



USCGC OAK (WLB 211)  
SPECIFICATION FOR DOCKSIDE REPAIRS  
FY2023

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(Rev-1, 07 December 2022)

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## REVISIONS RECORD

This page is used to record specification revisions, which may have occurred subsequent to a Revision 0 (Rev-0) package. Information listed is intended to provide contractors and field unit personnel a means to ensure all the current specification revision pages are present when reviewing or utilizing this specification package.

DATE	REV#	WORK ITEM#	CHANGES MADE
7 DEC 2022	REV-0	19	Added WI 19 Thruster Generator, Clean & Inspect

**NOTE :** All work item and paragraph numbers listed above for a given revision correspond to same numbers in the previous revision. This revised specification is self-contained with all of the above listed changes incorporated.

## CONSOLIDATED LIST OF REFERENCES

The below-listed documents form a part of this specification to the extent specified herein. Approval/publication dates or revision dates/numbers are also identified, to ensure that same document versions are used at the time of specification writing and during contract execution.

All Coast guard drawings, technical publications, and standard specifications will be provided to contractors by the Coast Guard at an appropriate time, or upon request, free of charge. Other Government documents may be accessed – free of charge – from links located on the SFLC website. Commercial sites provide access to their respective documents.

### COAST GUARD DRAWINGS

- Coast Guard Drawing 225B WLB 201-001, Rev D, Machinery Spaces Arrangement
- Coast Guard Drawing 225B WLB 256-001, Rev P, Seawater Cooling System Diagram
- Coast Guard Drawing 225B WLB 541-001, Rev J, Fuel Oil System Diagram
- Coast Guard Drawing 225B WLB 556-001, Rev F, Hydraulic System Diagram
- Coast Guard Drawing 225B WLB 512-001, Rev K, HVAC Diagram
- Coast Guard Drawing 225B WLB 512-007, Rev B, HVAC A&D, Fr 66-92, Innerbtm & 1st Platform
- Coast Guard Drawing 225 WLB 259-005, Rev C, Combustion Intake & Exhaust A&D Hull Block 940
- Coast Guard Drawing 225B WLB 532-002, Rev F, Potable Water Sys Dia
- Coast Guard Drawing FL 533-001, Rev B, Placard Potable Water Flush
- Coast Guard Drawing FL 533-002, Rev -, Point of Use Water Filter Install
- Coast Guard Drawing 225B WLB 551-001, Rev G, Compressed Air System Diagram
- Coast Guard Drawing 225B WLB 593-001, Rev E, Sewage and Waste Water System Diagram
- Coast Guard Drawing 225B WLB 593-009, Rev B, Sewage Holding Tank
- Coast Guard Drawing 225B WLB 528-001, Rev G, Plumbing and Interior Deck Drains
- Coast Guard Drawing 225B-WLB 601-01, REV P, General Arrangement Inboard and Outboard Profiles
- Coast Guard Drawing 225B-WLB 634-01, REV F, Deck Cover Schedule
- Coast Guard Drawing 225B-WLB 631-02, REV G, Painting Schedule
- Coast Guard Drawing 225-WLB-612-001, Rev L, Lifelines, Liferaills and Stanchions
- Coast Guard Drawing 225-WLB 583-052, Rev F, Workboat Davit Installation & Related Modifications
- Coast Guard Drawing 225-WLB 601-001, Rev AC, General Arrangements – Inboard and Outboard Profiles
- Coast Guard Drawing 225B-WLB 601-001, Rev P, General Arrangements – Inboard and Outboard Profiles
- Coast Guard Drawing 225B WLB 505-1, Rev D, General Requirements for Piping Systems
- Coast Guard Drawing 225B WLB 593-1, Rev E, Sewage and Waste Water System Diagram
- Coast Guard Drawing 225B WLB 593-7, Rev D, Sewage And Waste Water System A/D, Fr 76 Aft, Abv Mn Dk, Block 950, 970
- Coast Guard Drawing 225B-WLB 111-001, Rev A, Shell Expansion
- Coast Guard Drawing 225B-WLB 167-001, Rev M, Structural Closures
- Coast Guard Drawing 225B WLB 601-002, Rev., Booklet off General Drawings

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Coast Guard Drawing 225B-WLB 801-013, Rev B, Midship Section & Typical Sections  
Coast Guard Drawing 225B-WLB 801-015, Rev B, Scantling, Decks, & Platforms  
Coast Guard Drawing 225B-WLB 801-016, Rev -, Scantlings, Watertight Bulkheads  
Coast Guard Drawing 225 WLB 601-002, Rev Y; General Arrangement Inboard and Outboard Profiles  
Coast Guard Drawing 225B WLB 601-002, Rev N, Booklet off General Drawings  
Coast Guard Drawing 225B WLB 320-001, Rev AF, Electrical One Line Diagram  
Coast Guard Drawing 225B WLB 437-003, Rev D, Thruster Control Sys Block, Wiring Deck Plan & Elementary Wiring Diagram  
Coast Guard Drawing 225 WLB 167-001, Rev W, Structural Closures  
Coast Guard Drawing 225-WLB-601-001, Rev V, General Arrangements, Inboard and Outboard Profiles  
Coast Guard Drawing 225-WLB 201-2, Rev B, Access Removal Routes  
Coast Guard Drawing 225B-WLB 201-2, Rev C, Access Removal Routes

### **COAST GUARD PUBLICATIONS**

Coast Guard Technical Publication (TP) 3518, Oct 2007, MDE Model 3608/1  
Coast Guard Technical Publication (TP) 3523, SWBS 241-B, Nov 2007, Reduction Gear - Model 96DHCMGH-CP  
Coast Guard Technical Publication (TP) 3524, SWBS 245-B, May 2009, Propeller System, CPP - Model 110251007  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements  
Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems  
Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures  
Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes  
Coast Guard Technical Publication (TP) 3562, Sep 2013, SWBS 589, Section C, Dumbwaiter, Model -F-WK-806  
Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2020, Overhaul AC Electrical Motors  
Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2020, Install Interior Deck Covering Systems  
Surface Forces Logistics Center Standard Specification 8635 (SFLC Std Spec 8635), 2020, Temporary Services  
Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 3042, 2020, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, and Installation  
Coast Guard Technical Publication (TP) 3536A, SWBS 324, Feb 2021, Switchboards - Main, Emergency, and Thruster, Volume 1  
Coast Guard Technical Publication (TP) 3536B, SWBS 324, Feb 2002, Switchboards - Main, Emergency, and Thruster, Volume 2

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Coast Guard Technical Publication (TP) 3556, Manufacturer's Instruction Book – SWBS Group(s) 568  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements  
Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 0450, 2020, Electrical Power for Contractor's Tools & Equipment  
Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 3100, 2020, Inspect, Test and Recondition AC Synchronous Machines In-Place

### **OTHER REFERENCES**

Commercial Item Description (CID) A-A-59588, 2013, Rubber Silicone  
ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets  
American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2011, Disinfection of Water-Storage Facilities  
American Society of Mechanical Engineers (ASME) B16.34, 2017, Valves-Flanged, Threaded, and Welding End  
American Society for Testing and Materials (ASTM) International F1508, 2016, Standard Specification for Angle Style, Pressure Relief Valves for Steam, Gas, and Liquid Services  
Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2019 Edition, Pressure Testing Of Valves  
Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-67, 2017 Edition, Butterfly Valves  
Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72, 2010 Edition, Ball Valves with Flanged or Butt-Welding Ends for General Service  
Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80, 2019 Edition, Bronze Gate, Globe, Angle and Check Valves  
ASTM International (ASTM) D5363, 2008, Standard Specification for Anaerobic Single Component Adhesives (AN)  
MIL-S-45180, 1998; Sealing Compound, Gasket, Hydrocarbon Fluid and Water Resistant  
MIL-PRF-24176 , Oct 2004, Cement, Epoxy, Metal Repair And Hull Smoothing (Metric)  
The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 10/NACE No.2, 2007, Near-White Blast Cleaning  
Naval Ships Technical Manual (NSTM) S9086-SE-STM-010/CH-533R3, 1995, Potable Water Systems  
American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) AB 4, Mar 2011, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications  
American National Standards Institute/Underwriters Laboratories Inc. (ANSI/UL) 489, Molded Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures, Oct 2016  
Commercial Item Description (CID) A-A-59316, 2016, Abrasive Materials; for Blasting  
The Society for Protective Coatings (SSPC)/NACE International (NACE) 2007, Joint Surface Preparation Standard SSPC-SP 10/NACE No. 2, Near-White Metal Blast Cleaning  
The Society for Protective Coatings (SSPC) Surface Preparation Standard No. 11 (SSPC-SP 11), 2013, Power-Tool Cleaning to Bare Metal

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NAVSEA Drawing 805-462948

NAVSEA Drawing 167-7379842

**CONSOLIDATED LIST OF GOVERNMENT-FURNISHED PROPERTY**

The following is a list of property, which the Government will furnish. This list supersedes any other material obligations indicated or implied by referenced drawings.

<b>WORK ITEM</b>	<b>MTI</b>	<b>ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>	<b>ESTIMATED COST (\$/UNIT)</b>
13	N	Water Filter Assembly	PN: DWS160-L (3M) NSN: (ACN) 44330-01-F20- 5959	9 ea.	160.00
13	N	Water Filter Element	PN: 56134-44 (3M)	9 ea.	180.00

\*Government-loaned property, which shall be returned to the vessel upon completion of the availability.

\*\*New or refurbished equipment that the Government may provide for installation in place of existing equipment.

\*\*\*Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center

## **CONSOLIDATED LIST OF CRITICAL INSPECTION ITEMS**

The following is a list of work items, which contain Critical Inspection reports, which the Contractor must complete within the first 25% of the availability contract period (see SFLC Std Spec 0000, paragraph 3.2.6.5 (Inspection report particulars)):

Work Item	Title
5	Commissary Hoist, Inspect and Service
14	Various Compartment Decks, Preserve
16	Insulated Case Circuit Breakers, Inspect, Maintain and Test
17	Power Circuit Breakers, Maintain & Test
19	Thruster Generator, Clean & Inspect

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**PRINCIPAL CHARACTERISTICS**

<b>225' WLB (B-CLASS)</b>	
<b>PHYSICAL</b>	
Length overall	225' 0"
Length between perpendiculars	206' 0"
Maximum beam	46'
Designed draft	13' 0"
Full load displacement	1905.6 Long Tons SW
Light ship displacement	1500.7 Long Tons SW
Minimum operating displacement	1869.2 Long Tons SW
Mast height (above 12' waterline)	67' 5"
Anchor	Two 4000 lb standard Navy stockless anchors, 8 shots each, port and starboard, 1-3/8 die lock chain
<b>HULL</b>	
Bilge keels (port & starboard)	Frames 42-79
Frame spacing	
FR 0 to 12	21"
FR 12 to 30	22"
FR 30 to 102	24"
<b>MACHINERY</b>	
Main propulsion	Diesel Reduction
Diesel engines	Two Caterpillar 3608, TA, 3100 BHP each @ 900 RPM
Number of propellers	1
Number of blades	4
Diameter	10'
Pitch	Controllable
RPM	254
Ship's service diesel generators	Two Caterpillar 3508 TA, 450 KW
Emergency diesel generator	One Caterpillar 3406 DITA, 280 KW
Shore tie	Two 450 VAC, 400 Amp, 3-wire
Shaft bearing, forward	Cooper Bearing 01-BCP-1400-EX-TL
Shaft bearing, aft	Water Lubricated Cutless Bearing
<b>TANK CAPACITIES</b>	
Diesel oil	76,498 gal.
Fresh water capacity	8056 gal.
Hydraulic oil capacity	2785 gal.
Lube oil storage	764 gal.
Grey water tank	2700 gal.
Sewage holding tank	1700 gal.

## General Requirements

### 1. SCOPE

1.1 Intent. This standard specification invokes general requirements for conducting vessel repairs performed by commercial contractors at a Coast Guard facility for Coast Guard vessels.

1.2 Term interchangeability. The terms 'Contractor', 'CG Yard', 'NAVSTA EVERETT', 'shipyard', 'Base', and 'Coast Guard Industrial' are used interchangeably in this specification. Where the primary service provider is Coast Guard personnel, references to contractor and other noted descriptors within this specification or within drawings, publications, SFLC Standard Specifications or other commercial and military references are deemed the same as prime service provider.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (series), Coatings and Color Manual  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), Latest Version,  
General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), Latest Version,  
Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 5550 (SFLC Std Spec 5550), Latest Version,  
Fire Prevention and Response

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), Latest Version,  
Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

Code of Federal Regulations (CFR) Title 29, Part 1915, Occupational Safety and Health Standards for  
Shipyards Employment

NAVSEA Technical Publication T9074-AD-GIB-010/1688, (TP 1688), July 2012, Requirements for  
Fabrication, Welding, and Inspection of Submarine Structure

### 3. REQUIREMENTS

3.1 General. The Contractor must conform to all requirements specified in SFLC Std Spec 0000 and in this item, as applicable, during the performance of this availability. The requirements of this WI applies to all work under the scope of this contract, whether explicitly stated in all following work items or not, and to all other work subsequently authorized by changes, modifications, or extensions to the contract.

3.2 Contractor-provided fire extinguishers. The Contractor must provide portable fire extinguishers.

3.2 Fire watch requirements. The Contractor must refer to 3.3.1.3 (Fire watch requirements) of SFLC Std Spec 0000, in accomplishing the following task:

- Provide portable fire extinguishers for Coast Guard fire watch personnel. Coast Guard fire watch is in lieu of contractor personnel during the hours of 0800-1600, Monday through Friday, and limited to two Coast Guard fire watch personnel.
- Provide fire watch personnel and fire extinguishers for the duration of the availability period, during and beyond noted Coast Guard fire watch support.

3.3 Preservation requirements. The Contractor must accomplish all preservation tasks, including touch-ups, in accordance with SFLC Std Spec 6310.

3.3.1 Brand name approval. Ensure that all contractor-furnished coatings are in accordance with SFLC Std Spec 6310, Appendix C (Authorized Coatings for Use on Cutters and Boats).

3.3.2 Coating colors and system color schemes. The Contractor must obtain a written KO authorization to deviate from any coatings required in SFLC Std Spec 6310 Appendix C before work.

3.3.3 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for “critical-coated surfaces”).

3.3.3.1 Quality control requirements. The Contractor must abide by the following when performing preservation related inspections. The following measurements must be randomly spaced throughout for the purposes of providing a representation of the entire prepared or coated surface.

3.3.3.1.1 Surface profile measurements. One surface profile measurement must be taken for every 200 square feet for the first 1000 square feet; for each additional 500 square feet or less, one profile measurement must be taken. Profile measurements must be taken in accordance with SFLC Std Spec 6310, paragraph 3.1.8.3 (Surface profile measurements). A “measurement” for surface profile is defined as follows:

- ASTM D4417, Method B: One profile measurement is the average (mean) of 10 individual readings.
- ASTM D4417, Method C: One profile measurement is the average (mean) of 2 individual readings.

3.3.3.1.2 Soluble salt conductivity measurements. 5 conductivity measurements must be taken every 1000 square feet. For submerged (immersed) applications conductivity measurements must not exceed 30 microsiemens/cm. For non-submerged (non-immersed) applications conductivity measurements must not exceed 70 microsiemens/cm. If a conductivity check fails, clean the surface in accordance with SFLC Std Spec 6310, paragraph 3.1.8.5 (Soluble salt removal).

3.3.3.1.3 Coating thickness measurements. Three area measurements must be taken for the first 1000 square feet; for each additional 1000 square feet, perform an additional area measurement. A “measurements” for coating thickness is defined as follows:

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- SSPC-PA 2 defines an area measurement as 5 separate spot measurements randomly spaced throughout a 100 square foot area.
- SSPC-PA 2 defines a spot measurement as 3 gage readings and each new gage reading the probe must be moved to a new location within a 1.5 inch diameter circle defining the spot.

3.4 Welding and brazing requirements. The Contractor must perform all welding and allied processes, and NDE in accordance with SFLC Std Spec 0740.

3.4.1 HY-130 material substitution. The Contractor must be aware that HY-130 steel plating is no longer commercially available. For the purpose of performing flight deck repairs on US Coast Guard WMEC-270 “B-Class” cutters, Weldox 900 steel plating has been approved as a replacement for HY-130. Due to the similarity in material properties and weldability of HY-130 and Weldox 900, all welding procedures and welder qualifications for welding Weldox 900 must be the same as those outlined in NAVSEA TP 1688 as applicable for welding HY-130.

3.4.2 Standard spec modification. For any welding involving HY-130 on the flight deck of WMEC-270 “B-Class” cutters, perform all welding and allied processes, and non-destructive evaluation (NDE) in accordance with NAVSEA TP 1688. The Contractor must be aware that the welding requirements specified in this document take precedence over paragraph 3.3.6 of SFLC Standard Spec 0000 for the purpose of welding involving HY-130.

3.4.3 Approval to weld HY-130. To obtain Coast Guard approval to weld on HY-130 steel for WMEC-270 “B-Class” cutters, the Contractor must provide written Performance Qualification Records (PQR’s) for each process to be used. The PQR’s must be approved by one of the regulatory agencies affirming that the WPS meets the welding requirements of NAVSEA TP 1688. In addition, the Contractor must ensure that all subcontractors, prior to performing welding operations, have qualified procedures by meeting all the requirements set forth in this document.

### NOTE

**NAVSEA approval is NOT required for welding procedures submitted but the procedures must be reviewed and shown to satisfy the requirements set forth in NAVSEA TP 1688, by a welding regulatory agency. The requirements for welding Weldox 900 are considered the same as those for welding HY-130.**

3.5 Environmental protection requirements. The Contractor must adhere to the following environmental protection requirements in accordance with the SFLC Stand Spec 0000:

3.5.1 USCG facilities. The Contractor must provide and maintain environmental protection as defined in SFLC Std Spec 0000 Appendix B, Requirements for Environmental Protection at USCG Facilities, during the performance of this availability. Contractor must plan for and provide environmental protective measures to control pollution that develops during normal practice, as well as plan for and provide environmental protective measures required to correct conditions that develop during the project. Contractor must comply with applicable Federal, state, and local laws, codes, ordinances, and regulations in their entirety. Any reference to a specific portion of a Federal, state, or local law, code, ordinance, or regulation in this or any other item must not be construed to mean that relief is provided from any other sections of the law, code, ordinance, or regulation.

3.5.1.1 USCG Generator status. The activity Generator Status for the Coast Guard Facility is Low.

3.5.1.2 Plans and permits. The CG Facility has unit specific permits including the following:

- Spill Prevention Control and Countermeasures (SPCC) Plan: Unit has a SPCC Plan which requires certain unit-specific procedures be followed for the storage, inspection, and transfer of petroleum

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products in containers 55 gallons or greater.

- National Pollutant Discharge Elimination System (NPDES) Storm Water (SW) Permit: Unit has an NPDES SW permit which requires unit-specific procedures be followed for the storage and inspection of equipment and materials which may contribute contaminants to storm water discharges.
- Air Emission Permit: Unit has an Air Emission Permit which requires unit-specific procedures be followed for the emissions of VOCs and hazardous air pollutants.

3.5.2 Test and procedures. The Contractor is required to promptly conduct tests and procedures for the purpose of assessing whether operations are in compliance with applicable Environmental Laws. Analytical work must be done by qualified laboratories; and where required by law, the laboratories must be certified.

3.5.3 Regulatory notifications. The Contractor is responsible for all regulatory notification requirements in accordance with Federal, State and local regulations. In cases where the Coast Guard must also provide public notification, such as storm water permitting, the Contractor must coordinate with the Contracting Officer or COR, and if work is being performed at a USCG Facility, the local Facility Engineer or Engineering Officer. The Contractor must submit copies of all regulatory notifications to the Contracting Officer and the local Facility Engineer or Engineering Officer prior to commencement of work activities. Regulatory notifications must be provided for including but not limited to demolition, renovation, National Pollutant Discharge Elimination System (NPDES) defined site work, and remediation of controlled substances such as asbestos, hazardous waste, and lead paint.

3.5.4 Environmental manager. The Contractor must appoint in writing an Environmental Manager for the project, who is responsible for coordinating Contractor compliance with Federal, State, local, and station environmental requirements. The Environmental Manager must ensure compliance with Hazardous Waste Program requirements, including hazardous waste handling, storage, manifesting, and disposal; implement the Contractors' Environmental Management Plan; ensure that all environmental permits are obtained, maintained, and closed out; ensure compliance with Storm Water Program Management requirements; ensure compliance with Hazardous Materials including storage, handling, and reporting requirements; as well as coordinate any remediation of regulated substances such as lead, asbestos, and polychlorinated biphenyl (PCB). This may be a collateral position; however the individual must be trained to accomplish the following duties; ensure waste segregation and storage compatibility requirements are met; inspect and manage Satellite Accumulation areas; ensure only authorized personnel add wastes to containers; ensure all Contractor personnel are trained in 40 CFR requirements and individual position requirements; coordinate removal of waste containers; and maintain the Environmental Records binder and required documentation, including environmental permits compliance and close-out.

