USCGC LEGARE (WMEC 912)

SPECIFICATION FOR DOCKSIDE/AVIATION REPAIRS

FY2021

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(Rev-0, 15 December 2020)

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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

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.

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NAVSEA Drawing 804-1213717, Rev H, Vehicle Lashing Sockets

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Coast Guard Technical Publication (TP) 2815, Oct 2017, Reduction Gear

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Coast Guard Technical Publication (TP) 2820A, May 2017, Ship Service Diesel Generator

Coast Guard Technical Publication (TP) 2837, Jul 2016, SWBS 572, Commissary Hoist System

Coast Guard Technical Publication (TP) 2839, SWBS 593, Feb 2013, Sewage Holding System

Coast Guard Technical Publication (TP) 3368, Jun 2020, Talon Helicopter Landing Grid - Type 18-22-01 Multiple Class Cutters

Coast Guard Technical Publication (TP) 4647, Apr 2019, FM/ALCO 251 Engine – Operations and Maintenance Manual

Coast Guard Technical Publication (TP) 4931, Aug 2009, Section 321A, Precision Frequency Converters

Coast Guard Technical Publication (TP) 5461, SWBS 421, Nov 2012, Anemometer – Model 120 & 122

Coast Guard Technical Publication (TP) 5486, Mar 2013, Go-No-Go Monitor and Flow Meter, 50 GPM

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Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2018, Overhaul AC Electrical Motors

Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2018, Shipboard Electrical Cable Test

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2018, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2018, Clean Shipboard Ventilation Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2018, Install Interior Deck Covering Systems

OTHER REFERENCES

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2019, Disinfection of Water-Storage Facilities

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

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

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

ASTM International (ASTM) D5363, 2016, Standard Specification for Anaerobic Single-Component Adhesives (AN)

ASTM International (ASTM) F992, 2017, Standard Specification for Valve Label Plates

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

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

Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2018, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

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

Military Specification MIL-A-22262B, March 1996, Abrasive Blasting Media Ship Hull Blast Cleaning

MIL-PRF-16173, 2017, Corrosion Preventive Compound, Solvent Cutback, Cold-Application

MIL-PRF-24667, March 2018, Coating system, Non-Skid, for Roll, Spray, or Self-Adhering Application

Naval Air Warfare Center (NAVAIR) Drawing 621055, Rev F, Visual Landing Aids Installation WMEC-270 Class Ships

QPL-24667, Aug 2019, Qualified Product List of Products Qualified under Performance

Society of Automotive Engineers (SAE) Aerospace Material Specification (AMS) C-6183B, 2019, Cork and Rubber Composition Sheet; for Aromatic Fuel and Oil Resistant Gaskets

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP-1), 2015, Solvent Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 3, (SSPC-SP-3), 2018, Power Tool Cleaning

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

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

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.

WORK ITEM	MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
1	N	MDE JW Seal Kit	NSN: 2930-01-602-8570 P/N: KAM Thermal Equipment LTD, 10-1AEW SEAL	2 ea.	1,250.00
1	N	Red Gear LO cooler parts kit	NSN: 2815-01-682-3386	2 ea.	1,500.00
1	N	CPP cooler gasket	NSN: 5330-01-115-7912	2 ea.	150.00
1	N	CPP cooler gasket	NSN: 5330-01-023-7639	2 ea.	150.00
1	N	CPP cooler lantern ring	NSN: 4320-01-627-3872	2 ea.	450.00
1	N	CPP cooler packing ring	NSN: 5330-00-486-2397	4 ea.	150.00
1	N	SSDG JW gasket	NSN: 5330-01-542-5893	2 ea.	150.00
1	N	SSDG JW gasket	NSN: 5330-01-546-1720	2 ea.	150.00
1	N	SSDG cooler zinc	NSN: 2930-00-167-0450	2 ea.	200.00
1	N	SSDG cooler pipe plug	NSN: 4730-00-163-5756	2 ea.	300.00
1	N	EDG JW seal	NSN: 5330-00-238-7689	1 ea.	200.00
1	N	EDG cooler gasket	NSN: 5330-00-237-7874	1 ea.	200.00
1	N	EDG cooler gasket	NSN: 5330-01-209-2855	1 ea.	300.00
1	N	EDG cooler gasket	NSN: 5330-01-208-6768	2 ea.	250.00
1	N	Fin cooler gasket	NSN: 5330-01-622-9908 PN: 00-622-9908	24 ea.	78.00
2	N	MDE LO Seal Kit	NSN: 2930-01-602-8561 P/N: KAM Thermal Equipment LTD, 12-1AEW SEAL	2 ea.	1,250.00
2	N	SSDG LO Gasket	NSN: 5330-00-128-9755 P/N: 00-128-755	2 ea.	100.00
2	N	SSDG LO Gasket	NSN: 5330-00-128-9754 P/N: 00-128-9754	2 ea.	100.00
2	N	SSDG LO Gasket	NSN: 5330-00-122-3951 P/N: 00-122-3951	4 ea.	100.00
2	N	SSDG LO Seal	NSN: 5330-01-297-1215 P/N: 01-297-1215	4 ea.	100.00
2	N	SSDG LO Packing	NSN: 5330-00-367-5954 P/N: 00-367-5954	2 ea.	100.00
2	N	EDG LO Gasket	NSN: 5330-00-936-2162	2 ea.	100.00
2	N	EDG LO Packing	NSN: 5331-00-663-5075	1 ea.	100.00
2	N	EDG LO Gasket	NSN: 5330-01-326-7454	2 ea.	100.00
4	Y	Anemometer	NSN: 6600-00-709-9947	2 ea.	5,316.00
11	N	Pressure Reducing Valve, R-K FIG.564	PN: 4R-5043-1	1 ea.	19,520.00
15	N	M16 Bolts	NSN: 5305-01-393-1827	24 ea.	25.65
15	N	M12 Bolts	NSN: 5305-01-584-6095	12 ea.	33.75

15	N	Locking Nut	NSN: 5305-01-598-3243	1 ea.	492.88
15	N	**Talon Grid Stanchion Bolt Assembly, Including Locking Nut	NSN: 5340-01-481-3786	60 ea.	31.50
16	N	Sewage Discharge Pump	NSN: 4320-01-131-0841	2 ea.	4,719.00
16	N	Sewage Transfer Pump	NSN: 4320-01-112-0008	2 ea.	4,719.00
28	N	Window Assembly, 24 in x 30 in, Front Window, Clear Opening	NSN: 5620-01-433-7429 PN: KS-24543	6 ea.	2,243.60
28	N	Window Assembly, 18 in x 30 in, Clear Opening	NSN: 5620-01-433-7447 PN: KS-23183-B	4 ea.	4,200.00
28	N	Window Assembly, 24 in x 30 in, Center Window, Clear Opening	NSN: 5620-01-434-0221 PN: KS-24545	1 ea.	4,750.00
28	N	Window Assembly, 21 in x 30 in, Clear Opening	NSN: 5620-01-433-7553 PN: KS-23345-B	2 ea.	2,025.00
28	N	Window Assembly, 22 in x 30 in, Clear Opening	NSN: 5620-01-433-7623 PN: KS-23344-B	2 ea.	4,258.30
28	N	Window Assembly, 24 in x 18 in, Clear Opening	NSN: 5620-01-433-7467 PN: KS-24544	2 ea.	2,321.00
28	N	Window Controller	NSN: 2090-00-475-0142 PN: KS-12000	15 ea.	857.73
28	N	Channel Gasket	PN: 1152	20 ea.	103.98
28	N	Connector, Ship Supply to Controller	NSN: 5935-01-602-3125 PN: KS-24732	15 ea.	50.00
28	N	Connector, Controller Output to Junction Box	NSN: 5935-01-602-3126 PN: KS-24733	15 ea.	50.00
28	N	Connector, Input to Junction Box	NSN: 5935-01-602-3129 PN: KS-24735	15 ea.	50.00
28	N	Cable	NSN: 01-201-9498	200 ft.	1.00
28	N	Cable	NSN: 01-201-9495	200 ft.	1.25
28	N	Felt	PN: KS-19940F-PC14	200 ft.	5.25
29	N	36 inch x 36 inch Raised Watertight Hatch , Steel, (Raised 12 inch coaming, (hinge fwd))	N/A	1 ea.	7,749.00
29	N	24 inch x 24 inch Raised Quick Acting Watertight Hatch (Raised 12 in coaming,	N/A	1 ea.	5,880.00

		(hinge fwd))			
30	N	Flush Tie-down Fitting	NSN: 01-592-2269	1 ea.	2,500.00
33	N	2 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint	PN: EJ	2 ea.	425.00
33	N	2 inch Zinc Electric Retaining Ring	PN: 740-00206	4 ea.	9.00
33	N	2 inch x 8 inch 125# A36Zinc Plated Control Rod	PN: 720-02008	4 ea.	19.00
33	N	4 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint	PN: EJ	14 ea.	538.00
33	N	4 inch 125# A36Zinc Electric Retaining Ring	PN: 740-00406	28 ea.	15.00
33	N	4 inch x 8 inch 125# A36 Zinc Plated Control Rod	PN:720-04008	20 ea.	21.00
33	N	5 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint with ANSI 150# Drilled Flanges	PN: EJ	4 ea.	571.00
33	N	5 inch 125# A36 Zinc Electric Retaining Ring	PN:740-00506	8 ea.	17.00
33	N	5 inch x 8 inch 125# Zinc Plated Control Rod	PN: 720-05008	8 ea.	22.00
33	N	5 inch x 8 inch #125 A36 Zinc Plated Control Rod	PN: 720-05008	8 ea.	22.00

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

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 3.2.6.1.4 (Inspection report particulars)):

Work Item	Title
14	Commissary Hoist, Inspect and Service
15	Helo Talon Grids, Inspect and Test
28	Bridge Windows, Renew

PRINCIPAL CHARACTERISTICS

270' WMEC (B-CLASS)	
PHYSICAL	
Length overall	270' 0"
Length between perpendiculars	255' 0"
Beam molded	38' 0"
Depth molded, main deck amidships, 01 level amidships	23' 7" 31' 4"
Full load displacement	1,886 long tons
Draft, full load to baseline amidships	14' 2"
Highest projection above baseline *height approximated	≈ 110' 0"
Shore tie voltage requirements	2 cables, 400A / 450V, 3 phase
Frame spacing	1' 0"
MACHINERY	
Main propulsion	2 ALCO Model 18-251-F Diesel Engines, 3,650 BHP each
Ship's service generators	2 Caterpillar Model D-398-TA Diesel-driven KATO 6P6-1350 Generators. 475 KW each @ 0.8 power factor, 450VAC, 3 phase, 60 cycle
Emergency generators	Caterpillar Model D-348-TA Diesel-driven KATO 4P4-1900. 475KW @ 0.8 power factor, 450VAC, 3 phase, 60 cycle
Number of propellers	2
Propeller diameter	9' 0"
Number of blades, each	4
Pitch	Controllable
Shaft RPM	260
Shaft diameter	10.55" at exit of hull
Anchor & chain	Two 4,000 lb Navy Stockless Anchors, 8 shots of chain each
TANK CAPACITIES	
Diesel fuel total (95%)	79,950 gal.
JP-5 total (95%)	19,626 gal.
Potable water total (100%)	8,553 gal.
Hydraulic & lube oil total (95%)	2,561 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), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

None

3. REQUIREMENTS

3.1 General. The Contractor shall conform to all requirements specified in SFLC Std Spec 0000 and in this item, as applicable, during the performance of this availability.

NOTE

The requirements of paragraph 3.1 (General) applies to all work under the scope of this contract, whether explicitly stated in work items or not, and to all other work subsequently authorized by changes, modifications, or extensions to the contract.

3.2 Fire watch requirements. The Contractor shall 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 shall 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. Ensure that all colors and color coat/paint schemes are in accordance with COMDTINST M10360.3, Chapter 6 (Cutter and Boat Colors Exterior and Interior).

NOTE

Unless a waiver has been granted (in writing) by the KO, deviations from authorized coatings (listed in Appendix C of SFLC Std Spec 6310) and colors and color schemes (provided in Chapter 6 of COMDTINST M10360.3) are strictly prohibited.

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

3.4.1 HY-130 material substitution. The Contractor shall 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 shall 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 shall 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 shall provide written Performance Qualification Records (PQR's) for each process to be used. The PQR's shall be approved by one of the regulatory agencies affirming that the WPS meets the welding requirements of NAVSEA TP 1688. In addition, the Contractor shall 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 shall be considered the same as those for welding HY-130.

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

3.5.1 USCG facilities. The Contractor shall 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 shall 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 shall 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 shall 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 Large Quantity Generator (LQG).

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

3.5.3 Regulatory notifications. The Contractor shall be 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 shall 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 shall 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 shall appoint in writing an Environmental Manager for the project, and shall be responsible for coordinating Contractor compliance with Federal, State, local, and station environmental requirements. The Environmental Manager shall 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 shall 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 shall be aware of the following:

3.5.6.1 No Contractor or Subcontractor shall 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 shall 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 shall furnish the FRP when required for over-the-water liquids transfers to and from vessels, and is required for oil/fuel transfers to/from vessels for 250 barrels (10,500 gallons) or more.

3.6 Local Policy. None.

3.7 SFLC Standard Specification approved changes. The Contractor shall be aware that the following are approved changes to published SFLC 2018 Edition Standard Specifications and supersede published content:

None.

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.

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

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

	CHECKPOINT 1 – COATING SYSTEM COMPLIANCE
	Ensure all coatings are in compliance with SFLC Std Spec 6310, Appendix C.
CHECKPOINT 2 - PAINT STORAGE	
	Ensure all coatings are kept at a temperature of 65 to 85°F at all times, unless otherwise specified by the coating mfg.
CHECKPOINT 3 - AMBIENT CONDITIONS	
	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.
CHECKPOINT 4 - PRE-SURFACE PREPARATION	
	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.
CHECKPOINT 5 - SURFACE PREPARATION	
	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).
CHECKPOINT 6 - PRIMER COAT APPLICATION	
	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.
CHECKPOINT 7 – STRIPE COAT APPLICATION	
	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).
CHECKPOINT 8 – TOP COAT APPLICATION	
	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.
CHECKPOINT 9 – FINAL INSPECTION	
	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: _____/_____
CHECKPOINT 10 – RECORD KEEPING	
	Complete, sign, and submit all provided QA Inspection Forms.

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

QA-2 - QUALITY ASSURANCE INSPECTION FORM
(ENVIRONMENTAL READINGS)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

Use one sheet for each activity. Record conditions every four hours from before surface preparation to application of final coating system coat.

DATE & TIME	ACTIVITY (SURFACE PREPARATION, PRIMER COAT, BARRIER COAT, TOP COAT, ETC…)	LOCATION (FRAME & DECK, RELATION TO EQUIPMENT, ETC.)	TEMPERATURE				% REL. HUMID-ITY
			DEW PT.	SURFACE	AMBIENT	ΔT | DP - SURFACE |	

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

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 (INCL. FRAME #'S)		AREA (SQFT)	

SURFACE PREPARATION METHOD		PROFILE ACHIEVED (MILS)		
		MIN	MAX	MEAN
SSPC-SP-10/NACE No. 2	☐			
SSPC-SP WJ-1/NACE WJ-1	☐			
SSPC-SP WJ-2/NACE WJ-2	☐			
SSPC-SP WJ-3/NACE WJ-3	☐			
SSPC-SP WJ-4/NACE WJ-4	☐			
SSPC-SP-3	☐			
SSPC-SP-11	☐			
SSPC-SP-11 (inaccessible area)	☐			
Brush-blasting (non-metallic substrate)	☐			
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):	
MEAN MIL READING (IAW ASTM D4417-METHOD C) FOR ABOVE 15 READINGS:					

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

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	☐			
SSPC-SP WJ-1/NACE WJ-1	☐			
SSPC-SP WJ-2/NACE WJ-2	☐			
SSPC-SP WJ-3/NACE WJ-3	☐			
SSPC-SP WJ-4/NACE WJ-4	☐			
SSPC-SP-3	☐			
SSPC-SP-11	☐			
SSPC-SP-11 (inaccessible area)	☐			
Brush-blasting (non-metallic substrate)	☐			
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):					
Mean Reading (mils)					
Mean Reading (mils) IAW ASTM DD4417).					

