

DEPARTMENT OF THE NAVY
HRMC (NMD)



SPECIFICATIONS FOR WORK TO BE ACCOMPLISHED

SPECIFICATION NUMBER: HRMC-018-23

INCLUDES ALL CHANGES THROUGH 2/10/2023

INDEX

ITEMS THAT ARE STRUCK OUT IN THIS INDEX DO NOT APPLY TO THIS CONTRACT.

CATEGORY I. FY-23 STANDARD ITEMS APPLICABLE TO THIS JOB ORDER WITHOUT FURTHER REFERENCE.

<u>ITEM_NO.</u>	<u>TITLE</u>	<u>CHANGE DATE</u>	<u>CHANGE</u>
009-01	General Criteria; accomplish	10/01/2021	Original
009-02	Environmental Compliance Report for Material Usage; accomplish	10/01/2019	Original
009-03	Toxic and Hazardous Substance; control	10/01/2019	Original
009-04	Quality Management System; provide	10/01/2021	Original
009-05	Temporary Access; accomplish	10/22/2021	CH-1
009-06	Maintaining Protection and Cleanliness from Non-Radioactive Operations; accomplish	03/06/2020	Original
009-07	Confined Space Entry, Certification, Fire Prevention and Housekeeping; accomplish	07/25/2022	CH-3
009-08	Shipboard Fire Protection and Fire Prevention; accomplish	10/01/2021	Original
009-10	Asbestos-Containing Material (ACM); control	10/01/2019	Original
009-18	Mine Warfare Ships Magnetic Material; control	10/01/2021	Original
009-19	Provisioning Technical Documentation (PTD); provide	10/01/2018	Original
009-20	Government Property; control	10/01/2021	Original
009-21	Logistics and Technical Data; provide	10/01/2018	Original
009-23	Interference; remove and install	10/01/2021	Original
009-24	Authorization, Control, Isolation, Blanking, Tagging, and Cleanliness; accomplish	10/01/2021	Original
009-34	Fire Protection of Unmanned Vessel at Contractor Facility; accomplish	10/01/2018	Original
009-39	Technical Manual Contract Requirement (TMCR) for a New Technical Manual for Commercial Equipment/Component; accomplish	10/01/2018	Original
009-40	Contractor Crane, Multi-Purpose Machine and Material Handling Equipment at a Naval Facility; provide	10/01/2021	Original
009-60	Schedule and Associated Reports for CNO Availabilities; provide and manage	10/01/2021	Original
009-61	Shipboard Use of Fluorocarbons; control	10/01/2021	Original
009-67	Integrated Total Ship Testing; manage	10/01/2021	Original
009-69	Heavy Weather/Mooring Plan; provide	10/01/2021	Original
009-70	Confined Space Entry, Certification, Fire Protection, Fire Prevention and Housekeeping for Unmanned Vessels; accomplish	10/01/2021	Original
009-72	Physical Security at a Private Contractor Facility; accomplish	10/01/2021	Original
009-73	Shipboard Electrical/Electronic Cable Procedure; inspect, test, install, remove, and repair	05/05/2022	CH-2
009-74	Occupational, Safety and Health Plan; accomplish	10/01/2021	Original
009-80	Ship Facilities; maintain	11/18/2016	Original
009-81	Compartment Closeout; accomplish	10/01/2019	Original
009-82	Installation of Equal Component Vice Specified Component; report	03/26/2018	Original
009-84	Threaded Fastener Requirements; accomplish	10/01/2021	Original
009-88	Collection, Holding and Transfer (CHT) and Motor Gasoline (MOGAS) Tanks, Spaces, and Piping, including Sewage or MOGAS-Contaminated Tanks, Spaces, and Piping; certify	10/22/2021	CH-1
009-93	Emergency Planning and Community Right-to-Know Act (EPCRA) and Pollution Prevention Act (PPA) Information; provide	03/06/2018	Original

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<u>ITEM NO.</u>	<u>TITLE</u>	<u>CHANGE DATE</u>	<u>CHANGE</u>
009-99	Ship Departure Report; provide	05/05/2022	CH-2
009-100	Ship's Stability; maintain	03/06/2018	Original
009-101	Ship Transit and Berthing; accomplish	03/26/2018	Original
009-106	Work Authorization Form Coordinator (WAFCOR); provide	10/01/2017	Original
009-109	Non-SUBSAFE Work on SUBSAFE-Certified Vessel; accomplish	10/01/2017	Original
009-110	Non-Nuclear Work on a Nuclear Vessel; accomplish	11/18/2016	Original
009-111	Schedule and Associated Reports for non-CNO Availabilities; provide and manage	10/01/2021	Original
009-117	Combat Systems, Light-Off Support; provide	10/01/2019	Original
009-118	CG Deck Loading; accomplish	07/18/2014	Original
009-120	Fact Finding and Critique of Unplanned Event; manage	10/01/2021	Original
009-122	Temporary Padeye; install and remove	10/22/2021	CH-1
009-125	Boats Less Than 65 Feet Long; accomplish	05/05/2022	CH-2
099-01PH	Waste Generated on Government Property, including Satellite Accumulation area (SAA), Managing and Disposing of Hazardous Waste (HW) and non-HW; accomplish	09/01/2021	Original
099-02PH	Dry Dock Requirement; accomplish	09/01/2021	Original
099-03PH	Additional Environmental Requirements; accomplish	09/01/2021	Original
099-04PH	Industrial Wastewater/Oily Wastewater Disposal; accomplish	09/01/2021	Original
099-08PH	Safety of Ship Requirement; provide	05/23/2022	CH-2
099-40PH	Additional Requirements for Contractor Cranes, Multi-Purpose machine, and Material Handling Equipment at Joint Base Pearl Harbor Hawaii; accomplish	09/28/2020	Original
099-69PH	Pier Laydown for Pearl Harbor Naval Shipyard & IMF (PHNSY & IMF) Availability; accomplish	08/11/2022	CH-3

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CATEGORY II. FY-23 STANDARD ITEMS WHICH MAY BE INVOKED IN THE WORK ITEMS OF THIS JOB ORDER.

<u>ITEM NO.</u>	<u>TITLE</u>	<u>CHANGE DATE</u>	<u>CHANGE</u>
009-09	Process Control Procedure (PCP); provide and accomplish	10/01/2021	Original
009-11	Insulation and Lagging; accomplish	10/01/2021	Original
009-12	Weld, Fabricate, and Inspect; accomplish	10/01/2021	Original
009-25	Structural Boundary Test; accomplish	10/01/2021	Original
009-32	Cleaning and Painting Requirements; accomplish	05/05/2022	CH-2
009-37	General Procedure for Woodwork; accomplish	10/01/2018	Original
009-71	Piping System; test	10/01/2021	Original
009-87	Chemical disinfection Procedures; accomplish	10/01/2021	Original
009-89	Contractor Furnished Anode Purchase and Inspection; accomplish	10/01/2021	Original
009-90	Technical Representative; provide	07/24/2019	Original
009-107	Piping System Cleanliness Restoration and Flushing (Non-Nuclear); accomplish	10/01/2021	Original

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<u>ITEM NO.</u>	<u>TITLE</u>
077-00-001	Hazardous Waste Produced on Naval Vessels; control
167-12-001	Miscellaneous Dive Support Boat Repairs; accomplish
233-10-001	Main Propulsion Diesel Engine and Support Equipment; replace
311-21-001	Generator and Compressor; replace
321-10-001	Ships Electrical System; replace
512-00-001	HVAC System; replace
533-11-001	Sanitary, Grey, and Potable Water System; inspect and test
555-21-001	Fire Suppression System; replace
561-11-001	Steering System; replace
583-11-001	Transfer of Boat Custody; accomplish
583-31-001	Sea Trial; accomplish
624-10-001	Dive Support Boat Windows; replace
631-20-001	Dive Support Boat; preserve
631-20-002	Structural Weld Repairs; accomplish
663-11-001	Dive Support Boat Canopy; replace
992-31-001	Deep Clean; accomplish
997-11-001	Drydocking, Undocking; accomplish

SHIP: ITEM NO: 077-00-001
COAR: PCN: SERV-L010
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Hazardous Waste Produced on Naval Vessels; control

1.2 Location of Work:

1.2.1 Throughout the Ship

1.3 Identification:

1.3.1 Not Applicable

2. REFERENCES:

2.1 Resource Conservation and Recovery Act (RCRA)

2.2 Federal Hazardous Materials Transportation Act, 49 U.S.C. 5103

2.3 Applicable Hazardous Waste Manifest Form

2.4 10 U.S.C. 7311

3. REQUIREMENTS:

3.1 Manage and dispose of all hazardous waste listed in 3.5 in accordance with 2.1 and 2.2.

3.1.1 When a Navy generator number is required by this Work Item, submit the original of 2.3 to the SUPERVISOR for assignment of Environmental Protection Agency (EPA) or delegated state environmental agency identification number.

3.1.2 Manage and transport for Navy disposal, Navy-generated hazardous waste listed in 3.5 in accordance with 2.1 and 2.2, as designated by the SUPERVISOR.

3.1.3 Submit one legible copy of 2.3 signed by the owner or operator of the disposal facility to the SUPERVISOR within 48 hours of receipt from owner or operator of disposal facility.

3.2 Complete documentation required by 2.1 and 2.2, using EPA or delegated state environmental agency identification number in accordance with 2.4.

3.2.1 Documentation related to hazardous waste generated solely by the physical actions of Ship's Force or Navy employees (termed Navy-Generated Hazardous Waste) on board the vessel shall only bear a generator identification number issued to the Navy pursuant to applicable law. The contractor shall obtain SUPERVISOR'S concurrence with the categorization of the waste as Navy-generated before completion of the manifest. The manifest prepared shall be presented to the SUPERVISOR for completion after the hazardous waste has been identified.

3.2.2 Documentation related to hazardous waste generated solely by the physical actions of contractor personnel (termed Contractor-Generated Hazardous Waste) shall bear a generator identification number issued to the contractor pursuant to applicable law. Regardless of the presence of other material in or on the shipboard systems or structure which may have qualified a waste stream as hazardous, where the contractor performs work on a system or

structure using materials (whether or not the use of such materials was specified by the Navy) which by themselves would cause the waste from such work to be a hazardous waste, documentation related to such waste shall only bear a generator number issued to the contractor.

3.2.3 Documentation related to hazardous waste generated by the combined physical actions of Navy and contractor personnel (termed Co-Generated Hazardous Waste) shall bear a generator identification number issued to the contractor pursuant to applicable law and shall also cite in the remarks block a generator identification number issued to the Navy pursuant to applicable law. When the contractor merely drains a system and such drainage creates hazardous waste or the contractor performs work on system or structure using materials which by themselves would not cause the waste from such work to be hazardous waste but such work nonetheless creates a hazardous waste, documentation related to such waste shall bear a generator identification number issued to the contractor and shall also cite in the remarks block a generator identification number issued to the Navy. The contractor shall sign the generator certification on the Uniform Hazardous Waste Manifest whenever use of the manifest is required for disposal. The contractor shall obtain SUPERVISOR's concurrence with the categorization of the wastes as co-generated before completion of the manifest. Manifests prepared shall be presented to the SUPERVISOR for completion after the hazardous waste has been identified.

3.3 If the contractor, while performing work at a Government facility, cannot obtain a separate generator identification number from the state in which the availability will be performed, the contractor shall notify the SUPERVISOR within three business days of receipt of written notification by the state. After obtaining approval of the SUPERVISOR, the contractor shall use the Navy site generator identification number and insert in the remarks block the contractor generator identification number issued for the site where his main facilities are located.

3.4 If, for availabilities at a contractor-owned or controlled facility, the Navy cannot obtain a separate generator identification number for use at a contractor facility, the Navy shall notify the contractor within three business days of receipt of notification by the state. The contractor shall dispose of hazardous waste in accordance with 2.1, 2.2, and 3.2.3.