3.5.5 HW disposal. Contractor must comply with SFLC Std Spec 0000 Appendix B, Requirements For Environmental Protection At USCG Facilities for HW disposal, and ensure that waste removals are conducted during normal business hours (0800-1600) on Monday through Friday (excluding holidays).

3.5.6 Additional Requirements. The Contractor must be aware of the following:

3.5.6.1 No Contractor or Subcontractor must have the authority to sign a Hazardous Waste Manifest using the Coast Guard facility's EPA Generator ID Number or remove contract generated hazardous waste from the Coast Guard facility without COR or KO-approval.

3.5.6.2 Local environmental regulations at the Government facilities may be more stringent. As with all environmental regulations, the Contractor must prepare for and comply with local and state regulations.

3.5.6.3 Coast Guard facilities do not maintain Facilities Response Plans (FRPs) per 33 CFR 154. Contractor must furnish the FRP when required for over-the-water liquids transfers to and from vessels, and is required for oil/fuel

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transfers to/from vessels for 250 barrels (10,500 gallons) or more.

3.6 Local Policy. The Contractor must refer to site (e.g. Base) Regulations and Instructions for details regarding local policies (e.g. crane services, parking, or facility usage).

3.6.1 This availability is to be conducted at an US Navy facility. The Contractor must comply with all US Naval facility instructions (e.g. NAVFAC P-307 for Weight Handling Program Management, etc).

3.7 SFLC Standard Specification approved changes. The Contractor must be aware that the following are approved changes to published SFLC 2020 Edition Standard Specifications and supersede published content:

3.7.1 SFLC Standard Specification 8636. Add missing paragraphs between 3.2 and 3.5 of Std Spec 8636 as follows:

“3.3 Access cut boundaries. The Contractor shall ensure that access cuts comply with the requirements and restrictions detailed in the following and in SFLC Std Spec 0740, and referenced codes.

3.3.1 Location of boundaries. Boundaries of access cuts and closure plates shall, in general, be located between principal ship framing, bulkheads, and other structural members and shall be at least three inches from any of these members or from the toes of other welds. A reduction in this three inch minimum may be approved by the KO on a case by case basis provided sufficient clearance is maintained for welding and inspection requirements. The boundaries of access cuts and closure plates should land on existing butts or seams, wherever practicable. The boundaries of prior access cuts should be utilized wherever possible. Boundaries may extend across one or more frames as required for the size of the opening.

3.3.2 Access hole dimensions and arrangements. Holes or access cuts shall be the minimum size necessary and shall be in accordance with the following:

- Rectangular access cuts and closure plates welded into primary hull structure shall be at least 12 inches wide in the lesser dimension.
- For circular access cuts, the minimum diameter shall be  $4T$ , where  $T$  = thickness of the involved structural member, but not less than three inches.
- Circular closure plates for access cuts less than two feet in diameter shall be dished  $1/16$  to  $1/8$  inch to allow for shrinkage when welded.
- Corners of rectangular access cuts and closure plates shall have a minimum radius of 6 inches except when a boundary lands on an existing hull longitudinal seam or transverse butt weld.
- Corners at an existing seam or butt shall intersect at a 90 degree angle.
- Cuts that are to cross existing butts or seams shall do so at an angle of 90 degrees plus or minus 15 degrees.
- In primary hull structure, existing welds forming the boundary of a cut shall be cut back 3 inches beyond the toe of the access cut, except that the cut back shall not intersect or cross an existing weld, frame, or structural member. In which case, the cut back may be reduced to a minimum of two inches in length.
- Existing welds crossed by the cut shall not be cut back.

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3.3.3 Primary hull structure. Primary Hull Structure includes the shell, main strength decks, principal longitudinal bulkheads, vertical keel, deep web girders and stiffeners designed to withstand the ship bending stress.

3.3.4 Mechanically fastened joints. Welding closer than six inches to a mechanically fastened joint should be avoided. When access cuts cross or come within six inches of a mechanically fastened joint, the fasteners shall be checked for tightness and if necessary, loose fasteners shall be seal welded or removed, and replaced for a distance of 6 inches beyond the edge of the cut. When a cut crosses a mechanically fastened seam the cut plates shall be repaired using single V welds backed with glass tape (MIL-C-20079) to prevent fusion between the mechanically fastened plates.

3.4 Ship integrity maintenance. The Contractor shall maintain safety and ship integrity by installing temporary guarding and coaming, in addition to weathertight and watertight closures. Remove these temporary fabrications after closing the hull access, and grind surfaces flush in way of removals. For shell plating cuts made at or below the waterline where temporary closures are impractical, the Contractor shall secure each vulnerable compartment and subdivision to minimize potential damage to the extent permitted by the scope and urgency of the work.

3.4.1 Guarding. Install temporary guards in accordance with 29 CFR 1915.73.

3.4.2 Coaming. Ensure that in areas where flammable liquids may be stored, a 4 inch high metal coaming shall be installed on the surface of the deck with tack welds and fully sealed with caulking compound. The coaming shall encircle the access cut in the deck.

3.4.3 Weathertight and contamination closures. Fabricate temporary closures, using fire retardant material, before cutting access openings and install closures whenever access is not in use. Closures shall be:

- Constructed to protect the access from inclement weather and entry of contaminants (shall include a coaming or dam on the deck to redirect rain runoff away from the opening).
- Fitted with fasteners that permit rapid installation and removal.
- Able to support a minimum of 150 pounds per square foot for horizontal deck closures.
- Where the access opening is in way of a removed hatch, scuttle or door, the closure shall be configured to allow normal passage of ship's personnel and equipment.

3.4.4 Watertight closures. Ensure that access openings created four feet or less above the maximum anticipated waterline shall include temporary watertight closures when the vessel is waterborne.

**NOTE**

**NAVSEA S0600-AA-PRO-160/CH16 provides requirements for design, fabrication, and installation of temporary watertight closures.”**

3.7.2 SFLC Standard Specification 0000. Replace paragraph 3.3.4 Vessel access, as follows:

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"3.3.4 Vessel access. During work at the Contractor's facility, provide access and/or egress to and from the vessel in accordance with 29 CFR 1915.74, Subpart E. Provide a minimum of two gangways that have the following:

- Adequate walking surface width and strength and be safely secured.
- A railing, with a mid-rail, on each side of the gangway, and a turn table if necessary.
- Substantial steps properly secured and equipped with at least one handrail, when the upper end of the gangway rests on or is flush with the top of the bulwark of the dock.
- Nets or other suitable protection on both sides, when there is a danger of personnel falling between the ship and the dock. Nets and other suitable protection must extend beyond the projected area of the access and egress points so as to catch a personnel that may be falling outward: i.e., the nets must be wider than the gangway.
- Proper trimming at all times.
- Adequate illumination for their full length.
- Separated by one-fourth the length of the vessel, at a minimum, as to mitigate the possibility that an incident could block both means of escape."

3.7.3 SFLC Standard Specification 8635. Replace and add paragraphs as follows,

"3.3.10.4.1 Contractor-furnished supporting equipment. Provide all hoses and fittings needed to supply water to the system. Provide pressure gauges at the connection(s) to the ship and the furthest firehose station to allow personnel to clearly read the gage-face to demonstrate or record the required water pressure is available at all energized portions of the system."

"3.2.3 Shipboard access/egress and routing of temporary services. Maintain a primary and secondary means of access/egress for each vessel, where practicable. Pre-plan for the installation of temporary services to minimize the total number of service leads penetrating the hull by maximizing the use of backbones and/or manifolds for industrial services. Pre-planning for the installation of temporary services shall include removal (first in, last out, when no longer required). Pay special attention to transitional spaces (cross passages, top and bottom of stairwells) where services could potentially fall and restrict emergency personnel egress and/or casualty responder access."

"3.2.3.2 Materials used for suspending temporary services. Temporary services shall be suspended at regular intervals, to prevent impeding personnel access/egress and emergency response, using a high temperature line that meets the noncombustibility test requirements contained in reference (e). When using steel wire rope, or other potentially abrasive material, an anti-chafing material shall be used to prevent damage of the temporary service line. When available, temporary service lines may be run through the ship's structural elements (i.e., cable ways, light stanchions, etc.). When the routing of temporary services overhead is not practicable, temporary services, rigging of hoses, welding leads, and temporary lights shall be clear of the decks on temporary "trees" or brackets and be arranged to minimize tripping and other hazards."

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"3.2.3.5 Quick Disconnect Fittings. QDFs shall be located within 10 feet of designated vertical and horizontal fire zone boundaries. When practicable, QDFs shall be installed within 10 feet of hull penetrations used for personnel access, to facilitate the deployment of smoke control curtains. QDFs must be capable of being disconnected safely on pressurized or energized systems unless approved for use as described in paragraph 3.2.3.7. Pressurized and disconnected QDFs must prevent wetting of energized equipment. For hull openings used for services only, QDFs are not required, provided the opening is fitted with an air and smoke control "sock" that remains in place around the services. Air and smoke control curtains are not intended to provide an air tight seal of the hull opening. Rather, the curtains or socks, are to ensure that emergency responders can control the flow of air and smoke through the opening to allow for de-smoking of compartments, and minimize "chimney" effects. Curtains shall be made of fire resistant fabric meeting the requirements of NFPA 701."

"3.2.3.7 Service lines crossing fire zone boundaries. When service lines transit a fire zone boundary which cannot be safely disconnected locally (e.g., high voltage cables), the COR shall approve, in advance, the method to safely secure and remove the service."

3.7.4 SFLC Standard Specification 6310.

3.7.4.1 On page 2, replace REFERENCE "MIL-PRF-24667C, May 2008, Coating System, Non-Skid, for Roll, Spray, or Self-Adhering Application" with "MIL-PRF-24667D, FEB 2021, Coating System, Non-Skid, for Roll, Spray, or Self-Adhering Application"

3.7.4.2 On page 9, replace the NOTE under paragraph 3.1.8.5 as follows:

**NOTE**

**De-ionized water may be used in cases where available fresh water has excessive chloride/chlorine content. Submit a CFR prior to using de-ionized water.**

**4. NOTES**

4.1 QA inspection forms. QA inspection forms (QA-1 thru QA-5), required in SFLC Std Spec 6310 to be completed and submitted during preservation of "critical-coated surfaces", are provided at the end of this document.

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**QA-1 - QUALITY ASSURANCE INSPECTION FORM**  
**(PRESERVATION CHECKLIST)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (INCL. FRAME #'S)			AREA (SQFT)

<b>CHECKPOINT 1 – COATING SYSTEM COMPLIANCE</b>			
	Ensure all coatings are in compliance with SFLC Std Spec 6310, Appendix C.		
<b>CHECKPOINT 2 - PAINT STORAGE</b>			
	Ensure all coatings are kept at a temperature of 65 to 85°F at all times, unless otherwise specified by the coating mfg.		
<b>CHECKPOINT 3 - AMBIENT CONDITIONS</b>			
	Ensure surface and surrounding temperatures are each between 50 and 90°F for water-containing coatings, and 35 and 95°F for other coatings, unless otherwise specified by the coating manufacturer(s).		
	Ensure maximum relative humidity (RH) is as follows, from surface preparations through final curing of topcoat: 50% for tanks, voids, and vent plenum; and 85% for all other areas, unless otherwise specified by manufacturer(s).		
	Ensure surface temperature is at least 5°F above the dew point, unless otherwise specified by the coating mfg.		
<b>CHECKPOINT 4 - PRE-SURFACE PREPARATION</b>			
	Remove surface contaminants (soluble salts, loose rust, mud, and marine growth) with low pressure fresh water wash down (maximum 5,000 psi). If oil and grease are present, perform solvent cleaning, as per SSPC SP-1.		
	Verify equipment setup, blast media, and surface preparation methods match designated test coupon.		
<b>CHECKPOINT 5 - SURFACE PREPARATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure cleanliness of prepared surface is as per specification (i.e.: SSPC SP-11, SP-10, SP WJ-2...).		
	Verify surface anchor profile using ASTM D4417-Methods B or C against SFLC Std Spec 6310. Conduct profile readings at a minimum of 5 locations for the first 1000-sqft area, and 2 locations for each succeeding 1000-sqft area.		
	Measure soluble salt conductivity in accordance with SSPC-Guide 15. Conduct 5 measurements per each 1000-sqft area (max. threshold: 70 microsiemens/cm for non-submerged surfaces, 30 microsiemens/cm for submerged surfaces).		
<b>CHECKPOINT 6 - PRIMER COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Verify proper mixing and stand-in (induction) times.		
	Ensure no paint is applied when the temperature is expected to drop to freezing before the paint has dried.		
	Ensure surfaces are completely dry, unless otherwise allowed by the coating manufacturer(s).		
	Verify wet film thickness (WFT) at random, to prevent under or over application. Verify final DFT.		
	Brush out all runs, sags, drips, and puddles.		
	Perform visual inspection for holidays and other defects.		
<b>CHECKPOINT 7 – STRIPE COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure overcoating window is as per manufacturer’s instructions.		
	After primer coat (mist coat after inorganic zinc), brush-apply un-thinned coat of same primer paint over edges, weld seams, cut-outs, and areas of complex geometries @ 3-4 mils wet film thickness (WFT).		
<b>CHECKPOINT 8 – TOP COAT APPLICATION</b>			
	Verify environmental conditions (see CHECKPOINT 3).		
	Ensure overcoating window is as per manufacturer’s instructions.		
	Verify proper mixing and stand-in (induction) times, as applicable.		
	Verify wet film thickness at random, to prevent under or over application.		
	Brush out all runs, sags, drips, and puddles.		
<b>CHECKPOINT 9 – FINAL INSPECTION</b>			
	Verify final system dry film thickness. Conduct 5 sets of 3 readings for each of the first 3 100-sqft areas, followed by 5 sets of 3 readings for each succeeding 1000-sqft area.		
	Ensure that system cure is in accordance with manufacturer's recommendation for intended service.		
	Ensure potable water tank exhaust ventilation is maintained continuously from and during coating application through final system cure, to exhaust all solvent to the atmosphere and to prevent solvent entrapment.		
	For immersion coatings (including tank U/W body), record date and time of the following events: Final coat application:     /     ; Return to service or removal from environment controls:     /		
<b>CHECKPOINT 10 – RECORD KEEPING</b>			
	Complete, sign, and submit all provided QA Inspection Forms.		
NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME
NAME OF CG REPRESENTATIVE	SIGNATURE	UNIT	DATE/TIME



USCGC OAK (WLB-225B) DOCKSIDE AVAILABILITY FY2023  
**QA-3a - QUALITY ASSURANCE INSPECTION FORM**  
**(SURFACE PROFILE LOG FOR PROFILE MEASUREMENTS IAW ASTM D4417-METHOD-C)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (FRAME REFERENCES)			AREA (SQFT)

SURFACE PREPARATION METHOD	PROFILE ACHIEVED (MILS)		
	MIN	MAX	MEAN
SSPC-SP-10/NACE No. 2	<input type="checkbox"/>		
SSPC-SP WJ-2/NACE WJ-2	<input type="checkbox"/>		
SSPC-SP-3	<input type="checkbox"/>		
SSPC-SP-11	<input type="checkbox"/>		
SSPC-SP-11 (inaccessible area)	<input type="checkbox"/>		
Brush-blasting (non-metallic substrate)	<input type="checkbox"/>		
ABRASIVE MANUFACTURER:	ABRASIVE SIEVE SIZE:		

PLACE SURFACE PROFILE REPLICA TAPES IN THE SPACES PROVIDED BELOW, TO SERVE AS PERMANENT QA RECORD. MAINTAIN A SEPARATE LOG FOR EACH LOCATION. WHEN AN AREA IS DIVIDED INTO SEPARATE SECTIONS, MAINTAIN A SEPARATE LOG FOR EACH SECTION.					
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here		Place Surface Profile Replica Tape Here	
Reading (mils):		Reading (mils):		Reading (mils):	
<b>MEAN MIL READING (IAW ASTM D4417-METHOD C) FOR ABOVE 15 READINGS:</b>					

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME
NAME OF CG REPRESENTATIVE	SIGNATURE	UNIT	DATE/TIME

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**QA-3b - QUALITY ASSURANCE INSPECTION FORM**  
**(SURFACE PROFILE LOG FOR PROFILE MEASUREMENTS IAW ASTM D4417-METHOD-B)**

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE
LOCATION OF WORK (INCL. FRAME #'S)			AREA (SQFT)

SURFACE PREPARATION METHOD		PROFILE ACHIEVED (MILS)		
		MIN	MAX	MEAN
SSPC-SP-10/NACE No. 2	<input type="checkbox"/>			
SSPC-SP WJ-2/NACE WJ-2	<input type="checkbox"/>			
SSPC-SP-3	<input type="checkbox"/>			
SSPC-SP-11	<input type="checkbox"/>			
SSPC-SP-11 (inaccessible area)	<input type="checkbox"/>			
Brush-blasting (non-metallic substrate)	<input type="checkbox"/>			
ABRASIVE MANUFACTURER:		ABRASIVE SIEVE SIZE:		

**RECORD MEASUREMENTS TAKEN IN THE SPACES PROVIDED BELOW, TO SERVE AS PERMANENT QA RECORD. MAINTAIN SEPARATE LOG FOR EACH LOCATION. WHEN AN AREA IS DIVIDED INTO SEPARATE SECTIONS, MAINTAIN A SEPARATE LOG FOR EACH SECTION.**

Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
Reading (mils):					
<b>Mean Mils Reading (IAW ASTM D4417-Method B for above 10 readings (by column):</b>					
Mean Reading (mils)					

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME
NAME OF CG REPRESENTATIVE	SIGNATURE	UNIT	DATE/TIME



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 QA-5 - QUALITY ASSURANCE DATA FORM  
 (COATING THICKNESS)

(Use one sheet for each sequence)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

COATING MFG	PRODUCT NAME	BATCH #	INDUCTION TIME	COATING SYSTEM SEQUENCE (PRIMER/TOUCHUP/3RD COAT, ETC.)

DRY FILM THICKNESS (DFT) MEASUREMENTS IAW SSPC-PA 2.						
SPOT	1	2	3	4	5	AVERAGE VALUE
*BASE METAL READING (BMR)						
*Required, If Magnetic Pull-Off (Type I/Banana) Gauge Is Used.						

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

LOCATION (FRAME REFERENCE):								
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS	
1							AVG. BMR	DEVIATION
2								
3							BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
AVG.								

APPLICATION METHOD (AIRLESS, CONVENTIONAL SPRAY, ROLLED)	AVERAGE DFT

NAME OF QP-1/NACE INSPECTOR	SIGNATURE	CERT. #	DATE / TIME
NAME OF CG REPRESENTATIVE	SIGNATURE	UNIT	DATE/TIME

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4.2 Tank and Void Assessment form.