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

QA-4 - QUALITY ASSURANCE INSPECTION FORM
(SURFACE SOLUBLE SALT CONDUCTIVITY LOG)

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

SOLUBLE SALT CONDUCTIVITY MEASUREMENTS IAW SSPC-GUIDE 15.		
DATE	TEST LOCATIONS	CONDUCTIVITY (MICROSIEMENS/CM)

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

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

WORK ITEM 1: Seawater 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

SYSTEM	LOCATION	OEM / MODEL	QTY
Fin Stabilizer Hydraulic Oil	Aux Machry Sp II	Alfa-Laval, p/n M3-FG	2
SSDG Jacket Water	Engine Room	Caterpillar, p/n 4W4642	2
MDE Jacket Water	Engine Room	KAM Thermal, p/n BEW 12-112	2
EDG Jacket Water	Aft Steering	Caterpillar, p/n 3N-8889	1
Reduction Gear Lube Oil	Engine Room	IRL Thermal, p/n 44248-5071	2
CPP Hydraulic Oil	Engine Room	ITT Standard, p/n 5-126-04-036-002	2

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	MDE JW Seal Kit	NSN: 2930-01-602-8570 P/N: KAM Thermal Equipment LTD, 10-1AEW SEAL	2 ea.	1,250.00
N	Red Gear LO cooler parts kit	NSN: 2815-01-682-3386	2 ea.	1,500.00
N	CPP cooler gasket	NSN: 5330-01-115-7912	2 ea.	150.00
N	CPP cooler gasket	NSN: 5330-01-023-7639	2 ea.	150.00
N	CPP cooler lantern ring	NSN: 4320-01-627-3872	2 ea.	450.00
N	CPP cooler packing ring	NSN: 5330-00-486-2397	4 ea.	150.00
N	SSDG JW gasket	NSN: 5330-01-542-5893	2 ea.	150.00
N	SSDG JW gasket	NSN: 5330-01-546-1720	2 ea.	150.00
N	SSDG cooler zinc	NSN: 2930-00-167-0450	2 ea.	200.00
N	SSDG cooler pipe plug	NSN: 4730-00-163-5756	2 ea.	300.00
N	EDG JW seal	NSN: 5330-00-238-7689	1 ea.	200.00
N	EDG cooler gasket	NSN: 5330-00-237-7874	1 ea.	200.00
N	EDG cooler gasket	NSN: 5330-01-209-2855	1 ea.	300.00
N	EDG cooler gasket	NSN: 5330-01-208-6768	2 ea.	250.00
N	Fin cooler gasket	NSN: 5330-01-622-9908 PN: 00-622-9908	24 ea.	78.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 201-001, Rev H, Engine Room Arrangement

Coast Guard Drawing 905 WMEC 256-002, Rev J, Eng Rm SW Cooling Sys A&D

Coast Guard Drawing 905 WMEC 256-008, Rev B, SSDG Modification JW Cooling System Mod

Coast Guard Drawing 905 WMEC 310-008, Rev B, Emergency Diesel Generator Arrangement & Details

Coast Guard Drawing 905 WMEC 501-002, Rev C, Aux Mchry Sp No 2 Arrangement

Coast Guard Drawing 905 WMEC 501-003, Rev F, Steering Gear Room Arrangement

Coast Guard Drawing 905 WMEC 517-002, Rev F, Waste Heat Recovery / Ship Service Diesel Generator Jacket Water – A&D

Coast Guard Drawing 905 WMEC 517-007, Rev B, Main Propulsion Engine Jacket Water System A&D

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 2815, Oct 2017, Reduction Gear

Coast Guard Technical Publication (TP) 2817, SWBS 245, Section A, Feb 2018, Controllable Pitch Propeller System

Coast Guard Technical Publication (TP) 2820A, May 2017, Ship Service Diesel Generator

Coast Guard Technical Publication (TP) 5490, SWBS 565, Apr 2018, Fin Stabilizer System

Coast Guard Technical Publication (TP) 4647, Apr 2019, FM/ALCO 251 Engine – Operations and Maintenance Manual

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2018, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

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 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.

3.1.3.1 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 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 below-listed:

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

3.2 Fluid disposition, disposal. Dispose of all removed fluids in accordance with all applicable Federal, state, and local regulations.

3.3 Disassemble. The Contractor shall drain and disassemble the designated heat exchangers (see paragraph 1.1 (Intent)) to the extent necessary to perform all work specified herein. The Contractor shall refer to Coast Guard Drawings listed under Section 2 (References) and TPs 5490 (Section titled “Plate Heat Exchanger – Instruction Manual”), 2820A (Sections E and H), 4647 (Section A), 2815 (Section A) and 2817 (Section A) for guidance.. 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 shall visually inspect all heat exchanger surfaces for excessive deterioration and any other defects. Submit a CFR.

3.5 Cleaning requirements. The Contractor shall 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. 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 shall 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.

NOTE

See related work item "Lube Oil Heat Exchangers; Clean, Inspect and Hydro" so work can be coordinated to minimize loss/renewal of jacket water.

3.6.4 Refill all heat exchanger fluid levels, including all jacket water in all disturbed engines, in accordance with manufacturer and vessel specifications. Prior to recirculation through the engines, the Contractor shall 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 shall 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. 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.)

3.9 Cleanliness requirement. The Contractor shall visually inspect and ensure that all cleaned surfaces are completely free of debris and surface contaminants. Submit a CFR.

CAUTION

Extreme caution 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 shall 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 shall 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 shall 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 shall 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 each fin stabilizer 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 shall 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.

TABLE 2 – GASKET INFORMATION

ITEM DESCRIPTION	NSN/PN	QTY (PER COOLER)
M3 NBR GLUE ON Channel Plate Gasket	Alpha Laval P/N: 32263-0954-6	12
End Plate Gasket	Alpha Laval P/N: 3900840171-06	2*

***End plate gasket is a 32263-0954-6 gasket cut in half.**

WORK ITEM 2: Lube Oil 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

SYSTEM	LOCATION	OEM / MODEL	QTY
SSDG Lube Oil	Engine Room	Caterpillar, p/n 4W5549	2
MDE Lube Oil	Engine Room	KAM Thermal, p/n 12-116-1BEW	2
EDG Lube Oil	Aft Steering	Caterpillar, p/n 7L4955	1

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	MDE LO Seal Kit	NSN: 2930-01-602-8561 P/N: KAM Thermal Equipment LTD, 12-1AEW SEAL	2 ea.	1,250.00
N	SSDG LO Gasket	NSN: 5330-00-128-9755 P/N: 00-128-755	2 ea.	100.00
N	SSDG LO Gasket	NSN: 5330-00-128-9754 P/N: 00-128-9754	2 ea.	100.00
N	SSDG LO Gasket	NSN: 5330-00-122-3951 P/N: 00-122-3951	4 ea.	100.00
N	SSDG LO Seal	NSN: 5330-01-297-1215 P/N: 01-297-1215	4 ea.	100.00
N	SSDG LO Packing	NSN: 5330-00-367-5954 P/N: 00-367-5954	2 ea.	100.00
N	EDG LO Gasket	NSN: 5330-00-936-2162	2 ea.	100.00
N	EDG LO Packing	NSN: 5331-00-663-5075	1 ea.	100.00
N	EDG LO Gasket	NSN: 5330-01-326-7454	2 ea.	100.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 201-001, Rev H, Engine Room Arrangement

Coast Guard Drawing 905 WMEC 256-008, Rev B, SSDG Modification JW Cooling System Mod

Coast Guard Drawing 905 WMEC 310-008, Rev B, Emergency Diesel Generator Arrangement & Details

Coast Guard Drawing 905 WMEC 501-003, Rev F, Steering Gear Room Arrangement

Coast Guard Drawing 905 WMEC 517-002, Rev F, Waste Heat Recovery / Ship Service Diesel Generator Jacket Water – A&D

Coast Guard Drawing 905 WMEC 517-007, Rev B, Main Propulsion Engine Jacket Water System A&D

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 2820A, May 2017, Ship Service Diesel Generator

Coast Guard Technical Publication (TP) 4647, Apr 2019, FM/ALCO 251 Engine – Operations and Maintenance Manual

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2018, Auxiliary Machine Systems

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

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 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.

3.1.3.1 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 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 below-listed:

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

3.2 Fluid disposition, disposal. Dispose of all removed fluids in accordance with all applicable Federal, state, and local regulations.

3.3 Disassemble. The Contractor shall drain and disassemble the designated heat exchangers (see paragraph 1.1 (Intent)) to the extent necessary to perform all work specified herein. The Contractor shall refer to Coast Guard Drawings listed under Section 2 (References) and TPs 2820A (Section E) and 4647 (Section A) for guidance.

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 shall visually inspect all heat exchanger surfaces for excessive deterioration and any other defects. Submit a CFR.

3.5 Cleaning requirements. The Contractor shall 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. 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 shall 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.

NOTE

See related work item "Seawater Heat Exchangers; Clean, Inspect and Hydro" so work can be coordinated to minimize loss/renewal of jacket water.

3.6.4 Refill all heat exchanger fluid levels, including all lube oil and jacket water in all engines, in accordance with manufacturer and vessel specifications. Submit a CFR.

3.7 Reinstallation. After completion of testing and all authorized repairs, if any, the Contractor shall 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. 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.)

3.9 Cleanliness requirement. The Contractor shall visually inspect all cleaned surfaces to ensure completely free of debris and surface contaminants. Submit a CFR.

CAUTION

Extreme caution 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 shall 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 shall 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 shall 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 shall 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

This section is not applicable to this work item.

WORK ITEM 3: 28 Volt DC Helo Power Supply, Load Test

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to load test the 28 Volt DC Helo Power Supply.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 901 WMEC 314-005, Rev B, 28.5 VDC Hlcptr Start Rect Replacement Diagram

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 7099, SWBS 314, Oct 2009, Rectifier Power Supply - 28 VDC, 300 A

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

OTHER REFERENCES

None

3. REQUIREMENTS

3.1 General. The Contractor shall refer to the Coast Guard drawing(s) listed under Section 2 (References) for guidance in accomplishing this work item.

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).

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Load test 28 VDC helo start rectifier. The Contractor shall load test the 28 VDC Helo Start Rectifier in accordance with the attached C.G. Yard Test Memorandum (see Section 4 below) and using Coast Guard Drawing 627 WMEC 314-001 and TP 7099, as guidance. Submit CFR.

3.3.1 In the event the load test for the 28 VDC helo start rectifier fails, the Contractor shall troubleshoot and identify faulty component and submit CFR for repairs.

3.3.2 Once repairs are complete, the Contractor shall conduct load test in accordance with paragraph 3.3 (Load test 28 VDC helo start rectifier).

3.4 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.

3.5 Report. The Contractor shall submit a CFR for the completed test memorandum in Section 4.1 of this WI.

4. NOTES

4.1 Test memorandum.

TEST MEMORANDUM
U.S. COAST GUARD YARD

TITLE: 28 VOLT DC HELO START POWER SUPPLY TEST

HULL NO._____

REF: (a) Air Capable Ship Aviation Facilities Bulletin No. 1G.

(b) Rectifier power supply 28Vdc-300A #137-01B NAVSEA Manual # S9314-05-MMC- 010.

METHOD OF CONDUCTING TEST

1. In accordance with Section 21.2 of reference (a) and reference (b), the 28 Volt Helicopter Starting System Power Supply shall be tested by connection to a suitably sized resistive load bank and operated at various loads ranging from 0 to 300 amps.

2. The calibrated load bank shall be connected to the power supply using the helo start cable supplied with the cutter used for starting the aircraft. The cable shall be adjusted prior to conducting the test so that its length is sufficient to service the aircraft in its normal landing position on the flight deck. If required to make connections to the load bank, it is permissible to conduct the test before installing the helicopter end plug.

3. The test shall be conducted with the ship on ship's power (not shore tie) and a hand held calibrated voltage meter. Connect the power supply to the load bank and energize the power supply. Adjust the output, IAW reference (b) so that the no load voltage is 28.Vdc.

4. Increase the load in nominal increments of 25 amps and record the output voltage at each load. Maximum load for this test is 300 amps. Record data on the table below.

ENCLOSURE (1)

FIGURE 1. ENCLOSURE 1, PAGE 1 OF 2

AMPS Nom/Actual	VOLTS 24 Vdc min.- 29 Vdc max.)	AMPS Nom/Actual	VOLTS (24Vdc min.- 29Vdc max.)
0/ ___	_____	175/ ___	_____
25/ ___	_____	200/ ___	_____
50/ ___	_____	225/ ___	_____
75/ ___	_____	250/ ___	_____
100/ ___	_____	275/ ___	_____
125/ ___	_____	300/ ___	_____
150/ ___	_____		

TITLE: 28 VOLT DC HELO START POWER SUPPLY TEST

5. NAME PLATE DATA OF THE POWER SUPPLY TEST:

MAKE _____ MODEL_____

SERIAL NO._____

6. CALIBRATED LOAD BANK INFORMATION

MAKE _____ MODEL_____

SERIAL NO._____ DATE LAST CALIBRATED_____

7. CALIBRATED HAND HELD VOLTAGE METER:

MAKE _____ MODEL_____

SERIAL NO._____ DATE LAST CALIBRATED_____

Accept/ Reject Criteria: Test is successful if voltage does not fall outside of the range of 29 Vdc to 24 Vdc for steady state load currents from 0 to 300 amperes.

_____ _____ _____

TEST CONDUCTOR DATE *TEST SUPERVISOR/QC

_____

*PROJECT STAFF ACCEPTANCE/REVIEW

ENCLOSURE (1)

FIGURE 2. ENCLOSURE 1, PAGE 2 OF 2

WORK ITEM 4: Windspeed Transmitter (Anemometer), Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated wind speed transmitters.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
Y	Anemometer	NSN: 6600-00-709-9947	2 ea.	5,316.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 901 WMEC 431-003, Rev G, Main IC Switchboard Arrangements, Elem Wrg Diag & Dets

Coast Guard Drawing 905 WMEC 171-001, Rev F, Main Mast

Coast Guard Drawing 905 WMEC 494-001, Rev K, Meteorological System Block & Isometric W.D.

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5461, SWBS 421, Nov 2012, Anemometer – Model 120 & 122

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2018, Shipboard Electrical Cable Test

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:

- Height above the main deck.
- Electrical wiring.

3.2 Wind speed transmitter renewal. The Contractor shall renew the windspeed transmitters using the Government-furnished anemometers listed above; turn over the removed anemometers to the Coast Guard Property Administrator as MTI. Make all electrical and mechanical connections using Coast Guard Drawings 905 WMEC 171-001, 901 WMEC 431-003, 905 WMEC 494-001 and TP 5461 as guidance.

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 shall thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition.

- Anemometer

3.3.1 Perform continuity checks and insulation resistance measurements for the newly installed anemometer in accordance with SFLC Std Spec 3041.Submit a CFR.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 5: Flow Meter (Aviation Fuel), Calibrate

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and calibrate the instrumentation identified in Table 1.

