



USCG 47315 (MLB 47)

SPECIFICATION FOR UNPLANNED DRYDOCK REPAIRS

FY2023

Developed By: David J Carson

(Rev-0, 5 January 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 47 MLB 252-10, Rev K, Propulsion System Control
Coast Guard Drawing 47 MLB 300-10, Rev C, Electrical Load Analysis
Coast Guard Drawing 47 MLB 300-20, Rev L, Motor Lifeboat Electrical one Line Diagram
Coast Guard Drawing 47 MLB 301-10, Rev P, Electrical Arrangement Panel Installation & Details
Coast Guard Drawing 47B MLB 110-207, Rev E, Transverse BHD FR 8
Coast Guard Drawing 47B MLB 110-209, Rev C, Transverse BHD FR 10
Coast Guard Drawing 47B MLB 110-306, Rev H, Web Frame 9
Coast Guard Drawing 47B MLB 201-010, Rev L, Machinery Arrangement
Coast Guard Drawing 47B MLB 313-001, Rev -, Standard Battery Connection Configuration
Coast Guard Drawing 47B-MLB 110-201, Rev D, Transom
Coast Guard Drawing 47B-MLB 110-500, Rev J, Shell Plating
Coast Guard Drawing 47B-MLB 631-010, Rev G, Hull Visual Identification
Coast Guard Drawing 47B-MLB 631-020, Rev L, Paint Schedule
Coast Guard Drawing 47B-MLB 634-010, Rev E, Deck Covering
Coast Guard Drawing 47B-MLB 801-002, Rev -, Docking Plan
Coast Guard Drawing 47B-MLB 801-010, Rev R, Booklet of General Plans
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) 3355, SWBS 086, Apr 2003, General Information Book, Section A, CH 6, Sec. II - Textron Service Bulletin - DDEC Disconnect Procedure
Coast Guard Technical Publication (TP) 4993, SWBS 593, Oct 2011, Nonskid Pads, Peel and Stick Catalog
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), Latest Version, 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 0740 (SFLC Std Spec 0740), Latest Version, Welding and Allied Processes
- 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), 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

- ASTM International (ASTM) D4138, 2013, Standard Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means
- 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
- NAVSEA Technical Publication T9074-AD-GIB-010/1688, (TP 1688), July 2012, Requirements for Fabrication, Welding, and Inspection of Submarine Structure
- The Society for Protective Coatings (SSPC) Surface Preparation Specification No. 1 (SSPC-SP 1), Apr 2015, Solvent Cleaning
- The Society for Protective Coatings (SSPC) Surface Preparation Specification No.1 (SSPC-SP 1), 2016, Solvent Cleaning
- The Society for Protective Coatings (SSPC), January 2015, 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-WJ-2/NACE WJ-2, Mar 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.

WORK ITEM	MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
7	Y	*Transducer Cover Plate	N/A	1 ea.	50.00
12	N	47 MLB Non-Slip Pad Kit	NSN: 2040-00-NIB-0342	1 ea.	3,164.21
12	N	Edge Sealing Compound	NSN: 8030-01-580-0926	12 ea.	10.90

*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 (U/W Body) Shots, Perform
4	U/W Body, Preserve, 100 percent
7	Drydock

PRINCIPAL CHARACTERISTICS

47' MLB, MOTOR LIFE BOAT	
PHYSICAL	
Length, overall	47' 11" (W/O Rubrails) - 48' 11"
Length, waterline	43"
Beam, overall	14' (W/O Rubrails) - 15'
Depth	4' 6"
Full load displacement	40,000 lbs
Full load draft	4' 6"
Height of highest projection	18' 6" (fixed height) - 28' 4"
HULL	
Hull/superstructure material	5456 Aluminum
Frame spacing	
FR 0 to 8	30" - 31"
FR 8 to 10	33"
FR 10 to 18	30"
MACHINERY	
Engine details	(2) DD 6V92TA DDEC III, 435 SHP each @ 2100 RPM
Electrical system	24 Volt DC
Number of propellers	2
Number of blades	4
Diameter	28"
Pitch	36"
Shaft- diameter x length (in)	2.50" x 159.0"
Shore tie voltage requirements	120 VAC (100A)
PERFORMANCE	
Maximum speed at sea state 0	25 knots (2050-2200 RPM)
Cruise speed at sea state 2	20 knots (1850 RPM)
Max idle speed	6 knots (600 RPM)
Fuel capacity (diesel)	394 gal.
Range at cruise, sea state 0	200 NM

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 The Contractor must conform to all requirements specified in SFLC Std Spec 5550 and in the Fire Protection and Response work item, as applicable, during the performance of this availability.

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

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

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

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

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

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

3.5.1 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.

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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 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 disconnect the Detroit Diesel Electronic Control (DDEC) System and any other electronic equipment, as required to avoid damage to systems arising from hotwork on the vessel during the availability.