3.5 Hazardous waste, as identified in 2.1, expected to be produced during performance of this Job Order:

TYPE	AMOUNT		
	NAVY	CO-GENERATED	CONTRACTOR
Acid Solutions (may include spent sulfamic, citric, chromic, nitric, sulfuric, hydrochloric, etc.)	_____	_____	_____
Ethylene Glycol (Antifreeze)	_____	_____	_____
Sodium Hydroxide	_____	_____	_____
Cleaning Solvents	_____	_____	_____

SHIP:

Sodium Phosphates (Tri, Bi, or Mono)	_____	_____	_____
Fluorocarbons	_____	_____	_____
Morpholine	_____	_____	_____
Sodium Chromates	_____	_____	_____
Hydrazine	_____	_____	_____
Methyl Ethyl Ketone	_____	_____	_____
Spent Abrasive Blast Material (contaminated with a known hazardous waste)	_____	_____	_____
Trichloroethane	_____	_____	_____
Miscellaneous Chemicals (Rust Preventative)	_____	_____	_____
Miscellaneous Chemicals (Corrosive)	_____	_____	_____
Miscellaneous Chemicals (TCLP Toxic)	_____	_____	_____
Miscellaneous Chemicals (Reactive)	_____	_____	_____
Oil (Synthetic)	_____	_____	_____
Paints (Enamel, Latex, Epoxy, thinners, oil based, rubber paint, non-skid, lacquer, remover, varnishes)	_____	_____	_____
Paints (May include lead, cadmium, or chrome)	_____	_____	_____
Paint Strippers (phenols, lead, chromium)	_____	_____	_____
Sludges (Contaminated with a known hazardous waste)	_____	_____	_____
Wool Felt (contaminated with chromium and PCB's)	_____	_____	_____
Lube/Fuel Oil Soaked Rags	_____	_____	_____
Paint/Flakes (Pressure Washing Ext Hull Surfaces)	_____	_____	_____
Fuel Oil (Residual)	_____	_____	_____
Bilge Water	_____	_____	_____

SHIP:

Oil/Water	_____	_____	_____
AFFF/Water	_____	_____	_____
MEK Contaminated Rags	_____	_____	_____

3.5.1 Provide zero dollars for managing and disposing of all hazardous waste listed in 3.5. Total cost greater or less than above dollar amount will be the subject of an equitable adjustment.

3.6 Submit one legible copy, in approved transferrable media of a report identifying type, amount, and disposal cost of waste listed in 3.5 that was removed during the performance of this Job Order to the SUPERVISOR.

3.6.1 The report shall include analysis or other method used to identify the waste and state whether each listed waste was hazardous (with generator assignment), non-hazardous, or did not exist.

3.6.1.1 Chemical analysis shall be accomplished by laboratories with state or EPA approved quality assurance programs.

3.6.2 The contractor shall make an effort to minimize hazardous waste generation by reducing the volume or toxicity by neutralizing, recycling, or otherwise removing it from the requirements of Subtitle C of 2.1 and include a description of such efforts in the report.

3.7 Nothing contained in this Work Item shall relieve the contractor from complying with applicable federal, state, and local laws, codes, ordinances, and regulations, including the obtaining of licenses and permits in connection with hazardous waste handling and disposal in the performance of this contract.

4. NOTES:

4.1 The waste listed in 3.5 is based on the best information available at the time of preparation of the solicitation. Hazardous waste generated during the actual performance of the work may vary in type or amount from waste listed in 3.5 which may result in renegotiation for credit or increase pursuant to Paragraph (b) of 2.4. The contractor is expected to use best management practice to identify and dispose of all hazardous waste. Some of the substances listed in 3.5 may be neutralized, recycled, or otherwise removed from the requirements of Subtitle C of 2.1. Inclusion of these substances in the waste listed in 3.5 does not preclude the contractor from taking action consistent with 2.1 to reduce or eliminate the hazardous constituents of any waste required to be disposed of under the contract in accordance with 2.2. Processes that add hazardous constituents to the bilges may require that bilge water be disposed of as a hazardous waste.

4.1.1 The types and amounts of wastes listed in 3.5 are estimates of waste to be disposed of under this contract as required by 2.4. They are not estimates of the amount of the work involved in generating that waste. The work requirements of each individual Work Item specify the actual work to be accomplished.

4.2 Hazardous wastes are determined by one or more of the following methods:

4.2.1 Chemical analysis which shows that the material characteristics of ignitability, corrosivity, reactivity, and/or toxicity (Toxicity Characteristic Leachate Procedure - TCLP) exceed the limits for that material in 40 CFR 261.20 Subpart C.

SHIP:

4.2.2 Reference to a Material Safety Data Sheet (MSDS), or

4.2.3 Applying knowledge of the hazardous characteristics of the waste in light of the materials or the process used.

4.3 Asbestos, bilge water, oil/water including sludge, debris and other contaminants, sludge which includes solids and sludge from ballast tanks, CHT tanks, voids, oily waste tanks, fuel ballast tanks, fuel oil tanks, skegs (West coast), PCB's (Maryland), etc., apply only in those states listing them as hazardous waste. When an availability is to be performed in a state where these items are hazardous waste, an estimate of the amount to be generated shall be included in 3.5.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 167-12-001
COAR: PCN: SERV-L023
SERV-L022
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Miscellaneous Dive Support Boat Repairs; accomplish

1.2 Location of Work:

1.2.1 Throughout the Vessel

1.2.1.1 Aft Deck

1.2.1.2 Galley/Forward Compartment

1.2.1.3 Foredeck

1.2.1.4 Dive/Main Cabin

1.2.1.5 Tank Room

1.2.1.6 Bilge Room

1.3 Identification:

1.3.1 Quantity (2 EA), Engine Access Hatch

1.3.2 Quantity (3 EA), Access Hatch, Engine Room, Tank Room, and Lazarette, 24" x 24", Brand: Freeman, Model: 2424H-A

1.3.3 Quantity (One EA), Watertight Access Hatch, Anchor Chain locker Access, Lift-out, 15" x 24" Oval, Brand: Freeman, Model: 2433-0002

1.3.4 Quantity (One EA), Access Hatch, Dive/Main Cabin Sling Ports, Brand: Baier, Model: BFHR14

1.3.5 Quantity (One EA), Access Hatch, Galley/Forward Compartment Emergency Escape, Quick-acting, 18" DIA, Brand: Freeman, Model: 2441-0002

1.3.6 Quantity (2 EA), Access Hatch, Dive/Main Cabin Lifting Sling Access, 18" DIA, Brand: Baier, Model: BFHR18

1.3.7 Quantity (One EA), Access Hatch, Lift-out, Aluminum, Dive/Main Cabin Top Lifting Sling Access, 18" DIA, Brand: Baier, Model: BFHR18

1.3.8 Quantity (One EA), Soft Patch, Dive/Main Cabin Top Access

1.3.9 Quantity (One EA), Soft Patch, Tank Room

1.3.10 Quantity (One EA), Access Hatch, Bilge Room Pump, 8" DIA, Aluminum

1.3.11 Quantity (One EA), Access Hatch, Galley/Forward Compartment Bilge Pump Access, 8" DIA, Aluminum

1.3.12 Quantity (2 EA) Lifelines, 182" L, SS w/ Quick Disconnect Ends

1.3.13 Quantity (2 EA) Lifelines, 92" L, SS w/ Quick Disconnect Ends

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

SHIP:

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.4 S9AA0-AB-GOS-010, General Specification For Overhaul of Surface Ships

3. REQUIREMENTS:

3.1 Clean, test, and inspect equipment listed in 1.3 and located in 1.2, including each knife edge and seal retainer for structural integrity, deterioration, areas of damage or distortion, proper alignment and fairing to ship's structure.

3.1.1 Cycle each hatch twice (open and close) and check for proper seating, binding or erratic operation.

3.1.2 Submit one legible copy, in hard copy or electronic media, of a report listing results of the requirements of 3.1 and 3.1.1 to the SUPERVISOR.

3.2 Remove, repair, and install 2 EA Engine Access Hatch, listed in 1.3.1, utilizing 2.2 , 2.3, and report generated in 3.1.2 for guidance.

3.2.1 Remove and install new gasket and knife edge gasket from each seal retainer.

3.2.2 Install new each fastener removed in 3.2, ensuring they conform to MIL-DTL-1222, Type One, Grade 316.

3.2.3 Clean internal and external parts exposed by removals and disassembly free of oil, grease, dirt, loose paint, and rust, leaving no residue or injurious effects.

3.2.4 Remove and replace new 2 EA Engine Hatch latch mechanism of equipment listed in 1.3.1.

3.3 Remove, repair, and install the equipment listed in 1.3.2 through 1.3.11, located in 1.2.1, utilizing 2.2 , 2.3, and report generated in 3.1.2 for guidance.

3.3.1 Remove and install new gasket from each seal retainer.

3.3.1.1 Install new each fastener removed in 3.3, ensuring they conform to MIL-DTL-1222, Type One, Grade 316.

3.4 Adjust each operating mechanism for positive dogging action.

3.5 Align equipment listed in 1.3 to insure smooth and even opening and closing.

3.5.1 Adjust each hinge, latch, and safety release, to ensure an airtight seal for each hatch.

(V) (G) "OPERATIONAL TEST"

3.6 Cycle the equipment installed in 3.2 and 3.3, twice (open and close) upon completion of repairs and check for proper seating, binding or erratic operation. Allowable binding or sticking: none.

3.6.1 Accomplish adjustments and alignment to correct discrepancies resulting from 3.6.

(V) (G) "CHALK TEST"

SHIP:

3.7 Accomplish the requirements of 009-25 of 2.1 for a chalk test of each structural closure repaired in 3.2 and 3.3.

3.7.1 The chalk imprint shall be in the center 3/5 of the width of the gasket with 100 percent continuous contact of knife edge to gasket.

3.7.2 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.7 to the SUPERVISOR.

(V) (G) "WATER HOSE TEST"

3.8 Accomplish the requirements of 009-25 of 2.1 for fresh water hose test on the equipment installed in 3.2 and 3.3. Allowable leakage: none.

3.8.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.8 to the SUPERVISOR.

3.9 Template from existing, remove and install new each main deck life line, including new toggle pins, listed in 1.3.12 and 1.3.13, located in 1.2.1, utilizing 2.2 and 2.3 as guidance.

3.9.1 Clean and inspect each stanchion and stanchion base socket, located in 1.2.1, for corrosion, cracking and deformity.

3.9.1.1 Submit one legible copy, in approved transferrable media, of a report listing the results of the requirements of 3.9.1 to the SUPERVISOR.

(V) (G) "STATIC LOAD TEST"

3.10 Accomplish a static load test on the lifelines installed in 3.3 and stanchions, using paragraph 612.i of 2.4 as guidance.

3.10.1 All new base sockets and stanchions shall be hammer tested for soundness and strength per 2.4.

3.10.2 Accomplish a static load test of 100 percent of the stanchions and lifelines assemblies installed in 3.9. A test load of 300 pounds shall be applied horizontally outboard at the top of the stanchion and perpendicular (90 degrees) to the railing and held for ten minutes. Remove the test load and inspect the lifeline rails, stanchions and surrounding structure for evidence of damage or permanent deformation. Allowable damage: None.

3.11 Template from existing, remove, and install new, each label plate located in 1.2, to include but not limited to each Engine Gauge, Boat Registry, Boat-Alt, ISEA Data Plate, and Lifting Data Plate. Utilize 2.2 and 2.3 as guidance.

3.12 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

SHIP:

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 233-10-001
COAR: PCN: SERV-L021
SERV-L011
SERV-L013
CMP: NONE
PLANNER:

1. SCOPE:

- 1.1 Title: Main Propulsion Diesel Engine and Support Equipment; replace
- 1.2 Location of Work:
 - 1.2.1 Engine Compartment
- 1.3 Identification:
 - 1.3.1 Quantity (2 EA) Port and Starboard Diesel Engines, V6, 450 HP, Model No. QSM11 455, Mfr: Cummins
 - 1.3.2 Quantity (2 EA) Port and Starboard Diesel Engine Transmission, Manufacturer: ZF, Model: ZF325-1A, Ratio: (2:24:1)
 - 1.3.3 Quantity (2 EA) Fuel Filter w/ water probe, 75/1000 Max, Manufacturer: Racor
 - 1.3.4 Quantity (2 EA) Fuel Filter w/ water probe, Manufacturer: Racor, RAC 500MA
 - 1.3.5 Quantity (2 EA): Propeller Shaft, 2.5" DIA, 84" L, Aquamet 22, V.M. Dafoe
 - 1.3.6 Quantity (2 EA): Cutlass Bearing, 2.5" Bore, 3.125" OD, 10" LG, Non-metallic
 - 1.3.7 Quantity (2 EA): PYI Shaft Seal, Model: PPS 02-212-400
 - 1.3.8 Quantity (2 EA): Propeller, 2.5" Bore, 0.70 DAR, RH & LH, 4 Blade, ZF Marine, Model: ZF 32 x 32
 - 1.3.9 Quantity (2 EA): Propulsion Shaft Coupling, Steel, 2.5" Bore, 6.693 OD, ZF Marine, Model: ZF 325-1A Style
 - 1.3.10 Quantity (2 EA): Zinc, Shaft, 4.25" OD x 3.75" LG, Model: CMX11
 - 1.3.11 Quantity (2 EA): Strut Hub w/ Non-metallic Marine Bearing, 3.125" OD x 2.5" ID x 10" L, V.M. Dafoe

2. REFERENCES:

- 2.1 Standard Items, (FY-23, CH-3)
- 2.2 Cummins Marine Engine Manual, Cummings 6 cylinder QSM11M Marine Engine Manual
- 2.3 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings
- 2.4 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002
- 2.5 S9200-A2-MMA-010, Main Propulsion System Alignment Manual for Craft of the U.S. Navy
- 2.6 N/S 803-921865 Rev R, Cathodic Protection Hull Zinc Anodes
- 2.7 T9074-AS-GIB-010/271, Requirements for Non-destructive Testing

SHIP:

Methods

2.8 MIL-STD-2035, Non-destructive Testing Acceptance Criteria

3. REQUIREMENTS:

3.1 In accordance with the requirements of 009-90 of 2.1, provide the services of a qualified Cummins Technical Representative to accomplish the services to install the equipment listed in 1.3.1 and 1.3.2, using 2.2 through 2.4 as guidance.