TABLE 1 - INSTRUMENTATION

DESCRIPTION	SYSTEM	USE	RATING
1 ½ inch Flow meter	JP-5	Helicopter refueling	50 GPM

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 542-002, Rev H, JP-5 Sys - A&D

Coast Guard Drawing 905 WMEC 542-006, Rev A, JP-5 System Diagram

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5486, Mar 2013, Go-No-Go Monitor and Flow Meter, 50 GPM

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

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:

- Aviation fuel piping and contents
- Fluid pressure.

NOTE
Coast Guard personnel will operate all shipboard machinery and equipment

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Instrument inspection and calibration. The Contractor shall remove, clean, inspect, calibrate and reinstall the instrumentation identified in Table 1 in accordance with the referenced Coast Guard TP in Section 2 (References). The Contractor shall refer to the Coast Guard drawings listed in Section 2 (References) for guidance while accomplishing this work item.

3.3.1 Cleaning and inspection. The Contractor shall disassemble the flow meter sufficiently to expose the gears, rotors and metering chamber. Inspect and clean gear teeth, rotors and internal housing surfaces. Submit a CFR. A soft wire brush may be used to clean surfaces, taking care not to alter the contour of the part surfaces. Remove nicks or burrs with a stone. Ensure all parts are clean and free of foreign matter prior to reassembly. Renew all disturbed seals, packing and gaskets.

3.3.2 Calibration. The Contractor shall test for meter accuracy prior to disassembly and cleaning; and again after reassembly. Submit a CFR for each accuracy test. The Contractor shall calibrate the meter using a certified calibration facility. The Contractor shall provide a certificate of calibration to the COR.

3.3.3 Renewal. The Contractor may choose, at no additional cost to the Government, to renew the designated flow meter rather than clean, inspect and disassemble the existing meter. If the Contractor chooses to renew the flow meter, dispose of the existing meter in accordance with all Federal, State and local regulations. The Contractor shall provide a certificate of calibration to the COR for the new flow meter.

3.4 Leak test. After completing all authorized repairs, the Contractor shall test the JP-5 flow meter 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.

3.5 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

4. NOTES

4.1 Recirculation. After Contractor reinstallation of flow meter, Ship's force will recirculate the fuel until it is clear and bright and passes the MK I and MK III detector kit tests. Flush all disturbed lines, pipes, and fittings before placing the JP-5 system back in service.

WORK ITEM 6: Vent Ducts (Engine And Motor Room All), 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

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 514-032, Rev -, HVAC System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2018, Clean Shipboard Ventilation Systems

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.

3.1.3.1 Install filter medium at the terminal ends of all supply vent ducting to prevent any residual foreign matter from blowing into the engine room spaces.

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:

- Ducting screens.
- Dishwasher/laundry ducting.
- Ceiling tiles and supports.
- Overhead sheathing.
- Lighting.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 shall clean and inspect the following ventilation systems, shown on Coast Guard Drawing 905 WMEC 514-032, in accordance with SFLC Std Spec 5100. Submit a CFR.

TABLE 1 – ENGINE ROOM

VENTILATION SYSTEM	TYPE	LOCATION
01-106-1	Supply	Engine Rm (3-103-0-E), Engineering Control Center (3-152-0-E)
01-106-2	Supply	Engine Rm (3-103-0-E)

3.3.1 The Contractor shall clean the exhaust stack plenum area and the exhaust ventilation ducting up to and including the discharge of the engine room exhaust fans.

NOTE

Past experience has shown that the engine room exhaust ventilation systems have accumulated oils and greases and systems are coated with a very sticky and very thick sludge. Take this into consideration in the bid.

3.3.2 Disassemble the exhaust system as required to clean all sections of the exhaust system.

3.3.2.1 After cleaning, reassemble vent ducting using new gaskets and fasteners.

3.3.3 Prior to reassembling the vent systems, visually inspect the systems in the presence of the Coast Guard Inspector. Verify that the vent systems are clean and oil and build up free. The Contractor shall use video probe equipment to allow viewing the internal surfaces of all vent ducting.

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

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

4. NOTES

This section is not applicable to this work item.

WORK ITEM 7: Vent Ducts (Galley and Pantry Room All), 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

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 514-032, Rev -, HVAC System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2018, Clean Shipboard Ventilation Systems

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:

- Ducting screens.
- Dishwasher/laundry ducting.
- Ceiling tiles and supports.
- Overhead sheathing.
- Lighting.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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.

NOTE

It is recommended that the Contractor conduct a ship check to verify dimensions in the table below.

3.3 Cleaning requirements. The Contractor shall clean and inspect the following ventilation systems, shown on Coast Guard Drawing 905 WMEC 514-032, in accordance with SFLC Std Spec 5100. Submit a CFR.

TABLE – 1 SYSTEM LOCATION

VENTILATION SYSTEM	TYPE	LOCATION
01-117-2	Exhaust	Galley (1-145-2-Q), Scullery (1-129-2-Q)
1-117-1	Supply	Galley (1-145-2-Q), Scullery (1-129-2-Q)

3.4 Additional requirements. In addition to the above, the Contractor shall accomplish the following:

3.4.1 Notification. Give written notification to the COR, 48 hours before starting ventilation cleaning work.

3.4.2 Additional protective covering. In addition to providing protective covering as specified in SFLC Std Spec 5100, subsection 3.1.3 (Protective measures), provide additional protective covering for all food preparation and serving surfaces in the immediate work area, as applicable, to prevent contamination.

3.4.3 Avoidance of meal preparation and service. Ensure that cleaning of galley ventilation systems is scheduled between 1900 and 0530 so that it WILL NOT interfere with meal preparation and service.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.5 Operational test, post repairs. After completion of work, the Contractor shall 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 8: Vent Ducts (Laundry Exhaust), 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

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 514-032, Rev -, HVAC System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 5100 (SFLC Std Spec 5100), 2018, Clean Shipboard Ventilation Systems

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:

- Ducting screens.
- Dishwasher/laundry ducting.
- Ceiling tiles and supports.
- Overhead sheathing.

3.2 Temporary Cooling. The contractor shall provide temporary cooling for CIC, Radio, IC Gyro, and ECC to maintain 65-70 degrees ambient temperature. The contractor shall submit a detailed plan for providing this temporary cooling for approval to the COR 72 hours prior to the arrival conference.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.3 Operational test, initial. Prior to commencement of work, the Contractor shall 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.

3.4 Cleaning requirements. The Contractor shall clean and inspect the following ventilation systems, shown on Coast Guard Drawing 905 WMEC 514-032, in accordance with SFLC Std Spec 5100. Submit a CFR.

TABLE 1 – SYSTEM LOCATIONS

VENTILATION SYSTEM	TYPE	LOCATION
02-58-2	Supply	Pilot House (02-48-0-C), Laundry (1-47-1-Q), Fan Rm (02-45-0-Q), Comm Ctr (3-47-0-C)
02-53-1	Exhaust	Laundry (1-47-1-Q), Fan Rm (02-45-0-Q), Comm Ctr (3-47-0-C)

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

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.6 Operational test, post repairs. After completion of work, the Contractor shall 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 9: Chill Water System, Clean And Flush

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and flush the Chill Water and Heat System.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 505-007, Rev J, Piping Sys Cleaning & Flushing Procedures

Coast Guard Drawing 905 WMEC 514-001, Rev F, HVAC System Diagram

Coast Guard Drawing 905 WMEC 514-020, Rev E, CHW & HW Sys Diag

Coast Guard Drawing 905 WMEC 514-021, Rev C, CHW & HW System Machinery Spaces A&D

Coast Guard Drawing 905 WMEC 514-022, Rev B, CHW & HW Piping System Mn Dk & Blw A&D

Coast Guard Drawing 905 WMEC 514-024, Rev B, CHW & HW Pipe Sys 01 Lvl & Abv – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

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 below-listed:

- Piping and hoses
- FCU Flow Control valve(s) (remove prior to clean and flush)
- Bulkheads
- Deck plating and associated framing
- Heat exchangers
- Electrical cables
- Thermal insulation.

3.1.5 The Contractor shall provide temporary cooling for CIC, Radio, IC Gyro, and ECC to maintain 65-70 degrees ambient temperature. The Contractor shall submit a detailed plan for providing this temporary cooling for approval to the COR 72 hours prior to Arrival Conference.

NOTE

Doors to secure spaces cannot be left open to accommodate portable ducting.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.3 System draining. The Contractor shall drain all existing fluid from the Chill Water and Heat System. Dispose of removed fluids in accordance with all Federal, state, and local regulations.

3.4 Coil unit line-up. Prior to commencement of system flushing, the Contractor shall ensure that all fan coil units are lined-up to the system, with the assistance of the Coast Guard Inspector.

3.5 Cleaning plan. The Contractor shall establish a plan for cleaning the Chill Water and Heat Piping System as shown on Coast Guard Drawings 905 WMEC 505-007, 905 WMEC 514-001, 905 WMEC 514-020, 905 WMEC 514-021, 905 WMEC 514-022, and 905 WMEC 514-024; list the step by step procedures necessary to ensure that all foreign debris is removed from the piping system while simultaneously protecting all installed equipment.

CAUTION!

Ensure evaporator plate cooler is isolated from all flushing procedures! If this is not done, the fluid and sediment will enter the plates, ultimately resulting in a frozen cracked shell.

3.5.1 Procedure requirements. Ensure that the procedure includes the following:

- Methods of cleaning.
- All safety precautions required during cleaning operations.
- List of qualified personnel who will operate machinery or handle chemicals.
- Locations in the chill water piping where cleaning will take place, and any additional fittings necessary.
- Sequence of each location that ensures all piping sections will be cleaned and all foreign debris removed.

3.5.2 Plan submittal. Submit the written plan to the COR for approval at least 48 hours prior to commencing cleaning operations.

3.6 Flushing operations. Upon approval of the plan, the Contractor shall proceed with the flushing of the piping system, as follows:

3.6.1 Clean all system strainers and valves.

3.6.2 Flush all chill/hot water piping with a system manufacturer recommended flushing fluid until all visible dirt, grit, flux and other contaminants are removed from the system. Ensure that flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing. Submit a CFR documenting date and time of flushing process, and verification of piping and FCU cleanliness.

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

WARNING!

Do not drain ANY Fluids (including fresh water) into any space, bilge, or exterior location.

3.7 System refilling. Upon completion of all cleaning and flushing operations, the Contractor shall refill the system in accordance with above-referenced Coast Guard drawings (see Section 2). The Contractor shall ensure that the renewed system water quality is equivalent to the cutter's potable water system. The Contractor shall measure the system pH value. Submit a CFR documenting that the pH value is not conducive to corrosion.

3.8 Flushing media requirements. The Contractor shall ensure that the cleaning and flushing media does not cause any damage to the Chill Water and Heat System.

3.9 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.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 10: Potable Water Pneumatic Tank(s), 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	2-82-0-E	200	40-65

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 533-009, Rev B, Potable Water Brominator System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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, 2019, Disinfection of Water-Storage Facilities

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 below-listed:

- Piping.

3.2 Preparation. The Contractor shall 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 shall, using Coast Guard Drawing 905 WMEC 533-009 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 shall 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 shall 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 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the potable water pneumatic tanks 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. The potable water system (other than pressure tank) and compressed air system shall be excluded from hydrostatic pressure test.

3.3.4 Reinstallation. After all authorized repairs, The Contractor shall reinstall the tank(s) to the original configuration with new rubber gaskets conforming to ASTM D1330 in the presence of the Coast Guard Inspector. Renew all fasteners with stainless steel.

3.4 Written certification. The Contractor shall, after completion of testing (and after any authorized repairs), submit written documentation listing each tank tested, the date of test, and testing facility to the COR.

3.5 Data Plates. The Contractor shall affix to each tank an anodized aluminum test data plate using epoxy resin cement. Engrave the data plate with ¼-inch high letters stating the following:

- Tank name/number (as applicable).
- Hydrostatic test pressure.
- Date of inspection and test.
- Testing facility.

3.6 Tank disinfecting. After all other work involving the potable water system and tank closing in the presence of a Coast Guard Inspector, the Contractor shall 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 water in accordance with all Federal, state and local regulations. Ensure that no one enters the tanks once disinfection is completed.

3.7 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.

3.8 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 11: Potable Water System Valve, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the following potable water system valve:

TABLE 1 - VALVE

SERVICE	QTY	SIZE (INCHES)	LOCATION	SET PRESSURE (PSIG)
Potable Water Regulating Valve	1	1 ½	2-82-0-E	40

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	Pressure Reducing Valve, R-K FIG.564	PN: 4R-5043-1	1 ea.	19,520.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 533-004, Rev A, Potable Water Brominator System A&D

Coast Guard Drawing 905 WMEC 533-009, Rev B, Potable Water Brominator System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

ASTM International (ASTM) F992, 2017, Standard Specification for Valve Label Plates

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2019, Disinfection of Water-Storage Facilities

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 below-listed:

- Piping.

3.2 Preparation. The Contractor shall depressurize and secure the potable water system before performing any work. Dispose of all fluids in accordance with Federal, state, and local environmental regulations, as necessary.

3.3 Renewal. The Contractor shall renew the valve identified in Table 1 with government-furnished valve using Coast Guard Drawing 905 WMEC 533-004 and 905 WMEC 533-009 as guidance.

3.3.1 Inspection. The Contractor shall visually inspect the piping and mounting arrangements and submit a CFR detailing any required modifications to accommodate the new valve.

3.3.2 Pressure setting. Adjust the setting on the designated regulating valve as necessary to obtain the specified pressure setting. After adjustment, perform a final check to confirm regulating valve's ability to maintain set pressure in the presence of the Coast Guard Inspector. After successful confirmation, install the pressure regulating valve. Renew all O-rings and gaskets. Submit a CFR.

3.3.3 Hardware. The Contractor shall secure each valve installation with renewed bolting hardware.

3.3.4 Valve label plate. The Contractor shall renew all missing and damaged valve label plates, and install new valve label plates on new valves, in accordance with ASTM F992.

3.4 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.)

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

3.5.1 The Contractor shall flush all new and disturbed potable water system piping with clean fresh water for five minutes, or until all debris is removed, whichever occurs first.

3.5.2 The Contractor shall 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 The Contractor shall 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 System disinfection. After all other authorized work involving the potable water system is complete, the Contractor shall disinfect and treat the affected potable water system, as necessary to meet or exceed the requirements of AWWA C652. After disinfection, remove and dispose of all treated water in accordance with all Federal, state and local regulations.

3.7 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.

3.8 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 12: Hot Water Accumulator Tanks, Clean and Inspect

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the following hot water tank:

TABLE 1: HOT WATER TANK

SERVICE	LOCATION	CAPACITY (GALLONS)	PRESSURE (PSIG)
Hot Water Accumulator	2-82-0-E	400	30-70

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 533-009, Rev B, Potable Water Brominator System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

OTHER REFERENCES

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

American National Standards Institute/American Water Works Association (ANSI/AWWA) C652, 2019, Disinfection of Water-Storage Facilities

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:

- Piping

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

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

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

3.2 Preparation. The Contractor shall 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 federal, state, and local environmental regulations.

3.3 Hot water tank(s) inspection. The Contractor shall accomplish the following for the designated tank(s) (see paragraph 1.1 (Intent)) and associated heaters, using Coast Guard Drawing 905 WMEC 533-009 for guidance:

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. Submit a CFR.

3.3.2 Tanks with electrical heating elements. Clean and visually inspect the hot water accumulator tank heaters. Test the electrical resistance and heat conductivity of the heaters. Submit a CFR.

3.3.3 Tank preservation. If a Change Request has been authorized and released, 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. Do not drain any fluids (including fresh water) into any space, bilge or exterior location.

