembly and any unusual conditions.

c. Description of any abnormal or usual conditions found during maintenance.

d. Measurements taken and recorded and critical clearances and adjustments. "As-found", "As-released" and acceptable ranges for measurements are to be listed in the report.

e. Include comments on any defects found in arrangements for removals and lifting of turbocharger components.

f. Include a listing of any additional special tools found to be needed for successful maintenance on turbochargers.

g. Include a listing of all parts used during maintenance. Identify all parts rebuilt, renewed or exchanged. The parts list to include the Sub-Assembly drawing number and Caterpillar part number.

h. Include a listing of all parts included in the parts kits or ordered and not used as well as items turned over to ship’s Force.

i. Turbocharger clearances (unless replaced based on 10,000 operating hour requirement).

7.18 Paint/Lagging:

7.18.1 Renew lagging where old lagging was removed. Paint all new and disturbed surfaces to match surrounding surfaces.

7.19 Manufacturer's Representative:

7.19.1 Provide the services of an OEM authorized field service representative to accomplish all work and testing on the turbochargers identified in paragraph 3.0 ensuring compliance with the manufacturer’s standards and performance specifications.

7.19.2 This work item requires maintenance and repair actions to be performed on a MSC ship critical safety item. Only original equipment manufacturer (OEM) authorized technical field service providers or MSC qualified non-OEM technical field service providers and OEM authorized or MSC qualified non-OEM parts shall be used to accomplish the requirements of this work item for this ship critical safety item including oversight and guidance on all aspects of equipment as-found condition inspection, removal, disassembly, reassembly, repairs, modifications, reinstallation, and testing as applicable. The technical service provider shall attend dock trials.

7.19.3 Contractors interested in gaining MSC qualification as a non-OEM parts and/or service provider should visit this website for qualification and submittal requirements: https://www.msc.usff.navy.mil/Business-Opportunities/Contracts/Qualification-for-Items-Critical-to-Shipboard-Safety-on-MSC-Vessels/.

Possible Source(s):

Insert Local Caterpillar Rep(s) Contact Information

7.19.4 Provide the MSCREP with a signed letter of qualification from the Original Equipment Manufacturer and certificate of training for the field service representative for the equipment listed in paragraph 3.0 prior to the start of any work.

7.19.5 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s

representative.

7.19.6 Assist ship’s force in the completion of Enclosure 2.2.2 checklist.

7.19.7 Prepare and submit an Engine Start-Up Certification to MSCREP within one (1) day of work completion. This document certifies that work is compete and the engine associated with the turbochargers may be started.

7.20 Preparation of Drawings: None.

8.0 GENERAL REQUIREMENTS: None additional.

ENCLOSURE 2.2.1

LCC 20 CATERPILLAR 3516C SSDG ENGINE MODEL DATA

SSDG 4
Model 3516C
Serial Number:

SSDG 5
Model 3516C
Serial Number:

SSDG 6
Model 3516C
Serial Number:

USNS/USS _____ Hull No: _____

Diesel Engine Examined for Start-up: _____

Port / Shipyard: _____ Date: _____

72 Hours (notional) Prior to Dock Trial (Machinery Space Turnover)

- ☐ Verification received from Contractor / Tech Rep that all work is complete and Engine is ready and safe to start.
- ☐ Verify machinery space fire and smoke detection systems are fully operational.
- ☐ Verify all Lockout / Tag out locks / tags are cleared IAW SMS 2.1-004-ALL “Lockout / Tag out.”
- ☐ Verify that diesel exhaust systems are intact and no fire hazards exist in the uptake spaces.
- ☐ Verify all tanks are closed.
- ☐ Verify all machinery space doors are operating correctly including any installed door closers.
- ☐ Verify fixed, semi-portable and portable firefighting systems are fully certified and operational.
- ☐ Verify Damage Control Locker and equipment are available.
- ☐ Verify that all machinery space reach rods and remote pull stations are fully functional where fitted.
- ☐ Verify all hoses, staging, covers, rigging, etc., temporarily installed in support of ship maintenance and repair, are removed from the machinery spaces.
- ☐ Verify machinery space bilges are clean with no accumulations of liquids or debris.
- ☐ Verify that machinery space supply and exhaust ventilation and fire dampers are functioning properly.
- ☐ Verify that all installed engine hoses have been checked for wear and compliance with the COMSC 5-year replacement mandate.

48 Hours (notional) Prior to Startup

- ☐ Check engine oil level in sump.
- ☐ Check governor oil level.
- ☐ Check cooling water level.
- ☐ Check central fresh water treatment and level.
- ☐ Check oil levels in reduction gear, lineshaft bearings and auxiliary sumps.
- ☐ Verify fuel oil lines on engine are secure.
- ☐ Transfer fuel oil from storage tanks to settler.

- ☐ Check fuel oil service tanks for water or contamination. Conduct fuel oil analysis.
- ☐ Check lube oil service tanks and sumps for water or contamination. Conduct lube oil analysis.
- ☐ Verify all engine filters cleaned or renewed.

24 Hours (notional) Prior to Startup

- ☐ Remove stack covers.
- ☐ Walk around the engine and check for leaks on and under the engine.
- ☐ Verify 115V / 24VDC control voltage available.
- ☐ Perform lamp test locally and at EOS console.
- ☐ Run the lube oil and fuel oil purifiers on sumps and service tanks.
- ☐ Run auxiliary systems; check pressures and temperatures.
- ☐ Verify auto start of standby pumps.
- ☐ Verify machinery space bilges are clean with no accumulations of liquids or debris.

Pre-Start

- ☐ Check oil level in sump.
- ☐ Check head tank levels.
- ☐ Disengage barring gear.
- ☐ Review USCG Periodic Safety Test Plan (PSTP) and verify that all engine related safety and alarm features are functioning properly.
- ☐ Verify that salt water cooling / fresh water cooling systems and heat exchangers are on-line and fully operational.
- ☐ Verify that lube oil service pumps / lube oil service system is fully functional.
- ☐ Verify that lube oil purifiers are operating properly.
- ☐ Verify that fuel oil service pumps / fuel oil service system is fully functional.
- ☐ Verify that fuel oil purifiers are operating properly.
- ☐ Verify that compressed air / start air systems are fully functional.
- ☐ Verify shafts and props are clear to spin.
- ☐ Stop all fuel transfers.
- ☐ Test sliding watertight doors.
- ☐ Verify EDG is available and ready; test run off line.
- ☐ Open all Engine cocks and roll the engine.
- ☐ Check local emergency stop.
- ☐ Check remote emergency stop.
- ☐ Chief Engineer to notify Master and Port Engineer that start-up readiness assessment has been completed for all prime movers, and associated support systems and that machinery is ready / not-ready for start-up.
- ☐ Master to provide concurrence for start-up or not and conveys same to Type Desk and PM for information.

Chief Engineer

Port Engineer

1. ABSTRACT

   1.1. This item describes the requirements for the contractor to provide supplemental labor and material to renew piping in various areas of the vessel. Quantities under this item are meant to support work on piping both above and below the waterline.

2. REFERENCES/ENCLOSURES

   2.1. References:

      2.1.1. ABS Rules for Building and Classing Steel Vessels (Latest Revisions)

   2.2. Enclosures:

      2.2.1. Misc. Piping Renewal (Specific Locations and Quantities for areas not yet unidentified)

3. ITEM LOCATION/DESCRIPTION

   3.1. Location/Quantity

      3.1.1. Location: Various locations throughout the vessel

      3.1.2. Quantity: As per Para 7.0.

   3.2. Item Description/Manufacturer's Data: Piping and fittings as described in Para 7.0.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

   4.1 GFS: ABS SURVEYOR

5. NOTES

   5.1. The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29.

   5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

6. QUALITY ASSURANCE REQUIREMENTS

   6.1. In addition to the contractor's duties under 29CFR1910.147 or similar local safety regulation, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the program. Prior to the start of work, the contractor shall contact the MSCREP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The

prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

6.2. All new material, fit-up and welding must meet ABS requirements, Ref 2.1.1. Perform NDT of new welds in the presence of the ABS Surveyor and Port Engineer. Provide written report of the NDT's to the Port Engineer.

7. STATEMENT OF WORK

7.1. This item describes the requirements for the contractor to provide all material, labor, equipment in the performance of this work.

7.2. Piping repairs will be defined by written Contract Change Order (CCO).

7.2.1. Additional piping repairs may include new work, supplemental work to existing work items, and emergent work that will be added to the contract via change orders.

7.2.2. The contractor agrees that additional piping repairs shall be completed during the performance period without impacting, accelerating, or causing delay or disruption to the work required by any other work item.

7.2.3. Any additional piping repairs NOT performed during the course of the availability will be credited back to the Government at the completion of the availability via a final credit change order.

7.3. Piping Repair General Requirements:

7.3.1. Drain the piping and dispose of liquid. Work Item 023 applies to disposal of hazardous liquids, if any. Clean and gas free affected piping and areas. Temporarily install hard blanks, minimum ¼" steel plate with four (4) bolts, in way of removals.

7.3.2. Crop out and remove to scrap, the designated piping (as specified by the Port Engineer). Contractor to assume removals include lagging/insulation where on piping.

7.3.3. Install and renew piping listed under paragraph 7.3. The following requirements apply to all of the piping repairs listed in this work item.

7.3.3.1. New pipe sections shall be targeted and template from existing (as found required); and shaped, hung, fitted, and/or flanged as per existing arrangement.

7.3.3.2. Contractor shall install gasketed hard blanks and supporting hardware on all piping systems open for repairs listed in this work item.

7.3.3.3. Contractor shall replace existing hardware with new Monel hardware for all repaired piping systems. No fastener shall extend more than 3 threads past the securing nut.

7.3.3.4. Contractor shall use Garlock Blue Gasket material in all new and disturbed mechanical joints.

7.3.3.5. Contractor to reuse all existing pipe hangers. Hangers are to be reassembled using new lining material and new corrosion resistant hardware. Any deviation shall be approved by the Port Engineer.

7.3.3.6. ABS surveyor to review material certification prior to pipe installation.

7.3.3.7. ABS inspection required of all aspects of installation and materials used.

7.3.3.7.1. For HIGH PRESSURE or HIGH TEMPERATURE piping, notify the local ABS surveyor to witness inspections, surface preparation, the initial "fit-up" of the piping joint before any welding commences, the initial "root pass" of the weld, the final production welds and NDT for each production weld as required by ABS. Costs associated with ABS attendance will be paid by MSC, but the responsibility for notification for timely attendance when required shall be the contractor's.

7.3.3.8. Target, template, roll, bend, shape, fit, weld, and install new sections.

7.3.3.9. Back gouge, NDT dye penetrant test, and re-weld.

7.3.3.10. Accomplish integrity test; air or other as required by the ABS surveyor.

7.4. Piping Renewals and Repairs:

7.4.1. Submit unit prices and total prices as described in Enclosure 2.2.1.

7.4.2. For bidding purposes:

7.4.2.1. Assume all piping repairs will be less than 10 feet above an existing deck or other walkway. Piping repairs requested that do not meet this criteria shall be at additional cost (in these cases contractor to submit a condition report).

7.4.2.2. Insulation renewal for repaired sections of piping shall NOT be included in the repair cost. Contractor shall provide new lagging and insulation for all renewed piping sections similar to the surround piping but due to the uncertain nature of a given repair, insulation renewal shall be at additional cost. Contractor to submit a condition report for any insulation work that will be required, if any.

7.4.2.3. Piping penetrations through bulkheads and decks (where found) shall be at additional cost. Contractor to submit a condition report for any penetration work that will be required, if any.

7.4.2.4. All additional piping repair required by this work item shall be considered at feet in length for each required piping repair.

7.5. Preparation of Drawings/Documentation:

7.5.1. The following minimum documentation is required:

7.5.1.1. Submit reports detailing "as found" conditions as soon as inspections are complete, measurements are taken and condition observed along with

recommended repairs. Additional repair if found to be required shall be the subject of a change order.

7.5.1.2. Submit reports detailing "as released" conditions when all work is complete. Report shall summarize repairs accomplished, final dimensional readings, pictures, test data, reports by others, and list parts replaced.

7.5.2. All documentation shall conform to the following minimum requirements:

7.5.2.1. Timeliness: Provide all check sheets, inventories, "as found" and "as released" condition reports, and certificates with in two (2) days of the discovery or completion of the work.

7.5.2.2. Format:

7.5.2.2.1. Provide electronic copies of all reports, type written. Scanned copies of hand written documents may also be included but do not substitute for the type written file.

7.5.2.2.2. No electronic file shall be more than 3 MB in size.

7.5.2.3. Signatures: All reports and checklists shall be completed and signed by the person who carried out the test, inspection, and maintenance work (or the contractor's QA person can sign).

7.6. Inspection/Test:

7.6.1. All repaired piping shall be tested in accordance with the following:

7.6.1.1. Hydrostatically tested to 125% maximum allowed working pressure for the individual system or 50 psi, whichever is greater for pressurized systems. Test drains and other atmospheric pressure systems with a standing head of water equal to the highest open location in the system.

7.6.1.2. Test duration shall be at least ten (10) minutes.

7.6.1.3. Test shall be witnessed by the MSCREP/ABS SURVEYOR.

7.6.1.4. Care shall be taken to isolate components which might be damaged by the test pressure.

7.6.1.5. Allowable leakage is none.

7.6.2. Upon successful completion of shop hydrostatic test where accomplished, install new piping aboard the ship using all new gasket and Monel or bolting material similar to as-found if higher grade. Prove installation satisfactory under actual operating conditions. Allowable leakage is none.

7.7. Painting: Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas using the coating manufacturer's product data sheets for guidance. Prepare all new surfaces to Steel Structure Painting Council, Surface Preparation Standard SSPC-SP3. Prep, prime, and paint new and disturbed sections.

7.8. Marking: Where originally installed or marked, install name plates, notices, cable tags, and markings as applicable (replace with same as existing) for all new/modified sections.

7.9. GENERAL REQUIREMENTS: None additional

Enclosure 2.2.1 – MISC Piping Renewal List

Pipe, Steel Schedule 40	Unit Measure	Unit price	Units	Total Price
2 IPS	4 foot section		120 linear ft (30 sections)	
3 IPS	4 foot section		120 linear ft (30 sections)	
4 IPS	4 foot section		120 linear ft (30 sections)	
6 IPS	4 foot section		120 linear ft (30 sections)	

Fitting: Elbow, Flange, Tee, etc. Steel	Unit Measure	Unit price	Units	Total Price
2 IPS	Each		15	
3 IPS	Each		15	
4 IPS	Each		15	
6 IPS	Each		15	

Pipe, 90-10 Cu-Ni Class 200	Unit Measure	Unit price	Units	Total Price
2 IPS	4 foot section		120 linear ft (30 sections)	
3 IPS	4 foot section		120 linear ft (30 sections)	
4 IPS	4 foot section		120 linear ft (30 sections)	
6 IPS	4 foot section		120 linear ft (30 sections)	

Fitting: Elbow, Flange, Tee etc. 90-10 Cu-Ni Class 200	Unit Measure	Unit price	Units	Total Price

2 IPS	Each		15	
3 IPS	Each		15	
4 IPS	Each		15	
6 IPS	Each		15	

Locations:

Enclosure 2.2.2 – Locations

1. 8-86-0-E Lower Level Engine Room
   a. Crop and renew 3 feet of 5” steel pipe
   b. Crop and renew 3 feet of 2 ½” steel pipe
2. Fire Station 47
   a. Crop and replace 6 linear feet 2 ½” CuNi piping and one 2 ½” CuNi elbow
3. 8-86-0-E Lower Level Engine Room
   a. Crop and renew 6 inch to 3 inch CuNi tee with one (1) 3” flange and one (1) six inch flange at valve 8-87-4
4. 8-76-0-E Fire Room Upper Level (in overhead)
   a. Crop and renew ~8 linear feet of six inch CuNi pipe, one six inch CuNi elbow and one six inch to three inch CuNi tee.
5. 8-76-0-E Fire Room Upper Level
   a. Crop and renew ~8 liner feet of six inch CuNi pipe, one six inch CuNi elbow and one six inch flange.
6. 3rd Deck – Fueling at Sea Station #1
   a. Crop and renew ~40 linear feet of 3 inch steel sanitary system exhaust piping, two 90 degree steel elbows.
   b. Work involves two bulkehead penetrations (side shell and Male/Female Wash Room 3-50-1-L)

1. ABSTRACT

   1.1. This item describes the requirements for the contractor to replace rubber floor matting in various locations.

2. REFERENCES/ENCLOSURES: None

3. ITEM LOCATION/DESCRIPTION

   3.1. Location/Quantity

      3.1.1. Location/Quantity:

         3.1.1.1. ADP 3-95-2-C (800 sqft)

         3.1.1.2. CIS DIVO 3-98-1-Q (460 sqft)

         3.1.1.3. Radio Control Room 3-81-0-C (460 sqft)

         3.1.1.4. Circuit Control Room 3-82-2-C (460 sqft)

         3.1.1.5. Terminal Equipment Room 3-86-0-Q (380 sqft)

         3.1.1.6. CIC 3-86-6-C (650sgft)

         3.1.1.7. Tomahawk Strike Planning Center 2-93-2-C (460 sqft)

   3.2. Quantities where stated is considered an estimate. For bidding purposes assume 4000 Sq. Ft. of replacement. If the actual square footage is greater or less, submit a condition report to the Port Engineer.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

   4.1. Government Furnished Material (GFM):

      4.1.1. Blue Marbleized Floor (rubber) Matting (NSN: 7220-01-024-9040), Electricity Resistant, heat/chemically sealable seams thickness: 0.125 Inches minimum, Width: 36 Inches Nominal. Total of 4000 Sq. Ft.

5. NOTES

   5.1. The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier

must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29.

5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

5.3. The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems "may" contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with unexpected hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items; however, the costs of asbestos or lead contaminated disposal (if any) is to be covered in this item. Contractor shall be responsible to follow all international, national, and US Federal regulations in the containment and removal of these wastes as encountered.

6. QUALITY ASSURANCE REQUIREMENTS

6.1. Ensure the affected spaces, vessel's interior and all equipment are not subject to contamination from dust or paint. If dust will be created by this work, the contractor shall install temporary ducting and cover exposed equipment so as to protect equipment from contamination due to this work.

7. STATEMENT OF WORK

7.1. Arrangements/Outfitting:

7.1.1. Provide all material, labor, and equipment for this work, except as noted in paragraph 4. **NOTE:** Contractor shall install plastic covers over equipment in the space to prevent contamination from any airborne foreign material (such as dust).

7.1.2. Make all removals and restorations. Remove and replace all interferences to accomplish to this work item. All material, unless specifically stated as Government Furnished Material (GFM), shall be supplied by the contractor.

NOTE: For the location noted in para. 3.1.1 the contractor is requested to remove unused COMMS rack mounts / foundations that are welded to the deck. Grind deck smooth after removal of the deck mounts and paint bare metal that is exposed. Do "**NOT**" reinstall new mounts/foundations.

7.1.3. Thoroughly clean flooring, bulkheads and furniture to remove all matting and glue remnants, dirt and debris to prepare surfaces for installation of new matting. Dispose of existing matting in accordance with local and National regulations. Space identified in para. 3.1.1

7.1.4. Prepare deck and install new GFM rubber matting system in accordance with manufacturer's instructions.

7.1.4.1. Lay matting, bulkhead to bulkhead, in each space. Matting to be closely fitted to bulkheads, partitions, and difficult to move built-in furniture bases.

7.1.4.2. Matting to be glued directly to deck using manufacturer's approved adhesive. Adhesive should form solid barrier at all edges and near all seams. Any remaining exposed corners of electrical grade matting shall be rounded off. Minimize the number of seams to the greatest extent possible.

7.1.5. Heat-weld all seams using heat gun and seaming material of at least the same dielectric properties of the matting.

7.1.5.1. Heat welded electrical seams to provide a continuous surface to prevent a path for grounding.

7.1.5.2. Where seams are inaccessible they shall be sealed with a waterproof sealant conforming to SAE-AMS-S-8802, Class B; MIL-A-46106, Group 1, Type 1; 3M 5200 Fastcure Marine Sealant (**or commercial equivalent**). Electrical matting seams shall not be within 914 mm (3 ft.) of electrical/electronic equipment, panels, and workbenches.

7.1.6. Seal all edges of the electrical matting including penetrations for pipes, foundations, vents, and other structures with a waterproof sealant conforming to SAE-AMS-S-8802, Class B; MIL-A-46106, Group 1, Type 1; 3M 5200 Fastcure Marine Sealant (**or commercial equivalent**).

7.1.7. Apply a coat of anti-static solution to matting IAW manufacturer specifications on completion of installation and adhesive curing.