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

3.6.1.5 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 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

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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.”

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):	
MEAN MIL READING (IAW ASTM D4417-METHOD C) FOR ABOVE 15 READINGS:					

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

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

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

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

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

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

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

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

(Use one sheet for each sequence)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

COATING MFG	PRODUCT NAME	BATC H #	INDUCTI ON 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.

SFLC-ESD-25		TANK AND VOID ASSESSMENT FORM			
<input type="button" value="PRINT"/> <input type="button" value="RESET"/>					
GENERAL DATA 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:	
ACCESS DATA					
Manhole and cover condition:			Tank Penetration Condition:		
VENT OVERFLOW DATA					
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	
LADDER DATA					
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:	
TANK LEVEL INDICATOR (TLI) DATA					
TLI Present in Tank: <input type="radio"/> Yes <input type="radio"/> No		TLI Damaged: <input type="radio"/> Yes <input type="radio"/> No		TLI Type:	
SOUNDING TUBE DATA					
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					
CATHODIC PROTECTION DATA					
Cathodic Protection in Tank: <input type="radio"/> Yes <input type="radio"/> No		Total Zincs:		Number of Zincs > 50% Depleted:	
1-6 Cleanliness & Housekeeping					
Clean to light layer or residue		1-2 (G)	Comments:		
Loose accumulation scale		3-4 (Y)			
Impending residue and sediments		5-6 (R)			
% 1-6 Coating Systems					
All Painted Surfaces		1-2 (G)	Comments:		
		3-4 (Y)			
		5-6 (R)			
% 1-6 Structural					
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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SFLC-ESD-25	TANK AND VOID ASSESSMENT SHEET
<div style="border: 1px solid black; padding: 2px; display: inline-block;">PRINT</div>	

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

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

Additional Comments:

WORK ITEM 1: General Welding, Provide

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide general welding as listed in Table 1 General Welding.

TABLE 1- GENERAL WELDING

ITEM DESCRIPTION	LOCATION	APPROXIMATE SQFT.
After Superstructure Antenna Mount pitted. <u>Crop and Renew</u>	Pilothouse	1

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

ALUMINUM PLATE		
THICKNESS	WEIGHT PER SQFT	TYPE/ALLOY
1/4 (.250)	3.53 lb	
5/16 (.3125)	4.41 lb	
3/8 (.375)	5.29 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 (U/W Body) Shots, Perform

1. SCOPE

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

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 47B-MLB 110-201, Rev D, Transom

Coast Guard Drawing 47B-MLB 110-500, Rev J, Shell Plating

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

- 3.3 Reporting

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 UT measurement. The Contractor must perform a total of 100 UT measurements using Coast Guard Drawings 47B-MLB 110-201 and 47B-MLB 110-500 as a reference and 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).

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 2).

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 3).

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.

