



USCGC BERTHOLF (WMSL 750)
SPECIFICATION FOR DOCKSIDE REPAIRS
FY2025

Developed By: [REDACTED]

(Rev-0, 16 July 2024)

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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 418A-WMSL-100-001, Rev B, General Arrangements
 Coast Guard Drawing 418A-WMSL-100-006, Rev A, Inboard and Outboard Profiles
 Coast Guard Drawing 418A-WMSL-593-001, Rev A, Bilge & Oil Pollution Control System Diagram
 Coast Guard Drawing 418A-WMSL-801-001, Rev A, Booklet of General Plans
 Coast Guard Drawing 750-WMSL-100-039, Rev M, Unit 3140 Structure Mn Dk to 01 Lvl - Fr 64 to Fr 76 (ASC100314)
 Coast Guard Drawing 750-WMSL-100-043, Rev L, Unit 3240 - Main Deck to 01 Level - Fr 76 to Fr 82 (ASC100324)
 Coast Guard Drawing 750-WMSL-100-059, Rev C, Topside Configuration (NSC 1 SRD) (ASC110004)
 Coast Guard Drawing 750-WMSL-100-064, Rev C, Topside Configuration (NSC 1 SRD) (ASC110004)
 Coast Guard Drawing 750-WMSL-100-528, Rev C, Structural Mods Iwo New Aft Folding Cranes (Bertholf/Waesche)
 Coast Guard Drawing 750-WMSL-100-531, Rev D, Structural Mods Iwo New Aft Folding Cranes, Hamilton, James & Munro
 Coast Guard Drawing 750-WMSL-136-500, Rev C, Centerline Talon Grid & Deck Socket Installation
 Coast Guard Drawing 750-WMSL-320-579, Rev -, Electrical Installations Iwo New Aft Folding Cranes
 Coast Guard Drawing 750-WMSL-436-011, Rev E, Fire Detection Sys Deck Plan (ASC436009)
 Coast Guard Drawing 750-WMSL-436-013, Rev C, Fire Detection Sys Cable Running Sheets (ASC436010)
 Coast Guard Drawing 750-WMSL-436-014, Rev -, Fire Detection and Control System Schematic (ASC436028)
 Coast Guard Drawing 750-WMSL-583-508, Rev -, Installations IWO Aft Folding Cranes
 Coast Guard Drawing 750-WMSL-588-006, Rev E, Helo Capture/Handling Arrangement & Instl Dets (ASC588005)
 Coast Guard Drawing 750-WMSL-612-003, Rev D, Helo Landing Area Safety Nets & Wheel Stops Arr and Details (ASC612003)
 Coast Guard Fleet Drawing FL-1702-11, Rev -, Inspection of Sheaves
 NAVAIR Drawing 627927, Rev D, Visual Landing Aids Installation and Clearance Requirements
 NAVSEA Drawing 803-1385828, Rev P, Nozzles AFFF and Washdown Systems

COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (Series), Coatings and Color Manual
Coast Guard Technical Publication (TP) 7001, SWSB 436, May 2007, Fire Detection System
Coast Guard Technical Publication (TP) 7346A, SWBS 593, Mar 2022, Bilge Water Separator Ultra-Sep
Coast Guard Technical Publication (TP) 7903, SWBS 583, Oct 2021, Aft Boat Handling System –Model
FB90-28
Coast Guard Technical Publication (TP) 7999, SWBS 588, 2015, Talon Helicopter Landing Grid - Type
18-08
Coast Guard Technical Publication (TP) 9618, SWBS 583, Sept 2023, Boat Davit - Models
DDP11000CTS & SP2200 (S/N: 2328-753, 2329-751, 2332-750)
Fire Prevention and Response
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General
Requirements
Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022, Welding and
Allied Processes
Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2022, Shipboard
Electrical Cable Test
Surface Forces Logistics Center Standard Specification 3042 (SFLC Std Spec 3042), 2022, Shipboard
Electrical Cable Removal, Relocation, Splice, Repair, and Installation
Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2022, Auxiliary
Machine Systems
Surface Forces Logistics Center Standard Specification 5550 (SFLC Std Spec 5550), 2022, Fire
Prevention and Response
Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements
for Preservation of Ship Structures
Talon Strength and Load Test, No 58817-3-200A, Rev A, 2011, Northrop Grumman Ship Systems, Inc.

OTHER REFERENCES

American Society for Nondestructive Testing (ASNT), Recommended Practice No. SNT-TC-1A, 2020,
Personnel Qualification and Certification in Nondestructive Testing
American Society for Nondestructive Testing (ASNT), Standard No. ANSI/ASNT CP-189-2020, 2020,
ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel
American Welding Society (AWS) B1.10M/ B1.10, 2016, Guide for Nondestructive Examination of
Welds
American Welding Society (AWS) B1.11M/B1.11, 2015, Guide for the Visual Examination of Welds
American Welding Society (AWS) D1.1/D1.1M, 2020, Structural Welding Code – Steel
ANSI/EASA Standard AR100-2020, Recommended Practice for the Repair of Rotating Electrical
Apparatus.
ASTM International (ASTM) D5363, 2003, Standard Specification for Anaerobic Single Component
Adhesives
ASTM International (ASTM) G46, 2018, Standard Guide for Examination and Evaluation of Pitting
Corrosion
ASTM International (ASTM) G46, 2021, Standard Guide for Examination and Evaluation of Pitting
Corrosion

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Code of Federal Regulations (CFR) Title 29, Part 1910, Jul 2022, Occupational Safety and Health Standards

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2022, Occupational Safety and Health Standards for Shipyard Employment

DCN Drawing MEGAHRDE82100, Rev C, Landing Grid Type 18-08 Characteristics and Interfaces

International Maritime Organization (IMO) International Convention for the Safety of Life At Sea (SOLAS), 2009 as amended in 2010 and 2011

International Maritime Organization (IMO) International Life Saving Appliances Code (LSA), 2010 edition

MIL-C-24757, Nov 1990, Cloth, Fiberglass, Coated

MIL-PRF-16173E w/Interim Amendment 2, 2017, Corrosion Prevention Compound, Solvent Cut Back, Cold Application

MIL-PRF-24176C, 2020, Cement, Epoxy, Metal Repair and Hull Smoothing

MIL-PRF-24667D, 2021, Coating System, Non-Skid, for Roll, Spray, or Self-Adhering Application

MIL-STD-1689A, 1990, Fabrication, Welding, and Inspection of Ships Structure

National Fire Protection Association (NFPA) 72, 2019 Edition, National Fire Alarm and Signaling Code

Naval Sea Systems Command (NAVSEA) 0640-LP-119-0175, 2019, NAVSEA OP 4 Rev 12, Ammunition and Explosives Safety Afloat

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.11 (SSPC-SP 11), 2016, Power Tool Cleaning to Bare Metal

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2020, Bare Metal Power Tool Cleaning

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

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 10 (WAB)/NACE WAB-2, 2015, Near-White Metal Wet Abrasive Blast Cleaning

US Environmental Protection Agency Method 1664, Feb 1999, N-Hexane Extractable Material and Silica Gel Treated N-Hexane Extractable Material by Extraction and Gravimetry.

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)
3	Y	CB-OTH Mark IV (Coast Guard Drawing 26B-CB-IV-801-001)	N/A	1 ea.	N/A
3	Y	Hook	Model APR-356-CBH	2 ea.	5000.00
3	N	Kit, Element Replacement	593533	1 ea.	1500.00
3	N	Kit, Element Replacement	593532	1 ea.	500.00
3	N	Element, Filter	70196	2 ea.	900.00
3	N	Filter, Breather	71975	2 ea.	400.00
3	N	Hub	73441	2 ea.	1300.00
4	Y	*CB-OTH Mark IV (Coast Guard Drawing 26B-CB-IV-801-001)	N/A	1 ea.	N/A
4	Y	*Long Range Interceptor II (LRI-II) Cutter Boat	N/A	1 ea.	N/A
5	N	Stanchion Bolts, (ST STL, ~NF EN ISO 4270, CHc M14x2)	NSN : 5307-14-534-8081 (DCN MEGAHRDE82100, Item 3)	15 ea.	120.00
5	N	Stanchion Lock Nuts, (ST STL, ~NF EN ISO 4270, CHc M14x2)	NSN : 5310-14-534-8082 (DCN MEGAHRDE82100, Item 4)	129 ea.	24.00
5	N	Fixation Bolts, (ST STL, NF EN ISO 4270, CHc M16x2-60/44)	NSN 5305-14-537-6930 (DCN MEGAHRDE82100, Item 5)	24 ea.	40.00
5	N	Threaded Covers, (ST STL, NF E 27183, Hc M16x2-28/28)	NSN : 1570-DSL-182666 (DCN MEGAHRDE82100, Item 6)	6 ea.	~10.00
5	N	Jacking Bolts, (ST STL, NF EN 24017, HM16x2-100/100)	NSN 5305-14-463-7787 (DCN MEGAHRDE82100, Item 7)	6 ea.	24.00
6	Y	Monitor, Smart Bilge	NSN: 2040-01-600-0112	1 ea.	4,700.00

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

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

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

CONSOLIDATED LIST OF CRITICAL INSPECTION ITEMS

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

Work Item	Title
1	Fire Detection System, Inspect and Test
3	Dual Point Davit, Biennial Maintenance, Perform
4	Folding Boom Cranes, Biennial Maintenance, Perform
5	Talon Grid (Type 18-08), Inspect and Test
6	Oily Water Separator (OWS) System, Inspect and Groom
7	Tenting (Flight Deck), Provide

PRINCIPAL CHARACTERISTICS

418' WMSL	
PHYSICAL	
Length overall	418' 0"
Length between perpendiculars	390' 0"
Maximum beam	54' 0"
Beam @ 01 level	47' 9-1/8"
Depth (01 level @ side to baseline)	39' 2-3/4"
01 deck camber foredeck	1/4" in 1'-0"
Minimum berth depth	20' 0"
Height of highest projection	Approximately 119'
Draft, design	14.40'
Design displacement	3925 long tons
MACHINERY	
Two diesel engines	MTU 20V, 20-cylinder 9,730 SHP each
One gas turbine	General Electric LM2500; 29,500 SHP
Type of propulsion	CODAG
Electrical system	24 Volt DC
Two controllable pitch propellers	Rolls-Royce 5 blade, 14' 0" diameter; 229 RPM max
Two reduction gears	RENK
One cross connect gear	RENK
HULL	
Hull material	5086 Aluminum
	HSLA-80 Steel
	ABS EH 36 Steel
	ABS AH 36
Frame spacing	
FWD of FR 9	2' 3"
FR 9 to FR 10	6' 9"
FR 10 to FR 98	4' 1"
FR 98 to FR 99	3'-8"
ELECTRICAL	
Power	Three 1360 kW, 450 V, 60 Hz, 3 Phase, 1800 RPM Caterpillar 3512B diesel engines with Baylor ship service generators
Shore tie cable	Seven MIL-C-24368/2 (NATO) shore power receptacles, 400 A each
TANK CAPACITIES	
Diesel oil	220,359 gal
Fresh water	12,454 gal
JP-5 Fuel	35,182 gal

General Requirements

1. SCOPE

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

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

2. REFERENCES

COAST GUARD DRAWINGS

None

COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (series), Coatings and Color Manual
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements

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

Surface Forces Logistics Center Standard Specification 5550 (SFLC Std Spec 5550), 2022, Fire Prevention and Response

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

OTHER REFERENCES

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2022, 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

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 in this item 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.

at time of contract award

3.1.1.1 Fire Safety Plan submission. The Contractor must submit a copy of the CFR 1915, Subpart P, Fire Safety Plan at time of contract award when work will be conducted in a Contractor-owned facility. Include any MOA(s) with local firefighting facilities. 3.1.1.2 Fire Plan submission. The Contractor must submit a copy of the developed availability specific fire plan, as requested in the Fire Protection and Response work item, at the Arrival Conference.

NOTE

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

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

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

3.3.1 Coatings. 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 authorization to deviate from any coatings required in SFLC Std Spec 6310 Appendix C before work.

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

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

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

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

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

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

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

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

3.4 Welding and brazing requirements. The Contractor must perform all welding and allied processes, and NDE in accordance with SFLC Std Spec 0740 and provide welding certification for review at the arrival conference.

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

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

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

NOTE

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

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

3.5.1 USCG facilities. The Contractor must provide and maintain environmental protection as defined in SFLC Std Spec 0000 Appendix B, Requirements for Environmental Protection at USCG Facilities, during the performance of this availability. Contractor must plan for and provide environmental protective measures to

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control pollution that develops during normal practice, as well as plan for and provide environmental protective measures required to correct conditions that develop during the project. Contractor must comply with applicable Federal, state, and local laws, codes, ordinances, and regulations in their entirety. Any reference to a specific portion of a Federal, state, or local law, code, ordinance, or regulation in this or any other item must not be construed to mean that relief is provided from any other sections of the law, code, ordinance, or regulation.

3.5.1.1 USCG Generator status. The activity Generator Status for the Coast Guard Facility is 7690390037. The EPA ID for the Coast Guard Facility is CA7690390037

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

- Spill Prevention Control and Countermeasures (SPCC) Plan: Unit has a SPCC Plan which requires certain unit-specific procedures be followed for the storage, inspection, and transfer of petroleum products in containers 55 gallons or greater.

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

- Air Emission Permit: Unit has an Air Emission Permit which requires unit-specific procedures be followed for the emissions of VOCs and hazardous air pollutants.

3.5.2 Test and procedures. The Contractor 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 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 COR and the local Facility Engineer or Engineering Officer prior to commencement of work activities. Regulatory notifications must be provided for including, but not limited to: demolition, renovation, National Pollutant Discharge Elimination System (NPDES) defined site work, and remediation of controlled substances such as asbestos, hazardous waste, and lead paint.