7.2. Inspection/Test: Final inspection and walkthrough will be accomplished in the presence of the MSCREP. All spaces shall be cleaned to a "as found" condition and ready for use.

7.3. Painting:

7.3.1. As required, clean, prime, and paint all new and disturbed surfaces to match surrounding areas using the coating manufacturer's product data sheets for guidance.

7.3.2. Inspect all surfaces for corrosion prior to installation. Prepare, prime and paint rusted deck surfaces in way of flooring removals to match existing paint system when new. In event of the underlayment requiring repairs, submit a condition report to the port engineer and a change order will be issued..

8. GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This Work Item describes the renewal of the decking covering throughout ship, to include Purser and Chief Eng. office.

2.0 REFERENCES:

2.1 NAVSEA Dwg. 845-4458934 Rev. W, General Arrangements

2.2. Enclosure 2.1 Compartment List – Carpet Renewal in this Work Item

3.0 ITEM LOCATION/DESCRIPTION

3.1 Various Location identified by Ships force and listed in . For Estimating Purposes assume 10,000 Sq.Ft. of Carpet

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide all labor and material to completely rip out and renew the carpet flooring. New carpet should be the same color and style (or similar) to the existing carpet. Carpet may be installed to abut against permanently installed fixtures and furniture, but otherwise shall cover the deck completely.

7.2 New carpet shall be SOLAS approved for marine use meeting the requirements of IMO Resolution A.653(16) in accordance with the FTP code (i.e., carpet to be fireproof. Carpet can be installed by the tackless procedure or by cementing it to the deck with a water-based adhesive recommended by the carpet manufacturer. New carpeting must be provided the paperwork showing that it is SOLAS approved for shipboard use.

7.3 Carpets underlay shall also meet the requirements of SOLAS and the requirements of IMO Resolution A.653(16) in accordance with the FTP code.

7.4 Remove interferences as necessary to complete work item. Reinstall interferences when work is complete.

7.5 Tape off and cover equipment, furniture, bulkheads, etc. as necessary to prevent damage and contamination.

7.6 Rip out and renew the decking. Completely renew the carpet.

7.7 Prime and paint all disturbed areas to match surroundings.

7.8 Work areas to be wiped clean (bulkheads, furniture, and all other habitability equipment in the area that was affected by this work item).

8.0 GENERAL REQUIREMENTS: NONE ADDITIONAL

ENCLOSURE 2.1 Compartment List – Carpet Renewal

PRI	Location	SQFT	Notes
2	2-113-4-Q	120	CSM Tech pub library
2	2-22-2-L	40	VIP 1
2	2-22-3-L	40	VIP 3
2	2-24-3-L	40	VIP 2
2	2-26-3-L	40	VIP 6
2	2-28-1-L	40	VIP 5
2	2-28-1-L	40	VIP 5
2	2-28-2-L	40	VIP 7
2	2-28-2-L	40	VIP 7
2	2-32-4-L	40	DV 4
2	2-34-2-L	40	DV 5
2	2-37-2-L	40	DV 6
2	2-40-2-L	40	VIP 4
2	2-40-2-I	40	VIP 4
2	2-43-4-L	40	DV 3
2	2-46-2-L	40	DV 2 C6F CMC
2	2-58-8-L	40	
2	2-60-2-L	40	
2	2-61-3-L	40	DV 1

2	2-62-4	40	
2	3-122-2	40	
2	3-125-2	40	
2	3-126-1	40	
2	3-126-2	40	
2	3-126-3	40	
2	3-127-0-L	40	CYBO SR
2	3-131-2	40	
2	3-40-1-L	40	BRF SR
2	4-102-1-L	40	Bay 2
2	4-102-2-L	40	Bay 2
2	4-104-0-L	40	Bay 2
2	4-104-1-L	40	Bay 2
2	4-104-2-L	40	Bay 2
2	4-106-0-L	40	Bay 2
2	4-106-1-L	40	Bay 2
2	4-107-1-L	40	Bay 2
2	4-113-1-L	40	Bay 3
2	4-113-2-L	40	Bay 3
2	4-115-0-L	40	Bay 3
2	4-115-1-L	40	Bay 3
2	4-115-2-L	40	Bay 3
2	4-117-0-L	40	Bay 3
2	4-117-1-L	40	Bay 3
2	4-118-1-L	40	Bay 3
2	4-87-1-L	40	CSMO SR
2	4-87-2-L	40	CSIO SR
2	4-89-1-L	40	AO SR
2	4-90-2-L	40	SUPPO SR
2	4-92-1-L	40	CICO SR
2	4-92-1-L	40	CICO SR
2	4-92-2-L	40	ISO SR
2	4-95-0-L	40	OPS SR
2	4-95-1-L	40	Bay 1
2	4-95-2-L	40	EMO SR
2	4-95-4-L	40	Bay 1

2	4-98-0-L	40	Bay 2
2	4-98-1-L	40	Bay 2
2	4-98-2-L	40	Bay 2
2	4-98-3-L	40	Bay 2
2	4-98-4-L	40	Bay 2

1.0 ABSTRACT

1.1 This work item describes the requirements to remove and replace PRC in various locations.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NAVSEA 845-4458934 Rev W, Booklet of General Plans

2.1.2 Tech. Man. # S9086-VG-STM-010 NSTM, Chapter 634, Deck Coverings

2.2 Enclosures: None

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location / Quantity: (grand total of approx. **3000** sq. feet)

a. CPO/OFC LAUNDRY (4-90-1-Q) ~150 Sq. Ft.

b. MEDICAL SPACES SQFT of PRC ~900 Sq. Ft.

a. Ward (4) (3-116-2-L)
b. Duty Corpman (3-113-2-L)
c. Ward (16) (3-112-2-L)
d. Diet Pantry (3-109-2-Q)

c. SHIP'S STORE (4-81-2-Q) ~500 Sq. Ft
d. PASSAGE (7-64-1-L) ~320 Sq. Ft.
e. PASSAGE (4-86-0-L) ~400 Sq. Ft.
f. PASSAGE (4-98-6-L) ~200 Sq. Ft.
g. PASSAGE (3-30-01-L) ~200 Sq. Ft.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: NONE

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In

performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR's.

5.2 The contractor shall provide all material, labor, and equipment necessary to accomplish this work item.

5.3 Contractor is encouraged to ship check this item to ensure that contractor is aware of the scope of work.

5.4 All deck covering colors shall be approved in advance by the ship's ChMate.

5.5 All square footages listed in para. 3.1 are considered approximate. Contractor shall verify all quantities. Submit a condition report if the total area to be worked exceeds what is listed in para. 3.1.

5.6 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems "may" contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with unexpected hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items; however, the costs of asbestos or lead contaminated disposal (if any) is to be covered in this item. Contractor shall be responsible to follow all international, national, and US Federal regulations in the containment and removal of these wastes as encountered.

6.0 QUALITY ASSURANCE REQUIREMENTS: None Additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Mark, remove, and properly store interferences as needed to accomplish work. Upon completion of work required by this item, re-install interferences and prove operational.

7.2 Contractor to provide all equipment, material, and labor to accomplish this work item.

7.3 Prove all deck drains (if any exist) in the compartments described in paragraph 3.1 to be clear and free flowing. Plug the drains to preclude introduction of debris resulting from this work item. Upon completion of the decking renewal, remove the plugs and again prove the drains to be clear and free flowing. MSCREP or Chief Mate shall witness testing of all drains. Submit a report to the MSCREP listing any drains found

to be obstructed. Clearing of drains will be done by a change order, if determined to be necessary by the Port Engineer, and shall be performed prior to deck renewal.

7.4 Install protective covering to protect the vessel's equipment and to contain the dust generated by this work item to the affected compartments. The MSCREP shall approve the protective coverings prior to the start of productive work.

7.5 Chip-up (or power tool) and remove the existing PRC deck covering and underlayment in its entirety, including coving in the locations described in paragraph 3.1. Steps should be taken when removing PRC and underlayment and ensure they do not damage bulkhead panels during removal. Scale the entire deck, and all foundations, clips for equipment, all metal areas four (4) inches above the top of the coaming, and retainer rings around deck drains to bare metal. Deck shall be power tool cleaned to SSPC-SP11. Vacuum the compartment to remove all dirt and dust generated by the surface preparation. Debris shall be removed from the vessel and properly disposed of.

7.6 Clean all bright metal surfaces with solvents to remove all loose dirt, grease and oil residues. Inspect (**gage**) the deck surfaces to determine if any steel replacement is required. Submit a condition report to the Port Engineer detailing any areas where the deck thickness reduction will require cropping out and replacing of the steel. As needed, a change order will be issued to address problem areas.

7.7 Upon approval of the surface preparation by the MSCREP, apply one (1) coat of MIL-P-24441, Formula 150 primer (or commercial equal) to all prepared surfaces. The primer shall be 3-4 mils DFT.

7.8 Wipe down the primed surfaces with solvent. When dry, apply a bond coat to the deck surface to ensure proper bonding. Apply a PRC underlayment conforming to MIL-D-3135 (or commercial equal). The underlayment shall be a minimum of ¼" thick and shall fair-in irregularities in the deck including weld seams and depressions. Total thickness of the underlayment shall be dependent upon and adjusted upward as necessary, to conform to the PRC thickness requirements set forth in para. 7.8.

7.9 Install the PRC. The PRC shall be a minimum of ¼" thick, but shall not exceed ½" thick. The thickness of the PRC shall be maintained within these limits with no allowable deviation. PRC shall be sloped for positive drainage to the deck drains and shall be coved up the bulkheads 4".

7.10 When cured, grind the PRC to a smooth and fair surface. Final surface shall be non-porous, smooth, and free of pits, spalls, and crevices. The marble chips should be uniformly distributed, firmly embedded and exposed at the surface. Cracks or

voids found in the PRC are cause for rejection. Such defects shall not be patched. Acceptable corrective action shall be removal and re-installation of the PRC.

7.11 When grinding of the PRC is completed, blow down and vacuum the entire compartment, including covering and equipment and fixtures in the compartment.

7.12 After topcoat has cured apply three (3) coats of a **non-slip sealer** to the PRC. The finish shall be an even gloss and free of blotches. The number of coats required to achieve this finish is dependent upon factors including the expertise with which the PRC was applied.

7.13 All materials shall be mixed, applied, and cured in accordance with the manufacturer's instructions for the specific material.

7.14 Prepare, prime, and paint all disturbed surface to match surroundings.

7.15 After work has been completed, test the drainage in the areas worked. Prove that the drainage is positive and without low spots which would tend to collect water.

7.16 Remove all protective coverings. Clean the work areas and leave in a condition ready for use. All Dirt and debris shall be removed from the ship and the work area left in good order.

8.0 GENERAL REQUIREMENTS: None Additional.

USS Mt Whitney		
(LCC 20)		
HABITABILITY OUTFITTING AND FURNISHINGS		CONTRACT NO. AWP - N-TBD (MTA)
ITEM NO. 0604	CATEGORY "A"	2026-05-20
LCC -VRR 24-0020 & 25-0281 CEILING TILE REPLACEMENT		Simpson, Eric H.

1.0 ABSTRACT

1.1 This item describes the renewals of ceiling tiles in various spaces.

2.0 REFERENCES

2.1 NAVSEA 845-4458934 Rev T, Booklet of General Plans

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location:

3.1.1.1 Various spaces on 3rd deck listed in Para 7.1

3.1.2 Quantity: Total approx. 3,200 Sqft

3.2 Item Description/Manufacturer's Data.

3.2.1 DOD-I-24688 Polyimide Ceiling tiles and support system.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM):

4.2.1 Paint – As Required

4.2.2 Ceiling Tile

4.2.2.1 Dimensions (24 in x 48 in x 1.5 in)

4.2.2.2 Quantity: 400

4.2.2.3 Specification:
Low K-200 GRVD; DOD-I-24688, TY-II, CL-2

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs

5.2 The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

5.3 All dimensions are approximate and should be verified on-board ship prior to renewals. Template all work from ship and equipment.

5.4 USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.5 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 Throughout the work in all areas affected by this work item, the Contractor shall maintain a listing of each space, with annotations for work performed, inspection points, and acceptances. This listing shall be presented to the MSCREP after final walk-through of all affected compartments.

6.2 Prior to work beginning the Contractor and MSCREP and POIC IT2 Funkhouser Ext 4202 shall conduct a joint inspection of areas affected by this work to ensure all

equipment, furniture is protected from dirt, dust, paint and damage that could be created during this effort to ensure that protective measures are implemented.

6.3 Where painting is required Contractor with POIC and MSC rep shall perform inspections after completion of each stage of surface preparation, each coat, and each stripe coat, to verify surface condition, DFT and space cleanliness, and before securing space. At least 2 DFT readings shall be taken per 100 square feet.

7.0 STATEMENT OF WORK REQUIRED

7.1 Renew 100% of the MIL-SPEC Overhead ceiling tiles to include the associated ceiling support systems as CFM in the spaces on 3rd Deck listed in Para 7.3.

7.2 ****NOTE: **POC for space acces is CDO.**

7.2.1 561 sqft location: ISR 3-68-6-Q
7.2.2 125 sqft location: CBT 3-74-1-Q
7.2.3 84 sqft location: Intel Analysis 3-76-1-Q
7.2.4 128 sqft location: Effects Support 3-78-1-Q
7.2.5 125 sqft location: N2 Office 3-67-3-Q
7.2.6 84 sqft location: JIC Library 3-78-2-Q
7.2.7 638 sqft location: IC Watch floor 3-68-2-Q
7.2.8 358 sqft location: N2 Admin 3-68-0-Q
7.2.9 405 sqft location: JIC System Admin 3-76-2-Q
7.2.10 100 sq.ft. location: JICC 3-68-0-Q

7.3 All interferences that will affect the removals of existing tiles and install of new shall be removed prior to commencement of work and reinstalled upon completion.

7.4 Provide a condition report of all discrepancies found that is not covered under this work item, any additional work will be considered and written under a separate CCO.

7.5 Structural: None additional

7.6 Mechanical/Fluids: None

7.7 Electrical:/Electronics: None Additional

7.8 Testing:

7.8.1 Testing: Throughout the work in all areas affected by this work item, the Contractor shall maintain a listing of each space, with annotations for work performed, inspection points, and acceptances. This listing shall be presented to the MSCREP at start of work and after final walk-through of all affected compartments.

7.9 Painting

7.9.1 Paint all new and modified surfaces to match surrounding surfaces.

7.9.2 Contractor and MSCREP shall conduct a joint inspection of areas to be prepared and painted before surface preparation begins to ensure that protective measures are implemented

7.10 Markings

7.10.1 Install name plates, notices, and markings for all new and modified areas in accordance with GTR No. 29.

7.11 Manufacturer's Representative: None

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT: The intent of this item is to replace miscellaneous insulation and lagging in various locations.

2.0 REFERENCES and ENCLOSURES:

2.1 ABS Rules for Building and Classing Steel Vessels

2.2 ASTM 683: Standard Practice for Selection and Application of Thermal Insulation for Machinery

2.3 Enclosure 1

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity: See Enclosure 1

4.0 **GOVERNMENT FURNISHED MATERIAL/EQUIPMENT/SERVICES**:

4.1 All paint will be Government furnished.

5.0 NOTES

5.1 The Contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTR's including but not limited to GTR's 1 through 7, 22, 23, 24, 27, 28 and 29.

5.2 The Contractor and all subcontractors regardless of tier are advised to review the other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor shall be responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.4 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous wastes in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS:

6.1 All gas freeing to be certified in accordance with Local and National Standards, Law, and Regulations. Gas Free certificate must be provided before commencement of work. Chemist must be certified and currently approved by National Regulatory Agency. Gas Free certificate must be posted at sight of work and at Gangway.

6.2 All materials must be approved for installation prior to commencement of work by the MSCREP.

6.3 Preparation of site / space must be approved by the MSCREP prior to commencement of removals.

6.4 Personnel entry to and from the spaces being worked must be monitored to avoid adjacent space contamination.

6.5 Cleaning of work space must be thorough prior to and after application.

6.6 Fire watches must be posted in area of work, during the performance of any hot work.

7.0 STATEMENT OF WORK

7.1 Temporarily remove and replace all interferences in way of repairs and inspections. Interference removal may require burning and welding and relative modification of structural steel.

7.2 Remove existing insulation and replace with similar (closed cell foam pipe insulation – ABS approved material). Once insulated, encapsulate with cloth lagging Accomplish all work is to be accomplished to locations cited in paragraph 3.1.1.

7.3 Painting

a. Prepare and coat all new and disturbed areas. Provide coatings meeting all National and International Standards to match surrounding color scheme.

7.4 Provide a copy of a report listing all repairs accomplished

8.0 GENERAL REQUIREMENTS: None

ENCLOSURE 1

Frame	Location	Description	Quantity	Fittings
5-109-0	Deck & Stwd Dayworker Berthing	CHT Drain CUNI	4 inch Pipe x 10 Ft	2 ea 4 inch 45 deg Elbows
5-105-1	Supply Food Service Head Stbd Side	SW Flushing CUNI	1.5 inch Pipe x 7 Ft	1 ea 1 inch Tee
6-98-1-L	Engineering Berthing	CHT Pipe CUNI	3 inch Pipe x 5 Ft	1 ea 3 inch 45 deg Elbow
6-108-6	Engineering Head	CHT Drain CUNI	3 inch Pipe x 7 FT	1 ea 3 inch 45 deg Elbow
5-100-2	Supply Food Service Head Port Side	CHT Drain CUNI	3 inch Pipe x 5 Ft	
4-98-7	Purser's Stateroom	CHT Drain CUNI	4 inch Pipe x 3 Ft	
5-86-3	Stbd Enging Room Vestibule	CHT Drain CUNI	4 inch Pipe x 3 Ft	
6-40-0-A	GSK Stbd Storeroom	CHT Drain CUNI	5 inch Pipe x 3 Ft	
6-30-1-A	Blue Room	Gray Water Drain CUNI	3 inch Pipe x 3 Ft	
5-34-3-L	MSC & Navy Lounge	Gray Water Drain CUNI	3 inch Pipe x 10 Ft	1 each 3 inch Wye
4-18-1-L	Passageway	Firemain CUNI	3.5 inch Pipe x 3 Ft	1 each 3.5 inch 90 deg Elbow
4-37-2	Passageway	Firemain CUNI	3.5 inch Pipe x 3 Ft	1 each 3.5 inch 45 deg Elbow
8-40-0	Fwd CHT Pumproom	CHT Discharge CUNI	4 inch Pipe x 3 Ft & 1.5 inch Pipe x 2 ft	
4-109-2	Passageway	SW Flushing CUNI	1.5 inch Pipe x 4 Ft	
1-71-1	Vestibule	Deck Drain CUNI		1 each 1.5 inch Deck Drain
5-45-2	Navy Male Enlisted Berthing	SW Ballast Pipe Steel	8 inch Pipe x 20 Ft	1 each 8 inch 90 deg Elbow & 1 each 8 inch 45 deg Elbow
4-30-7	Suppo Head Drain in Repair Locker	CHT Drain CUNI	1.5 inch Pipe x 2 ft	1 each 1.5 to 3 inch Wye and 1 each 1.5 inch coupling
6-98-6-L	Stateroom	CHT Discharge CUNI	4 inch Pipe x 3 Ft	1 each 4 inch 45 deg Elbow and 1 each 4 inch Coupling
8-76-1	Potable Water Tank	Steel Vent Line	2 inch Pipe x 1 Ft	1 each 2 inch 4 bolt Flange
6-82-2	Medical Storage	CHT Drain CUNI	4 inch Pipe x 11 Ft	4 each 4 inch flanges

1. ABSTRACT

1.1. This item describes the requirements for the contractor to refurbish the Wardroom Lounge (3-48-0-L).

NOTE: The carpet in this space was recently replaced and is not part of the refurbishmet. All efforts shall be taken to prevent damage to the carpet.

NOTE: The compartment immediately forward of the lounge, Wardroom Mess, is the dining area for ship's officers. Protections to prevent industrial debris from entering the dining area shall be approved by the MSC REP prior to commencement of removals.

2. REFERENCES/ENCLOSURES

2.1. References: NAVSEA Drawing 845-4458934 Rev W, General Arrangement

2.2. Enclosures: None

3. ITEM LOCATION/DESCRIPTION

3.1. Location/Quantity

3.1.1. Location:

3.1.1.1. Wardroom Lounge (3-48-0-L)

3.1.2. Quantity: One Proposal for refurbishment

3.2. Quantities are considered estimates. The contractor shall provide the exact quantities and additional material such as ceiling tiles, wallpaper, lighting fixtures, electrical outlets, furnishings, etc. which meets the requirements of this specification.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5. NOTES

5.1. The contractor and all subcontractors, regardless of tier must consult General Technical Requirements (GTR) to determine applicability to this work item. In terms of the performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29.