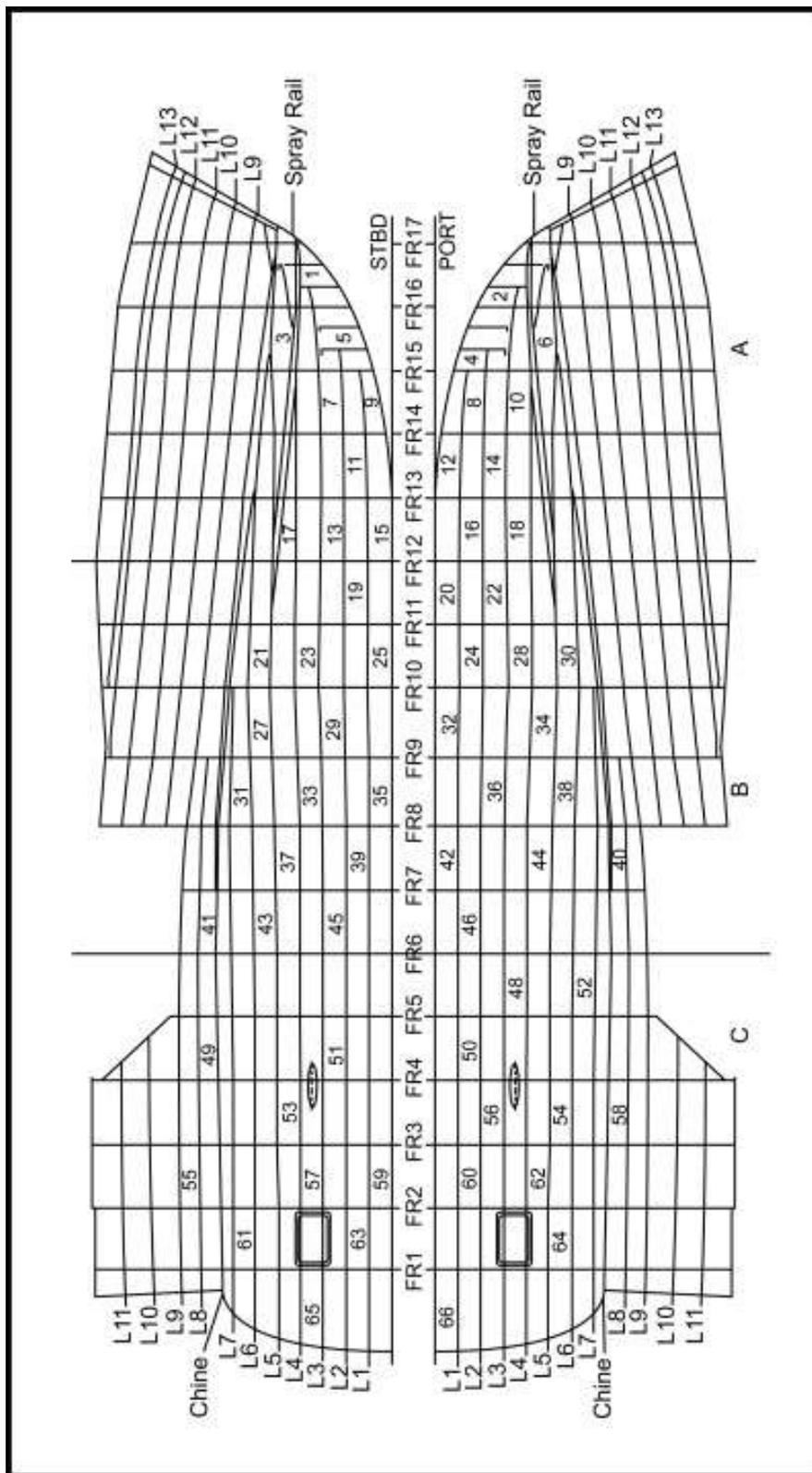


FIGURE 1 - STANDARD UT TESTING LOCATIONS (PORT & STARBOARD)

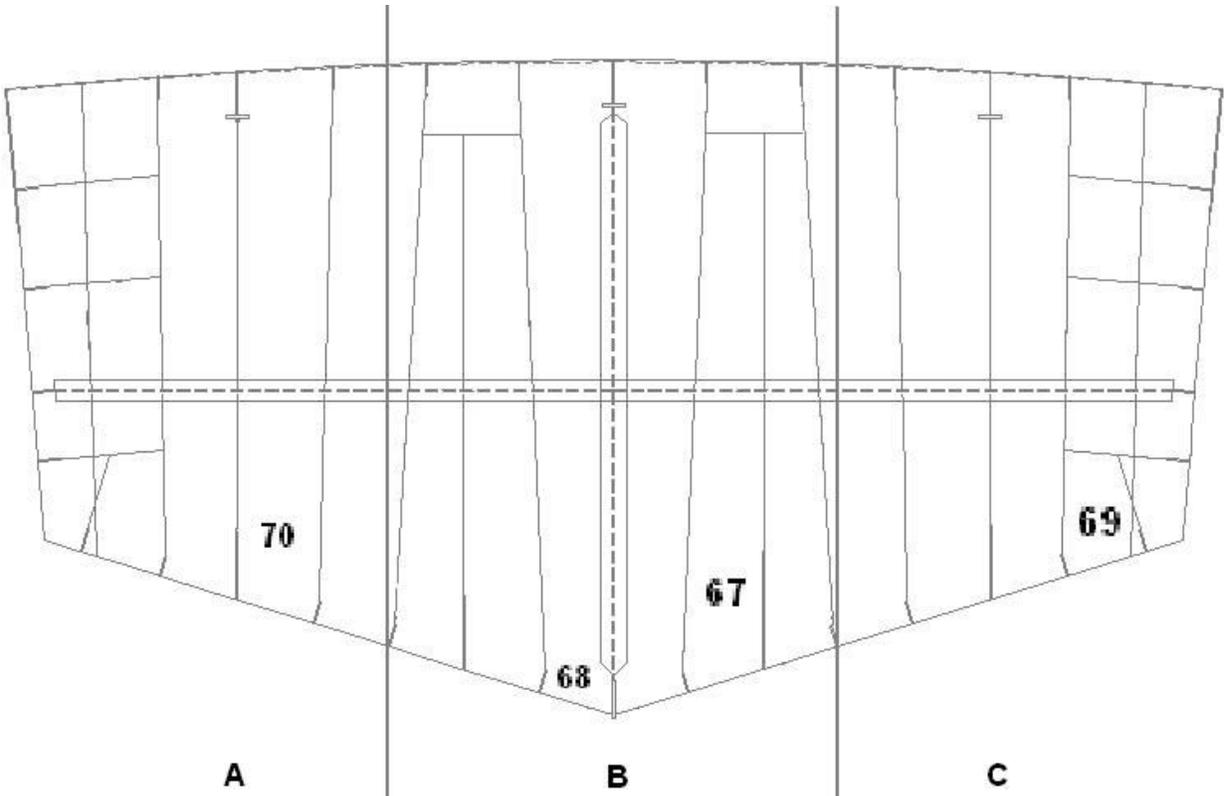


FIGURE 2 – STANDARD UT TESTING LOCATIONS (TRANSOM)