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

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

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

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

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

3.5.6.3 Coast Guard facilities do not maintain Facilities Response Plans (FRPs) per 33 CFR 154. Contractor must furnish the FRP when required for over-the-water liquids transfers to and from vessels, and is required for oil/fuel transfers to/from vessels for 250 barrels (10,500 gallons) or more.

3.6 Local Policy. The Contractor must refer to site (e.g., Base) Regulations and Instructions for details regarding local policies (e.g., crane services, parking, or facility usage).
3.7 SFLC Standard Specification approved changes. Approved updates to the 2022 SFLC Standard Specifications will appear here.

3.7.1 None.

4. NOTES

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

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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

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

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

Use one sheet for each activity. Record conditions every four hours from before surface preparation to application of final coating system coat.							
DATE & TIME	ACTIVITY (SURFACE PREPARATION, PRIMER COAT, BARRIER COAT, TOP COAT, ETC....)	LOCATION (FRAME & DECK, RELATION TO EQUIPMENT, ETC.)	TEMPERATURE				% REL. HUMIDITY
			DEW PT.	SURFACE	AMBIENT	AT DP - SURFACE	
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):	
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-4 - QUALITY ASSURANCE INSPECTION FORM
(SURFACE SOLUBLE SALT CONDUCTIVITY LOG)

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

[illegible]

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

(Use one sheet for each sequence)

VESSEL NAME	HULL #	WORK ITEM #	WORK ITEM TITLE

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

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

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

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

LOCATION (FRAME REFERENCE):							
SPOT	1	2	3	4	5	OVERALL AVG. DFT	ADJUSTMENTS
1							AVG. BMR DEVIATION
2						BEFORE ADJUSTMENTS	AFTER ADJUSTMENTS
3							
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:	
Cutter Name:		Cutter Class:	
Tank:		Service:	
Solid Ballast:		Access Compt:	
Date:		Assessment Reason:	
Contact Info:		Hull:	
Tank Area:		Gallons:	
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	<h1 style="margin: 0;">TANK AND VOID ASSESSMENT SHEET</h1>
<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:			

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WORK ITEM 1: Fire Detection System, Inspect and Test

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and test Fire Detection System listed in Table 1.

TABLE 1 – FIRE ALARM SYSTEM

MODEL NO./ MANUFACTURER	DESCRIPTION	COAST GUARD DRAWING / TECH PUB
MXL / Siemen Corp.	Fire Alarm System complete with MXL Control Panel, Repeater Panel, Fire Print Intelligent Detectors, Photoelectric Detectors, Ionization Detectors, Thermal Detectors, Pull Station, Bells, and Loop Isolation Modules. Profibus Module	*750-WMSL-436-011 / 7001 & 9770

*Applicable sheet are referenced as NSC 1-5 ONLY

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 418A-WMSL-100-001, Rev B, General Arrangements
 Coast Guard Drawing 418A-WMSL-801-001, Rev A, Booklet of General Plans
 Coast Guard Drawing 750-WMSL-436-011, Rev E, Fire Detection Sys Deck Plan (ASC436009)
 Coast Guard Drawing 750-WMSL-436-013, Rev C, Fire Detection Sys Cable Running Sheets (ASC436010)
 Coast Guard Drawing 750-WMSL-436-014, Rev -, Fire Detection and Control System Schematic (ASC436028)

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements
 Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2022, Shipboard Electrical Cable Test
 Surface Forces Logistics Center Standard Specification 3042 (SFLC Std Spec 3042), 2022, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, and Installation
 Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements for Preservation of Ship Structures

OTHER REFERENCES

National Fire Protection Association (NFPA) 72, 2019 Edition, National Fire Alarm and Signaling Code

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 System inspect and test.

3.1.2 Tech Rep. The Contractor must provide the services of a licensed Tech Rep, who is familiar with the Siemens MXL Marine Smoke Detection System to accomplish the following tasks – on site:

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

3.1.2.1 Ensure that the Tech Rep is a Certified Representative of Siemens Building Technology Inc

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

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

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

- Sheathing
- Bulkhead insulation
- Piping
- Electrical Cables
- Overhead Lights

3.1.5 Electrical work. The Contractor must accomplish all electrical work in accordance with SFLC Std Spec 3042, and test cables in accordance with SFLC Std Spec 3041.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.1.6 Operational test, initial. Prior to commencement of work, the Contractor, in the presence of a Coast Guard Inspector, must witness Coast Guard personnel perform an initial operational test of all items or

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shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition. Submit a CFR..

3.2 Fire detection system. The Fire Detection System components and zone loop wiring is shown on the Coast Drawing 750-WMSL-436-011. The Coast Drawings and Tech Pub referenced in the Para 2 provides information of the Fire Detection System on the Cutter.

3.2.1 Password protection. Fire alarm panel is password protected for software. Prior to start work on this item (i.e. Maximum 5 days prior to Tech Rep arrival) Tech Rep must request Password through Siemens HQ and Coast Guard Inspector.

3.3 Fire detection system inspect and test. The Contractor must perform inspection and test of the Fire Alarm System in accordance with NFPA-72 (i.e. National Fire Alarm and Signaling Code) and TP referenced in the Para 2. Annual Fire Alarm Testing requirement is listed in Table 1. The Contractor must perform 100 % test on all field devices (I.e., ALARM-INITIATING DEVICES AND CIRCUITS) listed in Table 1. Submit CIR.

TABLE 1 – NFPA-72 ANNUAL FIRE ALARM TEST

DESCRIPTION
Test and Visual Inspection of Panel Functionality
Test Panel Battery Charger
Battery Discharge Test
Test and Visual Inspection Horns, Strobes, Chimes and Bells
Test and Visual Inspection of Smoke Detectors
Test and Visual Inspection of Heat Detectors
Replace Sealed Lead Acid Battery every Five Years (Verify Expiration Date on the Battery and Submit a CFR)
Smoke and Heat Detectors : Replacement is recommended every 10 Years

3.3.1 The Contractor must renew seal lead acid battery mounted inside Fire Alarm Control Panel.

NOTE

The Contractor must perform only applicable test on the Fire Alarm System. Some of the test identified on the attached Data Sheet may not be required on installed Fire Alarm System on the Cutter.

3.3.2 The Contractor must perform applicable test on Fire Alarm System with assistance from Tech Rep. Submit a CFR.

3.3.2.1 Perform applicable test as identified in Figure 1A-through Figure 1H (i.e. Annual Fire Alarm System Test and Inspection Records).

3.3.2.2 Verify signals from Fire Alarm Control Panel to Machinery Control and Monitoring System (i.e. MCMS) display console.

3.3.2.3 Certify that Fire Alarm System on the Cutter is operating properly (i.e. Figure 1H).

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

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3.4 Operational test – post repairs. After completion of work, the Contractor must witness an operational test (by Coast Guard personnel) of all items or shipboard devices that have been disturbed, used, repaired, altered, or installed, to prove that they are in satisfactory operating condition. Submit a CFR.

3.5 Touch-up preservation. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems) and Appendix B (Cutter and Boat Interior Painting Systems), respectively, and as applicable. Abide by all touch-up requirements outlined in SFLC Std Spec 0000, Appendix A (Requirements for Preservation of Ship Structures).

4. NOTES

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YES = Tested correctly

NO = Did not test correctly (REFER TO REMARKS, E2.12)

N/A = Not applicable (Function or Feature not provided on this Fire Alarm System)

E2.1 CONTROL UNIT OR TRANSPONDER TEST

Control unit or transponder location:				
Control unit or transponder identification:				
A	Power "ON" visual indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
B	Common visual trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
C	Common audible trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
D	Trouble signal silence switch operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
E	Main power supply failure trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
F	Ground fault tested on positive and negative initiates trouble signal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
G	Alert signal operates (If feature is not provided on this system - N/A).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
H	Alarm signal operates	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
I	Automatic transfer from alert signal to alarm signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
J	Manual transfer from alert signal to alarm signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
K	Automatic transfer from alert signal to alarm signal cancel (acknowledge) feature operates on a two-stage system.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
L	Alarm signal silence inhibit function operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
M	Alarm signal manual silence operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
N	Alarm signal silence visual indication operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
O	Alarm signal, when silenced, automatically reinitiates upon subsequent alarm.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
P	Alarm signal silence automatic cut-out timer.	Time: _____		<input type="checkbox"/> N/A
Q	Audible and visual alert signals and alarm signals programmed and operate per design and specification; or documentation as detailed in Appendix C, Description of Fire Alarm System for Inspection and Test Procedures.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
R	Input circuit, alarm and supervisory operation, including audible and visual indication operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
S	Input circuit supervision fault causes a trouble indication.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
T	Output circuit alarm indicators operate.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
U	Output circuit supervision fault causes a trouble indication.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
V	Visual indicator test (lamp test).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
W	Coded signal sequences operate not less than the required number of times and the correct alarm signal operates thereafter.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
X	Coded signal sequences are not interrupted by subsequent alarms.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Y	Ancillary device by-pass will result in a trouble signal.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Z	Input circuit to output circuit operation, including ancillary device circuits, for correct program operation, as per design and specification, or documentation as detailed in Appendix C, Description of Fire Alarm System for Inspection and Test Procedures.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
AA	Fire alarm system reset operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
BB	Main power supply to emergency power supply transfer operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
CC	Status change confirmation (smoke detectors only) verified. [Refer Subsection 5.7.4.3, Status Change Confirmation (Alarm Verification Feature)].	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
DD	Receipt of the alarm transmission to the fire signal receiving centre.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
EE	Receipt of the supervisory transmission to the fire signal receiving centre.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
FF	Receipt of the trouble transmission to the fire signal receiving centre.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
GG	Record the name and telephone number of the fire signal receiving centre. Name: _____	Telephone: _____		<input type="checkbox"/> N/A
HH	Operation of the fire signal receiving centre disconnect means results in a specific trouble indication at the control unit or transponder and transmits a trouble signal to the fire signal receiving centre.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

FIGURE 1A: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E2.2 VOICE COMMUNICATION TEST

A	Power "ON" indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
B	Common visual trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
C	Common audible trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
D	Trouble signal silence switch operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
E	All-call voice paging, including visual indicator, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
F	Output circuits for selective voice paging, including visual indication, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
G	Output circuits for selective voice paging trouble operation, including visual indication, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
H	Microphone, including press to talk switch, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
I	Operation of voice paging does not interfere with initial inhibit time of alert signal or alarm signal.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
J	All-call voice paging operates (on emergency power supply).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
K	Upon failure of one amplifier, system automatically transfers to back up amplifier(s).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
L	Circuits for emergency telephone call-in operation, including audible and visual indication, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
M	Circuits for emergency telephones for operation, including two-way voice communication, operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
O	Emergency telephone verbal communication operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
P	Emergency telephone operable or in-use tone at handset operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

FIGURE 1B: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E2.3 CONTROL UNIT OR TRANSPONDER INSPECTION

Control unit or transponder location:			
Control unit or transponder identification:			
A	Input circuit designations correctly identified in relation to connected field devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Output circuit designations correctly identified in relation to connected field devices.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Correct designations for common control functions and indicators.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
D	Plug-in components and modules securely in place.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
E	Plug-in cables securely in place.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
F	Record the date, revision and version of firmware and software program.	Date: _____ Rev: _____ Ver: _____	
G	Clean and free of dust and dirt.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
H	Fuses in accordance with manufacturer's specification.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
I	Control unit or transponder lock functional.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
J	Termination points from wiring to field devices secure.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

E2.4 POWER SUPPLY INSPECTION

Control unit or transponder location:			
Control unit or transponder identification:			
A	Fused in accordance with the manufacturer's marked rating of the system.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Adequate to meet the requirements of the system.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

E2.5 EMERGENCY POWER SUPPLY TEST AND INSPECTION

Control unit or transponder location:			
Control unit or transponder identification:			
A	Correct battery type as recommended by manufacturer.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Correct battery rating as determined by battery calculations based on full system load.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Battery voltage with main power supply "ON"	Voltage: _____ V dc	
D	Battery voltage and current with main power supply "OFF" and fire alarm system in supervisory condition.	Voltage: _____ V dc Current: _____ A	
E	Battery voltage and current with main power supply "OFF" and fire alarm system in full load alarm condition.	Voltage: _____ V dc Current: _____ A	
F	Charging current.	Current: _____ A	
G	Physical damage.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
H	Terminals cleaned and lubricated.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
I	Terminals clamped tightly.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
J	Correct electrolyte level.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
K	Specific gravity of electrolyte is within manufacturer's specifications.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
L	Electrolyte leakage.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
M	Adequate ventilation.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
N	Battery manufacturer's date code or in-service date.	Date: _____	
O	Disconnection causes trouble signal.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
P	Indicate type of battery tests performed: (i) Required supervisory load for 24 hr followed by the required full load operation; or (ii) A silent test by using the load resistor method may be used for the full duration test (Refer to Appendix F1, Silent Test); or (iii) Silent accelerated test. (Refer to Appendix F2, Silent Accelerated Test); or (iv) A battery capacity meter test. (Refer to Appendix F3, Battery Capacity Meter Test); or (v) In lieu of the above battery tests, replace the battery with a new set having a current date code, amp-hour capacity and type as recommended by the manufacturer.	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No
Q	Record calculated battery capacity (Refer to CAN/ULC-S538-04 Appendix F4, F-C)	A/h	
R	Record battery terminal voltage after completion of tests.	V dc	
S	Battery voltage not less than 85% of its rating after the tests.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
T	Generator provides power to the AC circuit serving the fire alarm system.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
U	Trouble condition at the emergency generator shall result in an audible common trouble signal and a visual indication at the required annunciator.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