5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

5.3. The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems "may" contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with unexpected hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items; however, the costs of asbestos or lead contaminated disposal (if any) are to be covered in this item. Contractors shall be responsible to follow all international, national, and US Federal regulations in the containment and removal of these wastes as encountered.

6. QUALITY ASSURANCE REQUIREMENTS

6.1. In addition to the contractor's duties under 29CFR1910.147 or similar local safety regulations, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the program. Prior to the start of work, the contractor shall contact MSCREP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

7. STATEMENT OF WORK

7.1. Arrangements/Outfitting: Provide all material and special equipment. Make all removals and restorations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassembly's and subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor).

7.1.1. CHECKPOINT: Schedule a joint inspection of the Wardroom Lounge. MSCREP Rep shall attend. The intent of the inspection is to define details of the scope of work related to refurbishment of the two spaces.

7.2. Provide a detailed proposal to MSCREP for the refurbishment of the space.

7.2.1. For bidding purposes, assume the following:

7.2.1.1. All wallpaper is to be replaced.

7.2.1.2. All ceiling tiles shall be replaced.

7.2.1.3. TV will be removed for completion of the work and then restored in the same location. TV shall be turned over to Ship's Force for storage.

7.2.1.4. Display cabinets and shelves shall be removed and replace with Marine Grade / ABS approved furnishings. Location and square feet shall be approximately the same.

7.2.1.5. Furnishings to be replaced with new ones in similar size and quantity (sofas, chairs, tables.

7.2.1.6. Lighting fixtures to be replaced.

7.2.1.7. Color schemes and finish details will be approved by the MSCREP prior to ordering materials.

7.2.1.8. Carpet replacement is not required. The existing carpet shall be retained. Where carpet must be modified for new installations, any required repairs shall be like the existing material. Any new carpet requirements shall be charged to WI 0602 Carpet Replacement.

7.2.1.9. All materials shall be ABS approved for shipboard use.

7.2.2. With approval of the proposal, execute the refurbishment of the Wardroom Lounge.

7.2.2.1. Any additional work found required or deviations from the original proposal shall be the subject of an additional change order.

7.3. Preparation of Drawings/Documentation:

7.3.1. The following minimum documentation is required:

7.3.1.1. Submit reports detailing “as found” conditions as soon as inspections are complete, measurements are taken and condition observed along with recommended repairs. Additional repair if found to be required shall be the subject of a change order

7.3.1.2. Submit reports detailing “as released” conditions when all work is complete. Report shall summarize repairs accomplished, final dimensional readings, pictures, test data, reports by others, and list parts replaced.

7.3.2. All documentation shall conform to the following minimum requirements:

7.3.2.1. Timeliness: Provide all check sheets, inventories, “as found” and “as released” condition reports, and certificates with in two (2) days of the discovery or completion of the work.

7.3.2.2. Format: Provide electronic copies of all reports in pdf format. Scanned copies of handwritten documents may also be included.

7.4. Inspection/Test:

7.4.1. On completion of all work, wipe down, detergent wash and clean the entire space. All bulkheads, overheads, light fixtures, equipment and furnishings shall be cleaned to remove all dust and dirt and debris.

7.4.1.1. CHECKPOINT: Conduct a final turn-over inspection of each head for cleanliness and restoration of all interferences with the MSCREP prior to the Crew Move Aboard milestone.

7.5. Painting:

7.5.1. Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas.

7.6. Marking:

7.6.1. Install name plates, notices, cable tags, and markings for all new and modified systems. Provide a condition report containing the ship’s markings recorded, their locations, and any other particulars required to duplicate them on completion of surface preservation.

7.6.2. Restore all ship markings using the sketch developed above as guidance.

7.7. Manufacturer’s Representative: None

8. GENERAL REQUIREMENTS

8.1. No additional.

1. ABSTRACT

   1.1. This item describes the requirements for the contractor to refurbish the Wardroom Lounge (3-48-0-L).

2. REFERENCES/ENCLOSURES

   2.1. References: NAVSEA Drawing 845-4458934 Rev W, General Arrangement

   2.2. Enclosures: None

3. ITEM LOCATION/DESCRIPTION

   3.1. Location/Quantity

      3.1.1. Location:

         3.1.1.1. Staff & Officer Lounge (2-25-0-L)

         3.1.1.2. Staff & Officer Messroom (2-30-0-L)

      3.1.2. Quantity: One Proposal for refurbishment

   3.2. Quantities are considered estimates. The contractor shall provide the exact quantities and additional material such as ceiling tiles, wallpaper, lighting fixtures, electrical outlets, furnishings, etc. which meets the requirements of this specification.

4. GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES: None

5. NOTES

   5.1. The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1-7, 22, 23, 28, and 29.

   5.2. The contractor and all subcontractors, regardless of tier are advised to review other work items under this contract to determine their effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 0001.

   5.3. The USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems “may” contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into the overall planning schedule. Costs associated with unexpected hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items; however, the costs of asbestos or lead contaminated disposal (if any) is to be covered in this item. Contractor shall be responsible to follow all international, national, and US Federal regulations in the containment and removal of these wastes as encountered.

6. QUALITY ASSURANCE REQUIREMENTS

   6.1. In addition to the contractor’s duties under 29CFR1910.147 or similar local safety regulation, the contractor shall comply with all requirements of equipment lock-out/tag-out (LOTO) program as established by MSC SMS procedure 2.1-004-ALL Lock-out/Tag-out. The Chief Engineer shall administer the program. Prior to the start of work, the contractor shall contact

the MSCREP and / or the Chief Engineer to coordinate the implementation of the LOTO program for the entire performance period of this item. The prime contractor shall be responsible for compliance by both prime and subcontractor personnel.

7. STATEMENT OF WORK

7.1. Arrangements/Outfitting: Provide all material and special equipment. Make all removals and restorations. Remove and replace all interferences, rig and unrig, stage and unstage, make all disassembly's and subsequent reassemblies, provide and operate equipment, and supply all services and assistance to accomplish the following work. (Material, unless specifically stated as Government Furnished Material (GFM) shall be supplied by the contractor).

7.1.1. CHECKPOINT: Schedule a joint inspection of the Wardroom Lounge. MSCREP Rep shall attend. The intent of the inspection is to define details of the scope of work related to refurbishment of the two spaces.

7.2. Provide a detailed proposal to MSCREP for the refurbishment of the space.

7.2.1. For bidding purposes, assume the following:

7.2.1.1. All wallpaper is to be replaced.

7.2.1.2. All ceiling tiles shall be replaced.

7.2.1.3. TV will be removed for completion of the work and then restored in the same location. TV shall be turned over to Ship's Force for storage.

7.2.1.4. Display cabinets and shelves shall be removed and replaced with Marine Grade / ABS approved furnishings. Location and square feet shall be approximately the same.

7.2.1.5. Furnishings are to be replaced with new in similar size and quantity (sofas, chairs, tables.

NOTE: Furnishings that are inherently purposed for food service and handling (salad bar, refrigerators, serving line appurtenances, etc.) will be removed as needed and re-installed as part of this Work Item.

7.2.1.6. Lighting fixtures to be replaced.

7.2.1.7. Color schemes and finish details will be approved by the MSCREP prior to ordering materials.

7.2.1.8. Carpet replacement shall be charged to WI 0602 Carpet Replacement (~2000 sq. ft.)

7.2.1.9. All materials shall be ABS approved for shipboard use.

7.2.2. With approval of the proposal, execute the refurbishment of the Staff Wardroom & Lounge.

7.2.2.1. Any additional work found required or deviations from the original proposal shall be the subject of an additional change order.

7.3. Preparation of Drawings/Documentation:

7.3.1. The following minimum documentation is required:

7.3.1.1. Submit reports detailing “as found” conditions as soon as inspections are complete, measurements are taken and condition observed along with recommended repairs. Additional repair if found to be required shall be the subject of a change order

7.3.1.2. Submit reports detailing “as released” conditions when all work is complete. Report shall summarize repairs accomplished, final dimensional readings, pictures, test data, reports by others, and list parts replaced.

7.3.2. All documentation shall conform to the following minimum requirements:

7.3.2.1. Timeliness: Provide all check sheets, inventories, “as found” and “as released” condition reports, and certificates with in two (2) days of the discovery or completion of the work.

7.3.2.2. Format: Provide electronic copies of all reports in pdf format. Scanned copies of hand written documents may also be included.

7.4. Inspection/Test:

7.4.1. On completion of all work, wipe down, detergent wash and clean the entire space. All bulkheads, overhead, light fixtures, equipment and furnishings shall be cleaned to remove all dust and dirt and debris.

7.4.1.1. CHECKPOINT: Conduct a final turn-over inspection of each head for cleanliness and restoration of all interferences with the MSCREP prior to the Crew Move Aboard milestone.

7.5. Painting:

7.5.1. Mechanically clean, prime and paint all new and disturbed surfaces to match surrounding areas.

7.6. Marking:

7.6.1. Install name plates, notices, cable tags, and markings for all new and modified systems. Provide a condition report containing the ship’s markings recorded, their locations, and any other particulars required to duplicate them on completion of surface preservation.

7.6.2. Restore all ship markings using the sketch developed above as guidance.

7.7. Manufacturer’s Representative: None

8. GENERAL REQUIREMENTS

8.1. None additional

1.0 ABSTRACT

The purpose of this item is to accomplish the annual requirements to inspect, service and test the ships Rescue Boats.

2.0 REFERENCE/ENCLOSURE

2.1 References

2.1.1 IMO Resolution MSC.402(96) + Corr.1 (adopted on 19 May 2016) Requirements for maintenance, thorough examination, operational testing, overhaul and repair of Lifeboats, Rescue Boats, Launching Appliances and Release Gear.

2.1.2 USCG NVIC 03-19, Maintenance, thorough examination, operational testing, overhaul and repair of Lifeboats and Rescue Boats, Launching Appliances and Release Gear

2.1.3 NAVSEA Technical Manual S9008-DR-BIB-010, Boat Information Book for Rigid Inflatable Boat 7-Meter

2.2 Enclosure

2.2.1 Rescue Boat Required Equipment (LSA Code, Chapter V Rescue Boats) 46CFR§199.175 Survival craft and rescue boat equipment. Table 199.175—Survival Craft Equipment

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location

3.1.1 Port rescue boat (3-76-2)

3.1.2 Starboard rescue boat (3-83-1)

3.2 Description

3.2.1 Rescue Boat

a. Mfg: Willard Marine

b. Model: N00024-02-F-2239

c. Capacity: 18 men

3.2.2 Quantity: Two systems

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

Item	Part Number	NSN/TNICN	Description	Qty[1]	UOM[2]
1.			Replacement winch gearbox oil		
2.			Replacement constant tension winch gearbox oil		

1 Qty = Quantity
2 UOM = Unit of measure

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Off-load release mechanism means a release mechanism which releases the survival craft/rescue boat/fast rescue boat when it is waterborne or when there is no load on the hooks. On-load release mechanism means a release mechanism which releases the survival craft/rescue boat/fast rescue boat with load on the hooks. This release mechanism will be provided with a hydrostatic interlock unless other means are provided to ensure that the boat is waterborne before the release mechanism can be activated. In case of failure or when the boat is not waterborne, there will be a means to override the hydrostatic

interlock or similar device to allow emergency release. This interlock override capability will be adequately protected against accidental or premature use. Adequate protection will include special mechanical protection not normally required for off-load release, in addition to a danger sign.

5.3 The maintenance and adjustment of release gear are critical operations with regard to the safe operation of lifeboats, rescue boats, fast rescue boats and davit launched liferafts. Utmost care will be taken when carrying out all inspection and maintenance operations on the equipment.

5.4 SOLAS regulation III/20 – Operational readiness, maintenance and inspections

5.5 SOLAS regulation III/36 – Instructions for onboard maintenance.

5.6 The Coast Guard considers the “make” to refer to the equipment manufacturer.

5.7 The Coast Guard considers the “type” to refer to the Coast Guard approval series for the equipment.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service and test the ships Rescue Boats, using SOLAS and USCG requirements, using References 2.1.1 through 2.1.4 and Enclosure 2.2.1 as guidance by authorized service providers.

7.2 Adhere to the requirements of 29 CFR §1915.86 for occupational safety and health standards for shipyard personnel working on rescue boats.

7.2.1 Before any employee works in or on a stowed or suspended rescue boat, the employer will secure the rescue boat independently from the releasing gear to prevent it from falling or capsizing.

7.2.2 The employer will not permit any employee to be in a rescue boat while it is being hoisted or lowered, except

when the employer demonstrates that it is necessary to conduct operational tests or drills over water, or in the event of an emergency.

7.2.3 The employer will not permit any employee to work on the outboard side of a rescue boat that is stowed on chocks unless the rescue boat is secured by gripes or another device that prevents it from swinging.

7.3 Conduct the weekly and monthly inspections one time within two weeks of vessel’s arrival, and routine maintenance as specified in the equipment maintenance manual(s), by an authorized service provider. Perform all items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7.

7.3.1 Weekly inspection (III/20.6)

a. All survival craft, rescue boats and launching appliances will be visually inspected to ensure that they are ready for use. The inspection will include, but is not limited to, the condition of hooks, their attachment to the lifeboat and the on-load release gear being properly and completely reset.

b. With the assistance of ship’s force, all engines in lifeboats and rescue boats will be run for a total period of not less than three minutes, provided the ambient temperature is above the minimum temperature required for starting and running the engine. During this period of time, it should be demonstrated that the gear box and gear box train are engaging satisfactorily;

c. Rescue boats on cargo ships will be moved from their stowed position, without any persons on board, to the extent necessary to demonstrate satisfactory operation of launching appliances;

d. The general emergency alarm will be tested.

7.3.2 Monthly inspections (III/20.7)

a. All rescue boats will be turned out from their stowed position, without any persons on board.

b. Inspection of the life-saving appliances, including rescue boat equipment, will be carried out monthly using the SOLAS required checklist (SOLAS III, Regulation 36.1) to ensure that they are complete and in good order. A report of the inspection will be submitted.

7.4 With assistance of the ship’s Captain the OEM Authorized Rep is to review the vessels records of inspections and routine on-board maintenance carried out by the ship's crew and the applicable certificates for the equipment.

7.5 RIB/Rescue Boats/Fast Rescue Boats

7.5.1 Rescue boats may be either of rigid or inflated construction or a combination of both. Record the following information on each Rescue Boat and submit a report with the data to the OMT REP:

a. Manufacturer' s name and address

b. Rescue Boat model and serial number

c. Month and year of manufacture

d. Make and model of the on-load release gear

e. Number of persons the Rescue Boat is approved to carry

f. The approval information

g. Self-righting bottle serial #s and hydrostatic dates, if fitted

7.5.2 Thoroughly examine and test each Rescue Boat for satisfactory condition and operation, to include:

a. Condition of the boat structure including fixed and loose equipment (including a visual examination of the external boundaries of the void spaces, as far as practicable)

b. Condition of the gel coat

c. Hatches and doors for watertightness

d. Engine and propulsion system, one hour in-water operational test with Mate and OEM Authorized Rep onboard. Demo to include full speed, forward and reverse operations.

1. Rescue boats will be capable of maneuvering at a speed of at least six knots and maintaining that speed for a period of at least four hours, when loaded with its full complement of persons

2. Fast rescue boats will be capable of maneuvering, for a period of at least four hours, at a speed of at least 20 kn in calm water with a crew of three persons and at least eight knots when loaded with its full complement of persons

e. Maneuvering system

f. Power supply system

g. Recharging of all engine starting, radio and searchlight batteries

h. Fixed two-way VHF radiotelephone with an antenna, where fitted

i. Fixed compass, where fitted

j. Bailing system

k. Markings and reflective tape

l. Fender/skate arrangements

m. Rescue boat righting system, where fitted. This is to include manual and automatic features, the pressurized cylinder, discharge valve and inflatable bag.

n. authorized service center.

o. Fast rescue boats will stop automatically or be stopped by the helmsman's emergency release switch

7.5.3 Temporarily remove the boats from the ship to a protected location. Provide protection for rescue boats to include covering and protection from the elements at all times.

Block the boat in the upright position, with clearance under the hull to permit inspection and access.

7.5.4 Clean, free up, lubricate and test all moving parts including interlocking devices, hinges, releasing gear and bilge pumps. Each fuel tank must be emptied, cleaned, and refilled with fresh fuel. Replace all fuel filters.

7.5.5 Replace the engine oil and filters.

7.5.6 Fresh water wash the boats with a mild detergent removing all salt, oils, and contaminants cleaning the entire interior and exterior of the boat. Apply a coat of wax to the exterior of the entire boat.

7.5.7 All repairs and maintenance of inflated rescue boats will be carried out using the manufacturer's instructions as guidance. Repairs will be effected at an approved servicing station.

7.5.8 Inspect the condition of the buoyancy tubes forming the boundary of the inflated rescue boat. Verify proper operation of all nonreturn valves for manual inflation, means for deflation and safety relief valves on each buoyancy compartment.

7.5.9 Rescue boats will be stowed in a state of continuous readiness for launching in not more than five minutes, and if the inflated type, in a fully inflated condition at all times (SOLAS III, Regulation 14 Stowage of rescue boats). Recovery time of the rescue boat will be not more than five minutes in moderate sea conditions when loaded with its full complement of persons and equipment (SOLAS III, Regulation 17 Rescue boat embarkation, launching and recovery arrangements).

7.6 Submit a condition report to the OMT REP summarizing all as found conditions, testing and inspections accomplished, and any discrepancies noted on each Rescue Boat and any recommended repairs and parts that are outside the original scope of work. The contractor’s report will include a copy of the manufacturer’s authorized servicing company’s service report.

7.7 All work will only be accomplished by trained,

experienced and authorized service personnel for the specific system.

7.8 Reports

7.8.1 All reports and checklists will be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.8.2 When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the Rescue Boat arrangements remain fit for service will be issued by the manufacturer or authorized service provider that conducted the work to the OMT REP. Submit one electronic copy in Portable Document Format (PDF). A copy of valid documents of certification and authorization as appropriate will also be included with the statement.

7.9 Painting: None additional

7.10 Manufacturer’s Representative

7.10.1 Provide the services of certified personnel of either the Manufacturer or an Authorized Service Provider in accordance with References 2.1.1 and 2.1.2 to perform any and all system inspections, maintenance and tests to ensure proper operation of the Rescue Boat using IMO and manufacturer’s performance specifications as guidance.

a. *Manufacturer* means the original equipment manufacturer.

b. *Authorized Service Provider* (ASP) means an entity authorized by the Administration (USCG). The Coast Guard considers a service provider to be authorized if an Authorized Classification Society (ie; ABS/DNV/LLOYDS.) has verified the service provider is capable of servicing life-saving equipment in accordance with 46 CFR §199 and Reference 2.1.1.

7.10.2 Requirements for authorization as an ASP are defined in Reference 2.1.1. As a minimum:

a. Personnel will be certified by the manufacturer

or authorized service provider for each make and type of the equipment to be worked on

b. Have sufficient tools, and in particular any specialized tools specified in the manufacturer's instructions, including portable tools as needed for the work

c. Have access to appropriate parts and accessories as specified for maintenance and repair

d. Have available the manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches

e. A documented and certified quality system

7.10.3 Provide the OMT REP with a copy of the ASP authorization document issued by an Authorized Classification Society defining the scope of services provided for the makes and types of equipment identified in section 3.0. The expiry date will be clearly written on the document. The authorization documentation will be submitted prior to the start of any work.

7.11 Preparation of Drawings

7.11.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - RESCUE BOAT REQUIRED EQUIPMENT

	Every Rescue Boat will carry:
1	Sufficient buoyant oars or paddles to make headway in calm seas. Thole pins, crutches or equivalent arrangements will be provided for each oar. Thole pins or crutches will be attached to the boat by lanyards or chains;
2	One buoyant bailer;
3	One binnacle containing an efficient compass which is luminous or provided with suitable means of illumination;
4	One sea-anchor and tripping line if fitted with a hawser of adequate strength not less than 10 m in length;
5	One painter of sufficient length and strength, attached to the release device complying with the requirements of LSA Code, Chapter IV Survival Craft, paragraph 4.4.7.7 and placed at the forward end of the rescue boat;
6	One buoyant line, not less than 50 m in length, of sufficient strength to tow a liferaft as required by paragraph 5.1.1.7;
7	One waterproof electric torch suitable for Morse signaling, together with one spare set of batteries and one spare bulb in a waterproof container;
8	One whistle or equivalent sound signal;
9	One first-aid outfit in a waterproof case capable of being closed tightly after use;
10	Two buoyant rescue floats, attached to not less than 30 m of buoyant line;
11	One searchlight with a horizontal and vertical sector of at least 6° and a measured luminous intensity of 2 500 cd which can work continuously for not less than 3 h;

ENCLOSURE 2.2.1 - RESCUE BOAT REQUIRED EQUIPMENT

12	An efficient radar reflector;
13	Thermal protective aids complying with the requirements of LSA Code, Chapter II, Section 2.5 sufficient for 10% of the number of persons the rescue boat is permitted to accommodate or two, whichever is the greater; and
14	Portable fire-extinguishing equipment of an approved type suitable for extinguishing oil fires.