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TABLE 1 - STANDARD U/W BODY TEST RESULTS REPORT

DATE: _____

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

Standard U/W Body Plating Measurements Table									
Hull #:		Date:			Technician:				
LOCA-TION AREA	A DESIGN THICKN-ESS	MINIMUM ALLO-WED THICKN-ESS	B UT READING	C PERCENT OF LOSS	LOCA-TION AREA	A DESIGN THICKN-ESS	MINIMUM ALLO-WED THICKN-ESS	B UT READING	C PERCENT OF LOSS
C = 100 - (B/A X 100)					C = 100 - (B/A X 100)				
SHELL PLATING STBD SIDE SECTION "A"					SHELL PLATING PORT SIDE SECTION "A"				
1	0.313	0.234			2	0.313	0.234		
3	0.313	0.234			4	0.313	0.234		
5	0.313	0.234			6	0.313	0.234		
7	0.313	0.234			8	0.313	0.234		
9	0.313	0.234			10	0.313	0.234		
11	0.313	0.234			12	0.313	0.234		
13	0.313	0.234			14	0.313	0.234		
15	0.313	0.234			16	0.313	0.234		
17	0.313	0.234			18	0.313	0.234		
SHELL PLATING STBD SIDE SECTION "B"					SHELL PLATING PORT SIDE SECTION "B"				
19	0.313	0.234			20	0.313	0.234		
21	0.313	0.234			22	0.313	0.234		
23	0.313	0.234			24	0.313	0.234		
25	0.313	0.234			26	0.313	0.234		
27	0.313	0.234			28	0.313	0.234		
29	0.313	0.234			30	0.313	0.234		
31	0.313	0.234			32	0.313	0.234		
33	0.313	0.234			34	0.313	0.234		
35	0.313	0.234			36	0.313	0.234		
37	0.313	0.234			38	0.313	0.234		
39	0.313	0.234			40	0.250	0.188		
41	0.250	0.188			42	0.313	0.234		
43	0.313	0.234			44	0.313	0.234		
45	0.313	0.234			46	0.313	0.234		
SHELL PLATING STBD SIDE SECTION "C"					SHELL PLATING PORT SIDE SECTION "C"				
47	0.313	0.234			48	0.313	0.234		
49	0.250	0.188			50	0.313	0.234		
51	0.313	0.234			52	0.313	0.234		
53	0.313	0.234			54	0.313	0.234		
55	0.250	0.188			56	0.313	0.234		
57	0.313	0.234			58	0.250	0.188		
59	0.313	0.234			60	0.313	0.234		
61	0.313	0.234			62	0.313	0.234		
63	0.313	0.234			64	0.313	0.234		
65	0.313	0.234			66	0.313	0.234		
TRANSOM SECTION "A"					TRANSOM SECTION "B"				
70	0.250	0.188			67	0.250	0.188		
TRANSOM SECTION "C"					TRANSOM SECTION "C"				
69	0.250	0.188			68	0.250	0.188		

TABLE 2 - ADDITIONAL U/W BODY TEST RESULTS REPORT

DATE: _____

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

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ADDITIONAL 47 MLB U/W BODY PLATING MEASUREMENTS TABLE				
Hull#	Date		Technician	
LOCATION AREA	A DESIGN THICKNESS *	MINIMUM ALLOWED THICKNESS **	B UT READING	C PERCENT OF LOSS ***
	* Design plate thickness from keel to chine is 0.313 inches. Design plate thickness from top of boot top to sheer is 0.250 inches. Design plate thickness of transom is 0.250 inches. ** Minimum allowed thickness for 0.250 inch plate is 0.188 inches. Minimum allowed thickness for 0.313 inch plate is 0.234 inches. *** $C = 100 - (B/A \times 100)$			
A1				
A2				
A3				
A4				
A5				
A6				
A7				
A8				
A8				
A10				
A11				
A12				
A13				
A14				
A15				
A16				
A17				
A18				
A19				
A20				
A21				
A22				
A23				
A24				
A25				
A26				
A27				
A28				
A29				
A30				

TABLE 3 - UNDERWATER HULL BODY MINIMUM THICKNESS TEST RESULTS REPORT
DATE: _____

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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
Port Hull: Boot Top to Keel				.313	.234	.156
STBD Hull: Boot Top to Keel				.250	.187	.125
STBD Hull: Boot Top to Keel				.313	.234	.156
Transom Hull: Boot Top to Keel				.250	.187	.125

Comments:

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 47B-MLB 110-500, Rev J, Shell Plating

Coast Guard Drawing 47B-MLB 631-020, Rev L, Paint Schedule

Coast Guard Drawing 47B-MLB 801-002, Rev -, Docking Plan

COAST GUARD PUBLICATIONS

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

OTHER REFERENCES

ASTM International (ASTM) D4138, 2013, Standard Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means

The Society for Protective Coatings (SSPC), January 2015, 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.

