



# USCG STATION BELLINGHAM 45708 (RB-M 45)

SPECIFICATION FOR DRYDOCK REPAIRS

FY2023

Developed By: Lauren M Hughes

(Rev-0, 13 April 2023)

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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.

### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 084-002, Rev -, Docking Plan  
Coast Guard Drawing 45 RB-M 084-005, Rev -, Main Diesel Engine Mounting for 45FT RB-M  
Coast Guard Drawing 45 RB-M 110-001, Rev -, Hull Structure  
Coast Guard Drawing 45 RB-M 110-002, Rev -, Hull Structure Module A  
Coast Guard Drawing 45 RB-M 110-003, Rev -, Hull Structure Module B  
Coast Guard Drawing 45 RB-M 114-001, Rev -, Fendering Arrangement  
Coast Guard Drawing 45 RB-M 170-002, Rev B, Folding Mast  
Coast Guard Drawing 45 RB-M 182-001, Rev -, Propulsion System Foundations  
Coast Guard Drawing 45 RB-M 185-001, Rev A, Auxiliary System Foundations  
Coast Guard Drawing 45 RBM 201-001, Rev B, Main Engine Arrangement  
Coast Guard Drawing 45 RBM 247-002, Rev -, Water Jet Propulsor Arrangement  
Coast Guard Drawing 45 RB-M 252-002, Rev A, Propulsion Control System  
Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion  
Coast Guard Drawing 45 RB-M 256-004, Rev -, Cooling System - Pipe Spools  
Coast Guard Drawing 45 RB-M 256-101, Rev -, Cooling System HVAC  
Coast Guard Drawing 45 RB-M 259-002, Rev -, Exhaust System  
Coast Guard Drawing 45 RB-M 261-001, Rev -, Fuel Supply System Schematic  
Coast Guard Drawing 45 RB-M 261-002, Rev -, Fuel Supply System  
Coast Guard Drawing 45 RB-M 261-004, Rev -, Fuel Supply System Tubes  
Coast Guard Drawing 45 RB-M 261-005, Rev -, Fuel Supply System - Pipe Assemblies  
Coast Guard Drawing 45 RB-M 261-100, Rev -, Fuel Fill and Vent Schematic  
Coast Guard Drawing 45 RB-M 261-101, Rev -, Fuel Fill and Vent Arrangement  
Coast Guard Drawing 45 RB-M 262-002, Rev -, Lube Oil FLOCS System  
Coast Guard Drawing 45 RB-M 311-001, Rev -, APU System Block Schematic  
Coast Guard Drawing 45 RB-M 311-004, Rev -, APU Generator Drive System  
Coast Guard Drawing 45 RB-M 320-001, Rev D, DC Power Distribution System Schematic  
Coast Guard Drawing 45 RB-M 330-002, Rev A, Lighting System Schematic  
Coast Guard Drawing 45 RB-M 406-001, Rev A, Grounding and Bonding Schematic  
Coast Guard Drawing 45 RB-M 423-001, Rev B, Electronic Navigation System Schematic

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Coast Guard Drawing 45 RB-M 439-002, Rev -, C.C.T.V. System  
Coast Guard Drawing 45 RB-M 441-001, Rev F, Radio System Schematic  
Coast Guard Drawing 45 RB-M 505-001, Rev A, Hose and Hose Assemblies  
Coast Guard Drawing 45 RB-M 521-002, Rev -, Fire/Bilge Standpipe  
Coast Guard Drawing 45 RB-M 601-001, Rev D, General Arrangement  
Coast Guard Drawing 45 RB-M 622-002, Rev -, Machinery Space Removable Deck Plate  
Coast Guard Drawing 45 RB-M 625-002, Rev -, Window and Fixed Portlight  
Coast Guard Drawing 45 RB-M 631-001, Rev A, Painting Layout  
Coast Guard Drawing 45 RB-M 633-002, Rev -, Cathodic Protection Sacrificial Anode  
Coast Guard Drawing 45 RB-M 634-002, Rev -, Deck Covering  
Coast Guard Drawing 45 RB-M 635-002, Rev C, Insulation Details  
Coast Guard Drawing FL-85-002, Rev A, GFE Boat Hot Work Diagrams

### **COAST GUARD PUBLICATIONS**

Coast Guard Commandant Instruction (COMDTINST) M10360.3, Jun 2006, Coatings and Colors Manual  
Coast Guard Technical Publication (TP) 4698, SWBS 241, Dec 2013, Marine Transmission Manual  
Coast Guard Technical Publication (TP) 4993, SWBS 634, Oct 2011, Nonskid Pads, Peel and Stick Catalog  
Coast Guard Technical Publication (TP) 5716, SWBS 163, Apr 2014, Seawater Cooling System Duplex Strainer - Model RBM-203976  
Coast Guard Technical Publication (TP) 5718, April 2014, Manufacture's Instruction Book, SWBS 167, Section A, Doors, Hatches and Windows  
Coast Guard Technical Publication (TP) 5737, SWBS 247, Jun 2014, Water Jet – Model FF375S  
Fire Prevention and Response  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, General Requirements  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), Latest Version, General Requirements  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2020, Welding and Allied Processes  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022, Welding and Allied Processes  
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), Latest Version, Welding and Allied Processes  
Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2020, Auxiliary Machine Systems  
Surface Forces Logistics Center Standard Specification 5550 (SFLC Std Spec 5550), Latest Version,  
Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020, Requirements for Preservation of Ship Structures  
Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements for Preservation of Ship Structures

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

Surface Forces Logistics Center Standard Specification 8634 (SFLC Std Spec 8634), 2020, Drydocking

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

### **OTHER REFERENCES**

1), 2015, Solvent Cleaning

2), 2004, Mechanical Tool Cleaning

45 RB-M Water Jet Disassembly / Assembly Procedures

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

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

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2019, Occupational Safety and Health Standards for Shipyard Employment

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

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2013 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, 2013 Edition, Bronze Gate, Globe, Angle and Check Valves

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

Rolls-Royce Kamewa Water Jet Assembly Drawing 376 000 49

Standard Practice for Commercial Packaging, ASTM D-3951, Rev-18, Mar 2018.

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. 1 (SSPC-SP

The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 2 (SSPC-SP

The Society for Protective Coatings (SSPC), 2015 (E 2017), Paint Application Specification No. 2 (PA-2), Procedure for Determining Conformance to Dry Coating Thickness Requirements

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP WJ-2/NACE WJ-2, 2012, Waterjet Cleaning of Metals – Very Thorough Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-WJ-2/NACE WJ-2, 2012 Water Jet Cleaning of Metals-Very Thorough 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.

<b>WORK ITEM</b>	<b>MTI</b>	<b>ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>	<b>ESTIMATED COST (\$/UNIT)</b>
5	N	Repair Kit, Fender	NSN: 2090-01-589-9430 or PN: RBM-SRK	1 ea.	255.00
7	N	Gasket (Manhole Cover)	NSN: 5330-01-134-1986 PN: 3560BN	4 ea.	16.98
9	N	Mount, Vibration Isolator	NSN: 5340-01-645-0607 or PN: RB1-200	8 ea.	6.00
9	N	Mount, Vibration Snubbing Washer	NSN: 5310-01-626-2423 or PN: 148099-1	8 ea.	.90
10	Y	* MDE/ TO GENERATOR ALIGNMENT TOOL	PN: MMRBM0030	1 ea.	
10	Y	* MDE/ TO JET DRIVE ALIGNMENT TOOL	PN: MMRBM0451	1 ea.	
10	Y	* ENGINE LIFTING BAR	PN: MMRBM0956	1 ea.	
11	N	Stainless Steel Ball Joint	NSN: 3040016152117 or PN: 59915K483	10 ea.	12.26
11	N	Stainless Steel Threaded Rod	NSN: 5306016152224 or PN: 93250A140	1 ea.	10.67
11	N	Bearing Bushing	NSN: 3120014555212 or PN: 10106911	4 ea.	9.80
11	N	Bearing Bushing	NSN: 3120580006242 or PN: 36M05101	4 ea.	49.00
11	N	**Socket Head Screw	NSN: 5305016171580 or PN: 91210050	16 ea.	2.71
11	N	**Bolt Kit	NSN: 2815016171688 or PN: 93112085A	2 ea.	15.64
11	N	**Key	NSN: 5315016166360 or PN: 10100824	3 ea.	28.14
11	N	Seal	NSN: 5330580006238 or PN: 10118902	2 ea.	4.35
11	N	Bushing	NSN: 3120580006239 or PN: 10105511	2 ea.	48.19
11	N	Bearing Bushing	NSN: 3120014555272 or PN: 10105111	4 ea.	35.33
11	N	**Bolt Kit	NSN: 2815016171974 or PN: 93112080F	2 ea.	6.13
11	N	**Bolt Kit	NSN: 5340016167191 or PN: 93112065K	12 ea.	13.07
11	N	Bearing Unit	NSN: 3110016166342 or PN: 37506201	2 ea.	614.35
11	N	Bushing	NSN: 3120580006240 or PN: 10106011	4 ea.	47.21
11	N	**Set Screw	NSN: 5305016020672 or PN:	6 ea.	0.58

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			91608012		
11	N	**Bolt Kit	NSN: 5305016173161 or PN: 93112090K	10 ea.	12.56
11	N	O-ring	NSN: 5331580006241 or PN: 10202606	6 ea.	14.56
11	N	**Mechanical Sealing	NSN: 4320580006403 or PN: 10203870	2 ea.	1052.97
11	N	Bolt Kit	NSN: 5306016164058 or PN: 93310030E	6 ea.	1.92
11	N	O-ring	NSN: 5331016020679 or PN: 10202631	2 ea.	4.39
11	N	O-ring	NSN: 5331016020680 or PN: 10202625	4 ea.	15.15
11	N	Sealing	NSN: 5365016233174 or PN: 41018801	2 ea.	8.87
11	N	O-ring	NSN: 5331016200368 or PN: 10202611	2 ea.	5.21
11	N	Seal Lip	NSN: 4730016204613 or PN: 10202590	4 ea.	39.47
11	N	Sealing	NSN: 5330016163186 or PN: 45002010	2 ea.	535.93
11	N	**Lock Nut	NSN: 5310016162982 or PN: 10202908	2 ea.	16.63
11	N	Lock Washer	NSN: 5310016232756 or PN: 10203008	2 ea.	2.34
11	N	**Ring Nut	NSN: 5310016164016 or PN: 10202912	2 ea.	32.60
11	N	Seal	NSN: 5330016243735 or PN: 10202540R	6 ea.	19.68
11	N	**Screw	NSN: 5305016162955 or PN: 93305025	8 ea.	0.28
11	N	**Washer	NSN: 5310016162966 or PN: 912505	8 ea.	0.06
11	N	Gasket	NSN: 5330016232867 or PN: 37527805	2 ea.	63.43
11	N	Bushing	NSN: 5365016202680 or PN: 10108416	8 ea.	15.91
11	N	**Bolt Kit	NSN: 5305016242899 or PN: 93110060A	4 ea.	12.91
11	N	**Bolt Kit	NSN: 5305016242922 or PN: 99110040G	14 ea.	6.60
11	N	Bushing	NSN: 3120014555268 or PN: 10106902	8 ea.	7.90
11	N	Gasket	NSN: 5330016163014 or PN: 10108901	2 ea.	5.65
11	N	**Bolt Kit	NSN: 5305016231019 or PN: 93110090A	4 ea.	5.05
11	N	Lock Washer	NSN: 5310016232699 or PN: 10203012	2 ea.	5.62

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11	N	O-ring	NSN: 5331016242120 or PN: 10202603	2 ea.	3.89
11	N	**Screw, Countersunk	NSN: 5305016309734 or PN: 99106016	8 ea.	5.65
11	N	Seal/Gasket	NSN: 1040016337691 or PN: 45011611	2 ea.	57.64
11	N	Woodruff Key	NSN: 5315016172999 or PN: 10100823	2 ea.	19.09
11	N	Washer, Sealing	NSN: 5310016452084 or PN: 8755000050	24 ea.	0.06
11	N	Screw, Connection	NSN: 5305016476396 or PN: 91212045L	8 ea.	6.45
11	N	Manifold, Hydraulic System ACC	NSN: 4730016166236 or PN: 110604-593	1 ea.	7,402.00
12	N	Anode, Inspection Hatch (Port & Stbd)	NSN: 5342580003759 or PN: 10108231	2 ea.	46.63
12	N	Transom Anode	NSN: 5342016020658 or PN: 10108230	4 ea.	52.76
12	N	Tunnel Anode	NSN: 5342016020668 or PN: 10108220	4 ea.	26.88
12	N	Impeller Housing/Bucket/Interceptor Anode	NSN: 5342226078672 or PN: 10107701	10 ea.	24.94
12	N	Guide Vane Chamber Anode	NSN: 5342016020669 or PN: 37517411	2 ea.	44.43
12	N	Anode, Anode Hatch	NSN: 5342251465439 or PN: 10108210	2 ea.	28.20
12	N	Screw Connection	NSN: 5305016022100 or PN: 93310025H	4 ea.	2.52
12	N	Screw Connection	NSN: 5305016275854 or PN: 93308025H	14 ea.	1.30
12	N	Screw Connection	NSN:5305016022105 or PN: 91206020E	8 ea.	0.49
12	N	Screw Connection	NSN: 5340016243271 or PN: 93308025E	8 ea.	1.00
12	N	O-ring	NSN: 5331016020670 or PN: 10202639	2 ea.	6.60
12	N	Screw Connection	NSN: 5305016240905 or PN: 93310016E	8 ea.	1.58
12	N	Screw Connection	NSN: 5306016309800 or PN: 93312030E	2 ea.	2.42
12	N	Screw Connection	NSN: 5305016204602 or PN: 91212025E	8 ea.	1.93
12	N	O-ring	NSN: 5331226078691 or PN: 10202626	2 ea.	9.26
12	N	Tube Extension	NSN: 4730016210708 or PN: 37610802	2 ea.	148.88
12	N	Tube Clamp	NSN: 4730016200951 or PN: 10217881	2 ea.	20.05

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12	N	Screw Connection	NSN: 5305016022101 or PN: 93310030H	2 ea.	2.08
12	N	Connecting Cable	NSN: 6145016203663 or PN: 10234301	4 ea.	21.23
12	N	Screw Connection	NSN: 5305016176732 or PN: 93306016E	8 ea.	0.44
12	N	Anode, Corrosion	NSN: 5340015899440 or PN: 51125	2 ea.	32.56
12	N	Anode, Corrosion	NSN: 5340015899425 or PN: 89287	2 ea.	12.34
13	Y	*Strainer, Sediment - (Miller Leaman Strainer 3.0 Raw Water Duplex)	NSN:4730-01-599-8545 PN: ML20750	2 ea.	29,662.70
13	N	*Coupling, Flexible	NSN:4730-01-645-9479 PN: PS00617-S	4 ea.	113.76
14	N	Mount, Vibration Isolator	NSN: 5340-01-645-0607 or PN: RB1-200	4 ea.	6.00
14	N	Mount, Vibration Snubbing Washer	NSN: 5310-01-626-2423 or PN: 148099-1	4 ea.	.90
14	N	Gasket (Exhaust Flange Outlet)	NSN: 5330-01-303-5437 or PN: 23501147	2 ea.	9.61
14	N	Muffler, Exhaust	NSN: 2990-01-599-6353 or PN: 1601961	1 ea.	1,565.00
16	N	Parts Kit, Hose Assembly	NSN: 4720-01-679-1782	1 ea.	\$16,071.00
19	N	Raw Water Sys De-Icing Valve, Ball, 1-inch NPT 316 SS	NSN: 4820-01-600-0385 or PN: V210FP-16	2 ea.	34.92
19	N	AC Supply/Discharge Ball Valve, Ball 3/4-inch NPT 316 SS	NSN: 4820-01-600-0389 or PN: V210FP-12	3 ea.	26.44
19	N	AC Overboard Check Valve High-Flow SS Check Valve 3/4-inch NPT Female	NSN: 4820-01-599-7249 or PN: 46635K65	1 ea.	60.83
21	N	Window, Marine	NSN: 2040-01-612-5014 or PN: P0001309-014	1 ea.	3,361.91
25	N	Non-Skid 45 FT RBM Whole Kit Contents of kit include box 1 through box 8. (Round and square hatches not included)	NSN: 7220-01-615-5012	1 ea.	5,295.43
25	N	Non-Skid 45 FT RBM - Round and Square Hatches - (Not included in main kit)	NSN: 2040-01-633-4911	1 ea.	123.94

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

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

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

**CONSOLIDATED LIST OF CRITICAL INSPECTION ITEMS**

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

Work Item	Title
2	Ultrasonic Testing (UT) (100) Shots, Perform
4	Fendering System, Inspect
6	Accessible Spaces, Inspect
10	Main Diesel Engine(s) To MEPS Generator(s) And Jet Drive(s), Align
11	Water Jet-Inspect, Perform Service
14	Engine Exhaust Piping, Inspect
22	Fender Faying Surfaces, Preserve, 100 percent
23	Water Jet Drive, Preserve
24	U/W Body, Preserve (100%)
31	Lazarette Bilge, Preserve

**PRINCIPAL CHARACTERISTICS**

<b>45' RB-M</b>	
<b>PHYSICAL</b>	
Length overall	44 feet, 10.5 inches
Unfixed height	20 feet 9 inches
Beam, maximum	14 feet, 7.75 inches
Full load draft	3 feet, 4 inches
Full load displacement	36,500 pounds
Max sustained speed	42.5 knots
Range	250 nautical miles at 30 knots
Mission limits	8-foot seas / 30 knot winds
Survivability limits	12-foot seas / 50 knot winds
<b>HULL</b>	
Hull manufacturer	Marinette Marine Corp.
5086	(GRADE) Aluminum
Hin-	2009
<b>MACHINERY</b>	
Type	6, cylinder diesel engine
Number of units	2, MTU's 60 series 825 hp
Propulsion type	2, Rolls-royce water-jet
<b>TANKS</b>	

## General Requirements

### 1. SCOPE

1.1 Intent. This standard specification invokes general requirements for conducting boat repairs performed at a commercial contractor's facility for Coast Guard vessels.

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

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

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

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

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

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

#### OTHER REFERENCES

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

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

### 3. REQUIREMENTS

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

3.1.1 NAVSEA drawings listed will be available FOR INSPECTION ONLY from the Coast Guard Port Engineer post-award. SFLC will not redistribute NAVSEA documents. Contractors can apply to NAVSEA headquarters directly for copies.

3.2 Contractor-provided fire watch personnel. The Contractor must provide fire watch personnel and equipment.

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

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

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

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

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

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

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

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

3.4.1 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).

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

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

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

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

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

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

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

3.5.5 HW disposal. Contractor must comply with SFLC Std Spec 0000 Appendix A, Requirements For Environmental Protection At Contractor Operated (Non USCG) Facilities for HW disposal.

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

3.6.1 Coast Guard turn-over preparation. The Contractor must be aware that, upon arrival, after haul-out, and prior

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to departing the Contractor's facility, the Coast Guard crew must be allowed to accomplish various tasks in preparation for the turn-over of the boat to the Contractor. The following conditions apply to this paragraph:

3.6.1.1 The Coast Guard requires a maximum of three days at the beginning of the contract, and three days at the end to accomplish various tasks.

3.6.1.2 The Contractor may commence/continue work during these time frames.

3.6.1.3 Coast Guard personnel will remove the transducers after initial haul-out and reinstall prior to re-floating the vessel.

3.6.1.4 The Unit will contact the servicing ESD or ESU to setup removal/installation of the transducer if Unit personnel are unable to accomplish this task.

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

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

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

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

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

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

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be cut back 3 inches beyond the toe of the access cut, except that the cut back shall not intersect or cross an existing weld, frame, or structural member. In which case, the cut back may be reduced to a minimum of two inches in length.

- Existing welds crossed by the cut shall not be cut back.

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

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

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

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

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

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

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

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

**NOTE**

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

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

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

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

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

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

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

"3.2.3.2 Materials used for suspending temporary services. Temporary services shall be suspended at regular intervals, to prevent impeding personnel access/egress and emergency response, using a high temperature line that meets the non-combustibility test requirements contained in reference (e). When using steel wire rope, or other potentially abrasive material, an anti-chafing material

USCG 45708 (RB-M-45) DRYDOCK AVAILABILITY FY2023 shall be used to prevent damage of the temporary service line. When available, temporary service lines may be run through the ship's structural elements (i.e., cable ways, light stanchions, etc.). When the routing of temporary services overhead is not practicable, temporary services, rigging of hoses, welding leads, and temporary lights shall be clear of the decks on temporary "trees" or brackets and be arranged to minimize tripping and other hazards."

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

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

#### 3.7.4 SFLC Standard Specification 6310.

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

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

**NOTE**

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

## 4. NOTES

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

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

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

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
NAME OF CG REPRESENTATIVE	SIGNATURE	UNIT	DATE/TIME



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

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

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

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

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

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

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

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

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

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

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



USCG 45708 (RB-M-45) DRYDOCK AVAILABILITY FY2023  
 QA-5 - QUALITY ASSURANCE DATA FORM  
 (COATING THICKNESS)

(Use one sheet for each sequence)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

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

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

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

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

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

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

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

4.2 Tank and Void Assessment form.

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

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

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

Additional Comments:

## WORK ITEM 1: General Welding, Provide

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide general welding.

**TABLE 1 – WELDING**

ITEM DESCRIPTION	LOCATION	APPROXIMATE SQFT.
Perform Clad Welding	Lazarette - Bilge	42 Square Inches
Perform Clad Welding / Plate Crop and Renew	Lazarette - Aft/Outboard Corners under Port/Starboard Strainers	6 Square Feet
Perform Clad Welding	Forward Peak – Beneath Bilge Pump	8 Square Inches
Crop and Renew	Pilot House Deck – Beneath A/C and Perimeter	10 Square Inches
Perform Clad Welding	Auxiliary Space – Beneath Bilge Pumps	10 Square Inches
Perform Clad Welding	Survivor Compartment – Beneath Bilge Pump	5 Square Inches
Perform Clad Welding	Engine Room – Bilge (at discretion of COR)	42 Square Inches
Crop and Renew	AFT RD Bar	1 Square Foot

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing FL-85-002, Rev A, GFE Boat Hot Work Diagrams

#### COAST GUARD PUBLICATIONS

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

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

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

3.2 Requirement. The Contractor shall provide general welding, including but not limited to, fabrication, brazing, inspection, plate renewal, crack repair, overlay, and associated processes on Coast Guard vessels and equipment in accordance with Coast Guard Drawing FL-85-002 and SFLC Std Spec 0740.

3.3 Bidding. The Contractor shall ensure for bidding purposes this specification will be broke down by the following:

- One linear foot of welding/brazing.
- Four square inches of clad/overlay welding.
- One hour of fabrication.
- One square foot of plate renewal.

**TABLE 1 – PLATE TYPE**

STEEL PLATE			ALUMINUM PLATE		
THICKNESS	WEIGHT PER SQFT.	TYPE/GRADE	THICKNESS	WEIGHT PER SQFT	TYPE/ALLOY
3/16 (.1875)	7.66 lb				
1/4 (.250)	10.21 lb		1/4 (.250)	3.53 lb	
5/16 (.3125)	12.76 lb		5/16 (.3125)	4.41 lb	
3/8 (.375)	15.31 lb		3/8 (.375)	5.29 lb	
1/2 (.500)	20.42 lb		1/2 (.500)	7.06 lb	

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

### 4. NOTES

This section is not applicable to this work item.

## **WORK ITEM 2: Ultrasonic Testing (UT) (100) Shots, Perform**

### **1. Scope**

1.1 Intent. This work item describes the requirements for the Contractor to take 100 UT shots.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

None

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022,  
Welding and Allied Processes

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

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

- 3.3 Reporting

3.1.2 Tech Rep.

None.

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

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

3.2 UT measurement. The Contractor must perform a total of 100 UT measurements in accordance with SFLC Std Spec 0000 and SFLC Std Spec 0740.