3.2 Mark, disconnect, and remove the equipment listed in 1.3, using 2.2 through 2.4 for guidance.

3.2.1 Remove and properly dispose of fluids.

3.2.2 Upon completion of removals, clean and wipe down bilge area of engine compartment to remove oil, grease, fluids, rubbish, corrosion, and any other foreign matter. Bilge cleanliness shall be maintained throughout duration of availability.

3.3 Accomplish a visual inspection of each diesel engine foundation for cracks, damage or deterioration, using 2.3 through 2.4 as guidance.

3.3.1 Submit one legible copy, in hard copy or electronic media, of a report listing the results of foundation inspection in 3.3, within three working days after diesel engine removals, to the SUPERVISOR.

3.4 Procure new equipment listed in 1.3 and associated components with the exception of 1.3.5 and 1.3.8.

3.4.1 Equipment listed in 1.3.1 shall have been dynamometer tested and certified by an authorized OEM repair facility.

3.4.1.1 Submit one legible copy, in hard copy or electronic media, of a report containing dynamometer readings and certification documents, to the SUPERVISOR.

3.4.2 Ensure equipment listed in 1.3.1 is 24V and ordered via engine serial number to match existing engine configuration and options, including each new Cummins drop-in gauge panel, each gauge sending unit/device, each engine and marine gear sensor, alarm, and wiring.

3.4.3 Procure new and install each heat exchanger, alternator, starter and fuel pump, if not included with diesel engine.

3.4.4 Ensure Equipment listed in 1.3.1 includes new aluminum center sump oil pan, extended dipstick, solenoid bracket, all ancillary equipment, including but not limited to belt, fluid, filters, started, alternator, harnesses, mounts, engine mounts P/N 3964883, and sensors.

3.4.5 Ensure procured equipment listed in 1.3.2 is ordered via serial number to match existing configuration and ratio.

(V) (G) " (I) (G) "VERIFY NEW EQUIPMENT" "

3.4.6 Accomplish a visual inspection of each new equipment listed in 1.3.1 for general condition and completeness. New diesel engines shall have identical attached and associated components and accessories as on existing engine when new.

3.4.6.1 Submit one legible copy, in hard copy or electronic media, of a report listing the results of the requirements of

SHIP:

3.4.6 to the SUPERVISOR.

3.4.6.2 Notify SUPERVISOR immediately of any discrepancies that would impact scheduled completion of the requirements of this Work Item.

3.5 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.4.

3.6 Install new each diesel engine listed in 1.3.1, including each new fuel hoses (Fill, Vent, supply, and return), all associated CRES 316 SS valves and hardware, Cummins drop-in gauge panel, each gauge sending unit/device, each engine and marine gear sensor, alarm, and wiring, in accordance with manufacturer's specification, utilizing 2.2 through 2.4 for guidance.

3.6.1 Clean and inspect existing parts requiring reuse if not provided with new equipment.

3.6.2 Replace with new, fasteners that are damaged, defective, worn or of improper material.

3.6.3 Utilize new gaskets, seals, and o-rings.

3.6.4 Verify installation of new zinc anodes in heat exchanger.

3.6.5 All engine fluids shall be filled/topped off upon installation.

3.6.6 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.6.

3.7 Visually inspect and install new equipment listed in 1.3.3 and 1.3.4, PORT, STBD, and Generator Racor filter housing assemblies, filters, gaskets, and associated hardware in accordance with manufacturer's specification, utilizing 2.2 through 2.4 for guidance.

3.8 Procure and install new, air, oil, and fuel filters. New filters provided with new engines shall not be replaced.

3.8.1 Remove, clean, visually inspect and reinstall each air intake housing and screen.

3.9 Template from existing and install new, each propulsion flexible rubber hose (except those provided with new diesel engine), utilizing each new stainless steel clamp and fastener.

3.9.1 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.9.

3.10 Template from existing and install new, each Engine Exhaust hose and lagging, utilizing new CRES 316 SS clamps, fasteners, associated hardware, and attachment devices.

3.10.1 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.10.

3.11 Remove and install new equipment listed in 1.3.2, including each Engine Transmission Flex Plate and each Engine Transmission Adaptor Plate, in accordance with manufacture's specification. Use 2.2 through 2.4 as guidance.

3.11.1 Ensure each transmission dipstick is located inboard.

3.11.2 Template from existing and install new, each Marine Gear Cooler hose and each fitting to include 20' -10 hose with (8) CRES

SHIP:

316 SS reusable fitting, and (8) CRES 316 SS fitting for transmission and cooler.

3.11.2.1 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.11.2.

3.12 Remove and install new each CRES 316 90- degree fitting, raw water hose, associated clamp, attachment device, securing hardware, and fitting necessary to complete Propulsion system, in accordance with manufacture's specification. Utilize 2.2 through 2.4 as guidance.

3.12.1 Accomplish the requirements of 009-71 for each new piping, hose, and fitting procured in 3.12.

(V) (G) "(I) (G) "VERIFY ALIGNMENT""

3.13 Verify coupling alignment waterborne for each diesel engine, utilizing 2.2 through 2.5 for guidance. Final alignment shall meet the requirements of 2.5 and OEM recommendations.

3.13.1 Allow craft's hull to set for a minimum of 8 hours in the water prior to taking final alignment readings.

3.13.2 Submit one legible copy, in hard copy or electronic media, of a report containing final alignment readings, to the SUPERVISOR.

3.13.3 Upon satisfactory verification of alignment, drill and ream dowel pin holes for diesel engine mounting to foundation, and install new dowel pins.

(V) (G) "OPERATIONAL TEST"

3.14 Accomplish an Operational Test of each newly installed component listed in 1.3.1. Testing shall be in accordance with manufacturer's instruction, utilizing 2.3 and 2.4 as guidance.

3.14.1 Fill and verify engine and transmission fluids (lubricating oil, hydraulic oil, coolant, etc.) are at proper operating levels prior to start-up of each diesel engine. Recheck and top-off fluid levels upon completion of all testing.

3.14.2 Set and adjust engine in accordance with 2.2 and OEM recommendations.

3.14.3 Any abnormal vibration or noise shall be cause for rejection.

3.14.4 Monitor all oil, water, and fuel temperatures and pressures. Results shall be within allowable OEM specifications.

3.14.5 Allowable external leakage of fluids at new and disturbed joints: None.

3.14.6 Submit one legible copy, in hard copy or electronic media, of a report listing the results of operational test accomplished in 3.14 to the SUPERVISOR, no later than 48 hours after completion.

3.15 Clean, and visually inspect, equipment listed in 1.3.5 through 1.3.11.

3.15.1 Visually inspect each sealing area, bearing surface, keyway and threaded area for pits, defects, damage and deterioration.

(V) (G) "SHAFT RUNOUT"

3.15.2 Accomplish a Shaft Runout inspection, ensuring each shaft,

SHIP:

listed in 1.3.5, total indicator reading (TIR), including tapers, is within 0.002 inches. Utilize 2.5 as guidance.

3.15.3 Clean and visually inspect each propeller, propeller nut and lock nut for cracks, damage, and deterioration.

3.15.3.1 Check and correct blade pitch and static balance of each propeller listed in 1.3.8.

(I) (G) "NDT (PT) INSPECTION"

3.15.3.2 Accomplish a liquid penetrant inspection of each propeller for cracks and discontinuities in accordance with 2.7, utilizing 2.8 for accept/reject criteria.

(V) (G) "BLUE-CHECK PROPELLER"

3.15.3.3 Accomplish bluing check of new shaft taper contact to each propeller. Ensure a minimum of 75 percent bluing contact pattern and that pattern is uniform and evenly distributed.

(V) (G) "BLUE-CHECK COUPLING"

3.15.3.4 Accomplish bluing check of each shaft taper contact to coupling. Ensure a minimum of 70 percent bluing contact pattern and that pattern is uniform and evenly distributed.

3.15.3.5 Fair-in and straighten each minor bend.

3.15.4 Submit one legible copy, in hard copy or electronic media, of a report listing the results of each inspection accomplished in 3.15.2 through 3.15.4.4 to the SUPERVISOR, no later than 48 hours after completion.

3.16 Install equipment listed in 1.3.5 through 1.3.11, including but not limited to each water seal, anode, seal, bushing, O-ring, shaft packing core, washer special tab lock, seal scraper, marine bearing, shaft sleeve, wear ring, shaft thrust bearing, seal sleeve, bearing carrier, steering deflector pivot pin, all hoses, and all hydraulic valves, coupling shaft and associated hardware bolts, lock nuts and washers, located in 1.2, in accordance with manufacture's specification, utilizing 2.3 through 2.8 as guidance. New equipment shall be identical in size, shape, composition and design to existing when new.

3.16.1 Remove each high spot, burr, abrasions, nicks, corrosion and foreign matter from each mating surface exposed by disassembly and removal.

3.17 Remove each existing bearing from each strut and stern tube.

3.17.1 Chemically and/or mechanically clean each internal surface of each strut and stern tube of marine growth and foreign matter.

3.17.2 Visually inspect each internal surface for damage, deterioration, and defects.

3.18 Assemble each shaft, coupling, shaft seal and propeller. Utilize 2.3 and 2.5 for guidance.

(V) (G) "BEARING CLEARANCES - AS RELEASED"

3.18.1 Measure and record each new shaft journal to each new strut bearing and each new stern tube bearing clearance. Each measurement

SHIP:

shall be taken 4 inches deep on each end of the strut and stern tube. Each measurement shall be taken 90 degrees apart on top, bottom, port and starboard. "As released" clearances shall meet manufacturer's recommendations.

3.18.1.1 Submit one legible copy, in hard copy or electronic media, of a report listing the results of 3.18.1.

(V) (G) "COUPLING FIT-UP AND ALIGNMENT"

3.19 Install, torque and align each new coupling to each shaft listed in 1.3.5 and 1.3.9, in accordance with OEM recommendations. Take and record coupling alignment "as released" readings. Final coupling face alignment shall be within 0.004 inch total indicator reading (TIR) or per OEM specifications.

3.19.1 Allow the craft's hull to set for at least 8 hours in the water prior to taking final alignment readings.

3.19.2 Correct any misalignment found in 3.19 by minimal movement of engine/transmission, installation of stainless steel shims, dowel pins and/or fitted bolts.

3.19.3 Submit one legible copy, in hard copy or electronic media, of a report listing the results of the requirements of 3.19.

3.20 Replace with new, each fastener that are worn, damaged, defective, or of improper material. Replace with new, each lock washer and self-locking nut. Replace with new, each pin, key, cotter pin and grease fitting. Ensure new and existing material conforms to each material requirement, utilizing 2.2 and 2.6 as guidance.

3.21 Template from existing, procure and install new all zinc anodes throughout the boat, including each new associated stud, lock washer and locknut, in accordance with 2.6, using 2.3 and 2.4 for guidance.

3.21.1 Zinc hardware shall be CRES 316.

3.21.2 Coordinate installation of each new zinc anode with underwater hull preservation work spec, 631-20-001. Each surface covered by each new zinc anode shall be preserved with the same underwater hull coating system prior to installation of each new zinc anode.

3.21.3 Accomplish the requirements of 009-89 for each anode purchase and inspection.

(V) (G) "ANODE RESISTANCE TEST"

3.21.4 Accomplish electric resistance test in accordance with General Note 4 of 2.6.

3.21.5 Submit one legible copy, in hard copy or electronic media, of a report listing the results of the requirements of 3.20.2.

(V) (G) "OPERATIONAL TEST - UNDERWAY TRIAL"

3.22 Test propulsion train throughout all ranges, from low to full power. No binding, irregular or excessive noise or vibration allowed.