Not applicable.

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

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

3.2 Inspection. The Contractor must accompany the Underwater Hull Inspection Board (UWHIB) in the performance of the below inspection tasks, as applicable, using the drawings listed in Section 2 (References) 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, sea beam arrays, 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.

3.2.3 Rudders. The Contractor must check general condition, condition around the drain plugs, and check for pitting, if any, on the leading and trailing edges.

3.2.4 Propeller and shaft associated components. The Contractor must inspect the condition of propellers for signs of corrosion, pitting, erosion, fouling, cracks, dings, and nicks by side and blade; inspect fairwaters, rope guards, shafts, and mechanical seals - look for missing screws, physical damage to the blades, pitting, condition of dunce caps, and condition of securing devices.

3.2.5 Transducers. The Contractor must check general condition 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.

3.2.6.1 The Contractor must remove all marine growth and oxide coating from all hull, rudder, shaft strut, sea chest, sea beam array, z-drive, and thruster tunnel zinc anodes, or water jet drives 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 Visual. Perform a visual inspection of the existing U/W body coating system.

3.2.7.2 Dry film thickness (DFT) measurements. Take total DFT measurements of the U/W body coating system, in accordance with SSPC-PA 2.

3.2.7.3 Coating system thickness and scheme inspection. Perform a microscopic observation of precision angular cuts in the coating system film (“Tooke Paint Inspection”), in accordance with ASTM D4138, and measure the total coating thickness and thickness of each individual coat of paint, in addition to identifying/verifying the existing color scheme for each coat of paint comprising the coating system.

NOTE

The Tooke Paint Inspection Gage/Gauge (Plastic) is a precision tool for inspection and thickness measurement (ASTM D4138) of single or multiple coats on any substrate, and for microscopic observation and measurement of substrate and film defects. The gage uses an illuminated 50-power microscope with measuring reticle, and mounts tungsten carbide cutting tips for precise incision of the work surface.

Direct measurement of total coating thickness and thickness of individual coats of paint is a unique capability of the Tooke Paint Inspection Gage/Gauge. Thus, in addition to routine use, it often serves as a “referee” instrument to calibrate indirect or non-destructive thickness measuring instruments.

Other uses include assessment of substrate conditions and coating adhesion, and observation of microscopic cracking, tendency for brittleness, cratering, or other microscopic film symptoms.

3.2.7.3.1 Take a total of four readings in locations designated by the Coast Guard Inspector, and as follows: one each, port and starboard, in the boot-top area; and one each, port and starboard, below the boot-topping.

3.2.7.3.2 Ensure that the repair of all areas affected by the destructive Tooke Gauge inspection is included in the optional repair work item that is activated by the result of the inspection.

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) topcoating; 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: U/W Body, Preserve, 100 percent

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve U/W body surfaces.

NOTES

1. The purpose of the preservation tasks covered by this item is to completely remove all existing coatings and recoat the U/W body surfaces with a new coating system.

2. U/W body surfaces are as defined in 4.1 (Definitions) and exclude areas covered by docking blocks, unless the vessel is flected for the express purpose of preserving blocked areas.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 47B-MLB 631-020, Rev L, Paint Schedule

Coast Guard Drawing 47B-MLB 801-010, Rev R, Booklet of General Plans

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), 2016, 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):

-
- 3.2.3 Post-surface preparation cleaning and inspection

3.1.2 Tech Rep. The Contractor must refer to SFLC Std Spec 0000, paragraphs 3.2.4.2.1 (Painting contractor certification program requirement) and 3.2.4.2.2 (Coating Tech Rep), for applicable requirements.

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) to the following components, spaces and equipment:

- All scuppers and overboard discharges.
- Waterline area where U/W body coating system interfaces with bare freeboard surfaces.
- Fathometer transducer surfaces.
- Sea valve openings.
- Propeller shaft bearings and seals.
- Rudder bearings.
- Propellers.
- Zinc anodes (unless anodes are being renewed).

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:

- Sea chest grating.

3.1.5 Initial inspection. Prior to removing the existing coating system, the Contractor must inspect and verify whether all draft marks have permanent markings (weld beads or impressions), showing their location on the hull. Submit a CFR.

3.1.6 Water used in preparation and washing procedures. The Contractor must ensure that water used in all surface preparation tasks, including pre-surface preparation wash and water jetting, is of sufficient purity and quality that it does not prevent the surface being cleaned from achieving the required degree of surface cleanliness or non-visible contamination criteria.