3.3.4 Reinstallation. After all authorized repairs, reinstall the hot water accumulator tank heater(s) to their original configuration with new rubber gaskets conforming to ASTM D1330 in the presence of the CG Inspector. Renew all stainless steel fasteners.

3.4 Tank disinfecting. After all other work involving the potable water system and tank closing in the presence of a Coast Guard Inspector, the Contractor shall disinfect and treat the affected potable water tank, as necessary to meet or exceed the requirements of AWWA C652. After tank disinfecting, remove and dispose of all treated water in accordance with all Federal, state and local regulations. Ensure that no one enters the tanks once disinfection is completed.

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

- Potable water tanks and associated piping

3.6 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.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.7 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 13: 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:

TABLE 1 – COMPRESSED AIR RECEIVERS

SERVICE	LOCATION	QTY	OPERATING PRESSURE (PSI)
Ships Service	2-82-0-E	1	125
Start Air	3-103-0-E	2	250
Clutch Air	4-108-0-E	2	140
Ship's Whistle	02-106-0-Q	1	125

TABLE 2 – VALVE INFORMATION

TYPE	SIZE	DESIGNATION	QTY	SET PRESSURE (PSI)
Relief	¾"	Air Compressors	3	300
Relief	½"	Cleaning Stations	13	30
Relief	½"	Seachest Blowout	3	40
Relief	¼"	Outboard Purifier Rdcr	1	115
Relief	¾"	Inl DSA	2	155
Relief	2"	Ship's Service Air Receiver	1	155
Relief	2"	Diesel Engine Start Air	2	300
Relief	¾"	Clutch Air Receiver	2	170
Relief	¾"	Ship's Whistle Air Receiver	1	155

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 551-001, Rev R, Compressed Air System Diagram

Coast Guard Drawing 905 WMEC 551-007, Rev A, Air Receivers Instl & Arr

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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

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 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:

- Piping system.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

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

- Compressed air system

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

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

3.3.2 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.

3.4 NDE. The Contractor shall perform NDE of the designated air receiver(s) in accordance with SFLC Std Spec 0740, Appendix C, and the following. Submit a CFR.

3.4.1 Magnetic particle (MT) inspection. For carbon steel receivers, perform magnetic particle (MT) inspection on external weld connections in two directions with an AC yoke. Extent of inspection shall be minimum 90% of total weld length. For non-ferrous receivers, perform dye penetrant (PT) inspection instead of MT.

3.4.2 Ultrasonic (UT) inspection. Perform ultrasonic thickness measurements at the intersections of a 6-inch by 6-inch grid over the entire surface of the air receiver, including the heads. Any area of visible corrosion on the receiver shall be measured near the center of the area. Localized areas of wall thinning shall be continuously scanned to their extremities to ensure that the deepest area of thinning has been measured. Submit sketch and data sheet detailing all UT thickness locations and measurements.

3.5 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 shall ensure the following:

- New valves are commercial-standard type valves, conforming to the applicable standard listed in Table 3(Valve Standards).
- New valves shall be equivalent (including identical material) to the valve being renewed.

TABLE 3 - VALVE STANDARDS

VALVE TYPE	INDUSTRY STANDARD
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

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

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

3.6 Valve inspection and testing. The Contractor shall inspect and test each designated air system valve as follows. Refer to Coast Guard Drawings 905 WMEC 551-001 and 905 WMEC 551-007 for guidance.

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

3.6.1.1 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.

3.6.1.2 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.

3.7 Valve reinstallation/installation. Upon completion of all authorized work, the Contractor shall 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.

3.8 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.)

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

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

3.10 Documentation. The Contractor shall provide documentation to the Coast Guard Inspector certifying each valve tested. Documentation shall 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.

3.11 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.

3.12 Surface preservation. The Contractor shall prepare and coat the receiver exterior surfaces, using the system specified for "Machinery, Operating Temperatures Under 200 ^{o}F" in SFLC Std Spec 6310,

Appendix B (Cutter and Boat Interior Painting Systems). Select finish/top coat color to match previous paint scheme.

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

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

3.14 Documentation. The Contractor shall provide documentation to the Coast Guard Inspector certifying each air receiver tested. Documentation shall 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 14: Commissary Hoist, Inspect and Service

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to perform various repairs and maintenance to the Commissary Hoist system.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 123-001, Rev E, Dumbwaiter TRK & FDN FR 165

Coast Guard Drawing 905 WMEC 572-001, Rev E, Svce Hoist Instl A&D

Coast Guard Drawing 905 WMEC 801-018, Rev G, Booklet of General Notes and Details

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 2837, Jul 2016, SWBS 572, Commissary Hoist System

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2018, Auxiliary Machine Systems

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:

- 3.2. Table 2 (Operational test, initial).

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).

3.1.5 Special requirements for various components. If a repair task specified in paragraph 3.2 below, or any related subsequent repairs associated with this work item, requires work to be performed on one or more of the special component types listed in the first column of Table 1 below, the Contractor shall perform all work on those components in accordance with the corresponding Appendix and paragraph of SFLC Std Spec 5000 listed in the second column of Table 1 below. The Contractor shall refer to the Coast Guard drawings listed in Section 2 (References) for guidance in accomplishing this work item.

TABLE 1 – COMPONENTS WITH SPECIAL REQUIREMENTS

COMPONENT	APPENDIX & PARAGRAPH
Fluids	C2.1
Hose assemblies	C2.2
Piping and tubing	C2.3
Valves and manifolds	C2.4
Gages	C2.5
Gas charged accumulators	C2.6
Heat exchangers and fluid coolers	C2.7
Systems	C2.8
Fastener assemblies	D2.1
Wire rope assemblies	D2.2
Brakes and clutches	D2.3
Open gearing and gear reducers	D2.4

3.2 Repairs or other maintenance. The Contractor shall perform the tasks listed in Table 2 below in accordance with Coast Guard Drawing 905 WMEC 572-001 and TP 2837; and using SFLC Std Spec 5000_STD as guidance. Refer to paragraph 3.2 of SFLC Std Spec 5000 for definitions of task types (e.g. "Service and Inspect"). Submit CFR(s) to document all inspections, to recommend additional repairs, and to document completed maintenance and repair tasks.

TABLE 2 – MAINTENANCE REQUIREMENTS

				ADDITIONAL REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM 5000_STD	OTHER
1	Operational test, initial	1	Commissary Hoist	N/A	Submit a CIR.
2	Weight Test	1	Commissary Hoist	N/A	Weight test in accordance with referenced Coast Guard TP.

				ADDITIONAL REQUIREMENTS	
#	**TASK TYPE**	**QTY**	**COMPONENT OR ASSEMBLY**	**APPENDIX AND PARA. FROM 5000_STD**	**OTHER**
					Static Load Test Weight: 1500 (+75 -0) lbs. Dynamic Load Test Weight: 1250 (+63 -0) lbs. Rated Load Test Weight: 1000 (+0 -50) lbs. Submit CFR.
3	Fabricate and Install	1	Label plates	B-2.9	System: Commissary Hoist Static Load Test Weight: 1500 (+75 -0) lbs. Dynamic Load Test Weight: 1250 (+63 -0) lbs Rated Load Test Weight: 1000 (+0 -50) lbs.
4	Service and Inspect	1	Head Sheave Assembly	N/A	Submit CFR.
5	Service and Inspect	1	Deflection Sheave Assembly	N/A	Submit CFR.
6	Service and Inspect	2	Carriage Guide Roller and Side Roller Assemblies	N/A	Submit CFR.
7	Service and Inspect	1	Carriage Sheave Assembly	N/A	Submit CFR.
8	Service and Inspect	1	Carriage Broken Rope Safety Device Assembly	N/A	Submit CFR.
9	Service and Inspect	1	Slack Rope Safety Device Assembly	N/A	Submit CFR.
10	Service and Inspect	1	Wire Rope Drum and Drum Shaft Assembly	N/A	Submit CFR.
11	Service and Inspect	1	Sprockets and Sprocket Shaft Assemblies, Roller Chain, and Chain Tension Assembly	N/A	Submit CFR.
12	Service and Inspect	1	Electric Disk Brake	D-2.3	Submit CFR.
13	Service and Inspect	1	Main Deck Door Assembly	N/A	Submit CFR.
14	Service and Inspect	1	Main Deck Control Station	N/A	Submit CFR.
15	Service and	1	Main Deck Door	N/A	Submit CFR.

				ADDITIONAL REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM 5000_STD	OTHER
	Inspect		Switch Assembly		
16	Service and Inspect	1	Hold Level Door Assembly	N/A	Submit CFR.
17	Service and Inspect	1	Hold Level Deck Control Station	N/A	Submit CFR.
18	Service and Inspect	1	Hold Level Deck Door Switch Assembly	N/A	Submit CFR.
19	Service and Inspect	All	Guide Rail Assemblies	N/A	Submit CFR.
20	Service and Inspect	1	Carriage Assembly	N/A	Submit CFR.
21	Service and Inspect	1	Up Over Travel Limit Switch Assembly	N/A	Submit CFR.
22	Service and Inspect	1	Down Stop Limit Switch Assembly	N/A	Submit CFR.
23	Service and Inspect	1	Up Stop Limit Switch Assembly	N/A	Submit CFR.
24	Service and Inspect	1	Slack Rope Safety Device Limit Switch Assembly	N/A	Submit CFR.
25	Service and Inspect	1	Worm Gear Reducer	D-2.4	Submit CFR.
26	Service and Inspect	1	Electric Motor	N/A	Submit CFR.
27	Service and Inspect	1	Electric Motor Controller Assembly	N/A	Submit CFR.
28	Renew	1	Wire Rope Assembly	D-2.2	Submit CFR.
29	Groom and Lubricate	1	Commissary Hoist Assembly	N/A	N/A
30	Operational test, final	1	Commissary Hoist	N/A	Submit CFR.

4. NOTES

4.1 Paragraph number relationships. The appendix and paragraph number for each appendix and paragraph listed as maintenance in Section 3 relates directly to the identical appendix and sub-paragraph number in SFLC Std Spec 5000. "N/A" in this table column does NOT mean the component line is not applicable for accomplishing tasking. "N/A" indicates there is not a specific applicable appendix for that component; the requirements of Std Spec 5000 still apply.

WORK ITEM 15: Helo Talon Grids, Inspect and Test

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and test the helo talon grid system, located on the flight deck.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	M16 Bolts	NSN: 5305-01-393-1827	24 ea.	25.65
N	M12 Bolts	NSN: 5305-01-584-6095	12 ea.	33.75
N	Locking Nut	NSN: 5305-01-598-3243	1 ea.	492.88
N	**Talon Grid Stanchion Bolt Assembly, Including Locking Nut	NSN: 5340-01-481-3786	60 ea.	31.50

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

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 186-003, Rev -, 270 Ft B WMEC Talon Grid Foundation & Structural Mod 01 Level

Coast Guard Drawing 905 WMEC 634-002, Rev -, 270 Ft B WMEC C & A, Pnt, Dk Cov & Insul Mod Talon Grid Instl

Coast Guard Drawing FL-588-003, Rev -, Talon Grid, Supporting Skirt & Cover Fabrication & Instl

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 3368, Jun 2020, Talon Helicopter Landing Grid - Type 18-22-01 Multiple Class Cutters

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

ASTM International (ASTM) D5363, 2016, Standard Specification for Anaerobic Single-Component Adhesives (AN)

MIL-PRF-16173, 2017, Corrosion Preventive Compound, Solvent Cutback, Cold-Application

3. REQUIREMENTS

3.1 General.

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

- 3.6 (Inspections).

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 Pre-removal grid clearance measurement. The Contractor shall extend a straight edge across the grid from edge to edge; measure and record the grid clearance to the straight edge at the center of the grid to establish a baseline for subsequent post-installation clearance measurements. Submit a CFR.

3.3 Grid removal plan. The Contractor shall develop a plan to remove the grid assembly from the grid recess, using Coast Guard Drawings 905 WMEC 186-003 and 905 WMEC 634-002 and TP 3368 as guidance. Submit the plan to COR for acceptance within 72 hours before commencing grid work. When removing grid assembly from the grid recess, ensure that no force more than 15,000 pounds is applied to the grid assembly and recess support ring.

3.4 Grid removal. The Contractor shall accomplish the following:

3.4.1 Remove and dispose of the existing filler material between the talon grid and flight deck.

3.4.2 Remove and dispose of the 24 existing 5/8” fixation bolts securing grid assembly to the grid recess supporting ring, in the grid recess.

3.4.3 Remove the existing grid assembly, including stanchions and M12 grid assembly bolts, in accordance with the accepted grid removal plan.

3.5 Grid support and recess preservation. The Contractor shall prepare and preserve 100% of the grid recess and support structure surfaces, excluding the bearing flange to the honeycomb top-plate, using the coating system specified for “Bilges, Cofferdams, and Forepeaks, Option III”, in SFLC Std Spec 6310,

Appendix B (Cutter and Boat Interior Painting Systems). Select Grey (16099) as the finish/final top coat color.

NOTE

Grey (16099) is not the same Light Grey that is listed in SFLC Std Spec 6310, Appendix C for Bilge Epoxy Coating System.

3.6 Inspections. The Contractor shall accomplish the following inspections, using Coast Guard drawing FL-588-003. Submit a CIR.

3.6.1 Visual. Perform a visual inspection of the following components:

- Grid top plate
- Grid lower support structure
- Recess supporting ring
- Grid recess and foundation
- Stanchions and nuts.

3.6.2 NDE. In the presence of a Coast Guard Inspector, perform NDE of all well welds, stanchions, and lower support structure for cracks, in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

3.7 Grid maintenance. The Contractor shall perform the preventative maintenance requirements in accordance with TP 3368, Chapter 5, Paragraph 2, and all its related sub-paragraphs.

3.8 Grid reassembly and reinstallation. Upon completion of all authorized repairs, if any, the Contractor shall reassemble and reinstall the grid assembly, in accordance with TP 3368. Ensure that the grid is level with the flight deck.

3.8.1 Apply a suitable corrosion inhibitive compound conforming to MIL-PRF-16173, Class II, Grade 3, to both faces of the honeycomb plate in lieu of the “ARDROX 3140” material, which is specified in paragraph 2.2.3.h of TP 3368.

3.8.2 Renew all M12 grid assembly bolts and 5/8” fixation bolts with Government-furnished bolts. Apply a sealing, locking and retaining compound conforming to ASTM D5363 to each bolt; and secure each bolt with the following torque:

- M12 grid assembly bolt: 22 ft-lb.
- 5/8” fixation bolt: 44 ft-lb.

3.8.3 Tighten stanchion end nuts to a torque of 44 ft-lbs in accordance with paragraph 2.2.3.g of TP 3368. Apply a sealing, locking and retaining compound conforming to ASTM D5363 to all nuts and locking-nuts.

NOTE

Do not use assembly lube/anti seize on the same fastener threads as retaining/sealing compound. They will not perform their function if used together.

3.8.4 Renew the filler material in accordance with the manufacturer’s recommended instructions.

3.9 Pull test. After installation, the Contractor shall pull test the grid to ensure structural integrity of the total installation. This shall be accomplished by the following test procedure:

3.9.1 Extend a straight edge across the grid from edge to edge; measure and record the grid clearance to the straight edge at the grid center.

3.9.2 Make a direct upward pull from the approximate center isthmus of the grid of 13,700lbs for 2 minutes. After releasing the test load, the grid and resin foundation shall be visually examined for evidence of structural failure. Visible deformation or cracking shall be cause failure. The grid shall be inspected for surface cracks by the dye penetrant method at a radius of 12 inches from the attachment point of the pull test. Six hold down bolts shall be randomly removed and inspected by dye penetrant inspection for failure and replaced or renewed as necessary. The resin foundation shall be visibly inspected. Report any test failure to Commandant (CG-41) and Commandant (CG-45) immediately.