3.22.1 Submit one legible copy, in hard copy or electronic media, of a report listing the results of 3.21.

3.23 Remove and install new each Seacock with CRES 316 90 degree

SHIP:

fitting, raw water hose, associated clamps, attachment device, securing hardware, and each missing fitting, utilizing 2.3 and 2.4 as guidance.

3.23.1 Accomplish the requirements of 009-71 for each new associated hose and fitting installed in 3.23.

3.24 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

3.25 Assemble complete, removed diesel engines, including all attached accessories, and turn in to supplying vendor for core CREDIT, within 5 working days of operational test.

3.25.1 Submit one legible copy, in hard copy or electronic media, of a report containing a copy of the receipt verifying turn-in of existing equipment and core CREDIT by supplying vendor.

4. NOTES:

4.1 Contractor shall be responsible for obtaining copies of OEM data specifications and recommendations required for Installation and operational testing of diesel engines.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 311-21-001
COAR: PCN: SERV-L030
SERV-L012
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Generator and Compressor; replace

1.2 Location of Work:

1.2.1 Engine Room Compartment

1.3 Identification:

1.3.1 Quantity (One EA): Generator, Make: Northern Lights 25 kW, Model M864W3.1, 277/480V, 60Hz, P/N: 9442-51223.

1.3.2 Quantity (2 EA): Strainer, 2.5" including 304 SS Basket, Bronze, Make: Groco, Model: ARG-2500-S.

1.3.3 Quantity (One EA): Strainer, 1.5" including 304 SS Basket, Bronze, Make: Groco, Model: ARG-1500-S.

1.3.4 Quantity (One EA): Compressor, Air, Make: Dewalt, Model: D55168

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.3 OM864W, Northern Lights Operator's Manual

2.4 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.5 300-5107858 Rev A, Standard Electrical Installation Requirements and Nomenclature

3. REQUIREMENTS:

3.1 Accomplish the requirements of 009-90 of 2.1, for the inspection and testing service of equipment listed in 1.3.1, located in 1.2, using Manufactures Service Manual, 2.2 through 2.4 for guidance.

3.2 Provide the services of a qualified Northern Lights technical representative to remove existing, inspect, install, and test new equipment listed in 1.3.1 through 1.3.3, in accordance with 2.5 and manufacturer's instructions, utilizing 2.2 through 2.4 as guidance.

3.2.1 Remove existing, procure new , clean, visually inspect, and install new equipment listed in 1.3.1 through 1.3.3, including but not limited to the following, in accordance with manufacturer's specifications, using 2.2 through 2.4 for guidance:

3.2.1.1 Inspect and check V-belt and tension, adjust as needed.

3.2.1.2 Load test and service the associated batteries currently to assure the proper working condition.

3.2.1.3 Clean and inspect air cleaner, including associated hoses, replace if required.

3.2.1.4 Inspect/check injection pump settings, maximum speed,

SHIP:

exhaust smoke and for defects.

3.2.1.5 Check valve clearances, adjust if required.

3.2.1.6 Inspect turbocharger air, lubrication and cooling lines for leaks, replace hoses, lines and gaskets if required.

3.2.1.7 Inspect and test injectors.

3.2.1.8 Inspect all zinc electrodes for wear, allowable lost 50 percent, replace if required.

3.2.1.9 Clean, inspect and fill cooling system, check for signs of leakage. Allowable leakage: None.

3.2.1.10 Inspect heat exchangers. Fill cooling system and check for leaks. Allowable leakage: None.

3.2.1.11 Inspect/check generator starter and alternator.

3.2.1.12 Clean, test, and inspect each piping, hose and fitting associated with each PORT and STBD generator seawater strainer.

3.2.1.13 Accomplish the requirements of 009-71 for each associated hose and fitting.

3.2.1.14 Submit one legible copy, in hard copy or electronic media, of a report listing the results of inspection 3.2.1 to the SUPERVISOR.

3.3 Remove and install new equipment listed in 1.3.4, located in 1.2.1, in accordance with manufacturer's specifications, utilizing 2.2 and 2.4 as guidance.

3.4 Remove and commercially dispose of system fluids in accordance with federal, state, and local laws, codes, ordinances, and regulations.

(Q) "OPERATIONAL TEST"

3.5 Coordinate with Shipforce personnel and accomplish an operational test of the equipment listed in 1.3, to verify proper operation. Test shall be at a minimum of 30 continuous minutes of run time. Operational parameters: Normal. No external leakage permitted. No unusual noise, vibration, or heat build up permitted.

3.5.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing results of the requirements of 3.5 to the SUPERVISOR.

4. NOTES:

4.1 Contractor shall be responsible for obtaining copies of OEM data specifications and recommendations required for Installation and operational testing of Generator and Compressor.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

SHIP:

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 321-10-001
COAR: PCN: SERV-L014
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Ships Electrical System; replace

1.2 Location of Work:

1.2.1 Throughout Vessel

1.2.1.1 Diver/Main Cabin

1.2.1.2 Pilot House

1.2.1.3 Aft Deck

1.2.1.4 Forward Cabin

1.2.1.5 Lazzerette

1.2.1.6 Engine Room

1.3 Identification:

1.3.1 Quantity (One EA): Searchlight, hand-held, GoLight Inc.,
Model: Profiler II

1.3.2 Quantity (One EA): Searchlight, Jabsco, Model: 63042-0024

1.3.3 Quantity (One EA): VHF Radio, Standard Horizon, Model: Matrix-
2000

1.3.4 Quantity (One EA): VHF Antenna mount, Sea Dog, Model: 329230-1

1.3.5 Quantity (One EA): VHF Antenna, Marine Boat

1.3.6 Quantity (One EA): Navnet System, Furuno

1.3.6.1 Quantity (One EA): Radar, Furuno, Model: 1834C

1.3.6.2 Quantity (One EA): Network Sounder, Furuno, Model: DFF1

1.3.6.3 Quantity (One EA): Navnet System Chart Plotter, Furuno,
Model: 1834CNT vx 2

1.3.6.4 Quantity (One EA): GPS receiver, Furuno, Model: GP-330B

1.3.6.5 Quantity (One EA): SmartCraft, Mercury Marine, Model:
VesselView

1.3.7 Quantity (One EA): Compass, Ritchie, Model: DNB-200

1.3.8 Quantity (One EA): Compass Dimmer, Zane, Model AMD-48L-24V

1.3.9 Quantity (One EA): Light, Chart, Dr. LED, Model: 8001665

1.3.10 Quantity (4 EA): Lighting, Navigation

1.3.11 Quantity (3 EA): Bulb, RAM Lighting, 4ft, 2 Reds, 1 White,
Phoenix, Model: LFS B322DB-IRV, Item 6 of DWG 300.15 of 2.5.

1.3.12 Quantity (10 EA): Marine Battery, Optima Blue Top, Model:
D900M

1.3.13 Quantity (2 EA): Engine Heater, Hot Start, Model: TF751-002

1.3.14 Quantity (3 EA): Windshield Wiper System, Mfg: Ongaro, items

SHIP:

30 and 30, DWG 100.03 of 2.5

1.3.15 Quantity (One EA): Pump, Hot Water, Laing, Model: SM909

1.3.16 Quantity (One EA): Pump, Freshwater, Jabsco, Model: 52600-0094

1.3.17 Quantity (One EA): Step-down Transformer, 440VAC, 3Ph/120VAC, 1Ph, Federal Pacific, P/N: T4T45E

1.3.18 Quantity (2 EA): Isolation Transformer

1.3.18.1 Quantity (One EA): Isolation Transformer 120V, Rex Power Magnetics, SC5A-A

1.3.18.2 Quantity (One EA): Isolation Transformer 440V, Rex Power Magnetics, BC15H2-H2

1.3.19 Quantity (One EA): Horn, Hailer

1.3.20 Quantity (2 EA): Light Fixture System, 120 VAC, 2 ft. Bulbs, 1 Red and 2 Whites, Phoenix, Model: LFS B317DB-IRV, Item 4 of DWG 300.15 of 2.5

1.3.21 Quantity (9 EA): Light Fixture System, 24 VDC, 2 ft. Bulbs, White Only, Pauluhn, Model: FPS217, Item 5 of DWG 300.15 of 2.5

1.3.22 Quantity (6 EA): Light Fixture System, 120 VAC, Fluorescent LTS for Canopy, Pauluhn, Model: FSS217, Item 3 of DWG 300.15 of 2.5

1.3.23 Quantity (6 EA): Light Fixture System, 12V Emergency Light, Multi-lite, Balmar, Model: 458, Item 7 of DWG 300.15 of 2.5

1.3.24 Quantity (2 EA): Pump, Bilge, 24V DC, 3700 GPH, Rule, Model: RUL 16A

1.3.25 Quantity (One EA): Pump, Bilge, Rule, Model: 26860

1.3.26 Quantity (22 EA): Electrical Outlet, 120VAC

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 300-5107858 Rev A, Standard Electrical Installation Requirements and Nomenclature

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

2.4 TO300-AU-SPN-010 A, Fabrication, Welding and Inspection of Small Boats and Craft, Aluminum Hulls

2.5 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.6 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 and 50DS1002

2.7 DOL, OSHA STD 29 CFR 1915, Occupational Safety & Health Standards for Shipyard Employment

3. REQUIREMENTS:

(I) "PRELIMINARY ELECTRICAL INSPECTION AND OPERATIONAL TEST"

3.1 Accomplish a complete inspection of all installed mechanical and electrical equipment of the Dive Boat electrical system, including Galley equipment, electrical components, lighting, navigational equipment,

wiring/cabling, pumps, piping, hoses and label plates, utilizing 2.2 through 2.6 as guidance, listed in 1.3, and located in 1.2. Record results.

3.1.1 Submit one legible copy, in approved transferable media, of a report listing the results of the inspection and testing requirements of 3.1 to the SUPERVISOR, within 5 days of testing.

3.1.1.1 The report shall include electrical/mechanical component item number, as identified on its associated reference, reference number, component location, condition, and the testing results of each component tested.

3.2 Prior to component removal, record each component name as identified on its associated reference, reference number, location, and electrical connection (Disconnect Log) listed in 1.3.

3.2.1 Retain all removed items, the SUPERVISOR shall determine disposition. At the discretion of SUPERVISOR, box all removed items for the GOVERNMENT.

3.2.1.1 Submit one legible copy, in approved transferable media, of a report listing the results of the requirements of 3.2 to the SUPERVISOR.

3.3 Template from existing and ensure new equipment listed in 1.3 is installed in each existing location using report in 3.2.1.1.

3.4 Each new electrical installation listed in 1.3 shall meet the electrical installation requirements of 2.2 through 2.3.

3.4.1 No electrical connections shall take place in the bilge bottom.

3.4.2 All new electrical connections shall have heat shrink style connections or shall have heat-shrink tubing installed on terminal ends to weatherize.

3.4.3 All new battery and main power connections shall have protective boots installed.

3.4.4 All new equipment, electrical components, label plates, cable markers, and wire markers, shall be installed, and wire ways and cableways shall be strapped and installed in accordance with 2.2 through 2.4, utilizing 2.5 and 2.6 as guidance, prior to operational testing.

3.4.4.1 All new cabling shall be labeled to include circuit identification at each end.

3.4.4.2 All new wiring shall be labeled to include component identification on each wire connection/termination point.

3.4.5 Remove corrosion on existing and coat all new and existing electrical terminals and connections, including, battery switch terminals, engine positive and negative terminals, battery connection terminals, gauge terminals, positive and negative terminal blocks, negative bus terminals, circuit breaker connections, switch connections, reset push buttons, receptacles, connectors using No-Ox (NSN 8030-00-598-5915), utilizing 2.2 through 2.6 for guidance.

3.4.6 Groom, dress and secure all cabling and wiring to ensure wire/cable runs do not interfere with access to components that are

removable.

3.4.7 Install chafe protection to existing and new wires/cables entering cableways and/or where chaffing may occur.

3.4.8 Split Conduit shall be installed for all cableways, where previously installed.

3.4.9 Ensure all new cable penetrations are packed properly throughout the boat in accordance with manufacturer's instructions.

3.4.10 Ensure all exterior electrical connections are properly weatherproofed on each vessel listed in 1.3 in accordance with 2.2 and 2.3.

3.5 All new equipment, listed in 1.3, mounted to aluminum shall have corrosion protection tape (3M Scotchrap #51) installed between the mating surfaces unless otherwise noted.

3.6 All new threaded fasteners shall be corrosion resistant steel (CRES), ASTM A276, Type 316, unless otherwise specified. All nuts shall be self-locking, unless otherwise specified. One CRES washer shall be used under each bolt head and under each nut. Bolt/stud thread protrusion shall not extend less than 1-1/2 threads or more than 5 threads beyond the nut with full thread engagement, listed in 1.3.

