GENERAL REQUIREMENTS

1. SCOPE

1.1 Intent. This standard specification invokes general requirements for conducting ship repair availabilities for Coast Guard vessels.

1.2 Appendices.

PROCESS STANDARD	APPENDIX
Requirements for Preservation of Ship Structures	A
Requirements for Environmental Protection	B

1.3 Acronyms and term definitions. Below are definitions of various acronyms and terms that are used in this standard or may be encountered in work item specifications.

- **"AFFF"**: Aqueous film forming foam.
- **"Asbestos and Asbestos Containing Material (ACM)"**: Asbestos means actinolite, amosite, antophyllite, chrysotile, crocidolite, and tremolite. Asbestos material means asbestos or any material containing asbestos such as asbestos waste, scrap, debris bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal. Friable asbestos material means any material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure. OSHA defines ACM as any material containing greater than one percent asbestos.
- **"As directed", "as required", "as permitted", "approved", "acceptance"**: Expressions referring to the direction, requirements, permission, approval, or acceptance by the Contracting Officer or a properly designated Contracting Officer's Technical Representative.
- **"As shown", "as indicated", "as detailed**": Expressions used to refer to particular specified reference documents/drawings/sketches.
- **"ATON"**: Aids to navigation.
- **"Barge": A** flat-bottomed vessel built mainly for river and canal transport of heavy goods. CG barges are not self-propelled and need to be pushed by tenders or tugboats.
  "Blank/Blanking": The act of precluding the entry of foreign material, protecting exposed threads or flanges, and removing blanks before reinstalling a system or component(s). Specific requirements of blanking equipment will be as called out in individual work item.
- **"Boat"**: A Coast Guard ship less than 65 feet in length, with no permanent crew assigned.
- **"CAUTION!"**: Highlights an essential operating or maintenance procedure, practice, condition, statement, etc, which if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.
- **"CDR"**: Contractor Deficiency Report.
- **"Certify"**: Produce a printed certificate.
- **"Chemical Waste"**: Includes salts, acids, alkalis, herbicides, pesticides, and organic chemicals.
- **"CFE":** Contractor-furnished equipment.

- **"CFR"**: Condition-Found Report - Report submitted to the Contracting Officer's Technical Representative, either in written or electronic format, describing the condition(s) found while performing a task specified in the work item, such as an inspection.
- "**CG"**: Coast Guard.
- **"CIR"**: Critical Inspection Report. - Report submitted to the COTR within the first 25 percent of the availability contract period, either in written or electronic format, describing the condition(s) found while performing a task specified in the work item, such as an inspection.
- **"CLIN"**: Contract Line Item Number.
- **"CO/OIC**: Commanding Officer/Officer-In-Charge - The commanding officer or senior officer/officer in charge, or the senior petty officer of a vessel.
- **"COC"**: Certificate of compliance.
- **"Coast Guard Inspector/CG Inspector"**: All work items within the contract will be assigned to a Coast Guard Inspector, who is appointed by the Contracting Officer's Technical Representative. The Contracting Officer's Technical Representative will identify the inspector to the Contractor and the inspector or an authorized alternate will be the point of contact for that work item. The inspector's duties are to monitor the assigned work items, to keep informed of how work is progressing, and to ensure that the specifications are being followed. The inspector will witness all tests, measurements and inspections as required.
- **"Coast Guard PA"**: Designated Coast Guard Property Administrator.
- **"COTR"**: Contracting Officer's Technical Representative – the person delegated by the KO as the on-scene representative for matters concerning performance of work; this includes correctness, timeliness, and quality of the Contractor's work. Normally, the CO/OINC is designated the COTR
- **"Critical-coated surfaces"**: Areas where premature failure of the coating system cannot be detected by routine observation due to inaccessibility, or areas where restoration of a failed system cannot be undertaken without laying up the ship at an industrial facility or a forward repair site; or areas where restoration of a failed system may subject a vessel to a loss of operational days, in addition to resulting in avoidable repair costs. The list of "Critical-coated surfaces" is designated as follows, and may be augmented in individual work items:
    - Underwater (u/w) body surfaces, including u/w appendages (rudders, struts, stabilizing fins).
    - Freeboard, superstructure, masts, and stacks.
    - All weather decks, including buoy and helicopter (flight) decks.
    - Stern ramp, wet notch and door (for patrol class boats).
    - All tanks and voids.
    - Bilges.
    - Chain lockers.
    - Sea Bays.
    - Forepeak compartments.
    - Vent plenum ducts and trunks.
    - Shaft alleys.
    - AFFF Stations.
- **"Cutter"**: A Coast Guard ship 65 feet in length or greater, with permanent crew assigned.