ENCLOSURE 2.2.1 - RESCUE BOAT REQUIRED EQUIPMENT

	In addition to the equipment required by every Rescue Boat, the normal equipment of every <u>rigid</u> rescue boat will include:
1	One boat-hook;
2	One bucket; and
3	One knife or hatchet.
	In addition to the equipment required by every Rescue Boat, the normal equipment of every <u>inflated</u> rescue boat will consist of:
1	One buoyant safety knife;
2	Two sponges;
3	An efficient manually operated bellows or pump;
4	One repair kit in a suitable container for repairing punctures; and
5	One safety boat-hook.
	In addition to the equipment required by every Rescue Boat, the normal equipment of every <u>fast</u> rescue boat will consist of:
1	VHF radiocommunication set which is hands-free and watertight

1.0 ABSTRACT

The purpose of this item is to accomplish the annual requirements to inspect, service and test the ships Rescue Boat Launching Appliances and Releasing Gear.

2.0 REFERENCE

2.1 References

2.1.1 IMO Resolution MSC.402(96) + Corr.1 (adopted on 19 May 2016) Requirements for maintenance, thorough examination, operational testing, overhaul and repair of Lifeboats, Rescue Boats, Launching Appliances and Release Gear.

2.1.2 USCG NVIC 03-19, Maintenance, thorough examination, operational testing, overhaul and repair of Lifeboats and Rescue Boats, Launching Appliances and Release Gear

2.1.3 NAVSEA Technical Manual S9583-BR-MMA-010, Slewing Arm Davit Model D60000FCT

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location

3.1.1 Port rescue boat and davit (3-76-2)

3.1.2 Starboard rescue boat and davit (3-83-1)

3.2 Description

3.2.1 Rescue Boat Davit

a. Mfg: Allied Systems Company

b. Model: D60000FCT

3.2.2 Quantity: Two systems

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Material (GFM)

Item	Part Number	NSN/TNICN	Description	Qty[1]	UOM[2]
1.			Replacement winch gearbox oil		
2.			Replacement constant tension winch gearbox oil		

1 Qty = Quantity
2 UOM = Unit of measure

4.3 Government Furnished Services (GFS): None

4.4 Government Furnished Information (GFI): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Off-load release mechanism means a release mechanism which releases the survival craft/rescue boat/fast rescue boat when it is waterborne or when there is no load on the hooks. On-load release mechanism means a release mechanism which releases the survival craft/rescue boat/fast rescue boat with load on the hooks. This release mechanism will be provided with a hydrostatic interlock unless other means are provided to ensure that the boat is waterborne before the release mechanism can be activated. In case of failure or when the boat is not waterborne, there will be a means to override the hydrostatic interlock or similar device to allow emergency release. This interlock override capability will be adequately protected against accidental or premature use. Adequate protection will include special mechanical protection not normally required for off-load release, in addition to a danger sign.

5.3 The maintenance and adjustment of release gear are critical operations with regard to the safe operation of lifeboats, rescue boats, fast rescue boats and davit launched liferafts. Utmost care will be taken when carrying out all

inspection and maintenance operations on the equipment.

5.4 SOLAS regulation III/20 – Operational readiness, maintenance and inspections

5.5 SOLAS regulation III/36 – Instructions for onboard maintenance.

5.6 The Coast Guard considers the “make” to refer to the equipment manufacturer.

5.7 The Coast Guard considers the “type” to refer to the Coast Guard approval series for the equipment.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service and test the ships Rescue Boat Launching Appliances and Releasing Gear using SOLAS and USCG requirements, using References 2.1.1 through 2.1.4 as guidance by authorized service providers.

7.2 Adhere to the requirements of 29 CFR §1915.86 for occupational safety and health standards for shipyard personnel working on Lifeboats.

7.2.1 Before any employee works in or on a stowed or suspended rescue boat, the employer will secure the rescue boat independently from the releasing gear to prevent it from falling or capsizing.

7.2.2 The employer will not permit any employee to be in a lifeboat while it is being hoisted or lowered, except when the employer demonstrates that it is necessary to conduct operational tests or drills over water, or in the event of an emergency.

7.2.3 The employer will not permit any employee to work on the outboard side of a rescue boat that is stowed on chocks unless the rescue boat is secured by gripes or another device that prevents it from swinging.

7.3 Conduct the weekly and monthly inspections and routine

maintenance as specified in the equipment maintenance manual(s), by an authorized service provider. Perform all items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7.

7.3.1 Weekly inspection (III/20.6)

a. All survival craft, rescue boats and launching appliances will be visually inspected to ensure that they are ready for use. The inspection will include, but is not limited to, the condition of hooks, their attachment to the lifeboat and the on-load release gear being properly and completely reset.

b. Rescue boat on cargo ships will be moved from their stowed position, without any persons on board, to the extent necessary to demonstrate satisfactory operation of launching appliances;

c. The general emergency alarm will be tested.

7.3.2 Monthly inspections (III/20.7)

a. All rescue boat will be turned out from their stowed position, without any persons on board.

b. Inspection of the life-saving appliances, including lifeboat equipment, will be carried out monthly using the SOLAS required checklist (SOLAS III, Regulation 36.1) to ensure that they are complete and in good order. A report of the inspection will be submitted.

7.4 With assistance of the ship’s Captain the OEM Authorized Rep is to review the vessels records of inspections and routine on-board maintenance carried out by the ship's crew and the applicable certificates for the equipment.

7.5 Launching Appliances

7.5.1 Thoroughly examine and test the Launching Appliances for satisfactory condition and operation, to include:

a. Davit or other launching structures, in particular with regard to corrosion, misalignments, deformation and excessive free play

b. Wires and sheaves, possible damage such as kinks and corrosion, with special regard for areas passing through sheaves

c. Lubrication of wires, sheaves and moving parts

d. Functioning of limit switches

e. Stored power systems, if applicable

f. Hydraulic systems, if applicable

g. Winch braking system using winch manual as guidance

h. Replace winch brake pads, when necessary

i. Winch foundation

j. Remote control system, if applicable. Verify the proper spooling of the remote-control wire, verify the proper position of the remote-control wire weight, and verify material condition of the shackle that connects the pull cable to the remote-control wire within the lifeboat per US Coast Guard Safety Alert Number 07-22.

k. Power supply system

l. Operating instruction placards, will be on or in the vicinity of survival craft and their launching controls

7.5.2 Perform a walk around inspection looking for loose fasteners, leaking connections or seals, worn or damaged hoses and tubing, or any other defects or dangerous conditions. Promptly report any defects to the OMT REP.

7.5.3 Lubrication

a. Check all oil levels; gear reducers and hydraulics

b. Replace hydraulic filters.

c. Lubricate all points and fittings; Swing Bearing, Pinions and Ring Gear, Swing Drive, Constant Tension

Winch, Sheaves and Bushings.

d. Drain and replace the Swing Drive and Constant Tension Winch gearbox oil with GFM oil identified in paragraphs 4.2.1 and 4.2.2. Before filling the gearbox with new oil, the gearbox should be inspected by the OMT REP.

e. Check Accumulator precharge

7.5.4 Launching Appliances fitted with slewing rings are to undergo Rocking Tests, using the bearing manufacturer's instructions as guidance. The slewing ring assembly is to be examined for slack bolts, damaged bearings and deformation or fractured weldments. The OMT REP and ABS Surveyor are to witness.

7.6 Release Gear

7.6.1 Thoroughly examine the Release Gear for satisfactory condition. No maintenance or adjustment of the release gear will be undertaken while the hooks are under load. The release gear is to be examined prior to its operational test.

a. Operation of devices for activation of release gear

b. Excessive free play (tolerances)

c. Cables for control and release

d. Hook fastening

e. Where fitted, examine the hydrostatic interlock system to include floats, membranes, diaphragms, pins, rods, linkages, for any signs of damage, and ensure same is intact and operates as designed

7.7 Submit a condition report to the OMT REP summarizing all as found conditions, testing and inspections accomplished, and any discrepancies noted on each Rescue Boat and davit and any recommended repairs and parts that are outside the original scope of work. The contractor's report will include a copy of the manufacturer's authorized servicing company's service

report.

7.8 Testing

7.8.1 Testing is to be conducted in the presence of the OMT REP, ABS Surveyors and USCG Inspectors. Perform OP test including main and auxiliary load hoisting and lowering, slewing (swinging), safety protective (fail-safe) and limiting devices.

7.8.2 Conduct an annual operational test of the launching appliance. Perform a dynamic test of the winch brake at maximum lowering speed. The load to be applied will be the weight of the survival craft without persons on board. When the craft has reached its maximum lowering speed and before it enters the water, the brake will be abruptly applied. Following these tests, the stressed structural parts will be reinspected where the structure permits the reinspection.

7.8.3 Conduct an operational test of the davit-launched Rescue Boats' on-load release function (if fitted) as follows:

a. Position the boat partially in the water such that the weight of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;

b. Operate the on-load release gear

c. Reset the on-load release gear

d. Examine the release gear and hook fastening to ensure that the hook is completely reset, and no damage has occurred

7.8.4 Conduct an operational test of the davit-launched Rescue Boats' off-load release function as follows:

a. Position the boat so that it is fully waterborne

b. Operate the off-load release gear

c. Reset the off-load release gear upon completion

7.8.5 The release gear is to be re-examined after its operational test and the operational test of the winch brake. Special consideration will be given to ensure that no damage has occurred during the winch brake test, especially to the hook fastening.

a. Operation of devices for activation of release gear

b. Excessive free play (tolerances)

c. Hydrostatic interlock system, where fitted

d. Cables for control and release

e. Hook fastening

7.9 Prior to hoisting, the release gear will be checked by the OEM Authorized Tech Rep that is completely and properly reset. Recover the boat to the stowed position and leave it in a ready for service condition. The final turning-in of the boat will be done without any persons on board.

7.10 All work will only be accomplished by trained, experienced and authorized service personnel for the specific system.

7.11 Reports

7.11.1 All reports and checklists will be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company's representative.

7.11.2 When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the Rescue Boat arrangements remain fit for service will be issued by the manufacturer or authorized service provider that conducted the work to the OMT REP. Submit one electronic copy in Portable Document Format (PDF). A copy of valid documents of certification and authorization as appropriate will also be included with the statement.

7.12 Painting: None additional

7.13 Manufacturer’s Representative

7.13.1 Provide the services of certified personnel of either the Manufacturer or an Authorized Service Provider in accordance with References 2.1.1 and 2.1.2 to perform any and all system inspections, maintenance and tests to ensure proper operation of the Launching Appliances and Release Gear systems using IMO and manufacturer’s performance specifications as guidance.

a. *Manufacturer* means the original equipment manufacturer.

b. *Authorized Service Provider* (ASP) means an entity authorized by the Administration (USCG). The Coast Guard considers a service provider to be authorized if an Authorized Classification Society (ie; ABS/DNV/LLOYDS.) has verified the service provider is capable of servicing life-saving equipment in accordance with 46 CFR §199 and Reference 2.1.1.

7.13.2 Requirements for authorization as an ASP are defined in Reference 2.1.1. As a minimum:

a. Personnel will be certified by the manufacturer or authorized service provider for each make and type of the equipment to be worked on

b. Have sufficient tools, and in particular any specialized tools specified in the manufacturer's instructions, including portable tools as needed for the work

c. Have access to appropriate parts and accessories as specified for maintenance and repair

d. Have available the manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches

e. A documented and certified quality system

7.13.3 Provide the OMT REP with a copy of the ASP authorization document issued by an Authorized Classification Society defining the scope of services provided for the makes and types of equipment identified in section 3.0. The expiry

date will be clearly written on the document. The authorization documentation will be submitted prior to the start of any work.

7.14 Preparation of Drawings

7.14.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

This work item describes the requirements to inspect, service and test the ships accommodation ladders.

2.0 REFERENCES

2.1 NAVSEA Dwg 603-7289215, Accommodation Ladder Arrangement and Details

2.2 Jered Industries, Inc. Dwg 20060-A-001, Accommodation Ladder Winch General Arrangement

2.3 NAVSEA Dwg 804-2255404, Accommodation Ladder Upper Rotating Platform Types A, B, C

2.4 NAVSEA Technical Manual 0916-LP-040-010, Accommodation Ladder Winch

2.5 NAVSEA Dwg 603-7289336, Accommodation Ladder Static Test

2.6 Guidelines for Construction, Installation, Maintenance and Inspection/Survey of Means of Embarkation and Disembarkation, MSC.1/circ.1331, 11 June 2009 (Available Commercially)

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location/Quantity

3.1.1 Locations:

a. Accommodation Ladder, 3-58-1

b. Accommodation Ladder, 3-99-1

3.2 Quantity: Two accommodation ladder and winch system(s)and Two (2) Electric Chain Hoists

3.3 Description

3.3.1 Ladder

a. 25 ft length

b. Mfg: Philadelphia Naval Shipyard

c. Model: Yard Built

3.3.2 Winch

a. Mfg: Jered Industries, Inc

b. Model: M20060

3.3.3 Wire Rope

a. Construction: 6 x 27 IWRC

b. Diameter: ½"

c. Length: 75 feet

3.3.4 Electric Chain Hoist

a. Harrington, Size D, Duty Class H4, One Ton (2,000 lb) Chain Hoists.

b. Quantity: Two (2)

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None.

4.2 Government Furnished Material (GFM)

Item	Part Number	NSN/TNICN	Description	Qty[1]	UOM[2]

1.			Grease (To be supplied by ship)		

1 Qty = Quantity

2 UOM = Unit of measure

4.3 Government Furnished Service (GFS): None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 28, and 29.

5.2 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these waste as encountered.

5.3 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort shall be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Provide and operate equipment and supply all services and assistance to accomplish the thorough examination, testing, service and certification of the accommodation ladders and gangways using IMO, SOLAS, USCG and the Manufacturer’s requirements as guidance.

7.2 Provide temporary means of access to the vessel whenever the accommodation ladders and gangways are unavailable due to inspection, service and testing.

7.3 Conduct inspections, maintenance and testing of the accommodation ladders using references 2.1 through 2.5 for guidance.

7.3.1 Inspection: Conduct an annual inspection of the accommodation ladders and gangways verifying condition and conformance using References 2.1 through 2.6 as guidance. The examination will include/verify:

a. Each accommodation ladder or gangway is clearly marked at each end with a plate showing the restrictions on the safe operation and loading, including the maximum and minimum permitted design angles of inclination, design load, and maximum load on bottom end plate. Where the maximum operational load is less than the design load, it should also be shown on the marking plate.

b. Confirm satisfactory condition of all steps, treads, platforms, non-slip, side stringers, cross-members, decking, deck plates all support points such as pivots, wheels, and rollers, all suspension points such as lugs, brackets, stanchions, rigid handrails, hand ropes and turntables, davit structure, wire and sheaves. Pay careful attention to the condition of the hoist wire giving it a thorough inspection; SOLAS II-1, A-1, 3-9 and SOLAS III, B, I, 20.

c. Note any signs of damage, distortion, wear, cracks and corrosion.

d. Confirm satisfactory condition of the winch including the brake mechanism, remote control system and power supply system (motor). Open, inspect, and adjust brake mechanism (if required). OMT REP to witness adjustment prior to reassembly.

e. Confirm satisfactory condition of all fittings and davits associated with accommodation ladders and gangways

f. Confirm satisfactory condition of fittings or structures used for means of access to decks such as handholds in a gateway or bulwark ladder and stanchions.

7.3.2 Maintenance: Conduct annual maintenance on all accommodation ladders and gangways using the manufacturer’s maintenance instructions and service bulletins as guidance. The maintenance will include/verify:

a. Lubricate all rollers, wheels, pivot tables, wire ropes, sheaves and associated parts with GFM provided by ship.

7.3.3 Annual System Test: Conduct annual testing of the accommodation ladders and gangways using Reference 2.1 through 2.5 as guidance. The testing will include:

a. Upon vessel arrival and with assistance from ships force conduct an operational test (no load) of each winch and accommodation ladder and gangway to confirm their proper operation and condition.

7.4 Testing is to be coordinated with the OMT REP, ABS Surveyors to allow for observation if deemed necessary.

7.5 Upon completion of all inspections, tests and repairs return the accommodation ladders and gangways to a ready for service condition.

7.6 Reports

7.6.1 When examination, service and testing reveal any deficiency a condition report is to be submitted to the MSCREP with recommended repair and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.6.2 Submit a report that includes “as released” condition of the accommodation ladder. Submit one electronic copy in Portable Document Format (PDF).

7.6.3 All reports and checklists shall be completed and signed by the person who carried out the test, inspection and maintenance work and countersigned by the Company's representative.

7.7 Painting: None additional

7.8 Manufacturer’s Representative: None

7.9 Preparation of Drawings

7.9.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to inspect, service and test the Deep Fat Fryers.

2.0 REFERENCES

2.1 Tech Manual 819-5184, U.S. Navy Electric Fryers, Installation, Operation, Service and Parts Manual

2.2 Tech Manual **819-5473**, H14/H17/H22 Series Electric Fryers, Installation and Operation Manual

2.3 Tech Manual 87-122000, Kiddie WHDR System

2.4 SOLAS Chapter II-2 Construction - Fire Protection, Fire Detection & Fire Extinction, Part C Suppression of Fire, Regulation 10 Firefighting, Para 6.4 (Available Commercially)

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Locations:

a. Crew and Troop Galley (4-52-0-Q)
b. CPO Galley (4-65-1-Q)
c. Officer Galley (3-34-0-Q)
d. Staff Wardroom Galley (2-36-01-Q)
e. Flag Galley (2-49-1-Q)

3.1.2 Quantity: Nine (9) Deep Fat Fryers for spaces identified in para. 3.1.1. Locations and quantities of specific deep fat fryer models listed in paragraphs 5.3 through 5.7.

3.2 Item Description/Manufacturer’s Data:

3.2.1 Frymaster, FPH217SC (Double Type)

3.2.2 Frymaster, H22SC

3.2.3 Frymaster, H117SC

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None.

5.0 NOTES:

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 The contractor and all subcontractors regardless of tier are advised to review other work items under this contract to determine the effect on the work required under this work item. Many of the definitions relating to performance of this work item are found in Work Item 001.

5.3 Three (3) Model FPH217SC (double type) deep fat fryers are installed in Crew and Troop Galley (4-52-0-Q).

5.4 One (1) Model H22SC deep fat fryer is installed in the CPO Galley (4-65-1-Q).

5.5 Three (3) Model H117SC deep fat fryer are installed in the Officer Galley (3-34-0-Q).

5.6 One (1) Model H22SC deep fat fryer is installed in the Staff Wardroom Galley (2-36-1-Q)

5.7 One (1) Model H117SC deep fat fryer is installed in the Flag Galley (2-49-1-Q).

5.8 The USS MOUNT WHITNEY is known to have a considerable amount of asbestos. Additionally, it is known that the coating

systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into their overall planning schedule. Costs associated with hazardous waste remediation and removal are to be attributed to Work Item 023, rather than to the individual work items. Waste removed in the course of work package accomplishment are to be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Contractor is responsible to follow all international, national and US Federal regulations in the containment and removal of these wastes as encountered.

5.9 The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Every effort must be made to minimize the disturbance, removal and handling of hazardous waste in the accomplishment of the work package.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional.

7.0 STATEMENT OF WORK REQUIRED

7.1 Inspect, service, and test the Deep Fat Fryers identified in para. 3.0 using References 2.1 through 2.4 for guidance. Accomplish inspection, servicing, and testing in accordance with IMO, SOLAS, USCG, and the manufacturer’s requirements.

7.2 With the assistance of ship’s force, tag-out all required systems and equipment. Dispose of any liquids removed to accomplish this item in accordance with all federal, state, and local regulations.

7.3 Temporarily remove access covers and panels to the Deep Fat Fryers to allow for inspection. Upon completion and acceptance of all work, reinstall access covers and panels.

7.4 Conduct an annual inspection of the Deep Fat Fryers to

meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. The inspection includes/verifies:

7.4.1 The extinguishing system and the protected equipment have not been modified or relocated.

7.4.2 Record the type of Deep Fat Fryer oil being used and its flashpoint.

7.4.3 The flashpoint of the Deep Fat Fryer oil meets the manufacturer’s requirements.

7.4.4 The Deep Fat Fryer is fitted with a primary and backup thermostat with an alarm to alert the operator in the event of failure of either thermostat.