3.6.1 Apply anti-seize compound, Loctite 34026 marine grade anti-seize or equal to all new stainless-steel threaded fasteners.

3.7 Remove existing and install each new 3 EA Windshield Wiper System, located in the pilot house, listed in 1.3.14, in accordance with 2.2 and manufacturer's specifications.

3.8 Remove existing and install each new battery, listed in 1.3.12, for the vessel in accordance with 2.2 and 2.3. Install new battery connection hardware using standard nuts and lock washers.

3.9 Remove and install new Engine Hot Start Block Heater in its entirety, listed in 1.3.13, to include each associated cabling wiring, connection box, circuit breaker, hose, and clamp, in accordance with 2.2 and utilizing 2.5 and 2.6 as guidance.

3.10 Template from existing, remove and install new VHF radio, Hailer Horn, Chart Light, VHF antenna and mount, compass and dimmer, listed in 1.3.3 through 1.3.5, 1.3.7 through 1.3.9, and 1.3.19, including all associated equipment, cabling and hardware, located on the pilot house, in accordance with 2.2 and manufacturer's instructions. Utilize 2.5 and 2.6 as guidance. Contractor is responsible to install all components necessary to install new VHF radio system.

3.11 Accomplish the requirements of 009-90 of 2.1, for replacement of the Furuno Navigation System, listed in 1.3.5, in accordance with 2.2 and manufacturer's instructions.

3.11.1 Remove and install new remove Furuno navigation system, listed in 1.3.6 and all associated equipment, cabling and hardware, in accordance with manufacturer's instructions. Contractor is responsible to install all components necessary to install new navigation system.

3.11.1.1 Install latest version of software and charts on Furuno navigation system in accordance with manufacturer's instructions.

3.11.1.2 Electrically connect new navigation system to the new

SHIP:

VHF Marine Band Radio. Installation shall be in accordance with 2.2 and manufacturer's instructions, using 2.5 and 2.6 as guidance.

(V) (G) "VISUAL INSPECTION"

3.11.1.3 An authorized Furuno technician shall verify installation and calibration of all navigation related work.

3.12 Remove and install new 3 EA bilge pump, listed in 1.3.24 and 1.3.25, with each associated float switch, cabling, hose, fitting and hardware in place of the removed and in the same location as original, in accordance with 2.2 and manufacturer's specifications, utilizing 2.5 and 2.6 as guidance.

3.12.1 Renew all pump-mounting hardware, with Grade 304 CRES hardware.

3.12.2 Renew each mounting gasket.

3.12.3 Align piping to the pump unit. Piping shall be supported independently and shall not impose a strain on the equipment.

3.12.4 Dress and secure all bilge system hoses throughout the boat, including chaffing protection at all penetrations.

3.12.5 All bilge hoses installed shall be template from existing, ensuring appropriate length for the vessel and continuous from fitting to fitting.

(V) (G) "VISUAL INSPECTION"

3.12.6 Perform manual/auto function bilge test to ensure the float switch operated properly.

(V) "STATIC TEST"

3.12.7 Accomplish a hydrostatic test of disturbed piping system in accordance 009-71 of 2.1. Allowable Leaks: None.

(V) (G) "OPERATIONAL TEST"

3.12.8 Accomplish an operational test of the newly installed pump in accordance with manufacture's specifications, Utilizing 2.5 and 2.6 for guidance. Allowable leaking or binding: None

3.13 Remove existing and provide new handheld searchlight, listed in 1.3.1 using 2.5 and 2.6 as guidance.

3.14 Template from existing, remove, and install new 4 EA Navigational lights, listed in 1.3.10, located on Pilot House, in accordance with 2.2, manufacturer's specification, and report submitted in 3.2.1.1. Utilize 2.5 as guidance.

3.14.1 Ensure new Navigation Lights installed in 3.14 are of the same type and color as original, in place of removed, utilizing 2.5 and 2.6 as guidance.

3.15 Remove existing and install new 3 EA RAM lights (red, white, red light installed vertically on Mast), listed in 1.3.11, located on pilot House mast, in accordance with 2.2 and manufacturer's specification. Utilize 2.5 as guidance.

3.16 Remove existing and install new searchlight, dash mounted

SHIP:

controller, and all associated cabling, listed in 1.3.2, in accordance with 2.2.

3.17 Remove existing and install new One EA freshwater pump, listed in 1.3.16, in accordance with 2.2 and manufacturer's specifications.

3.18 Remove existing and install new hot water circulation pump, listed in 1.3.15, in accordance with 2.2 and manufacturer's instructions.

3.19 Remove and install new One EA Step-down transformer, listed in 1.3.17, located in Tank room, in accordance with 2.2, 2.3, 2.5, 2.6, and manufacturer's specifications.

3.20 Remove and install new 2 EA isolation transformer, listed in 1.3.18, located in Tank room, in accordance with 2.2, 2.3, 2.5, 2.6, and manufacturer's specifications.

3.21 Remove and install new 9 EA Light Fixture System, listed in 1.3.21, located in Engine Room, Main Cabin, Accommodation room, and Tank Room, in accordance with 2.2, 2.5, and manufacturer's specifications.

3.22 Remove and install new 2 EA Light Fixture System, listed in 1.3.20, located in Pilot House, in accordance with 2.2, 2.5, and manufacturer's specifications.

3.23 Remove and install new 6 EA Light Fixture System, listed in 1.3.22, located in AFT Deck, in accordance with 2.2, 2.5, and manufacturer's specifications.

3.24 Remove and install new 6 EA Light Fixture System, listed in 1.3.23, located in Bilge, Tank Room, and Engine Room, in accordance with 2.2, 2.5, and manufacturer's specifications.

3.25 Remove existing and install new 22 EA 120VAC Electrical Outlet, listed in 1.3.26, located in 1.2.1, in accordance with 2.2 and manufacturer's specification. Utilize 2.5 and 2.6 as guidance.

3.25.1 Install 5 EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.1, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

3.25.2 Install 3 EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.2, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

3.25.3 Install 6 EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.3, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

3.25.4 Install 3 EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.4, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

3.25.5 Install One EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.5, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

3.25.6 Install 4 EA Electrical Outlet, listed in 1.3.26, located in 1.2.1.6, in accordance with 2.2 and manufacturer's specification, utilizing 2.5 and 2.6 as guidance.

(V) (G) "ELECTRICAL EQUIPMENT OPERATIONAL TEST"

3.26 Coordinate with ships force and accomplish an Operational Test of

SHIP:

each piece of newly installed electrical equipment, each electrical device, and each newly installed component listed in 1.3 and the contractor's furnished report requirement of 3.2.1.1. Testing shall be in accordance with each manufacturer's instruction of equipment listed in 1.3, utilizing 2.5 and 2.6 as guidance.

3.26.1 Submit one legible copy, in hard copy or approved transferrable media, of a report listing the operational testing results of 3.26.

(V) (G) "OPERATIONAL TEST"

3.27 Accomplish an operational test of each newly installed pump, listed in 1.3.15 and 1.3.16, in accordance with manufacture's specifications, Utilizing 2.5 and 2.6 for guidance. Allowable leaking or binding: None

3.28 Accomplish the requirements of 009-32 of 2.1 for each new and disturbed surface, listed in 1.3.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 512-00-001
COAR: PCN: SERV-L015
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: HVAC System; replace

1.2 Location of Work:

1.2.1 Pilot House, Rooftop

1.2.2 Main Cabin, Rooftop

1.3 Identification:

1.3.1 Quantity (3 EA): Air Conditioner w/ Heat, Make: Seamaach, 13,500 BTU

1.3.2 Quantity (One EA): Windshield Defroster, Make: Valad, Model: C450

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.4 300-5107858 Rev A, Standard Electrical Installation Requirements and Nomenclature

2.5 S9510-A6-MMA-010, Heating, Ventilation, And Air Conditioning (HVAC) System MK2, FY91

2.6 S9086-RQ-STM-010 Rev 6, Naval Ships' Technical Manual, Chapter 510, Heating, Ventilating, and Air Conditioning Systems for Surface Ships

2.7 S9086-VH-STM-010 Rev 2, Naval Ships' Technical Manual, Chapter 635, Thermal, Fire and Acoustic Insulation

3. REQUIREMENTS:

3.1 Remove and Install new, 3 EA HVAC equipment, listed in 1.3.1, located in 1.2.1 and 1.2.2, in accordance with 2.4, utilizing 2.2 through 2.3 as guidance.

3.1.1 Clean, neutralize, and remove all corrosion prior to new HVAC equipment installation, located in 1.2.

3.2 Remove and Install new, One EA HVAC equipment, listed in 1.3.2, located in 1.2.1, in accordance with 2.2 and utilizing 2.2 and 2.3 as guidance.

(V) (G) " (V) (G) "OPERATIONAL TEST""

3.3 Accomplish an operational test of the Air Condition (HVAC) system equipment, listed in 1.3, under normal operating conditions. Test shall be in accordance with Manufacture's specifications.

3.4 Accomplish the requirements of 009-11 of 2.1 for new and disturbed installations.

3.5 Accomplish the requirements of 009-32 of 2.1 for new and disturbed

SHIP:

surfaces.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 533-11-001
COAR: PCN: SERV-L029
SERV-L028
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Sanitary, Grey, and Potable Water System; inspect and test

1.2 Location of Work:

1.2.1 Throughout the Vessel

1.2.1.1 Tank Room

1.3 Identification:

1.3.1 Quantity (One EA) Fresh Water Tank, 260 Gallon, Poly, Ronco
Plastics, P/N: B284

1.3.2 Quantity (One EA) Sanitary Water Tank, Vacuum generating,
Poly, Marine Sanitation Inc., P/N: 28HTS-VG

1.3.3 Quantity (One EA) Gray Water Tank, 200 Gallon, Poly, Ronco
Plastics, P/N: B485

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support
Boat, Hulls 50DS1001 AND 50DS1002

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

2.5 DOL, OSHA STD 29 CFR 1915, Control of Explosives and Other Dangerous
Atmospheres

2.6 S9086-T8-STM-010/CH-593, Pollution Control

3. REQUIREMENTS:

3.1 Clean, test, and inspect the Potable Water System including
equipment listed in 1.3.1 and associated components, to include Galley
sink, located in 1.2, utilizing 2.2 and 2.3 as guidance.

3.1.1 Accomplish the requirements of 009-09 2.1 for the equipment
listed in 1.3 for a step by step procedure for tank certification to
open, ventilate, empty, clean, render dry and maintain through out
the availability.

3.1.1.1 Submit one legible copy of each PCP, in approved
transferrable media, to the SUPERVISOR once approved by
contractor. For planned availabilities, submission must be no
later than 24 hours prior to start of the required process, or as
otherwise approved by the SUPERVISOR. Attachment A of 009-09, of
2.1, is provided as suggestion to be used for PCP development.

3.1.2 Accomplish pump down of the Potable Water tank and associated
piping, located in 1.2.1, in accordance with 2.5 and 2.6, utilizing
2.2 and 2.3 for guidance.

3.1.2.1 Accomplish commercial disposal of all liquid removed

SHIP:

from Potable Water tank and associated piping.

3.1.3 Accomplish the requirements of 009-87 of 2.1, for chemical disinfection and acceptance criteria of potable water system.

3.1.5 Accomplish the requirements of 009-107 of 2.1, for cleaning, flushing, and acceptance criteria of fresh and potable water systems.

3.1.5.1 General Cleaning shall be Level II.

3.2 Clean, test, and inspect the Sanitary Water System including equipment listed in 1.3.2 and associated components, located in 1.2, utilizing 2.2 and 2.3 as guidance.

3.2.1 Accomplish the requirements of 009-09 of 2.1 for the equipment listed in 1.3 for a step by step procedure for tank certification to open, ventilate, empty, clean, render dry and maintain through out the availability.

3.2.1.1 Submit one legible copy of each PCP, in approved transferrable media, to the SUPERVISOR once approved by contractor. For planned availabilities, submission must be no later than 24 hours prior to start of the required process, or as otherwise approved by the SUPERVISOR. Attachment A of 009-09, of 2.1, is provided as suggestion to be used for PCP development.

3.2.2 Accomplish the requirements of 009-107 of 2.1, for cleaning, flushing, and acceptance criteria of Sanitary Water system.

3.2.3 Accomplish pump down of the Sanitary Water tank and associated piping, located in 1.2.1, in accordance with 2.5 and 2.6, utilizing 2.2 and 2.3 for guidance.