3.2.1 Standard measurements. The Contractor must take 70 standard thickness measurements for the designated locations numbered 1 thru 70 between the boot top and keel, (Refer to Figure 1 and Figure 2).

3.2.1.1 The Contractor must record each measured metal thickness in the Standard Underwater (U/W) Body Test Results Report, (Refer to Table 1 and Table 2).

3.2.1.2 The Contractor must calculate each percent loss.

3.2.1.3 The Contractor must record each percent loss in the Standard U/W Body Test Results Report.

3.2.2 Additional measurements. The Contractor must take 30 additional thickness measurements at locations designated by the Coast Guard inspector and numbered 1A through 30A between the boot top and keel, (Refer to Figure 1 and Figure 2).

3.2.2.1 The Contractor must record each measured metal thickness in the Additional U/W Body Test Results Report, (Refer to Table 3).

3.2.2.2 The Contractor must calculate each percent loss.

3.2.2.3 The Contractor must record each percent loss in the Additional U/W Body Test Results Report.

3.2.3 Minimum thickness. The Contractor must record the minimum thickness found for each designated hull section. (A, B, and C) in the Underwater Hull Body Minimum Thickness Test Results Report, (Refer to Table 4).

3.3 Reporting. The Contractor must submit a CIR to include a marked up drawing of Figure 1 and 2 and the completed tables.

## 4. NOTES

4.1 Coast Guard Personnel. The Coast Guard inspector will witness all readings.

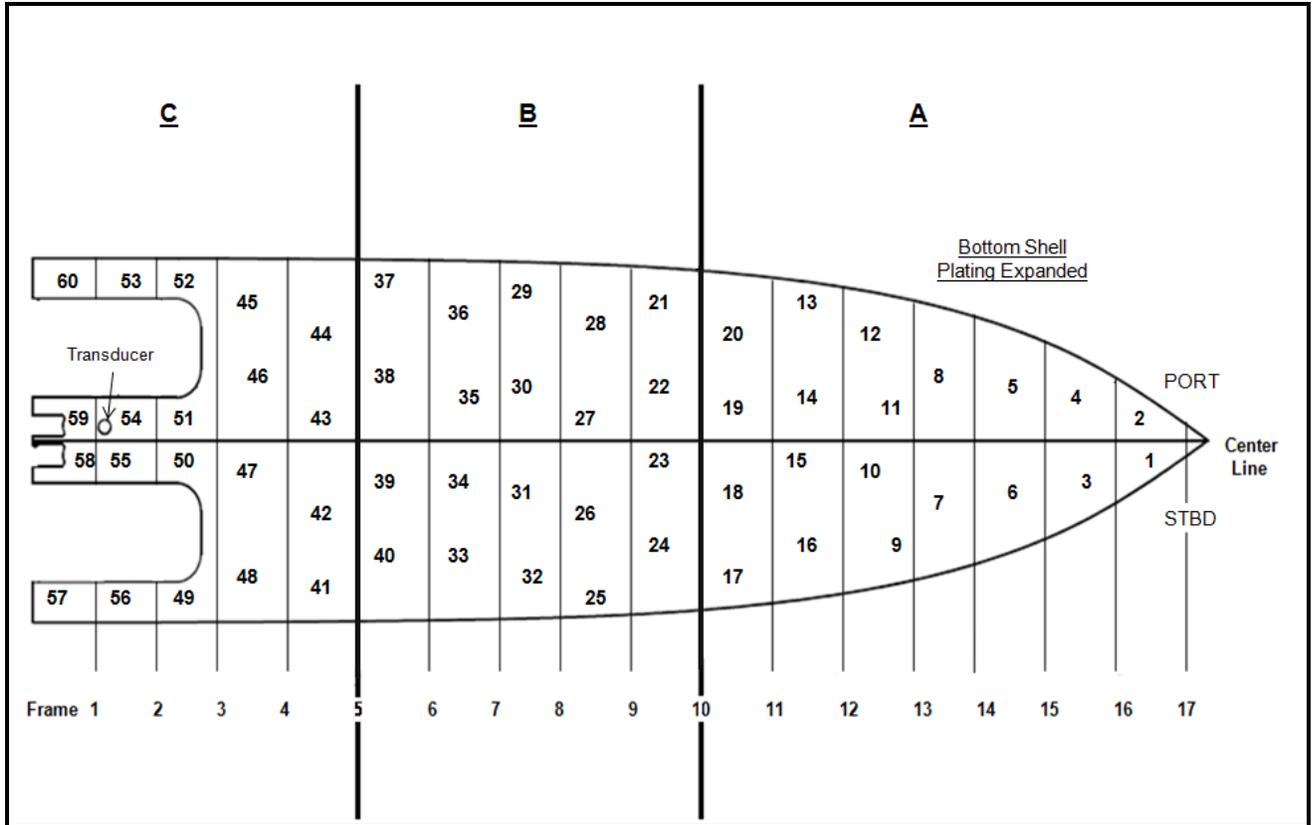


FIGURE 1. BOTTOM SHELL PLATING EXPANDED

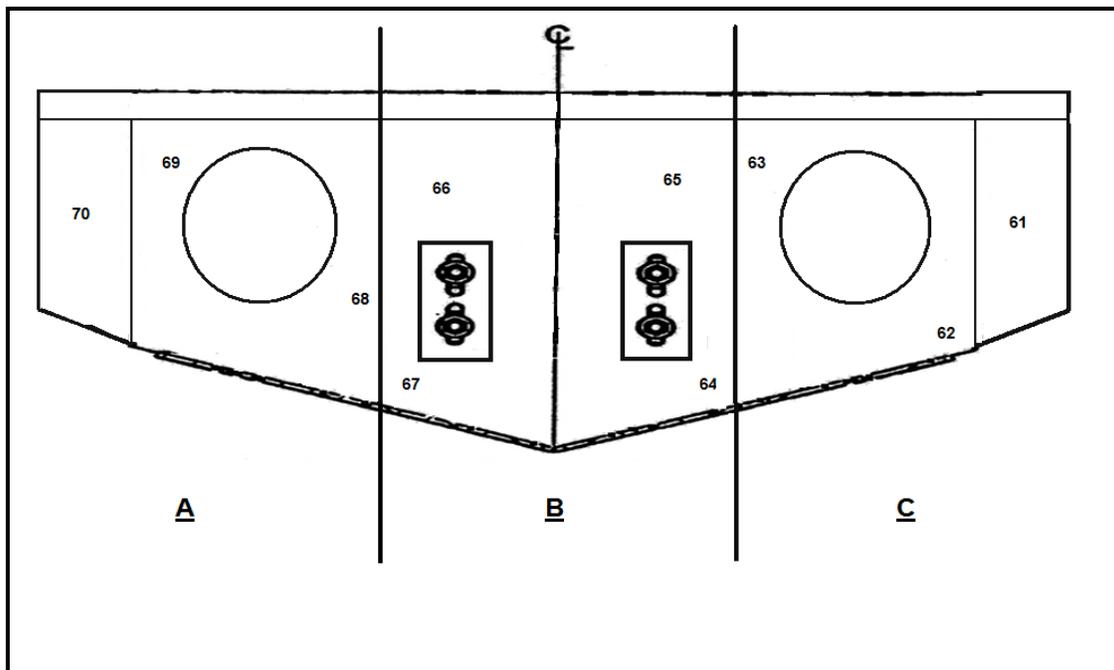


FIGURE 2. STERN SECTION SHELL PLATING

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**TABLE 1 - STANDARD U/W BODY TEST RESULTS REPORT**

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

\*CALCULATING PERCENT LOSS = 100- (UT READING / DESIGN THICKNESS X 100)

LOCATION AREA	DESIGN THICKNESS	MINIMUM ALLOWED THICKNESS	UT READING	*PERCENT LOSS	LOCATION AREA	DESIGN THICKNESS	MINIMUM ALLOWED THICKNESS	UT READING	*PERCENT LOSS
<b>SHELL PLATING STBD SIDE SECTION "A"</b>					<b>SHELL PLATING PORT SIDE SECTION "A"</b>				
1	.250	.187			2	.250	.187		
3	.250	.187			4	.250	.187		
6	.250	.187			5	.250	.187		
7	.250	.187			8	.250	.187		
9	.250	.187			11	.250	.187		
10	.250	.187			12	.250	.187		
15	.250	.187			13	.250	.187		
16	.250	.187			14	.250	.187		
17	.250	.187			19	.250	.187		
18	.250	.187			20	.250	.187		
<b>SHELL PLATING STBD SIDE SECTION "B"</b>					<b>SHELL PLATING PORT SIDE SECTION "B"</b>				
23	.250	.187			21	.250	.187		
24	.250	.187			22	.250	.187		
25	.250	.187			27	.250	.187		
26	.250	.187			28	.250	.187		
31	.250	.187			29	.250	.187		
32	.250	.187			30	.250	.187		
33	.250	.187			35	.250	.187		
34	.250	.187			36	.250	.187		
39	.250	.187			37	.250	.187		
40	.250	.187			38	.250	.187		
<b>SHELL PLATING STBD SIDE SECTION "C"</b>					<b>SHELL PLATING PORT SIDE SECTION "C"</b>				
41	.250	.187			43	.250	.187		
42	.250	.187			44	.250	.187		
47	.250	.187			45	.250	.187		
48	.250	.187			46	.250	.187		
49	.250	.187			51	.250	.187		
50	.250	.187			52	.250	.187		
55	.250	.187			53	.250	.187		
56	.250	.187			54	.250	.187		
57	.250	.187			59	.250	.187		
58	.250	.187			60	.250	.187		

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**TABLE 2 - STANDARD U/W BODY TEST RESULTS REPORT (STERN)**

**DATE:** \_\_\_\_\_

**\*CALCULATING PERCENT LOSS = 100- (UT READING / DESIGN THICKNESS X 100)**

LOCATION AREA	DESIGN THICKNESS	MINIMUM ALLOWABLE THICKNESS	UT READINGS	*PERCENT LOSS
<b>STERN SECTION "C"</b>				
61	.250	.187		
62	.250	.187		
63	.250	.187		
<b>STERN SECTION "B"</b>				
64	.250	.187		
65	.250	.187		
66	.250	.187		
67	.250	.187		
<b>STERN SECTION "A"</b>				
68	.250	.187		
69	.250	.187		
70	.250	.187		

**TABLE 3 - ADDITIONAL U/W BODY TEST RESULTS REPORT**

**DATE:** \_\_\_\_\_

**\*CALCULATING PERCENT LOSS = 100- (UT READING / DESIGN THICKNESS X 100)**

LOCATION AREA	DESIGN THICKNESS	MINIMUM ALLOWED THICKNESS	UT READING	*PERCENT LOSS
<b>PORT SIDE AREAS "A, B, C"</b>				
1A	.250	.187		
2A	.250	.187		
3A	.250	.187		
4A	.250	.187		
5A	.250	.187		
6A	.250	.187		
7A	.250	.187		
8A	.250	.187		
9A	.250	.187		
10A	.250	.187		
11A	.250	.187		
12A	.250	.187		
<b>STARBOARD SIDE AREAS "A, B, C"</b>				
13A	.250	.187		
14A	.250	.187		
15A	.250	.187		
16A	.250	.187		
17A	.250	.187		
19A	.250	.187		
20A	.250	.187		
21A	.250	.187		
22A	.250	.187		
23A	.250	.187		
24A	.250	.187		
<b>STERN AREAS "A, B, C"</b>				
25A	.250	.187		
26A	.250	.187		
27A	.250	.187		
28A	.250	.187		
29A	.250	.187		
30A	.250	.187		

**TABLE 4 - UNDERWATER HULL BODY MINIMUM THICKNESS TEST RESULTS REPORT**  
**DATE: \_\_\_\_\_**

LOCATIONS	MIN. THICKNESS FOUND			DESIGN THICKNESS	MINIMUM ALLOWED THICKNESS AT 25% LOSS	MINIMUM ALLOWED THICKNESS AT 50% LOSS
	(A)	(B)	(C)			
Port Hull: Boot Top to Keel				.250	.187	.125
STBD Hull: Boot Top to Keel				.250	.187	.125
Stern Hull: Boot Top to Keel				.250	.187	.125

Comments:

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## **WORK ITEM 3: Hull Plating (U/W Body), Inspect**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect/survey the vessel's Under Water (U/W) hull plating, including U/W appendages and coating system.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 45 RB-M 084-002, Rev -, Docking Plan  
Coast Guard Drawing 45 RB-M 110-001, Rev -, Hull Structure  
Coast Guard Drawing 45 RB-M 631-001, Rev A, Painting Layout

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
General Requirements

#### **OTHER REFERENCES**

ASTM International (ASTM) D4138, Rev A, 2007 (R 2017), Standard Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means  
The Society for Protective Coatings (SSPC), 2015 (E 2017), Paint Application Specification No. 2 (PA-2), Procedure for Determining Conformance to Dry Coating Thickness Requirements

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

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None.

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

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

3.2 Inspection. The Contractor must accompany the Underwater Hull Inspection Board (UWHIB) in the performance of the below inspection tasks, as applicable, using Coast Guard Drawings 45 RB-M 084-002, 45 RB-M 110-001, 45 RB-M 631-001, and SFLC Std Spec 0000 as guidance. The Contractor must provide the following, to facilitate the UWHIB in assessing the condition of the designated U/W hull components and systems:

- A hull repair supervisor and a marker.
- Temporary staging and other necessary equipment, as applicable, for ensuring safe access to all areas of the U/W hull.

### NOTES

**1. The COR will convene the UWHIB as soon as possible after the vessel has been dry-docked and before any work (except U/W hull cleaning/wash down) is performed on the U/W hull and appendages.**

**2. Some of the components and/or systems addressed in this work item may not be applicable to all vessel classes.**

3.2.1 Hull plating.

3.2.1.1 The Contractor must inspect the condition of the hull plating (including thruster tunnel plating, as applicable), for the presence of marine growth, deformation, and any evidence of major corrosion or electrolytic action.

3.2.1.2 The Contractor must inspect the hull and keel areas, report on the condition of butt-welded seams, doubler plates, lap seams, and for any signs of damaged plating or unusual waviness in the plating.

3.2.2 Sea chests and all other cooling system intake components. The Contractor must inspect all sea chests, tunnels, hull openings, and grates for general appearance, loose, damaged, or missing grates, loose or missing fasteners, condition of sea strainers and lockwire on bolts, marine growth on grating slots, and any obstructions in the openings that might prevent proper suction and discharge of water.

3.2.3 Water jet drive. The Contractor must inspect the water jet drive assembly for signs of corrosion, pitting, erosion, fouling, cracks, dings, and nicks. Inspect all linkages for any missing fasteners, physical damage, pitting, or other conditions effecting usage.

3.2.4 Transducers. The Contractor must check general condition of the transducers for cuts, cracks, corrosion, and surface defects around the openings. Check transducer securing nuts for tightness and inspect cables for chafing and other damage.

3.2.6 Zinc anodes.

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3.2.6.1 The Contractor must remove all marine growth and oxide coating from all hull, rudder, shaft strut, welds, water jet drives, and sea chest anodes, as applicable, using a light-wire brush.

3.2.6.2 The Contractor must visually inspect all zinc anodes; check the soundness of mounting strap and stud welds, missing fasteners, and percentage of remaining material.

3.2.7 Coating system inspections. The Contractor must accomplish the below inspections, in conjunction with the underwater hull inspection conducted by the Underwater Hull Inspection Board (UWHIB). Document the condition found as “Partial - Condition A”, “Partial - Condition B”, “Partial Condition C”, or “100%”, as applicable (see 4.1 (Definitions)). Submit a CFR.

### NOTE

**The following inspections are for determining the existing condition of the coating system for the underwater body surfaces, which are deemed “Critical-coated” surfaces; they must be carried out by a SSPC-QP-1 certified contractor/sub-Contractor or a NACE Inspector – see SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for “critical-coated surfaces”).**

3.2.7.1 The Contractor must perform a visual inspection of the existing U/W body coating system.

3.2.7.2 The Contractor must take total dry film thickness (DFT) measurements of the U/W body coating system, in accordance with SSPC-PA 2. Ensure that film thickness measurement is taken with a suitable eddy current gauge, for non-ferrous metal substrate.

## 4. NOTES

4.1 Definitions.

4.1.1 “Partial – Condition A”: The condition that exists where the substrate is exposed in up to 33% of the entire U/W body.

4.1.2 “Partial - Condition B”: The condition that exists where the anticorrosive (AC) undercoating system has incurred damage, but the u/w body hull substrate is not exposed in any location.

4.1.3 “Partial - Condition C”: The condition that exists where damage is confined to the antifoulant (AF) topcoat; the epoxy undercoating system is not exposed in any location.

4.1.4 “100%”: The condition that exists where more than 33% of the U/W body hull substrate is exposed.

4.2 UWHIB convention. The COR will convene the UWHIB as soon as possible after the vessel has been dry-docked and before any work (except U/W hull cleaning/wash down) is performed on the U/W hull and appendages.

## WORK ITEM 4: Fendering System, Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect the entire fendering system.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 110-003, Rev -, Hull Structure Module B

Coast Guard Drawing 45 RB-M 114-001, Rev -, Fendering Arrangement

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022,  
Welding and Allied Processes

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

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

- 3.3 (Inspection)

3.1.2 Tech Rep.

None.

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

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

3.2 Removal. The Contractor must remove the entire fendering system by accomplishing the following using the Coast Guard Drawings 45 RB-M 110-003, 45 RB-M 114-001, SFLC Std Spec 0000, and SFLC Std Spec 0740.

3.3 Inspection. Clean and visually inspect each section of the rub rail, flat bar, shell plating and coating system in way of the removed fendering sections and mounting hardware. Visually inspect each capture fastener for damage including but not limited to pitting, corrosion, gouging, fading, cracks, deformation, and coating system (if applicable), etc. Submit a CIR.

3.4 Government-furnished property. The Contractor must be aware that the government reserves the right to provide new fender sections when a benefit to the US Coast Guard can be obtained.

3.5 Installation. The Contractor must install the fendering system with new contractor furnished nylock nuts and nylon washers.

### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 5: Fendering System, Repair

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to repair the fendering system as listed in Table 1 below.

**TABLE 1- FENDER REPAIR LOCATION**

LOCATION	TYPE OF DAMAGE	SIZE
STBD #6		12 Square Inches
STBD #8		12 Square Inches
STBD #10		12 Square Inches
STBD #12		12 Square Inches
At COR Discretion		24 Square Inches

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Repair Kit, Fender	NSN: 2090-01-589-9430 or PN: RBM-SRK	1 ea.	255.00

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 114-001, Rev -, Fendering Arrangement

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements

#### OTHER REFERENCES

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

3.2 Repair. The Contractor must repair the fender sections listed in Table 1 in accordance with the manufacturer's instructions contained in the repair kit, Coast Guard Drawing 45 RB-M 114-001 and SFLC Std Spec 0000.

3.3 Government-furnished property. The Contractor must be aware that the government reserves the right to provide new fender sections when a benefit to the US Coast Guard can be obtained.

### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 6: Accessible Spaces, Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect accessible spaces.

**TABLE 1 - SPACES**

ITEM DESCRIPTION	SPACE
Inspect Accessible Space	Forepeak Compartment
Inspect Accessible Space	Survivor's Compartment
Inspect Accessible Space	Aux Machinery Compartment
Inspect Accessible Space	Engine Room
Inspect Accessible Space	Lazarette
Inspect Accessible Space	Pilothouse

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 601-001, Rev D, General Arrangement

#### COAST GUARD PUBLICATIONS

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

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

3.2 (Inspect)

3.1.2 Tech Rep.

Not applicable.

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

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

3.2 Inspect. The Contractor must inspect all accessible spaces and weather decks in accordance with Coast Guard Drawing 45 RB-M 601-001, Rev D, General Arrangement and SFLC Std Spec 0000. Submit a CIR.

3.2.1 The Contractor must inspect for, but not limited to, the following:

- Corrosion
- Failed paint
- Cracks, holes or anything that could compromise watertight integrity
- Broken or missing fixtures (i.e., hold-back hooks, door stops, dogging handles, etc.)
- Non-tight cableways or pipe penetrations
- Anything that may adversely affect the overall material condition of the boat

#### **4. NOTES**

4.1 Related work items. Mast Inspect, Tow Reel Inspect, Interior Hull Insulation Inspect, Various Piping Inspect.

## WORK ITEM 7: Diesel Fuel Tank, Clean and Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to clean and inspect the vessel diesel fuel tank.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN / PN	QTY	ESTIMATED COST (\$/UNIT)
N	Gasket (Manhole Cover)	NSN: 5330-01-134-1986 PN: 3560BN	4 ea.	16.98

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 110-002, Rev -, Hull Structure Module A  
 Coast Guard Drawing 45 RB-M 261-002, Rev -, Fuel Supply System  
 Coast Guard Drawing 45 RB-M 261-101, Rev -, Fuel Fill and Vent Arrangement

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements  
 Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

- Fuel
- Piping
- Tank access cover

3.1.4.1 The Contractor must remove tank contents. Document a complete chain of custody record of the removed tank contents from the vessel to the point of destination or delivery. Submit document to the COR upon completion of work.

3.1.4.2 Dispose of removed fluids in accordance with all applicable Federal, state, and local regulations (see 4.2 (Tank content restoration)).

**NOTE**

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

**NOTE**

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

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

- TLI

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

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

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

3.4 Cleaning requirements. In accordance with Coast Guard Drawings 45 RB-M 110-002, 45 RB-M 261-002, 45 RB-M 261-101 and SFLC Std Spec 0000, the Contractor must remove tank cover(s) and clean tank interior surfaces free of all foreign materials, such as sediment or sludge, taking care not to damage the coating system (if applicable). Remove cleaning media and residues continuously during the washing process. Remove any residual wash media; and wipe up residual moisture with clean lint-free cloths.

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

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- Flange gaskets (FLOCS, 2 Supply and 2 Return)
- Tank structural condition
- Inaccessible areas
- Condition of tank coating if applicable
- Tank level indicator (TLI) and/or float switch condition, as applicable
- Sounding/vent tube and striker plate condition
- Suction and discharge piping condition
- Fastener material and condition

3.6 Reporting. The Contractor must submit a CFR.

3.7 Tank closing. The Contractor must ensure that the tank remain open for approximately 24 hours after completion of all authorized repair and preservation procedures. Notify the COR at least 24 hours prior to closing the tank. After satisfactory inspection by the Coast Guard Inspector and completion of all authorized repairs, close tank manhole cover(s), with new gasket from Government Furnished Property Table listed above.

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

### NOTE

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

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

## 4. NOTES

4.1 Related work items. Diesel Fuel, Renew

## **WORK ITEM 8: Mast, Inspect**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to remove, inspect and install the mast.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 45 RB-M 170-002, Rev B, Folding Mast

Coast Guard Drawing 45 RB-M 330-002, Rev A, Lighting System Schematic

Coast Guard Drawing 45 RB-M 406-001, Rev A, Grounding and Bonding Schematic

Coast Guard Drawing 45 RB-M 423-001, Rev B, Electronic Navigation System Schematic

Coast Guard Drawing 45 RB-M 439-002, Rev -, C.C.T.V. System

Coast Guard Drawing 45 RB-M 441-001, Rev F, Radio System Schematic

#### **COAST GUARD PUBLICATIONS**

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
General Requirements

#### **OTHER REFERENCES**

None

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

**NOTE**

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

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

3.3 Removal. The Contractor must remove the mast in accordance with Coast Guard Drawings 45 RB-M 170-002, 45 RB-M 330-002, 45 RB-M 406-001, 45 RB-M 423-001, 45 RB-M 439-002, 45 RB-M 441-001 and SFLC Std Spec 0000.