7.4.5 The Deep Fat Fryer is fitted with a “shunt trip” bypass to secure the power in the event of over temperature in the cooking oil.

7.4.6 The Deep Fat Fryer shows no physical damage, leakage or condition that might prevent safe operation.

7.4.7 The controls and indicating lights are functioning properly and properly marked.

7.4.8 Electrical breakers are properly marked.

7.4.9 When the inspection reveals any deficiency a condition report is to be submitted to the MSCREP with the recommended repair and parts required.

7.5 Conduct annual maintenance of the Deep Fat Fryers to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements using References 2.1 through 2.5 for guidance. The maintenance includes/verifies:

7.5.1 The Deep Fat Fryer does not leak at the kettle

between the unit gasket and unit bushing.

7.5.2 All four (4) heating units are functioning properly: Top Unit (No. 1), Intermediate Unit (No. 2), Bottom Units (No. 3 and No. 4).

7.5.3 Adjust and calibrate the temperature control dial.

7.5.4 The rotary switch, pilot lamps, and relay are functioning properly.

7.5.5 Clean the Deep Fat Fryer completely. Provide and install new cooking oil that meets the manufacturer’s requirements. Provide details of the replacement cooking oil to the Chief Steward.

7.6 Conduct annual testing of the Deep Fat Fryers to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. The testing includes/verifies:

7.6.1 Proper operation of the Deep Fat Fryer.

7.6.2 Proper operation of the fire protection and extinguishing system including control shutoff, high oil temperature cutout, high oil temperature alarm, and shunt trip features using References 2.1 through 2.4 for guidance. Ensure there is an alarm in the galley for indicating activation of the fire extinguishing system. Testing is to be coordinated with the MSCREP. No other work is to take place in the galley during this testing. Note that the flash point for cooking oil decreases with age. The cooking oil is to be changed prior to testing and the fire extinguishing system must be operational during testing.

7.6.3 Accomplish testing in the presence of the MSCREP. Accomplish testing in the following sequence:

a. Use a calibrated pyrometer when performing tests. Test pyrometer (measure boiling water at 212°F) prior to the test.

b. Test the fire control shutoff (total loss of power to the Deep Fat Fryer upon release of the extinguishing system – to be simulated).

c. Test the operating thermostat for correct calibration using References 2.1 through 2.4 for guidance. Note that each thermostat is adjusted at the factory and calibrated on precision to control temperatures accurately. Adjustment or recalibration is not needed unless the thermostat has been mishandled in transit or changed or abused while in service.

d. Test the over-temperature thermostat (power secured to heating elements, visual and audible alarms activate at the manufacturer’s setpoint).

e. Test the “shunt trip” bypass (total loss of power at the manufacturer’s setpoint). Do not test the “shunt trip” bypass until the operating thermostat, and over-temperature thermostat have first been successfully tested.

f. Do not allow the oil temperature to exceed 475°F (NFPA 96, Chapter 12.2).

g. Continuously monitor oil temperature throughout the test. Upon completion, allow the fryer to cool down. Restore power to the unit by resetting the “shunt trip” circuit breaker.

7.7 Maintain work spaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.8 Upon completion of all inspections, maintenance, servicing, and testing, return the Deep Fat Fryers to a ready for service condition.

7.9 Reports

7.9.1 When inspections, maintenance, servicing and testing reveal any deficiency, a condition report is to be submitted to the MSCREP with recommended repairs and parts

required. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.9.2 Upon completion of all inspections, maintenance, servicing, and testing, prepare and submit a typewritten Service Report documenting the final “as released” condition of all Deep Fat Fryers affirming they are safe for use. Submit three (3) typewritten copies and one (1) electronic copy in Portable Document Format (PDF).

7.9.3 All reports and checklists are to be completed and signed by the person who carried out the inspections, maintenance, servicing, and testing and are to be countersigned by the Company's representative.

7.10 Painting/Lagging: None additional.

7.11 Manufacturer’s Representative:

7.11.1 Provide the services of an authorized technical representative to perform all inspections, maintenance, servicing and testing of the Deep Fat Fryers.

7.11.2 Companies and persons performing maintenance and testing are to have available the appropriate certificates, servicing manuals, service bulletins, tools, materials, and manufacturer’s replacement parts.

7.12 Preparation of Drawings: None additional.

8.0 GENERAL REQUIREMENTS: None additional.

1.0 ABSTRACT

This work item describes the requirements to conduct an annual inspection, test and certification of the ships, material handling equipment (MHE) - forklifts.

2.0 REFERENCES/ENCLOSURES

2.1 REFERENCES

2.1.1 NAVSUP Tech Manual 0530-LP-642-6711, NAVSUP Publication 538; Management of Material Handling Equipment (MHE) and Shipboard Mobile Support Equipment (SMSE)

2.1.2 Tech Manual 0532-LP-109-0354, Hyster Fork Lift Truck, Diesel Powered, S60FTG – 6000 LB CAPACITY

2.1.3 NAVSEA Tech Manual SW023-AH-WHM-010, Handling Ammunition and Explosives with Industrial Materials Handling Equipment (MHE)

2.2 ENCLOSURES

2.2.1 NAVSUP Publication 538, Fig. 8-12, MHE Initial Receipt Inspection Form

2.2.2 NAVSUP Publication 538, Fig. 8-13, Fork Maintenance Inspection Form

2.2.3 NAVSUP Publication 538, Fig. 6-1, MHE Safety Certification Form

2.2.4 Hyster Dealers

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location

3.1.1 1st Deck

3.2 Description/Quantity

Mfg	Model	Type	Safety	Capacity	Power	Truck Wt	Qty

			Rating	(lbs)		No Load (lbs)	
HYSTER	S60FTG	Std Forklift	DS	6,000	Diesel	11,360	1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Powered industrial truck designations per 29 CFR §1910.178(b).

5.3 Per MSC QMS Procedure N4.48.4460.1-Q entitled Management of Material Handling Equipment all Afloat MHE will be certified for ordnance handling.

5.4 Charging, testing and maintenance shall not be performed in magazines or other areas/spaces where ammunition and explosives are present.

6.0 QUALITY ASSURANCE REQIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Remove and replace all interferences, rig and unrig, stage and unstage, make all disassemblies and subsequent reassemblies. Provide and operate equipment, and supply all services and assistance to accomplish the thorough examination and testing of the ships Material Handling Equipment (MHE) using References 2.1.1 through 2.1.3 as guidance.

7.2 With assistance from the Chief Engineer coordinate the movements, inspection and testing of MHE to avoid damage or injury during the course of this work item. The ship’s crew will operate all MHE while aboard ship.

7.3 Coordinate the inspection and testing of equipment

with the OMT REP and Chief Engineer to ensure the vessel is aware of equipment status at all times until the work is completed.

7.4 Only competent, licensed and trained Operators in compliance with 29 CFR § 1910.178(l)(6) shall operate the MHE while ashore. Use good operating practices to prevent accidents. It should be anticipated that some features of the MHE may not operate correctly upon initial receipt. Careful attention should be practiced by the Operators to maintain control of the vehicle at all times.

7.5 Conduct an inventory of the ships MHE listed in Paragraph 3.2. Identify and record the following data for each onto a MHE Initial Receipt Inspection Form, Enclosure 2.2.1.

7.5.1 Vessel Name:

7.5.2 MSC Vehicle No:

7.5.3 Mfg:

7.5.4 Serial No:

7.5.5 Safe Working Load (lbs):

7.5.6 Designation:

7.5.7 Weight Test Expiration (date):

7.5.8 Hourmeter reading:

NOTE: Check fuel system for leaks prior to any service or maintenance activity.

7.6 Conduct periodic inspection and testing of the MHE, using References 2.1.1 through 2.1.3 as guidance, to verify proper operation and adjustment. The inspection shall determine whether conditions found constitute a hazard and whether repairs or disassembly is required for additional inspection. Record the results for each onto a MHE Initial Receipt Inspection Form, Enclosures 2.2.1, and submit to the OMT REP. The examination shall include the following items:

7.6.1 Confirm the MHE is free of unauthorized

modifications or additions.

7.6.2 Tires and Rims. Inspect tires for excessive wear and damage. Remove foreign material from tire treads. Reject tires for illegible or missing markings or labels. Reject pneumatic tires when the tire tread has worn down to the tread wear mark or if fabric is exposed through the sidewall. Inspect the rims for dents, bends, and cracks.

7.6.3 Engine Oil and Fluid Levels. Always inspect floor/deck under MHE for any fluid puddles. Check:

a. Engine oil,

b. Hydraulic oil,

c. Transmission oil,

d. Brake fluid,

e. Radiator coolant. CAUTION: Do not check radiator coolant level when engine is hot.

f. Record if any levels are low.

7.6.4 Belts. Inspect engine belts for cracks, wear, damage, nicks or cuts, and proper tension.

7.6.5 Battery. Inspect battery cables for damage, cuts and abrasions. Verify cables are securely fastened to connector lugs and are free of corrosion, verdigris, arcing, pitting, exposed conductor material, and loose connections.

7.6.6 Electric trucks have color coded battery indicator power band indicating remaining charge level. Charge battery when indicator drops into yellow zone.

WARNING: For internal combustion start batteries, do not jump start any battery with low fluid level.

7.6.7 Access Covers. Inspect all access covers (e.g., battery or engine) for loose, missing, broken, or corroded covers. Ensure latches snugly secure covers when fastened.

7.6.8 Fuel System (Fuel-Powered MHE only). Visually

inspect the entire fuel system assembly for any leaks while the MHE is operating. The MHE shall be rejected if any fuel leaks are discovered. Where accessible, inspect the fuel tank or gas cylinder for leakage, denting, bulging, corrosion, pitting, gouges not exposed to fire, or evidence of rough usage. Valves are protected from physical damage.

7.6.9 Neutral Start Switch (Fuel-Powered MHE only). Test the neutral start switch by attempting to start the engine with the directional control lever in either the forward or reverse position. If engine starts, the MHE shall be rejected.

7.6.10 Control Levers and Pedals. Check that the control levers for the transmission, mast, and attachment operate as described in Operating Manual. Check that the pedals operate correctly as described in Operating Manual.

7.6.11 Indicator Lights, Fuses, and Relays. Turn key to ON position. All warning light and indicator lights will light up for two seconds (start check) when system power is turned ON. Check all indicator lights for correct operation. If any indicator lights do not operate correctly, check the fuses.

7.6.12 Engine. Start engine and check:

a. Unusual Engine Noises. Should any unusual noises be noted with the engine running, turn off MHE, reject and discontinue this check.

b. Idle Speed

c. Governed Speed

7.6.13 Lights. Check that the headlights, brake lights, and any other installed lights are working. All lights must operate properly for night work.

7.6.14 Horn. Depress the horn push button to verify that the horn is operating properly.

7.6.15 Verify back-up alarm operates.

7.6.16 Lift Chains Wear Check. Using an Mfgs chain scale, measure the lift chains for excess wear.

7.6.17 Hoist and Lowering Control. Raise and lower the lifting assembly to verify the lifting assembly controls operate smoothly. Inspect all hoses for cracked coverings, wear, bulges or leaks. Verify all fittings are free of cracks or leaks. Inspect for loose or binding (i.e., dry/not lubricated, frozen or rusted) chains.

7.6.18 Inspect hose and cable reel guards, as applicable, for breaks, bends or chafing.

7.6.19 Tilt and Side Shift. Tilt forward and backward to verify the tilt operates smoothly. Operate side shift to verify the carriage moves immediately and smoothly to the left and the right. Verify all hoses are serviceable and that these fittings are free of cracks or leaks. For any additional accessory controls installed on the MHE; verify proper operation with the manufacturer’s recommendations.

7.6.20 Transmission/Clutch. Verify that the transmission/clutch operates smoothly with no unusual noises.

7.6.21 Directional Controls. Shift directional controls into forward, neutral and reverse directions to verify the MHE operates properly and smoothly. Ensure steering operation functions smoothly.

7.6.22 Brake System Check.

a. Check the operation of the Parking Brake. Stop lift truck in an uphill direction with Rated Load on 15% grade, and apply park brake. Confirm forklift remains static on grade. Reposition lift truck with No Load in a downhill direction, on 15% grade, and apply park brake. Confirm forklift remains static on grade. The parking brake, when in good condition and correctly adjusted, will hold.

NOTE: A 15% grade is a slope that increases 1.5 ft increase in 10 ft (1.5 meters in 10 meters).

b. Visually inspect that no fluid is leaking from the brake system.

c. Check the Service Brakes. Check brake lining and parts of the brake assembly for wear or damage. Verify they

stop the MHE smoothly and evenly without pulling or binding.

d. Where applicable, check the dead-man brake or travel control disconnect device for proper operation.

7.6.23 Gauges/Meters. Where applicable, inspect the following:

a. Warning Indicators. Verify that all warning devices, such as horns, bells, lights, etc., fitted on MHE are operational. With the engine running at normal operating temperature, check the oil pressure gauge for normal operating pressure. If any warning indicator is inoperable or signals a malfunction, the MHE shall be rejected until repaired.

b. Coolant Temperature Gauge. With the engine running at normal operating temperature, check that the gauge is indicating within the proper indicating range.

c. Fuel Gauge. Check the fuel gauge for proper reading. Electric powered types should be in "green" power range.

d. Voltmeter/Ammeter. With the engine running, check the voltmeter/ammeter to verify that it’s in the green range when the engine is running at governed speed.

e. Hourmeter. Verify that the hourmeter is registering while the engine is running.

f. Weight Scales. With forks elevated, and no load, verify that the weight scales read zero. Adjust accordingly.

7.6.24 Fire Extinguisher. When equipped, visually inspect the extinguisher cylinder for dents. Check that the gauge is registering in the green (if so equipped) and check that the wire seal has not been broken. Verify periodic checks are current. Check nozzle and hose for defects. Reject extinguisher if not serviceable.

7.6.25 Operator Restraint System. If MHE is equipped with an operator restraint system (e.g., seat belt, hip restraint) it shall be inspected to verify that they fully

extend out, can be properly secured, and fully retract back. Confirm proper operation of the Emergency Locking Retractor (ELR). Additionally, they shall not exhibit any evidence of the following discrepancies:

a. nicks or cuts,

b. frayed webbing,

c. holes, and

d. broken or worn retractor.

7.6.26 Overhead Guards and Load Backrest. Inspect all welds and hardware. Verify that overhead guard, load backrest and hardware is in place and all structural members are secured. If any have been removed, examine them to confirm each is stenciled or permanently marked with the MSC serial number of the forklift it came from. (SMS Procedure 7.6-001-ALL).

7.6.27 Ground Straps or Static Conductive Tires/Wheels. For EE type MHE, verify the presence of two ground straps and that they touch the floor/deck or two conductive tires/wheels. For EX type MHE, verify the presence of two conductive tires/wheels.

7.6.28 Visually inspect for spark emission in a dark location. The MHE shall be rejected if there is any spark emission.

a. For fuel-powered MHE, inspect with the engine on and in neutral. Special attention should be given to the entire exhaust systems (pipes), the ignition wiring, the alternator/generator housing, and the area under the MHE where the engine is located.

b. For electric-powered MHE, inspect while operating each electrical motor (e.g., drive motor, hydraulic, etc.). The drive wheels may be raised off the deck/floor to test the drive motor. Special attention should be given to the area around the covers and under the MHE where the wiring, contactors, and motors are located.

7.6.29 Structural Cracks/Broken Weldments. Inspect all

external weldments for structural cracks or defects. Reject MHE until repaired or replaced.

7.6.30 Mandatory Markings. Verify all function, instruction, caution and warning labels, markings or placards are clearly and properly marked including:

a. safe working load (SWL) and vehicle weight (VW) on both sides, and except for pallet trucks, in view of operator,

b. operator controls,

c. manufacturer’s nameplate/label,

d. accredited laboratory (UL, FM) certification,

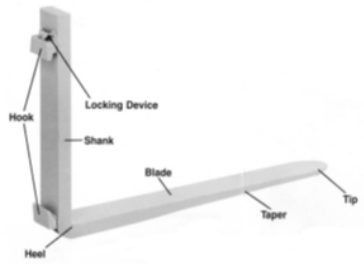
e. for tow tractors, the drawbar pull rating (DBP) on both sides and rear, and coupler height on rear, and

f. MHE Safety Certification marking.

g. Reject if the above markings are missing, illegible, expired or incorrect. All required markings that are rejected shall be recorded on the MHE Inspection Form, but is not a cause for removal from service.

7.6.31 Immediately report any adverse conditions noted to the OMT REP. The report is to include photographs of each MHE for record purposes.

7.7 Conduct the annual fork maintenance inspection using Reference 2.1.1 as guidance. Record the results for each onto a Fork Maintenance Inspection Form, Enclosure 2.2.2, and submit to the OMT REP. Inspection criteria is outlined in Reference 2.1.1:



7.7.1 Surface Cracks. Surface cracks appearing on the forks shall be cause for rejection until forks are repaired or replaced.

7.7.2 Straightness of Blade and Shank.

7.7.3 Fork Angle (upper face of blade to load face of the shank)

7.7.4 Difference in Height of Fork Tips. If the difference in tip heights exceed 3% of the length of the blade, the set of forks shall not be returned to service until repaired.

7.7.5 Wear; Fork blade and shank, fork hooks and fork markings. If the thickness is reduced to 90% of original thickness the forks shall not be returned to service.

7.7.6 Fork Positioning Locks/Stops. Verify the fork positioning locks/stops secure each fork in position. Verify forks are securely engaged to the carriage.

7.7.7 Fork Safety Chains. Verify the presence and operation of fork safety chains (equipped on units with folding forks) and associated locking pins.

7.7.8 Legibility of Markings

7.7.9 Any fork defect shall be a cause for the MHE to be removed from service until the fork is repaired or replaced. NOTE: Never attempt to repair damaged forks. Only the fork manufacturer or their designated representative shall be authorized to repair forks. Do not heat, weld, cut, drill, or bend the forks. Replace damaged forks as a set.

7.8 Conduct maintenance on the MHE in accordance with the manufacturers design, installation, maintenance instructions and service bulletins. Using References 2.1.2 as guidance. The maintenance shall include/verify:

7.8.1 Replace Hydraulic Oil

7.8.2 Replace the Hydraulic Oil Filter

7.8.3 Replace the Hydraulic Tank Breather

7.8.4 Replace the Coolant(**)

7.8.5 Replace the Engine Oil(**)

7.8.6 Replace the Engine Oil Filter(**)

7.8.7 Replace the Air Filter(**)

7.8.8 Replace the Fuel Water Separator, Diesel(**)

7.8.9 Replace the In-Line Fuel Filter(**)

7.8.10 Replace the Transmission Oil(**)

7.8.11 Replace the Transmission Oil Filter(**)

7.8.12 Replace the Brake Fluid

7.8.13 Replace the Differential and Drive Axle Oil

7.8.14 Replace Contactor tip sets for the hydraulic pump

7.8.15 Replace the Integral Sideshift Carriage bearings regardless of wear

7.8.16 Clean and lubricate the Lift Chains

7.8.17 Adjust the brakes in accordance with the manufacturer's recommendations

7.8.18 Inspect fuse blocks, fuses and connectors for damage and corrosion

7.8.19 Verify and adjust all switches for proper operation (brake lights, seats, seat brake, parking brake, direction, start, etc.)

7.8.20 Remove, clean and adjust the Fuel Injectors(**)

7.8.21 Visually examine all hydraulic hoses/fittings for damage, wear, age, cracking, leaks, and kinks

7.8.22 Clean battery and cable terminations

7.8.23 Clean and lubricate all moving parts where

lubrication is specified using References 2.1.2 as guidance, including:

a. Mast, sliding and roller surfaces

b. Mast Pivots

c. Mast Integral Sideshift Carriage (upper and lower bearings)

d. Tilt Cylinder Ends

e. Brake Master Cylinder Rod End Pin

f. Manual Hydraulic Hand Levers

g. Wheel Bearings

h. Steering Axle Tie Rod Ends

i. Steering Axle King Pin Bearing

j. Pedals, Levers, Seat Rails, Cables, Hinges, Linkages and Hood Latch

NOTE: (**) - Fuel powered MHE

7.9 Establish conditions for testing of the MHE.

7.9.1 Install barricades and warning signs to prevent access to areas of active testing. Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas. Brake test course shall be level, clean asphalt, brushed concrete, level non-skid, or equivalent surfaces, and of adequate length to permit safe conduct of the test.