3.1.6.1 Ensure that surface preparation water does not contain sediments or other impurities that are destructive to the proper functioning of the cleaning equipment.

3.1.6.2 Ensure that all water used in any surface preparation or cleaning procedures is captured, contained, and all spent water disposed of in accordance with all Federal, state and local regulations.

3.1.7 Surface preparation optional methods. The Contractor has the option of using either high/ultrahigh pressure water jetting or abrasive blasting to achieve the required surface preparation, prior to application of the coating system specified in 3.2 (Preservation requirements). The Contractor may add abrasives to the water jet stream, for one or both of the following reasons:

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

NOTES

1. Existing coating system on the U/W body surfaces may have a nominal thickness in excess of that which was originally installed, because of “patch-coats” applied during past drydock availabilities.

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

3.2 Preservation requirements. The Contractor must accomplish the following tasks:

3.2.1 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.

3.2.2 Surface preparation and coating application.

The Contractor must accomplish the following tasks:

3.2.2.1 Prepare and coat the U/W hull surfaces with the system specified for “Underwater (U/W) Body and Boot-Top (U/W Body and Boot-Top, Aluminum Hull), Option I”, in SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems).

3.2.2.2 Ensure that the first AF coat is applied over the AC undercoating, while it is still tacky.

3.2.3 Post-surface preparation cleaning and inspection. After completion of surface preparation and prior to coating application, accomplish the following tasks and submit a CIR.

3.2.3.1 Perform a visual inspection of the prepared U/W body aluminum substrate.

3.2.3.2 Perform solvent cleaning of all 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..

NOTE

Lists of all authorized coating materials and suppliers are listed in SFLC Std Spec 6310, Appendix C (Cutter and Boat Authorized Coatings).

3.3 Draft mark painting. The Contractor must paint all draft marks with two coats of a “Polysiloxane” or “Silicone Alkyd Enamel” coating, at 2.0-3.0 mils DFT, white (17925).

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

3.5 AF system protective measures. The Contractor must employ coating system manufacturer’s recommendations to prevent AF coating damage if immersion time requirements are not met.

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 47B-MLB 801-010, including rudders, transducer hull rings, bilge keels, struts, skegs, gratings, sea chests (including the sea chest inlet up to the final connection with the flange face at the sea chest isolation valve(s)), and rope guards.

WORK ITEM 5: Hull Identification Markings, Apply

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to apply hull identification markings as listed in Table 1.

NOTE

Hull Identification Markings possible avenues of availability are through Federal Prison Industries (817) 413-3206, Contract DTCG-23-96-DECV058 or Brace Enterprises (954) 723-0435.

TABLE 1 – HULL IDENTIFICATION MARKINGS

ITEM DESCRIPTION	SPACE	QTY
USCG LOGO	Bow fwd Port & Stbd side	2 ea.
HULL NUMBERS	Bow fwd Port & Stbd side	2 ea.
HULL NUMBERS	Stern	1 ea.
“U.S. COAST GUARD” LEGENDS	Port & Stbd side	2 ea.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 47B-MLB 631-010, Rev G, Hull Visual Identification

COAST GUARD PUBLICATIONS

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

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

OTHER REFERENCES

None

3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 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 Remove existing markings. The Contractor must remove the existing letters, symbols or stripes in accordance with Coast Guard Drawing 47B-MLB 631-010, SFLC Std Spec 0000 and SFLC Std Spec 6310.

3.3 Apply new markings. The Contractor must renew the hull identification markings in accordance with Coast Guard Drawing 47B-MLB 631-010 and SFLC Std Spec 6310.

4. NOTES

4.1 Marking location. The markings described in this work item are found on the freeboard area of the hull.

WORK ITEM 6: 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 a 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 7: 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 47B-MLB 801-002, Rev -, Docking Plan

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 as shown on Coast Guard Drawing 47B-MLB 801-002.

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 (LT): 20.16.
- LCG (FT aft amidships): 4.57
- Length between perpendiculars (FT): 42.917
- Length of supported keel w/cradle (FT): 35.5

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				
	30"	Additional 30", overall height 60"	Additional 15", overall height 45"		NA	NA	NA	None

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.

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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.

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.

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 8: 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 provide electrical shore power anytime the ambient air temperature is expected to falls below 50 degrees Fahrenheit (for engine block heaters).
- The Contractor must ensure that the vessel's batteries maintain the required charge throughout the availability.

TABLE 1- VESSEL SHORE TIE ELECTRICAL REQUIREMENTS

VESSEL CLASS	VOLTAGE A/C	AMPERAGE	PHASE	HERTZ	PLUG-(VESSEL) CONNECTION
47 MLB	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 9: 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).