<b>SFLC-ESD-25</b>		<b>TANK AND VOID ASSESSMENT FORM</b>			
<input type="button" value="PRINT"/> <input type="button" value="RESET"/>					
<b>GENERAL DATA</b> Note: Use SFLC-ESD-29 for Compartments other than Tanks & Voids.					
Inspector's Name:		Organization:		Contact Info:	
Cutter Name:		Cutter Class:		Hull:	
Tank:		Service:		Tank Area:	Gallons:
Solid Balast:	Access Compt:		Date:	Assessment Reason:	
<b>ACCESS DATA</b>					
Manhole and cover condition:			Tank Penetration Condition:		
<b>VENT OVERFLOW DATA</b>					
Present: <input type="radio"/> Yes <input type="radio"/> No		Check Valve Installed: <input type="radio"/> Yes <input type="radio"/> No		Check Valve Operates Properly: <input type="radio"/> Yes <input type="radio"/> No	
<b>LADDER DATA</b>					
NR of Ladder(s) Present: <input type="radio"/> Yes <input type="radio"/> No		Ladder Damaged: <input type="radio"/> Yes <input type="radio"/> No		Ladder Material:	
<b>TANK LEVEL INDICATOR (TLI) DATA</b>					
TLI Present in Tank: <input type="radio"/> Yes <input type="radio"/> No		TLI Damaged: <input type="radio"/> Yes <input type="radio"/> No		TLI Type:	
<b>SOUNDING TUBE DATA</b>					
Sounding Tube Present in Tank: <input type="radio"/> Yes <input type="radio"/> No		Sounding Tube Damaged: <input type="radio"/> Yes <input type="radio"/> No			
Striker Plate Damaged (>50%): <input type="radio"/> Yes <input type="radio"/> No					
<b>CATHODIC PROTECTION DATA</b>					
Cathodic Protection in Tank: <input type="radio"/> Yes <input type="radio"/> No		Total Zincs:		Number of Zincs > 50% Depleted:	
<b>1-6      Cleanliness &amp; Housekeeping</b>					
Clean to light layer or residue		1-2 (G)	Comments:		
Loose accumulation scale		3-4 (Y)			
Impending residue and sediments		5-6 (R)			
<b>%      1-6      Coating Systems</b>					
All Painted Surfaces		1-2 (G)	Comments:		
		3-4 (Y)			
		5-6 (R)			
<b>%      1-6      Structural</b>					
Corrosion		1-2 (G)	Comments:		
		3-4 (Y)			
		5-6 (R)			
Pitting & Grooving		1-2 (G)	Comments:		
		3-4 (Y)			
		5-6 (R)			
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<b>SFLC-ESD-25</b>	<b>TANK AND VOID ASSESSMENT SHEET</b>
<div style="border: 1px solid black; padding: 2px; display: inline-block;">PRINT</div>	

<b>Structural Integrity Data</b>			
Estimated Total Linear Feet of Structure Requiring Repair:		Estimated Total Square Feet of Plating Requiring Repair:	
Cracks/ Fractures Present:	<input type="radio"/> Yes <input type="radio"/> No	Buckling/Deflections/ Distortions Present:	<input type="radio"/> Yes <input type="radio"/> No
Holes Present:	<input type="radio"/> Yes <input type="radio"/> No	Material Wastage Present:	<input type="radio"/> Yes <input type="radio"/> No
All Welds Intact:	<input type="radio"/> Yes <input type="radio"/> No	Structural Evaluation Recommended:	<input type="radio"/> Yes <input type="radio"/> No

**PHOTOGRAPHS**

Pictures Taken (enter quantity):

**Note: To add pictures to this form, Work Station must have Adobe Acrobat (not Reader) installed.**  
 Add all photos and photo comments to a word document and save file. Open this form and click "Combine Files". Add the document with photos you've just saved and save as a new combined .pdf files.

Additional Comments:

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of the equipment listed below to demonstrate existing operational condition. Submit a CFR.

- TLI

3.3 Tank contents. The Contractor must remove and dispose of up to a total of 1000 gallons of hydraulic oil.

**NOTE**

**Vessel may come in with less tank fluid contents than specified above.**

3.4 Plug log. The Contractor must keep a written record of all plugs put in any tanks vents. A separate list must be kept for each tank being entered.

3.4.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.4.2 Ensure the plug log is available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

3.5 Cleaning requirements. The Contractor must remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as sediment or sludge, taking care not to damage the coating system (if applicable). Remove cleaning media and residues continuously during the washing process. Remove any residual wash media; and wipe up residual moisture with clean lint-free cloths.

3.6 Tank content and waste disposal. The Contractor must dispose of residual tank contents and all cleaning fluids in compliance with all applicable Federal, state, and local laws, ordinances and regulations. Document a complete chain of custody record of the removed tank contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.7 Inspection. The Contractor must visually inspect all tank interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition, as applicable.
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material and condition (correct fastener material is stainless steel).

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3.8 Tank closing. The Contractor must ensure that the tank(s) remain open for approximately 24 hours after completion of all authorized repair and preservation procedures. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and completion of all authorized repairs, close tank manhole cover(s) with new gasket material conforming to AMS-C-6183, and renew any damaged or missing fasteners. For purpose of bid, assume 10% of existing fasteners will require renewal.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.9 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR.

- TLI

## 4. NOTES

4.1 The Coast Guard Inspector will visually inspect the tank interior immediately prior to closing.

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the TLI's for tanks listed in paragraph 1.1 (Intent), to demonstrate existing operational condition. Use Coast Guard drawings 225B WLB 601-002, 225B WLB 801-005 and 225B WLB 801-020 for guidance. Submit a CFR.

3.3 Plug Log. The Contractor must keep a written record of all plugs put in any tanks vents. A separate list must be kept for each tank being entered.

3.3.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.3.2 Ensure the plug log is available to the Coast Guard inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Initial and post repair operational tests apply only to tanks that possess TLIs.**

3.4 Cleaning requirements. The Contractor must remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as sediment or sludge, taking care not to damage the coating system (if applicable). Remove cleaning media and residues continuously during the washing process. Remove any residual wash media; and wipe up residual moisture with clean lint-free cloths.

3.5 Tank content and waste disposal. The Contractor must dispose of residual tank contents and all cleaning fluids in compliance with all applicable Federal, state, and local laws, ordinances and regulations. Document a complete chain of custody record of the removed tank contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.6 Inspection. The Contractor must visually inspect all tank interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating (if applicable), including measurements taken, percentage, location, and type of coating failure.
- Tank level indicator (TLI) and/or float switch condition (as applicable).
- Sounding tube and striker plate condition.
- Suction and discharge piping condition.
- Fastener material (stainless steel) and condition.

3.7 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of all KO-authorized repair and preservation procedures. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and completion of all authorized repairs, close tank manhole cover(s) with new gasket material conforming to AMS-C-6183.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.8 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all designated tank TLIs to be in satisfactory operating condition. Submit a CFR.

#### **4. NOTES**

4.1 Tank content removal. The Ship's force will pump down the tanks to the maximum extent possible with the installed pumping system.

4.3 Tank inspection. The Coast Guard Inspector will visually inspect the tank interior immediately prior to closing.

4.3 Tank content restoration. The Ship's force will procure new fluids and refill all tanks at the appropriate time.

**WORK ITEM 1: Heat Exchangers, Clean, Inspect And Hydro****1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following heat exchanger(s):

**TABLE 1 – HEAT EXCHANGERS**

DESCRIPTION	LOCATION	QTY
MDE Jacket Water	3-61-0-E	2
CPP hydraulic oil	4-66-0-E	1
Reduction Gear Lube Oil	4-66-0-E	1
SSDG Jacket Water	3-61-0-E	2
Fuel Oil	FS-F-E7-1 and -2d	2

1.2 Government-furnished property.

None.

**2. REFERENCES****COAST GUARD DRAWINGS**

Coast Guard Drawing 225B WLB 201-001, Rev D, Machinery Spaces Arrangement  
 Coast Guard Drawing 225B WLB 256-001, Rev P, Seawater Cooling System Diagram  
 Coast Guard Drawing 225B WLB 541-001, Rev J, Fuel Oil System Diagram  
 Coast Guard Drawing 225B WLB 556-001, Rev F, Hydraulic System Diagram

**COAST GUARD PUBLICATIONS**

Coast Guard Technical Publication (TP) 3518, Oct 2007, MDE Model 3608/1  
 Coast Guard Technical Publication (TP) 3523, SWBS 241-B, Nov 2007, Reduction Gear - Model 96DHCMGH-CP

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Coast Guard Technical Publication (TP) 3524, SWBS 245-B, May 2009, Propeller System, CPP - Model 110251007

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses

### OTHER REFERENCES

Commercial Item Description (CID) A-A-59588, 2013, Rubber Silicone

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Install blanks on the open ends of piping to prevent any contamination or foreign debris from entering the affected systems. Ensure that all cleaning equipment or media used in the cleaning process do not cause any damage to cooler components.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the below-listed:

- Piping and hoses
- Filters
- Deck plating and associated framing
- Electrical cables
- Thermal insulation.

3.1.5 Temporary access openings. Due to limited access to work areas, the Contractor may, with express permission of the KO (via submission of a CFR), cut access holes to facilitate accomplishment of the

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work specified herein. Perform all work required to open and close the access openings in accordance with SFLC Std Spec 8636.

3.2 Environmental compliance. The Contractor must dispose of all waste fluids in accordance with all Federal, state and local regulations. Document a complete chain of custody record of the removed tank contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.3 Disassemble. The Contractor must drain and disassemble the designated heat exchangers (see paragraph 1.1 (Intent)) to the extent necessary to perform all work specified herein. Refer to Coast Guard Drawings 225B WLB 201-001, 225B WLB 256-001, 225B WLB 541-001, and 225B WLB 556-001, TP 3518, TP 3523 and TP 3524 for guidance.

3.3.1 Perform all disassembly and reassembly in accordance with manufacturer-recommended procedures using manufacturer-recommended tooling to ensure parts are reinstalled in proper sequence and configuration.

3.4 Inspection. Before cleaning is begun, the Contractor must visually inspect all heat exchanger surfaces for excessive deterioration and any other defects. Submit a CFR.

3.5 Cleaning requirements. The Contractor must clean all interior and exterior heat transfer surfaces to a state free of all debris, scale and surface contaminants in accordance with the heat exchanger manufacturer's recommendations, and in compliance with all Federal, state, and local environmental regulations.

3.5.1 Ensure that chemical cleaners do not damage the environment, heat exchanger or the vessel.

### NOTE

**Historically, chemical cleaning has been necessary to thoroughly clean most heat exchanger tubes.**

3.6 Reassembly. After authorized repairs, if any, the Contractor must reassemble each heat exchanger.

3.6.1 Renew all software (seals, gaskets, O-rings, lantern rings).

3.6.2 Renew isolation fittings/mounts and fasteners if disturbed. Apply silicone rubber sealant conforming to CID A-A-59588 around all fasteners, nozzles or gaskets that penetrate the hull.

3.6.3 Renew all hoses, thermostats and anodes as applicable.

3.6.4 Refill all heat exchanger fluid levels in accordance with manufacturer and vessel specifications. Prior to recirculation through the engines, the Contractor must test the jacket water for chloride and nitrite concentrations in accordance with manufacturer recommendations in the presence of the Coast Guard Inspector. Submit a CFR.

3.7 Reinstallation. After completion of testing and all authorized repairs, if any, the Contractor must reinstall each cooler (if previously removed). Where applicable, renew all zinc electrode plates, gaskets, and recessed hex-head bolts in accordance with the manufacturer's specifications. Apply a copper-based anti-seize compound on all bolts, and torque in accordance with manufacturer's specifications.

3.8 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces, as applicable, to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

3.9 Cleanliness requirement. The Contractor must ensure that all cleaned surfaces are one hundred percent free of debris and surface contaminants. Submit a CFR.

**CAUTION**

**Extreme precaution must be taken to not exceed manufacturer's recommended test pressure during hydrostatic testing.**

3.10 Pressure test. After all authorized work is complete and prior to reconnecting the heat exchanger(s), the Contractor must pressure test each heat exchanger to the manufacturer's recommended test pressure in accordance with the applicable Coast Guard drawing listed under Section 2 (References). In the absence of a specified test pressure noted in the Coast Guard drawing, the Contractor must pressure test each heat exchanger in accordance with paragraph C2.7 (Heat exchangers and fluid coolers) of SFLC Std Spec 5000. Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

3.11 Label plates. The Contractor must attach an anodized aluminum test data plate to each heat exchanger using epoxy resin cement. Ensure that each plate is engraved with ¼-inch high letters, stating the following:

- Test pressure.
- Test date.
- Testing facility.

**NOTE**

**If the heat exchanger design makes mounting a test data plate impractical, the Government reserves the right to request written documentation of the above-listed testing data in lieu of a test data plate, at no additional cost to the Government.**

3.12 Leak test. After reconnecting the heat exchanger(s) on the vessel (and post undocking, if applicable), the Contractor must perform an operational test of the heat exchanger and associated system piping for one hour using the system fluid at normal operating pressure. Ensure zero visible leakage from or deformation of mechanical parts by repairing all leaks and discrepancies. Submit a CFR.

## 4. NOTES

4.1 Contractor furnished equipment. The following parts list is provided to assist the Contractor in identifying some of the parts that may be required to accomplish the work detailed above for this plate-type heat exchanger. This list may not reflect the most recent part number changes by the manufacturer; and this list is not fully comprehensive of the parts required to accomplish this work item. The Contractor must verify all part numbers and quantities with the manufacturer, prior to ordering. The Contractor is cautioned to verify the cost of all materials required to complete this work item prior to submitting a bid price.

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ITEM DESCRIPTION	NSN/PN	QTY
Gasket M10B NBR/C	Alpha Laval P/N: 3233016546	420
Gasket Connector M10B	Alpha Laval P/N: 3233065146	4
Collar, M10 TI-0, 8	Alpha Laval P/N: 3232473672	4

## WORK ITEM 2: Vent Ducts, All Other, Commercial Cleaning

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the designated shipboard ventilation systems.

1.2 Government-furnished property.

None.

### 2. REFERENCES

**USER:**

**Drawings may change if galley hood is not being cleaned. Ensure they are correct.**

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 512-001, Rev K, HVAC Diagram

Coast Guard Drawing 225B WLB 512-007, Rev B, HVAC A&D, Fr 66-92, Innerbtm & 1st Platform

Coast Guard Drawing 225 WLB 259-005, Rev C, Combustion Intake & Exhaust A&D Hull Block 940

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2020, Clean Shipboard Ventilation Systems

Coast Guard Technical Publication (TP) 3796, Section A, Aug 2006, Galley Hood – Model NBDL-60 (13'-4")

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to:

- Ducting screens.
- Electric pre-heaters.
- Overhead sheathing/panels.
- Ventilation covers.

**NOTE**  
**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the ventilation systems included in this work item, to demonstrate existing operational condition. Submit a CFR.

3.3 Cleaning requirements. The Contractor must clean and inspect the following ventilation systems, shown on Coast Guard Drawings 225B WLB 512-001, 225B WLB 512-007, and 225 WLB 259-005, in accordance with SFLC Std Spec 5100. Submit a CFR.

**TABLE 1 – SYSTEM LOCATIONS**

SYSTEM LOCATION	TYPE
Paint Locker	Exhaust
Paint Locker	Supply
02 Deck AC1 Fan Coil unit (Serving 02 deck to 03 Deck) All Associated and Connected Ducting	Recirc
02 Deck AC2 Fan Coil Unit (Serving 03 Deck to 1 Deck) All associated and connected Ducting	Supply/Recirc
1 Deck AC3 Fan Coil Unit (Serving 1 Deck and 01 Deck) All associated and connected Ducting	Supply/Recirc
Fan E02-79-1 (Serving Sickbay) All associated and connected Ducting	Exhaust
Fan E02-75-4 (Serving 02 Deck and 01 Deck)	Exhaust

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Fan E02-86-2 (Serving 01 and 1 Deck)	Exhaust
--------------------------------------	---------

3.4 Notification. The Contractor must give written notification to the COR, 48 hours before starting ventilation cleaning work.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the ventilation systems included in this work item to be in satisfactory operating condition. Submit a CFR.

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 3: Potable Water Pneumatic Tanks, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following potable water pneumatic tank(s):

**TABLE 1 – TANKS**

SERVICE	LOCATION	CAPACITY (GALLONS)	PRESSURE (PSIG)
Hydro-Pneumatic	2-57-4-E	25	30-70

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 532-002, Rev F, Potable Water Sys Dia

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2011, Disinfection of Water-Storage Facilities

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech rep.

None.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, (Interferences). Known interferences include, but are not limited to the following:

- Piping.

3.2 Preparation. The Contractor must depressurize and drain the designated tank(s) (see paragraph 1.1 (Intent)) before performing any work on them. Dispose of all fluids in accordance with all applicable Federal, state, and local environmental regulations. Do not drain any fluids (including fresh water) into any space, bilge or exterior location.

3.3 Tanks. The Contractor must, using Coast Guard Drawing 225B WLB 532-002 for guidance, accomplish the following for all designated tank(s) (see paragraph 1.1 (Intent)):

3.3.1 Visual inspection. Clean and visually inspect the internal and external surfaces of each tank for signs of corrosion, pitting, and other damage. If required by the pneumatic tank's construction, the Contractor must provide and use a borescope during the visual inspection. Submit a CFR.

3.3.2 Surface preservation. If a Change Request has been authorized and released, the Contractor must prepare and coat each tank's interior surfaces using the system specified for "Tanks and Voids (Potable Water Tanks)" in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). If preservation is for less than 100 percent of tank interior surfaces, power tool clean all affected surfaces to "bare metal" in lieu of using abrasive blasting, and feather edges of existing intact coating to the prepared areas in order to provide a smooth transition with the new paint.

3.3.3 Reinstallation. After all authorized repairs, The Contractor must reinstall the tank(s) to the original configuration with new rubber gaskets conforming to ASTM D1330. Renew all fasteners with stainless steel.

3.3.4 Leak test. After tank reinstallation and completion of all mechanical (i.e. threaded, bolted, etc.) connections, the Contractor must test the potable water system's operation using the system fluid at normal operating pressure. Ensure zero visible leakage from or deformation of mechanical parts by repairing all leaks and discrepancies. Submit a CFR.

3.4 Tank disinfecting. After all other work involving the potable water system and tank closing have been completed, the Contractor must disinfect and treat the affected potable water tank(s), as necessary to meet or exceed the requirements of AWWA C652. After tank disinfecting, remove and dispose of all treated

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water in accordance with all Federal, state and local regulations. Ensure that no one enters the tanks once disinfection is completed.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.5 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 4: Compressed Air Receivers and System Valves, All, Clean, Inspect, Hydro and Lift

### 1. SCOPE

1.1 Intent. The work item describes the requirements for the Contractor to clean, inspect, lift test and hydrostatically test the below designated air receivers and system valves:

SERVICE	DESIGNATION	LOCATION	QTY	OPERATING PRESSURE (psi)
Starting Air	SA-F-E2-1, SA-F-E2-2	4-82-0-E	2	250
Ship's Whistle	ALP-F-E3-1	03-61-0-D	1	125
Ship's Service	ALP-F-E4-1	2-87-0-E	1	125

TYPE	SIZE	DESIGNATION	QTY	SET PRESSURE (psi)	Location/SYSTEM
Relief	½"	ALP-V-V1-1	1	90	STERN TUBE
Relief	½"	ALP-V-V2-1	1	40	SEA CHEST BLOW DOWN
Relief	½"	ALP-V-V2-2	1	40	SEA CHEST BLOW DOWN
Relief	1"	ALP-V-V3-1	1	138	STERN THRUSTER/REDUCING STATION
Relief	1"	ALP-V-V3-2	1	138	STERN THRUSTER/SS RECEIVER
Relief	1"	ALP-V-V3-3	1	138	SHIPS WHISTLE
Relief	½"	ALP-V-V920-1	1	175	UPPER LEVEL MMR/CLUTCH
Relief	1 ½"	SA-V-V4A-1	1	185	NR 1 MDE
Relief	1 ½"	SA-V-V4A-2	1	185	NR 2 MDE
Relief	1 ¼"	SA-V-V10-1	1	275	START AIR NR 3 COMPRESSOR

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Relief	1 ¼"	SA-V-V10-2	1	275	START AIR NR 2 COMPRESSOR
Relief	1 ¼"	SA-V-V10-3	1	275	START AIR NR 1 COMPRESSOR
Relief	½"	SA-V-V5-4	1	275	AMR/NR 1 RECEIVER
Relief	½"	SA-V-V5-5	1	275	AMR/NR 2 RECEIVER
Reducing	½"	ALP-V-V6-1	1	125-75	EMERGENCY SHAFT SEAL
Reducing	1"	SA-V-V7-1	1	250-125	AMR/START AIR - LP REDUCING STA
Reducing	1 ½"	SA-V-V8-1	1	250-165	NR 1 MDE PRESSURE REDUCING VLV
Reducing	1 ½"	SA-V-V8-2	1	250-165	NR 1 MDE PRESSURE REDUCING VLV
Reducing	½"	SA-V-V9-1	1	250-150	UPPER LEVEL MMR/CLUTCH

1.2 Government-furnished property.

None.

## 2. REFERENCES

### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 551-001, Rev G, Compressed Air System Diagram

### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

### OTHER REFERENCES

American Society of Mechanical Engineers (ASME) B16.34, 2017, Valves-Flanged, Threaded, and Welding End

American Society for Testing and Materials (ASTM) International F1508, 2016, Standard Specification for Angle Style, Pressure Relief Valves for Steam, Gas, and Liquid Services

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2019 Edition, Pressure Testing Of Valves

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Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-67, 2017 Edition, Butterfly Valves

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-72, 2010 Edition, Ball Valves with Flanged or Butt-Welding Ends for General Service

Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80, 2019 Edition, Bronze Gate, Globe, Angle and Check Valves

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Piping system.

#### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.1.5 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of the compressed air system, to demonstrate existing operational condition. Submit a CFR.

3.2 Air receiver cleaning and inspection. The Contractor must clean and inspect each designated air receiver in paragraph 1.1 (Intent) as follows.