7.9.2 Weight Test Loads. Only known values of test weights shall be used for testing. Dynamometers, or other recording equipment, are not permitted in lieu of dead weights. The assembled test load, including rigging, shall be accurate within +5/-0 percent of the nominal test load. The weights shall be measured using calibrated equipment with a minimum accuracy of ± 2 percent (of scale) traceable to the National Institute of Standards and Technology.

7.9.3 Marking of Test Loads. The test weight(s) shall be marked (e.g., steel stamping, etching, engraving, raised metal deposit, or stenciling) with a unique identification number and the weight in pounds.

7.10 Conduct a functional test, under no load conditions, evaluating the performance of each individual MHE. Record the results for each onto a MHE Safety Certification Form, Enclosure 2.2.3.

7.11 Conduct a Static Discharge Test using References 2.1.1 through 2.1.3 as guidance. (TYPE EE, EX, and HS/ORDNANCE MHE only). Place a conductive plate on the deck/floor so that the static conductor (either tires or ground straps) rests upon it. Using a calibrated Megohmmeter in accordance with manufacturer's recommendations, place one electrode on the plate and the other on an unpainted section of the chassis. Apply 500 volts and take the resistance reading. The MHE shall be rejected if the resistance is greater than 250,000 ohms. Record discharge reading. Record the results for each onto a MHE Safety Certification Form, Enclosure 2.2.3.

7.12 Conduct an operational weight test using References 2.1.1 through 2.1.3 as guidance.

7.12.1 Position the lift truck at rest on a smooth, level surface with the mast vertical. Secure the truck as necessary to prevent overturn. Perform testing with the hydraulic system at normal operating temperatures.

7.12.2 Position a rated load (100% of the MHE's SWL) on the forks such that the center of mass of the test load is on the truck’s centerline and at the rated load center. Ensure the load is centered laterally. Raise the forks 6 inches off the deck/floor, tilt full back, and hold for 2 minutes.

7.12.3 Shift lateral to full limits and then raise load to full mast extension. Repeat lateral shift operation and then return load to deck/floor.

7.12.4 With the mast vertical, forks centered and rated load on the forks, raise the forks to the maximum height. After 2 minutes, measure the downward and tilt drift, as applicable, from the reference points.

7.12.5 Remove the load and restraints and visually inspect the forks, mast, and other structural components for cracks, elongation, permanent deformation, fractures, or failures. Record the results for each onto a MHE Safety Certification Form, Enclosure 2.2.3.

7.12.6 The forklift truck shall be rejected if the mast drifts vertically more than 1-3/4 inches. If equipped with a tilting mast, the forklift truck shall be rejected if it tilts more than one degree. If equipped with a tilting carriage, the forklift truck shall be rejected if any movement is noted when tilting the carriage rearward the second time. The forklift truck shall be rejected if it lifts, shifts or tilts the load too slowly or unevenly, the hoses and tubing have bulges or distortions, the frame and mast assembly have fractures or broken welds, or if the forklift truck leaks hydraulic fluid. When raising or lowering the mast, if the forklift truck does not operate freely and/or binds or catches on the overhead guard or any other component, it shall be rejected.

7.13 Conduct a brake operation test using References 2.1.1 through 2.1.3 as guidance.

7.13.1 Load forks with a rated load (100% of the MHE's SWL). Test load shall bear against load backrest, shank of forks, or carriage and need not be at the rated load center. Ensure the test load is centered laterally. For MHE with tilt capability, the forks may be tilted to stabilize the load.

7.13.2 Determine the maximum speed of the MHE. This may be accomplished by determining the time it takes the MHE to pass through a 25-foot course as follows: Measure a 25-foot straight course. Transverse the course in REVERSE at maximum speed from a running start. Bring the machine to top drive speed before reaching the start line. Using an appropriate means to measure time (e.g., stop watch), note the time it takes for a reference point on the MHE to move from the start of the course to the end. Alternately, the maximum speed may be measured using a device such as a radar/laser gun.

7.13.3 With the MHE at maximum speed and after passing through the 25-foot course, apply the service brakes to achieve maximum deceleration without sliding the tires. Record the stopping distance measured from the point of brake application.

7.13.4 Using table 6-2 of Reference 2.1.3, find the maximum allowable stopping distance associated with the speed or the 25-foot course time.

7.13.5 MHE shall be rejected if:

a. The recorded distance exceeds the maximum allowable stopping distance listed in table 6-2.

b. The brake pedal travels over half the distance to the floor.

c. The brake pedal travels gradually to the floor (spongy brakes) after brakes are applied.

d. The brakes do not gradually engage (grabbing) causing sudden or immediate stops.

e. Brake fluid is leaking, exceeding manufacturer’s specifications or standard industrial maintenance practices.

f. Any component fails.

7.14 Conduct a parking brake test using References 2.1.1 through 2.1.3 as guidance.

7.14.1 Test the parking brake by engaging the parking brake on the unloaded MHE. Attempt to drive the MHE forward by applying a moderate amount of power to the MHE. If the MHE moves, adjust the parking brake, and repeat the parking brake test. The MHE shall be rejected if proper adjustments cannot be achieved.

7.15 Conduct a safety braking/disconnect system test in using References 2.1.1 through 2.1.3 as guidance.

7.15.1 Test the safety braking/disconnect system by moving the unloaded MHE forward at a moderate speed (less than 5 mph) and engage the travel control disconnect. The MHE shall be rejected if the system fails to engage and bring the MHE to a stop.

7.16 Conduct an overload weight test using References 2.1.1 through 2.1.3 as guidance. SHALL ONLY BE CONDUCTED WHEN MHE HAS

UNDERGOINE REPAIRS or MODIFICATIONS AFFECTING LOAD-BEARING COMPONENTS. Position the lift truck at rest on a smooth, level surface with the mast vertical and the forks six inches (150 mm) above the floor. Secure the truck as necessary to prevent overturn. With a crane or another lift truck, place the 150% test load on the forks such that the center of mass of the test load is on the truck’s centerline and at the rated load center. Let the 150% test load remain on the forks for two minutes. Remove the load and restraints and visually inspect the forks, mast, and other structural components for cracks, elongation, permanent deformation, fractures, or failures. Record the results for each onto a MHE Safety Certification Form, Enclosure 2.2.3. For estimating purposes assume **1** forklift will require an Overload Weight Test.

7.17 Conduct a lifting eye test using References 2.1.1 through 2.1.3 as guidance. SHALL ONLY BE CONDUCTED WHEN LIFTING EYES HAVE BEEN REPAIRED OR REPLACED. Apply a vertical lifting force of 150% of the weight of the MHE to the attachments using an appropriate lifting device (e.g., sling). Hold the force for 2 minutes. Examine the lifting lugs and points where attached to the MHE. Record the results for each onto a MHE Safety Certification Form, Enclosure 2.2.3. For estimating purposes assume **1** forklift will require a Lifting Eye Test.

7.18 Testing is to be coordinated with the OMT REP to allow for observation if deemed necessary. Demonstrate current calibration of all test equipment prior to any testing.

7.19 MHE Safety Certification Marking. Equipment passing periodic testing must have the previous weight test tags/markings removed and the following information either stenciled or labeled, per Reference 2.1.3, the testing activity's name and the expiration date (month/year). Expiration indicates the date the MHE should be scheduled for its next 18 month periodic test,

SAFETY CERTIFICATION / WEIGHT TEST ACCOMPLISHED BY:
IAW NAVSEA SW023-AH-WHM-010

EXPIRES: _____

7.20 Reports

7.20.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.20.2 Submit a report that includes “as released” condition of each forklift. Submit one electronic copy in Portable Document Format (PDF).

7.20.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.20.4 Prepare and submit Inspection, Test and Certification forms/reports (Enclosures 2.2.1 through 2.2.3) for each MHE detailing the results of their examination, test and certification. All reports are to be signed by the attending Technical Representative who performed the exam and testing. Submit reports to the OMT REP in Adobe PDF format.

7.21 Painting/Lagging

7.21.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.21.2 Renew lagging where damaged or disturbed.

7.22 Manufacturer’s Representative

7.22.1 Provide the services of a Manufacturer’s Authorized Service Provider to inspect, test and certify the MHE listed in paragraph 3.2. Qualifications and certificates for the company and field service rep are to be submitted to the OMT REP for review and approval prior to the start of any work. Possible HYSTER sources can be found in Enclosure 2.2.4.

7.23 Preparation of Drawings

7.23.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - NAVSUP Publication 538, Fig. 8-12, MHE Initial Receipt Inspection Form

SHIPBOARD UNIT ☐	SHOREBASED UNIT ☐	INSPECTION DATE
MAKE	MHE TYPE	BLADE LENGTH
MODEL	MOTOR TYPE	FUEL TYPE
YEAR	TIRE TYPE	HOUR METER READING
SERIAL NO.	CAPACITY	EQUIPMENT COST CODE

ITEM No.	INSPECTION POINT	ACCEPT	REJECT	N/A
1	Manufacturer's data/identification plate			
2	Manufacturer's "STRUCTURALLY WEIGHT TESTED" marking (ammunition or shipboard handling)			
3	Accredited laboratory certification plate (e.g., UL, FM)			
4	Alphabetical designation (EE, DS, etc.)			
5	Operational controls correctly labeled/marked			
6	Battery identification plate or marking			
7	Fuel type marking (e.g., DIESEL FUEL ONLY)			
8	Warning decals and labels			
9	Safe working load marking (sides and mast) (e.g., SWL 6000 LBS)			
10	Vehicle weight marking (sides and mast) (e.g., VW 10,000 LBS)			
11	Registration number (e.g., 13-20000)			
12	SLEP data plate			
13	"LEAD AND CHROMATE FREE PAINT" marking			
14	"LIFT HERE" marking			
15	"TIEDOWN" marking			
16	Tire pressure marking (pneumatic only)			
17	Fuel cap (color coded)			
18	"SHIPBOARD USE APPROVED" marking			
19	Blue diagonal striping (type EX only)			
20	Instruction plates			
21	Grease fittings (on components) fully filled and accessible			

ENCLOSURE 2.2.1 - NAVSUP Publication 538, Fig. 8-12, MHE Initial Receipt Inspection Form

ITEM No.	INSPECTION POINT	ACCEPT	REJECT	N/A
22	Correct fluid levels (brake, radiator, transmission, hydraulic, etc.)			
23	Paint is smooth and adheres well			
24	No evidence of loose, missing or broken hardware			
25	No evidence of bent, cracked or worn accessories			
26	No evidence of missing covers, panels, loose or poor fit			
27	Overhead guard and load backrest (cargo guard) not damaged			
28	Forks are straight within 1% of length			
29	Hydraulic cylinders: no weld cracks, leaks or other damage			
30	Neoprene hydraulic lines: free of paint, routed correctly and secured			
31	Towing devices, hitch pins, tow chains, etc. are attached			
32	Battery cables: secure, no cuts/abrasions, and protected by non-conductive covers			
33	Battery mounts and hold downs are secure			
34	Wiring harness is correct with no frayed, brittle or crimped connections (soldered only)			
35	Tires are correct type, size and thread (no delamination shall be accepted)			
36	Wheel lugs are torqued as specified			
37	Check mast rollers and locks			
38	Fork heel pins and locks function			
39	Lift chains and anchor pins are secure and functional			
40	Operator pedals are equipped with rubber pads or non-slip coating			
41	Operator restraint system/seat belt equipped and functional			
42	Dash gauges are correct and marked			
43	Key ignition switch (verify key numbers match contract numbers)			
44	Start MHE and note any unusual noises			
45	Weight gauge is legible and operable			

ENCLOSURE 2.2.1 - NAVSUP Publication 538, Fig. 8-12, MHE Initial Receipt Inspection Form

ITEM No.	INSPECTION POINT	ACCEPT	REJECT	N/A
46	Steering wheel is smooth and little free play			
47	Verify all gauges function			
48	Verify hourmeter operates properly			
49	Verify horn operates			
50	Verify back-up alarm operates			
51	Verify all lights operate: brake, spot, battle/blackout, etc.			
52	No evidence of steering play or loose suspension			
53	Bring to full operating temperature (fuel power only) and check for leaks			
54	Check for arcing and operation of contactors, traction, steer and hydraulic pump motors (electric MHE only)			
55	Battery disconnect switch is operable			
56	Check accelerator and inching/declutching pedal operation			
57	Check brake operation			
58	Parking brake functions			
59	Check emergency stop operation			
60	Check for smoothness when raising mast to full height			
61	Verify hose reel functions smoothly			
62	Check tilt and side shift (rotation some models) operation and smoothness			
63	Check acceleration (all forward and reverse gears)			
64	Check braking (at speed) if smooth and straight			
65	Check transmission (forward and reverse)			
66	Clutch adjustment, engagement and operation			
67	Check for exhaust leaks			
68	Check applicable steering modes (2 wheel, 4 wheel, crab)			
69	Verify the turning radius/tracking			
70	For electric trucks, the presence of static conductive straps or tires			

ENCLOSURE 2.2.1 - NAVSUP Publication 538, Fig. 8-12, MHE Initial Receipt Inspection Form

INSPECTION ACTIVITY	INSPECTOR NAME	DATE (MMDDYY)
	PRINT:	
	SIGNATURE:	

ENCLOSURE 2.2.2 - NAVSUP Publication 538, Fig. 8-13, Fork Maintenance Inspection Form

USN: _____ - _____
Manufacturer': _____ Model: _____ Year: _____ Serial Number: _____
Contract Number: _____

REQUIREMENT

Each fork shall be inspected and documented in the MHE history file at intervals of not more than 12 months or whenever any defect or permanent deformation is detected. Any defect shall be a cause for rejection. MHE shall be removed from service until the fork is repaired or replaced.

DESCRIPTION	LEFT FORK		RIGHT FORK		Not Applicable
	SAT	UNSAT	SAT	UNSAT	
1. Manufacturer's SWL Markings					
2. Surface Cracks					
3. Straightness of Blade and Shank: (a) Upper Face of Blade (b) Front Face of Shank					
4. Fork Angle: (original specification = _____)					
5. Difference in Height of Fork Tips: (Length of blade = __ inches x 0.03 = ___ inches)					
6. Fork Blades: Left Fork: original thickness = ___ inches x 0.10 = ___ inches current thickness = ___ inches Right Fork: original thickness = ___ inches x 0.10 = ____ inches current thickness = ___ inches					
7. Positioning Locks/Latches and Stops (where applicable)					
8. Fork Hooks (where applicable)					
9. Plated Fork (Type EX Only)					

Inspection results: Based on the above inspections, the overall condition of each fork is:
Left Fork: SAT/UNSAT Right Fork: SAT/UNSAT

Inspector: _____ Date: _____ Next Due Date: _____

Print Name/Rate:_____ Inspection Activity:_____

ENCLOSURE 2.2.3 - NAVSUP Publication 538, Fig. 6-1, MHE Safety Certification Form

USN/MSC REGISTRATION NO.	MHE CLASS/LIFT CODE/TYPE	SWL	HOUR READER METER	DATE

TEST	PARAGRAPH	PROCEDURE	RESULTS					
MARKINGS	6-6.1	VISUAL INSPECTION:	ACCEPT		REJECT			
FUEL SYSTEM	6-6.2	LEAK INSPECTION:	ACCEPT		REJECT		N/A	
NEUTRAL START SWITCH (Fueled MHE)	6-6.3	OPERATIONAL INSPECTION:	ACCEPT		REJECT		N/A	
WARNING DEVICES (Powered MHE)	6-6.4	OPERATIONAL INSPECTION:	ACCEPT		REJECT		N/A	
SPARK EMISSION (Powered MHE)	6-6.5	VISUAL INSPECTION:	ACCEPT		REJECT		N/A	
STATIC DISCHARGE (Electric and HS/Ordnance Pallet Truck)	6-6.6	CONDUCTOR TYPE:	TIRES		STRAPS		N/A	
		RESISTANCE READING (OHMS):	LEFT		RIGHT		N/A	
			ACCEPT		REJECT		N/A	
CARRIAGE REACH & ROLLER (Reach and Tier)	6-6.7	OPERATIONAL INSPECTION:	ACCEPT		REJECT		N/A	
DRIVE CONTROL (Powered Pallet Trucks)	6-6.8	OPERATIONAL INSPECTION:	ACCEPT		REJECT		N/A	
BRAKE (Except Straddle Carriers and Manual Pallet Trucks)	6-6.9.1	TRAVEL DISTANCE (TABLE 6-2): FEET	ACCEPT		REJECT		N/A	
		PEDAL FEEL:	ACCEPT		REJECT		N/A	
	6-6.9.2	PARKING BRAKE:	ACCEPT		REJECT		N/A	
	6-6.9.3	SAFETY BRAKING /DISCONNECT SYSTEM:	ACCEPT		REJECT		N/A	
BRAKE (Straddle Carrier)	6-6.10	OPERATIONAL INSPECTION:	ACCEPT		REJECT		N/A	
OPERATIONAL WEIGHT TEST (Forklift Trucks)	6-6.11	100% RATED LOAD HELD FOR 2 MINUTES:	ACCEPT		REJECT		N/A	

ENCLOSURE 2.2.3 - NAVSUP Publication 538, Fig. 6-1, MHE Safety Certification Form

LOAD TEST (Aerial Work Platform)	8-7.6	150% RATED LOAD HELD FOR 2 MINUTES:	ACCEPT		REJECT		N/A	
KING PIN (Straddle Carrier)	6-6.13	VISUAL INSPECTION:	ACCEPT		REJECT		N/A	
LIFTING WEIGHT TEST (Straddle Carrier)	6-6.14	100% RATED LOAD:	ACCEPT		REJECT		N/A	
OVERLOAD WEIGHT TEST (Except Pallet Trucks and Straddle Carriers)	6-5.3	AFTER REPAIRS/MODIFICATIONS AFFECTING LOAD-BEARING COMPONENTS	YES		NO		N/A	
	6-7	100% LOAD HELD FOR 2 MINUTES:	ACCEPT		REJECT		N/A	
		150% LOAD HELD FOR 2 MINUTES:	ACCEPT		REJECT		N/A	
LIFT EYES (Except Straddle Carriers)	6-5.4	AFTER REPAIR/REPLACEMENT	YES		NO		N/A	
	6-8	150% WEIGHT OF MHE HELD FOR 2 MINUTES:	ACCEPT		REJECT		N/A	

THIS IS TO CERTIFY THAT THE ABOVE MHE WAS INSPECTED AND TESTED IN ACCORDANCE WITH NAVSEA SW023-AH-WHM-010.

MECHANIC/MAINTENANCE PROVIDER:

PRINT FULL NAME	SIGNATURE	DATE

CERTIFIED BY:

PRINT FULL NAME	SIGNATURE	DATE

THIS 18 MONTH CERTIFICATION EXPIRES ON: _____

MONTH/YEAR

ENCLOSURE 2.2.4 - Hyster Dealers

BOSTON, MA
ALTA MATERIAL HANDLING
(978) 658-5900
2 Jonspin Road,
Wilmington, Massachusetts, 01887, US

BAYONNE, NJ
EASTERN LIFT TRUCK CO., INC.
(732) 630-4500
560 Stelton Road,
Piscataway, New Jersey, 08854, US

NORFOLK, VA
GREGORY POOLE EQUIPMENT
(757) 485-9800
805 Curtis Saunders Ct.,
Chesapeake, Virginia, 23321, US

CHARLESTON, SC
GREGORY POOLE EQUIPMENT
(843) 747-8191
1002 Bankton Circle,
Hanahan, South Carolina, 29410, US

MOBILE, AL
BRIGGS EQUIPMENT, INC.
(251) 478-2223
1301 West I-65 Service Road North,
Mobile, Alabama, 36618, US

SAN DIEGO, CA
PAPE MATERIAL HANDLING, INC.
(858) 566-4181
7227 Carroll Road,
San Diego, California, 92121, US

ENCLOSURE 2.2.4 - Hyster Dealers

PORTLAND, OR
PAPE MATERIAL HANDLING, INC.
(503) 639-8910
7000 SW Sandburg Street,
Portland, Oregon, 97223-8040, US

HAWAII
*

GUAM
PACIFIC FEDERAL MANAGEMENT INC.
202 Hilton Road, Unit 7 PFM,
Tumon, Guam, 96913, GU

JAPAN
*

KOREA
HYSTER KOREA INC.
+82 1544 3051
653 Sansu-ro,
Chowol-eup, Gwangju-si, Gyeonggi-do, KR

SINGAPORE
HYSTER-YALE LIFT TRUCKS SINGAPORE PTE. LTD.
65 6863 3387
16 Tuas Avenue 20,
Singapore, West Region, 638827, SG

BAHRAIN
YUSUF BIN AHMED KANOO
00973-33287444
Machinery Division P.O.Box 45,
Manama, Al Manāmah (Al ʻĀşimah), BH

ENCLOSURE 2.2.4 - Hyster Dealers

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KANOO MACHINERY LLC
800 56100
Al-Quoz Industrial Area,
P.O.Box 290, Dubai, AE

GREECE
KOLIBIOTI BROS & SONS
+30 2310 799513
11km Thessaloniki - Athens Rd.,
Sindos, Thessaloniki, 57400, GR

ITALY
CLS SPA
+39 02 925051
Strada Provinciale 121,
20061 Carugate, Milan, 20061, IT

SPAIN
*

1.0 ABSTRACT

The purpose of this work item is to replace the battery on material handling equipment (MHE).