3.4 Inspection. The Contractor must conduct the following inspections and submit a CFR for each inspection listed.

3.4.1 Mast. The Contractor must inspect all horizontal and vertical mast structures for cracking and corrosion.

3.4.2 Mast components. The Contractor must inspect the following mast mounted component's mounting hardware, for cracks and corrosion:

- Flir camera
- AIS GPS antenna
- LVIS crew comms antenna
- Blue L.E. light
- Searchlight
- Stern light
- Anchor lights
- Lower stern light (yellow)
- Lower forward white light
- Upper forward white light

3.4.3 The Contractor must inspect the condition of the bonding straps and fasteners.

3.4.4 The Contractor must inspect the mast base to the pilot house mounting hardware.

3.4.5 The Contractor must inspect the mast gas cylinder and mounting hardware.

3.5 Installation. The Contractor must install the mast in accordance with Coast Guard Drawings 45 RB-M 170-002, 45 RB-M 330-002, 45 RB-M 406-001, 45 RB-M 423-001, 45 RB-M 439-002, 45 RB-M 441-001 and SFLC Std Spec 0000.

**NOTE**

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

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

**4. NOTES**

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

## WORK ITEM 9: Main Diesel Engine(s) and Reduction Gear(s), Remove and Install

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to remove and install the selected Main Diesel Engine(s) and Reduction Gear(s) selected in Table 1.

**TABLE 1 - MAIN DIESEL ENGINE AND REDUCTION GEAR**

SELECT	ENGINE AND REDUCTION GEAR
XX	Port Main Diesel Engine and Reduction Gear
XX	Starboard Main Diesel Engine and Reduction Gear

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Mount, Vibration Isolator	NSN: 5340-01-645-0607 or PN: RB1-200	8 ea.	6.00
N	Mount, Vibration Snubbing Washer	NSN: 5310-01-626-2423 or PN: 148099-1	8 ea.	.90

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 084-005, Rev -, Main Diesel Engine Mounting for 45FT RB-M  
 Coast Guard Drawing 45 RB-M 201-001, Rev B, Main Engine Arrangement  
 Coast Guard Drawing 45 RB-M 247-002, Rev -, Water Jet Propulsor Arrangement  
 Coast Guard Drawing 45 RB-M 252-002, Rev A, Propulsion Control System  
 Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion  
 Coast Guard Drawing 45 RB-M 259-002, Rev -, Exhaust System  
 Coast Guard Drawing 45 RB-M 261-002, Rev -, Fuel Supply System  
 Coast Guard Drawing 45 RB-M 262-002, Rev -, Lube Oil FLOCS System  
 Coast Guard Drawing 45 RB-M 311-004, Rev -, APU Generator Drive System  
 Coast Guard Drawing 45 RB-M 622-002, Rev -, Machinery Space Removable Deck Plate

### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 4698, SWBS 241, Dec 2013, Marine Transmission Manual

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022, Welding and Allied Processes

### OTHER REFERENCES

None

## 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

#### CAUTION

**The insulation currently installed in the 45 RB-M engine room and engine room ventilation supply ducts are made up of two layers of fiberglass with a thin layer of lead sheathing in the middle. Lead is a recognized health hazard. Lead may adversely affect the peripheral and central nervous systems, as well as the red blood cells, kidneys, reproductive and endocrine systems.**

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

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

- Port and Starboard engine hatches
- Cardan Shaft
- Hoses and piping
- Electrical cables
- Generator Drive Shaft

#### NOTE

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

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

3.3 Removal. The Contractor must remove the engine(s) and reduction gear(s) listed in Table 1 in accordance with Coast Guard Drawings 45 RB-M 247-002, 45 RB-M 201-001, 45 RB-M 247-002, 45 RB-M 252-002, 45 RB-M 256-002, 45 RB-M 259-002, 45 RB-M 261-002, 45 RB-M 262-002, 45 RB-M 311-004, 45 RB-M 622-002, TP 4698, SFLC Std Spec 0000, and SFLC Std Spec 0740.

3.4 Installation. The Contractor must install the engine(s) and reduction gear(s) listed in Table 1 in accordance with Coast Guard Drawings 45 RB-M 247-002, 45 RB-M 201-001, 45 RB-M 247-002, 45 RB-M 252-002, 45 RB-M 256-002, 45 RB-M 259-002, 45 RB-M 261-002, 45 RB-M 262-002, 45 RB-M 311-004, 45 RB-M 622-002, TP 4698, SFLC Std Spec 0000, and SFLC Std Spec 0740.

3.4.1 The Contractor must fill all fluid levels to the appropriate level with Contractor furnished fluids.

- Engine oil sump max capacity 10.75 gallons. Delvac 1300 Super 15W40.
- Reduction gear sump max capacity 2.8 gallons. Delvac 1300 Super 15W40.
- Engine cooling system capacity 15 gallons. Powercool Universal 50/50 premix G48 (Blue), P/N: 800071.

### NOTE

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

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

## 4. NOTES

4.1 Equipment operation. Coast Guard personnel will operate all vessel machinery and equipment.

4.2 Related work items. Main Diesel Engine, Align; Main Diesel Engine to MEPS Generator, Align; Main Diesel Engine to Jet Drive, Align and MDE Crankshaft and Oil Pan Seals/Gaskets, Renew (if applicable).

## WORK ITEM 10: Main Diesel Engine(s) To MEPS Generator(s) And Jet Drive(s), Align

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to align the designated Main Diesel Engine(s) (MDE) and Reduction Gear(s) selected in Table 1, to the MEPS Generator(s) and Jet Drive(s).

**TABLE 1 - MAIN DIESEL ENGINE AND REDUCTION GEAR**

SELECT	ENGINE AND REDUCTION
XX	Port Main Diesel Engine and Reduction Gear
XX	Starboard Main Diesel Engine and Reduction Gear

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
Y	* MDE/ TO GENERATOR ALIGNMENT TOOL	PN: MMRBM0030	1 ea.	
Y	* MDE/ TO JET DRIVE ALIGNMENT TOOL	PN: MMRBM0451	1 ea.	
Y	* ENGINE LIFTING BAR	PN: MMRBM0956	1 ea.	

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

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RBM 201-001, Rev B, Main Engine Arrangement  
 Coast Guard Drawing 45 RBM 247-002, Rev -, Water Jet Propulsor Arrangement  
 Coast Guard Drawing 45 RBM 311-004, Rev -, APU Generator Drive System

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
 General Requirements

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

#### 3.1 General.

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

- 3.3.1 MDE/ MEPS Generator Preliminary Alignment Check
- 3.3.2 MDE to Jet Drive Preliminary Alignment Check
- 3.3.3 Engine Mounts

#### 3.1.2 Tech Rep.

None.

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

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

- Primary Fuel Filter Assembly
- Marine Interface Module

**NOTE**

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

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

**CAUTION**

**The Coast Guard crew will complete Red Danger Tags IAW COMDTINST 9077.1 (series) and attach them to the following:**

**Circuit Breaker CB2, ENGINE PRIMARY, Power Panel 24 VDC ENGINE BUS 24P2, "OFF".**

**Circuit Breaker CB1, ENGINE SECONDARY, Power Panel 24 VDC VITAL BUS 24P1, "OFF".**

**Affected MDE Propulsion Raw Water Suction Valve, Lazarette, "CLOSED".**

**Affected MDE Propulsion Raw Water De-Icing Valve, Lazarette, "CLOSED".**

**Affected MDE Fuel Shutoff Valve, Engine Room, "CLOSED".**

**Affected MDE Secondary Fuel Filter Shutoff Valve, Engine Room, "CLOSED".**

3.3 Preliminary alignment checks. The Contractor must conduct preliminary alignment checks on the Main Diesel Engine(s) (MDE) to the MEPS Generator(s) and the MDE(s) to Jet Drive(s) selected in Table 1, in accordance with Coast Guard Drawings 45 RBM 201-001, 45 RBM 247-002, 45 RBM 311-004 and SFLC Std Spec 0000.

3.3.1 MDE to generator preliminary alignment check. The Contractor must conduct a preliminary alignment check. Submit A CIR.

3.3.1.1 Remove the generator drive shaft.

3.3.1.2 Remove the three roll pins from the Overhung Load Adapter (OHLA) shaft flange, (Refer to Figure 1).

3.3.1.3 Install the MDE to generator alignment tool, (Refer to Figure 2).

- Align the generator alignment tool flange (Item 1) to the OHLA shaft (Item 2) and install.
- Slide the alignment sleeve (Item 4) onto the generator alignment pin.
- Align the MDE alignment tool flange (Item 5) to the MDE adapter (Item 6).

3.3.1.4 Check the MDE to generator alignment, (Refer to Figure 3).

**CAUTION**

**Do not force the alignment sleeve when checking MDE-to-Generator alignment. Forcing the alignment sleeve will cause the alignment sleeve to bind, damaging the surfaces of the alignment sleeve and the alignment sleeve pins.**

- Slide the alignment sleeve (Item 1) towards the MDE adapter (Item 2).
- Verify the alignment sleeve slides to the MDE alignment pin mark (Item 3) using finger force.
- Slide the alignment sleeve towards the OHLA shaft (Item 4).

**NOTE**

**Alignment is satisfactory if the alignment sleeve slides to each alignment pin mark using finger force.**

**Alignment is unsatisfactory if the alignment sleeve does not slide to each alignment pin mark using finger force.**

- Verify the alignment sleeve slides to the generator alignment pin mark (Item 5) using finger force.

3.3.1.5 If alignment is unsatisfactory measure the offset distance between the two alignment pins, (Refer to Figure 4).

3.3.2 MDE to jet drive preliminary alignment check. The Contractor must conduct a preliminary alignment check. Submit A CIR.

3.3.2.1 Remove the cardan shaft.

3.3.2.2 Install the MDE to jet drive alignment tool, (Refer to Figure 5).

- Align the MDE alignment tool flange (Item 1) to the reduction gear output flange (Item 2) and install.
- Slide the alignment sleeve (Item 4) onto the MDE alignment pin (Item 5).
- Align the jet drive alignment tool flange (Item 6) to the jet drive input flange (Item 7).

3.3.2.3 Check the MDE to jet drive alignment, (Refer to Figure 6).

**CAUTION**

**Do not force the alignment sleeve when checking MDE-to-Jet drive alignment. Forcing the alignment sleeve will cause the alignment sleeve to bind, damaging the surfaces of the alignment sleeve and the alignment sleeve pins.**

- Slide the alignment sleeve (Item 1) towards the MDE adapter (Item 2).
- Verify the alignment sleeve slides to the MDE alignment pin mark (Item 3) using finger force.
- Slide the alignment sleeve towards the jet drive shaft (Item 4).

**NOTE**

**Alignment is satisfactory if the alignment sleeve slides to each alignment pin mark using finger force.**

**Alignment is unsatisfactory if the alignment sleeve does not slide to each alignment pin mark using finger force.**

- Verify the alignment sleeve slides to the jet drive alignment pin mark (Item 5) using finger force.

3.3.2.4 If alignment is unsatisfactory measure the offset distance between the two alignment pins, (Refer to Figure 4).

3.3.2.5 Measure the distance between the reduction gear output flange (Item 1) and the jet drive input flange (Item 2), (Refer to Figure 7). Distance is satisfactory if it is 16 inches +/- 3/32 inch.

3.3.3 Engine mounts inspect. The Contractor must inspect the MDE(s) mounts. Submit A CIR.

3.4 Alignment. The Contractor must align the MDE, (Refer to Figure 8).

- Use the offset measured from the MDE-Generator alignment check to determine direction of adjustment.
- Remove the nuts (Item 1) that secure the MDE (Item 2) to the aft MDE mounts (Item 3).
- Loosen the lower jam nut (Item 4) on the MDE mounts.
- Clean the threads of the nuts and the MDE mount using alcohol to remove any residual sealant or anti-seize.
- Lever the MDE in the direction needed to correct misalignment, ensuring to prevent damaging any hoses or accessories.
- It may be necessary to install the Engine Lift Tool, P/N: MMRBM0956, to adjust the MDE alignment.
- Measure distance between reduction gear output flange and jet-drive input flange.
- Distance is satisfactory if it is 16 inches +/- 3/32 inch.
- Check MDE-Generator Alignment.
- If satisfactory, apply anti-seize compound, to the threads (Item 5) of the MDE Mounts.
- Install and tighten two forward mount top lock nuts without applying torque specification to secure position.

3.4.1 The Contractor must recheck MDE-Jet Drive Alignment.

3.4.2 The Contractor must if satisfactory, apply anti-seize compound, P/N: 37230, to the threads (Item 5) of the MDE Mounts. (Item 2)

- Install and tighten two aft mount top lock nuts without applying torque specification to secure position.
- Repeat steps for MDE/Jet Drive Alignment until correct alignment is obtained.
- Tighten the nuts to 430 ft-lbs. to secure the MDE to the MDE Mount using a torque wrench, P/N: A-A-2411, Torque Multiplier, P/N: J6202A, and Socket, 1-7/16 inch Deep, 3/4-inch drive, P/N: 07523L, while holding the upper jam nut (Item 6) stationary with a Wrench, Check Nut, 38mm, P/N: JKEM38.
- Set the torque wrench to 131 ft-lbs. to yield a torque multiplier output of 430 ft-lbs.
- Apply sealing compound, P/N: 242, to the threads (7) of the MDE Mount.
- Tighten the lower jam nut against the upper jam nut using Wrench, Check Nut, 38mm, P/N: JKEM38, while holding the upper jam nut stationary with a second Wrench, Check Nut, 38mm, P/N: JKEM38.
- Tap bottom wrench once firmly with hammer in the tightening direction to ensure secure fit.

3.4.3 The Contractor must confirm the MDE to Jet Drive alignment is satisfactory and that the MDE to Generator alignment is satisfactory. Submit a CFR.

3.5 Remove the MDE-Jet Drive alignment tool. The Contractor must remove the alignment tool as follows:

- Remove the four bolts (Item 8) that secure the jet-drive alignment tool flange (Item 6) to the jet-drive input flange (Item 7), (Refer to Figure 1).
- Remove the jet-drive alignment tool flange from the jet-drive input flange.
- Remove the alignment sleeve (Item 4) from the MDE alignment pin (Item 5).
- Remove the four bolts (Item 3) that secure the MDE alignment tool flange (Item 1) to the reduction gear output flange (Item 2).
- Remove the MDE alignment tool flange from the reduction gear output flange.

3.5.1 Install the cardan shaft.

3.5.1.1 The Contractor must renew port and starboard cardan shaft lock washers forward and aft sides each, 22mm (12 total) and 16mm (16 total) Grade 8 hardened lock washers.

3.6 Remove the MDE-Generator alignment tool. The Contractor must remove the alignment tool as follows:

- Remove the three shoulder bolts (Item 7) that secure the MDE alignment tool flange (Item 5) to the MDE adapter (Item 6).
- Remove the MDE alignment tool flange from the MDE adapter.
- Remove the alignment sleeve (Item 4) from the generator alignment tool (Item 1).
- Remove the three bolts (Item 3) that secure the generator alignment tool flange to the OHLA shaft (Item 2).
- Remove the generator alignment tool flange from the OHLA shaft.

- Renew all three roll pins (Item 1) to the OHLA shaft flange (Item 2), (Refer to Figure 1).

3.6.1 Install the generator drive shaft.

**CAUTION**

**The Coast Guard crew will remove Red Danger Tags IAW COMDTINST 9077.1 (series) from the following and place in the normal operational position:**

**Circuit Breaker CB2, ENGINE PRIMARY, Power Panel 24 VDC ENGINE BUS 24P2.**

**Circuit Breaker CB1, ENGINE SECONDARY, Power Panel 24 VDC VITAL BUS 24P1.**

**Affected MDE Propulsion Raw Water Suction Valve, Lazarette.**

**Affected MDE Propulsion Raw Water De-Icing Valve, Lazarette.**

**Affected MDE Fuel Shutoff Valve, Engine Room.**

**Affected MDE Secondary Fuel Filter Shutoff Valve, Engine Room.**

**NOTE**

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

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

## 4. NOTES

4.1 Related work items. Main Diesel Engine Mount Washers, Replace.

4.2 Tag-out. The Coast Guard crew will complete Red Danger Tags IAW COMDTINST 9077.1 (series) and attach them to the following:

- Circuit Breaker CB2, ENGINE PRIMARY, Power Panel 24 VDC ENGINE BUS 24P2, “OFF”.
- Circuit Breaker CB1, ENGINE SECONDARY, Power Panel 24 VDC VITAL BUS 24P1, “OFF”.
- Affected MDE Propulsion Raw Water Suction Valve, Lazarette, “CLOSED”.
- Affected MDE Propulsion Raw Water De-Icing Valve, Lazarette, “CLOSED”. Affected MDE Fuel Shutoff Valve, Engine Room, “CLOSED”.
- Affected MDE Secondary Fuel Filter Shutoff Valve, Engine Room, "CLOSED".

4.3 Remove Tag-out. The Coast Guard crew will remove Red Danger Tags IAW COMDTINST 9077.1 (series) from the following and place in the normal operational position:

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- Circuit Breaker CB2, ENGINE PRIMARY, Power Panel 24 VDC ENGINE BUS 24P2.
- Circuit Breaker CB1, ENGINE SECONDARY, Power Panel 24 VDC VITAL BUS 24P1.
- Affected MDE Propulsion Raw Water Suction Valve, Lazarette.
- Affected MDE Propulsion Raw Water De-Icing Valve, Lazarette.
- Affected MDE Fuel Shutoff Valve, Engine Room.
- Affected MDE Secondary Fuel Filter Shutoff Valve, Engine Room.