3.2.1 Blowdown the air receivers and collect the blowdown (condensate) into a separate container for inspection.

3.2.2 Visually inspect the blowdown (condensate) under a bright white light for oil or particulate contamination. Clean and visually inspect the internal and external surfaces of the air receiver for signs of corrosion, pitting, and other damage. Submit a CFR.

3.3 Hydrostatic test. The Contractor must perform a hydrostatic test of the designated air receiver(s) in accordance with SFLC Std Spec 0740, Appendix C and manufacturer's recommended procedures. In the event a test pressure is not listed on the applicable drawing, test to 1-1/2 times the nominal operating

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pressure and hold for five minutes. Refer to Coast Guard Drawing 225B WLB-551-001 for guidance. Submit a CFR.

3.3.1 To hydrostatic test, isolate the air receiver by disconnecting all piping, relief valves, and pressure switches. Install pipe plugs/caps, to prevent backflow into compressors and other system components.

3.3.2 Hydrostatically test the air receiver(s) using clean fresh water. Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies.

3.3.3 Instruments and equipment that might be damaged by clean fresh water must be excluded from hydrostatic pressure test.

3.3.4 After testing, drain and thoroughly dry the air receivers with warm air. Dispose of testing fluids in accordance with all applicable Federal, state, and local regulations. Reconnect all disconnected piping and restore system. Renew any disturbed gaskets.

**WARNING**  
**Do not drain any fluids, including fresh water, into any space, bilge, or exterior location..**

3.4 Contractor’s option for valve renewal. The Contractor may, at no additional cost to the Government, opt to renew valves designated for inspection and testing if preferable for the Contractor. If the Contractor elects to renew valves, the Contractor must ensure the following:

- New valves are commercial-standard type valves, conforming to the applicable standard listed in Table 1(Valve Standards).
- New valves must be equivalent (including identical material) to the valve being renewed.

**TABLE 1 - VALVE STANDARDS**

<b>VALVE TYPE</b>	<b>INDUSTRY STANDARD</b>
Steel Valves	MSS SP-61
Butterfly Valve	MSS SP-67
Ball Valves, Flanged or Butt-Welded Ends	MSS SP-72
Bronze Gate, Globe, Angle and Check Valves	MSS SP-80
Angle Style. Pressure Relief Valves	ASTM F1508
All others	ASME B16.34

3.4.1 Visually inspect the piping and mounting arrangements; and submit a CFR detailing any required modifications to accommodate the new valve(s).

3.4.2 Provide original documentation to the COR certifying each valve has been satisfactorily shop-tested. Documentation must include the set pressure, date of inspection / test, and testing facility.

3.5 Valve inspection and testing. The Contractor must inspect and test each designated air system valve as follows. Refer to Coast Guard Drawing 225B WLB-551-001 for guidance.

3.5.1 Relief valves. Disassemble as required, and visually inspect all parts for defects and deterioration. Submit a CFR.

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3.5.1.1 Perform a lifting test on each relief valve in accordance with manufacturer's recommendations and ASME PTC 25. Ensure that each valve seats cleanly after pressure relief (without simmering), and with no allowable leakage.

3.5.1.2 Adjust the relief pressure on the designated relief valve as necessary to obtain the specified lifting pressure. After adjustment, perform a final check to confirm each relief valve's lifting pressure in the presence of the Coast Guard Inspector. After successful confirmation, install the relief valves. Renew all O-rings and gaskets. Submit a CFR.

3.5.2 Pressure reducing valves. Disassemble as required, and visually inspect all parts for defects and deterioration. Submit a CFR.

3.5.2.1 Adjust the setting on the designated reducing valve as necessary to obtain the specified pressure setting.

3.5.2.2 After adjustment, perform a final check to confirm each reducing valve's ability to maintain set pressure in the presence of the Coast Guard Inspector. After successful confirmation, install the pressure reducing valves. Renew all O-rings and gaskets. Submit a CFR.

3.6 Valve reinstallation/installation. Upon completion of all authorized work, the Contractor must accomplish the following:

- Remove and dispose of all blank flanges and associated gaskets.
- Reinstall/install all overhauled and new valves with new gaskets.
- Renew all missing or damaged valve label plates.
- Renew all bolting hardware.

3.7 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

3.8 Data plates- valve. The Contractor must affix an anodized aluminum test data plate with lock wire to each valve. The data plate must be engraved with ¼-inch high letters, stating the following:

- Valve number / designation
- Set pressure (if applicable)
- Date of inspection / test.

3.9 Documentation. The Contractor must provide documentation to the Coast Guard Inspector certifying each valve tested. Documentation must include the valve number / designation, set pressure, date of inspection / test, and testing facility.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.10 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the compressed air system to be in satisfactory operating condition. Submit a CFR.

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3.11 Surface preservation. The Contractor must prepare and coat the receiver exterior surfaces, using the system specified for “Machinery, Operating Temperatures Under 200 °F” in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match previous paint scheme.

3.12 Data plates- air receiver. The Contractor must affix an anodized aluminum test data plate with epoxy resin cement to each air receiver. The data plate must be engraved with ¼-inch high letters, stating the following:

- Receiver name / number.
- Hydrostatic test pressure (if applicable).
- Date of inspection / test.
- Testing facility.

3.13 Documentation. The Contractor must provide documentation to the Coast Guard Inspector certifying each air receiver tested. Documentation must include the receiver name / number, method of testing, hydrostatic test pressure (if applicable), date of inspection / test, and testing facility.

## 4. NOTES

4.1 Air receiver definition. An air receiver is a pressure vessel for the storage of air at 600 psig and below.

## **WORK ITEM 5: Commissary Hoist, Inspect and Service**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect and service the Commissary Hoist system.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

None.

#### **COAST GUARD PUBLICATIONS**

Coast Guard Technical Publication (TP) 3562, Sep 2013, SWBS 589, Section C, Dumbwaiter, Model -F-WK-806

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2020, Overhaul AC Electrical Motors

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems

#### **OTHER REFERENCES**

None.

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following tasks in Table 1:

- Task #1.
- Task #2.
- Task #3.

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3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Inspection and service particulars. The Contractor must perform the tasks listed in Table 1 below in accordance with TP 3562, SWBS 589C; and using SFLC Std Spec 5000 as guidance.

**TABLE 1 – TASK PARTICULARS**

#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	ADDITIONAL REQUIREMENTS	
				APPENDIX AND PARA. FROM 5000 STD	OTHER
1	Operate and Inspect	1	Commissary Hoist	3.2.1 (Operate and inspect	Refer to TP 3562, SWBS 589C Submit a CIR.
2	Disassemble and Inspect	1	Electric brake	D2.3(Brakes and clutches)	Submit a CIR
3	Overhaul and Preserve	1	Electric Motor	3.2.4 (Preservation)	Perform requirements in paragraphs 3.1 thru 3.4.3 of SFLC Std Spec 3020. Submit a CIR for all inspections required
4	Service and Inspect	1	Hoist Sheave Assembly	3.2.2 (Service and inspect)	Submit a CFR.
5	Service and Inspect	1	Deflection Sheave Assembly	3.2.2 (Service and inspect)	Submit a CFR.
6	Service and Inspect	2	Carriage Guide Roller and Side Roller Assemblies	3.2.2 (Service and inspect)	Submit a CFR.
7	Service and Inspect	1	Carriage Sheave Assembly	3.2.2 (Service and inspect)	Submit a CFR.
8	Service and Inspect	1	Carriage Broken Rope Safety Device Assembly	3.2.2 (Service and inspect)	Submit a CFR.
9	Service and Inspect	1	Slack Rope Safety Device Assembly	3.2.2 (Service and inspect)	Submit a CFR.
10	Service and Inspect	1	Wire Rope Drum and Drum Shaft Assembly	3.2.2 (Service and inspect)	Submit a CFR.
11	Service and Inspect	1	Sprockets and Sprocket Shaft Assemblies, Roller Chain, and Chain Tension Assembly	3.2.2 (Service and inspect)	Submit a CFR.
12	Service and Inspect	1	Door Assembly	3.2.2 (Service and inspect)	Submit a CFR.
13	Service and Inspect	1	Control Station	3.2.2 (Service and inspect)	Submit a CFR.

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				ADDITIONAL REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM 5000 STD	OTHER
14	Service and Inspect	1	Door Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
15	Service and Inspect	1	Hold Level Door Assembly	3.2.2 (Service and inspect)	Submit a CFR.
16	Service and Inspect	1	Hold Level Deck Control Station	3.2.2 (Service and inspect)	Submit a CFR.
17	Service and Inspect	1	Hold Level Deck Door Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
18	Service and Inspect	All	Guide Rail Assemblies	3.2.2 (Service and inspect)	Submit a CFR.
19	Service and Inspect	1	Carriage Assembly	3.2.2 (Service and inspect)	Submit a CFR.
20	Service and Inspect	1	Up Over Travel Limit Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
21	Service and Inspect	1	Down Stop Limit Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
22	Service and Inspect	1	Up Stop Limit Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
23	Service and Inspect	1	Slack Rope Safety Device Limit Switch Assembly	3.2.2 (Service and inspect)	Submit a CFR.
24	Service and Inspect	1	Worm Gear Reducer	3.2.2 (Service and inspect)	Submit a CFR.
26	Renew	1	Wire Rope Assembly	D2.2 (Wire Rope Assemblies)	Refer to TP 3562, SWBS 589C
27	Preserve	1	Commissary Hoist Assembly	3.2.4 (Preservation)	Preservation to include: capstan assembly housing and foundation and the motor casing, and gear reducer, and all other previously painted associated components surfaces.  Select the following top coat colors: Grey (26307)
28	Adjust and Align	1	Rails and Car Guide		Refer to TP 3562, SWBS 589C
29	Groom and lubricate	1	Commissary Hoist	3.2.6 (Groom and lubrication)	Refer to lubrication table in TP 3562, SWBS 589C

3.3 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the Commissary Hoist to be in satisfactory operating condition. Submit a CFR.

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 6: Sewage Holding Tanks, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following tank(s):

**TABLE 1 – TANKS**

TYPE OF TANK	LOCATI ON	CAPA CITY - 95% (Gallo ns)	LOW SUCTI ON (Gallons )
Sewage Holding Tank	4-82-2-W	1,772	250
Sewage Atmospheric Tank	4-82-0-E	600	250

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 593-001, Rev E, Sewage and Waste Water System Diagram  
 Coast Guard Drawing 225B WLB 593-009, Rev B, Sewage Holding Tank

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements

#### OTHER REFERENCES

ASTM International (ASTM) D1330, 2015, Standard Specification for Rubber Sheet Gaskets

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.3.1 Plug all inlet and outlet piping in the tank(s) to prevent contaminants from entering. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings.

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Piping.
- Pump(s).
- 

3.2 Plug log. The Contractor must keep a written record of all plugs put in any tank vents. A separate list must be kept for each tank being entered.

3.2.1 Ensure that all plugs are removed from each tank upon completion of work in the tank.

3.2.2 The plug log must be available to the Coast Guard Inspector when the inspector is performing his close-out inspection on each tank.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.4 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.4 Service disruption. When sewage collection service is disrupted due to contractor repairs, the Contractor must refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

3.5 Cleaning and inspection requirements. The Contractor must accomplish the following for the tank(s) listed in paragraph 1.1 (Intent), referring to Coast Guard drawings 225B WLB 593-001 and 225B WLB 593-009 for guidance:

3.5.1 Content removal. Remove and dispose of all contents, fluids, and/or residues in accordance with all applicable Federal, state, and local regulations

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3.5.2 Cleaning requirements. Remove manhole cover(s). Clean all tank structure's interior surfaces free of all foreign materials, sediment, and sludge. Remove all persistent residues, taking care not to damage the tank coating system. Remove cleaning media and residues continuously from the tank during the washing process. Remove any residual wash media and wipe up residual moisture with clean lint-free cloths. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations. Clean all tank vent lines. Remove and clean the eductors and level switches inside of the tank(s). Reinstall the eductors and level switches upon completion of tank cleaning. Use new gaskets and o-rings to install/reinstall all removed/disturbed components.

3.5.3 Inspection. Visually inspect all interior surfaces, including, but not limited to bulkheads, floor and overhead plating, structural members, manhole cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Tank structural condition.
- Inaccessible areas.
- Condition of tank coating, including measurements, percentage, location, and type of coating failure (not applicable for stainless steel tanks).
- Tank level indicator (TLI), vacuum and/or float switch condition.
- Suction and discharge piping and vent line condition.
- Fastener material (stainless steel) and condition.
- Zinc anode condition (remaining percentage).

3.5.4 Control panel assembly. Open and vacuum clean the control panel assembly. Inspect the control panel assembly for any indications of overheating or loose wiring or connections. Submit a CFR

3.6 Closing. The Contractor must notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector, and completion of all authorized repairs, close the manhole cover(s) with new gasket material conforming to ASTM D1330.

3.6.1 The Contractor must renew 100% of nylon insert/nylock nuts and washers.

### NOTE

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test, post repairs. After completion of work, the Contractor must accomplish the following in the presence of the Coast Guard Inspector, and submit a CFR:

3.7.1 Adjust the set point on each of the vacuum pressure switches (as applicable) to the set points noted previously.

3.7.2 Verify operation of the low and high level switches/alarms and that the pumps cycle from lead to lag status during operation. Demonstrate proper operation of tank TLIs to prove satisfactory operating condition.

3.7.3 Upon completion of testing and, in the presence of the Coast Guard Inspector, pump tank(s) to the limit of the ship's installed pumps.

#### **4. NOTES**

4.1 Atmospheric tank. The atmospheric sewage tank is a standalone tank and is not a part of the ship's structure.

## WORK ITEM 7: Temporary Services, Provide - Cutter

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide temporary services to the Cutter, during the performance of this availability.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
General Requirements

Surface Forces Logistics Center Standard Specification 8635 (SFLC Std Spec 8635), 2020,  
Temporary Services

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Temporary service particulars. The Contractor must provide the below listed temporary services, in accordance with SFLC Std Spec 8635.

**TABLE 1 - SERVICE SELECTION**

*SUB-PARAGRAPH	TITLE	Y/N
3.3.1	Office space	N
3.3.2	Telephone and internet access	N
3.3.3	Parking	N
3.3.4	Duty section berthing: __ male, __ female. Duty section berthing must be provided for {Note: Choose one and delete the rest: (1) The entire duration of the availability, (2) during disruption of berthing areas or (3) _____ days}	N
3.3.5	Electrical power (including all requirements in associated sub-paragraphs)	N
3.3.6	Hull grounding straps (not applicable when cutter is waterborne)	N
3.3.7	Compressed air (including all requirements in associated sub-paragraphs)	N
3.3.8	Hazardous material/hazardous waste disposal (see Tables 2 and 3 below)	N
3.3.9	Heavy lift equipment: { day(s)/or hour(s)}	N
3.3.10	Water supply	N
3.3.10.1	Potable water: { gallons per day, at psig.} { or gallons, bulk}	N
3.3.10.2	Hot-circulating water	N
3.3.10.3	Cooling water	N
3.3.10.4	Firemain system (including all requirements in associated sub-paragraphs)	N
3.3.11	Steam (including all requirements in associated sub-paragraphs)	N
3.3.12	Refuse disposal	N
3.3.13	Sewage and grey water disposal (including all requirements in associated sub-paragraphs)	Y
3.3.14	Storage – General (including all requirements in associated sub-paragraphs):	N
3.3.14	Dry stores.	N
3.3.14	Paint and flammable stores.	N
3.3.14	Refrigerated stores.	N
3.3.15	Small boat storage (including all requirements in associated sub-paragraphs)	N

\*Each sub-paragraph number relates directly to the identical sub-paragraph number in SFLC Std Spec 8635.

**TABLE 2 - HAZARDOUS WASTE DISPOSAL – LIQUIDS (GALLONS)**

PAINT THINNERS	ENGINE COOLANT	BILGE WATER
Xx	xx	xx

**TABLE 3 - HAZARDOUS WASTE DISPOSAL – SOLIDS**

OILY FILTERS	OILY RAGS (LBS)	EMPTY 1-GAL CONTAINER*	EMPTY 5-GAL CONTAINER*	EMPTY 55-GAL CONTAINER*
xx	xx	xx	xx	xx

\*Previously housed hazardous materials.

3.2 Extended temporary services. If the performance period of the contract is extended by the KO, the contractor must continue to provide all temporary services as specified herein for the extension period.

**4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 8: Deck Covering, Interior, Wet and Dry, Renew**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to renew wet and dry, interior deck covering system(s).

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 225B-WLB 601-01, REV P, General Arrangement Inboard and Outboard Profiles

Coast Guard Drawing 225B-WLB 634-01, REV F, Deck Cover Schedule

Coast Guard Drawing 225B-WLB 631-02, REV G, Painting Schedule

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2020, Install Interior Deck Covering Systems

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

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3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

- Deck Drains
- Plumbing/Piping
- Sinks
- Clothes washers
- Clothes Dryers
- Toilet

3.2 Deck covering installation particulars. The Contractor must perform all tasks specified in SFLC Std Spec 6341 and herein, to install a new covering system in the location(s) specified in Table 1 below.

**NOTES**

**1. The exposed deck surfaces are prepared and coated in accordance with SFLC Std Spec 6310. Refer to SFLC Std Spec 6341, Para 3.2.1.2 for additional information.**

**2. Ensure the final surface condition of the deck is made “slip resistant” in accordance with manufacturer's installation procedures. Refer to SFLC Std Spec 6341, Para A2.1.2.2.**

**TABLE 1 - DECKING SYSTEM**

LOCATION	AREA (*SQFT)	DECK MTL (A/S**)	SYSTEM/ APPENDIX (SFLC STD SPEC 6341)	COVE BASE	SYSTEM COLOR	UNDERLAYMENT REQUIREMENT
XO WR 02-57-2-L	45	S	Cosmetic Polymeric Epoxy Resin, Type III (One- Step Epoxy System)/Ap pendix A	Y	Contractor must submit a deck covering color chart to the Coast Guard Inspector, for the purpose of color selection.	Renew existing underlayment.

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EO WR 02-66-2-L	40	S	Cosmetic Polymeric Epoxy Resin, Type III (One- Step Epoxy System)/Ap pendix A	Y	Contractor must submit a deck covering color chart to the Coast Guard Inspector, for the purpose of color selection.	Renew existing underlayment.
Aft Laundry 1-105-2-Q	100	S	Cosmetic Polymeric Epoxy Resin, Type III (One- Step Epoxy System)/Ap pendix A	Y	Contractor must submit a deck covering color chart to the Coast Guard Inspector, for the purpose of color selection.	Renew existing underlayment.

\*Approximated.

\*\*Note: A = Aluminum; S = Steel.

\*\*\*See SFLC Std Spec 6341 for definition of cove base.

3.3 Visual inspection. The Contractor must perform a visual inspection of all exposed deck surfaces, prior to priming deck surfaces. Submit a CFR.

#### 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 9: Lifelines and Ancillary Fittings, Modify

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to modify designated sections of lifelines from wire rope to Kevlar and ancillary fittings as identified in Table 1 & 2 and as shown in Coast Guard Drawing 225-WLB-612-001.

**TABLE 1 – REMOVED LIFELINES AND ANCILLARY FITTINGS MODIFICATION SECTIONS**

COMPONENT	QUANTITY	DIAMETER (INCHES)	MATERIAL	FRAME LOCATION
Wire Rope, 9/16 IN. 6 X 19 IWRC	80 LF	9/16	Stainless Steel 304	See Coast Guard Drawing 225-WLB-612-001
Wire Rope Plug	3		Stainless Steel. ELECTROLINE Part # MZ-1956	See Coast Guard Drawing 225-WLB-612-001
Clevis Socket Assy	3		Stainless Steel. ELECTROLINE Part # IS-256	See Coast Guard Drawing 225-WLB-612-001
Round Bar, 3/8 IN DIA X 5-1/4 IN	6	3/8	Stainless Steel. ELECTROLINE Part # IS-156	See Coast Guard Drawing 225-WLB-612-001

**TABLE 2 – ADDED LIFELINES AND ANCILLARY FITTINGS MODIFICATION SECTIONS**

COMPONENT	QUANTITY	DIAMETER (INCHES)	MATERIAL	FRAME LOCATION
Washer, Flat 1 IN ID X 2 JN OD, 1/8 IN THK	3	1 IN ID X 2 JN OD	Stainless Steel 316	See Coast Guard Drawing 225-WLB-612-001
Lifeline: Jacketed Aramid Fiber Rope, 1/2 IN DIA	As required	1/2	KEVLAR, PHILLYSTRAN INC # SB-115 NS #4020-01-358-4655	See Coast Guard Drawing 225-WLB-612-001

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Plain End Assy: ½ IN DIA Life Line (Closed Body W/ Socket and Sister Hooks)	As required	1/2	AL 6061 – T6 Anodized ELECTROLINE # NAK-4850 or equivalent	See Coast Guard Drawing 225-WLB-612-001
767 Anti-Seize Lubricant, 16 OZ Brush-Top Bottle	As required		Compound Permatex Industries # 80208 or equivalent	
Turnbuckle End Assy: ½ IN DIA Life Line (Closed Body W/ Socket and Sister Hooks)	As required	1/2	AL 6061 – T6 Anodized ELECTROLINE # NAK-4950 or equivalent	See Coast Guard Drawing 225-WLB-612-001
Shackle, Long “D” W//Screw Pin, 3/8 IN DIA	As required	3/8	SST 316 Bosun Supplies Co # S0138-0100 or equivalent	See Coast Guard Drawing 225-WLB-612-001
Clevis: Kevlar, Extruded Jacket, ½ IN DIA	3	1/2	AL 6061 – T6 Anodized ELECTROLINE # KA-150 or equivalent	See Coast Guard Drawing 225-WLB-612-001
Eye Socket: Extruded Jacket, Kevlar, ½ IN DIA	3	1/2	AL 6061 – T6 Anodized ELECTROLINE # KA-250 or equivalent	See Coast Guard Drawing 225-WLB-612-001

1.2 Government-furnished property.

None.