FIGURE 1C: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E2.6 ANNUNCIATOR AND REMOTE TROUBLE SIGNAL UNIT TEST AND INSPECTION

For clarification on difference between E2.6 & E2.7 refer to CAN/ULC-S536-04, Clauses 5.4.1 & 5.4.2

Annunciator or remote trouble signal unit location:			
Annunciator or remote trouble signal unit identification:			
A	Power "on" indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Individual alarm, and supervisory input zones are clearly indicated and separately designated.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Individual alarm and supervisory zone designation labels are properly identified.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
D	Common trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
E	Visual indicator test (lamp test) operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
F	Input wiring from control unit or transponder is supervised.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
G	Alarm signal silence visual indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
H	Switches for ancillary functions operate as per design and specification, or documentation as detailed in Appendix C, Description of Fire Alarm System for Inspection and Test Procedures.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
I	Other ancillary function visual indicators operate.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
J	Manual activation of alarm signal and indication operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
K	Displays are visible in installed location operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
L	Operates on emergency power.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

E2.7 ANNUNCIATORS OR SEQUENTIAL DISPLAYS

For clarification on difference between E2.6 & E2.7 refer to CAN/ULC-S536-04, Clauses 5.4.1 & 5.4.2

Annunciator or sequential display location:			
Annunciator or sequential display identification:			
A	Power "on" indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Individual alarm and supervisory zone indication operates. (See exception)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Exception: Operation of each individual alarm and supervisory zone indication gives the identical indication, or lights the identical indicators at the other annunciator(s) and sequential display(s).			
B	Specify Method of confirmation: _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Minimum of one alarm zone and one supervisory zone tested per annunciator or sequential display to confirm operation.		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Individual alarm and supervisory zone designation labels are properly identified.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
D	Common trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
E	Visual indicator test (lamp test) operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
F	Input wiring from control unit or transponder is supervised.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
G	Alarm signal silence visual indicator operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
H	Switches for ancillary functions operate as per design and specification, or documentation as detailed in Appendix C, Description of Fire Alarm System for Inspection and Test Procedures.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
I	Other ancillary functions visual indicators operate.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
J	Manual activation of alarm signal and indication operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
K	Displays are visible in installed location.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

E2.8 REMOTE TROUBLE SIGNAL UNIT TEST AND INSPECTION

Remote trouble signal unit location:

Remote trouble signal unit identification:

A	Input wiring from control unit or transponder is supervised.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Visual trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Audible trouble signal operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
D	Audible trouble signal silence operates.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

E2.9 PRINTER TEST

Printer Location:			
Printer identification:			
A	Operates as per design and specification, or documentation as detailed in Appendix C, Description of Fire Alarm System for Inspection and Test Procedures.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Zone of each alarm initiating device is correctly printed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Rated voltage is present.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

FIGURE 1D: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E2.10 DATA COMMUNICATION LINK TEST

Produce E2.10 for each DCL tested.

Control unit or transponder location:			
Control unit or transponder identification:			
Data communication link identification:			
A	Confirm that a trouble signal is received at the control unit or transponder under an open loop fault for each data communication link (DCL).	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Where fault isolation modules are installed in data communication links serving field devices, wiring shall be shorted on the isolated side, annunciation of the fault confirmed, and then a field device on the source side shall be operated, and activation confirmed at the control unit or transponder.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Where fault isolation in data communication links is provided between control units or transponders and between transponders, introduce a short circuit fault and confirm annunciation of the fault and operation outside the shorted section between each pair of: <div style="margin-left: 40px;"> (i) Control unit to control unit (ii) Control unit to transponder (iii) Transponder to transponder </div>	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A

E2.10 DATA COMMUNICATION LINK TEST

Produce E2.10 for each DCL tested.

Control unit or transponder location:			
Control unit or transponder identification:			
Data communication link identification:			
A	Confirm that a trouble signal is received at the control unit or transponder under an open loop fault for each data communication link (DCL).	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Where fault isolation modules are installed in data communication links serving field devices, wiring shall be shorted on the isolated side, annunciation of the fault confirmed, and then a field device on the source side shall be operated, and activation confirmed at the control unit or transponder.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Where fault isolation in data communication links is provided between control units or transponders and between transponders, introduce a short circuit fault and confirm annunciation of the fault and operation outside the shorted section between each pair of: <div style="margin-left: 40px;"> (i) Control unit to control unit (ii) Control unit to transponder (iii) Transponder to transponder </div>	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A

E2.10 DATA COMMUNICATION LINK TEST

Produce E2.10 for each DCL tested.

Control unit or transponder location:			
Control unit or transponder identification:			
Data communication link identification:			
A	Confirm that a trouble signal is received at the control unit or transponder under an open loop fault for each data communication link (DCL).	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
B	Where fault isolation modules are installed in data communication links serving field devices, wiring shall be shorted on the isolated side, annunciation of the fault confirmed, and then a field device on the source side shall be operated, and activation confirmed at the control unit or transponder.	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
C	Where fault isolation in data communication links is provided between control units or transponders and between transponders, introduce a short circuit fault and confirm annunciation of the fault and operation outside the shorted section between each pair of: <div style="margin-left: 40px;"> (i) Control unit to control unit (ii) Control unit to transponder (iii) Transponder to transponder </div>	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A

FIGURE 1E: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E2.11 ANCILLARY DEVICE CIRCUIT TEST

[illegible]

E2.12 REMARKS
(Reference: E2)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(Attach additional sheets if further remarks are required)

FIGURE 1F: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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E3. FIELD DEVICE RECORD

E3.1 FIELD DEVICE TESTING-LEGEND AND NOTES

DEVICE	DESCRIPTION	TYPE	MODEL NO.
M	Manual Pull Station		
RHT	Heat Detector, Restorable		
HT	Heat Detector, Non-restorable		
S	Smoke Detector Sensitivity Test Method or Test Equipment: Model/Method: _____	Not applicable	Not applicable
	Manufacturer Sensitivity Range: Sensitivity Range _____		
RI	Remote Indicator Unit		
DS	Duct Smoke Detector		
-	Other Type of Detector		
SFD	Supporting Field Device (Monitor)		
FS	Sprinkler Flow Switch		
SS	Sprinkler Supervisory Device		
-	Other Supervisory Devices (Low Pressure, Low Water, Low Temperature, Power Loss, etc.)		
EM	Fault Isolation Module		
B	Bell		
H	Horn		
V	Visible Signal Device		
SF	Cone Type Speaker		
HSP	Horn Type Speaker		
AD	Ancillary Device		
ET	Emergency Telephone		
EOL	End-of-Line Resistor		

The following notes apply to Appendix E3.2, Individual Device Record:

Note 1: Smoke detector sensitivity confirmation or measurement should be recorded in the remarks column.
Note 2: Smoke detector cleaning or replacement date should also be recorded in the remarks column.
Note 3: Status Change, including time delay, should be recorded in the remarks column.
Note 4: Duct smoke detector pressure differential should be confirmed and recorded in the remarks column.
Note 5: Time delay setting of water flow switch should be recorded in the remarks column.
Note 6: Sprinkler supervisory switches cause trouble condition to be annunciated but not an alarm condition
Note 7: Upper and lower pressure setting of supervisory devices should be recorded in the remarks column.
Note 8: Low temperature setting should be recorded in the remarks column.
Note 9: Identify the specific ancillary devices in the remarks column.
Note 10: Identify date field device changed in the remarks column.
Note 11: Identify correct field device operation(i.e. alarm, trouble, supervisory, annunciation indication.
Note 12: Identify zone, circuit number, or address.
Note 13: Identify conventional field device locations.
Note 14: Identify active field device and supporting field device, data communication link (DCL) address and location.
Note 15: Test and confirm conventional field device supervision of wiring.
Note 16: Confirm field device free of damage.
Note 17: Confirm field device free of foreign substance (i.e. paint).
Note 18: Confirm field device mechanically supported independently of the wiring.
Note 19: Confirm field device protective dust shields or covers removed.

FIGURE 1G: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

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This is to certify that the information contained in this Fire Alarm System Annual Test and Inspection Report is correct and complete.		
_____ Printing Name of Primary or Supervising Technician Conducting the Test Inspection	_____ Company	_____ Telephone
_____ Signature of Primary or Supervising Technician Conducting the Test and Inspection	_____ Identification Number of Primary or Supervising Technician Conducting the Test and Inspection	

_____ Printed Name of Technician Conducting the Test and Inspection	_____ Company	_____ Telephone
_____ Signature of Technician Conducting the Test and Inspection	_____ Identification Number of Technician Conducting the Test and Inspection	

FIGURE 1H: ANNUAL FIRE ALARM SYSTEM TEST AND INSPECTION RECORDS

WORK ITEM 2: Fire Prevention, Provide

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide a fire plan, discuss fire safety procedures, maintain fire boundaries and fittings, conduct inspections and keep firefighting systems in a ready condition to address fires.

NOTE

Contractors are not required to fight fires aboard USCG Cutters

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

None

COAST GUARD PUBLICATIONS

Surface Forces Logistics Center Standard Specification 5550 (SFLC Std Spec 5550), 2022, Fire Prevention and Response

OTHER REFERENCES

MIL-C-24757, Nov 1990, Cloth, Fiberglass, Coated

3. REQUIREMENTS

3.1 Fire Plan. The Contractor must develop and implement a written fire plan in accordance with Paragraph 3.1 of SFLC Std Spec 5550, including Paragraph 3.1.3.

3.1.1 Fire Prevention Responsible Party. The Contractor must appoint a Fire Prevention Responsible Party (FPRP) in accordance with Paragraph 3.1.4 of SFLC Std Spec 5550.

3.1.1.1. Any item in SFLC Std Spec 5550 that requires FPRP approval, also requires COR

approval.

3.1.1.2. In addition to responsibilities listed in SFLC Std Spec 5550, the FPRP is responsible for the following tasks:

- Conduct all inspections per paragraph 3.7 of this work item. The FPRP may designate a representative to conduct these inspections on their behalf.
- Ensuring that contractor employees and sub-contractors understand the Fire Plan and all other requirements of this work item. This includes (but is not limited to) informing contractor/subcontractor employees of danger signals and egress procedures aboard the ship.

3.2 Fire Prevention and Response Conference. The Contractor must participate in the Fire Prevention and Response Conference as detailed in Paragraph 3.12 of SFLC Std Spec 5550.

3.2.1 At a minimum, the following personnel from the Contractor must attend the Fire Prevention and Response conference, the Fire Familiarization Tour and the Initial Inspection:

- Ship availability superintendent
- FPRP

3.2.2 The Fire Prevention and Response Conference, the Fire Responsibility Familiarization tour and the Initial Inspection must occur before the start of industrial work. Coordinate schedule with the COR.

NOTE

Requirements for the Initial Inspection are covered in Paragraph 3.7 of this work item

3.3 Fire Zones. The Contractor must comply with the fire zone requirements from Paragraph 3.2 of SFLC Std Spec 5550.

3.3.1 Paragraph 3.2.3 of SFLC Std Spec 5550 is only applicable if the requirements of Paragraph 3.2.2 of SFLC Std Spec 5550 cannot be accomplished.

3.3.2 All material boundaries must be treated as fire boundaries.

3.3.3 All fire curtains must meet the requirements of MIL-C-24757. Disregard the NFPA 105 requirement in Paragraph 3.2.2 of SFLC Std Spec 5550.

3.4 Inoperable Fittings Log. The Contractor must inform the COR via CFR of fittings that are blocked or made inoperable per Paragraph 3.3 of SFLC Std Spec 5550. The Contractor does not need to maintain a separate Inoperable Fittings Log.

3.5. Firefighting systems. The Contractor must maintain fire protection systems per Paragraph 3.4 of SFLC Std Spec 5550.

3.5.1 Contractor personnel are NOT authorized to operate fixed firefighting systems per Paragraph 3.4.6.6.1 of SFLC Std Spec 5550

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3.5.2 The existing arrangement of AFFF equipment meets the requirements of Paragraph 3.4.11 of SFLC Std. Spec 5550. This paragraph is only applicable if the Contractor blocks or moves AFFF material or equipment.

3.5.3 The existing arrangement of portable fire extinguishers meets the 50-foot requirement of Paragraph 3.4.12.1 of SFLC Std Spec 5550. This paragraph is only applicable if the Contractor blocks or moves fire extinguishers.

3.6. Fire Alarm. The Contractor must comply with the requirements of Paragraph 3.7 of SFLC Std Spec 5550 if the fire alarm system will be manipulated. The “additional personnel” mentioned in Paragraph 3.7.1 of SFLC Std Spec 5550 must be provided by the Contractor.

3.7 Fire Prevention Inspections. The Contractor must conduct inspections in accordance with SFLC Std Spec 5550 Paragraph 3.11.

3.7.1 All inspections in paragraph 3.11 of SFLC Standard Spec 5550 must be conducted in the presence of a Coast Guard Inspector.

3.7.2 Disregard paragraph 3.11.1 of SFLC Std Spec 5550 and replace with the following:

Initial Inspection. The FPRP, along with the COR (or a designated representative), must conduct an initial inspection to evaluate potential fire hazards in all areas with scheduled work. This inspection must note the existing status of all items in Paragraph 3.11.2 of SFLC Standard Spec 5550. Submit the results of the initial inspection to the COR via a CFR. This inspection must occur before commencing industrial work.

4. NOTES

None

WORK ITEM 3: Dual Point Davit, Biennial Maintenance, Perform**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to perform Biennial Maintenance on Dual Point Davit listed in Table 1.