4.4 Coast Guard Personnel. Coast Guard Personnel will operate all vessel equipment and machinery.

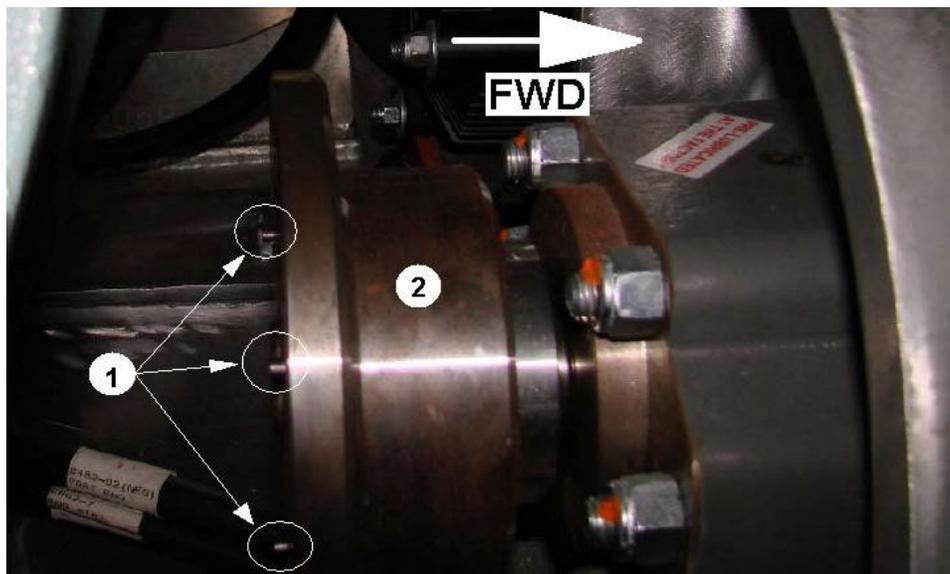


FIGURE 1. OHLA SHAFT FLANGE ROLL PINS

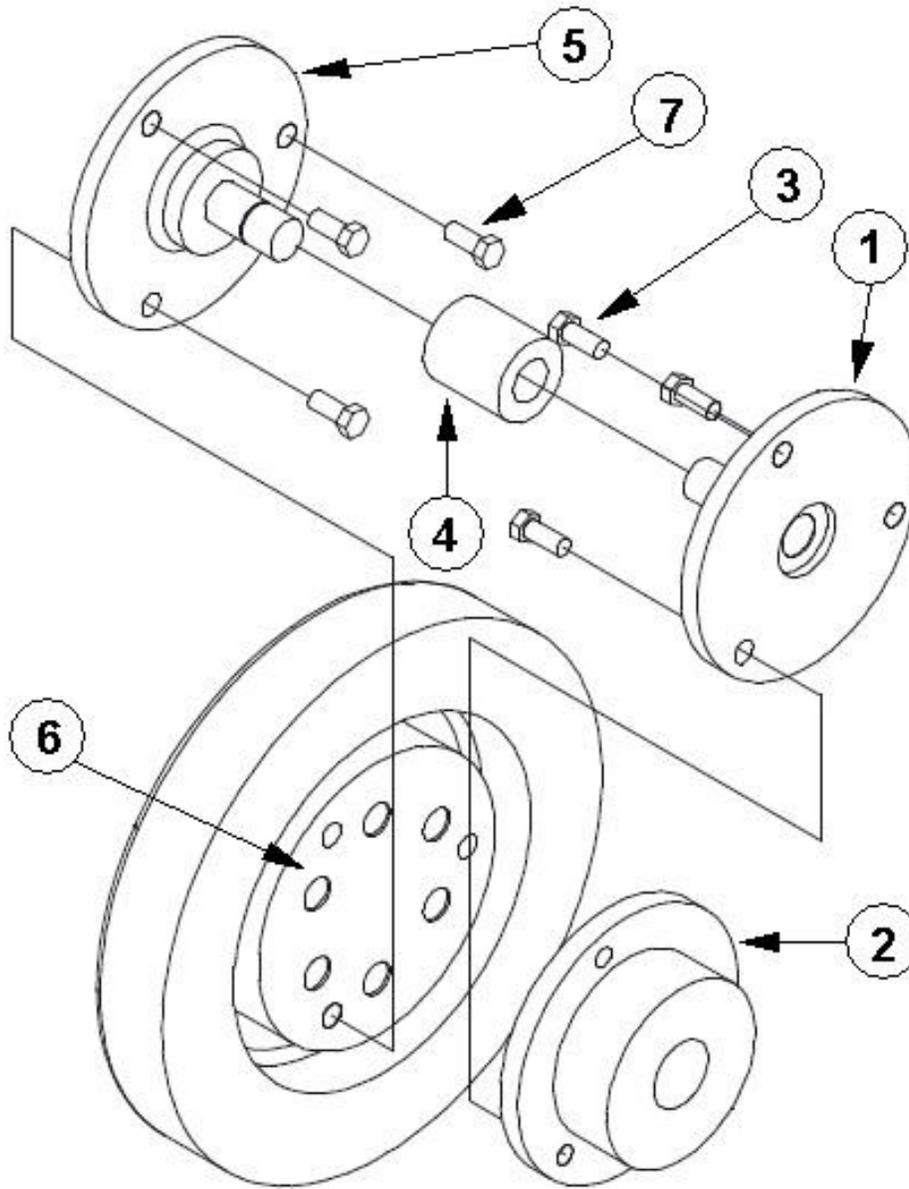


FIGURE 2. GENERATOR ALIGNMENT TOOL

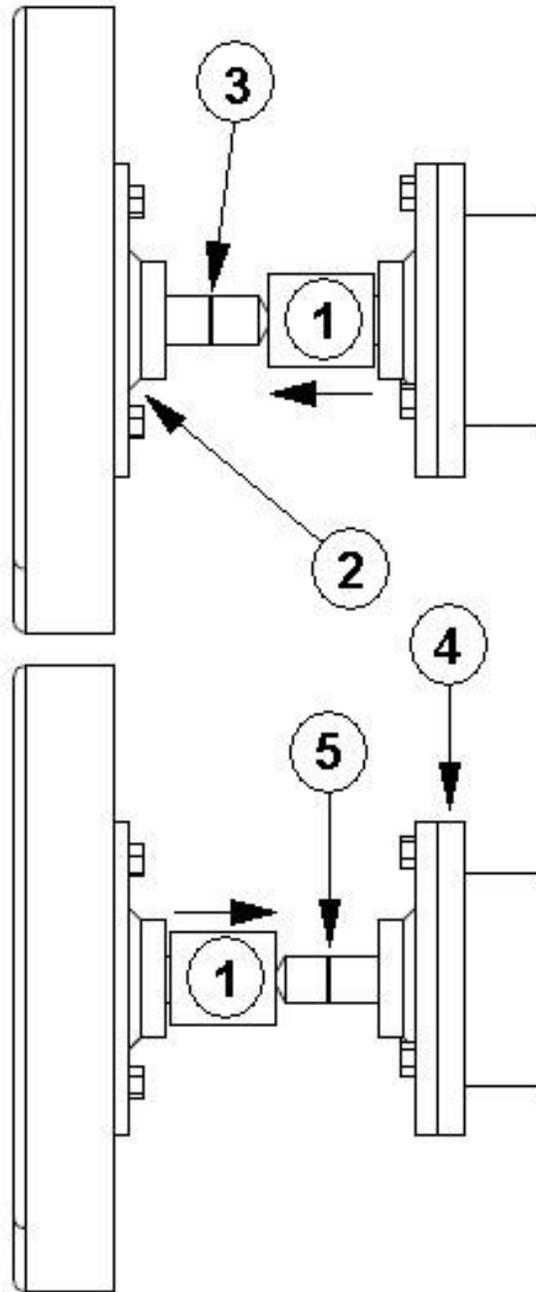
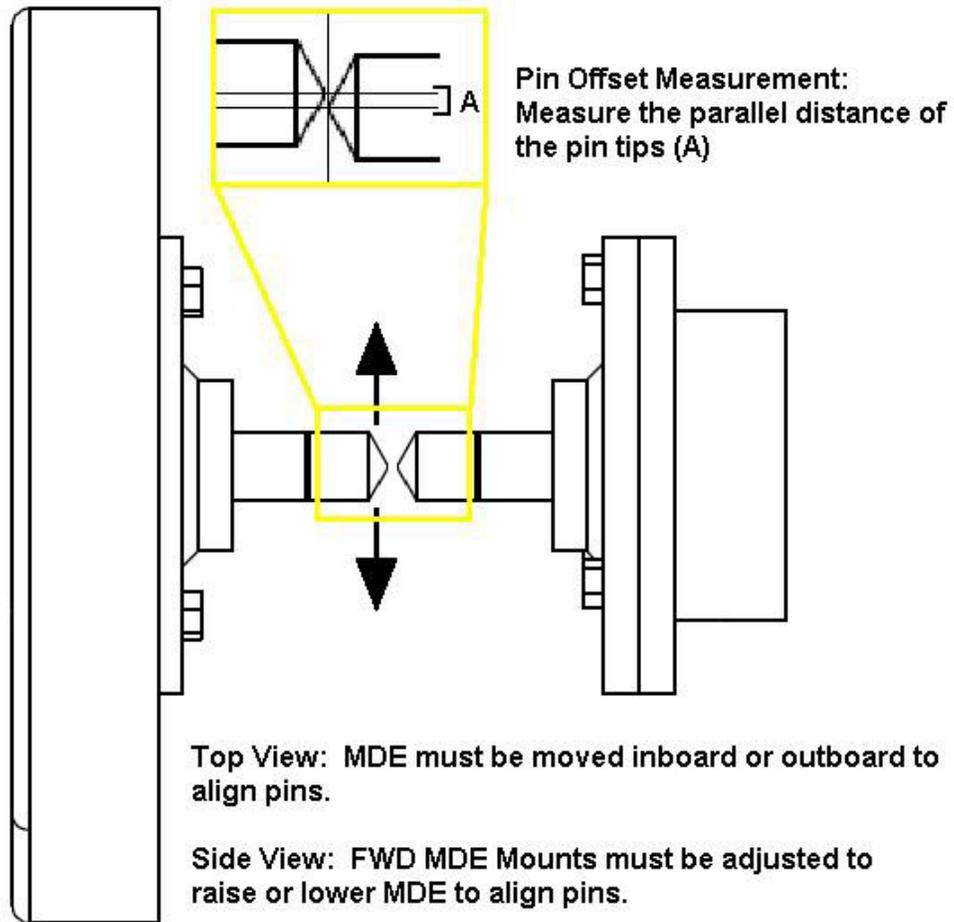


FIGURE 3. MDE - GENERATOR ALIGNMENT CHECK



**FIGURE 4. MDE – GENERATOR AND JET DRIVE ALIGNMENT PIN OFFSET MEASUREMENT**

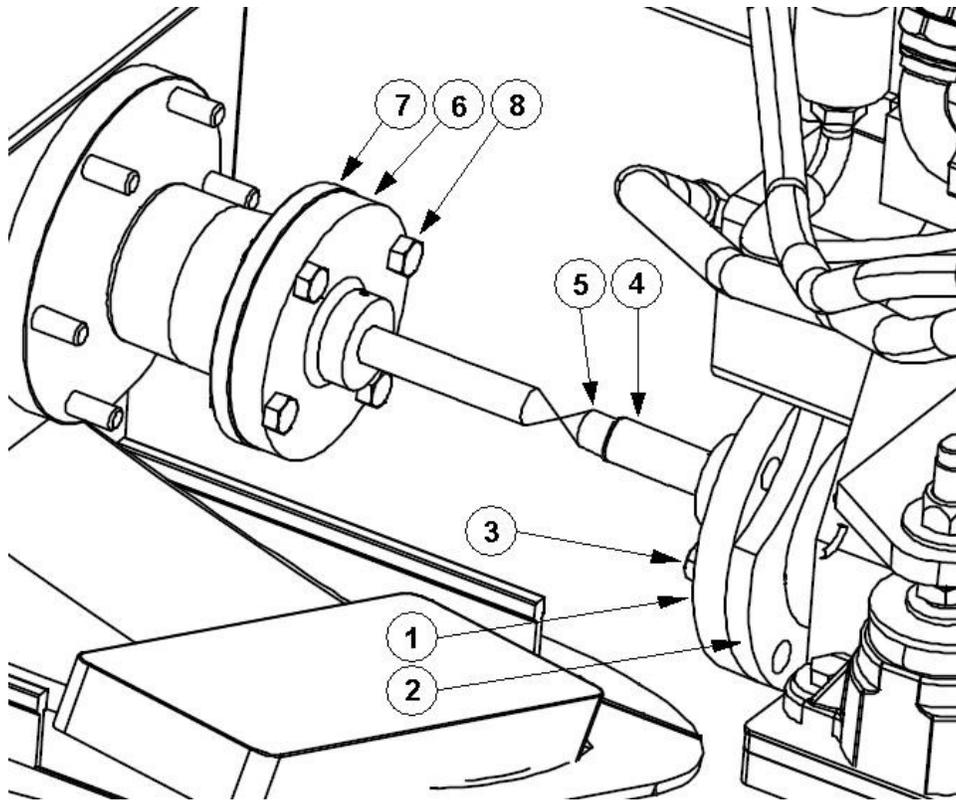
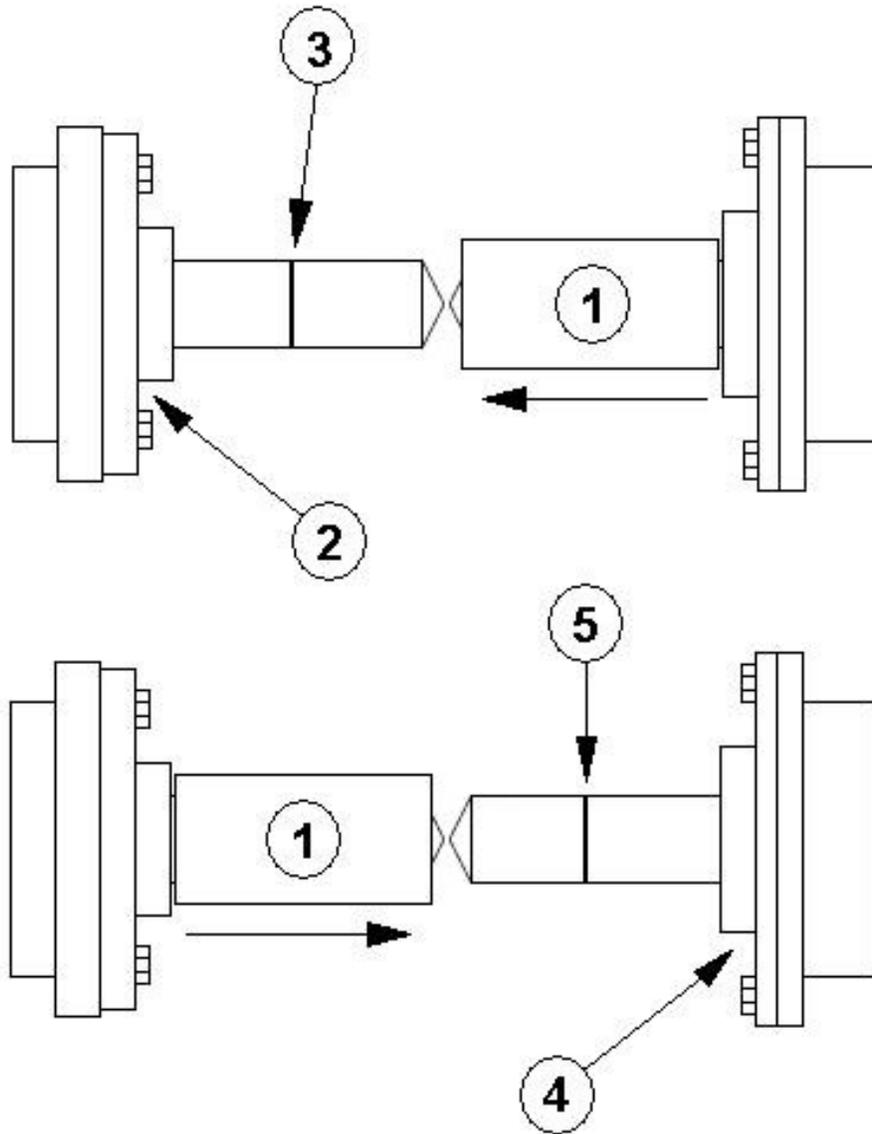


FIGURE 5. MDE - JET DRIVE ALIGNMENT TOOL



**FIGURE 6. MDE - JET DRIVE ALIGNMENT CHECK**

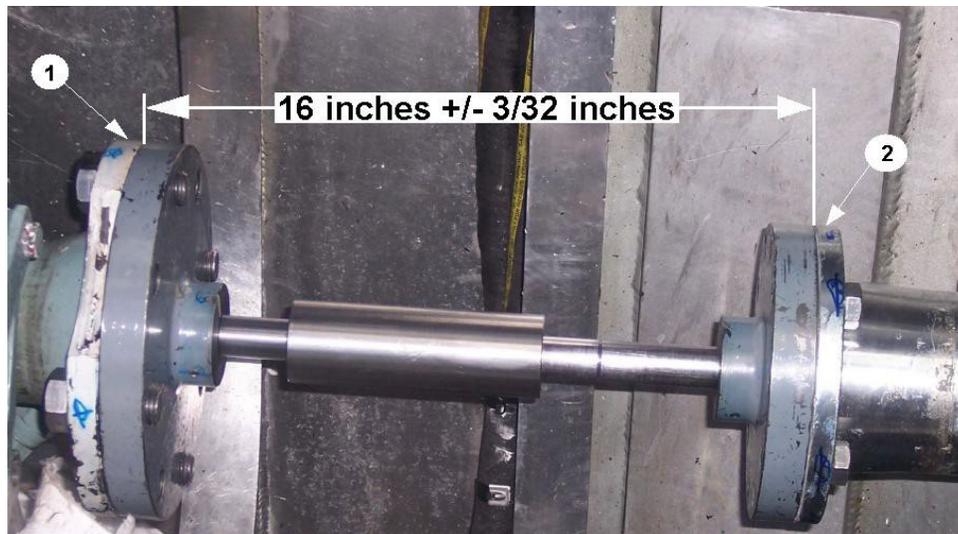


FIGURE 7. MDE - JET DRIVE FLANGE DISTANCE MEASUREMENT

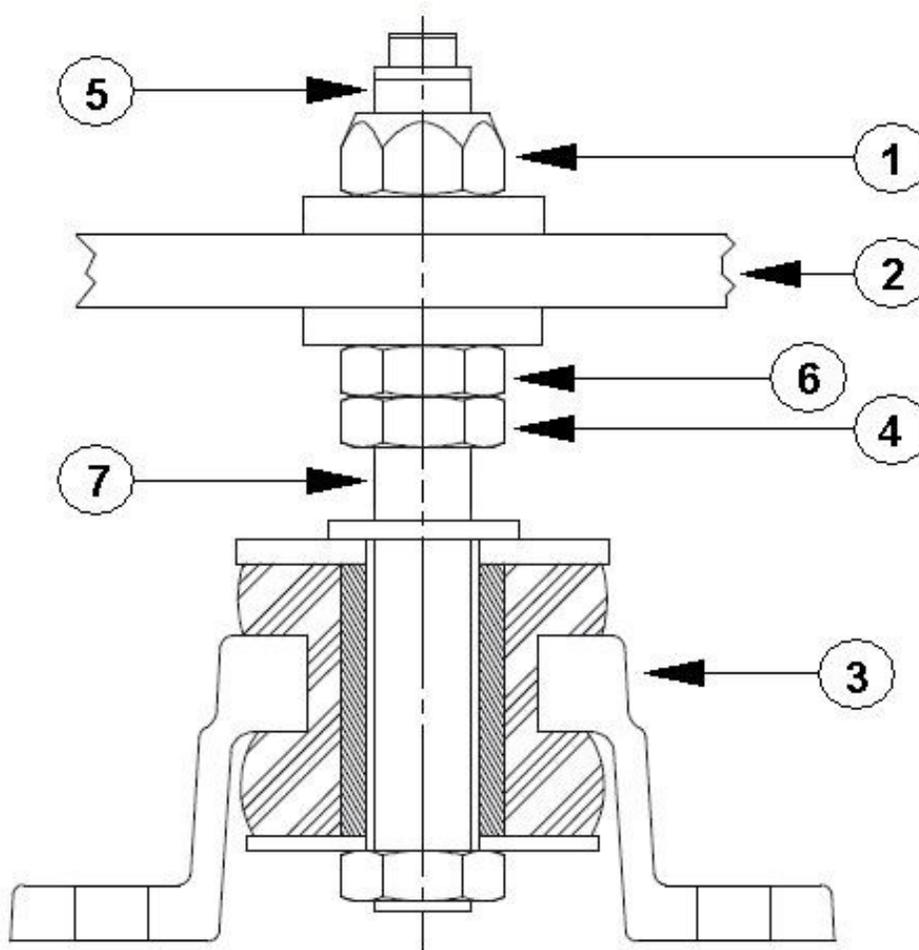


FIGURE 8. MDE MOUNT

## WORK ITEM 11: Water Jet-Inspect, Perform Service

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and perform service on the water jet(s) selected in Table 1.

**TABLE 1 – WATER JET**

SELECT	WATER JET
XX	Port Water Jet
XX	Starboard Water Jet

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Stainless Steel Ball Joint	NSN: 3040016152117 or PN: 59915K483	10 ea.	12.26
N	Stainless Steel Threaded Rod	NSN: 5306016152224 or PN: 93250A140	1 ea.	10.67
N	Bearing Bushing	NSN: 3120014555212 or PN: 10106911	4 ea.	9.80
N	Bearing Bushing	NSN: 3120580006242 or PN: 36M05101	4 ea.	49.00
N	**Socket Head Screw	NSN: 5305016171580 or PN: 91210050	16 ea.	2.71
N	**Bolt Kit	NSN: 2815016171688 or PN: 93112085A	2 ea.	15.64
N	**Key	NSN: 5315016166360 or PN: 10100824	3 ea.	28.14
N	Seal	NSN: 5330580006238 or PN: 10118902	2 ea.	4.35
N	Bushing	NSN: 3120580006239 or PN: 10105511	2 ea.	48.19

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N	Bearing Bushing	NSN: 3120014555272 or PN: 10105111	4 ea.	35.33
N	**Bolt Kit	NSN: 2815016171974 or PN: 93112080F	2 ea.	6.13
N	**Bolt Kit	NSN: 5340016167191 or PN: 93112065K	12 ea.	13.07
N	Bearing Unit	NSN: 3110016166342 or PN: 37506201	2 ea.	614.35
N	Bushing	NSN: 3120580006240 or PN: 10106011	4 ea.	47.21
N	**Set Screw	NSN: 5305016020672 or PN: 91608012	6 ea.	0.58
N	**Bolt Kit	NSN: 5305016173161 or PN: 93112090K	10 ea.	12.56
N	O-ring	NSN: 5331580006241 or PN: 10202606	6 ea.	14.56
N	**Mechanical Sealing	NSN: 4320580006403 or PN: 10203870	2 ea.	1052.97
N	Bolt Kit	NSN: 5306016164058 or PN: 93310030E	6 ea.	1.92
N	O-ring	NSN: 5331016020679 or PN: 10202631	2 ea.	4.39
N	O-ring	NSN: 5331016020680 or PN: 10202625	4 ea.	15.15
N	Sealing	NSN: 5365016233174 or PN: 41018801	2 ea.	8.87
N	O-ring	NSN: 5331016200368 or PN: 10202611	2 ea.	5.21
N	Seal Lip	NSN: 4730016204613 or PN: 10202590	4 ea.	39.47
N	Sealing	NSN: 5330016163186 or PN: 45002010	2 ea.	535.93
N	**Lock Nut	NSN: 5310016162982 or PN: 10202908	2 ea.	16.63

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N	Lock Washer	NSN: 5310016232756 or PN: 10203008	2 ea.	2.34
N	**Ring Nut	NSN: 5310016164016 or PN: 10202912	2 ea.	32.60
N	Seal	NSN: 5330016243735 or PN: 10202540R	6 ea.	19.68
N	**Screw	NSN: 5305016162955 or PN: 93305025	8 ea.	0.28
N	**Washer	NSN: 5310016162966 or PN: 912505	8 ea.	0.06
N	Gasket	NSN: 5330016232867 or PN: 37527805	2 ea.	63.43
N	Bushing	NSN: 5365016202680 or PN: 10108416	8 ea.	15.91
N	**Bolt Kit	NSN: 5305016242899 or PN: 93110060A	4 ea.	12.91
N	**Bolt Kit	NSN: 5305016242922 or PN: 99110040G	14 ea.	6.60
N	Bushing	NSN: 3120014555268 or PN: 10106902	8 ea.	7.90
N	Gasket	NSN: 5330016163014 or PN: 10108901	2 ea.	5.65
N	**Bolt Kit	NSN: 5305016231019 or PN: 93110090A	4 ea.	5.05
N	Lock Washer	NSN: 5310016232699 or PN: 10203012	2 ea.	5.62
N	O-ring	NSN: 5331016242120 or PN: 10202603	2 ea.	3.89
N	**Screw, Countersunk	NSN: 5305016309734 or PN: 99106016	8 ea.	5.65
N	Seal/Gasket	NSN: 1040016337691 or PN: 45011611	2 ea.	57.64
N	Woodruff Key	NSN: 5315016172999 or PN: 10100823	2 ea.	19.09

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N	Washer, Sealing	NSN: 5310016452084 or PN: 8755000050	24 ea.	0.06
N	Screw, Connection	NSN: 5305016476396 or PN: 91212045L	8 ea.	6.45
N	Manifold, Hydraulic System ACC	NSN: 4730016166236 or PN: 110604-593	1 ea.	7,402.00

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

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

## 2. REFERENCES

### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 247-002, Rev -, Water Jet Propulsor Arrangement

### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5737, SWBS 247, Jun 2014, Water Jet – Model FF375S  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
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### OTHER REFERENCES

Rolls-Royce Kamewa Water Jet Assembly Drawing 376 000 49  
45 RB-M Water Jet Disassembly / Assembly Procedures

## 3. REQUIREMENTS

### 3.1 General.

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

- 3.3.1 Disassembly
- 3.4.1 Inspection

### 3.1.2 Tech Rep.

None.

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

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

**NOTE**

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

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

3.3 Disassembly. The Contractor must disassemble the Water Jet components selected in Table 1, in accordance with Coast Guard Technical Publication (TP) 5737, SFLC Std Spec 0000, 45 RB-M Water Jet Disassembly / Assembly Procedures, and the Rolls-Royce Kamewa Water Jet Assembly Drawing 376 000 49.

3.3.1 CIR. Submit a CIR containing measurements recorded during disassembly and record measurements on Table 2 below.

**TABLE 2 - COMPONENT MEASUREMENTS**

<b>COMPONENT</b>	<b>REMOVE MEASUREMENT</b>	<b>INSTALL MEASUREMENT</b>
Cylinder Rod Horizontal		N/A
Bucket Horizontal		N/A
Steering Nozzle Vertical		N/A
Impeller Clearance Top		N/A
Impeller Clearance Bottom		N/A
Impeller Clearance Inboard		N/A
Impeller Clearance Outboard		N/A
Impeller Clearance Top	N/A	
Impeller Clearance Bottom	N/A	
Impeller Clearance Inboard	N/A	
Impeller Clearance Outboard	N/A	
Interceptor Linkage Outboard		N/A
Inceptor Linkage Inboard		N/A
Interceptor Linkage Outboard		N/A
Interceptor Horizontal		N/A

3.4 Inspection. The Contractor must visually inspect all components of the Water Jets to include:

- Bearing Boxes
- Hydraulic hoses
- Hydraulic cylinders
- Directional control valves
- Hydraulic pumps
- Hardware

3.4.1 CIR. Submit a CIR containing measurements recorded during inspection and record measurements on Table 3 and 4 below.

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**TABLE 3 - BEARING BUSHING (SMALL) MEASUREMENTS**

<b>COMPONENT</b>	<b>BUSHING OD</b>	<b>SEAT ID</b>	<b>OUTSIDE CLEARANCE</b>	<b>BUSHING ID</b>	<b>BOLT/SL EEVE ID</b>	<b>INSIDE CLEARANCE</b>	<b>TOTAL CLEARANCE</b>
Cylinder Rod Inboard							
Cylinder Rod Outboard							
Interceptor Linkage Fwd. Inboard							
Interceptor Linkage Fwd. Outboard							
Interceptor Linkage Aft Inboard							
Interceptor Linkage Aft Outboard							
Interceptor Inboard Bushing Inboard							
Interceptor Inboard Bushing Outboard							
Interceptor Outboard Bushing Inboard							
Interceptor Outboard Bushing Outboard							

**TABLE 4 - BEARING BUSHING (LARGE) MEASUREMENTS**

<b>COMPONENT</b>	<b>BUSHING ID</b>	<b>CONTACT SURFACE OD</b>	<b>CLEARANCE</b>
Bucket Inboard			
Bucket Outboard			
Steering Nozzle Top			
Steering Nozzle Bottom			
Turning Arm			
Steering Shaft Support Bearing Housing			
Steering Shaft Bearing Housing			
Rubber Bearing Inside			

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3.5 Maintenance. The Contractor must perform Water Jet yearly service in accordance with Coast Guard Technical Publication (TP) 5737.

3.6 Reassembly. The Contractor must reassemble the Water Jet in accordance with SFLC Std Spec 0000, Coast Guard Drawing 45 RB-M 247-002, Coast Guard Technical Publication (TP) 5737, and 45 RB-M Water Jet Disassembly / Assembly Procedures. Use Government Furnished Property provided by the Coast Guard Inspector to complete reassembly. With the key in place, carefully check the fit of the impeller hub bore to the shaft taper by applying Prussian blue to the shaft taper. Obtain a uniform fit of 60 percent contact over the taper, with a slightly heavier fit on the larger end. Do not heat the shaft taper to compensate for a poor fit. If the impeller fit is less than 60 percent, hand grind/stone the impeller hub bore to achieve the required fit. The Contractor must submit CFR after reassembly noting final torque measurements and that reassembly is within standards of noted references.

3.6.1 Before final torque of fasteners on bushing carriers, the Contractor must check the length tolerance between bushing carrier and the bushing. Use 400 grit sandpaper to remove excess material to allow proper fitment of bushing in carrier.

3.6.2 The Contractor must notify COR 24 hours in advance prior to reassembly.

3.7 Government-furnished property. The Contractor must be aware that the government reserves the right to provide materials, property, and items when a benefit to the US Coast Guard can be obtained.