**2. REFERENCES**

**COAST GUARD DRAWINGS**

Coast Guard Drawing 225-WLB-612-001, Rev L, Lifelines, Liferails and Stanchions

**COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

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Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020,  
Requirements for Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020,  
Requirements for Preservation of Ship Structures

### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Hull insulation
- Handrail attachments
- Mounting plates
- Caps
- Gooseneck vents
- Deck covering
- Proximity to edge of deck
- Cleats

3.2 Renewal. The Contractor must crop out, scrap, and modify designated sections of lifelines from wire rope to Kevlar and ancillary fittings as identified in Table 1 & 2 and as shown in Coast Guard Drawing 225-WLB-612-001. Retain all mounting brackets and/or fixtures for re-use, if applicable.

3.3 Boundary test, generic. The Contractor must verify the integrity of all boundaries affected by this work item using one of the methods described in SFLC Std Spec 0740, Appendix C. Submit a CFR.

3.4 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

**4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 10: Boat Deck (Port & Starboard) Removable Lifeline Latches, Modify**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to modify the quick-release latches (2 total) for the removable lifelines located on the 02-Level Weather Deck (02-77-0-D) in the vicinity of the port and starboard davits.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 225-WLB 583-052, Rev F, Workboat Davit Installation & Related Modifications

Coast Guard Drawing 225-WLB 601-001, Rev AC, General Arrangements – Inboard and Outboard Profiles

Coast Guard Drawing 225-WLB 612-001, Rev L, Lifelines, Liferails, and Stanchions

Coast Guard Drawing 225B-WLB 601-001, Rev P, General Arrangements – Inboard and Outboard Profiles

Coast Guard Drawing 225B-WLB 612-001, Rev L, Lifelines, Liferails, and Stanchions

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### **OTHER REFERENCES**

None.

### 3. REQUIREMENTS

#### 3.1 General.

##### 3.1.1 CIR.

None.

##### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces near the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.2 Inspections. The Contractor shall inspect the surrounding handrails, lifelines, stanchions, and sockets for signs of cracked welds, corrosion, bending, deformation, pitting, and fraying. Submit a CFR.

3.3. Modifications. The Contractor shall accomplish the following in accordance with SFLC Std Spec 0740, using the Coast Guard drawings listed in Section 2 "References" as guidance.

##### 3.3.1 225 WLB "A-class" cutter.

3.3.1.1 Remove the existing latch assembly and associated hardware. Dispose of all removed components in accordance with all applicable Federal, state, and local regulations. Refer to Figures 1 and 2.

3.3.1.2 Fabricate a new latch in accordance with CG Drawing 225-WLB 612-001, Detail 76-D.

3.3.1.3 Install the new latch assembly using new hardware (Pc 127, 130, 131, 132 on CG Dwg 225-WLB 583-052) in accordance with CG Drawing 225-WLB 612-001, Detail 76-F (and corresponding ISO View 79-C on Sheet 5).

3.3.1.3.1 With the latch attached to stanchion, drill a 5/8" diameter hole through the stanchion to accommodate hitch pin. Install a 304 stainless steel sleeve to prevent water intrusion into the stanchion.

3.3.1.3.2 Install new hitch pin with handle & lock (Pc 535). Refer to Figure 3.

3.3.1.3.3 Secure hitch pin to the existing 15/16" round bar using a metal wire lanyard, ensuring that both ends are crimped to prevent pin detachment.

##### 3.3.2 225 WLB "B-class" cutter.

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3.3.2.1 Remove the existing latch assembly and associated hardware. Dispose of all removed components in accordance with all applicable Federal, state, and local regulations. Refer to Figures 1 and 2.

3.3.2.2 Fabricate a new latch in accordance with CG Drawing 225B-WLB 612-001, Detail 71-D.

3.3.2.3 Install the new latch assembly using new hardware (Pc 29, 32, 33, 34) in accordance with CG Drawing 225B-WLB 612-001, Detail 71-G (and corresponding ISO View 74-D on Sheet 5).

3.3.2.3.1 With the latch attached to stanchion, drill a 5/8" diameter hole through the stanchion to accommodate hitch pin. Install a 304 stainless steel sleeve to prevent water intrusion into the stanchion.

3.3.2.3.2 Install new hitch pin with handle & lock (Pc 37). Refer to Figure 3.

3.3.2.3.3 Secure hitch pin to the existing 15/16" round bar using a metal wire lanyard, ensuring that both ends are crimped to prevent pin detachment.

3.4 Operational test, post repairs. After completion of work, the Contractor shall thoroughly test and demonstrate, in the presence of the Coast Guard Inspector, the lifeline latches to be in satisfactory operating condition. Submit a CFR.

- Ensure the latch operates smoothly, without any binding or misalignment
- Ensure the latch remains in the "latched" position and cannot be inadvertently unlatched

3.5 Touch-up preservation. The Contractor shall prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs).

## 4. NOTES

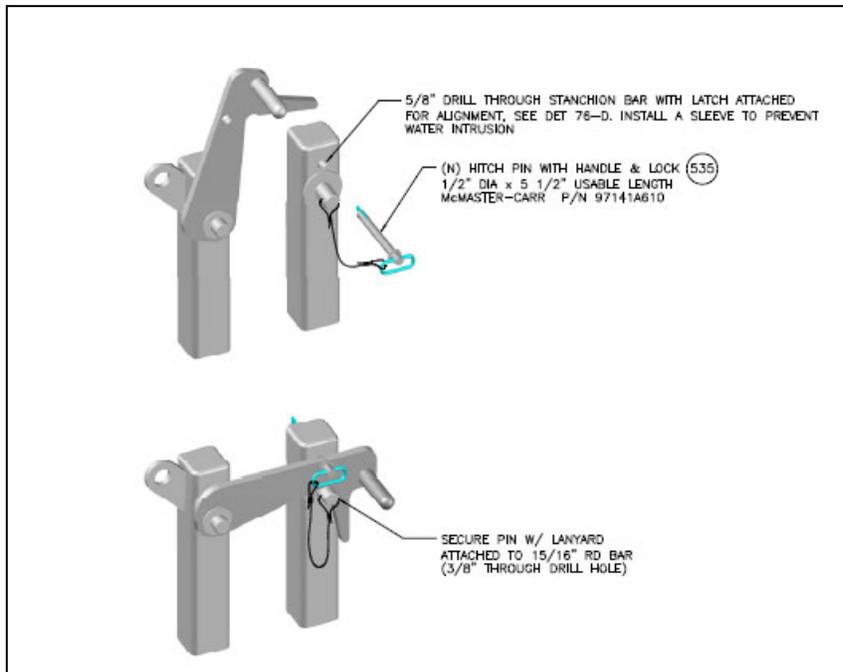
4.1 Figures. Refer to the following figures referenced in Section 3 "Requirements" for additional information.



**FIGURE 1 – EXISTING LATCH (PORT VIEW)**



**FIGURE 2 – EXISTING LATCH (ARIEL VIEW)**



**FIGURE 3 – NEW LATCH INSTALLATION**

## WORK ITEM 11: Sewage Piping, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew approximately four (4) feet of 3-inch 90/10 CuNi pipe on both sides of 3-inch wye/y splitter located at 1-81-3-L.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 505-1, Rev D, General Requirements for Piping Systems

Coast Guard Drawing 225B WLB 593-1, Rev E, Sewage and Waste Water System Diagram

Coast Guard Drawing 225B WLB 593-7, Rev D, Sewage And Waste Water System A/D, Fr 76  
Aft, Abv Mn Dk, Block 950, 970

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020,  
Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020,  
Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

None.

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None

3.1.2 Tech Rep.

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Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.1.5 Confined or enclosed space entry and hot work. Prior to hot work the Contractor must open, ventilate, and clean all spaces and components necessary to accomplish this work item as required to certify them as "SAFE FOR PERSONNEL" and/or "SAFE FOR HOT WORK." In accordance with SFLC Std Spec 0000, paragraph 3.3.1.2 (Confined or enclosed space entry and hot work). Marine Chemist Certification must be obtained prior to commencement of work, and maintained throughout the duration of work.

3.1.6 Welding, testing and inspection. All welding must be in accordance with SFLC Std Spec 0740. All compartment/boundary testing and NDE must be in accordance with SFLC Std Spec 0740, Appendix C.

3.2 Renewals. The Contractor must renew approximately four (4) feet of 3-inch 90/10 CuNi pipe on both sides of 3-inch wye/y splitter located at 1-81-3-L in accordance with SFLC Std Spec 0000, SFLC Std Spec 0740, and Coast Guard drawings 225B WLB 593-1, 593-7, and 505-1.

3.2.1 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR.

3.3 Sewage System Handling Precautionary Measures. The work of this item presents a number of hazards, including risks of infectious disease transmittal and Hydrogen Sulfide asphyxiation/explosion. The following precautions must be observed.

3.3.1 Notify the Cutter's Commanding officer prior to opening any sewage piping.

3.3.2 When performing maintenance which requires disassembly of sewage equipment or when contact with sewage/black water is possible, rubber gloves, rubber boots, eye/faceshields and coveralls (disposable articles acceptable) must be worn. Before beginning maintenance, several plastic laundry-size bags must be brought to the maintenance area. Upon completion of maintenance, the area and components must be washed down with hot potable water and detergent and rinsed with seawater or fresh water. Personnel must then move from the immediate maintenance area and remove protective clothing. Protective clothing must then be placed in the plastic bags, with rubber boots and gloves going in one bag, and protective clothing going in another bag. Rubber boots and gloves must be washed in hot potable water and detergent, and must be rinsed with an iodine, phenol, or hypochlorite disinfectant solution, prior to re-use. Fabric protective clothing may receive normal laundering, disposable coveralls must be discarded. In no case must maintenance personnel walk through living, eating, working, or any manned spaces still wearing protective clothing, boots, or gloves. Before leaving the maintenance area, personnel must thoroughly wash hands, lower arms, and face, in that order, with hot water and soap using the wash-up facilities provided in the area.

3.3.3 In the event spaces become contaminated with sewage/black water as a result of leaks, spills, or sewage system backflow, the space must be evacuated immediately and the cutter's Commanding Officer notified of the spill. The spill area must be secured from traffic, and a Marine Chemist must test the area

to ensure that the atmosphere is within acceptable limits. A safety watch with respiratory protection or a Supplied Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA) or air-line mask must be posted at the compartment access during cleanup. The spilled sewage/black water must then be removed or washed down. Respiratory protection must be used if the atmosphere is not within acceptable limits. If the atmosphere is within acceptable limits, cleanup may be accomplished without respiratory protection; however, respiratory protection must be kept on hand during the cleanup. The area must be recertified as gas free at least every two (2) hours and every hour for ambient temperatures above 32.2° C (90° F) or more frequently if deemed necessary by the Marine Chemist. The need for temporary ventilation must be determined by the Marine Chemist. A final washdown must be accomplished with hot, potable water and stock detergent. In addition, food service spaces, berthing areas, and medical spaces must be treated with an iodine, phenol, or hypochlorite disinfectant.

3.3.4 Personnel working in sewage/black water spaces or on sewage/black water system equipment must not smoke, eat, or drink before a thorough wash up with hot water and soap.

3.3.5 Bilges contaminated with sewage/black water must be pumped out, washed down with fresh water, and pumped out again.

3.3.6 All fluid that drains from the affected sewage piping system must be cleaned up and removed within 1 hour of draining. Any fluid that drains on the cutter's decks must be cleaned up and removed immediately. The Contractor must drain and dispose of all residual fluids in the piping system in accordance with all Federal, state, and local rules and regulations.

**NOTE**

**Couplings may be required as well as replacement of wye/y.**

3.4 Removal and Installation. Remove the sections of sewage piping as designated by the CG Inspector. Dispose of removed piping in accordance with all Federal, state, and local rules and regulations.

3.4.1 Install temporary caps or plugs to the open piping upon removal to prevent system/components and surrounding area from contamination.

3.4.2 Inspect the surrounding piping for signs of deterioration and/or corrosion. Submit a CFR.

3.4.3 Renew all designated sections of 90/10 CuNi sewage piping.

3.5 Pipe flushing. After all authorized work is completed; the Contractor must accomplish the following:

**NOTE**

**Piping may need to be chemically cleaned if brazing is conducted for repair option.**

3.5.1 Flush all new and disturbed piping with clean fresh water for five minutes, or until all debris is removed, whichever occurs first.

3.5.2 Ensure that flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing.

3.5.3 Submit a CFR documenting date and time of flushing process, and verification of piping cleanliness.

3.5.4 Dispose of flushing fluid in accordance with all applicable Federal, state, and local regulations.

**NOTE**

**Do not drain any fluids, including fresh water, into any space, bilge, or exterior location.**

3.6 Hydrostatic test. After all authorized repairs, the Contractor must hydrostatically test all new and disturbed piping and components of the sewage piping system in accordance with SFLC Std Spec 0740, Appendix C, "Hydrostatic Test". Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.7 Operational test, post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.8 Touch-up preservation. The Contractor must prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, (Touch-ups and minor coating repairs).

#### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 12: Accessible Voids, Preserve, 100 Percent

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to prepare and coat 100% of the following:

**TABLE 1 - VOIDS**

TYPE OF STRUCTURE	LOCATION
Void	4-39-0-V

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

- Coast Guard Drawing 225B-WLB 111-001, Rev A, Shell Expansion
- Coast Guard Drawing 225B-WLB 167-001, Rev M, Structural Closures
- Coast Guard Drawing 225B WLB 601-002, Rev N, Booklet off General Drawings
- Coast Guard Drawing 225B-WLB 801-013, Rev B, Midship Section & Typical Sections
- Coast Guard Drawing 225B-WLB 801-015, Rev B, Scantling, Decks, & Platforms
- Coast Guard Drawing 225B-WLB 801-016, Rev -, Scantlings, Watertight Bulkheads

#### COAST GUARD PUBLICATIONS

- Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements
- Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes
- Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures
- Surface Forces Logistics Center Standard Specification 8636 (SFLC Std Spec 8636), 2020, Temporary Hull Accesses

## OTHER REFERENCES

ASTM International (ASTM) D1330, 2010, Standard Specification for Rubber Sheet Gaskets

## 3. REQUIREMENTS

3.1 General. The Contractor must accomplish the following on all voids designated in paragraph 1.1 (Intent).

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to:

- Lead ballast ingots.

3.2 Temporary access openings. The Contractor must (with express permission of the KO via submission of a CFR) cut access hole(s) to facilitate accomplishment of the work specified herein. Perform all work required to open and close the access opening(s) in accordance with SFLC Std Spec 8636.

3.3 Tank content removal. The Contractor must remove and dispose of all tank contents in accordance with all applicable Federal, State, and local regulations.

3.4 Surface preservation. The Contractor must accomplish the following tasks for the voids listed in paragraph 1.1 (Intent). The Contractor must refer to Coast Guard Drawing 225B WLB 601-002 for guidance.:

3.4.1 Remove and retain the manhole cover(s).

3.4.2 Prepare and coat all interior void surfaces (including internal surfaces of manhole cover(s), manhole cover hull ring(s) extending outward to the weld line that ties the hull ring into the tank plating on the tank exterior) using the system specified for " Tanks and Voids, General; Option I " in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match existing.

3.5 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for "critical-coated surfaces"). Surfaces being preserved are considered "critical-coated surfaces".

3.6 Inspection. After surface preparation and before coating application, the Contractor must visually

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inspect all interior surfaces; including, but not limited to bulkheads, floor and overhead plating, structural members, access cover surfaces, fasteners and gasket seating surfaces. Submit a CFR including the following, as applicable:

- Structural condition.
- Inaccessible areas.
- Tank level indicator (TLI) and/or float switch condition.
- Sounding tube and striker plate condition.
- Suction and discharge piping.
- Fastener condition.

3.7 Tank closing. The Contractor must ensure that the tank(s) remain open for at least 24 hours after completion of the tasks specified above. Notify the COR at least 24 hours prior to closing the tank(s). After satisfactory inspection by the Coast Guard Inspector and after all authorized repairs, accomplish the following:

- Reinspect all TLIs, as applicable, to verify proper operation. Submit CFR.
- Close tank manhole cover(s) with new gasket material conforming to ASTM D1330 and new cotton stud grommets (as applicable).
- Renew 100% of nylon insert/nylock nuts and washers.

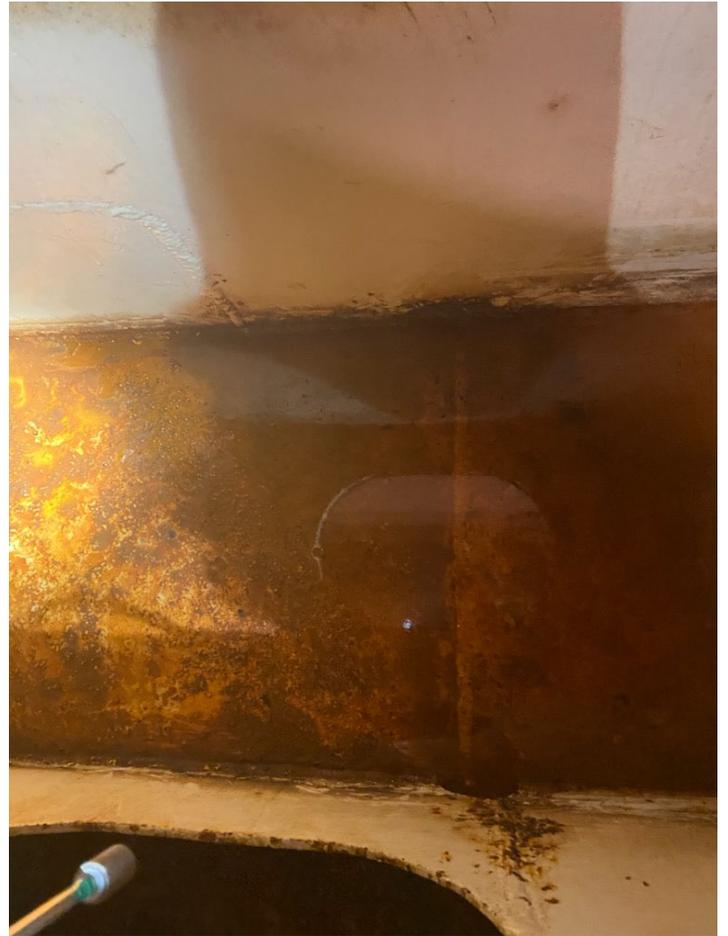
3.8 Ultrasonic thickness (UT) measurement. The Contractor must take a total of 100 UT measurements of the exposed void plating in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

## 4. NOTES

See figures below:



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## WORK ITEM 13: Point of Use Potable Water Filters, Install

**APM: Do not edit any part of the Work Item Title.**

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to install potable water lead removing filters at all point of use (i.e., drinking fountains {aka water coolers & scuttlebutts}; ice makers and coffee makers).

1.2 Government-furnished property.

**APM: Validate all GFP data. If the Spec Package's Consolidated List of GFP is changed, ensure it is changed in the source WI and GFP style is applied.**

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Water Filter Assembly	PN: DWS160-L (3M) NSN: (ACN) 44330-01-F20-5959	9 ea.	160.00
N	Water Filter Element	PN: 56134-44 (3M)	9 ea.	180.00

\*\*\*Government-furnished property, which is to be supplied by either the vessel or the C4IT Service Center.