3.2.3.1 Accomplish commercial disposal of all liquid removed from Sanitary tank and associated piping.

3.3 Clean, test, and inspect the Gray Water System including shower drain piping and equipment listed in 1.3.3 and associated components, located in 1.2, utilizing 2.2 and 2.3 as guidance.

3.3.1 Accomplish the requirements of 009-09 2.1 for the equipment listed in 1.3 for a step by step procedure for tank certification to open, ventilate, empty, clean, render dry and maintain through out the availability.

3.3.1.1 Submit one legible copy of each PCP, in approved transferrable media, to the SUPERVISOR once approved by contractor. For planned availabilities, submission must be no later than 24 hours prior to start of the required process, or as otherwise approved by the SUPERVISOR. Attachment A of 009-09, of 2.1, is provided as suggestion to be used for PCP development.

3.3.2 Accomplish pump down of the Gray Water tank and associated piping, located in 1.2.1, in accordance with 2.5 and 2.6, utilizing 2.2 and 2.3 for guidance.

3.3.2.1 Accomplish commercial disposal of all liquid removed from Gray Water tank and associated piping.

3.3.3 Accomplish the requirements of 009-107 of 2.1, for cleaning, flushing, and acceptance criteria of Gray Water system.

(V) (G) "VISUAL INSPECTION"

SHIP:

3.4 Accomplish a visual inspection of the Sanitary, Grey, and Potable Water System, including each tank listed in 1.3, associated sounding tubes, tank vents/overflows, piping, pipe hangers/liners, studs, and structural members for structural integrity, deterioration, pitting, cracks, and areas of damage or distortion.

3.4.1 Accomplish a visual inspection of Sanitary, Gray, and Potable water piping system for structural integrity, deterioration, cracks, and areas of damage or missing piping.

(V) (G) "OPERATIONAL TEST"

3.5 Perform an operational test of the equipment cleaned in 3.1 through 3.3 to ensure proper operation, utilizing 2.2 and 2.3 for guidance.

3.5.1 Submit one legible copy, in hard copy or electronic media, of a report listing results of the requirements of 3.5 to the SUPERVISOR.

(V) (G) "AIR TEST"

3.6 Accomplish the requirements of 009-25 of 2.1 for a preliminary air test of each tank listed in 1.3. Test pressure shall be 2 PSIG, hold test pressure for 10 minutes. Allowable drop in pressure: None.

3.6.1 Maintain test pressure for 15 minutes for temperature stabilization prior to start of test.

3.7 Submit One legible copy, in hard copy and electronic media, of a report listing results of 3.4 and 3.6 to the SUPERVISOR, within 24 hours after the inspection have been completed.

3.8 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 555-21-001
COAR: PCN: SERV-L027
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Fire Suppression System; replace

1.2 Location of Work:

1.2.1 Engine Room

1.2.2 Pilot House

1.2.3 Dive Cabin

1.2.4 Galley

1.3 Identification:

1.3.1 Quantity (One EA) Fire Suppression System, Fireboy, Model: MA2-700-FE241

1.3.2 Quantity (4 EA) Fire Extinguisher, 10#, Type B-2 Dry Chem, Class A B C, Kidde, Model: 45094

1.3.3 Quantity (One EA) Manual Release Cable, 50', Handle in Pilot House, Model: E-4209-50

1.3.4 Quantity (One EA) Fire Extinguisher Manual Pull, Fireboy

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.4 300-5107858 Rev A, Standard Electrical Installation Requirements and Nomenclature

3. REQUIREMENTS:

3.1 In accordance with the requirements of 009-90 of 2.1, provide the services of a qualified Technical Representative to accomplish the services to install the equipment listed in 1.3.1 through 1.3.4, in accordance with Manufacturer's specifications, utilizing 2.2 and 2.3 as guidance.

3.2 Remove and install new Fire Extinguishing System, listed in 1.3.1, located in 1.2.1, in accordance with manufacturer's specifications, utilizing 2.2 and 2.3 as guidance.

3.2.1 Template from existing, remove and install new Manual Release Cable, listed in 1.3.3, located in 1.2.1, to Fire Extinguishing System, listed in 1.3.1, in accordance with manufacturer's specifications, utilizing 2.2 and 2.3 as guidance.

3.2.1.1 Chase and tap exposed threaded areas.

3.2.1.2 Ensure new Manual Release Cable installed in 3.2.1 is tensioned in accordance with Manufacturer's specification.

3.2.2 Template from existing, remove and install new One EA Fire Extinguisher Manual Pull, listed in 1.3.4, located in 1.2.2, in

SHIP:

accordance with manufacturer's specifications, utilizing 2.2 and 2.3 as guidance.

3.2.2.1 Ensure equipment installed in 3.2 through 3.2.2 are mechanically connected.

3.2.3 Restore mating surfaces exposed by removals. Repair by removing high spots, burrs, abrasions and foreign matter, where removals can be accomplished by hand tools.

3.2.4 Chip and grind surfaces flush and smooth in the way of removals.

3.3 Remove and install new equipment including stowage bracket, listed in 1.3.2, located in 1.2.2 through 1.2.4, in accordance with manufacturer's specifications, utilizing 2.2 and 2.3 as guidance.

3.4 Fire Extinguishing System shall be installed by technicians trained or certified in the installation of this equipment.

3.5 Accomplish the requirements of 009-25 of 2.1 for deck and bulkhead penetration tightness.

(V) (G) "OPERATIONAL TEST"

3.6 Accomplish Operational and Maintenance training by a certified technical representative to the craft's force personnel, upon satisfactory completion of the operating testing.

3.6.1 Electrically and mechanically test equipment installed in 3.2 in accordance with 2.4 and manufacturer's specifications..

3.6.2 Provide written certification that all system testing has been completed satisfactorily.

3.6.2.1 Submit one legible copy of a report, in hard copy or electronic media, listing the results of the requirements of 3.5 through 3.5.2 to the SUPERVISOR.

3.7 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM) :

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 561-11-001
COAR: PCN: SERV-L017
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Steering System; replace

1.2 Location of Work:

1.2.1 Throughout the Vessel

1.3 Identification:

1.3.1 Quantity (One EA): Cylinder, Steering, Bronze, 10" Stroke, Kobelt, Model: 7050-B10

1.3.2 Quantity (One EA): Valve, Safety/Bypass, Bronze, Kobelt, Model: 7020

1.3.3 Quantity (One EA): Header Tank, Bronze, Kobelt, Model: 7002-AC

1.3.4 Quantity (One EA): Helm Pump, Bronze, Kobelt, Model: 7005-ANT

1.3.5 Quantity (One EA): Discovery Valve, 3/8" NPT, 2 PC BV, 2000 PSI, Full Port, 316 SS, Item 6 of DWG 300.02 of 2.2

1.3.6 Quantity (One EA): Rudder Tie Bar, 1 1/4" SCH 40 Pipe, 316 SS

1.3.7 Quantity (2 EA): Jet Tiller ARM, 2 1/4" Bore w/ 1/2" KW, Bronze, Hamilton, PN: MHI-TAHL2.25-12

1.3.8 Quantity (2 EA): Rudder Port Bearing, Type C, 2 1/4" Bore, Tide, PN: RPB-C-2250-00

1.3.9 Quantity (2 EA): Rudder Shaft, Aquamet 22, Item 5 of DWG 300.02 of 2.2

1.3.10 Quantity (2 EA): Rudder Shaft Collar, 2 1/4" Bore, Sound Propeller, PN: RUD COLLAR 2250

1.3.11 Quantity (2 EA): Rod End, 3/4" Bore, 5/8-18 F-UNF, Kobelt, P/N: 7050-0004

1.3.12 Quantity (2 EA): Stud Kit, 3/4", Bronze, Kobelt, PN: 7050-1004

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

3. REQUIREMENTS:

3.1 Template from existing, remove, and install new equipment listed in 1.3.1 through 1.3.5, including hydraulic steering cylinder, steering/balance valve, each associated line, 20 EA fitting, each hose clamp, and 7 EA hose, in location listed in 1.2, utilizing 2.2 and 2.3 as guidance.

3.1.1 Fill steering system with manufacturer specified fluid, MIL-H-5606C or equivalent in accordance with 2.3, and bleed until all air

SHIP:

is removed.

3.1.2 Accomplish the requirements of 009-71 of 2.1 for each new line, hose, piping, and fitting.

3.2 Remove, clean, and inspect equipment listed in 1.3.6 through 1.3.11, located in 1.2, utilizing 2.2 and 2.3 as guidance.

3.2.1 Submit one legible copy, in hard copy or electronic media to the SUPERVISOR, of a report listing the results of 3.2.

3.3 Install equipment removed in 3.2, including new 2 EA stud kit, listed in 1.3.12, located at 1.2, in accordance with 2.2 and 2.3.

3.4 Preserve equipment listed in 1.3.11 and 1.3.12, in accordance with 009-32 of 2.1.

(V) (G) "OPERATIONAL TEST"

3.5 Accomplish an operational test of newly installed equipment listed in 1.3 for one hour, to ensure equipment functions to designed sequence of operation, in accordance with manufactures instructions.

3.6 Accomplish the requirements for 009-32 for new and disturbed surfaces.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 583-11-001
COAR: PCN: SERV-L009
CMP: NONE
PLANNER:

1. SCOPE:

- 1.1 Title: Transfer of Boat Custody; accomplish
- 1.2 Location of Work: Contractor's Plant
- 1.3 Identification:
 - 1.3.1 None

2. REFERENCES:

- 2.1 Attachment (A): Boat Custody Form

3. REQUIREMENTS:

3.1 The Government will deliver custody of the boat to contractor facility prior to avail start and will accept custody of the boat at contractor facility upon satisfactory completion of all contracted work.

3.1.1 The Contractor will be responsible for the boat during the time in which he has custody.

3.2 Upon receiving custody of the boat from the activity, complete Part A of 2.1. Submit one copy, in approved transferrable media, of 2.1 to the SUPERVISOR within 24 hours after delivery of the boat.

3.3 After returning custody of the boat to the activity, complete Part B of 2.1. Submit one copy, in approved transferrable media, of 2.1 to the SUPERVISOR within 24 hours after redelivery of the boat.

4. NOTES:

- 4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

- 1. None.

5.2 PUSH MATERIAL:

- 1. None.

5.3 KITTED MATERIAL:

- 1. None.

SHIP: ITEM NO: 583-31-001
COAR: PCN: SERV-L024
CMP: NONE
PLANNER:

1. SCOPE:

- 1.1 Title: Sea Trial; accomplish
- 1.2 Location of Work:
 - 1.2.1 Throughout the Craft
- 1.3 Identification:
 - 1.3.1 Not Applicable

2. REFERENCES:

- 2.1 S9086-C4-STM-000/CH-094, NSTM, Trials
- 2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings
- 2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

3. REQUIREMENTS:

- 3.1 Ensure all Contractor related work required by the contract is complete prior to sea trails.
- 3.2 The craft shall be placed back in the water a minimum of 7 days prior to the contract end date to allow for system testing inspections by the SUPERVISOR.
- 3.3 Accomplish the following to support an 4 hour full power sea trial in accordance with Sections One and 6 of 2.1:
 - 3.3.1 Provide and install a total of 300 gallons of diesel marine fuel (DFM).
 - 3.3.1.1 DFM shall be in accordance with MIL-F-16884.
 - 3.3.2 Provide 16 gallons of engine coolant, 20 gallons engine lube oil, marine gear lube oil and steering hydraulic fluid in accordance with manufacturer's specifications and utilizing 2.2 and 2.3 for guidance to maintain operating levels to perform the sea trials.
 - 3.3.3 Provide qualified personnel to repair, test, set and adjust equipment during sea trial in accordance with the requirements in each Work Item.
 - 3.3.4 Remove debris, tools, equipment, and rigging material not required, prior to sea trial.
 - 3.3.5 Submit one legible copy of a sea trial agenda to the SUPERVISOR, listing the name of Test Coordinator/Director, each work item and test memorandum number for each equipment and system installed or repaired, the scheduled time and date tests are to be accomplished, 10 days prior to the scheduled sea trial.
- 3.4 Provide the services of a minimum of 2 qualified personnel to support 4 hour sea trial which consists of the following:
 - 1) a 15 minute full power run

SHIP:

2) operation going astern

3) four cycles of the rudders through the full range of motion

3.4.1 The contractor shall perform sea trials with one or more GOVERNMENT representatives onboard.

3.4.1.1 For scheduling purposes, a day is defined as a period of 4 hours continuous hours for sea trial.

3.4.1.2 Submit one legible copy of a list to the SUPERVISOR with the full name, title, security clearance, home address, home telephone number and name of next of kin of each person scheduled to ride the ship during sea trial, 10 days prior to established sea trial date.