TABLE 1 – DUAL POINT DAVIT NAMEPLATE DATA

DESCRIPTION	LOCATION	DAVIT TOTAL GROSS WEIGHT
Allied Systems Dual Point Davit with Control Console Models: DDP11000CTS & SP2200	Weather Deck, STBD Side, Frame 47	29,000 lbs

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (S/UNIT)
Y	CB-OTH Mark IV (Coast Guard Drawing 26B-CB-IV-801-001)	N/A	1 ea.	N/A
Y	Hook	Model APR-356- CBH	2 ea.	5000.00
N	KIT, ELEMENT REPLACEMENT	593533	1	1500
N	KIT, ELEMENT REPLACEMENT	593532	1	500
N	ELEMENT, FILTER	70196	2	900
N	FILTER, BREATHER	71975	2	400
N	HUB	73441	2	1300

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 418A-WMSL-100-001, Rev B, General Arrangements
Coast Guard Drawing 418A-WMSL-801-001, Rev A, Booklet of General Plans

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 9618, SWBS 583, Sept 2023, Boat Davit - Models DDP11000CTS & SP2200 (S/N: 2328-753, 2329-751, 2332-750)
Surface Forces Logistics Center Standard Specification 0000 (SFLC Std Spec 0000), 2022, General Requirements
Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2022, Auxiliary Machine Systems
Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements for Preservation of Ship Structures

OTHER REFERENCES

International Maritime Organization (IMO) International Convention for the Safety of Life At Sea (SOLAS), 2009 as amended in 2010 and 2011
International Maritime Organization (IMO) International Life Saving Appliances Code (LSA), 2010 edition
ANSI/EASA Standard AR100-2020, Recommended Practice for the Repair of Rotating Electrical Apparatus.

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 Biannual maintenance inspection and repair task particulars (Task #1 and #2)
- 3.2.1 Hook certification.

3.1.2 Tech Rep. The Contractor must provide the services of a Qualified Technical Representative who is familiar with the Dual Point Davit (i.e. Allied System Co. Model No. DDP11000CTS) to accomplish the following on site:

- Advise on manufacturer's proprietary system information.
- Ensure compliance with manufacturer's procedures and standards during system disassembly, inspection, repair, reassembly, and testing as applicable.

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

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

3.1.2.3 Point of contact:



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

3.1.3.1 Protection of fine surfaces. The Contractor must protect all fine surfaces in accordance with SFLC Std. Spec 5000.

3.1.3.2 Hydraulic system contamination protection. The Contractor must maintain existing hydraulic cleanliness in accordance with SFLC Std. Spec 5000.

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

- Piping
- Electrical Cables
- Capstan

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

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

3.1.6 Materials. The Contractor must furnish and install parts listed in Table 2.

TABLE 2 – LIST OF PARTS

QUANTITY	PART NUMBER	DESCRIPTION
2	74130	Seal Kits
1	71754	Tank Cover Gasket
2	71042	Wire Rope

3.2 Biannual maintenance inspection and repair task particulars. The Contractor with Tech Rep support must perform the tasks designated in Table 3 below and Figure 1 in accordance with SFLC Std Spec 5000 and CG Tech Pub as applicable.

TABLE 3 – RECURRING MAINTENANCE TASK

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				ADDITION REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD 5000	OTHER
1	Operate and Inspect	1	Dual Point Davit System	3.2.1 (Operate and Inspect) Appendix A (General Inspection Requirements)	Submit CIR.
2	Hydraulic Lube Oil Analysis	1	Hydraulic System	C2.1.3.1	Submit a CIR.
3	Service and Inspect	1	Hydraulic Winch Assembly (Constant Tension and Normal) which are powered by Main Hydraulic Pump/Motor Assembly (ST1) and Back Up powered by Emergency (ST2), Accumulators.	3.2.2 (Service and Inspect) D2.3 (Brakes and clutches. D2.4 (Open gearing and gear reducers)	Submit CFR.
4	Disassemble and Inspect	2	Power Sheave Assembly	3.2.3 (Disassemble and Inspect)	Renew the hub with CFE. If hubs are not available, clean, inspect, and reinstall hubs.
5	Renew	2	Wire Rope Assembly (e.g., Allied System Part No. 71042)	D2.2 (Wire rope assemblies)	Wire rope particulars: Nominal diameter: 5/8 inch Minimum Breaking Strength: 56,040 lbs. Total length of each wire rope required: 110 ft. End fitting type: Fiege. Submit a CFR.
6	Service and Inspect	1	Control Panel	3.2.2 (Service and Inspect)	Verify all mechanical and electrical signals to the control panel. Submit a CFR.

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				ADDITION REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD 5000	OTHER
7	NDE	1	Dual Point Davit System	3.2.5 (NDE)	Areas to NDE: all weld joints and boom and turret structures. Submit a CFR.
8	Groom and Lubricate	1	Dual Point Davit System	3.2.6 (Groom and Lubricate)	
9	Weight Test	1	Dual Point Davit System	B2.7.2 (Dual Point Davits) B2.7.2.1 No-load Operational Test B2.7.2.2 Static Load Test B2.7.2.3 Winch/Brake/Modified static load Test B2.7.2.4 Dynamic Load Test B2.7.2.5 Rated Load test	Test weight particulars: Working Load Limit (11,000 lb.). "Modified static / brake" test load: 16,500 pounds (150% of WLL) "Modified Dynamic Test Load: 12,650 pounds (115% of WLL)
10	Electric Motors	1	Normal RIHB Boat Davit and Emergency RIHB Davit HPU Motors		Perform Insulation Resistance Test in accordance with ANSI/EASA AR 100-2020 and Para 6.5.4.3 of TP 9618. Submit a CFR.
11	Fabricate and Install	1	Label plate	B2.9 (Label Plates)	
12	Partially Preserve	1	Dual Point Davit Assembly (including pedestal, foundation, and all previously/normally painted components or surfaces)	3.2.4 (Partial Preservation)	

3.2.1 Hook certification. The Contractor with Tech Rep support must inspect the hooks and verify their certification. Submit a CIR. Hooks (i.e.; P/N: Model APR-356-CBH) must be renewed at every 48 months with GFP. Renew hooks if certification is expired.

3.2.1.1 Mandatory Turn-in Item (MTI) removal. If required to be renewed, the Contractor must remove the existing MTI hooks and turn over to the COR.

3.3 Special requirements for various components. If a Change Request has been authorized for additional work on any of the components listed in Table 4 below, the Contractor must perform work in accordance with the corresponding Appendix or paragraph of SFLC Std Spec 5000.

TABLE 4 - SPECIAL REQUIREMENTS

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COMPONENT	APPENDIX & PARAGRAPH IN SFLC STD SPEC 5000
Fluids	C2.1
Hose assemblies	C2.2
Piping and tubing	C2.3
Valves and manifolds	C2.4
Gages	C2.5
Gas charged accumulators	C2.6
Heat exchangers and fluid coolers	C2.7
Systems	C2.8
Fastener assemblies	D2.1
Wire rope assemblies	D2.2
Brakes and clutches	D2.3
Open gearing and gear reducers	D2.4

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.

3.4.1 The Contractor with Tech Rep support must perform a dockside test, consisting of launching the GFP boat to test Constant Tension Function, Wire Rope Tension, CT Select Button, Control function, CT Engage, Brake Release etc. Submit a CFR.

3.5 Touch-up preservation. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310. Abide by all touch-up requirements outlined in SFLC Std Spec 6310.

NOTE

Government will provide 72 Hours of advance notice to the Contractor for sea trial support by the Tech Rep.

3.6 Sea trial. The Contractor must provide Tech Rep support to test operational capability of the Dual Point Davit with GFP in accordance with TP. Estimated time for sea trial is eight hours. Perform an at sea test launching the GFP boat to test Constant Tension Function, Wire Rope Tension, CT Select Button, Control function, CT Engage, Brake Release etc. Ensure all functions are in satisfactory operating conditions. Submit a CFR.

4. NOTES



Maintenance Intervals		
Interval	Description	Reference
	Inspect winch drums.	Paragraph 6.5.1.1
	Inspect all fasteners, checking for loose or corroded fasteners.	Paragraph 6.5.1.2
	Inspect hydraulic hoses, tubes, fittings, and connections.	Paragraph 6.5.1.3
	Check hydraulic oil level.	Paragraph 6.5.1.4
	Inspect anti-2-block assemblies and tension switches.	Paragraph 6.5.1.5
	Replace the hydraulic return filters.	Paragraph 6.5.4.2
	Power Sheave Inspection.	Paragraph 6.5.2.2
	Wash with fresh water and detergent.	Paragraph 6.5.3.1
	Apply grease at grease fittings.	Paragraph 6.5.3.3
	Inspect hydraulic cylinders.	Paragraph 6.5.3.4
	Inspect davit structure.	Paragraph 6.5.3.5
	Inspect off-load hooks.	Paragraph 6.5.3.6
	Check/replace hydraulic tank breather.	Paragraph 6.5.3.7
	Inspect electrical boxes.	Paragraph 6.5.3.8
	Check Accumulator pre-charge	Paragraph 6.5.3.9
	Check winch housing oil levels.	Paragraph 6.5.4.1
	Service or replace the hydraulic return filter.	Paragraph 6.5.4.2
	Inspect electric motors.	Paragraph 6.5.4.3
	Check bolts and fasteners.	Paragraph 6.5.5.1
	Obtain oil samples for analysis.	Paragraph 6.5.6.1
	Change both winch assemblies oil.	Paragraph 6.5.6.2
	Inspect sheaves.	Paragraph 6.5.6.3
	Replace lock pin and latch spring on the off-load hooks.	Paragraph 6.5.7.1
	Lubricate Electric Motors	Appendix B
	Change hydraulic system oil and service suction strainers.	Paragraph 6.5.8.1
	Replace hydraulic hoses.	Paragraph 6.5.8.2

FIGURE 1: DUAL POINT DAVIT MAINTENANCE TABLE

WORK ITEM 4: Folding Boom Cranes, Biennial Maintenance, Perform

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect, perform maintenance, and test folding boom cranes listed in Table 1.

TABLE 1 – LIST OF FOLDING BOOM CRANES

CRANE	LOCATION	MANUFACTURER / MODEL NUMBER	COAST GUARD TECH PUB
Crane No. 2 (Port Aft Near)	Main Deck, Port Side, AFT of Frame 90	Appleton Marine Inc. / FB90-28, S/N 20501-2	7903
Crane No. 4 (Port Aft Far)	Main Deck, Port Side, AFT of Frame 90	Appleton Marine Inc. / FB90-28, S/N 20501-4	7903
Crane No. 3 (Starboard Aft)	Main Deck, STBD Side, AFT of Frame 90	Appleton Marine Inc. / FB90-28, S/N 20501-3	7903

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
Y	*CB-OTH Mark IV (Coast Guard Drawing 26B-CB-IV-801-001)	N/A	1 ea.	N/A
Y	*Long Range Interceptor II (LRI-II) Cutter Boat	N/A	1 ea.	N/A

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

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

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

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 750-WMSL-100-528, Rev C, Structural Mods Iwo New Aft Folding Cranes (Bertholf/Waesche)

Coast Guard Drawing 750-WMSL-100-531, Rev D, Structural Mods Iwo New Aft Folding Cranes, Hamilton, James & Munro

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Coast Guard Drawing 750-WMSL-320-579, Rev -, Electrical Installations Iwo New Aft Folding Cranes

Coast Guard Drawing 750-WMSL-583-508, Rev -, Installations IWO Aft Folding Cranes

Coast Guard Fleet Drawing FL-1702-11, Rev -, Inspection of Sheaves

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 7903, SWBS 583, Oct 2021, Aft Boat Handling System –Model FB90-28

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

Surface Forces Logistics Center Standard Specification 5000 (SFLC Std Spec 5000), 2022, Auxiliary Machine Systems

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

OTHER REFERENCES

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2016, Power Tool Cleaning to Bare Metal

ANSI/EASA Standard AR100-2020, Recommended Practice for the Repair of Rotating Electrical Apparatus.

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 Inspect and repair task particulars (Task #1, #2, #3 and #8)

3.1.2 Tech Rep. The Contractor must provide the services of a Qualified Technical Representative who is familiar with the Folding Boom Cranes (i.e. Appleton Marine Inc. Model FB90-28) to accomplish the following on site:

- Advise on manufacturer's proprietary information pertinent to the system.
- Ensure compliance with manufacturer's procedures and standards during inspections, repairs, calibration and testing.

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

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

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

3.1.3.1 Protection of fine surfaces. The Contractor must protect all fine surfaces in accordance with SFLC Std. Spec 5000.

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3.1.3.2 Hydraulic system contamination protection. The Contractor must maintain existing hydraulic cleanliness in accordance with SFLC Std. Spec 5000.

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

- Piping
- Electrical Cables

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 Inspect and repair task particulars. The Contractor with Tech Rep support must perform tasks listed in Table 2 in accordance with SFLC Std Spec 5000 and TP 7903. See applicable drawings and Tech Pub in Section 2 for technical information and installation details.