2.0 REFERENCES/ENCLOSURE

2.1 REFERENCES

2.1.1 NAVSUP Tech Manual 0530-LP-642-6711, NAVSUP Publication 538; Management of Material Handling Equipment (MHE) and Shipboard Mobile Support Equipment (SMSE)

2.1.2 Tech Manual 0532-LP-109-0354, Hyster Fork Lift Truck, Diesel Powered, S60FTG - 6000 LB CAPACITY

2.1.3 NAVSEA Tech Manual SW023-AH-WHM-010, Handling Ammunition and Explosives with Industrial Materials Handling Equipment (MHE)

2.2 ENCLOSURE

2.2.1 Hyster Dealers

3.0 ITEM LOCATION/DESCRIPTION/QUANTITY

3.1 Location

3.1.1 MHE Stowage (Main Deck)

3.2 Description/Quantity

Mfg	Model	Type	Safety Rating	Capacity (lbs)	Power	Battery Weight (lbs)	Qty
HYSTER	S60FTG	Std Forklift	DS	6,000	Diesel	60	1

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE

4.1 Government Furnished Equipment (GFE): None

4.2 Government Furnished Equipment (GFM): None

4.3 Government Furnished Service (GFS): None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

5.2 Powered industrial truck designations per 29 CFR §1910.178(b).

5.3 Per MSC QMS Procedure N4.48.4460.1-Q entitled Management of Material Handling Equipment all Afloat MHE will be certified for ordnance handling.

5.4 Charging, testing and maintenance shall not be performed in magazines or other areas/spaces where ammunition and explosives are present.

6.0 QUALITY ASSURANCE REQIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 With assistance from the Chief Engineer coordinate the movements, inspection and testing of MHE to avoid damage or injury during the course of this work item. The ship’s crew will operate all MHE while aboard ship.

7.2 Coordinate the inspection and testing of equipment with the OMT REP and Chief Engineer to ensure the vessel is aware of equipment status at all times until the work is completed.

7.3 Only competent, licensed and trained Operators in compliance with 29 CFR § 1910.178(l)(6) shall operate the MHE while ashore. Use good operating practices to prevent accidents. It should be anticipated that some features of the MHE may not operate correctly upon initial receipt. Careful attention should be practiced by the Operators to maintain control of the vehicle at all times.

7.4 Battery Replacement

7.4.1 Disconnect the battery and discharge the capacitors by holding the horn button down until the horn stops making a sound. Before connecting the exchange battery, make sure the key switch is in the OFF position and the parking brake is set.

7.4.2 Remove the battery. Use a spreader bar for battery exchange rated for the weight of the battery. Inspect the battery case, connector and cables for damage, cracks or breaks.

7.4.3 Inspect the battery tray and battery restraint system prior to loading the new exchange battery. Inspect the tray for battery leakage and corrosion. Report any detrimental conditions to the OMT Rep.

7.4.4 Replace the battery with GFM listed in Section 4.0. The replacement battery must fit the battery area correctly. Use OEM spacers and shims to prevent the battery from moving horizontally in the battery compartment.

7.4.5 Check the level of the battery electrolyte.

7.4.6 Check equipment Battery Charge indicator on the console for proper voltage and charge as necessary.

7.4.7 Verify cables are securely fastened to connector lugs and are free of corrosion, verdigris, arcing, pitting, exposed conductor material, and loose connections.

7.5 Conduct an operational test of equipment upon completion of the battery replacement.

7.6 Scrap/recycle the removed batteries in accordance with all local, state and federal requirements. Submit a Scrap Report to the OMT Rep upon maintenance completion using SWI 0015.

7.7 Reports

7.7.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.7.2 Submit a report that includes “as released” condition. Submit one electronic copy in Portable Document Format (PDF).

7.8 Painting/Lagging

7.8.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

7.8.2 Renew lagging where damaged or disturbed.

7.9 Manufacturer’s Representative

7.9.1 Provide the services of a Manufacturer’s Authorized Service Provider to service and test the MHE listed in paragraph 3.2. Qualifications and certificates for the company and field service rep are to be submitted to the OMT REP for review and approval prior to the start of any work.

7.9.2 Possible HYSTER sources can be found in Enclosure 2.2.1.

7.10 Preparation of Drawings

7.10.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 - Hyster Dealers

BOSTON, MA
ALTA MATERIAL HANDLING
(978) 658-5900
2 Jonspin Road,
Wilmington, Massachusetts, 01887, US

BAYONNE, NJ
EASTERN LIFT TRUCK CO., INC.
(732) 630-4500
560 Stelton Road,
Piscataway, New Jersey, 08854, US

NORFOLK, VA
GREGORY POOLE EQUIPMENT
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Chesapeake, Virginia, 23321, US

CHARLESTON, SC
GREGORY POOLE EQUIPMENT
(843) 747-8191
1002 Bankton Circle,
Hanahan, South Carolina, 29410, US

MOBILE, AL
BRIGGS EQUIPMENT, INC.
(251) 478-2223
1301 West I-65 Service Road North,
Mobile, Alabama, 36618, US

SAN DIEGO, CA
PAPE MATERIAL HANDLING, INC.
(858) 566-4181
7227 Carroll Road,
San Diego, California, 92121, US

ENCLOSURE 2.2.1 - Hyster Dealers

PORTLAND, OR
PAPE MATERIAL HANDLING, INC.
(503) 639-8910
7000 SW Sandburg Street,
Portland, Oregon, 97223-8040, US

GUAM
PACIFIC FEDERAL MANAGEMENT INC.
202 Hilton Road, Unit 7 PFM,
Tumon, Guam, 96913, GU

ARIZONA
TECHNICAL SUPPORT SPECIALISTS AND CONSULTATION LLC (TSSA)
36721 North 25th St.
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20061 Carugate, Milan, 20061, IT

1.0 ABSTRACT:

1.1 This item describes the modification to remove one (1) SLQ-32 Heat Exchanger (HE)and replace with one (1) new unit.

2.0 REFERENCE:

2.1 N/A

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location

3.1.1: 04 LVL EW Equipment room 04-73-0-Q

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Material (GFM)

A. Materials listed in Ref 2.1 will be provided as GFM.

5.0 NOTE:

5.1 The shipyard and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item.

5.2 In performance of this Work Item, the shipyard and subcontractors regardless of tier must comply with the requirements of all applicable General Technical Requirements (GTRs) including but not limited to GTRs 1 through 7, 21 ,22, 25, 26, and 29.

5.3 All new electrical wires shall be routed through proper wire ways or wire supports and utilize metal banding with rubber channel in accordance with ABS SVR Part 4, Chapter 8, Section 4, as needed.

5.4 All new and disturbed MCTs, transits, penetrations, etc., shall be resealed with existing products in way of new electrical installations. If the existing product is not available, known or identifiable, the entire transit shall be repacked with an ABS/USCG type approved system for the fire rating of that space and tested to the satisfaction of the attending MSCREP.

5.5 All electrical work shall be performed in accordance with ABS, USCG, IEEE-45, and MIL-STD-1310(G) requirements.

5.6 USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Shipyard / contractor shall be responsible for following all national and local regulations in the containment and removal of these wastes as encountered.

5.7 Regular day shift working hours for the AIT will be 0700 to 1700 hours Monday through Saturday. Work item support requirements will be 0730 to 1630 hours Monday through Saturday.

5.8 AIT tech reps will be onsite to oversee all work.

NOTE: The actual equipment installation, configuration and testing will be accomplished by Government Furnished Employees and/or Alteration Installation Team (AIT) Contractors.

5.9 Crane, riggers and forklift services to support this work item shall be covered by Work item 011, paragraph 7.7.

The crane shall be capable of reaching level 04, to remove and install GFM, as required.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED:

7.1 Arrangements:

7.1.1 Removals:

a. Cut technical opening, 7 X 4 ft at location provided by GOV representative, MSCREP and CSPE. Remove all interferences on both sides of the bulkhead and provide protection to equipment inside at frame 04-73-0-Q. Provide temporary door at the end of the work day to prevent any weather damage.

b. Rig out one (1) old Heat Exchanger (HE) from space to 04 level using GOV / AIT as guidance. Rig and crane old unit to lay down area as directed by GOV representative. Place old unit in crate and make it ready for shipping, contact GOV representative before closing crate.

c. Once removed provide condition found report to MSC PPE for any steel and or piping repairs / replacement. Check all lagging that may need to be replaced, based on damage.

7.1.2 Installations:

a. Install One (1) HE. Rig new unit from lay down area as directed by GOV representative. Return all equipment removed or interferences to their original location, in operating order.

7.2 Preparation of Drawings/Documentation:

7.2.1 Maintain red-lined mark ups of approved drawings, to reflect all installations, modifications, and any changes accomplished. Red-lined drawings shall be used for creating the final "As-Built" drawings.

7.3 Painting:

7.3.1 Prepare, prime and paint all new and modified surfaces to match the surrounding surfaces using contractor-supplied paint. This includes any decks, bulkheads, lagging and all adjacent space coatings that have been damaged by heat from welding.

7.3.2 Repair all thermal and acoustic insulation removed in way of work on this work item. Match to surrounding areas with same type insulation.

7.4 Markings:

7.9.1 Install name plates, notices, cable tags and markings for all new and modified systems and areas using References 2.1.1, GTR 29, as guidance.

8.0 GENERAL REQUIREMENTS:

8.1 Industrial Support Services. AIT will provide 48-hour written notice prior to services required. Services can be requested any time during the WOO.

1. Lagging / Insulation / Paint removal. Estimated at 10 Sq feet

2. Welding (to include Welder, Shipfitters, equipment, ventilation, 440volt power, and air); A technical opening on the 04 LVL at frame 04-73-0-Q, estimated 400 hours

3. Firewatch 400 hours

4. Insulation/Lagging/Painting (Re-installation); Estimated hours for this work are 100.

5. Materials. The cost is $500 for Consumables; i.e. paint brushes, paint rollers, gloves, paint (mil spec), etc. must be included in the price of this work item.

6. Availability of Power (115VAC) requirements in spaces when/if required by AIT.

7. Availability of temporary clean, dry oil/water free compressed air at 100 psi for pneumatic tools in spaces when/if required by AIT.

8. Availability of temporary ventilation in spaces when/if required by AIT.

9. Availability of temporary lighting in spaces when/if required by AIT.

8.2 Material storage requirements are listed in work item 015, para. 7.3.2; Requesting warehouse storage. Designated outside storage shall require prior approval of the AIT Rep and MSCREP.

1.0 ABSTRACT:

1.1 This item describes the OE-82 SATCOM ANTENNA system groom on the MISER TOWER 04 and 05 LEVEL.

2.0 REFERENCES:

2.1 N/A

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Location

3.1.1 MISER TOWER 04 and 05 LEVEL

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Material (GFM)

A. All materials listed will be provided as GFM.

5.0 NOTES:

5.1 The shipyard and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item.

5.2 In performance of this Work Item, the shipyard and subcontractors regardless of tier must comply with the requirements of all applicable General Technical Requirements (GTRs) including but not limited to GTRs 1 through 7, 21 ,22, 25, 26, and 29.

5.3 USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the

individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled and disposed of in accordance with Work Item 023 of this work package. Shipyard / Contractors shall be responsible for following all national and local regulations in the containment and removal of these wastes as encountered.

5.4 Regular day shift working hours for the AIT will be 0700 to 1700 hours Monday through Saturday. Work item support requirements will be 0730 to 1630 hours Monday through Saturday.

5.5 GOV/AIT tech reps will be onsite to oversee all work.

NOTE: The actual equipment installation, configuration and testing will be accomplished by Government Furnished Employees and/or Alteration Installation Team (AIT) Contractors.

5.6 Crane, riggers and forklift services to support this work item shall be covered by Work item 011, paragraph 7.7. The crane shall be capable of reaching 04 and 05 level. Estimated eight (8) crane lifts /riggers may be required.

6.0 QUALITY ASSURANCE REQUIREMENTS: N/A

7.0 STATEMENT OF WORK REQUIRED:
SEATESESE

7.1 Using Ref 2.1 contractor shall provide the following. AIT reps will provide 48-hour notice prior to services required.

7.2 Industrial Support Services. AIT will provide 48-hour written notice prior to services required. Services can be requested any time during the WOO.

7.3 JLG with shipyard OP will be required for ten (10) days.

7.4 Material storage requirements are listed in work item 015, para. 7.3.2; Requesting warehouse storage. Designated outside storage shall require prior approval of the AIT Rep and MSCREP.

USS Mt Whitney		
(LCC 20)		
SPONSOR RELATED		CONTRACT NO. AWP - N-TBD (MTA)
ITEM NO. 0702	CATEGORY "A"	2026-05-21
LCC-WI-SATCOM ANTENNA GROOM OE82		Galbraith, Wayne

1.0 ABSTRACT:

1.1 This item describes the modification to remove older equipment and replace with new NAVY CASH equipment.

2.0 REFERENCES: N/A

3.0 ITEM LOCATION/DESCRIPTION:

3.1. Disbursing Office: 3-57-2
NAVY CASH server room: 3-62-0
Vending machine area: 3-137-1
Enlisted mess decks: 4-40-0

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

4.1 Government Furnished Material (GFM)only

5.0 NOTES:

5.1 The shipyard and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item.

5.2 In performance of this Work Item, the shipyard and subcontractors regardless of tier must comply with the requirements of all applicable General Technical Requirements (GTRs) including but not limited to GTRs 1 through 7, 21 ,22, 25, 26, and 29.

5.3 USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled

and disposed of in accordance with Work Item 023 of this work package. Shipyard / Contractor shall be responsible for

following all national and local regulations in the containment and removal of these wastes as encountered.

5.4 Regular day shift working hours for the AIT will be 0700 to 1700 hours Monday through Saturday. Work item support requirements will be 0730 to 1630 hours Monday through Saturday.

5.5 GOV/AIT tech reps will be onsite to oversee all work.

NOTE: The actual equipment installation, configuration and testing will be accomplished by Government Furnished Employees and/or Alteration Installation Team (AIT) Contractors.

5.6 Crane, riggers and forklift services to support this work item shall be covered by Work item 011, paragraph 7.7. The crane shall be capable of reaching the main deck, estimate four (4) crane lifts and associated forklift support.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED:

7.1 Industrial Support Services. AIT will provide 48-hour written notice prior to services required. Services can be requested any time during the WOO.

7.2 Material storage requirements are listed in work item 015, para. 7.3.2; Requesting a 20 ft CONEX box, that is lockable and placed on the main deck. Designated outside storage shall require prior approval of the AIT Rep and MSCREP.

1.0 ABSTRACT:

1.1 This item describes the statement of work for the SEATEL TVDTS upgrade on main deck forward 1-18-1 and IC PAO/SITE Office 3-69-3-Q.

2.0 REFERENCE: N/A

3.0 ITEM LOCATION/DESCRIPTION:

3.1 Main deck forward 1-18-1 and IC PAO/SITE Office 3-69-3-Q.

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICES:

A. Government Furnished Equipment (GFE)to be provided by GOV representative.

5.0 NOTES:

5.1 The shipyard and all subcontractors, regardless of tier, are advised to review other Work Items under this contract to determine their effect on the work required under this Work Item.

5.2 In performance of this Work Item, the shipyard and subcontractors regardless of tier must comply with the requirements of all applicable General Technical Requirements (GTRs) including but not limited to GTRs 1 through 7, 21 ,22, 25, 26, and 29.

5.3 USS Mount Whitney is known to have a considerable amount of asbestos. Additionally, it is known that the coating systems may contain lead. The contractor should expect this condition and factor in removal and remediation time requirements into his overall planning schedule. Costs associated with **unexpected** hazardous waste remediation and removal shall be attributed to Work Item 023, rather than to the individual work items. Wastes removed in the course of work package accomplishment shall be removed from the ship, handled

and disposed of in accordance with Work Item 023 of this work package. Shipyard / Contractor shall be responsible to follow all international, national and local regulations in the containment and removal of these wastes as encountered.

5.4 Regular day shift working hours for the AIT will be 0700 to 1700 hours Monday through Saturday. Work item support requirements will be 0730 to 1630 hours Monday through Saturday.

5.5 AIT Point of Contact is:

NWIC LANT OSIC Code 42220
Tel: +1(757) 621-0759

5.6 The actual equipment installation, configuration and testing will be accomplished by Government Furnished Employees and/or Alteration Installation Team (AIT) Contractors.

6.0 QUALITY ASSURANCE REQUIREMENTS: N/A

7.0 STATEMENT OF WORK REQUIRED:

7.1 Contractor shall provide and accomplish the following. AIT will provide 48-hour written notice prior to services required).

A. Remove or reuse existing equipment foundations (Remove any installation/lagging, and paint, cut existing foundation, make smooth, and clean area, as required);
B. Prepare area for new installation (Remove any installation, paint, and clean surface for welding or mechanical mounting, as required);
C. Crane lifts; eight (8)
   1. Provide riggers, tools required, and transportation services from warehouse/ship.
   2. The maximum crane lift shall not exceed 4,000 pounds
   3. The crane shall be capable of reaching the main deck forward and the starboard side quarterdeck.

D. Forklifts; eight (8)

1. Forklifts will be used to transport AIT equipment within the shipyard as directed by the AIT.

E. Storage space (Onboard ship); As required, 20 FT CONEX

7.2 Miscellaneous Labor and Material, not listed in 7.1, contractor shall provide for bidding purposes, fully funded cost for labor and material. AIT will provide 48-hour written notice prior to services required.

A. Welding (to include Welder, Ship fitters, equipment, ventilation, 440 volt power, and air);
   1. Labor; 00 Hours
B. Fire watch (to include equipment and material required);
   1. Labor; 00 hours
C. Brazing & piping modifications;
   1. Labor; N/A
D. HVAC vent mod installation;
   1. Labor; 00 Hours
E. Insulation/lagging;
   1. Labor; 00 Hours
F. Materials
   1. $0,000
G. Availability of Power (440) requirements in spaces when/if required by AIT.
H. Availability of temporary clean, dry oil/water free compressed air at 100 psi for pneumatic tools in spaces when/if required by AIT.
I. Availability of temporary ventilation in spaces when/if required by AIT.

7.3 Monitoring of Time and Material

A. All paint and lagging MUST be removed before any hot work takes place. Qualified fire watch(s) must be on site to cover all compartments being affected, the use of any phone is NOT authorized while on station.

1.0 ABSTRACT

1.1 OEM technical representative to groom and operationally test the A/C Plants.

NOTE: THIS WORK ITEM SHOULD BE ACCOMPLISHED IN CONJUNCTION WITH WORK ITEMS 0502, 0505 & 0507 SW COOLING PUMPS REPLACMENT.

2.0 REFERENCES/ENCLOSURES

2.1 References:

2.1.1 Tech. Manual S9514-EL-MMA-010; A/C PLANTS

3.0 ITEM DESCRIPTION/QUANTITY

3.1 Domestic Refrigeration System:

3.1.1 A/C COMPRESSORS:
COMPRS RFG, 250 TON 236, FA 364-48921-000
AP: 06A030012
MANUFACTURER: JOHNSON CONTROLS NAVY SYSTEMS, LLC
Model Number: 364-48921-000

3.1.2 Quantity: Six (6) A/C Plants

3.1.3 Locations:

#1 Plant: 7-40-0-E
#2 Plant: 7-40-0-E
#3 Plant: 7-109-2-E
#4 Plant: 7-109-2-E
#5 Plant: 7-64-2-E
#6 Plant: 7-64-2-E

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE:

4.1 Govt. Furnished Material:

4.1.1 Freon, R-134A, as required.

4.1.2 Refrigerant oil, as required.

5.0 NOTES: None

6.0 QUALITY ASSURANCE REQUIREMENTS

6.1 All work shall be performed to meet the operating specifications of the manufacturer.

7.0 STATEMENT OF WORK REQUIRED

7.1 Contractor to provide an OEM authorized technical representative to groom A/C plants as listed in paragraph 3.1.3.

7.2 At a minimum, grooming shall include testing of all shutdowns and safeties, condenser water regulating valve, and performing leak tests. A/C units should be tested for proper operation and any discrepancies found shall be noted in a condition report. If any repairs or parts replacements are required, they may be addressed via Change Order.