3.4.2 Submit one legible copy of completed test report, listing each deficiency and recommendation to the SUPERVISOR. Submit test memorandum within 24 hours of completion.

3.5 Provide 5 man-days for 2 qualified personnel and 5000 dollars of material to accomplish repairs as a result of dock trial and sea trial discrepancies, when directed by the SUPERVISOR. Total cost greater or less than above manday and dollar amounts when authorized will be the subject of an equitable adjustment.

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 624-10-001
COAR: PCN: SERV-L016
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Dive Support Boat Windows; replace

1.2 Location of Work:

1.2.1 Diver/Main Cabin

1.3 Identification:

1.3.1 Quantity: (2 EA) Sliding Window, Marine Grade, Tempered safety plate glass, Clear, Forward Port Sliding Window and Forward Starboard Sliding Window.

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

3. REQUIREMENTS:

3.1 Accomplish a visual inspection of each window throughout boat for general condition, operation, and completeness.

3.1.1 Submit one legible copy, in hard copy or electronic media, of a report listing the results of the requirements of 3.1 to the SUPERVISOR.

3.2 Template from existing, remove and install new 2 EA marine grade sliding window assembly, including gaskets located in 1.2, identified in 1.3, utilizing 2.2 and 2.3 as guidance.

3.2.1 Ensure each new window matches original, including tint grade and color.

3.3 Template from existing, remove, and install new 4 EA Sliding window securing latch, located in 1.3.1, utilizing 2.2 and 2.3 as guidance.

(V) (G) "AIR HOSE TEST"

3.4 Accomplish the requirements of 009-25 of 2.1 for an Air hose test for each window located throughout the boat. Allowable leakage: None.

(V) (G) "OPERATIONAL TEST"

3.5 Accomplish an Operational Test of each newly installed component replaced in 3.2 and 3.3. Testing shall consist of cycling sliding window 3 times (One cycle equals unlock, open window, close window, lock), utilizing 2.3 and 2.4 as guidance.

3.6 Submit one legible copy, in hard copy or electronic media, of a report listing the results of the requirements of 3.4 and 3.5 to the SUPERVISOR.

3.7 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

SHIP:

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 631-20-001
COAR: PCN: SERV-L019
SERV-L018
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Dive Support Boat; preserve

1.2 Location of Work:

1.2.1 Underwater Surfaces, Keel to Upper Boot Top Limits

1.2.2 Aft Deck

1.2.3 Swim Platform

1.2.4 Dive Ladder

1.2.5 FWD Cabin

1.3 Identification:

1.3.1 Quantity (One EA) Port Stern Zinc, 6" x 12" x 1 1/4"

1.3.2 Quantity (One EA) STBD Stern Zinc, 6" x 12" x 1 1/4"

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.3 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.4 S9086-TX-STM-010, SSPC Painting Manual, Volume 2

2.5 SA9AA0-AB-GOS-010, General Specifications for Overhaul of Surface Ships, Section 633 Cathodic Protection

2.6 N/S 803-921865 Rev R, Cathodic Protection Hull Zinc Anodes

3. REQUIREMENTS:

3.1 Within 24 hours after drydocking or removing the Dive Support Boat from the water accomplish the following:

3.1.1 Record each existing periphery line, exact location, color and dimension of each painted coating on the hull of the Dive Support Boat.

3.1.2 Accomplish requirements of WJ-4 for each area listed in 1.2.1, including each sea chest, bow, stern, appendage, and sides up to the waterline, free of marine growth, utilizing 2.2 and 2.3 as guidance.

3.1.2.1 Remove each sea chest strainer. Retain the strainers for reinstallation.

3.1.2.2 Plug or install a temporary drain line on each overboard discharge.

3.1.3 Inspect each area listed in 1.2.1, including each sea chest, bow, stern, appendage, and sides up to the waterline for any pitting, distortion, cracking, deterioration, and structural integrity, utilizing 2.2 and 2.3 as guidance.

3.1.3.1 Submit one legible copy, in hard copy or approved

SHIP:

transferrable media, of a report listing results of the requirements of 3.1.3 to the SUPERVISOR.

(I) (G) "CLEANLINESS"

3.2 Accomplish surface preparation of each area listed in 1.2.1, in accordance 009-32 of 2.1, Table One, line 11, column A.

3.2.1 Ensure each surface is free of contaminants is accordance with SSPC-SP One of Systems and Specifications, SSPC Painting Manual, Volume 2

3.2.2 Ensure Keel to boottop is blasted to near-white metal prior to preservation.

3.2.3 Contain dust from abrasive blasting, water from hydroblasting and other foreign matter resulting from blasting and cleaning operations and prevent contamination to the air, sea water and adjacent ships.

3.3 Accomplish preservation of each area listed in 1.2.1, in accordance 009-32 of 2.1, Table One, line 11, columns B through E.

3.3.1 Accomplish the requirements of paragraphs 3.7 through 3.10.11 of 009-32 in 2.1, for the preservation of each "critical coated" area listed in 1.2.1, including each appendage.

3.3.1.1 Ensure usege of Petite Vivid brand paint for AF underwater hull preservation.

3.3.1.2 Upon completion of underwater hull preservation, shift the vessel on the blocks and ensure 100 percent cleaning and painting of the underwater surfaces.

3.3.1.3 Apply hull lettering and draft marks as recorded in 3.1.1.

3.3.1.4 Post preservation in 3.2, reinstall each sea chest strainer removed in 3.1.2.2.

3.3.1.5 Remove each blank, protective covering, and temporary drain line installed in 3.1.2.3.

3.4 Install each hull zinc including but not limited to each stern zinc anode, listed in 1.3.1 and 1.3.2, to include new CRES 316 hardware, in areas listed in 1.2.1, in accordance with 2.6, utilizing 2.2 and 2.3 as guidance.

3.4.1 Clean each surface in way of each new stern zinc anode and apply each coating the same as that specified for each surrounding area, utilizing 2.2 and 2.3 as guidance.

3.5 Accomplish the requirements of 009-32 of 2.1, including Table 2, Line 60, Column A through E, using 2.2 and 2.3 as guidance for each exterior non-skid deck surface located in throughout the boat, including each ladder rung of 1.2.4.

3.6 Accomplish the requirements of 009-32 of 2.1, including Table 3, Line 52, Column A through E, using 2.2 and 2.3 as guidance for each stowage provision and stowage foundation, located in 1.2.5, using 2.2 and 2.3 as guidance.

3.7 Accomplish the requirements of 009-32 of 2.1 for each new and disturbed surface.

SHIP:

4. NOTES:

4.1 This work spec interfaces with Propulsion Shaft and Propeller, zinc replacement, work spec, 243-11-001.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 631-20-002
COAR: PCN: SERV-L020
SERV-L031
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Structural Weld Repairs; accomplish

1.2 Location of Work:

1.2.1 Throughout

1.2.1.1 Underwater hull

1.3 Identification:

1.3.1 Quantity (One EA): 24-inch Buoy, including Throwline and Distress Marker Light

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 S9086-VD-STM-020/CH-631, Volume 2, Preservation of Ships in Service

2.3 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.4 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

2.5 T9074-AS-GIB-010/271, Requirements for Nondestructive Testing Methods

3. REQUIREMENTS:

3.1 Accomplish a visual inspection of each area listed in 1.2, including each appendage, sea chest, and well deck. Inspect for damage and deteriorated conditions of each existing weld and surfaces of hull plating.

3.1.1 Submit one legible copy, in hard copy or electronic media, of a report listing results of the requirements of 3.1 with sketches listing the type, amount and frame location of structural damage and deterioration including comprehensive details of repairs required to the SUPERVISOR using 2.3 and 2.4 for guidance.

(I) "UT INSPECTION"

3.2 Accomplish an ultrasonic thickness survey on the hull, side plating, deck plating, and support structure in accordance with 2.5 using 2.3 and 2.4 for guidance.

3.2.1 The survey shall be conducted on each intersecting point of a One foot grid pattern.

3.2.1.1 Scan a total of 150 additional areas discovered by the ultrasonic survey in 3.3 and the visual inspection in 3.2 to determine the total size and location of each defect.

3.2.2 Submit one legible copy, in hard copy or electronic media, of the ultrasonic survey results to the SUPERVISOR listing the locations of each point inspected in respect to the ship's frame, strakes,

SHIP:

distance off centerline, measured thickness of plating, original thickness of plating and percent of deterioration. Report shall contain a recommended repair for each area(s) rejected.

3.3 Accomplish the following structural repairs in area listed 1.2 as determined by the visual inspection, the ultrasonic survey and in locations specified by the SUPERVISOR.

3.3.1 Remove and replace a total of 50 square feet of cracked and/or eroded plating located in 1.2.1.1, utilizing 2.3 and 2.4 as guidance..

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

3.3.2 Accomplish nondestructive testing in accordance with 009-12 of 2.1, including Table 3, Colum C, Line 10 on new hull side plating and new weld to the propeller shaft strut, located in 1.2.1.1. Criteria: No signs of cracks and or deformation allowed.

3.4 Template from existing, remove, and install new AFT Transom Vertical Fendering foundations, utilizing 2.3 and 2.4 as guidance.

3.4.1 Accomplish the requirements of 009-12 of 2.1, including Table 3, Column C, Lines One through 7 for each AFT Transom Vertical Fendering foundation weld repair.

3.5 Template from existing, weld repair approximately 6' of vertical weld on the PORT Top of Transom, utilizing 2.3 and 2.4 as guidance.

3.5.1 Accomplish the requirements of 009-12 of 2.1, including Table 3, Column C, Lines One through 7 for each vertical weld repair on the Top of Transom, Portside.

3.6 Template from existing, remove, and install new Freshwater Tank securing brackets, utilizing 2.3 and 2.4 as guidance.

3.6.1 Accomplish the requirements of 009-12 of 2.1, including Table 3, Column C, Lines One through 7 for each weld repair on each Freshwater Tank securing bracket.

3.7 Template from existing, remove and install new Push Knee, utilizing 2.3 and 2.4 as guidance.

3.7.1 Template from existing, remove and replace new each push knee D-fender. D-fendering foundations shall be cleaned and free of corrosion prior to D-fendering installation.

3.7.2 Accomplish the requirements of 009-12 of 2.1, including Table 3, Column C, Lines One through 7 for Push Knee repair.

3.7.3 Install each fender using CRES 316 hardware.

3.8 Template from existing, remove and install new, each channel-style and molded rubber fendering located throughout Dive Boat hull exterior, utilizing 2.3 and 2.4 as guidance.

3.8.1 Each fender foundation shall be cleaned and free of corrosion prior to fender installation.

3.8.2 Install each fender using CRES 316 hardware.

3.9 Template from existing, remove, and install new each Life Ring Stowage Brackets and associated CRES 316 hardware in accordance with manufacturer's specifications, utilizing 2.3 and 2.4 as guidance.

SHIP:

3.9.1 Accomplish the requirements of 009-12 of 2.1, including Table 3, Column C, Lines One through 7 for each Life Ring Stowage Bracket weld.

3.10 Template from existing, procure, and provide One EA 24-inch Buoy, to include Throwline and Distress Marker Light, listed in 1.3.1.

3.11 Template from existing, remove, and install new insulation on FWD bulkhead of engine room, in accordance with 009-11 of 2.1, utilizing 2.3 and 2.4 as guidance.

(V) (G) "AIR HOSE TEST"

3.12 Accomplish the requirements of 009-25 of 2.1 for air hose test of each new plating and weld seam, located in 1.2.1.1. Allowable leakage: None.

3.13 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 663-11-001
COAR: PCN: SERV-L026
CMP: NONE
PLANNER:

1. SCOPE:

- 1.1 Title: Dive Support Boat Canopy; replace
- 1.2 Location of Work:
 - 1.2.1 Aft Deck
- 1.3 Identification:
 - 1.3.1 Quantity: One EA Canopy, 12.5' X 15' section, Sunbrella Sunshade

2. REFERENCES:

- 2.1 Standard Items, (FY-23, CH-3)
- 2.2 S9008-JH-BIB-010, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002
- 2.3 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

3. REQUIREMENTS:

(V) (G) "ACCOMPLISH REQUIREMENTS OF 009-37"

3.1 Accomplish the requirements of 009-37 of 2.1 for wood working areas affected by this Work Item.

3.2 Template from existing shipboard condition. Remove, replace, fabricate, fit, and install new canopy identified in 1.3.1 in location listed in 1.2.1 using 2.3 for guidance.

3.2.1 New materials shall conform to MIL-PRF-20092, Type II, Class 4.

3.2.2 Fasteners and hardware shall be CRES 316.

(V) (G) "FINAL INSPECTION"

3.3 Inspect for fitment and operation, canopy replacement identified in 1.3.1 in location listed in 1.2.1 using 2.2 for guidance.