TABLE 2 – TASK LIST

#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	ADDITIONAL REQUIREMENTS	
				APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER TECH PUB 7903
1	Operate and Inspect	3	Folding Boom Crane	3.2.1	Submit a CIR. Document the existing software program/version
2	Operate and inspect	1	Chest Pack (Chest Pack Controls and Junction Boxes)	3.2.1	Submit a CIR. Note: There is one chest pack. It should be rotated between all three cranes.
3	Operate and inspect	1	Control Console	3.2.1	Submit a CIR.
4	Service and inspect	3	Crane Assembly	3.2.2	Perform all preventive maintenance actions as indicated on Table 4-1 of CG TP 7903, regardless of specified interval. Inspect hydraulic hoses for leaks, abrasions, swelling and defects. Inspect entire Folding crane assembly for signs of leakage, cracks, structural damage and deformations. Submit a CFR.
5	Service and Inspect	3	Cranes (Mechanical/Hydraulic)	3.2.2	Inspect Swing Drives, Swing Motor, Swing Manifold,

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				ADDITIONAL REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER TECH PUB 7903
					Hydraulic Swivel, Slew Bearing, Slew Bearing Gear, Slew Bearing Bolts, Slew Bearing Wear Inspection, Main Control Manifold, Wire Rope, ELR Manifold, Heel Pins, Jib Pins, Telescope Cylinders, Slide Pads, Jib and Luffing Cylinders, Sheaves, Crane Block Assembly, 10 Ton Hook, Snatch Block, Winch, Constant Tension System, Overhaul Ball. Fasteners, Submit a CFR.
6	Partially Preserve	3	Folding Boom Crane Assembly	3.2.4, 3.2.4.3.2, 3.2.4.4, and 3.2.4.5.1	Perform in accordance with paragraph 3.3 of this work item.
7	Groom and Lubricate	3	Folding Boom Crane Assembly	3.2.6	Perform all of the lubrication requirements specified in Tables 4-3 and 4-4 of CG TP 7903.
8	Hydraulic Lube Oil Analysis	3	Hydraulic System	C2.1.3.1	Submit a CIR.
9	Service and Inspect	1	Hydraulic Power Unit (HPU)	3.2.2	Inspect Prime Mover/Link Motor, HPU Pumps, HPU Reservoir, HPU Tank Heaters, Oil Cooler, HPU Manifold and hoses. HPU Temperature Transmitter, HPU Display, HPU Controls, Joysticks and Control Cabinet in accordance with TP 7903
10	System Relief Valves, Switches and Indicators	1	Hydraulic System		In accordance with TP 7903, Verify set points, adjustment and calibration on: <ul style="list-style-type: none"> • Pump Compensator Relief Valve • System Relief valve. • Winch Limit adjustment. • Load Monitor Indicators • Crane Position Indicators • Submit a CFR.

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				ADDITIONAL REQUIREMENTS	
#	TASK TYPE	QTY	COMPONENT OR ASSEMBLY	APPENDIX AND PARA. FROM SFLC STD SPEC 5000	OTHER TECH PUB 7903
11	Disassemble and Inspect	1	Hydraulic Oil Heat Exchanger	3.2.3	Disassemble to the minimum extent necessary to clean the heat exchanger.
12	Service and Inspect	2	Hydraulic System Crane Motor A and B	3.2.2	Perform Insulation Resistance Test in accordance with ANSI/EASA AR 100-2020 and Section 3 of TP 7903 Submit a CFR.
13	Repair	1	#3 Crane Luffing cylinder	3.2.3	Renew seals as needed to stop oil leak.
14	Service and Inspect	3	Cranes (Electrical)	3.2.2	Inspect Load Pin, Boom Angle Transducer, Jib Angle Transducer, Swing Angle Encoder, Length Transducer, Turret Enclosure, Flood lights and Electrical Cables
15	Operational and Weight Test	3	Folding Boom Crane Assembly		Perform in accordance with paragraph 3.5 of this work item.
16	Fabricate and Install	3	Label plate	B2.9	Name Plate must also include additional information of Dynamic Load Test, Brake Test and WLL Weights.

3.3.1 Materials. The Contractor must provide all parts (i.e. all greases, lubricating oils, hydraulic fluid, hydraulic oil filters, tank breather elements and other miscellaneous materials) and materials including, but not limited to, the items listed in Table 3 below, to conduct the required maintenance actions listed above.

TABLE 3 – LIST OF PARTS

QUANTITY	PART NUMBER	DESCRIPTION
1	YMD-8861-R	HPU Hydraulic Return Filter
1	YMD-10416-R	HPU Hydraulic Return Filter
2	YMD-12209-R	Pressure Filters (For Crane No.2 & 4)
1	YMD-12234-R (0280D005BH4HC)	Pressure Filters (For Crane No.3)
1	YMD-12234-R (0060D005BH4HC)	Pressure Filters (For Crane No.3)

3.3.2 Hose inspection. The Contractor must visually inspect the condition of all flexible hoses and submit a CFR with the following:

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- Hose physical condition
- Service life dates (date for required hose renewal; if not specified, add twelve years to installation date)

3.3.2.1 If not present, the Contractor must provide new hose tags, in accordance with SFLC Std Spec 5000, Paragraph C2.2.1.4. Ensure tag color coding of black on natural or black on white. Ensure that tags must be attached using materials that will not damage hose assembly in any way, or interfere with the normal flexing motion of the hose.

3.3.2.2 The Contractor must stamp, engrave, or etch the following information on each tag. Hand written information on each Tag is NOT acceptable. Utilize the Cutter's hose log for information as necessary.

- Hose Log Item Number (Serial Number)
- Hydrostatic Test Pressure (psi)
- Hydrostatic Test Date (DD/MM/YY)
- Service Life (Replacement Date) Date (QTR "Q"/FY)

3.3.2.3 Hose fitting documentation. The Contractor must inspect each hose and document the information listed below. A template for the information will be provided by the COR. Submit a CFR with the information for each hose in Microsoft Excel format.

- Hose Number
- System
- Description (i.e. #1 A/C Inlet)
- Location (Compartment Number)
- Length (in.)
- Part No.
- Material
- Size (in.)
- Fitting #1
- Fitting #2
- Design Pressure (psi)
- Hydrostatic Pressure (psi)

3.4 Preservation requirements. The Contractor must perform the following work to accomplish the first bulleted requirement of SFLC Std Spec 5000 (Para 3.2.4.3.2).

3.4.1 All other requirements as specified from SFLC Std Spec 5000 regarding "Partially Preserve" remain applicable.

3.4.2 In addition to partial preservation, abrade entire crane surface and provide aesthetic topcoat.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.5 Operational and weight testing. The Contractor must perform the Appleton Marine Inc. "Start-up and Overhaul Test Procedure", Appendix A of CG TP 7903 (i.e. Items 1-10). Static test (Item 2.1) is not

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required. Perform all testing with cutter at or near 0-degree trim and 0-degrees list. Record and provide all testing data of Appendix A, CG TP 7903 via a CFR. Utilize test weights that will ensure the boom can be extended horizontal in the notch.

NOTE

Certain water weight bags may be too large to fit within the notch. Ensure test weights are able to fit within the notch to accomplish all testing.

3.5.1 The Contractor must supply weights and a certified dynamometer to conduct load testing. Perform all testing in the presence of the Coast Guard Inspector and the Tech Rep.

CAUTION

Do not exceed the Working Load Limit (WLL) of the cranes for any of the tests listed in Appendix A, CG TP 7903. Exceeding the WLL could result in equipment damage and/or personnel injury.

3.5.2 Upon successful completion of the load testing, operational testing must be performed using the various GFP small boats in accordance with the test procedure detailed in Appendix A, CG TP 7903.

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

3.6 Touch-up preservation. The Contractor must prepare and coat all new and disturbed exterior and interior surfaces to match existing adjacent surfaces, in accordance with SFLC Std Spec 6310. Abide by all touch-up requirements outlined in SFLC Std Spec 6310.

4. NOTES

This section is not applicable to this work item.

WORK ITEM 5: Talon Grid (Type 18-08), Inspect and Test**1. SCOPE**

1.1 Intent. This work item describes the requirements for the Contractor to inspect and test the helicopter talon grid system (Talon Helicopter Landing Grid, Type 18-08), and renew fasteners (i.e. Fixation Bolts, Stanchion Bolts and Lock Nuts) provided in Table 2 Government-furnished property.

1.2 Government-furnished property.

TABLE 2 GOVERNMENT FURNISHED PROPERTY (TALON GRID, TYPE 18-08)

MTI	ITEM DESCRIPTION	NSN/PN	QTY	PRICE (\$/UNIT)
N	Stanchion Bolts, (ST STL, ~NF EN ISO 4270, CHc M14x2)	NSN : 5307-14-534-8081 (DCN MEGAHRDE82100, Item 3)	15 ea.	120.00
N	Stanchion Lock Nuts, (ST STL, ~NF EN ISO 4270, CHc M14x2)	NSN : 5310-14-534-8082 (DCN MEGAHRDE82100, Item 4)	129 ea.	24.00
N	Fixation Bolts, (ST STL, NF EN ISO 4270, CHc M16x2-60/44)	NSN 5305-14-537-6930 (DCN MEGAHRDE82100, Item 5)	24 ea.	40.00
N	Threaded Covers, (ST STL, NF E 27183, Hc M16x2-28/28)	NSN : 1570-DSL-182666 (DCN MEGAHRDE82100, Item 6)	6 ea.	~10.00
N	Jacking Bolts, (ST STL, NF EN 24017, HM16x2-100/100)	NSN 5305-14-463-7787 (DCN MEGAHRDE82100, Item 7)	6 ea.	24.00

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

2. REFERENCES**COAST GUARD DRAWINGS**

Coast Guard Drawing 750-WMSL-100-039, Rev M, Unit 3140 Structure Mn Dk to 01 Lvl - Fr 64 to Fr 76 (ASC100314)

Coast Guard Drawing 750-WMSL-100-043, Rev L, Unit 3240 - Main Deck to 01 Level - Fr 76 to Fr 82 (ASC100324)

Coast Guard Drawing 750-WMSL-136-500, Rev C, Centerline Talon Grid & Deck Socket Installation

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Coast Guard Drawing 750-WMSL-588-006, Rev E, Helo Capture/Handling Arrangement & Instl Dets (ASC588005)

NAVAIR Drawing 627927, Rev D, Visual Landing Aids Installation and Clearance Requirements

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 7999, SWBS 588, 2015, Talon Helicopter Landing Grid - Type 18-08

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

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

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

Talon Strength and Load Test, No 58817-3-200A, Rev A, 2011, Northrop Grumman Ship Systems, Inc.

OTHER REFERENCES

American Society for Nondestructive Testing (ASNT), Recommended Practice No. SNT-TC-1A, 2020, Personnel Qualification and Certification in Nondestructive Testing

American Society for Nondestructive Testing (ASNT), Standard No. ANSI/ASNT CP-189-2020, 2020, ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel

American Welding Society (AWS) B1.10M/ B1.10, 2016, Guide for Nondestructive Examination of Welds

American Welding Society (AWS) B1.11M/B1.11, 2015, Guide for the Visual Examination of Welds

American Welding Society (AWS) D1.1/D1.1M, 2020, Structural Welding Code – Steel

ASTM International (ASTM) G46, 2018, Standard Guide for Examination and Evaluation of Pitting Corrosion

ASTM International (ASTM) D5363, 2003, Standard Specification for Anaerobic Single Component Adhesives

DCN Drawing MEGAHRDE82100, Rev C, Landing Grid Type 18-08 Characteristics and Interfaces

MIL-PRF-16173E w/Interim Amendment 2, 2017, Corrosion Prevention Compound, Solvent Cut Back, Cold Application

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

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2020, Bare Metal Power Tool 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) :

- 3.5 Inspections.

3.1.2 Tech Rep. The Contractor must provide the services of Tech Reps and personnels as follows :

- NDE Tech Rep : NDE Operator/Level 1

3.1.2.1 NDE Tech Rep. The Contractor must provide the services of a qualified and certified NDE Operator/Level 1 as follows:

- Perform NDE Operations.

3.1.2.1.1 Qualifications/certifications. NDE Operator/Level 1 certified and qualified in accordance with ASNT No. SNT-TC-1A. Submit the Tech Rep's qualifications/certifications to the COR at the Arrival Conference.

3.1.2.1.2 Dates of services. Include the dates of services in which Tech Reps must be on site as per their subcontract documentation.

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

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

3.1.5 Work location. The concerned work area is Flight Deck. See the applicable drawings in Section 2 References for guidance, locations, and details.

3.1.6 Materials, tools, and services. The Contractor must provide service, tools, and materials to accomplish the requirements in this work item. New components, parts, materials, and paints with the same color, comparable and matching material properties as the existing components/parts. Use references in Sections 1, 2 and SFLC Std Specs for guidance, required materials, and details.

3.1.6.1 Tools. Provide calibrated tools for inspection test and pull test and load test as follows :

- Dynamometer (1 ea.) : Capacity 14,612 lbs +/- 5%
- Test weight (1 ea.) : Capacity 22,480 lbs -0%/ + 5%

3.1.7 Removal plan. The Contractor must develop a plan to remove Talon Grid Assemblies from Talon Grid Supporting Ring Assembly using DCN Drawing MEGAHRDE82100, Coast Guard Drawing 750-WMSL-136-500, and Tech Pub 7999 as guidance.

- Ensure that no force more than 15,000 pounds is applied to Talon Grid Assemblies and Talon Grid Support Ring Assembly during removal.
- Submit the plan to COR for acceptance within 72 hours before commencing grid work.

3.1.8 Work coordination. The Contractor must coordinate the accomplishment of this work item with the following work items :

- Aircraft Securing Fitting (Type XIV), Inspect and Test
- Deck Covering (Slip-Resistant) Flight Deck, Renew
- Tenting (Flight Deck), Provide

3.2 Clearance measurement (pre-removal). In presence of the Coast Guard Inspector, the Contractor must measure the clearances between Talon Grid Assemblies and Talon Grid Supporting Ring Assembly as follows :

- Extend a straight edge across the grid from edge to edge.
- Measure and record the grid clearance to the straight edge at the center of the grid.
- Submit a CFR.

3.3 Talon grid removal. The Contractor must remove Talon Grid Assemblies as follows:

3.3.1 Filler resin material. The Contractor must remove and dispose of the existing filler resin material between the Talon Grid Assembly and Talon Grid Supporting Ring on flight deck.

3.3.2 Fixation bolts. The Contractor must remove and dispose all 24 existing Fixation Bolts which secure Talon Grid Assemblies to Talon Grid Supporting Ring Assembly.