### 2. REFERENCES

**APM: If editing a WI's References, change the same reference in the Spec's Consolidated List of References and send feedback to the WI's Developer.**

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225B WLB 532-002, Rev F, Potable Water Sys Dia  
Coast Guard Drawing FL 533-001, Rev B, Placard Potable Water Flush  
Coast Guard Drawing FL 533-002, Rev -, Point of Use Water Filter Install

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

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Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020,  
Requirements for Preservation of Ship Structures

### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable

3.1.3 Protective measures. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces near the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Sheathing
- Insulation
- Piping
- Electrical wiring

3.2 Potable water filter installation. The Contractor shall install potable water filters provided as Government furnished property (i.e., Paragraph 1.2) and as addressed in those Coast Guard Drawings listed in paragraph 2 REFERENCES.

#### NOTE

**Coast Guard referenced drawings for the most part represents actual shipboard potable water configuration. However, there can be instances where fixtures identified in new table "WATER FILTER INSTALLATION LOCATIONS" do not exist or are not shown in drawing views.**

**APM: Delete above note when all water filter fixtures identified in “WATER FILTER INSTALLATION LOCATIONS” Table are also shown piped in the field (i.e., one or more views) of the drawing.**

3.2.1 Water filter location. The Contractor shall refer to applicable potable water system diagram drawing specified in paragraph 2 for point of use locations. This drawing has been updated to include a new table titled “WATER FILTER INSTALLATION LOCATIONS”.

**NOTE**

**There is a chance actual shipboard potable water piping on some cutters do not directly service fixtures noted on system diagram drawing “WATER FILTER INSTALLATION LOCATIONS” Table.**

**APM: Delete above note when all water filter fixtures identified in “WATER FILTER INSTALLATION LOCATIONS” Table are also shown piped in the field (i.e., one or more views) of the drawing.**

3.2.2 Water filter installation. The contractor shall install potable water filters in accordance with CG Dwg FL 533-002.

3.3 Potable water flush placard. The Contractor must provide and ensure Potable Water Flush Placards (para 1.2) have been installed in accordance with CG Dwg FL 533-001 at those locations specified by Coast Guard potable water diagram drawing table “FLUSH PLACARD INSTALLATION LOCATIONS”. Submit a CFR.

3.4 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the potable water system in accordance with SFLC Std Spec 0740, Appendix C, Hydrostatic Test. Ensure zero leakage from or permanent deformation of pressure-containing parts by repairing all leaks, deformations, and discrepancies. Submit a CFR.

3.5 Leak test. After completing all authorized mechanical (i.e. threaded, bolted, etc.) joint repairs, the Contractor shall test the potable water system's operation using the system fluid at normal operating pressure. Ensure zero visible leakage from or deformation of mechanical parts by repairing all leaks and discrepancies. Submit a CFR.

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.6 Operational test, post repairs. After completion of work, the Contractor shall thoroughly test, in the presence of the Coast Guard Inspector and demonstrate all items or shipboard devices that have been disturbed, used, repaired, altered, or installed to be in satisfactory operating condition. Submit a CFR.

3.7 Touch-up preservation. The Contractor shall prepare and coat all new and disturbed surfaces to match existing adjacent surfaces in accordance with SFLC Std Spec 6310, paragraph 3.1.13 (Touch-ups and minor coating repairs.)

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 14: Various Compartment Decks, Preserve

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the deck surfaces listed in Table 1 below, shown on Coast Guard Drawing 225B WLB 601-001.

**TABLE 1 - SURFACES REQUIRING PRESERVATION**

COMPARTMENT NAME	APPROXIMATE SQFT	# OF UT SHOTS REQUIRED
Incinerator Room Deck (02-58-0-Q)	100	25
Boatswains Store Room (1-0-0-A)	200	50

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225 WLB 601-001, Rev AB, General Arrangements Inboard and Outboard Profiles

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

None.

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor shall submit a CIR for the inspections listed in the following paragraph(s):

- 3.2 (Ultrasonic thickness (UT) measurement).

#### 3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install all protective coverings to seal off and protect all non-affected vessel's components, equipment, and spaces near the work area against contamination during the performance of work. Upon completion of work, the Contractor shall remove all installed protective measures, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

- Deck plates.
- Trash Compactor
- Bilge Sensors
- VIDMAR/Storage Units

3.2 Ultrasonic thickness (UT) measurement. After surface preparation and prior to coating application, the Contractor shall take UT measurements in quantities described in Table 1, in locations designated by the Coast Guard Inspector, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CIR.

**WARNING**

**Abrasive-blasting is not permissible in a machinery spaces.**

3.3 Surface preservation. The Contractor shall prepare and coat all deck surfaces for compartments listed in Table 1, including approximately six inches up on adjacent bulkhead, using the system specified for “Metal Decks – No application of deck coverings”, in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match existing.

### 4. NOTES

This section is not applicable to this work item.

## **WORK ITEM 15: Buoy Cargo Hold Deck Surfaces, Preserve 100%**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to prepare and coat Cargo Hold Deck surfaces, shown on Coast Guard Drawing 225 WLB 601-002, which include the following:

- Main Cargo Hold (2-30-0-AA)
- Two 24x24x21 Drain Sumps

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 225 WLB 601-002, Rev H; General Arrangement Inboard and Outboard Profiles

Coast Guard Drawing 225B WLB 601-002, Rev L, Booklet off General Drawings

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

#### **OTHER REFERENCES**

None.

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Technical Representative.

Not applicable.

3.1.3 Protective measures. The Contractor shall furnish and install suitable covering to seal off and protect all non-affected surfaces/equipment and spaces in the vicinity of the work area against contamination during the performance of work. Upon completion of work, remove protective material and inspect for the presence of contamination. Clean all equipment and spaces, contaminated due to improper protection, to original condition of cleanliness.

3.1.4 Interferences. The Contractor shall be aware that interferences in way of work include, but are not limited to the below-listed. Handle all interferences in accordance with SFLC Std Spec 0000, paragraph

3.3.5 (Interferences):

- Lockers.
- Kick-pipes.
- Grip downs.
- Tank covers.
- Bilge sensors.
- Hydraulic lines and components.
- Electrical wiring and controller.
- Heat sensors.
- Handrails.

3.2 Preservation particulars. The Contractor shall prepare and coat the cargo hold deck surfaces, including flush deck tie-down fittings and machinery foundations, angle coaming area, and approximately six inches up all adjacent vertical surfaces (as applicable); use the system specified for “Weather Decks (Weather Deck, Buoy Tender Working Deck)”, in SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems). Select Gray (36231) inorganic zinc coating.

3.3 Substrate inspection. After completion surface preparation and before coating application, the Contractor shall perform a visual inspection of the prepared substrate, and submit a CFR.

#### **4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 16: Insulated Case Circuit Breakers, Inspect, Maintain, and Test**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect, maintain, and test insulated case circuit breakers located on the Thruster Switchboard that were designed and tested to UL 489 standards.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 225B WLB 437-003, Rev D, Thruster Control Sys Block, Wiring Deck Plan & Elementary Wiring Diagram

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 0000, 2020, General Requirements

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 3042, 2020, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, and Installation

Coast Guard Technical Publication (TP) 3536A, SWBS 324, Feb 2021, Switchboards - Main, Emergency, and Thruster, Volume 1

Coast Guard Technical Publication (TP) 3536B, SWBS 324, Feb 2002, Switchboards - Main, Emergency, and Thruster, Volume 2

#### **OTHER REFERENCES**

American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) AB 4, Mar 2011, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications

American National Standards Institute/Underwriters Laboratories Inc. (ANSI/UL) 489, Molded Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures, Oct 2016

### 3. REQUIREMENTS

#### 3.1 General.

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

- 3.2 Operational assessment
- 3.3 Removal
- 3.4.2 Inspection
- 3.4.3 Testing

3.1.2 Tech Rep. The Contractor must provide the services of a Qualified Technical Representative (Tech Rep) who is familiar with the original equipment manufacturer or employed by a firm accredited by the InterNational Electrical Testing Association (NETA). An accredited firm must use only NETA certified technicians (<http://www.netaworld.org/>) with calibrated test equipment during the performance of this work item.

- Advise on manufacturer's proprietary system information.
- Assist with the installation and repair method(s).
- Ensure compliance with manufacturer's procedures and standards during system disassembly, inspection, and reassembly as applicable.

3.1.2.1 Ensure the Tech Rep has experience with the system/equipment stated above and demonstrated on their résumé.

3.1.2.2 Submit the name and résumé of the Tech Rep to the COR at the Arrival Conference.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.1.5 The Contractor must notify the Coast Guard Inspector 48 hours prior to starting work on this item.

3.1.6 Outages. The Contractor must coordinate the disconnection and removal of the circuit breakers listed in Table 1 with the Coast Guard Inspector to ensure orderly shutdown of equipment. Providing temporary circuit breakers or temporarily relocating circuit breakers from non-essential circuits to essential circuits (same frame size and trip settings) are acceptable strategies to minimize outage durations. When power interruption is expected to exceed 15 minutes, secure uninterruptable power supplies and supported loads.

3.1.7 Essential circuits. The Contractor must minimize the interruption of power to the following circuits, unless actively being serviced by other work items:

3.1.7.1 Ship service lighting (unless temporary lighting is installed).

3.1.7.2 Fire (circuits F and SM), flooding (circuit FD), and general (circuit G) alarms.

3.1.7.3 Main announcing (circuit 1MC) and dial telephone (circuit J) systems.

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3.1.7.4 Galley, scullery, potable water heater, HVAC, and sewage systems (unless cutter crew is not living on board).

3.1.7.5 Electric fire pump (unless temporary firefighting water supply is connected).

3.2 Operational assessment. The Contractor must inspect equipment operation of each circuit breaker listed in Table 1 prior to removal from the switchboard. Submit a CIR.

3.2.1 General.

3.2.1.1 Ship's Force must operate all equipment, as well as remove and reinstall control power fuses.

3.2.1.2 For cutters with stationary mounted circuit breakers or draw-out type with no TEST position, Ship's Force must run generators or operate shore power, as necessary, to establish safe plant conditions for the operational assessment and provide circuit breaker control power. Ensure that water cooled prime movers are furnished with adequate normal or temporary raw water supplies and that required auxiliaries such as batteries, exhaust, ventilation, start air, fuel oil, jacket water, and lube oil are available.

3.2.1.3 When practicable, operate draw-out type circuit breakers in the TEST position such that the primary contacts (stabs) are disconnected from the switchboard bus but all secondary (control) contacts are still connected to switchboard circuits. For generator circuit breakers, remove the control power transformer secondary winding fuses. Taking appropriate electrical safety precautions, connect a Contractor-furnished temporary control power supply, fused to an ampacity no greater than the normal control power supply, to the vacated load side fuse clips.

3.2.1.4 For a circuit breaker that is locked out and/or tagged out (caution or danger tag), typically in support of another work item, complete the tasking requiring the isolation or shift the work isolation boundary so that the lock and/or tags may be cleared. When shifting the isolation boundary is the only feasible option, such is typically accomplished by opening a local disconnect switch or temporarily disconnecting the feeder cable in accordance with SFLC Std Spec 3042. Ensure that a new lock and/or tag are installed at the new isolation boundary prior to clearing those from the circuit breaker to be removed.

3.2.2 Initial conditions. The circuit breaker to be operationally assessed is assumed to be open with the closing spring charged and control power available.

3.2.3 Manual operation. The Contractor must perform the following for a circuit breaker with mechanical closing and opening controls on the frame:

3.2.3.1 Manually close the circuit breaker. Confirm the following indicators, if installed, change as expected: the mechanical flag for circuit breaker position, circuit breaker position indicating lights, circuit breaker position on the machinery control system display, and the spring charging motor. The spring charging motor should compress the closing spring and automatically drop out shortly after the spring is fully charged. If no spring charging motor is installed or it fails to operate, manually compress the closing spring.

3.2.3.2 Manually trip the circuit breaker and confirm installed indicators, if installed, change as expected. Verify that the mechanical flag for circuit breaker position changes state satisfactorily. Confirm that circuit breaker position indicating lights and machinery control system display toggle.

3.2.3.3 If the circuit breaker is equipped with a mechanical or electrical lockout, activate each lockout device one at a time and verify that the circuit breaker cannot be closed manually.

3.2.3.4 If the circuit breaker is equipped with an undervoltage release coil, secure power to the coil by removing a secondary control power fuse or securing the temporary control power supply. Attempt to manually close the circuit breaker. Observe indicators and flags to ensure that the main contacts do not close (even momentarily). Discharge of the closing spring is acceptable. Reenergize the undervoltage release coil.

3.2.3.5 For circuit breakers without an undervoltage release coil or for those where the closing spring did not discharge while testing the undervoltage release closing interlock, secure control power to the spring charging motor, ensuring that the undervoltage release coil, if installed, remains energized. Some circuit breaker designs have an internal spring charging motor switch for this purpose; otherwise a control power lead to the motor must be temporarily disconnected at the secondary terminal block. Manually close the circuit breaker and then manually open it to discharge the closing spring.

3.2.3.6 Verify that the mechanical flag for closing spring status, if installed, changes state during this step. Manually charge the closing spring, observing the ratchet mechanism and pawls for signs of damage, such as binding or excessive wear.

3.2.3.7 Reenergize any circuit breaker control circuits that were deenergized in paragraph 3.2.3.5 above.

3.2.4 Electrical operation. The Contractor must perform the following for a circuit breaker with electrical closing and opening controls on the switchboard:

3.2.4.1 Electrically close the circuit breaker. Confirm the following indicators, if installed, change as expected: the mechanical flag for circuit breaker position and closing spring status, circuit breaker position indicating lights, circuit breaker position on the machinery control system display, and the spring charging motor. The spring charging motor should compress the closing spring and automatically drop out shortly after the spring is fully charged. If no spring charging motor is installed or it fails to operate, manually compress the closing spring.

3.2.4.2 Electrically trip the circuit breaker. Verify that the mechanical flag for circuit breaker position, if installed, changes state satisfactorily and that the shunt trip coil remains deenergized while the control switch is held in the TRIP position. Confirm that circuit breaker position indicating lights and machinery control system display, if applicable, also toggle.

3.2.4.3 If the circuit breaker is equipped with a mechanical or electrical lockout, activate each lockout device one at a time and verify that the circuit breaker cannot be closed electrically.

3.2.4.4 If the circuit breaker is equipped with an undervoltage release coil, secure power to it by temporarily disconnecting the associated lead at the secondary terminal block; ensure that power to the closing coil and position indicating circuit remains available. Attempt to electrically close the circuit breaker and observe indicators and flags to ensure that the main contacts do not close (even momentarily). Discharge of the closing spring is acceptable.

3.2.4.5 Reenergize any circuit breaker control circuits that were deenergized in paragraph 3.2.4.4 above.

3.2.4.6 If the circuit breaker is equipped with an anti-pump mechanism, electrically close the circuit breaker and continue to hold the control switch in the CLOSE position. If practicable, trip the circuit

breaker on fault by simulating an overcurrent condition at the trip unit; otherwise defer this test until the circuit breaker arrives at the maintenance facility. Verify that the circuit breaker does not reclose until the control switch is released and another closing operation is attempted. Open the circuit breaker.

3.2.5 Bell alarm switch. The Contractor must perform the following for a circuit breaker with a bell alarm switch:

3.2.5.1 Close the circuit breaker using mechanical or electrical control.

3.2.5.2 If practicable, automatically trip the circuit breaker by simulating an overcurrent condition at the trip unit or by momentarily deenergizing control power to activate the undervoltage release; otherwise defer this test until the circuit breaker arrives at the maintenance facility. Verify that the bell alarm switch contacts are in the tripped state.

3.2.5.3 Manually reset the tripped circuit breaker using mechanical or electrical control. Verify that the bell alarm switch contacts are in the normal state.

3.2.6 Draw-out interlock. The Contractor must perform the following for a circuit breaker with a draw-out interlock:

3.2.6.1 De-energize both sets of primary contacts (stabs) in the switchboard.

3.2.6.2 If the circuit breaker is equipped with an undervoltage release or can only be operated electrically and temporary control power is not already installed:

3.2.6.2.1 Remove the control power transformer secondary winding fuses.

3.2.6.2.2 Taking appropriate electrical safety precautions, connect a Contractor-furnished temporary control power supply, fused to an ampacity no greater than the normal control power supply, to the vacated load side fuse clips.

3.2.6.3 Ensure that the circuit breaker is withdrawn to the TEST position such that the primary contacts (stabs) are disconnected from the switchboard bus but all secondary (control) contacts are still connected to switchboard circuits.

3.2.6.4 Close the circuit breaker using mechanical or electrical control.

3.2.6.5 Attempt to rack in the closed circuit breaker to the CONNECTED position. Verify that such an operation is physically impossible or confirm that the circuit breaker automatically trips before the stabs reach the primary contacts in the switchboard.

3.2.6.6 If not already tripped, open the circuit breaker using mechanical or electrical control and fully insert it to the CONNECTED position.

3.2.6.7 Close the circuit breaker using mechanical or electrical control.

3.2.6.8 Attempt to rack out the closed circuit breaker to the TEST or DISCONNECTED position. Verify that such an operation is physically impossible or confirm that the circuit breaker automatically trips before the stabs separate from the primary contacts in the switchboard.

3.2.6.9 If not already tripped, open the circuit breaker using mechanical or electrical control.

3.2.7 Spring discharge interlock. The Contractor must perform the following for a circuit breaker with a spring discharge interlock:

3.2.7.1 If not already compressed, charge the closing spring.

3.2.7.2 Rack out the open circuit breaker to the DISCONNECTED position. Verify that such an operation is physically impossible or confirm that the closing spring automatically discharges between the TEST and DISCONNECTED positions.

3.2.8 Restoration. The Contractor must perform the following for each circuit breaker assessed in accordance with section 3.2 Operational assessment.

3.2.8.1 Ensure that the circuit breaker is open.

3.2.8.2 If not already accomplished, remove the circuit breaker control power transformer secondary winding fuses and disconnect any temporary control power supply.

3.2.8.3 If compressed, discharge the closing spring.

3.3 Removal. The Contractor must comply with the following procedures while removing circuit breakers in completion of this work item. Submit a CIR.

3.3.1 Prior to the removal of each circuit breaker listed in Table 1, record location (position or circuit identifier), wiring information, and if adjustable, as found pickup and time delay settings. Retain all mounting and connecting hardware for later reuse.

3.3.2 Disconnect and remove the circuit breakers listed in Table 1.

3.3.3 Inspect the primary and secondary disconnects in the switchboard for wear and erosion. Check the torques of all primary disconnect studs to the bus work or power cable lugs. Inspect for broken control wiring lugs and check the tightness of wiring at the secondary disconnect terminal blocks. Renew any broken lugs and tighten any loose connections to wiring or bus.

3.3.4 Temporarily cover or insulate switchboard openings created by the removal of circuit breakers to prevent personnel contact with energized conductors and to block the entry of debris from other ongoing industrial activities.

3.4 Shop Work. The Contractor must comply with the following procedures while servicing circuit breakers in completion of this work item:

3.4.1 Cleaning and lubrication. Clean accessible circuit breaker internals with manufacturer's approved solvents and lint free cloths. Do not use high pressure air or wire brushes. Lubricate all accessible components in accordance with manufacturer's instructions.

3.4.2 Inspection. Perform the inspections and take the measurements described below. Submit a CIR.

3.4.2.1 Remove and inspect the arc chutes. Note if an arc chute is severely burned, cracked, or eroded.

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3.4.2.2 Visually inspect all primary contacts for wear, erosion, and evidence of overheating. Inspect associated insulators for cracks and degradation. Determine whether the condition of one or more contacts or insulators meets the criteria for renewal in accordance with manufacturer's guidelines.

3.4.2.3 Reinstall the arc chutes and torque all fasteners in accordance with manufacturer's instructions.

3.4.2.4 Inspect the primary and secondary disconnects (stabs) for wear and erosion. For a circuit breaker with finger type primary disconnects, check that the proper force is applied when a dummy bar, representative of the mating stationary disconnect, is inserted.

3.4.2.5 Inspect electrical switches, solenoids, relays, wiring, and motors for excessive wear and damage. Perform an insulation resistance check of all control wiring using a 500 VDC test voltage. Isolate and identify any wiring or component with insulation resistance of less than 1 M $\Omega$  to ground.

3.4.2.6 For a circuit breaker equipped with a spring charging motor, verify that the motor cutoff switch is aligned in accordance with manufacturer's instructions.

3.4.3 Testing. The Contractor must test each circuit breaker listed in Table 1 as directed in this section after satisfactory visual inspection and completion of any authorized repair work. Submit a CIR.