7.3 Operate, test and groom all systems and equipment for optimum performance. Check, adjust and set all pressure and temperature switches, controls, and safety devices to manufacturer's specifications.

7.4 All dirt and debris resulting from this work item shall be removed from the ship daily and all areas left clean and in good order.

7.5 Manufacturer's Representative:

7.5.1 The contractor shall provide the services of a manufacturer's authorized technical field service representatives throughout the performance of this work item.

7.5.2 Provide an electronic copy (in pdf format) of the field service representative's report to the Port Engineer upon completion of repairs and testing. The report to detail all work performed.

Recommended OEM:

JOHNSON CONTROLS NAVY SYSTEMS
631 S. Richland Ave., Suite 700 York, PA 17403
Contact Ian Valentine at ian.m.valentine@jcifederal.com or (757)419-0126.

8.0 GENERAL REQUIREMENTS: None additional

1.0 ABSTRACT

The purpose of this item is to clean, polish, and inspect the propeller(s), rudder(s), sea chest grates, transducers and underwater hull while waterborne.

2.0 REFERENCES/ENCLOSURES

2.1 References

2.1.1 NAVSEA Drawing No. 845-4458941, Docking Plan

2.1.2 NAVSEA Drawing No. 203-2500352, Propeller and Details

2.1.3 NAVSEA Tech Manual **T9243-A1-MMM-010**, Seal Assembly, Stern Tube Shaft, Type MX 9

2.1.4 NAVSEA Dwg. No. 2491342, Rudder (Sheet 1)

2.1.5 NAVSEA Dwg. No. 2491693, Rudder (Sheet 2)

2.1.6 MSC Drawing. No. 845-4458934, General Arrangement

2.1.7 NAVSEA Tech Pub No. S9086-HP-STM-010, NSTM Chapter 245, Propellers and Propulsors

2.2 Enclosure

2.2.1 Blade and Hub Inspection Forms

3.0 ITEM LOCATION/DESCRIPTION

3.1 Location/Quantity

3.1.1 Location: Underwater Hull

a. LOA: **627 ft 3 in**

b. LBP: 580 ft

c. Beam at DWL: 82 ft

3.1.2 Quantity

a. One Fixed-Pitch Propeller

b. One Rudder

c. Fourteen Sea Chest Suction Grates

d. One External Stern Tube Shaft Seal

e. One Rope Guard

3.2 Item Description/Manufacturer’s Data

3.2.1 Propeller

a. Diameter: 20’-0”

b. Number of Blades: 4

c. Pitch: 24’ - 9.850”

d. Propeller Material: Nickel Aluminum Bronze

e. Propeller Weight: 57,180 lbs

3.2.2 Rudder: See Reference 2.1.4 and 2.1.5 for details.

3.2.3 Sea Chest Suction Grates: See Reference 2.1.1 for details.

3.2.4 Stern Tube Shaft Seal

a. Stern Tube Shaft Seal Type MX9, US72252

4.0 GOVERNMENT FURNISHED EQUIPMENT/MATERIAL/SERVICE: None

5.0 NOTES

5.1 The contractor and all subcontractors, regardless of tier must consult the General Technical Requirements (GTR) to determine applicability to this work item. In performance of this work item, the contractor and all subcontractors regardless of tier must comply with the requirements of all applicable GTRs including but not limited to GTRs 1 through 7, 22, 23, 24, 28, and 29.

6.0 QUALITY ASSURANCE REQUIREMENTS: None additional

7.0 STATEMENT OF WORK REQUIRED

7.1 Clean, polish, and inspect the propeller and sea chest suction grates identified in paragraph 3.1, and inspect the underwater hull using References 2.1.1 through 2.1.7 and Enclosure 2.2.1 as guidance. Accomplish all tasks using IMO, SOLAS, and the Manufacturer’s requirements as guidance.

7.2 Coordinate with ship’s force to have associated equipment locked and/or tagged out per ship’s lock out/tag out policy. When the maintenance is complete, coordinate with ship’s force to have associated equipment unlocked and/or tagged in per ship’s lock out/tag out policy.

7.3 Drain and dispose of any liquid in accordance with all local, state, and federal laws.

7.4 Conduct a Pre-Dive Planning Meeting with the Diver’s Representative, Master, Chief Engineer and OMT REP. The meeting agenda and discussion covers, at a minimum:

7.4.1 Confirm there is no record or indication of abnormal deterioration or damage to underwater body, propeller, rudder, stern frame, stern seal, underwater structure, or sea valves.

7.4.2 Discuss means of communication between the Bridge, Dive Team, and Engine Room.

7.4.3 Discuss procedures/plans for emergencies.

7.4.4 Discuss the water clarity (visibility) and the current cleanliness of the underwater hull. Determine if additional cleaning or spot cleaning will be necessary.

7.4.5 Discuss the vessel’s anticipated drafts, pier-side clearance, and under-keel clearance at the time of the cleaning.

7.4.6 Discuss impact of the tides and currents on divers and the examination.

7.4.7 Discuss anticipated duration of the underwater work.

NOTE: Clean all seal areas at the completion of work

7.5 Clean and polish the propeller and sea chest suction grates to meet the manufacturer’s design, installation, maintenance instructions, and service bulletin requirements. Use References 2.1.1 through 2.1.3 as guidance. Perform the following:

7.5.1 Remove all sea growth from the propeller and sea chest suction grates, including, but not limited to: calcium deposits, sea grass, and barnacles. Cleaning must not result in damage to the propeller or the removal of propeller material. Utilize the following approved cleaning methods:

a. Hand-cleaning methods such as scraping, and the use of brushes and pads. Plastic or hardwood scrapers, nylon, and polypropylene brushes such as A-1 and A-2, and hand-held plastic conditioning pads such as Scotch-Brite “Green” are acceptable for cleaning all propeller surfaces. It is preferred that the final cleaning operation of propeller blade edges (within 3 inches) be cleaned by hand with plastic surface conditioning pads. Do not attempt to round the edges of the blades with brushes and discs.

b. Powered cleaning processes. Only nylon and polypropylene brushes such as A-1 and A-2, and non-abrasive plastic surface conditioning discs such as Scotch-Brite “Green” may be used with power tools on less sensitive areas of painted propellers. Do not remove markings. Powered cleaning methods are not to be used within three inches of blade edges, tips, cusps, fillets (excluding hub to blade interface), areas of high curvature, or other sensitive areas of the propeller. When cleaning the outer periphery of the blades, the brushes and discs must be kept flat on the blade surface.

7.6 Conduct an inspection of the propeller, rope guards, rudder, shaft seals, sea chest suction grates and underwater hull to meet the manufacturer’s design, installation, maintenance instructions and service bulletin requirements. Use References 2.1.1 through 2.1.7 and Enclosure 2.2.1 as guidance. Perform the following:

7.6.1 Examine all visible parts of the propeller. Inspect the hub, blades, and blade edges for cracks, curling, porosity, cavitation erosion, nicks, dents, bends, cable marks, flat spots, ridges, punch marks, and gouges. Verify that the propeller is free of conditions that may cause the propeller to become out of balance.

7.6.2 Visually examine stern bearing and rope guards for fishing nets, wire rope, and oil seal leaks.

7.6.3 Visually examine rudders for damage, missing hardware, missing inspection plates, and wire rope.

7.6.4 Visually examine all sea chest suction grates for damage, missing hardware, obstruction, and debris.

7.6.5 Visually examine the entire underwater hull for fouling or damage. Record the location and extent, dimensions, etc. of any hull damage observed. This examination is also to include bilge keels, thrusters, rudders, shafting, seals, propellers, rope guards, rope cutters, transducers and appendages.

7.6.6 Submit photographs and a completed Enclosure 2.2.1 to the OMT REP detailing any observed damage or deficient conditions.

7.7 Maintain workspaces in a clean condition during and upon completion of the work requirements. Prevent contamination of any adjacent equipment and spaces.

7.8 Upon completion of all inspections and maintenance, return the propeller and sea chest suction grates to a ready for service condition.

7.9 Coordinate with ship’s force to tag-in all required systems and equipment.

7.10 Reports

7.10.1 When inspection, service and testing reveal any deficiency a condition report is to be submitted to the OMT REP with recommended repairs and parts required. Submit one electronic copy in Portable Document Format (PDF).

7.10.2 Submit a report that includes “as released” condition of the propeller(s), rudders, shaft seals, rope guard(s), rope cutters, transducers, thrusters, sea chest grates and underwater hull. Submit one electronic copy in Portable Document Format (PDF).

7.10.3 All reports and checklists are to be completed and signed by the person who carried out the inspection and maintenance work and countersigned by the Company’s representative.

7.11 Painting

7.11.1 Prepare, prime, paint and restore all new, soiled, and disturbed surfaces to match surrounding surfaces.

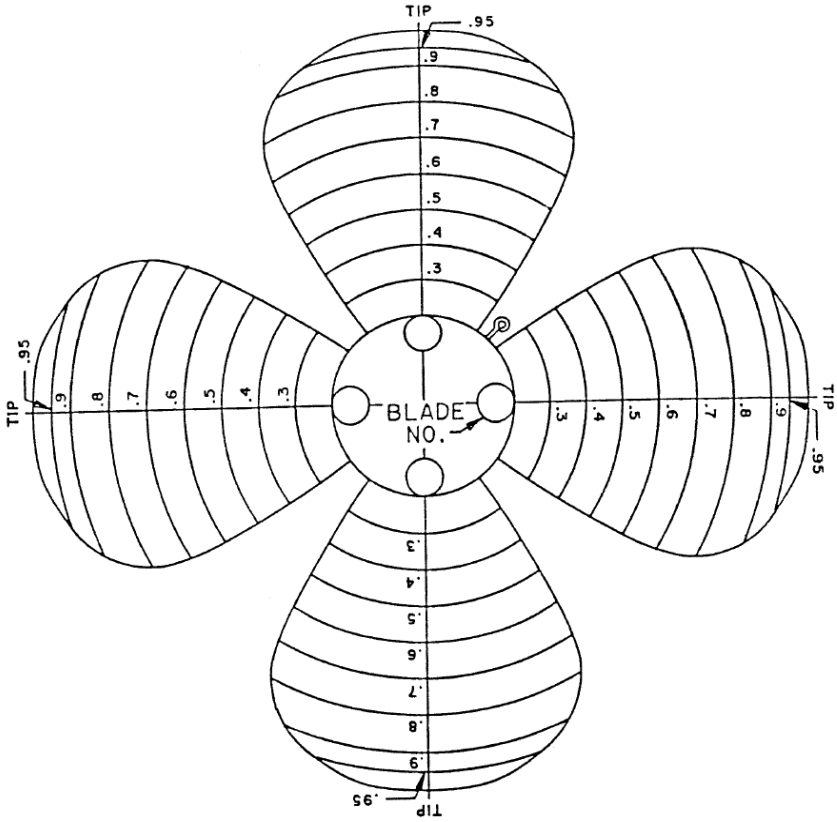
7.12 Manufacturer’s Representative: None

7.13 Preparation of Drawings

7.13.1 Provide electronic copies of all revised and/or updated technical documentation including drawings, technical manuals, service bulletins, parts lists, certification and test data associated with the work performed or parts supplied to the OMT REP.

8.0 GENERAL REQUIREMENTS: None additional

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS



☐ PRESSURE FACE ☐ SUCTION FACE

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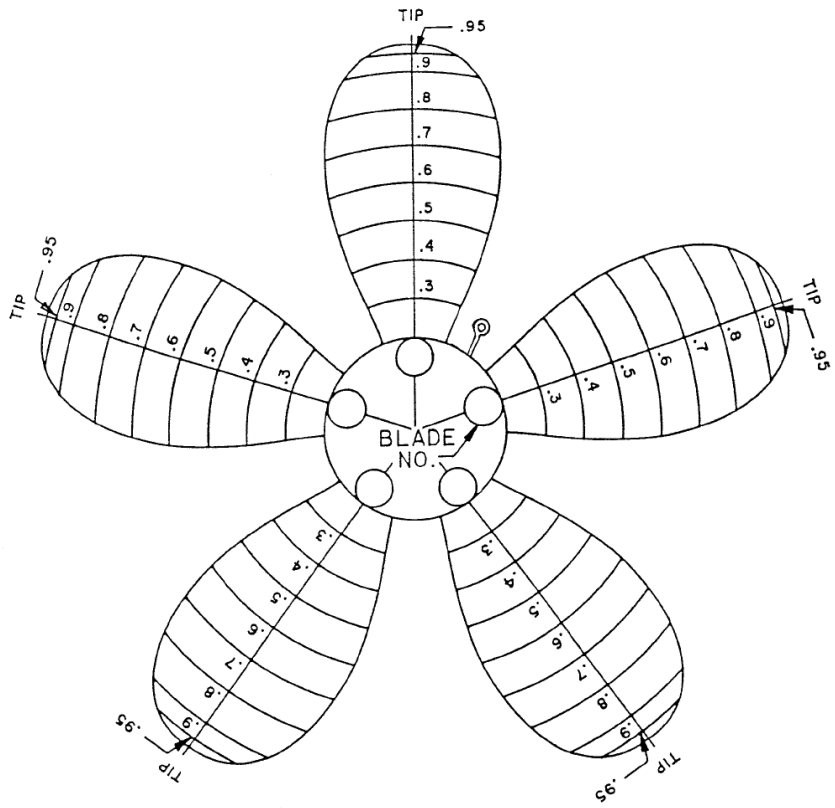
NAVSEA 9245/3 (3/16) FORM 8

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS



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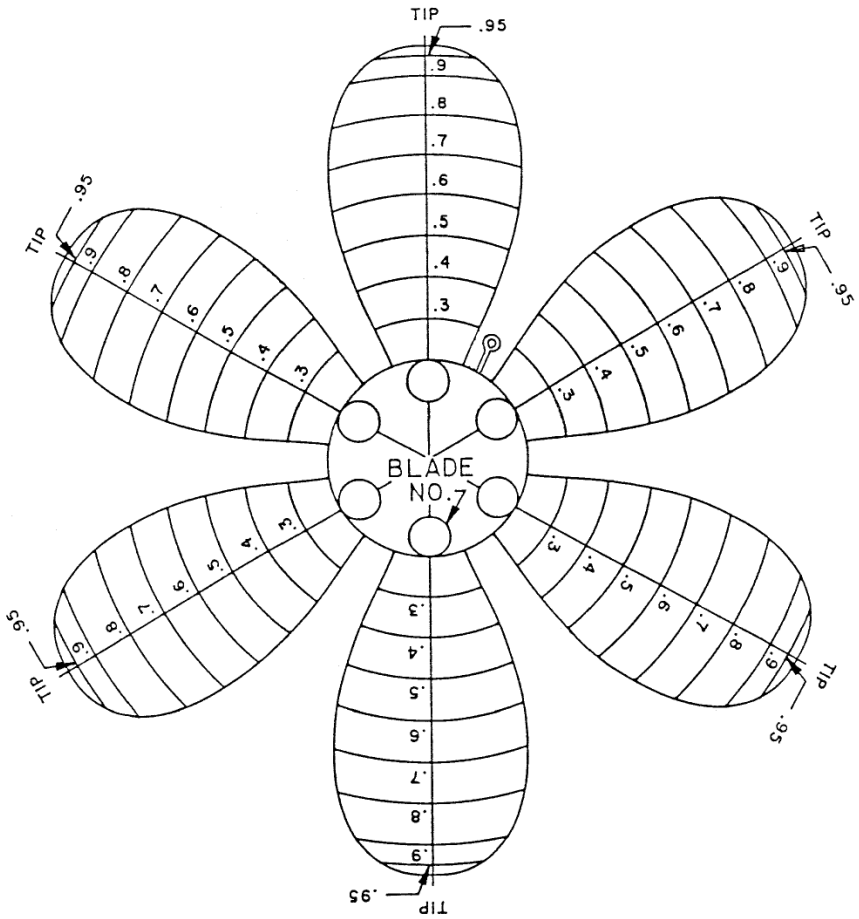
NAVSEA 9245/3 (3/16) FORM 9

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS



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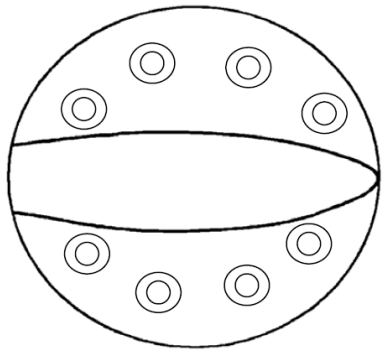
NAVSEA 9245/3 (3/16) FORM 10

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS

BLADE PALM



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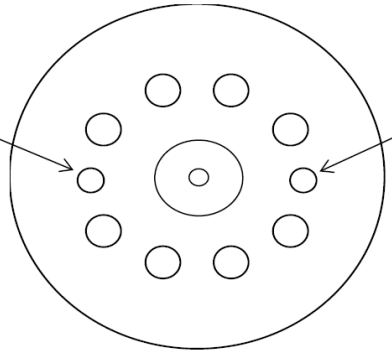

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BLADE NO. _____

HEAT NO. _____

☐ LEFT HAND ☐ RIGHT HAND

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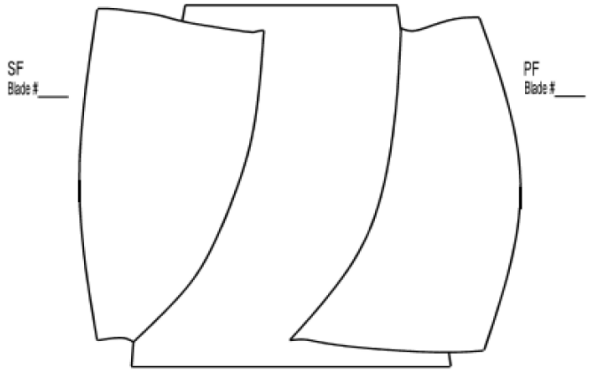
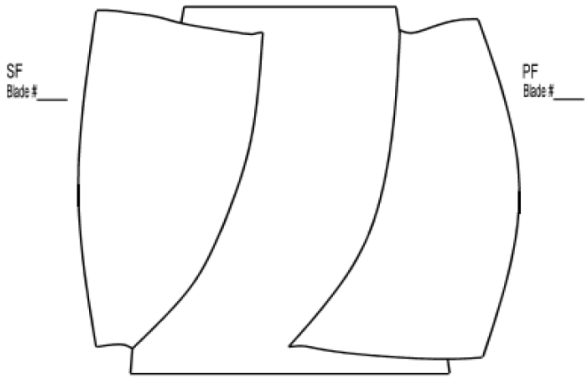
NAVSEA 9245/3 (3/16) FORM 27

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS

FILLET AREA & HUB O.D.
RH PROPELLER





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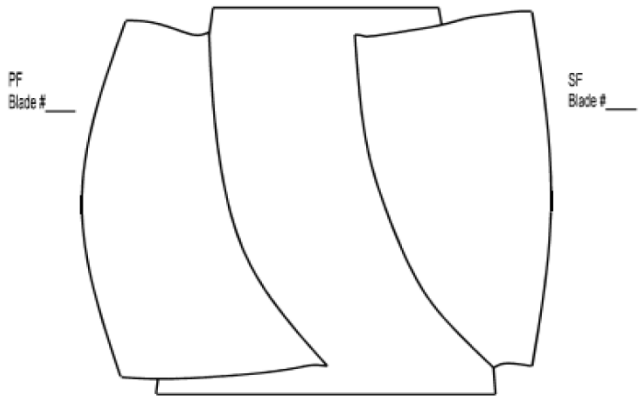
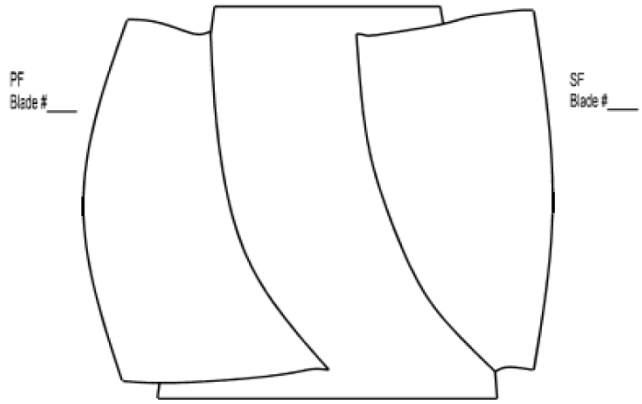
NAVSEA 9245/3 (3/16) FORM 31

ENCLOSURE 2.2.1 BLADE AND HUB INSPECTION FORMS

FILLET AREA & HUB O.D.
LH PROPELLER





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NAVSEA 9245/3 (3/16) FORM 32