3.3.3 Top plate (Honeycomb plate). The Contractor must separate Talon Grid Top Plate as the following successive steps/orders :

- Separate Talon Grid Top Plate together with Stanchion Bolts, from Talon Supporting Plate.

3.4 Cleaning. The Contractor must remove all traces of grease or oil from Talon Grid Top Plate and Stanchion Bolts using SSPC-SP3 and SSPC-SP1, or equivalent.

- Thoroughly clean Talon Grid Top Plate/Honeycomb Plate (incl. the honeycomb holes) using a piece of abrasive cloth (grain size 100 to 150), and clean the upper and lower faces, and peripheral areas of Talon Grid Top Plate/Honeycomb Plate using flexible fiber rotary discs.
- Completely clean all Stanchion Bolts using a rotary wire brush.

NOTE

The Talon Grid Top Plate/Honeycomb Plate must not be painted, but must be protected and stored during grit-blasting and painting of the supporting structure.

3.5 Inspections. In the presence of a Coast Guard Inspector, the Contractor must accomplish the following inspections, using DCN Drawing MEGAHRDE82100, Coast Guard Drawing 750-WMSL-136-500, and Tech Pub 7999. Submit a CIR.

3.5.1 Visual inspection. The Contractor must visually inspect any defects on components as follows:

- Stanchion Bolts
- Talon Grid Cover
- Talon Grid Top Plate/Honeycomb Plate

- Talon Grid Supporting Plate
- Talon Grid Supporting Ring Assembly (incl. recess and foundation)

3.5.2 NDE. The Contractor must perform NDE of Welds, Stanchion Bolts, and Talon Grid Supporting Ring Assembly (incl. recess and foundation) to examine any cracks or defects in accordance with Coast Guard Drawings 750-WMSL-100-043, and 750-WMSL-136-500, and SFLC Std Spec 0740, Appendix C.

3.6 Preservation. The Contractor must prepare and coat the surfaces of Talon Grid Assemblies as follows:

3.6.1 Talon Grid Assemblies (excepts Talon Grid Top Plate/Honeycomb Plate). The Contractor must prepare and coat all interior and exterior surface areas of Talon Grid Cover, Talon Grid Supporting Plate, and Talon Grid Supporting Ring Assembly including all recess, foundation, and any limited access areas (excepts Bearing Flange surfaces), using the method specified in SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems), and Tech Pub 7999, Chapter 7 Maintenance and Protection, Paragraph 7.2.2.2 Painting. Select option(s) as follows:

- Machinery, Deck, Option IV
- Finish/final top coat color: Gray 36076
- Bare Metal Power Tool Cleaning (SSPC-SP 11) for all coating defects, outfits/fittings, and limited access areas

3.6.1.1 Bearing flange surfaces (Talon Grid Supporting Ring Assembly facing Talon Grid Top Plate/Honeycomb Plate)

- Thoroughly wire-brush the bearing flange surfaces to remove all traces of the existing anticorrosion coating.
- Restore the bearing surfaces to its proper condition using a rotary grinder with a flexible fiber disk with grain size of 60 to 100.
- Thoroughly protect the surfaces of the bearing flanges of Talon Grid Skirt Assembly and Talon Grid Supporting Ring Assembly facing Talon Grid Top Plate/Honeycomb Plate.

3.6.2 Talon Grid Top Plate/Honeycomb Plate. The Contractor must prepare and coat all surfaces of Talon Grid Top Plate/Honeycomb Plate, using a rust preventive compound conforming to MIL-PRF-16173, Class II, Grade 3 and manufacturer's instructions.

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

3.7 Preventive maintenance. The Contractor must accomplish preventative maintenance requirements in accordance with Tech Pub 7999, Chapter 7 Maintenance and Protection Paragraphs 7.1 Preventive Maintenance on Board, Paragraph 7.2 Preventive Maintenance in Workshop, and all its related sub-paragraphs.

3.8 Reassembly and reinstallation. Upon completion of all authorized repairs, the Contractor must reassemble and reinstall Talon Grid Assemblies in accordance with Tech Pub 7999. Ensure that the Talon Grid Top Plate is flush with adjacent flight deck.

3.8.1 Filler resin material The Contractor must renew filler resin material and pour the new ones in accordance with Tech Pub 7999, Appendix 2 Pouring of the Resin Filling.

3.8.2 Fasteners. The Contractor must renew fasteners (i.e. Fixation Bolts, Stanchion Bolts and Lock Nuts) during assembly and reinstallation. Apply sealing, locking and retaining compound conforming to ASTM D5363 to each thread. Tighten each fastener with torques as follows:

- Stanchion Bolts (into Top Plate/Honeycomb Plate), M14 : 22 ft-lb. (30 N.m.)
- Stanchion Lock Nuts (over Stanchion Bolts through Supporting Plate), M14 : 44 ft-lb. (60 N.m.)
- Fixation Bolts (into Supporting Ring Assembly), M16 : 66 ft-lb. (90 N.m.)

3.9 Static tests (Talon Grid Type 18-08). In presence of the Coast Guard Inspector and after talon grid installation, the Contractor must conduct the following Static Tests in accordance with Talon Strength and Load Test, No 58817-3-200A. Submit a CFR.

- Tensile Test at Center (Pull Test at Center of Talon Grid) : 14,612 lbs +/- 5%
- Tensile Test at Edge (Pull Test at Edge of Talon Grid) : 14,612 lbs +/- 5%
- Compression Test at Center (Load Test at Center of Talon Grid) : 22,480 lbs -0%/ + 5%
- Compression Test at Edge (Load Test at Edge of Talon Grid) : 22,480 lbs -0%/ + 5%

3.10 Clearance measurement (post-static tests). In presence of the Coast Guard Inspector and after Static Tests, the Contractor must repeat the Clearance Measurement specified in Paragraph 3.2 Clearance measurement (pre-removal).

- Record and compare the measurements to the previous readings in Paragraph 3.2 Clearance measurement (pre-removal).
- Submit a CFR. Any permanent deformation must be cause for rejection.

3.11 NDE (post-static tests). In presence of the Coast Guard Inspector and after Static Tests, the Contractor must repeat/re-perform NDE of Talon Grid Assemblies to examine any cracks or defects in accordance with SFLC Std Spec 0740, Appendix C. Submit a CFR.

3.12 Label Plate. The Contractor must fabricate and install a label plate for the system in accordance with SFLC Std Spec 5000, Appendix B, Paragraph B2.9 Label plates.

3.13 CFR. The Contractor must summarize and submit a CFR to the COR if additional repair is necessary or required.

4. NOTES

4.1 Talon Grid Assemblies particulars. The Talon Grid Assemblies consist of Talon Grid Cover, Talon Grid Top Plate/Honeycomb Plate, Talon Grid Supporting Plate, and Talon Grid Supporting Ring Assembly (incl. recess and foundation).

- Talon Grid Top Plate/Honeycomb Plate, and Talon Grid Supporting Plate are secured by Stanchion Bolts and Lock Nuts 129 sets.
- Upper Assemblies (i.e. Talon Grid Top Plate/Honeycomb Plate, and Talon Grid Supporting

Plate) and Lower Assembly (i.e. Talon Grid Supporting Ring Assembly) are secured by Fixation Bolts 24 sets

**FIGURE 1 TALON GRID TYPE 18-08 (IN WMSL)
(DCN DRAWING MEGAHRDE82100)**

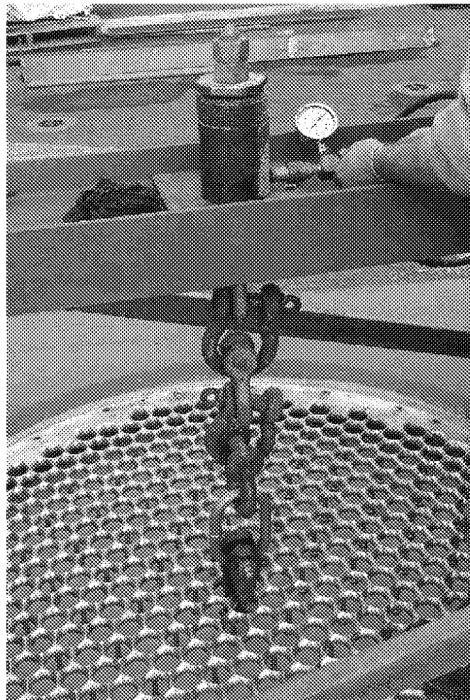


FIGURE 4 SAMPLE TENSILE TEST 14,612 LBS +/- 5% AT CENTER



FIGURE 5 SAMPLE COMPRESSION TEST 22,480 LBS -0%/ + 5% AT CENTER

WORK ITEM 6: Oily Water Separator (OWS) System, Inspect and Groom

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to inspect and groom the Oily Water Separator (OWS) located in the Auxiliary Machinery Room (5-36-01-E).

1.2 Government-furnished property.

MTI	ITEM DESCRIPTION	NSN/PN	QTY	ESTIMATED COST (\$/UNIT)
Y	Monitor, Smart Bilge	NSN: 2040-01-600-0112	1 ea.	4,700.00

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 418A-WMSL-593-001, Rev A, Bilge & Oil Pollution Control System Diagram

COAST GUARD PUBLICATIONS

Coast Guard Technical Publication (TP) 7346A, SWBS 593, Mar 2022, Bilge Water Separator Ultra-Sep

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

Surface Forces Logistics Center Standard Specification 3041 (SFLC Std Spec 3041), 2022, Shipboard Electrical Cable Test

Surface Forces Logistics Center Standard Specification 3042 (SFLC Std Spec 3042), 2022, Shipboard Electrical Cable Removal, Relocation, Splice, Repair, and Installation

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

OTHER REFERENCES

US Environmental Protection Agency Method 1664, Feb 1999, N-Hexane Extractable Material and Silica Gel Treated N-Hexane Extractable Material by Extraction and Gravimetry.

3. REQUIREMENTS

3.1 General.

3.1.1 CIR. Compass Water Solutions, further referred to as “contractor”,

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

- 3.3.1. Inspection

3.1.2 Tech Rep. The Contractor must provide the services of an OEM authorized/ licensed Tech Rep for the OWS (Model Number: US5000) to accomplish the following on site:

- Advise and be able to access and use the manufacturer's proprietary information, software, and tools pertinent to the equipment/system.
- Assist with and ensure compliance with manufacturer's procedures and standards during disassembly, inspection, repair, modification, calibration, and reassembly of the equipment/system.
- The Tech Rep must be present in all aspects of this work item.
- Perform on-site calibration of the oil content monitor assembly.
- Conduct operations familiarization of the equipment to ship's crew after completion of repair work.

3.1.2.1 Ensure the Tech Rep is an OEM Certified Representative for the system/equipment stated above and demonstrated on their résumé.

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

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

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

- Piping
- Ventilation ducting
- Overhead lighting
- Electrical wiring

3.1.5 The Contractor must dispose of residual OWS fluids in compliance with all applicable Federal, state, and local laws, ordinances, regulations and SFLC Standard Specification 0000. Notify the COR (in writing) at least 5 days prior to removal of wastes and fluids. Document a complete chain of custody record of the removed contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

3.1.6 Electrical requirements. The Contractor must accomplish all electrical work in accordance with SFLC Std Spec 3042, and test cables in accordance with SFLC Std Spec 3041.

NOTE

Coast Guard personnel will operate all shipboard equipment and machinery at all times.

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.

3.2.1 The Contractor must take a 1-liter sample of the effluent and complete a USEPA Test Method 1664 oily water test result after one hour of operation. This will require removing and re-installing a check valve adjacent to the overboard.

CAUTION

The overboard discharge valve must be closed to ensure no liquid from the OWS is pumped overboard during OWS operation.

3.3 Inspection and maintenance. The Contractor must accomplish the following tasks for the OWS in accordance with Section 5 of Coast Guard TP 7346A. The Contractor must also renew parts listed in Table 1 in accordance with CG TP 7346A.

TABLE 1 – LIST OF PARTS

QUANTITY	PART NUMBER	DESCRIPTION
4	MUFO0852	Membrane, UFO WS 8 Inch
8	MUSK1836	Single Element Membrane Housing Seal Kit
1	HCON0098	Heli-Sep OWS 5000 Cover Seal O-Ring
1	ORGN8000	Process Filter (FIL1) Cover Seal O-Ring
8	FBGB0582	Process Filter S12 5 Micron Bag
2 lbs	ASMS0000	SPIR-O-Lator Preservative
5 Gallons	MCLN6732	SPIR-O-LATOR Cleaner Alkaline
5 Gallons	MCLN7147	SPIR-O-LATOR, Cleaner Acid

3.3.1 Inspect OWS unit components for damage, tightness, and compliance with TP 7346A arrangement/configuration requirements. This inspection must cover following components. Submit a CIR identifying conditions and deficiencies including recommendations for any repairs.

- Membrane Housings (SPIR-O-LATOR Rack)
- Feed Pump Assembly (PU1)
- Process Filter Assembly (FIL1)
- Process Pump Assembly (PU2)
- Heli-Sep Separator (Coalescing Unit)
- Oil Content Detector/Monitor (OCM)
- Product Loop Assembly (piping assembly)
- Recirculation Assembly (piping assembly)

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- Motor Controller Assembly
- Control Panel
- Gauge Panel
- System Relief Valves

3.3.2 Flush the Oily Water Separator System in accordance with paragraph 5.1 of CG TP 7346A. Appendix “C” drawings and schematics provide valve and component designations.

3.3.3 Verify that flushing of the SPIR-O-LATOR system can be triggered by three different methods (i.e., manual, system shut down, and automatic) identified in paragraph 5.1.1 of CG TP 7346A.