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

3.8 Operational test. The Contractor must notify COR 24 hours in advance to witness an operational testing of Jet Drive and components in accordance with SFLC Std Spec 0000, paragraph 3.3.5.1. Submit a CFR.

**4. NOTES**

4.1 Parts breakdown. Table 5 lists the relationship between the Government Furnished Property and the Water Jet Subassemblies.

4.2 Coast Guard Personnel. Coast Guard Personnel will operate all shipboard equipment.

4.3 Related work items. Jet Drive Anodes, Renew, Jet Drive Coating System, Overhaul.

**TABLE 5 - WATER JET SUBASSEMBLY PARTS BREAKDOWN**

REVERSING BUCKET ITEM DESCRIPTION	NSN/PN	QTY
Stainless Steel Ball Joint	NSN: 3040016152117 PN: 59915K483	10 EA
Stainless Steel Threaded Rod	NSN: 5306016152224 PN: 93250A140	1 EA
Bearing Bushing	NSN: 3120014555212 PN: 10106911	4 EA
Bearing Bushing	NSN: 3120580006242 PN: 36M05101	4 EA

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Socket Head Screw	NSN: 5305016171580 PN: 91210050	16 EA
Bolt Kit	NSN: 2815016171688 PN: 93112085A	2 EA
Key	NSN: 5315016166360 PN: 10100824	3 EA
Seal	NSN:5330580006238 PN: 10118902	2EA
<b>STEERING NOZZLE ASSY ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
Bushing	NSN: 3120580006239 PN: 10105511	2 EA
Bearing Bushing	NSN: 3120014555272 PN: 10105111	4 EA
Bolt Kit	NSN: 2815016171974 PN: 93112080F	2 EA
<b>GUIDE VANE CHAMBER ASSY ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
Bolt Kit	NSN: 5340016167191 PN: 93112065K	12 EA
Screw, Connection	NSN: 5305016476396 PN: 91212045L	8 EA
Washer	NSN: 5310016452084 PN: 8755000050	24 EA
<b>SUPPORT BEARING HOUSING ASSY ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
Bearing Unit	NSN: 3110016166342 PN: 37506201	2 EA
Bushing	NSN: 3120580006240 PN: 10106011	2 EA
Set Screw	NSN: 5305016020672 PN: 91608012	6EA
Bolt Kit	NSN: 5305016173161 PN: 93112090K	10EA
<b>IMPELLER ASSY ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
O-ring	NSN: 5331580006241 PN: 10202606	6 EA
<b>BEARING HOUSING ASSY ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
Mechanical Sealing	NSN: 4320580006403 PN: 10203870	2 EA
Bolt Kit	NSN: 5306016164058 PN: 93310030E	6 EA
O-ring	NSN: 5331016020679 PN: 10202631	2 EA
O-ring	NSN: 5331016020680 PN: 10202625	4 EA
Sealing	NSN: 5365016233174 PN: 41018801	2 EA
O-ring	NSN: 5331016200368 PN: 10202611	2 EA
Seal Lip	NSN: 4730016204613 PN: 10202590	4 EA

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Sealing	NSN: 5330016163186 PN: 45002010	2 EA
Lock Nut	NSN: 5310016162982 PN: 10202908	2 EA
Lock Washer	NSN: 5310016232756 PN: 10203008	2 EA
Ring Nut	NSN: 5310016164016 PN: 10202912	2 EA
Bushing	NSN: 3120580006240 PN: 10106011	2 EA
Seal	NSN: 5330016243735 PN: 10202540R	6 EA
Screw	NSN: 5305016162955 PN: 93305025	8 EA
Washer	NSN: 5310016162966 PN: 912505	8 EA
Lock Washer	NSN: 5310016232699 PN: 10203012	2 EA
O-ring	NSN: 5331016242120 PN: 10202603	2 EA
Screw, Countersunk	NSN: 5305016309734 PN: 99106016	8 EA
<b>INTERCEPTOR ITEM DESCRIPTION</b>	<b>NSN/PN</b>	<b>QTY</b>
Gasket	NSN: 5330016232867 PN: 37527805	2 EA
Bushing	NSN: 5365016202680 PN: 10108416	8 EA
Bolt Kit	NSN: 5305016242899 PN: 93110060A	4 EA
Bolt Kit	NSN: 5305016242922 PN: 99110040G	14 EA
Bushing	NSN: 3120014555268 PN: 10106902	8 EA
Gasket	NSN: 5330016163014 PN: 10108901	2 EA
Bolt Kit	NSN: 5305016231019 PN: 93110090A	4 EA

**WORK ITEM 12: Jet Drive Anodes, Renew****1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to renew jet-drive anodes.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Anode, Inspection Hatch (Port & Stbd)	NSN: 5342580003759 or PN: 10108231	2 ea.	46.63
N	Transom Anode	NSN: 5342016020658 or PN: 10108230	4 ea.	52.76
N	Tunnel Anode	NSN: 5342016020668 or PN: 10108220	4 ea.	26.88
N	Impeller Housing/Bucket/Interceptor Anode	NSN: 5342226078672 or PN: 10107701	10 ea.	24.94
N	Guide Vane Chamber Anode	NSN: 5342016020669 or PN: 37517411	2 ea.	44.43
N	Anode, Anode Hatch	NSN: 5342251465439 or PN: 10108210	2 ea.	28.20
N	Screw Connection	NSN: 5305016022100 or PN: 93310025H	4 ea.	2.52
N	Screw Connection	NSN: 5305016275854 or PN: 93308025H	14 ea.	1.30
N	Screw Connection	NSN:5305016022105 or PN: 91206020E	8 ea.	0.49
N	Screw Connection	NSN: 5340016243271 or PN: 93308025E	8 ea.	1.00
N	O-ring	NSN: 5331016020670 or PN: 10202639	2 ea.	6.60
N	Screw Connection	NSN: 5305016240905 or PN: 93310016E	8 ea.	1.58

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N	Screw Connection	NSN: 5306016309800 or PN: 93312030E	2 ea.	2.42
N	Screw Connection	NSN: 5305016204602 or PN: 91212025E	8 ea.	1.93
N	O-ring	NSN: 5331226078691 or PN: 10202626	2 ea.	9.26
N	Tube Extension	NSN: 4730016210708 or PN: 37610802	2 ea.	148.88
N	Tube Clamp	NSN: 4730016200951 or PN: 10217881	2 ea.	20.05
N	Screw Connection	NSN: 5305016022101 or PN: 93310030H	2 ea.	2.08
N	Connecting Cable	NSN: 6145016203663 or PN: 10234301	4 ea.	21.23
N	Screw Connection	NSN: 5305016176732 or PN: 93306016E	8 ea.	0.44
N	Anode, Corrosion	NSN: 5340015899440 or PN: 51125	2 ea.	32.56
N	Anode, Corrosion	NSN: 5340015899425 or PN: 89287	2 ea.	12.34

**2. REFERENCES**

**COAST GUARD DRAWINGS**

Coast Guard Drawing 45 RB-M 633-002, Rev -, Cathodic Protection Sacrificial Anode

**COAST GUARD PUBLICATIONS**

Coast Guard Technical Publication (TP) 5737, SWBS 247, Jun 2014, Water Jet – Model FF375S  
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022,  
General Requirements

**OTHER REFERENCES**

None

**3. REQUIREMENTS**

3.1 General.

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### 3.1.1 CIR.

None.

### 3.1.2 Tech Rep.

None.

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

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

3.2 Renew. The Contractor must renew anodes in accordance with Coast Guard Drawing 45 RB-M 633-002, TP 5737 and SFLC Std Spec 0000.

3.2.1 Surface Preparation. Anode connections to the hull or jet drive must be on bare metal that is free of paint and other contaminants.

3.3 Electrical Resistance Testing. The Contractor must measure the electrical resistance between each anode surface and the adjacent metal, vessel or component structure, utilizing an OHM meter and a scale, to ensure that it is less than 0.1 ohm. Record readings in Table 1. Submit a CFR.

## 4. NOTES

4.1 Related Work Items. Water Jet-Inspect, Perform Service, Jet Drive Coating System, Overhaul, Underwater Body Preserve.

4.2 Anode placement. Table 1 lists the jet drive anodes by location and NSN/PN to assist with identification and placement.

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**TABLE 1 – ANODE PLACEMENT & RESISTANCE READINGS**

ITEM DESCRIPTION	NSN/PN	QTY	RESISTANCE READING
Waterjet Stbd Foundation Inboard Transom Anode	NSN: 5342016020658 PN:10108230	1 EA	
Waterjet Stbd Foundation Outboard Transom Anode	NSN: 5342016020658 PN:10108230	1 EA	
Waterjet Stbd Tunnel Inboard Anode	NSN: 5342016020668 PN:10108220	1 EA	
Waterjet Stbd Tunnel Outboard Anode	NSN: 5342016020668 PN:10108220	1 EA	
Waterjet Stbd Impeller Housing Inboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Stbd Impeller Housing Outboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Stbd Bucket Inboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Stbd Bucket Outboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Stbd Interceptor Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Port Foundation Inboard Transom Anode	NSN: 5342226078675 PN:10108230	1 EA	
Waterjet Port Foundation Outboard Transom Anode	NSN: 5342226078675 PN:10108230	1 EA	
Waterjet Port Tunnel Inboard Anode	NSN: 5342016020668 PN:10108220	1 EA	
Waterjet Port Tunnel Outboard Anode	NSN: 5342016020668 PN:10108220	1 EA	
Waterjet Port Impeller Housing Inboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Port Impeller Housing Outboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Port Bucket Inboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Port Bucket Outboard Anode	NSN: 5342226078672 PN:10107701	1 EA	
Waterjet Port Interceptor Anode	NSN: 5342226078672 PN:10107701	1 EA	
Anode, Anode Hatch	NSN: 5342251465439 PN:10108210	2 EA	
Guide Vane Chamber Stbd Anode	NSN: 5342016020669 PN:37517411	1 EA	
Guide Vane Chamber Port Anode	NSN: 5342016020669 PN:37517411	1 EA	

## WORK ITEM 13: Sea Strainer, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the sea strainer(s) selected in Table 1.

**TABLE 1- SEA STRAINERS**

SELECT	SEA STRAINER
XX	Port Sea Strainer
XX	Starboard Sea Strainer

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN / PN	QTY	ESTIMATED COST (\$/UNIT)
Y	*Strainer, Sediment - (Miller Leaman Strainer 3.0 Raw Water Duplex)	NSN:4730-01-599-8545 PN: ML20750	2 ea.	29,662.70
N	*Coupling, Flexible	NSN:4730-01-645-9479 PN: PS00617-S	4 ea.	113.76

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

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 182-001, Rev -, Propulsion System Foundations

Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5716, SWBS 163, Apr 2014, Seawater Cooling System Duplex Strainer - Model RBM-203976

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements

#### OTHER REFERENCES

Standard Practice for Commercial Packaging, ASTM D-3951, Rev-18, Mar 2018.

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

**NOTE**

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

3.2 Operational test, initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of 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 must renew the sea strainer(s) identified in Table 1 in accordance with Coast Guard Drawings 45 RB-M 182-001, 45 RB-M 256-002, Coast Guard TP 5716, and SFLC Std Spec 0000.

3.3.1 When sea strainers are not available thru the stock system, the contractor must remove installed sea strainers using Coast Guard Drawings 45 RB-M 182-001, 45 RB-M 256-002, Coast Guard (TP) 5716 and SFLC Std Spec 0000 for guidance.

3.3.2 The Contractor must pack the removed Sea Strainers and prepare them for shipping IAW Standard Practice for Commercial Packaging, ASTM D-3951, Rev-18, Mar 2018.

3.3.2.1 Removed sea strainers must be transferred over to Coast Guard PA to be sent out for renewal.

**NOTE**

**Material must be packed for shipment in such a manner as to afford adequate protection to the item against corrosion, deterioration, and physical damage during shipment from the contractor's facilities to Surface Forces Logistics Center locations.**

3.4 Installation. The Contractor must install the renewed sea strainers in accordance with Guard Drawings 45 RB-M 182-001, 45 RB-M 256-002, Coast Guard TP 5716, and SFLC Std Spec 0000.

**NOTE**

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

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

### **4. NOTES**

4.1 Coast Guard Personnel. Coast Guard Personnel will operate all vessel equipment and machinery.

## WORK ITEM 14: Engine Exhaust Piping, Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect the engine(s) exhaust piping selected in Table 1.

**TABLE 1- ENGINE EXHAUST PIPING**

SELECT	ENGINE EXHAUST PIPING
XX	Port Engine Exhaust Piping
XX	Starboard Engine Exhaust Piping

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Mount, Vibration Isolator	NSN: 5340-01-645-0607 or PN: RB1-200	4 ea.	6.00
N	Mount, Vibration Snubbing Washer	NSN: 5310-01-626-2423 or PN: 148099-1	4 ea.	.90
N	Gasket (Exhaust Flange Outlet)	NSN: 5330-01-303-5437 or PN: 23501147	2 ea.	9.61
N	Muffler, Exhaust	NSN: 2990-01-599-6353 or PN: 1601961	1 ea.	1,565.00

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 259-002, Rev -, Exhaust System

#### COAST GUARD PUBLICATIONS

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

#### 3.1 General.

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

- 3.4 Clean and Inspect.

#### 3.1.2 Tech Rep.

Not applicable.

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

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

**NOTE**

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

3.2 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the exhaust system to demonstrate existing operational condition. Submit a CFR.

3.2.1 Prior to disassembly, the Contractor must check for, and note, the presence of soot, oil, etc. indicating exhaust leaks. Submit CFR.

3.3 Disassemble and Remove. The Contractor must disassemble and remove the engine exhaust piping listed in Table 1 in accordance with Coast Guard Drawing 45 RB-M 259-002 and SFLC Std Spec 0000.

3.4 Clean and Inspect. The Contractor must clean all interior and exterior surfaces of the engine exhaust piping, external components, and the inlet and outlet hose sections for each muffler and associated hose clamps and helicoils (as applicable) to the extent necessary to perform a visual inspection. Visually inspect for damage including but not limited to excessive wear, clogs, pitting, cracks, or corrosion. Submit a CIR.

3.5 Assemble. Upon completion of all work specified herein, the Contractor must reassemble the engine exhaust piping in accordance with Coast Guard Drawing 45 RB-M 259-002.

**NOTE**

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

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

#### **4. NOTES**

4.1 Definition. The Engine Exhaust Piping is identified as the piping attached to the outlet of the engine to the through-hull fitting.

4.2 Machinery operation. Coast Guard personnel will operate all vessel machinery and equipment.

## WORK ITEM 15: Electrical Isolation, Perform, MEPS

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to perform electrical isolation prior to conducting any welding procedures.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 311-001, Rev -, APU System Block Schematic

Coast Guard Drawing 45 RB-M 320-001, Rev D, DC Power Distribution System Schematic

#### COAST GUARD PUBLICATIONS

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

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

None.

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

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

**NOTE**

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

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

**WARNING**

**Observe safety precautions when working with electrical and electronic equipment. Failure to adhere to this warning exposes personnel to the danger of electrical shock and personal injury.**

**NOTE**

**The Coast Guard crew will complete Red Danger Tags IAW COMDTINST 9077.1 (series) and attach them to the following:**

**AC BUS 1 240 VOLT AC SELECTION SWITCH, AC Power Island, "OFF".**

**AC BUS 2 240 VOLT AC SELECTION SWITCH, AC Power Island, "OFF".**

**Circuit Breaker Battery DB, 24B2-3 100-amp, Aux Space.**

**Circuit Breaker Battery DB, 24B1-3A 100-amp, Aux Space.**

**Circuit Breaker Battery DB, 24B1-3B 100-amp, Aux Space.**

**Place the shore tie breaker on the pier in the following position: "OFF".**

**Disconnect the shore tie cable from the boat.**

**Circuit Breaker CB10 INST Lights, Power Panel 24 VDC NON-Vital BUS 24P3, "OFF"**

3.3 Electrical Isolation. The Contractor must electrically isolate the vessel prior to conducting any welding procedures in accordance with Coast Guard Drawings 45 RB-M 311-001, 45 RB-M 320-001, SFLC Std Spec 0000 and SFLC Std Spec 0740.

**NOTE**

**Removal of the magnetic compass is only required if welding is to be conducted on the coxswain lower console.**

3.3.1 Remove Magnetic Compass. The Contractor must disconnect the magnetic compass electrically and mechanically. The recommended mechanical removal is the three screws that secure the magnetic compass to the console mount, leaving the mounting bracket undisturbed. Remove the magnetic compass from the vessel.

3.4 Disconnects. The Contractor must perform the following disconnects:

**NOTE**  
**Ensure each cable is labeled to facilitate reinstallation.**

3.4.1 Disconnect both the port and starboard battery cables.

- Remove the two straps that secure the cover on the battery box.
- Remove the battery box cover.

**WARNING**  
**Always disconnect the negative lead to the battery first to reduce the possibility of shorting out the batteries. Failure to comply may result in personal injury.**

- Disconnect the T-Sense cable, (Refer to Figure 1).
- Disconnect the negative battery lead from the battery terminal, (Refer to Figure 2).
- Wrap the T-Sense cable and negative battery terminal with electrical tape.
- Disconnect the positive battery lead from the battery terminal.
- Wrap the positive battery terminal with electrical tape.
- Place the cover on the battery box.

3.4.2 The Contractor must turn the inverter bypass switches to the “OFF” position, (Refer to Figure 3).

3.4.3 The Contractor must disconnect the following cables from the port and starboard Alternating Current Unit (ACU), (Refer to Figure 4).

- MEPS control panel cable, (W21P/W21S).
- IGN cable (W23P/W23S).
- Generator cable, (GEN2-3/GEN1-3).
- ACU output, GEN2-4/GEN1-4.
- Wrap the cable ends with electrical tape.

3.4.4 The Contractor must disconnect the following from the DC distribution panel.

- Negative battery cable, 24C2-11/24C1-11, (Refer to Figure 5).
- Remove the 250A Class T fuses connecting 24C2-10/24C1-10 to the positive bus, (Refer to Figure 6).
- Open the fuse holders B1 SENSE FU6 and B2 SENSE FU3, (Refer to Figure 7).
- Open the fuse holders MEPS-P FU2 and MEPS-S FU5, (Refer to Figure 8).
- Wrap all cable ends with electrical tape.

**NOTE**  
**The hull connection point is located just aft of the starboard battery box on a main hull stiffener.**

3.4.5 The Contractor must disconnect the main system ground cable, 24B-NEG hull ground, from the DC distribution panel on the main negative bus, (Refer to Figure 9).

- Retain the fasteners for reinstallation.

3.4.6 The Contractor must disconnect the following cables from the port and starboard Marine Interface Module (MIM) on the engines.

- Four pin power harness twist lock connector from the MIM.
- 24 pin Engine Room Interface Module (ERIM) connector from the MIM.
- 40 pin Engine Control Module (ECM) connector from the MIM.
- Grounding wire off the four-pin power harness.

**CAUTION**

**Ensure welding equipment ground is attached to the hull adjacent to the weld site to prevent equipment damage.**

3.5 Reconnect. After all welding is completed on the vessel, the Contractor must reconnect the following:

3.5.1 The Contractor must connect the following cables to the port and starboard MIM.

- Four pin power harness twist lock connector.
- 24 pin ERIM to the MIM power cable.
- 40 pin ECM.
- Four pin power harness grounding wire.

**NOTE**

**The hull connection point is located just aft of the starboard battery box on a main hull stiffener.**

3.5.2 The Contractor must connect the main system ground cable, 24B-NEG hull ground, to the hull connection point.

3.5.3 The Contractor must connect the following cables to the port and starboard inverter/charger.

- Remove the electrical tape on all wire ends.
- Fuse holders MEPS-P FU2 and MEPS-S FU5, (Refer to Figure 7).
- Fuse holders B1 Sense FU6 and B2 SENSE FU3, (Refer to Figure 1).
- 250A Class T fuses connecting 24C2-10/24C1-10 (Refer to Figure 6).
- Negative battery cable, 24C2-11/24C1-11, (Refer to Figure 5).

3.5.4 The Contractor must connect the following cables to the port and starboard ACU, (Refer to Figure 3).

- MEPS control panel cable, W21P/W21S.
- IGN cable, W23P/W23S.
- Generator cable, GEN2-3/GEN1-3.
- ACU output cable, (GEN1-4/2-4).

3.5.5 The Contractor must connect the port and starboard batteries.

- Remove the cover from the battery box.

- Remove the electrical tape from the positive battery terminal.

**WARNING**

**Always connect positive lead to the battery first to reduce the possibility of shorting out the batteries. Failure to comply may result in personal injury.**

- Connect the negative battery lead to the negative battery terminal.
- Torque the battery lead terminal bolts to 71 in-lb.
- Install the battery box cover.
- Install the two straps to secure the cover on the battery box cover.
- Connect the positive battery lead to the positive battery terminal.
- Remove the electrical tape from the negative battery terminal.

3.5.6 The Contractor must place the inverter bypass switches in the “Normal” position

3.6 Magnetic compass reinstallation. The Contractor must reinstall the magnetic compass once all welding is completed on the vessel.