3.4.3.1 Perform the following tests of ANSI/NEMA AB 4, Section 6:

- Mechanical operation
- Insulation resistance
- Individual pole resistance (millivolts drop)
- Inverse-time overcurrent trip (not applicable to non-automatic switches)
- Instantaneous overcurrent trip
- Rated hold-in current

3.4.3.2 Short-time overcurrent trip. This test is applicable only if the circuit breaker is equipped with a short-time delay trip. The operation of the short-time delay unit should be within 90% and 125% of the overcurrent setting of the circuit breaker as shown on the manufacturer's time-current curves.

3.4.3.3 Ground fault trip. The circuit breaker should not be equipped with a ground fault trip. If such is installed, submit a CFR noting the discrepancy.

3.4.3.4 Dielectric test. Perform a dielectric test on each 480 or 600 volt rated circuit breaker where the case was opened for repair or the circuit breaker was obtained through non-OEM authorized supply channels. The dielectric test should be conducted at an AC test voltage of 1568 (480 volt rating) or 1760 volts (600 volt rating) or at 2500 volts DC for 1 minute withstand. Conduct the dielectric test for each of the following conditions:

- Each pole (line to load terminal) with the circuit breaker open
- Each pair of line to line terminals with the circuit breaker closed
- Each line terminal to ground with the circuit breaker open
- Each pole to ground with the circuit breaker closed

3.4.3.5 For each circuit breaker accessory, perform the applicable tests of ANSI/NEMA AB 4, Section 7. Review the Table 1 configuration below for each circuit breaker and submit a CFR for model number

discrepancies as well as any missing or extra accessory. When performing ANSI/NEMA AB 4, Section 7.3, use a variable voltage control power source and voltmeter to measure dropout and pickup voltages of the undervoltage release coil. Dropout voltage must be between 15% and 60% of the coil voltage rating; pickup must occur between 30% and 85%.

3.4.3.6 Record the following data for each circuit breaker that was tested:

- Circuit breaker model and serial number
- Circuit identifier or position
- Test data and results
- Test technician name and date of test
- Name and address of testing laboratory

3.4.3.7 Update the label on the circuit breaker case, as necessary, so that it accurately describes the circuit breaker configuration and installed accessories. Apply a sticker showing the name of the testing laboratory along with the date of the test.

3.5 Reinstallation. The Contractor must perform the following for each circuit breaker removed in accordance with section 3.3 Removal.

3.5.1 Vacuum out the circuit breaker enclosure and completely remove any foreign material.

3.5.2 Lubricate primary and secondary disconnects in accordance with manufacturer's instructions.

3.5.3 Reinstall and reconnect each circuit breaker using information retained in paragraph 3.2.1 above.

3.5.4 Perform an energized operational test of all affected circuit breakers in the presence of the Coast Guard Inspector. Verify that all accessory devices are functioning. For circuit breakers supplying three phase motor loads, either directly or indirectly through intermediate panelboards, perform a phase rotation check if any power wiring was disconnected.

3.5.5 When isolation is no longer required, reconnect all cables disconnected per paragraph 3.2.1.4 above per SFLC Std Spec 3042.

## 4. NOTES

4.1 Inspection periodicity. Circuit breakers are normally maintained, tested, and lubricated at 48 month intervals; however, such should also be performed when the following number of open-close cycles are exceeded with main contact current flow since the last inspection:

4.1.1 2500 ampere frame and below –500 cycles

4.1.2 3000 ampere frame and above – 400 cycles

4.2 High current fault. When a circuit breaker interrupts a high current fault, perform the arc chute and primary contact inspections before returning the device to operation. Also inspect the associated switchboard bus work for deformation and possible derangement.

**TABLE 1 - CIRCUIT BREAKER LIST (WLB225B)**

<b>Accessories</b>	<b>Draw-Out with TEST Position</b>	X	X	X
	<b>Undervoltage Release</b>	Instant		
	<b>Shunt Trip Coil</b>	X	X	X
	<b>Lockout Device, Mech or Elec</b>			
	<b>Closing Coil, Anti-Pump</b>	CC & AP	CC & AP	CC & AP
	<b>Spring Charging Method(s)</b>	Man/Auto	Man/Auto	Man/Auto
	<b>Auxiliary Switch</b>	6NO/6NC	6NO/6NC	6NO/6NC
	<b>Bell Alarm Switch</b>			
<b>Settings</b>	<b>Instantaneous Pickup (A) [<math>\times I_r</math>]</b>	8000 [5]	1200 [1.5]	1800 [1.5]
	<b>Short Time Delay</b>	0.07		
	<b>Short Time Pickup (A) [<math>\times I_L</math>]</b>	4800 [3]		
	<b>Long Time Delay</b>	30	2.5	2.5
	<b>Long Time Pickup <math>I_L</math> (A) [<math>\times I_r</math>]</b>	1600 [100%]	760 [95%]	1200 [100%]
	<b>Withdrawal Interlock</b>	X	X	X
	<b>Spring Discharge Interlock</b>	X	X	X
	<b>Rating Plug or Sensor <math>I_r</math> (A)</b>	1600	800	1200
	<b>Part Number</b>	Siemens SBA2016DV	Siemens SBA0808DV	Siemens SBA2012DV
	<b>Frame (A)</b>	2000	800	2000
	<b>Circuit</b>	TG-4P-TP	TP-4P-A	TP-4P-B
	<b>Function &amp; Location</b>	Thruster Generator (Thruster Switchboard)	Bow Thruster SCR Drive (Thruster Switchboard)	Stern Thruster SCR Drive (Thruster Switchboard)

## **WORK ITEM 17: Power Circuit Breakers, Maintain & Test**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect, maintain, and test power circuit breakers located on the Ship Service and Emergency Switchboards that were designed and tested to UL 1066 standards.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 225B WLB 320-001, Rev AF, Electrical One Line Diagram

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 0000, 2020, General Requirements

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 3042, 2020, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, and Installation

Coast Guard Technical Publication (TP) 3536A, SWBS 324, Feb 2021, Switchboards - Main, Emergency, and Thruster, Volume 1

Coast Guard Technical Publication (TP) 3536B, SWBS 324, Feb 2002, Switchboards - Main, Emergency, and Thruster, Volume 2

#### **OTHER REFERENCES**

American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) AB 4, Mar 2011, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications

American National Standards Institute/Underwriters Laboratories Inc. (ANSI/UL) 1066, Low-Voltage AC and DC Power Circuit Breakers Used in Enclosures, Apr 2012

### **3. REQUIREMENTS**

3.1 General.

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3.1.1 CIR. The Contractor must submit a CIR for the inspections and test listed in the following paragraph(s):

- 3.2 Operational assessment
- 3.3 Removal
- 3.4.2 Inspection
- 3.4.3 Testing

3.1.2 Tech Rep. The Contractor must provide the services of a Qualified Technical Representative (Tech Rep) who is familiar with the original equipment manufacturer or employed by a firm accredited by the InterNational Electrical Testing Association (NETA). An accredited firm must use only NETA certified technicians (<http://www.netaworld.org/>) with calibrated test equipment during the performance of this work item. The Tech Rep must accomplish the following on site:

- Advise on manufacturer's proprietary system information.
- Assist with the installation and repair method(s).
- Ensure compliance with manufacturer's procedures and standards during system disassembly, inspection, and reassembly as applicable.

3.1.2.1 Ensure the Tech Rep has experience with the system/equipment stated above and demonstrated on their résumé.

3.1.2.2 Submit the name and résumé of the Tech Rep to the COR at the Arrival Conference.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

3.1.5 The Contractor must notify the Coast Guard Inspector 48 hours prior to starting work on this item.

3.1.6 Outages. The Contractor must coordinate the disconnection and removal of the circuit breakers listed in Table 1 with the Coast Guard Inspector to ensure orderly shutdown of equipment. Providing temporary circuit breakers or temporarily relocating circuit breakers from non-essential circuits to essential circuits (same frame size and trip settings) are acceptable strategies to minimize outage durations. When power interruption is expected to exceed 15 minutes, secure uninterruptable power supplies and supported loads.

3.1.7 Essential circuits. The Contractor must minimize the interruption of power to the following circuits, unless actively being serviced by other work items:

3.1.7.1 Ship service lighting (unless temporary lighting is installed).

3.1.7.2 Fire (circuits F and SM), flooding (circuit FD), and general (circuit G) alarms.

3.1.7.3 Main announcing (circuit IMC) and dial telephone (circuit J) systems.

3.1.7.4 Galley, scullery, potable water heater, HVAC, and sewage systems (unless cutter crew is not living on board).

3.1.7.5 Electric fire pump (unless temporary firefighting water supply is connected).

3.2 Operational assessment. The Contractor must perform an operational assessment of each circuit breaker listed in the table below prior to removal from the switchboard. Submit a CIR.

3.2.1 General.

3.2.1.1 Ship's Force must operate all equipment, as well as remove and reinstall control power fuses.

3.2.1.2 For cutters with stationary mounted circuit breakers or draw-out type with no TEST position, Ship's Force must run generators or operate shore power, as necessary, to establish safe plant conditions for the operational assessment and provide circuit breaker control power. Ensure that water cooled prime movers are furnished with adequate normal or temporary raw water supplies and that required auxiliaries such as batteries, exhaust, ventilation, start air, fuel oil, jacket water, and lube oil are available.

3.2.1.3 When practicable, operate draw-out type circuit breakers in the TEST position such that the primary contacts (stabs) are disconnected from the switchboard bus but all secondary (control) contacts are still connected to switchboard circuits. For generator circuit breakers, remove the control power transformer secondary winding fuses. Taking appropriate electrical safety precautions, connect a Contractor-furnished temporary control power supply, fused to an ampacity no greater than the normal control power supply, to the vacated load side fuse clips.

3.2.1.4 For a circuit breaker that is locked out and/or tagged out (caution or danger tag), typically in support of another work item, complete the tasking requiring the isolation or shift the work isolation boundary so that the lock and/or tags may be cleared. When shifting the isolation boundary is the only feasible option, such is typically accomplished by opening a local disconnect switch or temporarily disconnecting the feeder cable in accordance with SFLC Std Spec 3042. Ensure that a new lock and/or tag are installed at the new isolation boundary prior to clearing those from the circuit breaker to be removed.

3.2.2 Initial conditions. The circuit breaker to be operationally assessed is assumed to be open with the closing spring charged and control power available.

3.2.3 Manual operation. The Contractor must perform the following for a circuit breaker with mechanical closing and opening controls on the frame:

3.2.3.1 Manually close the circuit breaker. Confirm the following indicators, if installed, change as expected: the mechanical flag for circuit breaker position, circuit breaker position indicating lights, circuit breaker position on the machinery control system display, and the spring charging motor. The spring charging motor should compress the closing spring and automatically drop out shortly after the spring is fully charged. If no spring charging motor is installed or it fails to operate, manually recompress the closing spring.

3.2.3.2 Manually trip the circuit breaker and confirm installed indicators, if installed, change as expected. Verify that the mechanical flag for circuit breaker position changes state satisfactorily. Confirm that circuit breaker position indicating lights and machinery control system display toggle.

3.2.3.3 If the circuit breaker is equipped with a mechanical or electrical lockout, activate each lockout device one at a time and verify that the circuit breaker cannot be closed manually.

3.2.3.4 If the circuit breaker is equipped with an undervoltage release coil, secure power to the coil by removing a secondary control power fuse or securing the temporary control power supply. Attempt to manually close the circuit breaker. Observe indicators and flags to ensure that the main contacts do not close (even momentarily). Discharge of the closing spring is acceptable. Reenergize the undervoltage release coil.

3.2.3.5 For circuit breakers without an undervoltage release coil or for those where the closing spring did not discharge while testing the undervoltage release closing interlock, secure control power to the spring charging motor, ensuring that the undervoltage release coil, if installed, remains energized. Some circuit breaker designs have an internal spring charging motor switch for this purpose; otherwise a control power lead to the motor must be temporarily disconnected at the secondary terminal block. Manually close the circuit breaker and then manually open it to discharge the closing spring.

3.2.3.6 Verify that the mechanical flag for closing spring status, if installed, changes state during this step. Manually charge the closing spring, observing the ratchet mechanism and pawls for signs of damage, such as binding or excessive wear.

3.2.3.7 Reenergize any circuit breaker control circuits that were deenergized in paragraph 3.2.3.5 above.

3.2.4 Electrical operation. The Contractor must perform the following for a circuit breaker with electrical closing and opening controls on the switchboard:

3.2.4.1 Electrically close the circuit breaker. Confirm the following indicators, if installed, change as expected: the mechanical flag for circuit breaker position and closing spring status, circuit breaker position indicating lights, circuit breaker position on the machinery control system display, and the spring charging motor. The spring charging motor should compress the closing spring and automatically drop out shortly after the spring is fully charged. If no spring charging motor is installed or it fails to operate, manually recompress the closing spring.

3.2.4.2 Electrically trip the circuit breaker. Verify that the mechanical flag for circuit breaker position, if installed, changes state satisfactorily and that the shunt trip coil remains deenergized while the control switch is held in the TRIP position. Confirm that circuit breaker position indicating lights and machinery control system display, if applicable, also toggle.

3.2.4.3 If the circuit breaker is equipped with a mechanical or electrical lockout, activate each lockout device one at a time and verify that the circuit breaker cannot be closed electrically.

3.2.4.4 If the circuit breaker is equipped with an undervoltage release coil, secure power to it by temporarily disconnecting the associated lead at the secondary terminal block; ensure that power to the closing coil and position indicating circuit remains available. Attempt to electrically close the circuit breaker and observe indicators and flags to ensure that the main contacts do not close (even momentarily). Discharge of the closing spring is acceptable.

3.2.4.5 Reenergize any circuit breaker control circuits that were deenergized in paragraph 3.2.4.4 above.

3.2.4.6 If the circuit breaker is equipped with an anti-pump mechanism, electrically close the circuit breaker and continue to hold the control switch in the CLOSE position. If practicable, trip the circuit breaker on fault by simulating an overcurrent condition at the trip unit; otherwise defer this test until the circuit breaker arrives at the maintenance facility. Verify that the circuit breaker does not reclose until the control switch is released and another closing operation is attempted. Open the circuit breaker.

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3.2.5 Bell alarm switch. The Contractor must perform the following for a circuit breaker with a bell alarm switch:

3.2.5.1 Close the circuit breaker using mechanical or electrical control.

3.2.5.2 If practicable, automatically trip the circuit breaker by simulating an overcurrent condition at the trip unit or by momentarily deenergizing control power to activate the undervoltage release; otherwise defer this test until the circuit breaker arrives at the maintenance facility. Verify that the bell alarm switch contacts are in the tripped state.

3.2.5.3 Manually reset the tripped circuit breaker using mechanical or electrical control. Verify that the bell alarm switch contacts are in the normal state.

3.2.6 Draw-out interlock. The Contractor must perform the following for a circuit breaker with a draw-out interlock:

3.2.6.1 De-energize both sets of primary contacts (stabs) in the switchboard.

3.2.6.2 If the circuit breaker is equipped with an undervoltage release or can only be operated electrically and temporary control power is not already installed:

3.2.6.2.1 Remove the control power transformer secondary winding fuses.

3.2.6.2.2 Taking appropriate electrical safety precautions, connect a Contractor-furnished temporary control power supply, fused to an ampacity no greater than the normal control power supply, to the vacated load side fuse clips.

3.2.6.3 Ensure that the circuit breaker is withdrawn to the TEST position such that the primary contacts (stabs) are disconnected from the switchboard bus but all secondary (control) contacts are still connected to switchboard circuits.

3.2.6.4 Close the circuit breaker using mechanical or electrical control.

3.2.6.5 Attempt to rack in the closed circuit breaker to the CONNECTED position. Verify that such an operation is physically impossible or confirm that the circuit breaker automatically trips before the stabs reach the primary contacts in the switchboard.

3.2.6.6 If not already tripped, open the circuit breaker using mechanical or electrical control and fully insert it to the CONNECTED position.

3.2.6.7 Close the circuit breaker using mechanical or electrical control.

3.2.6.8 Attempt to rack out the closed circuit breaker to the TEST or DISCONNECTED position. Verify that such an operation is physically impossible or confirm that the circuit breaker automatically trips before the stabs separate from the primary contacts in the switchboard.

3.2.6.9 If not already tripped, open the circuit breaker using mechanical or electrical control.

3.2.7 Spring discharge interlock. The Contractor must perform the following for a circuit breaker with a spring discharge interlock:

3.2.7.1 If not already compressed, charge the closing spring.

3.2.7.2 Rack out the open circuit breaker to the DISCONNECTED position. Verify that such an operation is physically impossible or confirm that the closing spring automatically discharges between the TEST and DISCONNECTED positions.

3.2.8 Restoration. The Contractor must perform the following for each circuit breaker assessed in accordance with section 3.2 Operational assessment.

3.2.8.1 Ensure that the circuit breaker is open.

3.2.8.2 If not already accomplished, remove the circuit breaker control power transformer secondary winding fuses and disconnect any temporary control power supply.

3.2.8.3 If compressed, discharge the closing spring.

3.3 Removal. The Contractor must comply with the following procedures while removing circuit breakers in completion of this work item. Submit a CIR.

3.3.1 Prior to the removal of each circuit breaker listed in Table 1, record location (position or circuit identifier), wiring information, and if adjustable, as found pickup and time delay settings. Retain all mounting and connecting hardware for later reuse.

3.3.2 Disconnect and remove the circuit breakers listed in Table 1.

3.3.3 Inspect the primary and secondary disconnects in the switchboard for wear and erosion. Check the torques of all primary disconnect studs to the bus work or power cable lugs. Inspect for broken control wiring lugs and check the tightness of wiring at the secondary disconnect terminal blocks. Renew any broken lugs and tighten any loose connections to wiring or bus.

3.3.4 Temporarily cover or insulate switchboard openings created by the removal of circuit breakers to prevent personnel contact with energized conductors and to block the entry of debris from other ongoing industrial activities.

3.4 Shop Work. The Contractor must comply with the following procedures while servicing circuit breakers in completion of this work item:

3.4.1 Cleaning and lubrication. Clean circuit breaker internals with manufacturer's approved solvents and lint free cloths. Do not use high pressure air or wire brushes. Lubricate all components in accordance with manufacturer's instructions.

3.4.2 Inspection. Perform the inspections and take the measurements described below. Submit a CIR.

3.4.2.1 Remove and inspect the arc chutes. Note if an arc chute is severely burned, cracked, or eroded.

3.4.2.2 Visually inspect all primary intermediate (if installed), main, and arcing contacts for erosion and evidence of overheating. Inspect associated insulators for cracks and degradation. Determine whether the condition of one or more contacts or insulators meets the criteria for renewal in accordance with manufacturer's guidelines.

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3.4.2.3 Set up the circuit breaker for maintenance or slow closing. Check alignment and measure the contact force, spring tension, air gap, and wipe on each contact in accordance with manufacturer's instructions and make adjustments, as necessary, to set these values within specification.

3.4.2.4 Check contact closure sequencing to ensure that the differences in the making of the arcing contacts on the same pole and between poles is within manufacturer's tolerances. Also verify that the opening sequencing is satisfactory in the same manner.

3.4.2.5 Reinstall the arc chutes and torque all fasteners in accordance with manufacturer's instructions.

3.4.2.6 Inspect the primary and secondary disconnects (stabs) for wear and erosion. For a circuit breaker with finger type primary disconnects, check that the proper force is applied when a dummy bar, representative of the mating stationary disconnect, is inserted.

3.4.2.7 Inspect mechanical linkages, bearings, pawls, gears, cams, rollers, rods, and shafts for excessive wear and damage. Identify incorrectly assembled components. Note all missing and improperly installed fasteners.

3.4.2.8 Inspect electrical switches, solenoids, relays, wiring, and motors for excessive wear and damage. Perform an insulation resistance check of all control wiring using a 500 VDC test voltage. Isolate and identify any wiring or component with insulation resistance of less than 1 M $\Omega$  to ground.

3.4.2.9 For a circuit breaker equipped with a spring charging motor, verify that the motor cutoff switch is aligned in accordance with manufacturer's instructions.

3.4.3 Testing. After satisfactory visual inspection and completion of any authorized repair work, test each circuit breaker listed in Table 1 as directed in this section. Submit a CIR.

3.4.3.1 Perform the following tests of ANSI/NEMA AB 4, Section 6:

- Mechanical operation
- Insulation resistance
- Individual pole resistance (millivolts drop)
- Inverse-time overcurrent trip (not applicable to non-automatic switches)
- Instantaneous overcurrent trip
- Rated hold-in current

3.4.3.2 Short-time overcurrent trip. This test is applicable only if the circuit breaker is equipped with a short-time delay trip. The operation of the short-time delay unit should be within 90% and 125% of the overcurrent setting of the circuit breaker as shown on the manufacturer's time-current curves.