3.4 Accomplish the requirements of 009-32 of 2.1 for new and disturbed surfaces.

4. NOTES:

4.1 None

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

SHIP:

1. None.

SHIP: ITEM NO: 992-31-001
COAR: PCN: SERV-L025
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Deep Clean; accomplish

1.2 Location of Work:

1.2.1 Throughout the Ship

1.3 Identification:

1.3.1 Quantity (10 EA): Marine Battery, Optima Blue Top, Model: D900M

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

3. REQUIREMENTS:

3.1 Accomplish the requirements to deep clean each shipboard space, located in 1.2, using Occupational Safety and Health Administration approved cleaning products and material, prior to custody transfer of vessel to GOVERNMENT.

3.1.1 Accomplish a wash down of vessel, including each bilge, using freshwater and detergent, ensuring vessel and each component is free of seawater residue, fouling, and other foreign substances.

3.1.2 Ensure vessel is dust free and rubbish and waste material is removed from the vessel.

3.1.3 Ensure each surface is free of grease, dirt, sea growth, and grime.

3.1.4 Ensure each stainless steel component located throughout the vessel is free of oxidation and corrosion.

3.1.5 Ensure each electrical breaker and buss bar is free of oxidation and corrosion and returned to "Like New" condition.

3.1.6 Clean each horizontal and vertical spaces, corners, crevices, and equipment / furniture surface to remove all of oil, grease, food deposit, human waste/hair, grime, dirt, lime, scale, soap scum, water mineral deposit, sea growth, and debris.

3.1.6.1 Deep clean each surface, including but not limited to each table, chair, doorknob, light switch, countertop, handle, toiles, faucet, sink, and rail.

3.1.7 Ensure each tank and void is free of debris and liquid.

3.1.8 Ensure each deck surface is vacuumed, mopped, and swept. Each inclined ladder assembly shall be vacuumed and wiped clean.

3.1.9 Deep clean, scrub, and sanitize each sink, water closet and shower area.

3.1.10 Each interior and sanitary space shall include scrubbing, cleaning and sanitization of each surface, de-liming and descaling of toilet, sink, shower.

3.1.11 Ensure each mirror and interior side of each window shall be

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wiped clean and polished with glass cleaner.

3.1.12 Follow the cleaning product manufacturer's directions. Rags used for wiping surfaces shall be changed for every new

space or when they have been soiled. Rags shall not be re-used unless they have been washed and sanitized.

3.1.13 Vacuum clean and shampoo each carpeting and mat, furniture (each chair and seat) and clean each air diffuser to be free of dust and debris.

3.1.14 Each habitability space, passageway, and support space, vestibule and entryway shall be vacuumed, swept, mopped, and each mirror polished. Deep clean and scrub each cupboard, shelving, stowage, inside each window, fixture, framework, ledge, sill, and each door.

3.1.15 Remove and dispose of all generated waste in accordance with federal, state, and local laws, codes, ordinances, and regulations.

3.1.16 Upon completion of satisfactory sea trial and prior to custody transfer to GOVERNMENT, defuel vessel, remove and turnover 10 each Optima Blue Top Battery and each fire extinguisher to Shipforce.

(V) (G) "CLEANLINESS INSPECTION"

3.2 Accomplish a joint visual inspection with the SUPERVISOR of each space listed in 1.2 for verification of cleanliness.

3.2.1 Each surface located in 2.1, shall be free of dirt, dust, grime, debris, and grease.

3.2.2 Submit one legible copy, in approved transferrable media, of a report listing results of the requirements of 3.2 to the SUPERVISOR.

3.3 Accomplish the requirements of 009-32 of 2.1 for each new and disturbed surface.

4. NOTES:

4.1 None.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.

SHIP: ITEM NO: 997-11-001
COAR: PCN: SERV-L008
CMP: NONE
PLANNER:

1. SCOPE:

1.1 Title: Drydocking, Undocking; accomplish

1.2 Location of Work:

1.2.1 Not Applicable

1.3 Identification:

1.3.1 Not Applicable

2. REFERENCES:

2.1 Standard Items, (FY-23, CH-3)

2.2 Dive Support Boat Rev 1, Boat Operators Handbook

2.3 S9086-7G-STM-010/CH-997, Docking Instructions and Routine Work in Drydock

2.4 Dive Boat Drawings for Hulls 50DS1001 - 1002, Dive Boat Drawings

2.5 S9008-JH-BIB-010 Rev 1, Boat Information Book for 50-Foot Dive Support Boat, Hulls 50DS1001 AND 50DS1002

3. REQUIREMENTS:

3.1 Furnish a sound docking facility with qualified personnel, plus necessary equipment to safely and satisfactorily dock the Dive Boat.

3.1.1 Provide the SUPERVISOR with an independent third party certification of the docking facility and its capability for docking the craft . Any limitation in dock loading, rate of flooding or dewatering, block location , craft displacement or trim shall be included in the statement.

3.1.2 Provide the services of a dockmaster who has been certified by the contractor and accepted by the SUPERVISOR. Provide necessary supporting personnel to satisfactorily accomplish the docking.

3.1.3 Provide tugs, pilots, and personnel for the complete transfer, docking and undocking of the craft. The number of tugs (if any) shall be agreed to by the SUPERVISOR at the Docking Conference.

3.1.4 Submit a drydocking procedure, using 2.2, 2.4, and 2.5 for guidance, to the SUPERVISOR prior to drydocking the craft which shall include the following: operating practices; safety and security plans; special precautions or actions that are required by the characteristics of the dock or the craft, such as the pumping and flooding schedule on floating drydocks and specific list, trim and stability requirements of the craft during docking and undocking. This procedure shall address the specific docking and undocking evolutions to be performed within the availability.

3.2 Using 2.1 through 2.5 for guidance, develop and provide a blocking plan to set and align the docking blocks to the SUPERVISOR for review and approval.

3.2.1 The blocking plan shall be submitted in the form of a scaled drawing which includes: block size, block spacing, location of the

craft with respect to the blocks at landing. Position blocking to ensure that the hull will not be damaged and shall be accessible for removal and repairs. Provide at least the minimum clearance between the craft's hull and drydock necessary to accomplish drydock work within these work items. Docking clearances shall be determined by the contractor utilizing 2.4 and 2.5 for guidance and the minimum clearance between the side of the craft (including fixed projections) and permanent dock structure (such as catwalks, crane rails, etc.) shall be 12 inches for bringing the craft into or out of dock and performing drydock work. Ensure that hull openings will not be obstructed or state that fleeting or some other method will be used to make all openings accessible during the drydock period. Data requested by this item shall be accompanied by a written request for approval to the SUPERVISOR a minimum of 5 days prior to the scheduled docking date. The use of haul, fixed, universal or fitted blocks and the type of docking facility in which the craft will be docked shall be clearly stated.

3.2.2 Docking proposals shall include supporting data substantiating that the block loading pressures are limited to a maximum of 20 long tons per square foot and that at least 90 percent of blocks land on longitudinal strength members or main transverse bulkheads.

3.2.3 Crib and brace blocking shall be in accordance with Paragraph 997-2.5 of 2.3 using the drawing applicable to the contractor's type of docking facility.

3.2.4 Blocking shall be constructed of hardwood or composite concrete/hardwood and soft caps, with at least 2 inches of soft cap thickness.

3.3 Provide, set and align the blocks in accordance with the approved blocking plans.

(V) (G) "BLOCK INSPECTION"

3.4 Accomplish an inspection of blocking. Provide documentation of inspection showing blocking locations relative to sighting marks on docking coping, spacing, offsets, heights and shaping to the SUPERVISOR at least 4 hours prior to flooding the drydock. Immediately prior to flooding of the dock, accomplish a final block check with the SUPERVISOR.

3.5 Drydock the craft. The craft shall be drydocked during the first 10 percent of the availability.

3.5.1 Immediately after the craft is drydocked, inspect the fit on the blocks. Provide necessary shimming between blocking and hull in the event of hull movement due to removal of ballasting or shifting of craft load.

3.6 Within 8 hours after docking, wash down the craft's underwater hull and fittings with water of at least 100 PSIG pressure and remove dirt, slime, marine growth, fouling and other foreign substances.

3.6.1 Wash down the entire dock basin and remove silt, mud and debris immediately after the craft is docked.

3.6.2 Shift the ship on the blocks (fleet) and ensure 100 percent bottom cleaning and painting when directed by the SUPERVISOR and upon completion of bottom cleaning and painting.

SHIP:

3.7 Maintain watertight integrity.

3.7.1 Seal access openings with closure plates when conditions warrant.

3.7.2 Secure openings at the end of each shift not immediately followed by another shift engaged in drydock work.

3.7.3 Secure vulnerable compartments in order to minimize potential damage to the extent permitted by scope and urgency of work when an area of shell plating removal makes temporary closure impracticable.

3.7.4 Schedule underwater hull operations to maintain craft's positive stability and maximum hull watertight integrity in the event of flooding.

3.7.5 Remove the temporary closures when no longer required.

3.8 Inspect the underwater hull and underwater appendages. Submit a scale drawing of a docking plan showing the underwater hull appendages, closures, blocking and blanks to the SUPERVISOR for approval.

3.9 Maintain the craft in drydock a sufficient length of time to accomplish all drydock work.

3.10 Remove ballast to accomplish work required by other work items. Comply with regulations for disposal of contaminated liquids.

3.11 Provide ballasting and necessary services to ballast tanks as approved by the SUPERVISOR with clean fresh water.

3.12 Submit a verbal report to the SUPERVISOR prior to undocking, certifying that contractor work in the work items requiring the craft to be in drydock including welding on interior surfaces of underwater hull is in fact complete.

3.13 Undock the craft at a date and time mutually agreed upon by the SUPERVISOR and the contractor. Before undocking ensure that sea valves, shaft seals and other hull penetrations below full load draft are watertight.

3.13.1 Inform the SUPERVISOR a minimum of 2 days prior to refloating the boat.

3.14 Immediately after hull penetrations are submerged but before the craft lifts off of the blocks, stop flooding the drydock. Accomplish a watertight integrity check of contractor work affecting watertightness of the hull or hull penetrations below the water level in company with the SUPERVISOR. Continue flooding of the dock when directed by the SUPERVISOR.

3.15 Submit one legible copy, in hard copy or electronic media, of completed Docking Report, NAVSHIPS Form (9997/1) to the SUPERVISOR within ten days after undocking. If the information block entitled "Position Number This Docking" cannot be completed, prepare sketch, both plan and elevation views, showing the positions of the blocking in relation to the hull and include the sketches part of the Docking Report.

3.16 Should the contractor choose to lift the craft in lieu of a more conventional docking method the following additional items should be clarified and submitted as a deviation to the SUPERVISOR:

3.16.1 Submit a material condition and verification by an accredited

SHIP:

independent engineering firm that the crane, lifting device, lifting gear, cradle, slings and spreaders that are required, meet the existing criteria by OSHA and can safely lift the craft.

3.16.2 Submit a general site description of the lifting route for the drydocking. The allowable soil pressures and method of distributing soil loading shall be provided.

3.17 Disconnect and remove temporary services and equipment when directed by the SUPERVISOR.

4. NOTES:

4.1 Blocking material/construction requirements.

4.1.1 The term "hardwood" for the purpose of this work item includes : White Oak, California Laurel, Oregon Myrtle, Iron Wood, Blue Gum, American Rock Elm or preserved Red Oak.

4.1.2 The normal life span for hardwood blocking is about 10 years. Nevertheless, blocking showing evidence of excessive crushing, warping, cracking, checking, rotting or damage from dogging, loss of contact at edges caused by checking and unequal shrinkage or deterioration to an extent of no longer being capable of supporting a prescribed load over full bearing areas is not acceptable and shall be replaced.

4.1.3 Woods acceptable for use as soft caps are: Douglas Fir, Tamarack, Long Leaf Pine, or Hemlock.

4.1.4 Composite blocking showing evidence of spalling and cracks or chipped and damaged concrete is not acceptable.

4.2 Routine drydocking and undockings shall not be scheduled on a Federal Holiday or long weekend associated with Federal Holidays, i.e.: King's Birthday, Washington's Birthday, Memorial Day, Fourth of July, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day and New Year's Day. If the contractor elects to drydock or undock the craft on any other weekend, a request shall be submitted to the SUPERVISOR at least 3 working days in advance in writing.

5. GOVERNMENT FURNISHED MATERIAL (GFM):

5.1 LLTM:

1. None.

5.2 PUSH MATERIAL:

1. None.

5.3 KITTED MATERIAL:

1. None.