**NOTE**

**Coast Guard Crewman will record maintenance action by completing appropriate sign-off, adding pertinent remarks.**

**The Coast Guard crewman will connect the shore power cable to the boat. Place the shore tie breaker on the pier in the following position: “ON”. Remove Lockout/Tags-Plus Material and Hardware IAW COMDTINST 9077.1 (series) from the following and place in the normal operational position:**

**AC BUS 1 240 VOLT AC SELECTION SWITCH, AC Power Island, “ON”.**

**AC BUS 2 240 VOLT AC SELECTION SWITCH, AC Power Island, “ON”.**

**Circuit Breaker Battery DB, 24B2-3 100-amp, Aux Space.**

**Circuit Breaker Battery DB, 24B1-3A 100-amp, Aux Space.**

**Circuit Breaker Battery DB, 24B1-3B 100-amp, Aux Space.**

**Circuit Breaker CB10 INST Lights, Power Panel 24 VDC NON-Vital BUS 24P3, “ON”.**

**NOTE**

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

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





FIGURE 3. INVERTER BYPASS SWITCH

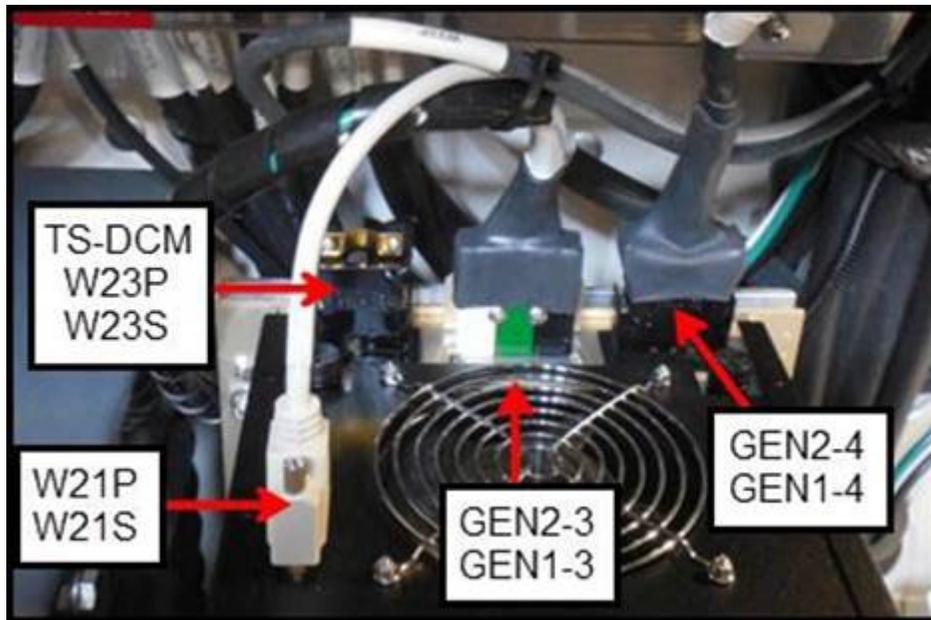
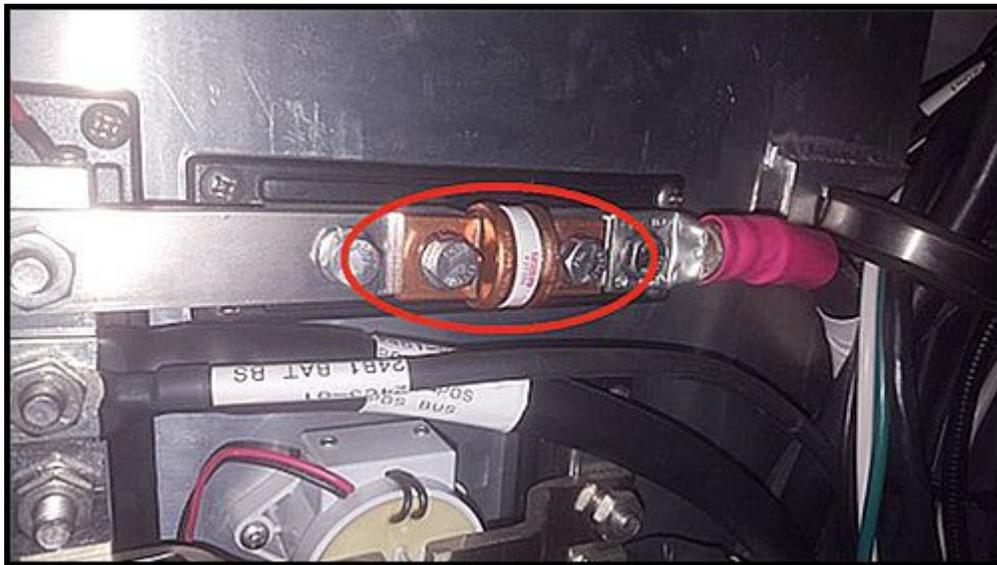


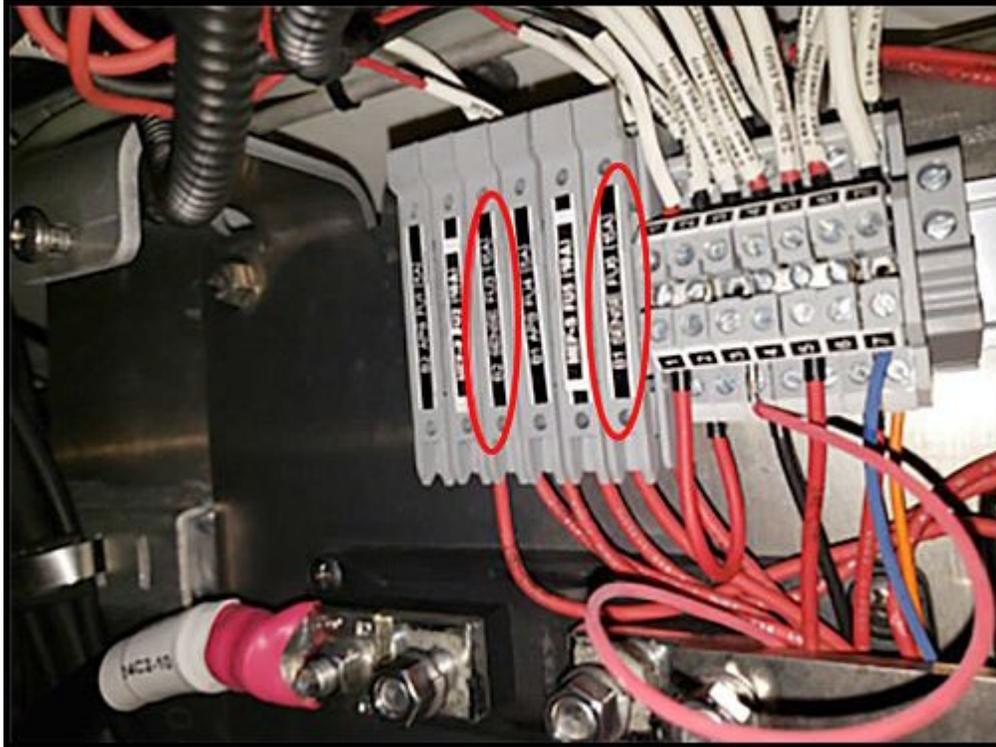
FIGURE 4. ALTERNATING CURRENT UNIT



**FIGURE 5. NEGATIVE BATTERY CABLE**



**FIGURE 6. 250A CLASS T FUSE**



**FIGURE 7. B1 SENSE FU6 AND B2 SENSE FU3 FUSES**

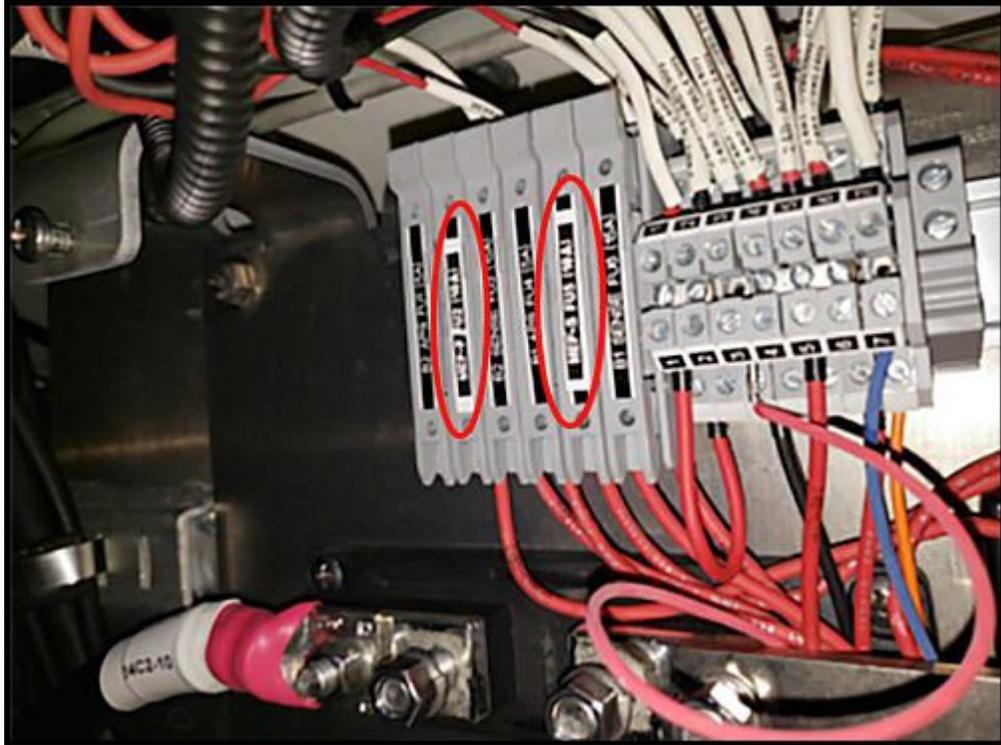


FIGURE 8. MEPS-P FU2 AND MEPS-S FU5 FUSES



FIGURE 9. HULL GROUND

#### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 16: Standard Hoses, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the standard hoses listed in Table-1.

**TABLE 1- STANDARD HOSE LIST**

SYSTEM	LOCATION	HOSE TYPE	HOSE LENGTH (INCHES)	DRAWING ASSY P/N
Fuel Supply	Fuel supply line tube to Port MDE (engine room)	Parker 426-12	107	206235
Fuel Supply	Stbd fuel supply line tube to Stbd MDE (engine room)	Parker 426-12	64	206236
Fuel Supply	Fuel return line from Port MDE to tank (engine room)	Parker 426-8	50	206238
Fuel Supply	Fuel return line from Stbd MDE to tank (engine room)	Parker 426-8	89-1/2	206239
Fuel Supply	Fuel supply line from supply valve to Stbd MDE (engine room)	Parker 426-12	12-1/2	210440
Fuel Supply	Fuel supply line from supply valve to Port MDE (engine room)	Parker 426-12	12-1/2	210441
Fuel Fill and Vent	Stbd upper pipe-to-hose fuel fill and vent connection (AMS)	Bellowsflex 16791023760	6	206343
Fuel Fill and Vent	Stbd lower pipe-to-hose fuel fill and vent connection (AMS)	Bellowsflex 16791023760	6	206346
Fuel Fill and Vent	Fuel tank vent (AMS)	Bellowsflex 16791010060	58	206347
FLOCS	Port jet-drive (engine room)	Parker 426-8	42	206151
FLOCS	Stbd jet-drive (engine room)	Parker 426-8	41	206152
FLOCS	Port red gear (engine room)	Parker 426-12	62-1/16	206153
FLOCS	Stbd red gear (engine room)	Parker 426-12	59-5/6	206154
FLOCS	Port MDE (engine room)	Parker 426-12	36-13/16	206155
FLOCS	Stbd MDE (engine room)	Parker 426-12	31-15/16	206156
MDE Raw Water	Stbd sea chest to Stbd strainer (lazarette)	Bellowsflex 16791030060	34	206055
MDE Raw Water	Stbd strainer to Stbd MDE pipe (engine room)	Bellowsflex 16791030060	98-1/2	206061
MDE Raw Water	Stbd MDE pipe to Stbd MDE (engine room)	Bellowsflex 16791030060	16	206062
MDE Raw Water	Stbd sea chest valve to Stbd WTB (lazarette)	Bellowsflex 16791007560	25-1/2	206063

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SYSTEM	LOCATION	HOSE TYPE	HOSE LENGTH (INCHES)	DRAWING ASSY P/N
MDE Raw Water	Stbd overflow tank to Stbd MDE	Parker 7212251BK	130	206064
MDE Raw Water	Port sea chest to Port strainer (lazarette)	Bellowsflex 16791030060	33	206065
MDE Raw Water	Port strainer to Port MDE (engine room)	Bellowsflex 16791030060	85-5/16	206066
MDE Raw Water	Port sea chest valve to Port WTB (lazarette)	Bellowsflex 16791007560	25	206067
MDE Raw Water	Port overflow tank to Port MDE (engine room)	Parker 7212251BK	130	206069
HVAC R/W	Sea chest to strainer (lazarette)	Bellowsflex 16791012501	11	210765
HVAC R/W	Strainer to WTB (lazarette)	Bellowsflex 16791012501	8	210766
HVAC R/W	WTB from lazarette to R/W pump suction (engine room)	Bellowsflex 16791012501	25	210767
HVAC R/W	R/W pump discharge to WTB to AMS (engine room)	Bellowsflex 16791007560	184	206120
HVAC R/W	Tee to PH (AMS)	Bellowsflex 16791007560	127	206121
HVAC R/W	PH deck to HVAC R/W supply (PH)	Bellowsflex 16791007560	52	206122 (212391)
HVAC R/W	HVAC discharge to pilothouse deck (PH)	Bellowsflex 16791007560	53	206123 (212390)
HVAC R/W	PH deck to overboard (AMS)	Bellowsflex 16791007560	109	206124
HVAC R/W	Tee to WTB to SURV COMP (AMS)	Bellowsflex 16791007560	75-1/2	206125
HVAC R/W	WTB from AMS to HVAC R/W supply (SURV COMP)	Bellowsflex 16791007560	98-3/4	206126 (212394)
HVAC R/W	HVAC discharge to check valve (SURV COMP)	Bellowsflex 16791007560	12	206127 (212396)
HVAC R/W	Check valve to overboard (SURV COMP)	Bellowsflex 16791007560	5	206128
Hydraulic Control	Port manifold return to WTB to engine room (lazarette)	Parker 881-12	80-1/2	206052
Hydraulic Control	Port manifold to Port interceptor A (lazarette)	Parker 451TC-6	46	206068
Hydraulic Control	Port manifold to Port interceptor B (lazarette)	Parker 451TC-6	46-1/4	206071
Hydraulic Control	Port manifold to Port bucket A (lazarette)	Parker 451TC-6	32-1/4	206074
Hydraulic Control	Port manifold to Port bucket B (lazarette)	Parker 451TC-6	38	206075
Hydraulic Control	Port manifold to Port steering A (lazarette)	Parker 451TC-6	52	206076
Hydraulic Control	Port manifold to Port steering B (lazarette)	Parker 451TC-6	45-1/2	206077
Hydraulic Control	WTB from engine room to Port manifold (lazarette)	Parker 451TC-8	93	206091

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SYSTEM	LOCATION	HOSE TYPE	HOSE LENGTH (INCHES)	DRAWING ASSY P/N
Hydraulic Control	WTB from engine room to Port manifold (lazarette)	Parker 451TC-8	37-3/4	206027
Hydraulic Control	Stbd manifold return to WTB to engine room (lazarette)	Parker 881-12	80-1/2	206050
Hydraulic Control	Stbd manifold to Stbd bucket B (lazarette)	Parker 451TC-6	41-1/2	206078
Hydraulic Control	Stbd manifold to Stbd interceptor A (lazarette)	Parker 451TC-6	51	206080
Hydraulic Control	Stbd manifold to Stbd interceptor B	Parker 451TC-6	50	206081
Hydraulic Control	Stbd manifold to Stbd bucket A (lazarette)	Parker 451TC-6	36-1/2	206082
Hydraulic Control	WTB from engine room to Stbd manifold (lazarette)	Parker 451TC-8	113	206089
Hydraulic Control	Port to Stbd manifold (lazarette)	Parker 451-TC4	46-1/4	206095
Hydraulic Control	Port to Stbd manifold (lazarette)	Parker 451TC-12	43	206096
Hydraulic Control	WTB from lazarette to Stbd cooler (engine room)	Parker 881-12	12-1/2	206053
Hydraulic Control	WTB from lazarette to Port cooler (engine room)	Parker 881-12	12-1/2	206054
Hydraulic Control	Stbd cooler return to tee (engine room)	Parker 881-12	73-1/2	206056
Hydraulic Control	Port cooler return to tee (engine room)	Parker 881-12	37-3/4	206057
Hydraulic Control	Tee return to filter (engine room)	Parker 881-16	109-1/2	206058
Hydraulic Control	Filter return to tank (engine room)	Parker 881-16	21-1/2	206059
Hydraulic Control	Stbd pump discharge to WTB to lazarette (engine room)	Parker 451TC-8	266-1/2	206087
Hydraulic Control	Port pump discharge to WTB to lazarette (engine room)	Parker 451TC-8	193	206088
Hydraulic Control	Tank to Stbd pump suction (engine room)	Parker 881-16	149	206097
Hydraulic Control	Tank to Port pump suction (engine room)	Parker 881-16	68-1/2	206098
MDE Exhaust	Stbd water injection head to frame 2 for de-icing	Bellowsflex 16791007560	96	206310
MDE Exhaust	Port water injection head to frame 2 for de-icing	Bellowsflex 16791007560	69	206315
MDE Exhaust	Port lift muffler outlet hose	Trident THH-10SS	6	211300
MDE Exhaust	Port lift muffler inlet hose	Trident THH-10SS	6	211300
MDE Exhaust	Stbd lift muffler outlet hose	Trident THH-10SS	6	211300
MDE Exhaust	Stbd lift muffler inlet hose	Trident THH-10SS	6	211300
MDE Exhaust	Port water injection head to lower exhaust pipe	Trident 270X8000	5	205141
MDE Exhaust	Stbd exhaust hose at frame 0	Trident 202V10000-36	5	206298

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SYSTEM	LOCATION	HOSE TYPE	HOSE LENGTH (INCHES)	DRAWING ASSY P/N
MDE Exhaust	Stbd exhaust hose aft of frame 2	Trident 202V10000-36	5	206307
MDE Exhaust	Stbd exhaust hose fwd of frame 2	Trident 202V10000-36	4-1/2	206308
MDE Exhaust	Stbd R/W hose to the water injection head	Bellowsflex 16791025060	26	206309
MDE Exhaust	Port exhaust hose at frame 0	Trident 202V10000-36	5	206311
MDE Exhaust	Port exhaust hose aft of frame 2	Trident 202V10000-36	5	206312
MDE Exhaust	Port exhaust hose fwd of frame 2	Trident 202V10000-36	4-1/2	206313
MDE Exhaust	Port R/W hose to the water injection head	Bellowsflex 16791025060	33-1/2	206314
MDE Exhaust	Stbd water injection head to lower exhaust pipe	Trident 270X10080	5	212050
Bilge Pump	Nipple to check valve (lazarette)	Bellowsflex 16791010060	3-5/8	206400
Bilge Pump	Nipple to check valve to bilge pump (Lazarett)	16791010060	76	206401
Bilge Pump	Nipple check to valve (engine room)	Bellowflex 16791010060	3 /5/8	206400
Bilge Pump	Check valve to bilge pump (engine room)	Bellowsflex 16791010060	126	206401
Bilge Pump	Nipple to check valve (Stbd AMS)	Bellowsflex 16791010060	15	206402
Bilge Pump	Check valve to bilge pump (Stbd AMS)	Bellowsflex 16791010060	37-1/2	206403
Bilge Pump	Nipple to check valve (Port AMS)	Bellowsflex 16791010060	3-5/8	206404 (214817)
Bilge Pump	Check valve to bulge pump (Port AMS)	Bellowsflex 16791010060	58-1/2	206405
Bilge Pump	Nipple to check valve (SURV COMP)	Bellowsflex 16791010060	10	206409
Bilge Pump	Check valve to bilge pump (SURV COMP)	Bellowsflex 16791010060	112-1/8	206411
Bilge Pump, Forepeak	Nipple to check valve	Bellowsflex 16791010060	17-3/8	206406 (214819)
Bilge Pump, Forepeak	Check valve to bulge pump	Bellowsflex 16791010060	45	206407

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Parts Kit, Hose Assembly	NSN: 4720-01-679-1782	1 ea.	\$16,071.00

## 2. REFERENCES

### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 505-001, Rev A, Hose and Hose Assemblies

### COAST GUARD PUBLICATIONS

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

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

### OTHER REFERENCES

None

## 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

3.1.3.1 Protective measures - hydraulic system(s). The Contractor must maintain existing hydraulic system cleanliness and take all necessary precautions to prevent the introduction of contaminants into the hydraulic system. Immediately after disconnecting or removing components from the hydraulic system, the Contractor must completely seal all openings to the rest of the system using caps for externally threaded connection points, bolt-on blanks, or taped-on discs/covers made of durable plastic or sheet-metal that is no less than 1/16-inch thick.

#### NOTE

**Plastic bags may be used only when arrangement or configuration prevents the use of the other sealing methods specified above.**

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

- Machinery
- Wire runs
- Piping
- Framing

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- Bulkheads
- Deck plates

**NOTE**

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

3.2 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard personnel perform an initial operational test of 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 must renew all hose assemblies listed in Table1 - Standard Hose List in accordance with Coast Guard Drawing 45 RB-M 505-001, SFLC Std Spec 0000 and SFLC Std Spec 5000, paragraph C2.2.

**WARNING**

**Ensure that all pressurized systems are depressurized. Failure to depressurize systems may cause injury or death to personnel.**

3.3.1 Removal. Remove the hose assemblies designated in Table1- Standard Hose List. After removing the hose assembly the Contractor must immediately cap or plug the machinery fittings to prevent contamination or additional fluid loss.

3.3.2 Preparation. For hydraulic system hoses the Contractor must flush each new hose assembly to remove all contaminants to achieve cleanliness Grade "A" prior to installation.

3.3.3 Installation. The Contractor must install the flexible hose assemblies in accordance with the following:

- Remove previously installed caps and plugs.
- Each leg of a hose assembly must be free of twist between the fittings.
- Fixed piping near the flexible hose assembly must be properly supported so that it cannot be vibrated by the resiliently mounted equipment.
- Flexible hose assemblies must clear all surrounding equipment, piping and structures sufficiently so that continuous chafing will not occur during normal machinery operation.
- Flexible hose assemblies must be located as close as possible to the sound isolated machinery,
- If the free elbow of the hose assembly tends to sag or otherwise unduly stress or distort the hose assembly, it must be supported with a resilient type hanger.
- The flexible hose assembly must not change its alignment appreciably between the unpressurized and pressurized conditions. If it does, it is an indication of misalignment or improper support of the hose assembly.
- Wrap all hose end fittings exposed to weather with a suitable commercially available protective tape, completely covering all exposed metal. The tape must be a petrolatum base compound on a fabric carrier. (If applicable)
- Renew chaffing gear and fire sleeves as required.

**CAUTION**

**Do not install rubber chaffing gear near the turbocharger.**

3.4 Labeling. The Contractor must attach hose tags to all renewed hose assemblies in accordance with SFLC Std Spec 5000, paragraph C2.2.1.4.

3.5 Fluid renewal. The Contractor must replenish all disturbed systems fluids to the manufacturers recommended level in accordance with SFLC Std Spec 5000, paragraph C2.1.4.

3.6 Documentation. The Contractor must provide to the COR, a CFR documenting the following information for each renewed hose assembly for entry into the unit's hose log.

- System (A/C, MDE, ASW, Hydraulic, etc.).
- System Unit (MDE # 1, 2, 3, etc.).
- Hose Description.
- Hose length.
- Hose size (inch).
- Hose material.
- Hose Fitting 1 (SAE/JIC, size, material).
- Hose Fitting 2 (SAE/JIC, size, material).
- Manufacture date.
- Hydro date.
- Design pressure.
- Hydro pressure.

**NOTE**

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

**WARNING**

**Do not tighten hoses and/or fittings on equipment that is operating or under pressure. Failure to comply may result in personnel injury.**

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

## 4. NOTES

4.1 Operational test. Coast Guard personnel will operate all vessel equipment and machinery.

4.2 Documentation. Coast Guard personnel will update the vessel's hose log with the information provided in paragraph 3.7.

## WORK ITEM 17: Various Piping, Inspect

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect various piping as directed by the COR.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion

Coast Guard Drawing 45 RB-M 256-004, Rev -, Cooling System - Pipe Spools

Coast Guard Drawing 45 RB-M 256-101, Rev -, Cooling System HVAC

Coast Guard Drawing 45 RB-M 521-002, Rev -, Fire/Bilge Standpipe

#### COAST GUARD PUBLICATIONS

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

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

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

3.2 Inspection. The Contractor must inspect various piping as directed by the COR in accordance with the applicable Coast Guard Drawings 45 RB-M 256-002, 45 RB-M 256-004, 45 RB-M 256-101, 45 RB-M 521-002, SFLC Std Spec 0000, and SFLC Std Spec 0740. Submit a CFR.

### **4. NOTES**

4.1 Coast Guard Personnel. Coast Guard Personnel will operate all vessel equipment and machinery.

## WORK ITEM 18: MDE SW Valves, Overhaul

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to overhaul the Main Diesel Engine (MDE) sea water suction valve(s) selected in Table 1.

**TABLE 1- MDE SEA WATER SUCTION VALVE**

SELECT	SUCTION VALVE
XX	Port Engine MDE Sea Water Suction Valve
XX	Starboard Engine MDE Sea Water Suction Valve

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion

#### COAST GUARD PUBLICATIONS

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

#### OTHER REFERENCES

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

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

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2013 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, 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 must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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

- Piping
- Pipe contents
- Valve flanges

**NOTE**

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

3.2 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the sea water system to demonstrate existing operational condition. Submit a CFR.

3.3 Requirement. The Contractor must overhaul the main diesel engine sea water suction valve(s) listed in Table 1, using Coast Guard Drawing 45 RB-M 256-002 and SFLC Std Spec 0000.

3.3.1 Fluid handling. The Contractor must drain and dispose of all residual fluids in the piping system in accordance with all Federal, state, and local rules and regulations.

3.4 Removal. The Contractor must remove the designated valve(s) in Table 1. Immediately after valve removal, install blank flanges and gaskets over all openings and secure each flange with at least two bolts, 180 degrees apart.

3.5 Overhaul. The Contractor must accomplish the following as required, for each valve designated for overhaul in order to meet the specified valve testing standard(s) in Table 2.