3.3.4 Flush the HELI-SEP separator vessel in accordance with paragraph 5.1.2 of CG TP 7346A.

3.3.5 Flush the SMART-CELL/OCM in accordance with paragraph 5.1.3 of CG TP 7346A after renewal per paragraph 3.5.

3.3.6 Clean the process filter canister and renew the filter bag (i.e. Filter bags Part Number: FBGB0582, and Cover Assembly O-rings Part number: ORGN8000) and seal in accordance with paragraph 5.3 of CG TP 7346A. Appendix “C” drawings and schematics provide valve & component designations.

3.3.7 Clean the SPIR-O-LATOR assembly in accordance with paragraph 5.4 of CG TP 7346A. Cleaning will require use of detergent selected to suit the “as found” condition. The Contractor must assess “as found” condition and provide appropriate cleaning detergent option after considering options provided in CG TP 7346A, paragraph 5.4.4.

3.3.8 Clean the oil sensing probe in accordance with paragraph 5.6 of CG TP 7346A.

3.3.9 Remove solids and sludge from separator vessel in accordance with paragraph 5.8 of CG TP 7346A.

3.3.10 Drain, open the top cover on the HELI-SEP separator unit, and wipe clean the accessible interior surfaces. Visually inspect the interior.

3.3.11 Note any unusual conditions found while performing cleaning and inspections listed above. Submit a CFR including repair recommendations to the CG Representative.

3.4 Oil content detector renewal. The Contractor must renew the Oil Content Monitor with the government furnished property in accordance with TP 7346A.

3.4.1 Provide the Data Sheet of the calibrated Oil Content Meter. Indicate the accuracy of the calibration equipment and OCM. Affix a label to the meter showing Certification Date, Due Date for Next Calibration, and Name of Calibration Laboratory.

3.4.2 The calibration label must be affixed on OCM so that it is easily visible without interference with meter reading. Transparent tape must be placed on all paper calibration labels.

3.4.3 The Contractor must clean the OCM panel and remove loose paint/foreign object.

3.4.4 Complete water connections in the presence of a Coast Guard Inspector.

3.5 Oily Waste Offload. The Contractor must offload 2,500 gallons of oily waste from the oily waste holding tanks. The discharge connections are 2" international flanged shore connections, and the contractor will need to provide hose to offload the fuel oil tanks. The Contractor must dispose of residual fluids in compliance with all applicable Federal, state, and local laws, ordinances, regulations and SFLC Standard Specification 0000. Notify the COR (in writing) at least 5 days prior to removal of wastes and fluids. Document a complete chain of custody record of the removed contents and generated wastes, from the vessel to the point of final destination or delivery. Submit document to the COR upon completion of work.

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.6 Operational test, post repairs. After completion of work, the Contractor must witness Coast Guard personnel perform an operational test of all items or shipboard devices that were disturbed, used, repaired, or altered, or installed be in satisfactory operating condition. Submit a CFR

3.6.1 The Contractor must take a 1-liter sample of the effluent and complete a USEPA Test Method 1664 oily water test result after one hour of operation. This will require removing and re-installing a check valve adjacent to the overboard.

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

4. NOTES

This section is not applicable to this work item.

WORK ITEM 7: Tenting (Flight Deck), Provide

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to provide suitable working condition and protect environment from project materials and processes in work requiring tenting, including but not limited to compartments or areas listed below and in Table 1.

- WORK ITEM: Deck Covering (Slip-Resistant) Flight Deck, Renew

TABLE 1 TENTING FOR EXTERIOR DECKS

TENTING	LOCATIONS
Flight Deck	01 Level Deck, Fr. 67 to 88

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 418A-WMSL-100-001, Rev B, General Arrangements
 Coast Guard Drawing 418A-WMSL-100-006, Rev A, Inboard and Outboard Profiles
 Coast Guard Drawing 418A-WMSL-801-001, Rev A, Booklet of General Plans
 Coast Guard Drawing 750-WMSL-100-059, Rev C, Topside Configuration (NSC 1 SRD)
 (ASC110004)

COAST GUARD PUBLICATIONS

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

OTHER REFERENCES

Code of Federal Regulations (CFR) Title 29, Part 1910, Jul 2022, Occupational Safety and Health
 Standards
 Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2022, Occupational Safety and Health
 Standards for Shipyard Employment

3. REQUIREMENTS

3.1 General.

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

- 3.4.1 Water spray test

3.1.2 Tech Rep.

None.

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

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

3.1.5 Work locations. The concerned work areas are listed in Table 1. See the applicable drawings in Section 2 References for guidance, locations, and details.

3.1.6 Materials, tools, and services. The Contractor must provide service, tools, and materials to accomplish the requirements in this work item. New components, parts, materials, and paints with the same color, comparable and matching material properties as the existing components/parts. Use references in Sections 1, 2 and SFLC Std Specs for guidance, required materials, and details.

3.1.7 Work coordination. The Contractor must coordinate the accomplishment of this work item with the following work items:

- Deck Covering (Slip-Resistant) Flight Deck, Renew
- Talon Grid (Type 18-08), Inspect and Test

3.2 Environmental protection. The Contractor must abide by all requirements for environmental protection specified in SFLC Std Spec 0000, Appendix A (Requirements for Environmental Protection at Contractor Operated (Non USCG) Facilities), and Appendix B (Requirements for Environmental Protection at USCG Facilities).

3.3 Scaffolding, safety, and protection. The Contractor must comply with all required and applicable safety and protection specified in SFLC Std Spec 0000, Paragraph 3.3.1 (Personnel safety and property protection - general), and all OSHA safety and health regulations, and any other applicable federal, state, and local laws, and regulations, for the protection of both personnel and property.

- Suitable Scaffolding and/or lifelines are required for working above five feet (29 CFR 1910 and 1915)
- Temporary lines or rails must be installed in place of all removed lifelines or life rails and be retained until replacement tasks have been completed.
- Adequate illumination is required in walkways, work areas, and access to provide a safe work environment (29 CFR 1915.92(a))

3.4 Tenting. The Contractor must tent the designated areas as listed in the Table 1 (prior to blasting and preservation operations) in accordance with SFLC Std Spec 6310, Paragraph 3.1.5 (Tenting and ambient condition control). Tenting features must be as follows:

- Tenting must be set up in a way that it will not interfere with the blasting, preservation, or machinery removal and reinstallation operations.
- Tenting must be constructed to prevent precipitation from affecting normal repair operations and be able to withstand severe inclement weather conditions.
- Tenting must be outfitted with a re-sealable opening that will permit loading and unloading of equipment and supplies.
- Tenting must be used to protect the environment from possible contamination due to preservation work.
- Temporary tenting must be included to protect exterior surfaces from inclement weather, while undergoing preservation.
- Temporary enclosures may be rigged and left overnight as long as they do not block egress routes or ventilation.

3.4.1 Water spray test. In the presence of the Coast Guard Inspector, the Contractor shall water spray test the exterior of tenting installed. Reseal until no leaking if leaking is found. Submit a CIR.

3.4.2 Inspection and repair. The Contractor must inspect and repair any damaged areas of tenting at the beginning and end of every workday.

3.4.3 Restoration. The Contractor must remove all tenting equipment and material, inspect for the presence of contamination, and return all contaminated equipment, components, and spaces to original condition of cleanliness at the completion of work.

3.5 Ambient condition control. The Contractor must control environmental conditions necessary for required works in accordance with SFLC Std Spec 6310, Paragraph 3.1.4 (Ambient condition parameters).

3.5.1 Control equipment. To maintain ambient conditions recommended by coating system manufacturers, and accomplish surface preparation and coating application, the Contractor must provide suitable ambient condition control equipment including, but not limited to:

- Lighting: Lights and light fixtures
- Temperature: HVAC systems (e.g. heaters, air-conditioners)
- Humidity: Humidifiers, or dehumidifiers
- Air Circulation: Blowers, and ventilators

3.5.2 Control plan. The Contractor must submit an ambient condition control plan to the COR at the Arrival Conference prior to initiating ambient condition control process.

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

4. NOTES

This section is not applicable to this work item.

WORK ITEM 8: Deck Covering (Slip-Resistant) Flight Deck, Renew

1. SCOPE

1.1 Intent. This work item describes the requirements for the Contractor to renew deck covering with slip-resistant deck covering system (MIL-PRF-24667 Type V Comp. G Non-skid) for areas as listed in Table 1. The deck area is approximately 4,500 square feet.

TABLE 1 SLIP-RESISTANT DECK COVERING

LOCATION	COMPO	AREA (SQFT)*	SYSTEM/APPENDIX (SFLC STD 6310)	TOPCOAT COLOR	PRESERVE LEVEL	NOTE
Flight Deck (outside Helo Hangar)	Deck, Gutter, TALON grid cover, Coamings	4,500	Weather Decks (Weather Deck Non-Skid, MIL-SPEC Coating for Steel)	Dark Gray 36076 Match existing adjacent surfaces	Renew	MIL-PRF-24667D Type V Comp. G/L Non-skid

*Approximated

1.2 Government-furnished property.

None.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Drawing 418A-WMSL-100-001, Rev B, General Arrangements
 Coast Guard Drawing 418A-WMSL-801-001, Rev A, Booklet of General Plans
 Coast Guard Drawing 750-WMSL-100-039, Rev M, Unit 3140 Structure Mn Dk to 01 Lvl - Fr 64 to Fr 76 (ASC100314)
 Coast Guard Drawing 750-WMSL-100-043, Rev L, Unit 3240 - Main Deck to 01 Level - Fr 76 to Fr 82 (ASC100324)
 Coast Guard Drawing 750-WMSL-100-064, Rev C, Topside Configuration (NSC 1 SRD) (ASC110004)
 Coast Guard Drawing 750-WMSL-612-003, Rev D, Helo Landing Area Safety Nets & Wheel Stops Arr and Details (ASC612003)
 NAVAIR Drawing 627927, Rev D, Visual Landing Aids Installation and Clearance Requirements
 NAVSEA Drawing 803-1385828, Rev P, Nozzles AFFF and Washdown Systems

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), 2022, General Requirements
- Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), 2022, Welding and Allied Processes
- Surface Forces Logistics Center Standard Specification 6310 (SFLC Std Spec 6310), 2022, Requirements for Preservation of Ship Structures

OTHER REFERENCES

- American Society for Nondestructive Testing (ASNT), Recommended Practice No. SNT-TC-1A, 2020, Personnel Qualification and Certification in Nondestructive Testing
- American Society for Nondestructive Testing (ASNT), Standard No. ANSI/ASNT CP-189-2020, 2020, ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel
- ASTM International (ASTM) G46, 2021, Standard Guide for Examination and Evaluation of Pitting Corrosion
- MIL-PRF-24176C, 2020, Cement, Epoxy, Metal Repair and Hull Smoothing
- MIL-PRF-24667D, 2021, Coating System, Non-Skid, for Roll, Spray, or Self-Adhering Application
- MIL-STD-1689A, 1990, Fabrication, Welding, and Inspection of Ships Structure
- Naval Sea Systems Command (NAVSEA) 0640-LP-119-0175, 2019, NAVSEA OP 4 Rev 12, Ammunition and Explosives Safety Afloat
- The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2020, Bare Metal Power Tool Cleaning
- The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 10 (WAB)/NACE WAB-2, 2015, Near-White Metal Wet Abrasive Blast Cleaning

3. REQUIREMENTS

3.1 General.

3.1.1 CIR.

None.

3.1.2 Tech Rep. The Contractor must provide the services of Tech Reps and personnel as follows:

- NDE Tech Rep: NDE Operator/Level 1
- Preservation Tech Rep: AMPP Senior Certified Coatings Inspector (NACE CIP Level 3/SSPC PCI Level 3) with Marine Coatings Inspection Specialty

3.1.2.1 NDE Tech Rep. The Contractor must provide the services of a qualified and certified NDE Operator/Level 1 as follows:

- Perform NDE Operations.

3.1.2.1.1 Qualifications/certifications. NDE Operator/Level 1 certified and qualified in accordance with ASNT No. SNT-TC-1A. Submit the Tech Rep's qualifications/certifications to the COR at the Arrival Conference.

3.1.2.1.2 Dates of services. Include the dates of services in which Tech Reps must be on site as per their subcontract documentation.

3.1.2.2 Preservation Tech Rep. The Contractor must provide the services of a Certified Coating Inspector having successfully completed relevant AMPP (NACE/SSPC) Programs and Trainings to:

- Serve as an Independent Coating Tech Rep.
- Accomplish applicable requirements in SFLC Std Spec 0000, Paragraph 3.2.4.2.2 (Coating Tech Rep).
- Oversee the Preservation Plan requirements in SFLC Std Spec 6310, Paragraph 3.2 (Preservation plan).
- Review and sign daily reports summarizing work. See forms QA-1 thru QA-5 provided in the General Requirements.
- Submit reports to the COR within 24 hours of each inspection.

3.1.2.2.1 Qualifications/certifications. Submit the Coating Tech Rep's qualifications/certifications in accordance with SFLC Std Spec 0000, 3.2.4.2.2.3 and 3.2.4.2.4, include name, certificate number and documented completion of relevant AMPP (NACE/SSPC) Courses and Exams.

3.1.2.2.2 Submit the name and the certification of the Tech Rep to the COR at the Arrival Conference. Include the dates of services the Qualified Tech Reps will be on site as per their subcontract documentation.