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 seal 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 be 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 10: Electrical Isolation, Perform

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 47 MLB 252-10, Rev K, Propulsion System Control

Coast Guard Drawing 47 MLB 300-10, Rev C, Electrical Load Analysis

Coast Guard Drawing 47 MLB 300-20, Rev L, Motor Lifeboat Electrical one Line Diagram

Coast Guard Drawing 47 MLB 301-10, Rev P, Electrical Arrangement Panel Installation & Details

COAST GUARD PUBLICATIONS

Coast Guard Technical publication (TP) 3355, SWBS 086, Apr 2003, General Information Book, Section A, CH 6, Sec. II - Textron Service Bulletin - DDEC Disconnect Procedure

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.

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:

Main Shore Power circuit breaker in the “OFF” position, at the 120 VAC Power Panel main shore power circuit breaker panel.

Battery Paralleling Switch in the “OFF” position.

Service Battery Disconnect Switch in the “OFF” position.

Start Battery Disconnect Switch in the “OFF” position.

Shore-Tie Power Supply on the pier in the “OFF” position.

Place all other power circuit breakers at the 120 VAC, 24 VDC, and 12 VDC panels in the “OFF” position.

3.2.1 Electrical Isolation. The Contractor must electrically isolate the vessel prior to conducting any welding procedures in accordance with Coast Guard TP 3355.

3.3 Disconnects. The Contractor must perform the following disconnects in accordance with Coast Guard Drawings 47 MLB 252-10, 47 MLB 300-10, 47 MLB 300-20, 47 MLB 301-10, SFLC Std Spec 0000 and SFLC Std Spec 0740.

NOTE

Ensure each cable is labeled to facilitate reinstallation.

3.3.1 Engine Room:

- Port Engine, at the MIM (Marine Interface Module) disconnect DCA-24P-WW (1)
- STBD Engine, at the MIM (Marine Interface Module) disconnect DCA-24P-XX (1)
- Port and STBD Engine, at the ECM (Engine Control Module) connector not noted on drawing, but consists of (2) 10 gauge red wires and (2) 10 gauge black wires, per engine.

WARNING

WHEN REMOVING BATTERY CONNECTIONS, DISCONNECT THE NEGATIVE (-) TERMINAL FIRST AND THE POSITIVE (+) TERMINAL LAST TO PREVENT ALTERNATOR DAMAGE.

3.3.2 Aux Space:

- At the port EGIM (Electronic Gear Interface Module) disconnect K-PM29, K-PM30, and DCA-24P-YY (1) which is all one connector.
- At the STBD EGIM (Electronic Gear Interface Module) disconnect K-PM31, K-PM32, and DCA-24P-ZZ (1) which is all one connector.
- At the ERIM (Engine Room Interface Module) disconnect the battery positive lead DCA-24P-KK (1), the battery negative lead, and DCA-24P-NN (1)

3.3.3 Enclose Bridge:

- At the CISM (Control Station Interface Module) locate behind the port side kick plate, disconnect K-PM7B, DCA-24P-AA (2) and DCA-24-P-GG (2).

NOTE

AA (2) and GG (2) are labeled on the drawing as black and white, but are actually yellow and blue installed.

NOTE

With the exception of the cable listed above, nothing else on the boat need to be disconnected.

3.3.4 Ground the craft in accordance with Coast Guard TP 3355.

- The grounding cables must be within 12 inches of the weld location at all times.
- The grounding should never be allowed to contact water.
- When the craft is in the water, double line (two 1/0 cable or equivalent) are required. The clamp which connects the ground cables at the work location should be of the C-clamp variety. The ground cable must be run from the work location to the ground connection on the work location to the ground connection on the welding power supply.

NOTE

Do not connect the welding ground line to earth ground such as a metal rod driven into the ground.

3.3.5 For stray current and lightning protection when the craft is in the water, a minimum of two (1/0 or equivalent) cables should be connect by C-clamps to the craft with the other ends of the cables connect to earth grounds.

WARNING

When attaching battery connections, connect the positive (+) terminal first and connect the negative (-) terminal last to prevent alternator damage.

NOTE

**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 Red Danger Tags IAW COMDTINST 9077.1 (series) from the following and place in the normal operational position:
Main Shore Power circuit breaker in the “ON” position, at the 120 VAC Power Panel main shore power circuit breaker panel.
Battery Paralleling Switch in the “ON” position.
Service Battery Disconnect Switch in the “ON” position.
Start Battery Disconnect Switch in the “ON” position.
Shore-Tie Power Supply on the pier in the “ON” position
Place all other power circuit breakers at the 120 VAC, 24 VDC, and 12 VDC panels in the “ON” position.**

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

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

4. NOTES

This section is not applicable to this work item.

WORK ITEM 11: Bilge Preservation, Auxiliary Space

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to preserve the bilge area between frame 8 and frame 10, extending outboard to the longitudinal girders.

NOTE

This work item is applicable to 47' MLB hulls 47206-47322.