3.5.1 Disassembly. Disassemble the valve to the extent necessary to perform the required work.

3.5.2 Clean and Inspect. Clean all internal surfaces and visually inspect for defects in body and structural material. Inspect the surface finish and condition of seats, ball, stem and sealing surfaces. Submit a CFR.

3.5.3 Reassembly. Reassemble the valve using new hardware and software (new seats, cavity filler, body gaskets, seals, and packing).

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3.5.4 Testing. Test the overhauled valves in accordance with the applicable standards listed in Table 2 (Valve Standards). Submit a CFR.

**TABLE 2 - VALVE STANDARDS**

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

3.6 Valve reinstallation. Upon completion of all authorized work, and in accordance with Coast Guard Drawing 45 RB-M 256-002, the Contractor must accomplish the following:

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

3.7 Valve labeling. The Contractor must install valve label plates in accordance with ASTM F992.

3.8 Government-furnished property. The Contractor must be aware that the government reserves the right to provide materials, property, and items when a benefit to the US Coast Guard can be obtained.

**NOTE**

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

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

**4. NOTES**

4.1 Machinery operation. Coast Guard personnel will operate all vessel machinery and equipment.

4.2 Related work item. Sea Valves, Renew

## WORK ITEM 19: Sea Valves, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the sea valves selected in Table 1 below.

**TABLE 1- SEA VALVES DESIGNATED FOR RENEWAL**

SELECT	ITEM DESCRIPTION	LOCATION	QTY
XX	1-inch Sea-Chest De-Icing Valve	Lazarette	2
XX	.75-inch HVAC System Ball Valve	Aux Machinery Compartment	3
XX	.75-inch HVAC Overboard Check Valve	Aux Machinery Compartment	1
XX	1.25-inch HVAC Strainer Suction Valve	Lazarette	1
XX	1.25-inch HVAC Strainer Discharge Valve	Lazarette	1

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Raw Water Sys De-Icing Valve, Ball, 1-inch NPT 316 SS	NSN: 4820-01-600-0385 or PN: V210FP-16	2 ea.	34.92
N	AC Supply/Discharge Ball Valve, Ball 3/4-inch NPT 316 SS	NSN: 4820-01-600-0389 or PN: V210FP-12	3 ea.	26.44
N	AC Overboard Check Valve High-Flow SS Check Valve 3/4-inch NPT Female	NSN: 4820-01-599-7249 or PN: 46635K65	1 ea.	60.83

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 256-101, Rev -, Cooling System HVAC

Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion

#### COAST GUARD PUBLICATIONS

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

## OTHER REFERENCES

- American Society of Mechanical Engineers (ASME) B16.34, 2017, Valves-Flanged, Threaded, and Welding End
- ASTM International (ASTM) F992, 2017, Standard Specification for Valve Label Plates
- Manufacturers Standardization Society of the Valve and Fittings Industry (MSS) SP-61, 2013 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, 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 must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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

- Piping
- Pipe contents
- Hoses
- Valve flanges

### NOTE

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

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

3.3 Fluid handling. The Contractor must drain and dispose of all residual fluids in the piping system in accordance with all Federal, state, and local rules and regulations.

3.4 Removal. The Contractor must remove the designated valves selected in Table 1, using Coast Guard Drawings 45 RB-M 256-101, 45 RB-M 256-002 and SFLC Std Spec 0000 as references. Immediately after valve removal, install threaded caps or blank flanges and gaskets over all openings and secure each flange with at least two bolts, 180 degrees apart.

**TABLE 2 – 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
All others	ASME B16.34

3.5 Renewal. The Contractor must renew all designated valves with commercial-standard type valves, conforming to the applicable standard listed in Table 2 (Valve Standards) using Coast Guard Drawings 45 RB-M 256-101, 45 RB-M 256-002 and SFLC Std Spec 0000 as references. The Contractor must supply any valves that are not being provided as GFE.

3.5.1 The Contractor must replace any Mil-Std valves listed for renewal with equivalent commercial standard valves when valves are not provided as GFE.

3.6 Valve installation. In accordance with Coast Guard Drawings, the Contractor must accomplish the following:

- Remove and dispose of all threaded caps or blank flanges and associated gaskets.
- Install all new valves with new gaskets or thread sealant as required.
- Renew all missing or damaged valve label plates.
- Renew all bolting hardware if applicable.

3.7 Valve labeling. The Contractor must install valve label plates on all new valves in accordance with ASTM F992.

3.8 Government-furnished property. The Contractor must be aware that the government reserves the right to provide materials, property, and items when a benefit to the US Coast Guard can be obtained.

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

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

#### 4. NOTES

4.1 Machinery operation. Coast Guard personnel will operate all vessel machinery and equipment.

4.2 Related work item. Sea Valves, Overhaul

## WORK ITEM 20: Diesel Tanks, Refuel

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to refuel the vessel up to 95% of fuel tank(s) capacity.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 261-001, Rev -, Fuel Supply System Schematic

Coast Guard Drawing 45 RB-M 261-002, Rev -, Fuel Supply System

Coast Guard Drawing 45 RB-M 261-004, Rev -, Fuel Supply System Tubes

Coast Guard Drawing 45 RB-M 261-005, Rev -, Fuel Supply System - Pipe Assemblies

Coast Guard Drawing 45 RB-M 261-100, Rev -, Fuel Fill and Vent Schematic

Coast Guard Drawing 45 RB-M 261-101, Rev -, Fuel Fill and Vent Arrangement

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
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 must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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

**NOTE**

**Biodiesel is not approved for use in Coast Guard vessels.**

3.2 Fuel sample. The Contractor must submit a sample of the fresh/new fuel to the CG representative in a clean clear quart size jar for a clear and bright test. Upon approval the Contractor must commence fueling operations.

**NOTE**

**Marine fuel may have a colored dye mixed into the fuel. In general, dye can complicate performance of a Clear and Bright test. Only red dye is used domestically, but blue/green dye may be found in some foreign ports. The resulting fuel/dye blend can have a colored tint (red/pink, etc.), but it must not be visually brown or darker in appearance. A dark brown or blackish color is contractual grounds for rejecting fuel on a DESC bunkers contract. Black dyed fuel is not acceptable fuel for use on Coast Guard cutters or boats.**

3.3 Fueling. The Contractor must fill the fuel tank(s) with diesel fuel to 95% of maximum fuel capacity, approximately 485 gallons.

3.3.1 Fuel requirements. The Contractor must ensure the following fuel requirements are met:

- Minimum flash point- 140 Deg F/ 60 Deg C
- Cetane Number, 42 minimum above 0°C [32°F]; 45 minimum below 0°C [32°F]

3.3.2 Order of fuel preference. The Contractor must ensure fuel is procured in the following order of preference. The definitions of primary and acceptable substitute fuels are provided in the following paragraphs.

3.3.2.1 Primary fuel. The primary fuel for use is a middle distillate fuel, conforming to MIL-DTL-16884, Fuel, Naval Distillate, and NATO Code F-76.

**NOTE**

**F-76 and F-44 are never dyed.**

3.3.2.2 Acceptable substitute fuels. The NATO definition of an acceptable substitute fuel product is one that may be used in place of another product for extended periods of time without technical advice. The authorized acceptable substitute fuels for F-76, in order of preference, are NATO F-75, and Commercial Marine Gas Oil (MGO) (100-percent middle distillate, no residual fuel contamination) under a Defense Energy Support Center (DESC) bunkers contract. Commercial MGO is not tested for storage stability. This policy is in place to help prevent fuel storage instability problems from occurring onboard ship, which can result in greatly increased filter separator element clogging. MGO-PD is not considered an acceptable substitute for applications that involve long-term storage (6 weeks or greater), because MGO-

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PD does not have a storage stability requirement as defined for F-76 in MIL-DTL-16884. Hence, the MGO-PD taken onboard must be used within 6 weeks.

3.4 Documentation. The Contractor must document the amount of fuel expended on a CFR.

**WARNING**

**Ensure that all hot work is secured and that appropriate warning signs are placed within 50-feet of the boat prior to fueling.**

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 21: Window(s), Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the deckhouse window(s) selected in Table 1.

**TABLE 1 – VESSEL PILOTHOUSE WINDOWS**

SELECT	PILOTHOUSE WINDOW
	Port Front Window Heated
XX	Centerline Front Window Heated
	Starboard Front Window Heated
	Port Forward Sliding Window
	Starboard Forward Sliding Window
	Port Middle Window
	Starboard Middle Window
	Port Side Aft Window
	Starboard Side Aft Window
	Port Aft Window
	Starboard Aft Window
	Overhead Port Window
	Overhead Starboard Window

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	Window, Marine	NSN: 2040-01-612-5014 or PN: P0001309-014	1 ea.	3,361.91

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 625-002, Rev -, Window and Fixed Portlight

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5718, April 2014, Manufacture's Instruction Book, SWBS 167, Section A, Doors, Hatches and Windows

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

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

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

### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

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

- Windshield wiper system.
- Electrical wiring (Heated Glass).
- Window(s) Heater Defroster

3.2 Removal. The Contractor must remove the window(s) selected in Table 1, using Coast Guard Drawing 45 RB-M 625-002, Coast Guard (TP) 5718 and SFLC Std Spec 0000 for guidance.

3.2.1 The Contractor must discard all materials associated with each window in accordance with all Federal, state and local regulations.

3.3 Inspection. The Contractor must clean the complete window mating surfaces and inspect all surfaces for corrosion and damaged surfaces. Submit a CFR.

3.4 Touch-up preservation, general. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces, as applicable, to match existing adjacent surfaces in accordance with SFLC Std Spec 6310.

3.5 Window installation. The Contractor must install, as provided by government furnished equipment, new window(s) and new hardware, new fasteners, new gasket(s) and new sealant(s) in accordance with Coast Guard drawing(s) and Publication(s).

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3.6 Water hose test. In the presence of the Coast Guard Inspector inspect and test all affected boundaries in accordance with SFLC Std Spec 0740 STD, Appendix C. Submit a CFR.

### 4. NOTES

4.1 Coast Guard Personnel. Coast Guard Personnel will operate all vessel equipment and machinery.

## WORK ITEM 22: Fender Faying Surfaces, Preserve, 100 percent

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the fender faying surfaces to include fender strake, fender flat bar, and fender stops.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 114-001, Rev -, Fendering Arrangement

Coast Guard Drawing 45 RB-M 631-001, Rev A, Painting Layout

#### COAST GUARD PUBLICATIONS

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

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

#### OTHER REFERENCES

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

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP WJ-2/NACE WJ-2, 2012, Waterjet Cleaning of Metals – Very Thorough Cleaning

### 3. REQUIREMENTS

3.1 General.

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

- 3.2.3 Clean and inspect.

3.1.2 Tech Rep.

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None.

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

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

3.2 Preservation requirements. The Contractor must prepare and preserve the fender faying surfaces in accordance with Coast Guard Drawings 45 RB-M 114-001, 45 RB-M 631-001, SFLC Std Spec 0000 and SFLC Std Spec 6310 or use a suitable and approved alternative with notation via CFR and in accordance with SFLC Std Spec 6310.

3.2.1 Pre-surface preparation wash. Accomplish low-pressure (less than 5,000 psi) freshwater wash of all affected surfaces, to remove soluble chlorides and other surface contaminants. Refer to SSPC-SP 1, for guidance.

3.2.2 Surface preparation. The Contractor must prepare the surface in accordance with the surface preparation method stated in Table I- 45 RB-M Fender Faying Surfaces Preservation and SFLC Std Spec 6310.

3.2.3 Clean and inspect. Upon completion of surface preparation and prior to coating application the Contractor must clean and inspect the prepared fender faying surfaces aluminum substrate. Submit a CIR.

3.2.3.1 The Contractor must perform a visual inspection of the prepared surfaces.

3.2.3.2 The Contractor must solvent clean the prepared surfaces in accordance with SSPC-SP 1. Capture, contain, and dispose of all wastes from solvent cleaning, in accordance with all Federal, state and local regulations.

**TABLE 1 – 45 RB-M FENDER FAYING SURFACES PRESERVATION**

<b>EXTERIOR SURFACES TO BE PRESERVED</b>	<b>SURFACE PREPARATION</b>	<b>COATING SYSTEM</b>	<b>DFT (MILS)</b>	<b>COLOR</b>
FENDER STRAKE	BRUSH BLAST TO BARE METAL WITH CLEAN, FINE ALUMINUM OXIDE, GARNET OR EQUIVALENT INERT MATERIAL CONFORMING TO A-A-59316, TYPE I & IV WITH A 1.5-2.5 MIL ANCHOR PROFILE	1) SEAGUARD 5000 HS	5.0-6.0	Red
FENDER FLAT BAR		2) SEAGUARD 5000 HS	5.0-6.0	Grey
FENDER STOPS	-or- SSPC-SP WJ-2/NACE WJ-2			

3.2.4 Preservation. The Contractor must preserve the fender faying surfaces using the coating system in Table I- 45 RB-M Fender Faying Surfaces Preservation and in accordance with SFLC Std Spec 6310 or use a suitable and approved alternative with notation via CFR and in accordance with SFLC Std Spec 6310.

**NOTE**

**Surfaces being preserved are considered “critical-coated surfaces”.**

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

#### **4. NOTES**

##### 4.1 Definitions.

4.1.1 Fender Faying Surfaces. The fender faying surfaces are areas of the hull, mounting bars, and fender stops which come in contact with the fenders when the fenders are installed.

4.2 Related work items. Fendering System, Inspect.

4.3 Paint Availability. If the Contractor is not able to procure the current coating system outlined in Table 1 (Paint Schedule 45 RB-M), refer to the alternative paint schedules found in CG DWG 631-001 (Painting Layout) and SFLC Standard Specification 6310 (Requirements for Preservation of Ship Structures) for further guidance.

## WORK ITEM 23: Water Jet Drive, Preserve

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the water jet(s) selected in Table 1.

**TABLE 1 – WATER JET**

<b>SELECT</b>	<b>WATER JET</b>
XX	Port Water Jet
XX	Starboard Water Jet

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 5737, SWBS 247, Jun 2014, Water Jet – Model FF375S  
 Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020,  
 General Requirements  
 Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2020,  
 Requirements for Preservation of Ship Structures

#### OTHER REFERENCES

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

### 3. REQUIREMENTS

3.1 General.

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

- 3.3.4 Clean and Inspect

3.1.2 Tech Rep.

Not applicable.

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

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

**NOTE**

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

3.2 Operational test - initial. Prior to commencement of work, the Contractor must witness Coast Guard Personnel perform an initial operational test of the port and starboard water jet propulsion units to demonstrate existing, operational condition. Submit a CFR.

3.3 Preservation. The Contractor must preserve the water jet-drive unit(s) selected in Table 1, in accordance with Table 2 - Paint Schedule External Water Jet Components and Table 3 - Paint Schedule Internal Water Jet components.

3.3.1 Disassembly. The Contractor must disassemble the port and starboard water jet drive units to the below listed component level in order to facilitate “component preservation” in accordance with TP 5737.

- Reversing Buckets
- Steering Nozzles
- Guide Vane Chambers
- Impeller
- Impeller Housing
- Interceptors
- Shaft

3.3.2 Pre-surface preparation wash. Accomplish low-pressure (less than 5,000 psi) fresh water wash of all affected surfaces, to remove soluble chlorides and other surface contaminants. Refer to SSPC-SP 1, for guidance.

3.3.3 Surface preparation. The Contractor must prepare the external surfaces in accordance with the surface preparation method stated in Table 2, and the internal surfaces in accordance with the surface preparation method stated in Table 3 and SFLC Std Spec 6310.

3.3.4 Clean and inspect. Upon completion of surface preparation and prior to coating application, the Contractor must clean and visually inspect the prepared port and starboard water jet-drive units’ aluminum substrate. Submit a CIR.

3.3.4.1 Solvent clean the prepared surfaces in accordance with SSPC-SP 1. Capture, contain, and dispose of all wastes from solvent cleaning, in accordance with all Federal, state and local regulations.

**TABLE 2 - PAINT SCHEDULE EXTERNAL WATER JET COMPONENTS**

<b>EXTERIOR SURFACES TO BE PRESERVED</b>	<b>SURFACE PREPARATION</b>	<b>COATING SYSTEM</b>	<b>DFT (MILS)</b>	<b>COLOR</b>
Water jet drive (saltwater boats)	Near white blast per SSPC-SP10 with clean, fine aluminum oxide, garnet or equivalent inert material conforming to CID A-A-59316, Type I & IV with a 1.5-2.5 mil anchor profile	1) Seaguard 5000 HS	5.0-6.0	Red
		2) Seaguard 5000 HS	5.0-6.0	Grey
		3) *Seavoyage Copper Free AF	5.0-6.0	Black
		4) *Seavoyage Copper Free AF (must be applied while epoxy is still tacky)	5.0-6.0	Red
		5) *Seavoyage Copper Free AF	5.0-6.0	Black

\* Do not apply AF coating to anode mounting surfaces.

**TABLE 3 - PAINT SCHEDULE INTERNAL WATER JET COMPONENTS**

<b>INTERNAL SURFACES TO BE PRESERVED</b>	<b>SURFACE PREPARATION</b>	<b>COATING SYSTEM</b>	<b>DFT (MILS)</b>	<b>COLOR</b>
Water jet drive-intake tunnel and intake grid (saltwater boats)	Near white blast per SSPC-SP10 with clean, fine aluminum oxide, garnet or equivalent inert material conforming to CID A-A-59316, Type I & IV with a 1.5-2.5 mil anchor profile	1) Intershield 803	5.0	Red
		2) Intershield 803	5.0	Grey
		3) Intershield 803	5.0	Red
		4) Seaguard 5000 HS	4.0	Grey
		5) Seavoyage Copper Free AF (must be applied while epoxy is still tacky)	5.0-6.0	Black

3.3.5 Preservation. The Contractor must preserve the external surfaces in accordance with the surface preservation method stated in Table 2, and the internal surfaces in accordance with the surface preservation method stated in Table 3 and SFLC Std Spec 6310 or use a suitable and approved alternative with notation via CFR and in accordance with SFLC Std Spec 6310.

3.3.5.1 The Contractor must ensure that the following anode threaded fastener holes are clean and free of paint:

- Water Jet Transom
- Guide Vane Chamber
- Impeller
- Housing

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- Reverse Bucket
- Inspection Port Anodes

3.3.6 Reassembly. The Contractor must reassemble the port and starboard water jet drive units in accordance with TP 5737.

**NOTE**

**Surfaces being preserved are considered “critical-coated surfaces”.**

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

**NOTE**

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

3.5 Operational test – post repairs. After completion of work, the Contractor must thoroughly test, in the presence of the Coast Guard Inspector and demonstrate the port and starboard water jet propulsion units to be in satisfactory operating condition. Submit a CFR.

## 4. NOTES

4.1 Related work. Complete the following work items in conjunction with this work item:

- Water Jet, Inspect and Perform Service
- Anode, Renew
- U/W Body Preservation, 100%

4.2 Coast Guard personnel. Coast Guard personnel will operate all vessel machinery and equipment.

4.3 Paint Availability. If the Contractor is not able to procure the current coating system outlined in Table 1 (Paint Schedule 45 RB-M), refer to the alternative paint schedules found in CG DWG 631-001 (Painting Layout) and SFLC Standard Specification 6310 (Requirements for Preservation of Ship Structures) for further guidance.

## **WORK ITEM 24: U/W Body, Preserve (100%)**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to preserve 100% of the U/W body surface.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

Coast Guard Drawing 45 RB-M 631-001, Rev A, Painting Layout

#### **COAST GUARD PUBLICATIONS**

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

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

#### **OTHER REFERENCES**

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

### **3. REQUIREMENTS**

3.1 General.

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

- 3.2.4 Clean and inspect.

3.1.2 Tech Rep.

Not applicable.

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

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

- Water jet intake grating.
- Water jet propulsion unit

3.2 Preservation requirements. The Contractor must prepare and preserve 100% of the U/W body in accordance with Coast Guard Drawing 45 RB-M 631-001 and SFLC Std Spec 6310 or use a suitable and approved alternative with notation via CFR and in accordance with SFLC Std Spec 6310.

3.2.1 Fleeting. The Contractor must fleet the vessel as necessary to preserve the entire U/W body.

3.2.2 Pre-surface preparation wash. Accomplish low-pressure (less than 5,000 psi) freshwater wash of all affected surfaces, to remove soluble chlorides and other surface contaminants. Refer to SSPC-SP 1, for guidance.

3.2.3 Surface preparation. The Contractor must prepare the surface in accordance with the surface preparation method stated in Table I- Paint Schedule 45 RB-M and SFLC Std Spec 6310.

3.2.4 Clean and inspect. Upon completion of surface preparation and prior to coating application the Contractor must clean and inspect the prepared U/W body aluminum substrate. Submit A CIR.

3.2.4.1 The Contractor must perform a visual inspection of the prepared U/W body aluminum substrate.

3.2.4.2 The Contractor must solvent clean the prepared surfaces in accordance with SSPC-SP 1. Capture, contain, and dispose of all wastes from solvent cleaning, in accordance with all Federal, state and local regulations.

**TABLE 1 - PAINT SCHEDULE 45 RB-M (REF CGDWG 45 RB-M 631-001 PAINTING LAYOUT)**

EXTERIOR SURFACES TO BE PRESERVED	SURFACE PREPARATION	COATING SYSTEM	DFT (MILS)	COLOR
UNDERWATER BODY (SALTWATER BOATS)	NEAR WHITE BLAST PER SSPC-SP10 WITH CLEAN, FINE ALUMINUM OXIDE, GARNET OR EQUIVALENT INERT MATERIAL CONFORMING TO CID A-A-59316, TYPE I & IV WITH A 1.5-2.5 MIL ANCHOR PROFILE	1) SHERWIN WILLIAMS SEAGUARD 5000 HS	5.0-6.0	Red
		2) SHERWIN WILLIAMS SEAGUARD 5000 HS	5.0-6.0	Grey
		3) *SHERWIN WILLIAMS SEAVOYAGE COPPER FREE AF – (MUST BE APPLIED WHILE EPOXY IS STILL TACKY)	5.0-6.0	Black
		4) *SHERWIN WILLIAMS SEAVOYAGE COPPER FREE AF	5.0-6.0	Red
		5) *SHERWIN WILLIAMS SEAVOYAGE COPPER FREE AF	5.0-6.0	Black

\* Do not apply AF coating to anode mounting surfaces.

3.2.5 Preservation. The Contractor must preserve the U/W hull using the coating system in Table 1- Paint Schedule 45 RB-M and in accordance with SFLC Std Spec 6310 or use a suitable and approved alternative with notation via CFR and in accordance with SFLC Std Spec 6310.

3.2.5.1 The Contractor must ensure that the following anode fastener studs are clean and free of paint:

- Transom Anodes (2)
- Sea Chest Anodes (2)

**NOTE**  
Surfaces being preserved are considered “critical-coated surfaces”.

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

## 4. NOTES

### 4.1 Definitions.

4.1.1 U/W Body. The underwater body is defined as the aluminum hull surfaces from the bottom of the keel to the waterline, as shown on Coast Guard Drawing 45 RB-M 631-001.

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4.2 Related work. Water Jet Preservation, Anode Renewal.

4.3 Paint Availability. If the Contractor is not able to procure the current coating system outlined in Table 1 (Paint Schedule 45 RB-M), refer to the alternative paint schedules found in CG DWG 631-001 (Painting Layout) and SFLC Standard Specification 6310 (Requirements for Preservation of Ship Structures) for further guidance.

## WORK ITEM 25: Exterior and Interior Non-Skid Pads, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the exterior and interior nonskid (slip resistant) pads listed in Table 1- Non-Skid Pads Designated for Renewal.