3.4.3.3 Ground fault trip. The circuit breaker should not be equipped with a ground fault trip. If such is installed, submit a CFR noting the discrepancy.

3.4.3.4 Dielectric test. Perform a dielectric test on each 480 or 600 volt rated circuit breaker where the case was opened for repair or the circuit breaker was obtained through non-OEM authorized supply channels. The dielectric test should be conducted at an AC test voltage of 1568 (480 volt rating) or 1760 volts (600 volt rating) or at 2500 volts DC for 1 minute withstand. Conduct the dielectric test for each of the following conditions:

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- Each pole (line to load terminal) with the circuit breaker open
- Each pair of line to line terminals with the circuit breaker closed
- Each line terminal to ground with the circuit breaker open
- Each pole to ground with the circuit breaker closed

3.4.3.5 For each circuit breaker accessory, perform the applicable tests of ANSI/NEMA AB 4, Section 7. Review the Table 1 configuration below for each circuit breaker and submit a CFR for model number discrepancies as well as any missing or extra accessory. When performing ANSI/NEMA AB 4, Section 7.3, use a variable voltage control power source and voltmeter to measure dropout and pickup voltages of the undervoltage release coil. Dropout voltage must be between 15% and 60% of the coil voltage rating; pickup must occur between 30% and 85%.

3.4.3.6 Record the following data for each circuit breaker that was tested:

- Circuit breaker model and serial number
- Circuit identifier or position
- Test data and results
- Test technician name and date of test
- Name and address of testing laboratory

3.4.3.7 Update the label on the circuit breaker case, as necessary, so that it accurately describes the circuit breaker configuration and installed accessories. Apply a sticker showing the name of the testing laboratory along with the date of the test.

3.5 Reinstallation. The Contractor must perform the following for each circuit breaker removed in accordance with section 3.3 Removal.

3.5.1 Vacuum out the circuit breaker enclosure and completely remove any foreign material.

3.5.2 Lubricate primary and secondary disconnects in accordance with manufacturer's instructions.

3.5.3 Reinstall and reconnect each circuit breaker using information retained in paragraph 3.2.1 above.

3.5.4 Perform an energized operational test of all affected circuit breakers in the presence of the Coast Guard Inspector. Verify that all accessory devices are functioning. For circuit breakers supplying three phase motor loads, either directly or indirectly through intermediate panelboards, perform a phase rotation check if any power wiring was disconnected.

3.5.5 When isolation is no longer required, reconnect all cables disconnected per paragraph 3.2.1.4 above per SFLC Std Spec 3042.

**TABLE 1 – CIRCUIT BREAKER LIST (WLB225B)**

<b>Accessories</b>	<b>Draw-Out with TEST Position</b>	X	X	X	X	X
	<b>Undervoltage Release</b>	Instant	Instant	Instant	Instant	
	<b>Shunt Trip Coil</b>	X	X	X	X	X
	<b>Lockout Device, Mech or Elec</b>					
	<b>Closing Coil, Anti-Pump</b>	CC & AP	CC & AP	CC & AP	CC & AP	CC & AP
	<b>Spring Charging Method(s)</b>	Man/Auto	Man/Auto	Man/Auto	Man/Auto	Man/Auto
	<b>Auxiliary Switch</b>	2NO/2NC	2NO/2NC	2NO/2NC	2NO/2NC	2NO/2NC
<b>Settings</b>	<b>Bell Alarm Switch</b>					
	<b>Instantaneous Pickup (A) [<math>\times I_r</math>]</b>	2610 [5]	1260 [3.0]	4500 [5]	4500 [5]	2880 [4]
	<b>Short Time Delay</b>	0.40 I <sup>2</sup> t out	0.30 I <sup>2</sup> t out			
	<b>Short Time Pickup (A) [<math>\times I_L</math>]</b>	1566 [3.0]	1260 [3.0]	2700 [3.0]	2700 [3.0]	2160 [3.0]
	<b>Long Time Delay</b>	30	30	30	30	30
	<b>Long Time Pickup I<sub>L</sub> (A) [<math>\times I_r</math>]</b>	522 [0.87]	420 [0.70]	900 [0.75]	840 [0.70]	720 [0.6]
	<b>Withdrawal Interlock</b>	X	X	X	X	X
	<b>Spring Discharge Interlock</b>	X	X	X	X	X
	<b>Rating Plug or Sensor I<sub>r</sub> (A)</b>	600	600	1200	1200	1200
	<b>Part Number</b>	Siemens RL-AS8EAFXBA06D- U7 with Static Trip III	Siemens RL-AS8EAFXBA06D- U7 with Static Trip III	Siemens RL-AS1EAHXBA06D- U7 with Static Trip III	Siemens RL-AS1EAHXBA06D- U7 with Static Trip III	Siemens RL-AS1EAHXBA06D
	<b>Frame (A)</b>	800	800	1600	1600	1600
	<b>Circuit</b>	1EG-4EP-1E	1S-4P-1E	1SGA-4P-1S	2SGA-4P-2S	1S-4P-2S

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<p><b>Function &amp; Location</b></p>	<p>Emergency Diesel Generator (1E Switchboard)</p>	<p>1E-1S Bus Tie (1E Switchboard)</p>	<p>No. 1 Ship Service Diesel Generator (1S Switchboard)</p>	<p>No. 2 Ship Service Diesel Generator (2S Switchboard)</p>	<p>1S-2S Bus Tie (2S Switchboard)</p>
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<b>Accessories</b>	<b>Draw-Out with TEST Position</b>	X	X	X	X	
	<b>Undervoltage Release</b>	Instant	Instant			
	<b>Shunt Trip Coil</b>	X	X	X	X	
	<b>Lockout Device, Mech or Elec</b>					
	<b>Closing Coil, Anti-Pump</b>	CC & AP	CC & AP	CC & AP	CC & AP	
	<b>Spring Charging Method(s)</b>	Man/Auto	Man/Auto	Man/Auto	Man/Auto	
	<b>Auxiliary Switch</b>	2NO/2NC	2NO/2NC	2NO/2NC	2NO/2NC	
	<b>Bell Alarm Switch</b>					
<b>Settings</b>	<b>Instantaneous Pickup (A [<math>\times I_r</math>])</b>	2000 [5]	2000 [5]	1200 [3]	3000 [5]	
	<b>Short Time Delay</b>	0.40 I <sup>2</sup> t out	0.40 I <sup>2</sup> t out	0.08 I <sup>2</sup> t out	0.08 I <sup>2</sup> t out	
	<b>Short Time Pickup (A) [<math>\times I_L</math>]</b>	1200 [3.0]	1200 [3.0]	1600 [4.0]	3600 [6.0]	
	<b>Long Time Delay</b>	30	30	6	6	
	<b>Long Time Pickup I<sub>L</sub> (A) [<math>\times I_r</math>]</b>	400 [1.0]	400 [1.0]	400 [0.50]	600 [0.75]	
<b>Withdrawal Interlock</b>	X	X	X	X		
<b>Spring Discharge Interlock</b>	X	X	X	X		
<b>Rating Plug or Sensor I<sub>r</sub> (A)</b>	400	400	800	800		
<b>Part Number</b>	Siemens RL-AS8EAEXBA06D- U7 with Static Trip III	Siemens RL-AS8EAEXBA06D- U7 with Static Trip III	Siemens RL-AS8EAGXBA06D with Static Trip III	Siemens RL-AS8EAGXBA06D with Static Trip III		
<b>Frame (A)</b>	800	800	800	800		
<b>Circuit</b>	4PSA-1S	4PSB -1S	2S-4P-D	2S-4P-E		

<b>Function &amp; Location</b>	Bus A Shore Power (1S Switchboard)	Bus B Shore Power (1S Switchboard)	Buoy Deck Equipment Hydraulic Power Unit (2S Switchboard)	Cargo Crane Hydraulic Power Unit (2S Switchboard)	
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#### 4. NOTES

4.1 Inspection periodicity. Circuit breakers are normally maintained, tested, and lubricated at 48 month intervals; however, such should also be performed when the following number of open-close cycles with main contact current flow are exceeded since the last inspection:

4.1.1 800 ampere frame and below – 2800 cycles

4.1.2 900-2500 ampere frame – 800 cycles

4.1.3 3000 ampere frame and above – 400 cycles

4.2 High current fault. When a circuit breaker interrupts a high current fault, perform the arc chute and primary contact inspections before returning the device to operation. Also inspect the associated switchboard bus work for deformation and possible derangement.

## WORK ITEM 18: Water Tight Hatches, Internal DC Deck and Below, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew water tight hatch identified in Table 1.

**TABLE 1 – WATER TIGHT HATCH LOCATIONS**

DESCRIPTION	LOCATION	DRAWING
01-5-3 QAWT HATCH 30” x 30” raised hatch w/12” coaming	Access to 1-0-0-A	PN 17 on sheet 3 of drawing 225B- WLB 167- 001, Rev W
01-20-2 QAWT HATCH 21” Dia, raised, QA WTRTT hatch w/12” coaming	Access to Bow Thruster Escape Trunk	PN 5 on sheet 3 of drawing 225B WLB 167-001, Rev W

1.2 Government-furnished property.

\*\*\*Government-furnished property, which is to be supplied by the vessel

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	01-5-3 QAWT HATCH 30” x 30” raised hatch w/12” coaming	N/A	1 ea.	8,3000
N	01-20-2 QAWT HATCH 21” Dia, raised, QA WTRTT hatch w/12” coaming	N/A	1ea	12,000

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225 WLB 167-001, Rev W, Structural Closures

Coast Guard Drawing 225-WLB-601-001, Rev V, General Arrangements, Inboard and Outboard Profiles

Coast Guard Drawing 225-WLB-624-001, rev H, Joiner Doors and Curtain Schedule

## COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures

## OTHER REFERENCES

Commercial Item Description (CID) A-A-59316, 2016, Abrasive Materials; for Blasting

The Society for Protective Coatings (SSPC)/NACE International (NACE) 2007, Joint Surface Preparation Standard SSPC-SP 10/NACE No. 2, Near-White Metal Blast Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Standard No. 11 (SSPC-SP 11), 2013, Power-Tool Cleaning to Bare Metal

NAVSEA Drawing 805-462948

NAVSEA Drawing 167-7379842

## 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences).

- Insulation
- Current closures

3.2 Removal and installation. The Contractor must accomplish the following tasks for each hatch assembly, designated in Table 1:

- Crop, remove, and dispose of the hatch, including its coaming.
- Inspect adjacent deck structure for straightness. Submit CFR with repair plan for any warped or twisted deck structure resulting in a gap greater than 1/16" between the deck plating and new hatch frame.

- Install a new GFP hatch assembly in place of the removed. Use NAVSEA Drawing 167-7379842 and manufacturer instructions as guidance for installation.
- Perform all necessary modifications to ensure the renewed hatch properly fits on its corresponding enclosure.
- Provide and install new hatch gaskets, and fasteners, as required.
- To achieve satisfactory latch operating condition and at the Coast Guard Inspector's direction, relocate, adjust, fabricate and install new securing latches to the closure or ship's structure.

**NOTE**

- 1. Testing fitup of new hatch frame in structural cutout and balanced welding operations are crucial to ensuring proper alignment. Satisfactory operation of closure should be checked prior to, during, and after welding. Welding should be staggered around frame perimeter and on both sides of the closure to minimize distortion.**
- 2. Where possible, the hatch should be closed and dogged during welding.**
- 3. Geometric dimensioning and tolerance variances and minor hardware differences are to be expected with the Government-furnished closures. These variances and differences are not limited to the following: location and physical size of the hinge assemblies; location, physical size, and number of flush mounted pockets; location, size, and orientation of securing devices.**

3.2.1 Grab handle installation. If a Change Request has been authorized and released, and as designated by the Coast Guard Inspector, the Contractor must fabricate and weld-install a suitable “grab handle” on the coaming of a new hatch. Refer to Figure 1.

**NOTE**

**Grab handle may be attached vertically on the hatch framing to assist members going through a scuttle. See Figure 1.**

3.2.2 Preservation. The Contractor must preserve both sides of the new hatch assembly, including all disturbed surfaces, to match existing adjacent surfaces as follows:

**CAUTION**

**Do not paint knife-edges, gaskets, or any moving parts; including dogs, nuts, wedges, spindles, yokes, packing, connecting rods and hinge pins.**

3.2.2.1 Top side surfaces: The Contractor must prepare and coat top side surfaces using the system specified for “Decks, Metal Interior and Non-Skid Areas (Steel Decks - Dry Areas and Low Wear Areas)” in SFLC Std Spec 6310, Appendix B (Cutter and Boats Interior Painting Systems).

3.2.2.2 Bottom side surfaces. The Contractor must prepare and coat bottom side surfaces using the system specified for “Door, Joiner, Option I” in SFLC Std Spec 6310, Appendix B (Cutter and Boats Interior Painting Systems).

3.2.3 Testing. Upon complete renewal of each structural closure, the Contractor must perform the following boundary tests and submit a CFR in accordance with SFLC Std Spec 0740, Appendix C:

- Chalk test

- Water hose test

**NOTE**

**Coast Guard personnel will operate all shipboard machinery and equipment.**

3.3 Operational test, post repairs. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR. Ensure the following:

- Closures are properly secured, so as to prevent accidental or unintentional movement.
- Securing latches adequately engage closures and positively lock into place without excessive force or manipulation by the operator.

3.4 Insulation, install. The Contractor must install new insulation material on the underside of the hatch to the same standard as the adjoining structure. Coat the newly installed insulation using the system specified for “Insulation Surfaces, Fiberglass Sheet/Closed Cell PVC Foam” in SFLC Std Spec 6310, Appendix B (Cutter and Boat Interior Painting Systems).

#### **4. NOTES**

4.1 Damage control markings. Coast Guard personnel will apply appropriate damage control decals onto all newly installed closure(s).

## WORK ITEM 19: Thruster Generator, Clean & Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect, recondition, and test in place the windings of the Thruster Generator.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 225-WLB 201-2, Rev B, Access Removal Routes

Coast Guard Drawing 225B-WLB 201-2, Rev C, Access Removal Routes

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 3556, Manufacturer's Instruction Book – SWBS  
Group(s) 568

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
General Requirements

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 0450, 2020, Electrical  
Power for Contractor's Tools & Equipment

Surface Forces Logistics Center Standard Specification (SFLC Std Spec) 3100, 2020, Inspect,  
Test and Recondition AC Synchronous Machines In-Place

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General. The Contractor must inspect, test and if Polarization Index (PI) test results are outside of acceptable range in table 1A conduct wet cleaning in place the windings of the Thruster Generator in accordance with SFLC Std Spec 3100. Generator data is shown in Table 1 below.

**CAUTION**

**This work is only to be performed if the insulation resistance polarization index (PI) test results are outside of the acceptable range in Table 1A of SFLC Standard Spec 3100, or insulation resistance trends suggest that the machine will fall below the minimum acceptable insulation resistance for operation before the next depot level availability. Every wet cleaning carries some risk of carrying contaminants deeper into the windings. Once so embedded, such contamination cannot be removed and insulation resistance could actually be degraded such that a costly and time consuming rewind would be necessary.**

3.1.1 CIR. The Contractor must submit a CIR for the inspections listed in the following paragraph(s):

- 3.5 Post-cleaning insulation resistance

3.1.2 Tech Rep. The Contractor must provide the services of a Qualified Technical Representative who is familiar with AC machines to accomplish the following on site:

- Advise on manufacturer's proprietary system information.
- Assist with the removal, installation, repair, and overhaul in accordance with ANSI/EASA AR100.
- Ensure compliance with manufacturer's procedures and ANSI/EASA AR100 standards during system disassembly, inspection, and reassembly as applicable.
- Witness the performance of all tests, inspections, and cleaning operations performed under this specification.

3.1.2.1 Ensure the Tech Rep has experience with the system/equipment stated above and demonstrated on their résumé.

3.1.2.2 Submit the name and résumé of the Tech Rep to the COR at the Arrival Conference.

**TABLE 1 – GENERATOR DATA**

HULL	QUANTITY	CHARACTERISTICS	MANUFACTURER	LOCATION
225' WLB 'A' & 'B' Class: Hulls 201-216 (0310)	1	800 kW, 500 VAC, 60 Hz, 3 phase, 1200 RPM, 0.8 power factor	MagneTek	Auxiliary Machinery Room

3.1.3 Protective measures. The Contractor must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

3.1.4 Interferences. The Contractor must handle all interferences in accordance with SFLC Std Spec 0000, paragraph 3.3.5 (Interferences). Known interferences include, but are not limited to the following:

- Hand rails
- Generator framing
- Deck grating
- Compressed air piping

- Water quality package skid for shaft cooling

3.2 Optional work. The Contractor must perform the pre and post cleaning per SFLC Std Spec 3100 and complete the optional work sections as follows:

3.2.1 Bearing wear. Do not measure and record bearing wear, instead renew all bearings.

3.2.3 Rotor extraction. Remove the rotor for cleaning within the compartment and reinstall it afterwards.

**CAUTION**

**Available clearances may inhibit rotor extraction in current orientation. The entire thruster generator must be lifted to extract rotor for cleaning. Failure to do so will result inadequate cleaning of the rotor.**

3.2.4 Installed prime mover. During drying operations, the installed prime mover (e.g., engine or barring gear) may not be used to spin the rotor while circulating current through the field windings. The rotor shall be removed from the field windings and drier while hung vertically.

3.3 Utility services. The Contractor must use Coast Guard utility services, both afloat and ashore, for performance of this work item as follows:

3.3.1 Electrical power. Electrical power for temporary tools and equipment used to accomplish this work item shall comply with SFLC Std Spec 0450.

3.3.1.1 Dockside equipment. Power solely for dockside tools and equipment may be taken from the dockside electrical power distribution system in accordance with Appendix A (preferred) of SFLC Std Spec 0450 or from the shipboard electrical power distribution system in accordance with Appendix D of SFLC Std Spec 0450.

3.3.1.2 Shipboard equipment. Power solely for shipboard tools and equipment may be taken from the ship service electrical distribution system in accordance with Appendix B (preferred) of SFLC Std Spec 0450 or from the dockside electrical power distribution system in accordance with Appendix C of SFLC Std Spec 0450.

3.3.2 Potable water. Hot and cold potable water may be obtained from shipboard systems. Cold potable water may be obtained from dockside connections.

3.3.3 Compressed air. Compressed air for tools and generator hand cleaning be must be taken from contractor provided compressed air system. Air that is to be blown into a generator shall be filtered for particulate, water, and oil prior to discharge.

3.4 External heating. The Contractor must apply external heat following cleaning to dry out the windings. The heater power rating will vary with the amount of equipment to be dried, degree of enclosure, and amount of ventilation. The estimate in Table 2 below assumes that no heat is lost by radiation or by forced or natural convection; consequently, the input power rating should be increased by a few kilowatts to compensate for heat losses.

3.4.1 Limit heat input so that winding temperatures do not increase more than 7°F per hour.

3.4.2 Do not exceed a winding temperature of 212°F.

3.5 Post-cleaning insulation resistance. The Contractor must perform the post-cleaning insulation resistance and polarization index tests at 500 VDC and ambient environmental conditions in accordance with sections 3.3.3 and 3.3.4 of Std Spec 3100. Submit a CIR.

**TABLE 2 – EXTERNAL HEATING DATA**

MACHINE WEIGHT (LBS)	HEATER POWER		HEATUP RATE (°F/H)	TEMPERATURE RISE (°F)	DURATION (H)
	(KW)	(BTU/H)			
9,595	2.4	8,188	7	152	21.7

#### 4. NOTES

4.1 Conditional performance. This work item is performed only when warranted by the condition of the generator windings. The mere presence of dust is not sufficient justification to perform this work item.

4.1.1 Note that there is some risk that solutions used during the cleaning process may penetrate through microscopic cracks in the varnish, carrying contaminants deeper into the windings through capillary action. Once so embedded, such contamination cannot be removed and insulation resistance could actually be degraded such that a costly and time consuming rewind would be necessary.

4.1.2 Cleaning is normally only warranted when the windings have been wetted by sea water or insulation resistance trends suggest that the machine will fall below the minimum acceptable insulation resistance for operation before the next depot level availability.

4.2 Shop cleaning. This generator is not removable from the vessel without making a hull cut. See CG Drawing 225-WLB 201-2 or 225B-WLB 201-2 for rigging path to weather deck, including any bolted (BERP) or welded (WERP) equipment removal plates that must be removed. For machines that can be removed from the vessel through existing accesses or openings created by other work items, it is generally quicker and more cost effective to offload the affected generator from the vessel and perform the work ashore in a generator repair shop. Such tasking should be performed under “Thruster Generator Overhaul” and not this work item.