3.10 Post-installation and test grid clearance measurement. After grid reinstallation and pull test, the Contractor shall repeat the clearance measurement specified in paragraph 3.2 (Pre-removal grid clearance measurement). The grid clearance should not have changed from the measurement taken in paragraph 3.9.1. Record and compare new measurement to the previous readings in paragraphs 3.2 and 3.9.1, and submit a CFR. Some minor variation from the pre-removal measurement is to be expected. There should be no change from the measurement taken prior to pull test.

3.11 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 Grid assembly particulars. The grid assembly consists of a top honeycomb plate and a lower supporting structure (support skirt) secured by 12 (M12) bolts and stanchions.

4.2 Stanchion coating. “Molykote” (specified for stanchion coating) is a brand name generically used for marine grade assembly lubricant. Multiple marine grade lubricants are acceptable for coating the stanchions; including Molykote P-37, Molykote G-N metal assembly compound, or Loctite 34395 Marine Grade anti-seize.

WORK ITEM 16: Sewage Discharge and Transfer Pumps, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the sewage discharge and transfer pumps.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	Sewage Discharge Pump	NSN: 4320-01-131-0841	2 ea.	4,719.00
N	Sewage Transfer Pump	NSN: 4320-01-112-0008	2 ea.	4,719.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 2839, SWBS 593, Feb 2013, Sewage Holding System

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 3020 (SFLC Std Spec 3020), 2018, Overhaul AC Electrical Motors

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP-1), 2015, Solvent Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 3, (SSPC-SP-3), 2018, Power Tool Cleaning

3. REQUIREMENTS

3.1 General. The Contractor shall refer to the drawings and publications listed in Section 2 (References) for guidance in accomplishing this work item.

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.

WARNING

Raw sewage is a health hazard. Good personal hygiene by those servicing or in any way coming into contact with components in the Sewage System is necessary. PPE including rubber gloves, rubber boots, rubber coveralls and a face shield will help minimize personal contact with raw sewage.

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:

- Sewage contents
- Structural supports
- Sewage tanks
- Toilets
- Miscellaneous sewage piping and components
- Flexible hoses in sewage piping

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Removal. The Contractor shall remove the designated sewage pumps in accordance with Tech Pub 2839. Before removing the pumps, flush with seawater removing residual sewage from pumps and adjacent piping. While this work item does not require opening and entering the sewage tank, it does require sufficient cleaning of pumps and attached piping to lower levels of toxic, noxious and explosive gases to a safe level.

WARNING

It is imperative that hazardous gases are maintained at safe levels. Continue to monitor for hazardous gases while personnel are working in the area of the sewage collection tank (VCHT). Additional PPE may be necessary should hazardous gas approach maximum allowable levels.

3.4 Foundation preservation. The Contractor shall wire brush or power tool clean the pump foundations and the area under the pump foundations to approximately 1 foot away from the foundations to remove loose paint and rust while pumps are removed. Feather all edges. Clean the areas in accordance with SSPC SP-3. Solvent wipe the areas in accordance with SSPC SP-1. Paint the prepared areas with one coat of epoxy paint to match the existing system as described in SFLC Std Spec 6310.

3.5 Installation. The Contractor shall install the Government provided sewage and discharge pump assemblies in accordance with Tech Pub 2839. Renew all fasteners, flange gaskets and seals disturbed at pump/motor interfaces, as well as, gaskets and seals associated with other shipboard piping joints that have been disturbed as a result of performing this work item. Clean gasket mating surfaces before installing new gaskets. Verify flexible coupling(s) are properly aligned. Correct all discrepancies and submit CFR.

3.6 Leak test. After completing all authorized mechanical (i.e. threaded, bolted, etc.) joint repairs, the Contractor shall test the sewage 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

System tightness test may be conducted with seawater. If so, discharge sea water from sewage tank to maximum extent possible using system pumps before declaring system ready for service.

3.7 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.

3.8 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.)

3.9 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 17: Grey Water Holding Tank(s), 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	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Grey Water Tank (Aft)	3-103-0-E	138	50
Grey Water Tank (Fwd)	3-82-0-E	138	50
Seal Water Tank	2-82-0-E	100	50

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-001, Rev C, Vacuum Flush Collection System Electrical Schematic Diagram

Coast Guard Drawing 905 WMEC 593-002, Rev A, Sewage Vacuum System Component Installation Arrangement and Detail

Coast Guard Drawing 905 WMEC 593-003, Rev F, Sewage Transfer System Diagram

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, 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 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.

3.1.3.1 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. Maintain a plug accountability log outside the tank to prevent any of the installed temporary plugs from being lost inside the tank or forgotten inside at tank closure. Submit this log to the Coast Guard Inspector after completion of work item.

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:

- Piping.
- Pump(s).

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

3.4 Cleaning. The Contractor shall accomplish the following for the tank(s) listed. The Contractor shall refer to Coast Guard drawings 905 WMEC 593-001, 905 WMEC 593-002, 905 WMEC 593-003, 905 WMEC 593-004, 905 WMEC 593-005, 905 WMEC 593-006 and 905 WMEC 593-007 for guidance.

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

3.4.2 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 Inspection. The Contractor shall 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 the Tank and Void Inspection Form, and 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 (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).

3.6 Control Panel Assembly. The Contractor shall 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

3.7 Closing. The Contractor shall 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 in the presence of the CG Inspector.

3.7.1 Renew 100% of nylon insert/nylock nuts and washers.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.8 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.

3.8.1 The Contractor shall adjust the set point on each of the vacuum pressure switches (as applicable) to the set points noted previously.

3.8.2 The Contractor shall 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.

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

4. NOTES

This section is not applicable to this work item.

WORK ITEM 18: Sewage Holding Tank(s), 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	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Sewage Tank	3-82-0-E	1,500	100

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-001, Rev C, Vacuum Flush Collection System Electrical Schematic Diagram

Coast Guard Drawing 905 WMEC 593-002, Rev A, Sewage Vacuum System Component Installation Arrangement and Detail

Coast Guard Drawing 905 WMEC 593-003, Rev F, Sewage Transfer System Diagram

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, 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 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.

3.1.3.1 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 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:

- Piping.
- Pump(s).

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

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

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

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall witness Coast Guard personnel perform an operational pre-test to demonstrate all tank TLIs' existing operational condition. Submit a CFR.

3.3 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

3.4 Cleaning and inspection requirements. The Contractor shall accomplish the following for the tank(s) listed in paragraph 1.1 (Intent), referring to Coast Guard drawings 905 WMEC 593-001, 905 WMEC 593-002, 905 WMEC 593-003, 905 WMEC 593-004, 905 WMEC 593-005, 905 WMEC 593-006 and 905 WMEC 593-007 for guidance:

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

3.4.2 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.

3.4.3 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).

3.4.4 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

3.5 Closing. The Contractor shall 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 in the presence of the CG Inspector.

3.5.1 The Contractor shall renew 100% of nylon insert/nylock nuts and washers.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

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

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

3.6.2 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.

3.6.3 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

This section is not applicable to this work item.

WORK ITEM 19: Sewage Piping, Clean And Flush

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean the sewage piping system.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, 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 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, 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 below-listed:

- Sewage pumps
- Toilets

3.2 Contamination prevention. The Contractor shall take all precautions to prevent contamination of personnel and spaces in accordance with all applicable Federal, state, and local regulations.

3.3 Personnel qualification. The Contractor shall ensure that personnel accomplishing this work are qualified and experienced in operating the pressurized water system and handling the chemicals. For each operator/cleaning technician, submit documentation of applicable experience and training obtained within the last twelve months along with the Cleaning Plan.

3.4 Operational test, initial. Prior to commencement of work, the Contractor shall 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.

3.5 Cleaning plan. The Contractor shall establish a plan for cleaning the designated piping system, listing the step by step procedures necessary to ensure that all foreign debris is removed from the piping system.

CAUTION

Although the Coast Guard prefers pressurized water as the cleaning fluid, the Contractor may propose chemical cleaning as an alternative, providing that the proposed chemical cleaning agent is environmentally safe, suitable for use in marine sewage piping application, and pre-approved by the COR. The chemicals used in the cleaning (including cleaning chemicals, neutralizing compounds, and defoaming chemicals) shall not cause any significant detrimental effects to the sewage piping system or any other system components Due to the fact that system piping has historically been difficult to clean by pressure washing only, chemical cleaning is usually required to successfully complete the cleaning process.

Submit a MSDS to the COR for all chemicals proposed for use.

3.5.1 Procedure requirements. The Contractor shall ensure that the procedure includes the following:

- Methods of cleaning.
- All safety precautions required during cleaning operations.
- List of qualified personnel who will operate machinery or handle chemicals (see paragraph 3.3 (Personnel qualification) herein).
- Locations in the sewage piping where cleaning will take place, and any additional fittings necessary.

- Sequence of each location that ensures all piping sections will be cleaned and all foreign debris removed.

3.5.2 Plan submittal. The Contractor shall submit the written plan to the COR for approval at least 48 hours prior to commencing cleaning operations.

3.6 Clean and flush. The Contractor shall clean and flush 100% of sewage system piping, using Coast Guard Drawings 905 WMEC 593-004, 905 WMEC 593-005, 905 WMEC 593-006, and 905 WMEC 593-007 as guidance.

3.6.1 Pumps and valves. Replace system tank valve(s) with temporary spool piece(s) before cleaning. Visually inspect system pumps and valve(s); and submit a CFR. Upon completion of work, reinstall the removed tank valve(s) with new gaskets.

3.6.2 Cleaning. Continue cleaning until all of the following conditions are met:

- All visible calcium carbonate deposits, solid deposits and build-up are removed from pipe walls.
- Discharge water from the piping being cleaned is free of all visible scale and deposits.

3.6.3 Inspect the piping interior using a borescope in the presence of the COR, to verify that all solid deposits visible to the unmagnified eye have been removed. Continue the cleaning process until all visible solid deposits are removed from the pipe walls.

3.7 Waste disposal. The Contractor shall dispose of all cleaning fluids and debris in accordance with all applicable Federal, state, and local regulations. Remove all unused chemicals from USCG property immediately upon completion of work item. Do not drain any fluids (including fresh water) into any space, bilge, or exterior location.

3.8 Gasket renewal. The Contractor shall reinstall all removed valves and fittings with new gasket material conforming to ASTM D1330.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.9 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.

3.9.1 Leak test. After all system components are reinstalled, the Contractor shall test all disturbed piping for leaks, as follows, and submit a CFR:

- Plug all system openings (except the highest) and fill system with water to the point of overflow. Ensure that the water level does not go down (without adding any water) for sufficient time to inspect the entire system (no less than 15 minutes).
- Closely monitor the system for leaks. Repair all leaks detected.
- Repeat test and inspection until no leaks are detected.

3.10 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 20: Decks, Helicopter Operating Areas, Preserve

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the designated deck surfaces within the retracted Helicopter (HELO) Hangar and the Helicopter Operating (HELO Ops) areas /Flight Deck (see 4.1 (Definition of HELO Ops Areas)).

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 801-004, Rev F, General Arrangement 01 Level

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

MIL-PRF-24667, March 2018, Coating system, Non-Skid, for Roll, Spray, or Self-Adhering Application

Naval Air Warfare Center (NAVAIR) Drawing 621055, Rev F, Visual Landing Aids Installation WMEC-270 Class Ships

QPL-24667, Aug 2019, Qualified Product List of Products Qualified under Performance

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

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:

- Flight deck safety net assemblies.
- Talon grid cover.
- Flight deck landing lights.
- Deck drain gratings.

3.1.5 Surface preparation optional methods. The Contractor has the option of using either high/ultrahigh pressure water jetting or abrasive blasting to achieve the required surface preparation, prior to application of the coating system specified in 3.3 (Preservation requirements). The Contractor may add abrasives to the waterjet stream, for one or both of the following reasons:

- Achieving greater productivity.
- Achieving the required surface profile.

NOTES AND CAUTION!

1. Waterjetting without abrasive addition does not provide any additional anchor profile to the surface, beyond what was present after the previous surface preparation.

2. Initial removal of the coating system around deck edges, fittings, and deck coaming may be by power tool cleaning in accordance with SSPC-SP-11.

3. Flight Deck surfaces are constructed of HY-130 steel and may NOT be heated to remove the existing covering.

4. During pier side surface preparation, suitable means to contain generated dust, waste water, paint chips, spent abrasives, and overspray must be provided or employed, as applicable. Plywood or net/canvas barriers are typically used to surround the area being blasted to contain stray steel shot. When net barriers are used, the mesh size of the netting material must be small enough to ensure that the steel shot will be contained. In addition, net barriers, when used, must be overlapped where attached to stanchions, and anchored at the bottom for the entire net's length between stanchions, to limit the clean–up and localize the blast medium. Steel shot on a deck is a foreign object damage (FOD) hazard and extreme care must be taken to prevent slipping when walking over contaminated areas.

3.1.6 Visual Landing Aid (VLA) and safety marking sketch. Prior to commencing surface preparation tasks, the Contractor shall develop and submit, to the COR, a sketch of all existing Flight Deck VLA and safety markings and their measured locations on the Flight Deck, using NAVAIR Drawing 621055 as guidance. Obtain Coast Guard Inspector approval of the sketch, prior to applying new marking paint (see 3.3.2 (VLA and safety markings)).

3.1.7 Substrate inspection. After completion surface preparation and before application of primer coat, the Contractor shall perform a visual inspection of the prepared substrate; submit a CFR.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Preservation requirements. The Contractor shall prepare and coat the entire 01 deck exterior (inside the hangar, all the way up port side, and starboard side boat deck), shown on Coast Guard Drawing 905 WMEC 588-002, using the system specified for "Flight Deck, Option I", in SFLC Std Spec 6310, Appendix A (Cutter and Boat Painting System)". Ensure that the system is qualified as "UV/LSA", as specified in QPL-24667, and is epoxy-based.

3.3.1 Top coating color. The Contractor shall accomplish the following tasks:

3.3.1.1 Non-skid/non-slip surfaces. Select Grey (36076) as the top/finish coat color.

3.3.1.2 Non-slip-exempted areas. Apply a dark grey color (36076) top/finish coating, in lieu of non-slip top-coating over the following non-slip-exempted areas:

- Deck fittings, including, but not limited to: pad eyes, label plates, net supports/foundation, helicopter tie-down fittings, and lifting handles for aircraft fuel filling station.
- Areas within two inches of deck fittings and protrusions.
- Areas within six inches of adjacent bulkheads, deck coaming, and deck edges.
- Waterways.

3.3.2 VLA and safety markings. The Contractor shall accomplish the following tasks:

3.3.2.1 Remove Flight Deck landing lights in way of work. Visually inspect light assemblies and submit CFR. Prepare and preserve light assemblies to match existing in accordance with SFLC Std Spec 6310. Reinstall light assemblies to original configuration.

3.3.2.2 Stripe the Flight Deck with the same pattern sketched prior to surface preparation.

3.3.2.3 Paint new VLA and safety markings with a White color (37875) finish coating.

3.4 Low temperature cure system. If a Change Request has been authorized and released, the Contractor shall apply a low temperature cure system, conforming to MIL-PRF-24667, Type VIII, Composition G. Ensure that the white color top coating is a silicone alkyd enamel product, recommended by the nonskid coating system manufacturer, in lieu of the polyurethane-based (Interthane 990) coating listed on QPL-24667.