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

3.1.3.1 Specific protections. Specific areas/equipment/ components to be protected include, but are not limited to:

- Machinery, equipment, and components (e.g. flight deck nets, and foundations)
- Ventilation systems, and components (e.g. ventilation inlets/outlets, and trunks)
- Ordinance marks
- Wash down counter measure fittings
- Drains, covers, and plugs
- Closures (e.g. hangar doors, WTDs)
- Navigation aids and lights, flood lights (e.g. navigation aids and lights, and foundations)
- Flight deck: drain gutters (protected while renewing slip-resistant deck covering)
- TALON grid assembly (excluding TALON grid cover)

3.1.3.2 Inspection of integrity. Inspect the integrity of the protective covering at the beginning of each shift where surface preparation and/or painting will be accomplished. Ensure that equipment and machinery have not been infiltrated by contamination. Clean any contamination and repair any defects in the protective covering prior to continuing work.

3.1.3.3 Watertight closures. Close all weather tight closures in the vicinity of the work area or install double curtain baffles at the entrance of each access door where airborne contamination could occur during surface preparation and painting. Double curtain baffles are necessary at all closures that will be in use during the preservation process. Install a dirt collection mat on the deck directly inside each closure.

3.1.3.4 Deck drains. Plug or cover all deck drains, weather deck supply and discharge to prevent entry of blast grit or debris.

3.1.3.5 Wash down counter measure (CMWD). Cover CMWD nozzles (i.e. NAVSEA Dwg 803-1385828) to prevent entry of blast grit or debris using the following:

- Fender Washer (i.e. Carbon Steel, SAE J403H (1008-1020), UNS G10080-G10200, Zinc Plated)
- Machine Screw (Stainless, Type 18-8, must comply with ANSI-B18.6.3 Slotted, Trusshead. Full form threads are to extend to within 0.050 inch of the head bearing surface).

NOTE

**The CMWD nozzle coverings are Parts 4 and 5 in
NAVSEA Drawing No 803-1385828.**

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:

- Machinery, equipment, and components (e.g. flight deck nets, and foundations)
- Ventilation systems, and components (e.g. ventilation inlets/outlets, and trunks)
- Ordinance marks
- Wash down counter measure fittings
- Drains, covers, and plugs
- Closures (e.g. hangar doors, WTDs)
- Rails and supports
- Ladders and supports
- Outfits, foundations, and fittings
- Switches, controls, and terminals
- Lights, alarms, cameras, speakers, sensors, switches, and supports (e.g. navigation aids and lights, flood lights)
- Piping, hoses, and supports
- Cables, wires, and supports
- Flight deck: flight deck safety net assemblies, talon grid cover

3.1.5 Work locations. The concerned work areas are listed in Table 1. See the applicable drawings in Section 2 for guidance, locations, and details.

3.1.6 Materials, tools, and services. The Contractor must provide materials, tools, and services to accomplish the requirements in this work item. New components, parts, materials, and paints with the same color, comparable and matching material properties as the existing components/parts. Use references in Sections 1, 2 and SFLC Std Specs for guidance, required materials, and details.

- Have all materials in the Contractor's physical possession at the work location needed to accomplish the work item prior to proceeding with deck surface preparation.
- Verify inventory with the Coast Guard Inspector (QA)
- MIL-PRF-24667D Type V Comp. G Non-skid is preferred. Submit a CFR for alternatives, if unavailable or un-procurable.

3.1.7 Water used for washing and surface preparation procedures. The Contractor must ensure that water used in all washing and surface preparation tasks (including pre-surface preparation wash, and wet abrasive blasting) is in accordance with SSPC/NACE Standards regarding to WJs or WABs. The water used must be sufficient purity and quality, and it must not prevent the surface being cleaned from achieving the required degree of surface cleanliness or non-visible contamination criteria.

- Ensure that surface preparation water does not contain sediments or other impurities that are destructive to the proper functioning of the cleaning equipment.
- 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.
- Notify the COR within 5 days prior to the removal of accumulated water storage from the Coast Guard Base where work is being conducted.

3.1.8 Surface preparation optional methods. The Contractor has the option of using either "Wet Abrasive Blasting" or "Dry Abrasive Blasting" to achieve the required surface preparation, prior to application of the coating system specified in preservation requirements.

- Achieving greater productivity
- Achieving the required surface profile

NOTES

WABs and DABs are requested and preferred respectively, while WJs are still listed and approved under SFLC Std Spec 6310. WJs are acceptable only when remaining surface profiles still meet standards and requirements. Any surface prep areas failing to meet standards and requirements must be corrected/implemented by DABs, WABs, or equivalent.

3.1.9 Work coordination. The Contractor must coordinate the accomplishment of this work item with the following work items:

- Tenting (Flight Deck), Provide
- Talon Grid (Type 18-08), Inspect and Test

3.2 Quality assurances and controls. 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"), and the quality controls specified in SFLC Std Spec 6310, Paragraph 3.1.10 (Coating inspection) and 3.1.15 (Coating system tests).

NOTICE

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

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

- Flight deck lights (e.g. Deck edge lights)
- Drain systems and piping
- Flight deck nets

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.4 Inspection. In the presence of the Coast Guard Inspector, The Contractor must inspect all cleaned surfaces and exposed substrates of areas in Table 1 (after removing/cleaning surface covering/coatings and prior to priming substrates) in accordance with SFLC Std Spec 0740. Submit a CFR and wait for COR approval before proceeding.

3.4.1 Visual inspection (VT). The Contractor must visually inspect all exposed deck areas for any pitting, corrosion, erosion, and defects.

3.4.2 Pit measurement. The Contractor must measure all observed pits on exposed substrates (after removing/cleaning surface covering/coatings and prior to priming substrates) in accordance with SFLC Std Spec 0740, Paragraph 3.13 (Evaluation of pitting corrosion). For bidding purposes, the Contractor must estimate 100 pit measurements are required.

3.4.2.1 Mark up a copy of Coast Guard Drawings to show all locations selected for measurement.

3.4.2.2 Report the measurements including results (the depth of the pits), locations, and illustrations/marked up drawings.

NOTE

Pit measurements must be taken on cleaned/exposed substrates in accordance with SFLC Std Spec 0740 (in accordance with ASTM G46 via SFLC Std Spec 0740)

3.4.3 Ultrasonic measurement (UT). The Contractor must take UT measurements in the surrounding area of any pit measuring greater than 25% of plate thickness. UT measurements must be taken in the four quadrants at an equal-distant radius from the pit center until full plate thickness is measured. For bidding purposes, assume 100 UT measurements. All UT measurements must be taken on cleaned surfaces in accordance with SFLC Std Spec 0740 Appendix C.

3.4.3.1 Mark up a copy of Coast Guard Drawings show all locations selected for measurement.

3.4.3.2 Report the measurements including results (thicknesses, and cracks), locations, and illustrations/marked up drawings.

3.5 Substrate fairing and repair by filling Epoxy for shallow pits and small corrosions (i.e. pits < 25% or corrosions < 25%). The Contractor must repair small pin holes, shallow pitted substrates (with remaining plate thicknesses over 75% of required plate thicknesses), and fair corroded substrates (with remaining cross sections over 75% of required cross section areas), after removing insulation, coating, or deck covering in accordance with SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems), "Metal Repair and Hull Smoothing", MIL-PRF-24176, and manufacturers' instructions.

- Procure 6 kits of Epoxy Fairing Compounds (e.g. Belzona 1111, 0.5 Gallon/5 Kg Kit or equivalent) to conduct repairs.
- Apply the remaining Epoxy Fairing Compounds over high corrosion and erosion areas. (e.g. substrates repaired by clad welding, corners, decks/sills near edges/corners, welding seams, and passages)

NOTE

"Substrate fairing and repair by filling Epoxy for shallow pits and corrosions (i.e. pits < 25% or corrosions < 25%)" is a supplement barrier intending to help delay penetration.

3.6 Slip-resistant deck covering renewal. The Contractor must prepare and coat the deck surfaces, using the system specified in SFLC Std Spec 6310, Appendix A (Cutter and Boat Exterior Painting Systems). Apply finish/topcoat to match existing adjacent surfaces. Select options as follows:

- Flight Deck (MIL-PRF-24667 Type V Comp. G)
- Near-White Metal Wet Abrasive Blast Cleaning SSPC-SP 10 (WAB)/NACE WAB-2, and
- Bare Metal Power Tool Cleaning (SSPC-SP 11) for all deck covering and coating defects, outfits/fittings, and limited access areas.

NOTES

1. Strength decks' substrates (e.g. Decks at Sides from Fore Deck through Flight Deck) are constructed of HY-AH-36 or HSLA-80 steel and may NOT be heated to remove the existing covering.
2. Initial removal of the coating system around deck edges, fittings, and deck coaming may be started by power tool cleaning in accordance with SSPC-SP-11.
3. Surface preparation may be accomplished by wet abrasive-blasting, or dry abrasive-blasting, or a combination of the two.
4. Waterjetting only reveals an existing substrate anchor profile and does not create a new profile. Abrasive may be introduced to the waterjet stream, to achieve required surface profile and/or greater productivity.
5. Unless a containment system is used to contain surface preparation for dust and debris and coating application overspray during pier side/dockside preservation, the following must be adhered to:
 - a. All surface preparation tools/equipment must be vacuum-shrouded.
 - b. Coatings must be applied by brushing or rolling.
6. During pier side surface preparation:

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

3.6.1 Pre-surface preparation wash. Prior to accomplishing surface preparation, the Contractor must accomplish low-pressure (less than 5,000 psi) freshwater wash of all affected surfaces, to remove soluble chlorides and other surface contaminants. Capture, contain, and dispose of wash water for proper disposal in accordance with all federal, state, and local regulations.

3.6.2 Preparation. The Contractor must clean the entire deck areas including foundations, outfits, coaming, and fittings (e.g. drain gutters, flight deck edge coamings, talon grid cover, wash down counter measure, and tie down fittings) in accordance with:

- Near-White Metal Wet Abrasive Blast Cleaning SSPC-SP 10 (WAB)/NACE WAB-2, and
- Bare Metal Power Tool Cleaning (SSPC-SP 11) for deck covering or coating defects, and limited access areas (including deck edges, foundations, coamings, outfits, and fittings)

3.6.3 Coating. The Contractor must coat slip-resistant deck covering (MIL-PRF-24667C, Type V) on deck. The coating system will be completed as follows:

- Primer Coats
- Stripe Coat Geometries, Welds, and Seams – Stripe coat must be of a different color than the Primer Coats
- Intermediate Coats
- Non-Skid
- Top Coat (Areas adjacent to Non-Skid)

3.6.3.1 Slip-resistant surfaces. Select Dark Gray 36076 as the top/finish coat color. Not top-coat slip-resistant surfaces, except to restore helo deck markings. Ensure that the slip-resistant surface appearance and texture show a pattern of ridges and peaks as follows:

- The ridge profile must be continuous and reasonably uniform.
- Peaks and ridges must be generally in the same direction (fore and aft), approximately 1/2 to 1 inch apart, and approximately 1/16 to 3/32 inches high.
- All weld seams must be cross-rolled from a minimum of 3 inches on either side of the weld.

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3.6.3.2 Slip-resistant exempted surfaces. Apply Dark Gray 36076 or top/finish coats matching adjacent surfaces instead of slip-resistant deck covering on exempted surfaces (no slip-resistant deck covering) over vertical surfaces and areas as follows:

- Areas within six inches of adjacent bulkheads, deck coaming, and deck edges.
- Areas within two inches of deck foundations, deck fittings, and protrusions.
- Decks inside coamings
- Deck fittings, including, but not limited to pad eyes, label plates, net supports/foundations (e.g. drain heads/cups, helicopter tie-down fittings)
- Deck troughs (e.g. stuffing tubes, risers, and flanges)

3.6.3.3 Other adjacent surfaces. Preserve all bulkheads, foundations, outfits, coaming, and fittings including all adjacent structural members up all coaming heights and up to 6 inches above deck. Include specific surface areas as follows:

- Flight deck: aft drain gutters (all exteriors and interiors), flight deck edge coamings stbd and port
- Any coating damages due to the Contractor's work

3.7 Flight deck markings and Visual Landing Aids (VLA). The Contractor must paint flight deck markings and restore Visual Landing Aids (VLA) in accordance with SFLC Std Spec 6310, COMDTINST M10360.3, NAVAIR Drawing 627927, and applicable references in section 2 as follows:

3.7.1 Flight deck markings. The Contractor must apply flight deck markings in accordance with NAVAIR Drawing 627927. Specific dimensions can be found in the current Air-Capable Ships Aviation Facilities Bulletin No. 1 and Shipboard Aviation Facilities Resume (NAEC-ENG-7576). (Figure 1)

NOTE

Flight deck will be verified/certified by NAVAIR. See 4 NOTES.

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

3.9 Operational test-post repair. After completion of work and in the presence of the Coast Guard Inspector, the Contractor must witness an operational test of the equipment listed below to demonstrate existing operational condition. Submit a CFR.

- Drain systems and piping
- Flight deck lights (e.g. Deck edge lights)
- Flight deck nets

NOTE

Coast Guard personnel will operate all shipboard machinery and equipment.

3.10 Washing. Upon completion of works and in presence of the Coast Guard Inspector, the Contractor must remove and dispose of all debris from surfaces, remove drain plugs, and clean out all deck and drains with low-pressure water, then demonstrate that all drains run free and clear.

3.11 CFR. The Contractor must summarize and submit a CFR if additional repair is necessary or required.

4. NOTES

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



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

- Ensuring no engine operation and no stack emission at any time during flight deck resurfacing
- Restricting access to the Flight Deck work area to only authorized personnel
- Coordinating Respective Area Command to contact NAVAIR and scheduling to have flight deck markings and Visual Landing Aids (VLA) verified/certified

4.3 Inspector training tool. Prior to commencement of work, the Coast Guard Inspector is encouraged to review the SFLC's web-based flight deck resurfacing training tutorial at the following web address, to become familiar with the flight deck resurfacing and quality assurance inspection procedures:
<http://cgweb.lant.uscg.mil/vdiv/References/Flight Deck/WebHelp/WHStart.htm>