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 47B MLB 110-207, Rev E, Transverse BHD FR 8
Coast Guard Drawing 47B MLB 110-209, Rev C, Transverse BHD FR 10
Coast Guard Drawing 47B MLB 110-306, Rev H, Web Frame 9
Coast Guard Drawing 47B MLB 201-010, Rev L, Machinery Arrangement
Coast Guard Drawing 47B MLB 313-001, Rev -, Standard Battery Connection Configuration

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), Apr 2015, Solvent 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:

- Hoses
- Deck Grates
- Bilge Pump and alarm
- Batteries and Battery boxes

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 Requirement. The Contractor must preserve the bilge area between frame 8 and frame 10, extending outboard to the longitudinal girders and up one inch on all structural members. Reference Coast Guard Drawings 47B MLB 110-207, 110-209, 110-306, 201-010, SFLC Std Spec 0000 and 6310.

3.3.1 Removals. The Contractor must conduct the following removals:

- Remove deck gratings between frame 8 and frame 10.
- Remove battery box access covers.
- Mark and disconnect the battery cables and temperature sensors from the batteries. Reference Coast Guard Drawing 47B MLB 313-001.
- Wrap all cable connections with insulating tape.
- Remove and retain batteries, battery boxes and mounting hardware.

3.4 Surface preservation. The Contractor must prepare and coat the effected bilge area in accordance with Table 1- Paint Schedule 47 MLB and the following:

3.4.1 Preparation. The Contractor must remove all oil, grease, dirt and other foreign material by solvent cleaning in accordance with SSPC-SP 1 prior to power tool cleaning and immediately prior to coating application.

3.4.2 Stripe Coat. The Contractor must stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

NOTE
Avoid excessive use of disk sanders because a polished, burnished surface is detrimental to coating adhesion.

TABLE 1 - PAINT SCHEDULE 47 MLB

INTERIOR SURFACES TO BE PRESERVED	SURFACE PREPARATION	COATING SYSTEM	DFT (MILS)	COLOR FED STD 595 COLOR #
Auxiliary Space Bilge (FR8-10) outboard to the longitudinal girders.	Power tool clean using non-metallic abrasive padding, to remove all corrosion and contamination.	1) High Build Epoxy	5.0-6.0	Light Gray #26373
		2) High Build Epoxy	5.0-6.0	Light Gray #26373

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”).

CAUTION
When installing battery connections, connect the positive (+) terminal first, and connect the negative (-) terminal last to prevent alternator damage.

3.6 Installation. The Contractor must:

- Install retained battery boxes and batteries.
- Install the battery cables and temperature sensors for all batteries in accordance with Coast Guard Drawing 47B MLB 313-001.
- Torque battery terminal connection 3/8 inch bolts to 63 in-lbs and 5/16 inch bolts to 35 in-lbs.
- Install battery box access covers.
- Install deck gratings between frame 8 and frame 10.

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

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 machinery and equipment during all tests.

WORK ITEM 12: Exterior Non-Slip Pads, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew the exterior (slip resistant) pads.

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
N	47 MLB Non-Slip Pad Kit	NSN: 2040-00-NIB-0342	1 ea.	3,164.21
N	Edge Sealing Compound	NSN: 8030-01-580-0926	12 ea.	10.90

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 47B-MLB 631-020, Rev L, Paint Schedule

Coast Guard Drawing 47B-MLB 634-010, Rev E, Deck Covering

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 4993, SWBS 593, Oct 2011, Nonskid Pads, Peel and Stick Catalog

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)/NACE International (NACE) Joint Surface Preparation Standard SSPC-WJ-2/NACE WJ-2, Mar 2012, Water Jet Cleaning of Metals-Very Thorough Cleaning

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). 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 Inspection. The Contractor must inspect the recovery well steps (port & starboard) anti-slip tape for wear and defects. Submit a CFR.

3.3 Renewal. The Contractor must renew the exterior nonskid pads in accordance with Coast Guard Drawing 47B-MLB 634-010, TP 4993 and SFLC Std Spec 0000.

3.3.1 Removals. Remove the slip resistant sheets using one or a combination of the following procedures:

- In accordance with TP 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

3.3.2 Disposal. Dispose of the slip resistant sheets, in accordance with all applicable Federal, state, and local regulations.

3.3.3 Surface preparation. Prepare the surfaces after removing the existing non-skid pads in accordance with Coast Guard Drawing 47B-MLB 631-020, SFLC Std Spec 6310 and the following procedures:

- Remove any salt water 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 TP 4993.

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3.3.4 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.

3.4 Installations. The Contractor must install slip resistant sheets, as designated in GFP, edge sealer compound, in accordance with TP 4993.

3.4.1 Install Non-Skid (slip resistant sheets) as shown in the 47B-MLB 634-010.

3.4.2 Select material brands as specified in SFLC Std Spec 6310, Appendix C.

3.4.3 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.