3.5 In-process quality control measures. The Contractor shall 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").

NOTES AND WARNING

1. The flight deck coating system must be procured as a kit containing the following – all conforming to MIL-PRF-24667:

a. Anti-corrosive/primer coating.

b. Dark grey color (36076) non-slip top coating.

c. Dark grey color (36076) finish coating, for non-slip exempted areas.

d. White finish color (37875) coating, for VLA and safety markings.

2. The low temperature system is only authorized for application at temperatures between 35-45 degrees F.

3. Polyurethane-based non-skid systems are not authorized on Coast Guard vessels.

4. Surfaces being preserved are considered "critical-coated surfaces".

3.6 Non-skid surface appearance and texture. The Contractor shall ensure the non-skid surface shall show a pattern of peaks and ridges. The ridge profile shall be continuous and reasonably uniform. Peaks and ridges shall be generally in the same direction (fore and aft), approximately 1/2 to 1 inch apart, and approximately 1/16 to 3/32 inches high. Aggregate shall present a rough uniformly coarse appearance over the entire surface with no loosely bound clumps of particles. All weld seams shall be cross-rolled from a minimum of 3 inches on either side of the weld.

3.7 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.

4. NOTES

4.1 Definition of "HELO Ops Areas". "HELO Ops Areas" are defined as 01 Level deck surfaces, from Frame 103 aft, port and starboard, including deck surfaces inside of the retracted HELO Hangar, shown on Coast Guard Drawing 905 WMEC 801-004, including helicopter tie-down fittings, 01 Deck perimeter coaming, talon grid cover, raised "mushroom" type tie-down fittings, line-up light fixtures, flight deck net supports/foundations, and up to six inches on all adjacent vertical surfaces, where applicable.

4.2 Certification hot line action desk. The Naval Air Warfare Center Aircraft Division Lakehurst has the responsibility for inspection and certification of all air capable aviation ships which support and operate with helicopters. A Shipboard Aviation Facility hot line action desk has been established at the Naval Air Warfare Center Aircraft Division Lakehurst, to provide a central point of contact for obtaining all information pertinent inspection and certification issues, including VLA and safety markings. The hot line action desk is in operation 24 hours a day and can be reached by contacting:

NAVAIRWARCENACDIVLKE
Lakehurst, N.J 08733-5000
Hot Line Action Desk (4.8.2.5)
Phone: (732) 323-2592

4.3 Unit's responsibilities. The ship's force will be responsible for the following:

- Removing and reinstalling all deck drain gratings.
- Plugging deck drains.
- Preliminary freshwater wash down of flight deck surfaces, in addition to adjacent bulkhead surfaces, prior to the commencement of contracted work, in order to remove sea salt.
- Ensuring there is no engine operation and no stack emissions at any time during flight deck resurfacing.
- Restricting access to the Flight Deck work area to only authorized personnel.
- Contacting NAVAIR for inspection and certification of flight deck markings following work.

WORK ITEM 21: 400 Hz Power Supply, Load Test

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to load test the 400 HZ FCX power supply.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 901 WMEC 314-006, Rev C, 400 Hz Hlcptr Svce Freqconv Installation Diagram

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 4931, Aug 2009, Section 321A, Precision Frequency Converters

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

OTHER REFERENCES

None

3. REQUIREMENTS

3.1 General. The Contractor shall refer to the Coast Guard drawing(s) listed under Section 2 (References) as guidance in accomplishing this work item.

3.1.1 CIR.

None.

3.1.2 Tech Rep. The Contractor shall provide the services of a qualified Tech Rep, who is familiar with the FCX Systems Inc. PFC 400 Hz Power Supply equipment/system, to accomplish the following tasks – on site:

- Advise on manufacturer's proprietary information pertinent to the system.
- Assist with proper repair methods, and ensure compliance with manufacturer's procedures and standards during disassembly, inspection, repair, modification, calibration, and reassembly of the equipment/system.

3.1.2.1 Ensure the Tech Rep has a résumé of demonstrated experience with the system/equipment stated above.

3.1.2.2 Submit a copy of the Tech Rep's résumé and a list of references to the COR at the Arrival Conference.

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).

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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

3.3 400 HZ (FCX) Power Supply, load test. The Contractor shall provide all labor and materials including a load bank to perform load test of the 400 HZ FCX Solid State Frequency Converter in accordance with attached Enclosure (1) C.G. Yard Test Memo and using TP 4931 as guidance. Submit a CFR.

3.3.1 In the event the load test for the 400 HZ (FCX) Power Supply fails, the Contractor shall troubleshoot and identify faulty component and submit CFR for repairs.

3.3.2 Once all authorized repairs are complete, the Contractor shall conduct load test in accordance with paragraph 3.3 (400 HZ (FCX) Power Supply, load test). Submit CFR.

3.4 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.

3.5 Report. The Contractor shall submit a CFR for the completed test memorandum attached below.

4. NOTES

4.1 Test Memorandum.

COAST GUARD YARD TEST MEMO

HULL NO._____

GROUP NO._____

TEST MEMO NO. 82 REV A

QA REVIEW:_____

TITLE: 400 HZ HELICOPTER POWER SUPPLY TEST

REF: (a) Air Capable Ship Aviation Facilities Bulletin No. 1G

(b) Section 300, DOD-STD-1399

© PFC Series Operator's Manual, FCX System Inc.

METHOD OF CODUCTING TEST

1. In accordance with Section 21.3 of reference (a), the 400HZ helicopter service system shall be tested by connection to a suitably sized load bank and operated at loads from 2 amps up to the load specified for the Coast Guard HH-65 Helicopter (10 KVA).

2. The power supply shall be connected to the load bank using the cable supplied to the cutter for aircraft servicing. If necessary to make the connection to the load bank, the test may be conducted prior to attachment of the helicopter end plug. The cable shall be adjusted to the length necessary to service the aircraft in its normal landing position on the flight deck.

3. After connection of the power supply to the load bank, energize the power supply and adjust the load to approximately 2 amps. Record the output voltage, frequency and current on table 1. Verify correct phrase rotation.

NOTE!

The maximum power requirements for the HH-65 helicopter are 10KVA (per reference (a)).

Enclosure (1)

FIGURE 1. ENCLOSURE 1, PAGE 1 OF 3

4. The required amperage for this test is calculated as:

$I = P/[(E)(3)^{1/2}]$

At P= 10 KVA, and E= 200V (line to line), the maximum current required is 28.9 amps.

TABLE 1.

AMPS	FREQUENCY 398 Hz Min - 402 Hz Max	VOLTS 113 VAC Min - 118 VAC Max
2		
7		
12		
17		
22		
27		
29		

5. NAME PLATE DATA OF THE POWER SUPPLY TEST:

MAKE _____ MODEL _____

SERIAL NO._____

6. (A) CALIBRATED LOAD BANK INFORMATION

MAKE _____ MODEL _____

SERIAL NO._____ DATE LAST CALIBRATED _____

(B) CALIBRATED HAND HELD VOLTAGE METER:

MAKE _____ MODEL _____

SERIAL NO._____ DATE LAST CALIBRATED _____

Enclosure (1)

FIGURE 2. ENCLOSURE 1, PAGE 2 OF 3

7. Accept/ Reject Criteria: Test is successful if voltage does not fall outside of the range of 118 Volts to 113 Volts, line-to-neutral, for the entire load range at a unity power factor. Frequency must not fall outside of the range of 398 Hz to 402 Hz.

_____	_____	_____
TEST CONDUCTOR	DATE	TEST SUPERVISOR/QC

Enclosure (1)

FIGURE 3. ENCLOSURE 1, PAGE 3 OF 3

S_25600_PpngRnwl_SWIT_SLE_0520_SWIT
S18_0047_25600_PpngRnwl_SWIT_CMD_0820_912

WORK ITEM 22: Auxiliary Salt Water Piping, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated Auxiliary Salt Water (ASW) piping and associated valves, located in the Auxiliary Machinery Space 2 (Compartment 3-82-0-E).

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 256-001, Rev W, Main & Auxiliary Salt Water Cooling System Diagram

Coast Guard Drawing 905 WMEC 256-004, Rev E, AMS SW Cooling Sys A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

ASTM International (ASTM) F992, 2017, Standard Specification for Valve Label Plates

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2018, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

Manufacturers' Standardization Society of the Valve and Fittings Industry (MSS) SP-80, 2013 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 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).

- Fire main piping
- Machinery
- Deck plates
- Fuel tank
- Ballast piping
- Sewage piping

3.1.5 Contamination prevention. The Contractor shall take all precautions to prevent contamination of personnel and spaces in accordance with all applicable Federal, state, and local regulations.

3.2 Fluid handling. The Contractor shall remove and dispose of removed fluids from the affected piping system, in accordance with all applicable Federal, state, and local regulations.

WARNING

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

3.3 Piping renewal particulars. The Contractor shall crop and renew up to 3 linear feet of 1/4 inch diameter ASW discharge piping drain lines located in Auxiliary Machinery Space 2 (Compartment 3-82-0-E) adjacent to the #2 ASW Pump inlet, as designated by the Coast Guard Inspector and using Coast Guard Drawings 905 WMEC 256-001 and 905 WMEC 256-004 as guidance:

3.3.1 Pipe hangers. Furnish, fit, and install new pipe hangers in accordance with MSS SP-58.

3.3.2 Pipe labeling. The Contractor shall label affected piping as follows:

3.3.2.1 Stencil the following onto the pipe surfaces:

- Name of the piping system service.

- Destination, where feasible.
- Direction of flow, indicated by an arrow three inches long pointing away from the lettering (for reversible flow, point an arrow away from each end of the lettering).

3.3.2.2 Ensure all lettering and arrow(s) are as follows:

- In general, black color except white for dark-colored piping.
- Applied in conspicuous locations and preferably near control valves.

3.3.3 Pipe flushing. The Contractor shall flush all new and disturbed piping with clean fresh water until all debris is removed but no longer than five minutes. Ensure flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing. Submit a CFR documenting date and time of flushing process and level of pipe cleanliness.

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

3.4. Valve renewal. The Contractor shall renew all designated valves in Table 1 with commercial-standard type valves, conforming to the applicable standard listed in Table 2 (Valve Standards). The Contractor shall replace any Mil-Std valves listed for renewal with equivalent commercial standard valves. The Contractor shall be aware substitution of body material or trim set is not authorized.

TABLE 1 – VALVES

TYPE	SIZE(INCHES)	QUANTITY	FRAME NO. VALVE NO.
Gate	¼	2	86

TABLE 2 - VALVE STANDARDS

VALVE TYPE	INDUSTRY STANDARD
Bronze Gate, Globe, Angle and Check Valves	MSS SP-80

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

- Remove and dispose of all blank flanges and associated gaskets.
- Install all new valves with new gaskets.
- Renew all missing or damaged valve label plates, and install new valve label plates on new valves, in accordance with ASTM F992.
- Renew all bolting hardware.

3.6 Leak test. After completing all authorized mechanical (i.e. threaded, bolted, etc.) joint repairs, the Contractor shall test the effected seawater 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.

3.7 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the affected 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.

3.8 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.

3.9 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.

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S18_0052_52100_PpngRnwl_SWIT_CMD_0920_912

WORK ITEM 23: Counter Measure Washdown Piping and Nozzles, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated Counter Measure Washdown (CMWD) piping and nozzles, located on the 02 Weather Deck and Flight Deck.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 521-008, Rev E, Washdown Countermeasure (WDCM) System Diagram

Coast Guard Drawing 905 WMEC 521-010, Rev C, Washdown Countermeasure System A&D 01 Level & Above

Coast Guard Drawing 905 WMEC 521-011, Rev -, Modifications to Washdown Countermeasure (WDCM) System

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2018, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

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:

- Flight deck non skid
- Insulation
- Bulkhead
- Wiring in overhead of lower compartment
- Elevated location

3.2 Fluid handling. The Contractor shall remove and dispose of removed fluids from the affected piping system, in accordance with all applicable Federal, state, and local regulations.

WARNING

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

3.3 Piping Renewal Particulars. The Contractor shall accomplish the following tasks, using Coast Guard Drawings 905 WMEC 521-008, 905 WMEC 521-010, and 905 WMEC-011, as guidance:

- Crop and renew up to 30 linear feet of 1 inch aluminum alloy ASTM 5086 Counter Measure Washdown Piping located on the 02 Weather Deck surrounding the Bridge from the center 1.5 inch tee with 1.5 inch x 1 inch RDC adapter to port 1 inch tee with 1 inch x ¾ inch RDC adapter, to include renewal of tee piping.
- Renew 2 Counter Measure Washdown nozzles located at frame 190 on the flight deck on the starboard side at locations designated by the Coast Guard Inspector.
- Crop and renew up to 6 feet of 1.5 inch Counter Measure Washdown drain piping at Starboard side frame 87 from the valve down.

3.3.1 Pipe hangers. Furnish, fit, and install new pipe hangers in accordance with MSS SP-58.

3.3.2 Pipe labeling. The Contractor shall label affected piping as follows:

3.3.2.1 Stencil the following onto the pipe surfaces:

- Name of the piping system service.
- Destination, where feasible.
- Direction of flow, indicated by an arrow three inches long pointing away from the lettering (for reversible flow, point an arrow away from each end of the lettering).

3.3.2.2 Ensure all lettering and arrow(s) are as follows:

- In general, black color except white for dark-colored piping.
- Applied in conspicuous locations and preferably near control valves.

3.3.3 Pipe flushing. The Contractor shall flush all new and disturbed piping with clean fresh water until all debris is removed but no longer than five minutes. Ensure flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing. Submit a CFR documenting date and time of flushing process and level of pipe cleanliness.

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

3.4 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the affected 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.

3.5 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.

3.6 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 24: Sounding Tubes, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to crop and renew designated sections of sounding tubes located in Diesel Fuel tank 4-207-1-F located in Aft Vestibule (Compartment 1-207-1-L) and Ballast tank 4-169-1-W located in Dry Stores (Compartment 3-169-0-A).

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 506-003, Rev E, Ovfl AE & ST A&D AFT 103

Coast Guard Drawing 905 WMEC 506-006, Rev -, Overflow Air Escape and Sounding Tube System Diagram

Coast Guard Drawing 905 WMEC 529-006, Rev -, Ballasting & Emer Bilge Drainage Sys Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

Society of Automotive Engineers (SAE) Aerospace Material Specification (AMS) C-6183B, 2019, Cork and Rubber Composition Sheet; for Aromatic Fuel and Oil Resistant 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 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:

- Quick Acting Watertight Door
- Bulkhead
- Electrical panel
- Insulation
- One step epoxy deck covering
- Diesel Fuel Tank 4-207-1-F (8,738 -gallon capacity)
- Ballast Tank 4-169-1-W (4,944 -gallon capacity)
- Deck plates

3.1.4.1 Fluid removal. Remove up to 4,944 gallons of ballast water and 8,738 gallons of diesel fuel to facilitate gas-freeing.

3.1.4.2 Fluid disposition, disposal. Dispose of all removed fluids in accordance with all applicable Federal, state, and local regulations. Refer to paragraph 4.1 (Tank content restoration).

3.2 Renewal. The contractor shall accomplish the following as designated by the Coast Guard Inspector and using Coast Guard Drawings 905 WMEC 506-003 and 905 WMEC 506-006, as guidance.

- Crop and renew up to 25 inches of 1.5 inch diameter seamless steel black, ASTM A53, Schedule 40 ANSI B16.5 piping for sounding tube for Diesel Fuel tank 4-207-1-F located in the Aft Vestibule (Compartment 1-207-1-L).
- Crop and renew up to 10 inches of 1.5 inch diameter of seamless galvanized steel, ASTM A53, Schedule 40 ANSI B16.5 piping and sounding tube cap for sounding tube for Ballast tank 4-169-1-W located in Dry Stores (Compartment 3-169-0-A).