**TABLE 1- NON-SKID PADS DESIGNATED FOR RENEWAL**

SELECT	ITEM DESCRIPTION	LOCATION
XX	Non-Skid 45 FT RBM Box1	Aft Main Deck
XX	Non-Skid 45 FT RBM Box2	Bow Deck
XX	Non-Skid 45 FT RBM Box3	Engine Room Deck
XX	Non-Skid 45 FT RBM Box4	Pilot House and Well Deck
XX	Non-Skid 45 FT RBM Box5	Aft Diver Deck
XX	Non-Skid 45 FT RBM Box6	Aux Machinery Area Deck
XX	Non-Skid 45 FT RBM Box7	Passenger Cabin Deck
XX	Non-Skid 45 FT RBM Box8	Pilot House Roof
XX	Non-Skid 45 FT RBM - Hatches	Round and Square Hatches

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN	QTY	ESTIMATED COST (\$/UNIT)
N	Non-Skid 45 FT RBM Whole Kit Contents of kit include box 1 through box 8. (Round and square hatches not included)	NSN: 7220-01-615-5012	1 ea.	5,295.43
N	Non-Skid 45 FT RBM - Round and Square Hatches - (Not included in main kit)	NSN: 2040-01-633-4911	1 ea.	123.94

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 634-002, Rev -, Deck Covering

#### COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 4993, SWBS 634, Oct 2011, Nonskid Pads, Peel and Stick Catalog

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

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

### OTHER REFERENCES

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-WJ-2/NACE WJ-2, 2012 Water Jet Cleaning of Metals-Very Thorough Cleaning

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not Applicable.

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

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

- Deck fittings (cleats, tow reels)
- Handrails
- Ladders
- Recovery port deck gratings
- Seats and Pedestals

3.2 Renewal. The Contractor must renew the exterior and interior nonskid pads listed in Table 1- (Non-Skid Pads Designated for Renewal) in accordance with Coast Guard Drawing 45 RB-M 634-002, Technical Publication 4993 and SFLC Std Spec 0000.

3.2.1 Removals. The Contractor must remove the slip resistant sheets, as designated in Table 1, using one or a combination of the following procedures:

- In accordance with Coast Guard Technical Publication 4993.
- Water jetting to a “SSPC-SP WJ-2/NACE WJ2, 2012 Water Jet Cleaning of Metals- Very Thorough Cleaning”. Do not use abrasives.
- Hand tools

3.2.2 Disposal. The Contractor must dispose of the slip resistant sheets, in accordance with all applicable Federal, state, and local regulations.

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3.2.3 Surface Preparation. The Contractor must prepare the surfaces after removing the existing non-skid pads in accordance with SFLC Std Spec 6310 and the following procedures:

- Remove any saltwater corrosion.
- Ensure all surfaces are clean, dry, and smooth, at least 10°F above dew point and the surface temperature must be above 40°F.
- Use appropriate cleaner or solvent to remove any waxes, oils, silicones, or other residue, which can impede adhesive bonding and long-term product durability.
- Clean with water and allow surfaces to dry thoroughly.
- Use primer as designated in Coast Guard Technical Publication 4993.

3.2.4 Substrate inspection. After completion of surface preparation and before non-skid pad application, the Contractor must perform a visual inspection of the prepared substrate for damage to include but not limited to deformation and cracks. Submit a CFR.

3.3 Installations. The Contractor must install slip resistant sheets, as designated in Table 1, using Contractor furnished primer and edge sealer compound, in accordance with Coast Guard Technical Publication 4993.

3.3.1 The Contractor must install Non-Skid (slip resistant sheets) as shown in the 45 RB-M 634-002.

3.3.2 The Contractor must select material brands as specified in SFLC Std Spec 6310, Appendix C.

3.3.3 The Contractor must ensure the following:

- Slip resistant sheet material is applied to within approximately 2 inches of deck fittings and protrusions and to within approximately 5 inches from coaming and deck edges. Deck fittings include, but are not limited to, the following: pad eyes, vent pipes, stanchion sockets, foundations.
- Separation of adjacent pieces does not exceed 3 inches on all work and traffic areas.
- Sheets are not applied over raised weld seams, deck fittings and protruding components (including, but not limited to: pad eyes, vent pipes, stanchion sockets, foundations).

## 4. NOTES

This section is not applicable to this work item.

## WORK ITEM 26: Interior Hull Insulation, Renew

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the interior hull insulation selected in Table 1.

**TABLE 1- HULL INSULATION LOCATION**

SELECT	DESCRIPTION	LOCATION	APPROXIMATE SQFT TO BE REPLACED
XX	Bulkhead (at COR discretion)	Pilothouse	24 SQFT
XX	Engine Room	Machinery Space	275 SQFT
		Auxiliary Space	
		Survivor Cabin	

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 635-002, Rev C, Insulation Details

#### COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2020, 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 must furnish and install all protective measures in accordance with SFLC Std Spec 0000, paragraph 3.3.3 (Vessel component, space, and equipment protection).

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

- Sheathing
- Bulkhead insulation
- Piping
- Electrical wiring

**CAUTION**

**The insulation currently installed in the 45 RB-M engine room and engine room ventilation supply ducts are made up of two layers of fiberglass with a thin layer of lead sheathing in the middle. Lead is a recognized health hazard. Lead may adversely affect the peripheral and central nervous systems, as well as the red blood cells, kidneys, reproductive and endocrine systems.**

3.2 Removal. The Contractor must remove the interior insulation and associated fastening hardware selected in Table 1. Refer to Coast Guard Drawing 45 RB-M 635-002 and SFLC Std Spec 0000 for guidance.

3.2.1 Disposal. The Contractor must dispose of all removed materials, in accordance with all applicable Federal, state, and local regulations.

3.3 Substrate inspection - visual inspection. Upon removal of existing insulation, the Contractor must visually inspect the exposed surfaces for corrosion, pitting and any other visible defects. Submit a CFR.

3.4 Installation. The Contractor must install the new insulation in accordance with Coast Guard Drawing 45 RB-M 635-002 and SFLC Std Spec 0000.

**NOTE**

**Lead sheet is no longer authorized for installation.**

3.4.1 Engine Room Specific Insulation. The Contractor must renew the engine room insulation as follows:

3.4.1.2 The Contractor must provide all installation material and fasteners:

- Sound attenuation barrier: Pyrotek "Quadzero", P/N 17763007
- Hullboard: Owens Corning 2-inch Foil -Faced "Insul-Quick" insulation.

3.4.1.3 The Contractor must replace up to 20 percent of the welded studs and caps.

3.4.1.3.1 The Contractor must weld all insulation mounting studs.

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3.4.1.4 The Contractor must install the insulation as follows starting at the bulkhead/hull in the following sequence.

- Quadzero
- Insulation Speed Washer
- 2-inch Insul-Quick Hullboard
- Insulation Speed Washer
- Trim Pin (as required)
- Insulation Cap
- Tape all boundaries

### **4. NOTES**

This section is not applicable to this work item.

## **WORK ITEM 27: Marine Chemist Services, Provide**

### **1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to provide marine chemist services.

1.2 Government-furnished property.

None.

### **2. REFERENCES**

#### **COAST GUARD DRAWINGS**

None

#### **COAST GUARD PUBLICATIONS**

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

#### **OTHER REFERENCES**

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2019, Occupational Safety and Health  
Standards for Shipyard Employment

### **3. REQUIREMENTS**

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

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

3.2 Provide Marine Chemist. The Contractor must provide certified marine chemist services in accordance with SFLC Std Spec 0000, paragraph 3.3.1.2 (Confined or enclosed space entry and hot work).

3.2.1 The Contractor must maintain safe conditions, in accordance with 29 CFR 1915.15, for the duration of the contract.

### **4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 28: Drydock

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to drydock the vessel, undock the vessel, and perform various drydocking-related tasks.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

Coast Guard Drawing 45 RB-M 084-002, Rev –, Docking Plan

Coast Guard Drawing 45 RB-M 170-002, Rev B, Folding Mast

#### COAST GUARD PUBLICATIONS

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

Surface Forces Logistics Center Standard Specification 8634 (SFLC Std Spec 8634), 2020,  
Drydocking

#### OTHER REFERENCES

None.

### 3. REQUIREMENTS

3.1 General.

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

- None.

3.1.2 Tech Rep.

Not applicable.

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

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

- Anchor assembly
- Load conditions
- U/W body appendages

3.2 Key personnel. The Contractor must determine key personnel and require their presence during all drydocking phases as required by SFLC Standard Spec 8634. Submit list of key personnel to the COR.

3.3 Docking and undocking. The Contractor must perform drydock and undock in accordance with SFLC Std Spec 8634, using build blocks or in a cradle as shown on Coast Guard Drawings 45 RB-M 084-002 and 45 RB-M 170-002.

3.4 Cutter conditions. The Contractor must use the Full Load Condition values listed below all in inches, for purposes of performing Pre-Award calculations as described in Appendix A (Requirements for Calculations) of SFLC Std Spec 8634.

- Displacement (lbs): 37,540

3.4.1 Blocking. The Contractor must facilitate docking the vessel in designated block position by arranging keel and side blocks and ensuring minimum block heights as shown on the vessel's docking plan.

**Table 1 – Blocking**

POS. #	BLOCK HEIGHT ABOVE DOCKING FACILITY DECK				STEEL PLATE	SITUATION AWARENESS	FIN STABILIZERS	ADDITIONAL
	MIN.	RUDDER REMOVAL	PROPELLER REMOVAL	SHAFT REMOVAL				
1	15"	NA	NA		NA	NA	NA	None

3.4.2 Cable, sling, or strap tension calculation. If the Contractor plans to use a vertical lift, crane, or travel/mobile lift to haul out the vessel, the Contractor must submit the cable, sling, or strap tension calculation specified in Table A1 and paragraph A2.7.2.7 of SFLC Std Spec 8634 with the Pre-Award calculations, using the loading condition specified in paragraph 3.4.

3.5 Pre-award calculations. The Contractor must provide to the KO a set of pre-award calculations, as described in SFLC Std Spec 8634 Appendix A.

3.5.1 Provide vertical side/bilge block offsets for any side blocks placed in a location where vertical offsets are not already defined by the docking plan.

3.5.2 Submit an alternate blocking arrangement, as part of the pre-award calculation submission, to compensate for any changes from the docking plan.

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3.5.2.1 If the alternate blocking arrangement interferes with U/W hull plate inspection or 100% preservation of U/W body surfaces required under separate work items in this specification package, the Contractor must include a plan of how inspection/preservation will be accomplished. Plan must include any modifications necessary to the prescribed docking plan including removing, shifting, repositioning blocks, or fleeting the vessel at no additional cost to the Government.

**NOTE**

**1. The USCG has established several approved alternate docking plans for each vessel-class, to facilitate complete access to the entire U/W body structure, for periodic comprehensive inspection and/or 100% preservation. This inspection and preservation pattern and periodicity is a configuration management concern that is a vital requirement of the contract. Intention to deviate from these plans (fewer blocks, block spacing, additional blocks, etc) is to be identified on pre-award calculations (Paragraph 3.5.2); an alternate docking plan and mitigation strategy will be provided to maintain preservation and inspection configuration.**

**2. Pre-award calculations may be deemed unsatisfactory - and may adversely affect contract award if they are submitted with the following detrimental factors:**

**a. No methods have been proposed that meet the requirements for the specified docking plan.**

**b. Proposed block shifting or fleeting risk-mitigating plan may result in delays in period of performance.**

**c. Proposed alternate docking plan violates USCG configuration management policies.**

3.6 Planned availability, immediate work and routine inspections. The Contractor must perform designated routine drydocking work, in accordance with SFLC Std Spec 8634, paragraph 3.5.4 (within twenty-four hours after docking).

3.6.1 Upon the COR convening the Coast Guard Underwater Hull Inspection Board (UWHIB), the Contractor must facilitate and participate in the UWHIB inspections of the underwater hull. The Contractor must provide a designated hull repair supervisor to accompany the UWHIB and mark on the hull proposed repairs areas, as necessary.

**NOTES**

**1. The COR will convene the UWHIB as soon as possible after the vessel has been dry-docked and the hull has been cleaned. No other work must take place until the UWHIB completes their inspections.**

**2. The UWHIB will recommend the extent of underwater body coating system preservation required based on the conditions found during the underwater hull survey.**

**WARNING**

**Do not use chemical additives in the freshwater wash. Take extreme care to avoid damaging or removing existing intact underwater body coating.**

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3.7 Fuel offloading. The Contractor must be aware that fuel offloading is not mandatory to drydock the vessel.

3.8 Fleeting. At the Arrival Conference, the Contractor must submit a second set of Drydocking calculations in accordance with SFLC Std Spec 8634, Appendix A for the alternate blocking position from that indicated in paragraph 3.4.1 Blocking position. Ensure the plans include any risk mitigating efforts necessary associated with other U/W body work items to ensure availability completion is not delayed.

### **4. NOTES**

4.1 Arrival conditions. The COR will advise the Contractor of the actual tank and draft readings when the vessel arrives, and will discuss with the Contractor any liquid loading changes necessary.

## WORK ITEM 29: Temporary Services, Provide

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide temporary services for the duration of the contract performance period.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

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

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

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

3.2 Services. The Contractor must provide temporary services for the duration of the contract performance period at the Contractor's facility or the vessel's home pier as applicable, in accordance with SFLC Std Spec 8635.

3.2.1 Office space. Provide office space for the Port Engineer in accordance with paragraph 3.3.1 of SFLC Std Spec 8635 with the requirement of only one (1) desk and chair vices three (3) as stated in paragraph 3.3.1.

3.2.2 Telephone and internet. Provide one (1) phone line and internet connectivity in accordance with paragraph 3.3.2 of SFLC Std Spec 8635.

3.2.3 Parking. Provide one (1) parking space in accordance with paragraph 3.3.3, Table II- Parking Spaces, column "A" of SFLC Std Spec 8635.

3.2.4 Electrical shore power. Provide electrical shore power to the vessel as listed in Table I – Vessel Shore Tie Electrical Requirements and in accordance with paragraph 3.3.5 (Electrical Power) of SFLC Std Spec 8635.

3.2.4.1 Provide electrical shore power anytime the vessel is waterborne.

3.2.4.2 If the COR establishes that there is no need for continuous electrical shore power while vessel is drydocked, the contractor must ensure that the following requirements are maintained.

- The Contractor must ensure that the vessel's batteries maintain the required charge throughout the availability.

**TABLE 1- VESSEL SHORE TIE ELECTRICAL REQUIREMENTS**

<b>VESSEL CLASS</b>	<b>VOLTAGE A/C</b>	<b>AMPERAGE</b>	<b>PHASE</b>	<b>HERTZ</b>	<b>PLUG-(VESSEL) CONNECTION</b>
45 RBM	120	100	Single	60	Hubbel MC4100C12R

3.2.5 Hull grounding straps. Connect hull grounding straps in accordance with paragraph 3.3.6 (Hull Grounding Straps) of SFLC Std Spec 8635.

**NOTE**

**The grounding straps of this section are for personnel electrical shock protection and are not to be connected to waterborne vessels. Such grounding straps should not be confused with the return current cables used with electric arc welders. See SFLC Standard Specification 0740 for electric arc welding cable requirements.**

3.2.6 Storage - general. Provide storage facilities in accordance with paragraph 3.3.14 of SFLC Std Spec 8635. Minimum acceptable storage space is:

- (560 cubic ft approx. - 10 ft Container.)

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

**4. NOTES**

This section is not applicable to this work item.

## WORK ITEM 30: Sea Trial Performance, Support, Provide

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide support for the performance of sea trials.

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

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

#### OTHER REFERENCES

None

### 3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep.

Not applicable.

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

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

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3.2 Trial applicability. The Contractor must provide support to the vessel crew to perform sea trials for all work items that require conducting operational tests while the vessel is waterborne or underway, prior to the item certification as being complete. The Contractor must be responsible for ensuring all test procedures are prepared, approved, and distributed for the sea trials, and must be responsible for recording test data and submitting CFRs to the COR.

3.3 Sea trial agenda. The Contractor must prepare an agenda that details the Contractor’s plans for ensuring completion of the required sea trials.

3.3.1 Agenda contents. The Contractor must ensure the agenda consists of chronological list of administrative events, inspection events and test events. Events must be arranged to permit expeditious conduct with minimum interference between concurrent events.

**NOTE**  
**Mutually compatible events may be scheduled simultaneously.**

3.3.1.1 The Contractor must ensure the agenda identifies installation of any test equipment or component modification that could impact the normal operation of equipment or systems during performance of the trials.

3.3.1.2 The Contractor must ensure the agenda identifies any operating instructions or special test procedures that could impact the normal operations of equipment or systems.

3.3.1.3 The Contractor must ensure the agenda includes the full name, title, security clearance, home address, home telephone number and name of next of kin of each Contractor-personnel scheduled to ride the ship during performance of the trials.

3.3.2 Agenda submission requirements. The Contractor must submit four legible copies of the sea trial agenda to the COR two days prior to the scheduled trials. The Contractor must coordinate both the planning and conduct of the post-overhaul ship trials with the ship’s force (see 4.1 (Equipment operation)).

3.4 Environmental compliance. The Contractor must abide by the below-listed rules, in addition to all other Federal, state, and local rules governing the overboard discharge of garbage and oil in the water.

3.4.1 Discharge of garbage.

**TABLE 1 – GARBAGE RULES**

GARBAGE TYPE	RULE
Plastics, including synthetic ropes, fishing nets, and plastic bags	Prohibited in all areas
Floating dunnage, lining and packing materials	Prohibited less than 25 miles from nearest land
Food waste, paper, rags, glass, metal, bottles, crockery and similar refuse	Prohibited less than 12 miles from nearest land
Comminuted or ground food waste, paper, rags, glass, etc...	Prohibited less than 3 miles from nearest land

3.4.2 Discharge of oil. The Contractor must be aware that the Federal Water Pollution Control Act prohibits the discharge of oil or oily waste upon or into any navigable waters of the U.S. The prohibition

includes any discharge that causes a film or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water.

**CAUTION**

**Violators are subject to substantial civil and/or criminal sanctions including fines and imprisonment.**

3.5 Dock trials. The Contractor must conduct dock trials to demonstrate the material readiness of the ship for sea trials. Additionally, all onboard tests conducted after installation and prior to sea trials to prove proper installation and satisfactory operation of equipment must be conducted in accordance with the requirements specified in the work items designated in paragraph 3.1 (Trial applicability). Ensure that the dock trials are begun no later than 12 hours prior to the scheduled sea trials.

3.5.1 The Contractor must provide a pier facility (or allow the cutter to move to a Coast Guard pier) in order to support dock trials. Dock trials may not be conducted while the cutter remains floating inside the dry-dock (not touching the blocks).

3.5.2 During dock trials, the Contractor must ensure the Contractor's personnel observe tests under their cognizance and make such adjustments and repairs, as required.

3.6 Sea trials. As soon as possible after completion of the dock trials, the Contractor must coordinate performance of the sea trials, based on the operational tests, as required in the applicable work items, for the following purpose:

- Performing tests that could not be performed while the ship was moored.
- Serving as final step in proving the success of the overhaul/repair tasks required in the designated work items, and ensuring that Contractor and COR are both satisfied that the ship is in all respects ready for final acceptance.

3.6.1 The Contractor must have representatives on board the cutter to observe the trials for the purpose of observing whether or not the repairs are satisfactory.

3.6.2 The Contractor must ensure the sea trials are carried out in free route, away from other shipping, as designated by the COR.

3.7 Post-trial examination. After the completion of the sea trial, the Contractor must perform a careful and thorough examination of parts of the repaired machinery, as designated by the COR. If any part of the ship or its equipment fails to meet contractual requirements during trials, perform additional trials after corrective measures have been taken.

**NOTES**

**1. Examples of dock trials include conducting cold (pre-light off) and hot checks, cycling machinery (rudders, BPU, turning gear, fin stabilizers), and conducting any post-docking shaft alignment verification checks. This time may also be used to on-load fuel, if needed for operations.**

**2. The conditions of the trials will be determined largely by the character of the work that has been performed in each case, and as designated by the COR. A full power trial should be run at this time unless the COR elects to defer this run until all new machinery parts are run-in or the training status of the crew permits full power operation without undue hazard.**

**3. This examination may be conducted by the Engineer Officer of the ship, in which case he will report the results of the examination to the COR, fully describing any defects or improper conditions found.**

**4. Representatives of manufacturers who have furnished ship components may be invited to witness trials subject to approval of the CO or OINC of the ship.**

#### **4. NOTES**

4.1 Equipment operation. Coast Guard personnel will operate all shipboard machinery and equipment during all tests.

## WORK ITEM 31: Lazarette Bilge, Preserve

### 1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the bilge surfaces for the locations and frames identified in Table 1.

**TABLE 1 - BILGES**

LOCATION	SQFT
Under the port and starboard strainers extending from the transom forward to Bulkhead 2, from the weld seam on the outboard side of the jet drive tunnel to the 1st longitudinal outboard of the Miller Leman strainer mounting girder. Refer to Figure 1.	16
Port/ starboard of the keel extending from the transom forward to Bulkhead 2, from the keel plate outboard to the jet drive tunnel weld seam on the port and starboard sides. Refer to Figure 2.	18

1.2 Government-furnished property.

None.

### 2. REFERENCES

#### COAST GUARD DRAWINGS

- Coast Guard Drawing 45 RB-M 185-001, Rev A, Auxiliary System Foundations
- Coast Guard Drawing 45 RB-M 256-002, Rev -, Cooling System Propulsion
- Coast Guard Drawing 45 RB-M 631-001, Rev A, Painting Layout

#### COAST GUARD PUBLICATIONS

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

#### OTHER REFERENCES

- The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 2 (SSPC-SP 2), 2004, Mechanical Tool Cleaning
- The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP 1), 2004, Mechanical Tool Cleaning

1), 2015, Solvent Cleaning

### 3. REQUIREMENTS

#### 3.1 General.

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

- 3.3 Visual inspection.

#### 3.1.2 Tech Rep.

Not applicable.

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

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

- Piping
- Hoses
- Strainers
- Deck grating

3.2 Preservation. The Contractor must preserve the bilge surfaces listed in Table 1 in accordance with the references listed in section 2.

3.3 Visual inspection. The Contractor must visually inspect this designated bilge surfaces for weld and hull damage. Submit a CIR.

3.4 Surface preservation. The Contractor must clean, prepare, and coat the designated bilge surfaces, including all adjacent structural members, using the system specified for “Bilges, Aluminum”, in SFLC Std Spec 6310, Appendix B, Note 18.

3.4.1 The Contractor must apply top/ finish coat color light gray (26622).

**WARNING**

**Abrasive-blasting is not permitted in machinery spaces.**

3.4.2 Remove and dispose of all bilge contaminants from the identified surfaces in accordance with all federal, state, and local regulations.

**NOTE**

**Surfaces being preserved are considered “critical-coated surfaces”.**

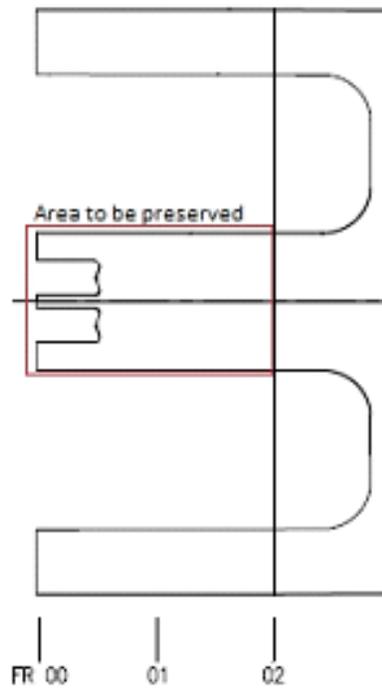
3.5 In-process quality control measures. The Contractor must abide by all the safety, preservation, and quality control requirements specified in SFLC Std Spec 0000, paragraph 3.2.4.2 (In-process QC measures for “critical-coated surfaces”).

#### 4. NOTES

This section is not applicable to this work item.



**FIGURE 9. BILGE AREA UNDER STRAINERS**



**FIGURE 10. BILGE AREA BETWEEN WATER JET TUNNELS**