3.3. Pipe flushing. The Contractor shall flush all new and disturbed piping with clean fresh water until all debris is removed but no longer than five minutes. Ensure flushing fluid is directed to move scale and foreign debris away from installed machinery to prevent possible damage upon operational testing. Submit a CFR documenting date and time of flushing process and level of pipe cleanliness.

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

3.3.2 Ensure all water is removed by blowing dry all flushed piping with dry, low-pressure air.

3.4 Tank Content Removal. The Contractor shall remove access cover(s); remove and dispose of all fluids and/or residues in accordance with all applicable Federal, state, and local regulations. Plug all inlet and outlet piping in the tank to prevent contaminants from entering the tank. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings. Maintain a plug accountability log outside the tank(s) to prevent any of the installed temporary plugs from being lost inside the tank or forgotten inside at tank closure.

3.5 Cleaning requirements. The Contractor shall refer to the Coast Guard Drawings listed under Section 2 (References) for guidance in accomplishing this work. The Contractor shall remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as residual fuel or water, sediment, sludge, rust, or biological growth, 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. Collect, contain, and dispose of all wash media, residues, and cleaning materials in accordance with all Federal, state, and local regulations.

3.6 Tank content and waste disposal. The Contractor shall dispose of residual tank contents and any 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 shall 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, if any.
- Condition of tank coating, including; measurements taken, percentage, location, and type of coating failure (if tank interior surfaces are coated).
- Tank level indicator (TLI) and/or float switch condition, as applicable.
- Sounding/vent tube and striker plate condition (including vent check valve and waster piece).
- Suction and discharge piping condition.
- Fastener material and condition (correct fastener material is stainless steel).
- Anodes (as applicable).

3.8 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the fuel oil and ballast systems 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.

3.9 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.)

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.10 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.

3.11 Tank closing. The Contractor shall ensure that the tank(s) remain open for at least 24 hours after completion of any 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 in the presence of the CG Inspector. Chase threads on studs to ensure even installation of the access covers. Renew any damaged nuts.

4. NOTES

4.1 Tank content restoration. The ship's forces will procure new fluids as needed and refill all tanks at the appropriate time

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S20_0023_61211_CMD_0820_912

WORK ITEM 25: Weather Deck Stanchions, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew 15 D-rings and designated sections of stanchions including all associated hardware, fittings, and stanchion caps, as identified in Table 1.

TABLE 1 - STANCHION RENEWAL SECTIONS

COMPONENT	QUANTITY	DIAMETER (INCHES)	MATERIAL	FRAME LOCATION
Stanchions	6, approximately 48 inches long	2.5	GRP epoxy glass tubes	Foc'sle FR 04 STBD Foc'sle FR 12 PORT Foc'sle FR 42 STBD Fantail FR 219 STBD Fantail FR 229 PORT Fantail FR 231 STBD
Stanchions	3, approximately 48 inches long	2.5	Aluminum	Foc'sle FR 45 STBD Fantail FR 218 PORT Fantail FR 244 PORT

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 136-001, Rev E, 01 Level Pl & Fr FWD 101

Coast Guard Drawing 905 WMEC 136-002, Rev E, 01 Level Pl & Fr AFT 182

Coast Guard Drawing 905 WMEC 801-004, Rev F, General Arrangement 01 Level

Coast Guard Drawing 905 WMEC 612-001, Rev G, Rails, Stans and Lifelines

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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:

- Insulation
- Handrails
- Cleats
- Life lines
- Deck
- Chock
- Machinery
- Lighting
- Electrical boxes
- Ammo

3.2 Renewal. The Contractor shall crop out, scrap, and renew 15 D rings and designated stanchions and associated hardware, fittings, and stanchion caps, as identified in Table 1, using Coast Guard Drawings 905 WMEC 612-001 and 905 WMEC 801-004, for guidance. Retain all mounting brackets and/or fixtures for re-use, if applicable.

3.3 Ultrasonic thickness (UT) measurement. The Contractor shall take a total of 100 UT measurements of the plating adjacent to the stanchions designated for renewal (after removing the stanchions, and prior to installation of new stanchions), in locations designated by the Coast Guard Inspector, in accordance with

SFLC Std Spec 0740, Appendix C. Use Coast Guard Drawings 905 WMEC 136-001 and 905 WMEC 136-002 for guidance.

3.4 Boundary test, generic. The Contractor shall 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.

3.5 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.)

3.6 Load test. The Contractor shall complete load tests as required by Coast Guard Drawing 905 WMEC 612-001 for all new and disturbed stanchions. Submit a CFR.

4. NOTES

This section is not applicable to this work item.

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S20_0026_59300_PpngRnwl_SWIT_CMD_0920_912

WORK ITEM 26: Sewage Piping, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated sewage piping.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-003, Rev F, Sewage Transfer System Diagram

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

ASTM International (ASTM) F992, 2017, Standard Specification for Valve Label Plates

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2018, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

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).

- Pumps
- Gauge Lines
- Gauges
- Valves
- Brackets
- Synthoglass
- Deck plates
- CHT tank
- Switchboard
- Insulation
- Overhead plates
- Lighting
- Cables

3.1.5 Contamination prevention. The Contractor shall take all precautions to prevent contamination of personnel and spaces in accordance with all applicable Federal, state, and local regulations.

3.2 Fluid handling. The Contractor shall remove and dispose of removed fluids from the affected piping system, in accordance with all applicable Federal, state, and local regulations.

WARNING

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

3.3 Piping renewal particulars. The Contractor shall accomplish the following tasks in Auxiliary Machinery Space 2 (Compartment 3-82-0-E) at Frame 82, using Coast Guard Drawings 905 WMEC 593-003 and 905 WMEC 593-004, as guidance:

- Crop and renew up to 15 inches of 2 inch diameter CU-NI (90-10), MIL-T-16420 #2 sewage discharge pump piping
- Renew two ¼ inch bronze pipe nipples that are 2 inches in length
- Renew one ¼ inch pipe size 90 degree female national pipe thread elbow
- Renew one ¼ inch globe valve for the gauge line.

The Contractor shall crop and renew up to 25 inches of 2 inch diameter CU-NI (90-10), MIL-T-16420 sewage piping located in the overhead of the Engineering Command and Control Center (Compartment 3-156-0-E) at frame 157, using Coast Guard Drawings 905 WMEC 593-003 and 905 WMEC 593-004, as guidance.

3.3.1 Pipe hangers. Furnish, fit, and install new pipe hangers in accordance with MSS SP-58.

3.3.2 Pipe labeling. The Contractor shall label affected piping as follows:

3.3.2.1 Stencil the following onto the pipe surfaces:

- Name of the piping system service.
- Destination, where feasible.
- Direction of flow, indicated by an arrow three inches long pointing away from the lettering (for reversible flow, point an arrow away from each end of the lettering).

3.3.2.2 Ensure all lettering and arrow(s) are as follows:

- In general, black color except white for dark-colored piping.
- Applied in conspicuous locations and preferably near control valves.

WARNING

Do not drain ANY Fluids (including fresh water) into any space, bilge, or exterior location.

3.3.3 Valve labeling. The Contractor shall renew all missing and damaged valve label plates, and install new valve label plates on new valves, in accordance with ASTM F992.

3.4 Hydrostatic test. After all authorized repairs, the Contractor shall hydrostatically test all new and disturbed piping and components of the affected 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.

3.5 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.

3.6 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.)

3.7 Service disruption. When grey water and sewage systems are disrupted due to contractor repairs, the Contractor shall refer to SFLC Standard Spec 0000 par 3.2.11 to provide required temporary facilities.

NOTE

There are multiple work items within this package affecting the potable water, grey water, and sewage systems. It is recommended these work items be coordinated so that service disruptions and duplication of temporary services is minimized.

4. NOTES

This section is not applicable to this work item.

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S20_0045_51200_CMD_0820_912

WORK ITEM 27: Vent Ducts, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the vent ducting sections identified in Table 1.

TABLE 1 – VENTILATION DUCTING

DESCRIPTION TYPE/ SECTION	LOCATION	DRAWING
Supply/ 12 in diameter ducting, length of 50 linear ft	2-208-1 in Aft Steering (3-228-0-E)	Coast Guard Drawing 905 WMEC 512-003

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 512-003, Rev J, Vent 1st PLATF AFT 207, A&D

Coast Guard Drawing 905 WMEC 514-003, Rev B, HVAC Std Det and Genl Instructions

Coast Guard Drawing 905 WMEC 514-032, Rev -, HVAC System Diagram

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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:

- Ducting screens
- Ventilation covers
- Overhead insulation
- Machinery
- Deck
- Cable wires
- Bus transfer
- Breakers
- Lights

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Operational test, initial. Prior to commencement of work, the Contractor shall 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 Renewal. The Contractor shall renew the ventilation ducting identified in Table 1 and all associated gaskets, ducting screens, and hardware, and use the Coast Guard Drawings listed in Section 2 (References) as guidance.

3.4 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.

3.5 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

This section is not applicable to this work item.

WORK ITEM 28: Bridge Windows, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated windows and associated components on the Bridge (Pilothouse 02-48-0-C).

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	Window Assembly, 24 in x 30 in, Front Window, Clear Opening	NSN: 5620-01-433-7429 PN: KS-24543	6 ea.	2,243.60
N	Window Assembly, 18 in x 30 in, Clear Opening	NSN: 5620-01-433-7447 PN: KS-23183-B	4 ea.	4,200.00
N	Window Assembly, 24 in x 30 in, Center Window, Clear Opening	NSN: 5620-01-434-0221 PN: KS-24545	1 ea.	4,750.00
N	Window Assembly, 21 in x 30 in, Clear Opening	NSN: 5620-01-433-7553 PN: KS-23345-B	2 ea.	2,025.00
N	Window Assembly, 22 in x 30 in, Clear Opening	NSN: 5620-01-433-7623 PN: KS-23344-B	2 ea.	4,258.30
N	Window Assembly, 24 in x 18 in, Clear Opening	NSN: 5620-01-433-7467 PN: KS-24544	2 ea.	2,321.00
N	Window Controller	NSN: 2090-00-475-0142 PN: KS-12000	15 ea.	857.73
N	Channel Gasket	PN: 1152	20 ea.	103.98
N	Connector, Ship Supply to Controller	NSN: 5935-01-602-3125 PN: KS-24732	15 ea.	50.00
N	Connector, Controller Output to Junction Box	NSN: 5935-01-602-3126 PN: KS-24733	15 ea.	50.00
N	Connector, Input to Junction Box	NSN: 5935-01-602-3129 PN: KS-24735	15 ea.	50.00
N	Cable	NSN: 01-201-9498	200 ft.	1.00
N	Cable	NSN: 01-201-9495	200 ft.	1.25
N	Felt	PN: KS-19940F-PC14	200 ft.	5.25

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 152-001, Rev E, Dk Hse Strl Bhds 02 Lvl Ext

Coast Guard Drawing 905 WMEC 152-002, Rev F, Dk Hse Strl Bhds 02 Lvl Int

Coast Guard Drawing 905 WMEC 320-015, Rev -, Power System Mods Pilot House Window Replacement

Coast Guard Drawing 905 WMEC 625-001, Rev A, Window List Fxd, Plt & Aprt

Coast Guard Drawing 905 WMEC 625-002, Rev B, Pilothouse Window Installation A&D

Coast Guard Drawing 905 WMEC 625-003, Rev A, Pilot House Window Replacement

Coast Guard Drawing 905 WMEC 801-003, Rev H, General Arrangement 02/Pilothouse & Above

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) T9625-AA-MMO-010, May 2014, Window, Electrically Heated/Deicing

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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:

- 3.2.3 Inspections

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:

- Cables
- Junction Boxes
- Bulkhead
- False paneling
- Window wipers
- Frames
- Extinguishers
- Sound power phone boxes
- SRBOC launcher box
- Bell
- Box shelves
- Stanchion
- Overhead
- Electrical wires

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.2 Requirements. The Contractor shall renew the designated windows and associated materials located on the Bridge (Compartment 02-48-0-C) using Coast Guard Drawings and Technical Publication listed in Section 2 (References) as follows.

3.2.1 Removal and disassembly. Remove the following Bridge windows:

- Six 24 in x 30 in front windows
- Four 18 in x 30 in windows
- One 24 in x 30 in center window
- Two 21 in x 30 in windows
- Two 22 in x 30 in windows
- Two 24 in x 18 in windows

3.2.1.1 Disassemble honey comb false panels and metal aluminum frames from the windows.

3.2.1.2 Disassemble the clearview screen.

3.2.2 Wiper system protection. Protect the wiper system from damage during the removal and renewal process.

3.2.3 Inspections. Clean and prepare exposed adjacent areas prior to installation of new windows and visually inspect the exposed surrounding structure. Submit a CIR.

3.2.3.1 Blast to remove all paint and corrosion products from each window frame and inspect for damage.

3.2.3.2 Inspect the clearview screen components.

3.2.4 Reassembly and reinstallation. Install new windows and associated controllers, channel gasket, cables, felt, and connectors using Government-furnished material. Renew all junction boxes, sealant compound, and stainless steel hardware as shown on Coast Guard Drawing 905 WMEC 625-003. Reassemble honey comb false panels and metal aluminum frames.

3.3 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 in accordance with TP T9625-AA-MMO-010. Submit a CFR. Demonstrate that all windows operate properly, including heater function.

3.4 Boundary test, water hose. Prior to preservation, the Contractor shall inspect and perform a water hose test of all affected boundaries in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

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

This section is not applicable to this work item.

WORK ITEM 29: Watertight Hatches (External DC Deck and Below), Renew

1. SCOPE

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

TABLE 1 – WATERTIGHT HATCH LOCATIONS

DESCRIPTION	LOCATION	DRAWING
RWTH 1-244-1; 36" x 36" Raised Watertight Hatch, Steel, (Raised 12 inch coaming, 18" RQAWTS (hinge fwd)), including coaming	Fantail	BUSHIPS 805-1624087
RQAWT 01-24-1; 24" x 24" Raised Quick Acting Watertight Hatch; Steel, (Raised 12 inch coaming, (hinge fwd)), including coaming	Forecastle Deck	BUSHIPS 804-1624121

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	36 inch x 36 inch Raised Watertight Hatch , Steel, (Raised 12 inch coaming, (hinge fwd))	N/A	1 ea.	7,749.00
N	24 inch x 24 inch Raised Quick Acting Watertight Hatch (Raised 12 in coaming, (hinge fwd))	N/A	1 ea.	5,880.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 167-001, Rev M, List of Structural Closures

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

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

Military Specification MIL-A-22262B, March 1996, Abrasive Blasting Media Ship Hull Blast Cleaning

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

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).

- Non skid
- Cable ways
- Insulation
- Ammunition in magazine (1-26-0-M)
- Emergency lighting
- Ventilation
- Ducting
- Gun platform

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

- Crop, remove, and dispose of the hatch, including its coaming.
- Install a new GFP hatch assembly in place of the removed.
- 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

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 shall 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 shall prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, refer to Table 2.

CAUTION

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

TABLE 2 – SURFACE PREPARATION AND COATING

	STEEL		ALUMINUM	
	PREPARATION	**COATING**	**PREPARATION**	**COATING**
Top	SSPC-SP10/NACE No. 2, using grit conforming to MIL-A-22262 (1.5 to 2.5 mil anchor profile) -Or- SSPC-SP 11 (1.0 mil anchor profile)	Apply coating system specified for Freeboard/ Superstructure/Mast (Freeboard/Superstructure, Steel), Option I", in Appendix A (Cutter and Boat Exterior Painting Systems) of SFLC Std Spec 6310.	Brush blast to bare metal with clean, fine aluminum oxide, garnet or equivalent inert material conforming to CID A-A-59316, Type I & IV (1.0-1.5 mil anchor profile). -Or- Power tool clean, using non-metallic abrasive padding,	Apply coating system specified for "Freeboard/ Superstructure/Mast (Freeboard/Superstructure, Aluminum), Option I", in Appendix A (Cutter and Boat Exterior Painting Systems) of SFLC Std Spec 6310.

			to remove all coatings and contamination.	
Bottom	SSPC-SP 11 (1.0 mil anchor profile)	Apply coating system specified for "Door, Joiner, Option I" in Appendix B (Cutter and Boat Interior Painting Systems) of SFLC Std Spec 6310.	Power tool clean, using non-metallic abrasive padding, to remove all coatings and contamination.	Apply coating system specified for "Door, Joiner, Option I" in Appendix B (Cutter and Boat Interior Painting Systems) of SFLC Std Spec 6310.

3.2.3 Testing. Upon complete renewal of each structural closure, the Contractor shall 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 shall thoroughly test and demonstrate the equipment listed below to be in satisfactory operating condition. Submit a CFR. The Contractor shall demonstrate:

- 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.

4. NOTES

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

FIGURE 1- ACCEPTABLE GRAB HANDLE

WORK ITEM 30: Helicopter Tie-Down Fittings (Raised), Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to crop and renew the below-listed raised-type helicopter tie-down fitting located on the Flight Deck.

TABLE 1 – HELICOPTER TIE-DOWN FITTING

APPROXIMATE LOCATION	QTY	ADJACENT AFFECTED COMPARTMENT	INTERFERENCES
Frame 200, Stbd	1	Trash Comp. Room and Passageway	HY-130 Metal Deck Insulation Wiring

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	Flush Tie-down Fitting	NSN: 01-592-2269	1 ea.	2,500.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 136-001, Rev E, 01 Level Pl & Fr FWD 101

Coast Guard Drawing 905 WMEC 588-001, Rev F, Helicopter Tie Down Fittings-Arr & Dets

Coast Guard Drawing 905 WMEC 801-004, Rev F, General Arrangement 01 Level

NAVSEA Drawing 803-1916300, Rev N, Aircraft Securing and Engine Run Up

NAVSEA Drawing 804-1213717, Rev H, Vehicle Lashing Sockets

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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 flight deck non-skid deck covering system in addition to, but not limited to, those listed in paragraph 1.1 (Intent).

- Vent ducting
- Insulation
- Cabling
- Lighting
- Bulkhead framing

3.2 Renewal. The Contractor shall crop and renew the designated tie-down fitting listed in paragraph 1.1 (Intent) using Coast Guard Drawings and NAVSEA Drawings listed in Section 2 (References) for guidance:

3.2.1 Crop and dispose of the designated fitting, shown on Coast Guard Drawing 905 WMEC 588-001.

3.2.2 Install new Government-furnished tie down fitting, by welding, in the same locations of the removed fittings, as shown on NAVSEA Drawing 803-191630.

3.3 Welding procedures and welder qualifications. The Contractor shall ensure that the welding procedures and welder qualifications conform to the requirements of SFLC Std Spec 0740. Be aware that material to be welded is mild steel to HY-130 steel.

3.4 Proof-test and NDI. After accomplishing all authorized repairs, and prior to applying any coating, the Contractor shall accomplish the following tasks for the repaired fitting and submit a CFR:

3.4.1 Perform proof-test in accordance with NAVSEA Drawing 803-1916300 or NAVSEA Drawing 804-

1213717, as applicable.

3.4.2 After proof-testing, perform NDI of the fitting-to-deck weld, in accordance with SFLC Std Spec 0740, Appendix C.

3.5 Ultrasonic thickness (UT) measurement. The Contractor shall take a total of 50 UT measurements in accordance with SFLC Std Spec 0740, Appendix C in locations designated by the Coast Guard Inspector and using Coast Guard Drawing 905 WMEC 136-001, as guidance. Submit a CFR.

3.6 Touch-up preservation. The Contractor shall prepare and coat all new and disturbed exterior and interior 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 31: Tanks (Grey Water Holding), Preserve "Partial"

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to prepare and preserve up to 33% of the following tank(s):

TABLE 1 – TANKS

TYPE OF TANK	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Grey Water (Aft)	3-103-0-E	138	50
Grey Water (Fwd)	3-82-0-E	138	50
Seal Water	2-82-0-E	100	50

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-001, Rev C, Vacuum Flush Collection System Electrical Schematic Diagram

Coast Guard Drawing 905 WMEC 593-002, Rev A, Sewage Vacuum System Component Installation Arrangement and Detail

Coast Guard Drawing 905 WMEC 593-003, Rev F, Sewage Transfer System Diagram

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, 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 below-listed:

- Piping.
- Pump(s).

NOTE

This item is written to be used as an "Option" item, in conjunction with the clean and inspect "Definite" item. Requirements for tank opening and closing, content disposal, and inspection are covered in the clean and inspect work item.

3.2 Surface preservation. The Contractor shall, referring to Coast Guard drawings 905 WMEC 593-001, 905 WMEC 593-002, 905 WMEC 593-003, 905 WMEC 593-004, 905 WMEC 593-005, 905 WMEC 593-006 and 905 WMEC 593-007 for guidance, prepare and coat up to 33 % of the interior surfaces of each of the designated tanks, using the system specified for "Tanks and Voids (Grey Water, Sewage, and CHT Tanks), Option I", in SFLC Std Spec 6310, Appendix B (Cutters and Boat Interior Paint Systems). 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. Select finish/top coat color to match existing adjacent surfaces.

3.3 In-process quality control measures. The Contractor shall 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”.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 32: Tanks (Sewage Holding), Preserve "Partial"

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to prepare and preserve up to 33% of the following tank:

TABLE 1 – TANKS

TYPE OF TANK	LOCATION	CAPACITY - 95% (GALLONS)	LOW SUCTION (GALLONS)
Sewage	3-82-0-E	1,500	100

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 593-001, Rev C, Vacuum Flush Collection System Electrical Schematic Diagram

Coast Guard Drawing 905 WMEC 593-002, Rev A, Sewage Vacuum System Component Installation Arrangement and Detail

Coast Guard Drawing 905 WMEC 593-003, Rev F, Sewage Transfer System Diagram

Coast Guard Drawing 905 WMEC 593-004, Rev K, Sewage Transfer System - A&D

Coast Guard Drawing 905 WMEC 593-005, Rev B, Sewage Vacuum System Diagram

Coast Guard Drawing 905 WMEC 593-006, Rev F, Sewage Vacuum System Below Main Deck – A&D

Coast Guard Drawing 905 WMEC 593-007, Rev D, Sewage Vacuum Sys, MN Deck & ABV – A&D

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

None

3. REQUIREMENTS

3.1 General. The Contractor shall refer to Coast Guard drawings 905 WMEC 593-001, 905 WMEC 593-002, 905 WMEC 593-003, 905 WMEC 593-004, 905 WMEC 593-005, 905 WMEC 593-006 and 905 WMEC 593-007 for guidance.

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 below-listed:

- Piping.
- Pump(s).
-

NOTE

Requirements for tank opening and closing, content disposal, and inspection are covered in the clean and inspect item.

3.2 Surface preservation. The Contractor shall prepare and coat the designated tank interior surfaces, using the system specified for "Tanks and Voids (Grey Water, Sewage, and CHT Tanks), Option I", in SFLC Std Spec 6310, Appendix B (Cutters and Boat Interior Paint Systems). 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. Select finish/top coat color to match existing adjacent surfaces.

3.3 In-process quality control measures. The Contractor shall 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”.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 33: Flexible Couplings, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated flexible couplings and associated hoses for the Main Diesel Engines, Ship Service Diesel Generators, and Emergency Diesel Generators.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST ($/UNIT)
N	2 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint	PN: EJ	2 ea.	425.00
N	2 inch Zinc Electric Retaining Ring	PN: 740-00206	4 ea.	9.00
N	2 inch x 8 inch 125# A36 Zinc Plated Control Rod	PN: 720-02008	4 ea.	19.00
N	4 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint	PN: EJ	14 ea.	538.00
N	4 inch 125# A36 Zinc Electric Retaining Ring	PN: 740-00406	28 ea.	15.00
N	4 inch x 8 inch 125# A36 Zinc Plated Control Rod	PN: 720-04008	20 ea.	21.00
N	5 inch ID x 6 inch FF Nitrile Tube and Fire Retardant Neoprene Flexible Expansion Joint with ANSI 150# Drilled Flanges	PN: EJ	4 ea.	571.00
N	5 inch 125# A36 Zinc Electric Retaining Ring	PN:740-00506	8 ea.	17.00
N	5 inch x 8 inch 125# Zinc Plated Control Rod	PN: 720-05008	8 ea.	22.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 201-001, Rev H, Engine Room Arrangement

Coast Guard Drawing 905 WMEC 262-002, Rev E, Lube Oil Service System A&D

Coast Guard Drawing 905 WMEC 262-008, Rev -, Lube Oil System Diagram

Coast Guard Drawing 905 WMEC 256-002, Rev J, Eng Rm SW Cooling Sys A&D

Coast Guard Drawing 905 WMEC 256-011, Rev -, Mn and Aux SW Cooling Sys Diag

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2018, Requirements for Preservation of Ship Structures

OTHER REFERENCES

Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS), SP-58, 2018, Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application and Installation

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 below-listed:

- Deck plates
- Work bench
- Piping

- Engine room machinery

3.2 Removal. The Contractor shall disconnect and remove the flexible connections between the main engine, ship service diesel generator or emergency diesel generator and the connected fluid systems for fuel, oil, lube oil, jacket water and seawater in accordance with the Coast Guard drawings and publications listed in Section 2 (References).

3.3 Alignment between coupling flanges. The Contractor shall inspect each expansion joint piping flanges for axial, lateral, angular, and torsional alignment prior to installing new flexible connections and control rod assemblies, as follows. Submit a CFR.

NOTES

1. Piping misalignment in the system should not exceed a maximum of plus or minus 1/8 inch.

2. Axial alignment measurement should correspond to the expansion joint's face to face dimension otherwise an axial misalignment is indicated.

3. Lateral misalignment is indicated by any variation in the measured dimensions and an inconsistency in the level.

4. Angular misalignment is indicated by any variation in the measured dimensions.

5. Torsional misalignment is indicated by any bolt holes on each flange not lining up to each other.

3.3.1 Axial alignment. Measure from inside of one mating flange to the inside of the other, to include the area in which the expansion joint is to be installed.

3.3.2 Lateral alignment. Place a level on the outside edge of the mating flanges and measure the distance across. Repeat the measurement an additional three times to obtain a total of four measurements evenly distributed around the circumference of the mating flanges.

3.3.3 Angular alignment. Measure from the edge of one mating flange to the same corresponding spot on the opposite flange. Record this value and then repeat the same measurement on the opposite side of the flange (180 degrees from the initial measurement). Repeat these measurements to obtain a total of at least four paired measurements evenly distributed around the circumference of the flanges.

3.3.4 Torsional alignment. Check the flange bolt pattern on each mating flange to ensure the bolt holes on each flange line up to each other.

3.4 Pipe hanger inspection. The Contractor shall inspect the condition of each of the associated pipe hangers and other support devices in the vicinity of the flexible expansion joint being renewed, to ensure they are adequately supporting the weight of the piping systems and in accordance with MSS SP-58. Significant movement of the piping system when the expansion joint is removed indicates the pipe hanger arrangement is insufficient. Submit a CFR.

3.5 Installation. The Contractor shall install government-furnished flexible expansion joints, control rod assemblies, and Integral Tie Rod (ITR) plates after all alignment measurements have been verified to be within tolerance or corrected via a change request authorized by the KO, in accordance with Coast Guard

Drawings and Tech Pubs listed in Section 2 (References). The Contractor shall renew all grade eight fasteners, flat washers, lock washers and nuts.

3.5.1 ITR plate position. The Contractor shall secure the ITR plates in place with the flange bolting. Position the ITR plates as shown below. Install the flange bolt head and flat washer against the ITR plates.

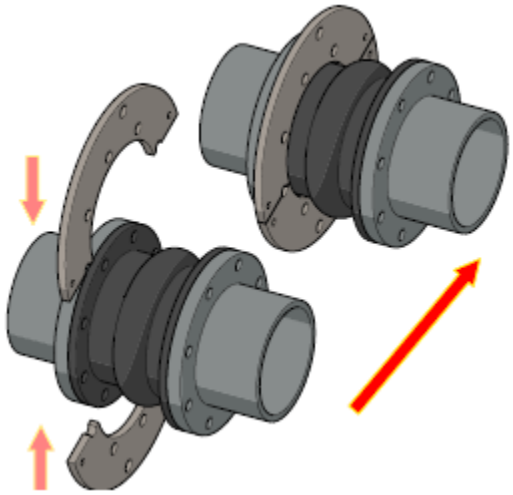

FIGURE 1. ITR PLATE POSITION

WARNING

The control rod assembly shall not be used to correct for flange misalignment.

3.5.2 Control rod assembly adjustment. The Contractor shall ensure the following.

- Control rods are evenly spaced around the joint.
- Inner control rod nuts are adjusted to allow zero joint compression.
- Outer control rod nuts are adjusted to allow approximately 1/8 inch joint expansion.

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 Leak test. After completing all authorized mechanical (i.e. threaded, bolted, etc.) joint repairs, the Contractor shall test the 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.

4. NOTES

This section is not applicable to this work item.

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WORK ITEM 34: Gun Control Booth Electrical Matting and Deck Plating, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew designated deck plating and electrical matting.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 905 WMEC 131-001, Rev D, Main Deck, Plate & Frame, Fwd 101

Coast Guard Drawing 905 WMEC 634-001, Rev D, Deck Covering Schedule

Coast Guard Drawing 905 WMEC 801-005, Rev F, General Arrangement Main Deck

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2018, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2018, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6341 (SFLC Std Spec 6341), 2018, Install Interior Deck Covering Systems

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:

- Chill water piping
- HVAC
- Controllers
- Stuffing Tubes
- Machinery

3.2 Renewal. The contractor shall accomplish the following as designated by the Coast Guard Inspector and using Coast Guard Drawings 905 WMEC 131-001, 905 WMEC 634-001 and 905 WMEC 801-005, as guidance.

3.2.1 The Contractor shall perform all tasks specified in SFLC Std Spec 6341 and herein, to install a new covering system in the location specified in Table 1 below.

TABLE 1 - DECKING SYSTEM PARTICULARS

LOCATION	AREA	DECK MTL	COVE BASE	SYSTEM COLOR	UNDERLAYMENT REQUIREMENT
Gun Control Booth 1-26-1-C	Approx. 900 sq. ft.	Steel	No	See 3.5 Deck covering color	Renew existing underlayment.

NOTE

Insulation underlayment may be used to prevent condensation in certain areas - e.g., above ballast tanks and hot machinery spaces, especially where these decks form the deck tops of living spaces.

3.2.2 The Contractor shall crop and renew up to 10 square feet of steel deck plating in the Gun Control Booth (Compartment 1-26-1-C).

3.3 Visual inspection. Prior to priming deck surfaces, the Contractor shall perform a visual inspection of all exposed deck surfaces. Submit a CFR.

3.4 Ultrasonic thickness (UT) measurement. The Contractor shall take a total of 50 UT measurements in accordance with SFLC Std Spec 0740, Appendix C in locations designated by the Coast Guard Inspector and using Coast Guard Drawing 905 WMEC 131-001 as guidance. Submit a CFR.

3.5 Deck covering color. The Contractor shall submit a deck covering color chart to Coast Guard Inspector for the purpose of color selection.

4. NOTES

This section is not applicable to this work item.