- **"Debris"**: Includes combustible and noncombustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves, and tree trimmings.
- **"Discard"**: Remove and dispose of as scrap.
- **"DFT"**: Dry film thickness.
- **"EDG"**: Emergency diesel generator.
- **"EO/EPO"**: Engineering Officer/Engineering Petty Officer.
- **"EPA"**: Environmental Protection Agency.
- **"Fabricate"**: Construct or make according to a plan or stated guide.
- **"Fastener":** Includes all components for securing. For example, for bolting, the term fastener shall include bolts, nuts, threaded studs, and washers. Welded Studs are defined in SFLC Std Spec 0740.
- **"FT":** Foot/Linear foot, or feet/linear feet.
- **"Garbage"**: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.
- **"GFCI"**: Ground fault circuit interrupter.
- **"GFE"**: Government-furnished equipment.
- **"GFM"**: Government-furnished material.
- **"GFP":** Government-furnished property.
- **"Hazardous Material (HM)"**: Chemicals defined by 29 CFR 1915.1200 or 49 CFR, Parts 100 through 199.
- **"Hazardous Substance**": Substances defined under the Clean Water Act (33 USC. 1251 – 1376) and CERCLA (42 USC 9601 to 9675).
- **"Hazardous Waste (HW)"**: Substances which are defined as hazardous, in accordance with 40 CFR Part 261.
- **"HM/HW Coordinator"**: The HM/HW Coordinator at any particular Coast Guard facility.
- **"Hotwork"**: Any activity involving riveting, welding, burning, the use of power-actuated tools or similar fire-producing operations. Grinding, drilling, abrasive blasting, or similar spark-producing operations are also considered hot work, except when such operations are isolated physically from any atmosphere containing more than 10 percent of the Lower Explosive Limit (LEL) of a flammable or combustible substance.
- **"HVAC"**: Heating, ventilation, and air conditioning.
- **"Inspect":** Examine an object/component or a space for defects, abnormalities, or deviations from a prescribed standard.
- **"Install"**: Permanently place in position, for example, by bolting or welding. When used without the term "Government-furnished", "install" implies that the Contractor must furnish what is to be installed.
- **"Interferences"**: Any part of a vessel, whether permanently installed or portable, that must be moved or disturbed, to accomplish work specified in a work item; this may include machinery, piping ducts, wiring, insulation, structure, and anything else which interferes with proper accomplishment of a work item.
- **"ISC"**: Integrated Support Command. lead-contaminated materials
- **"IN":** Inch(es).

- **"KO"**: Contracting Officer - a Federal employee with the authority to enter into, administer and/or terminate contracts; make related determinations and findings; and appoint COTR. This individual is also authorized, by virtue of position or by appointment, to perform the functions defined by the Federal Acquisition Regulation and the Homeland Security Acquisition Regulation. The KO will make the final decision in all disputes.
- **"MDE"**: Main diesel engine.
- **"MDFT":** Minimum dry film thickness.
- **"MGT**": Main gas turbine.
- **"NDI"**: Nondestructive inspection.
- **"NOTE**": Highlights an essential operating or maintenance procedure, practice, condition or statement.
- **"Oily Waste"**: Includes petroleum products and bituminous materials.
- **"Open"**: To gain access or enter.
- **"OSHA"**: Occupational Safety and Health Administration.
- **"Paint Containing Lead"**: Paint or coating material containing detectable levels of lead of no more than 0.06 percent by weight (0.12 mg/cm2, or 600 ppm). Definitions for lead-based paint found in other documents do not apply to work under this contract.
- **"PCB (Polychlorinated Biphenyls)"**: Toxic and non-biodegradable materials used extensively under trade names, such as Pyranol or Askarel, as insulating cooling fluids in capacitors and transformers. PCBs (which are known to be hazardous to human health) may be present in various locations on board Coast Guard vessels. These locations include those which contain non-armored electrical cable manufactured prior to 1982 (typically grey PVC jacketed cable), and in "Chromelock Tape" which may be used with some soft patches, sheathing, pipe hangers and lap-riveted joints. All material with results above 50 ppm and not totally enclosed are considered PCB containing for regulatory purposes.
- **"Port Engineer"**: The duties of the Port Engineer are to assist the COTR in technical aspects of the contract, assist in estimating the price, cost, and time needed for any recommended changes, and keep the COTR informed of any potential or actual delays.
- **"Post-Consumer Material"**: A material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. Post-consumer material is a part of the broader category of "recovered material."
- **"PDM"**: Programmed Depot Maintenance.
- **"Preserve/Preservation"**: When used in context of painting, refers to surface preparation and paint/coating application.
- **"QA"**: Quality Assurance.
- **"QC"**: Quality Control.
- **"Recovered Material"**: Waste materials and byproducts which have been recovered or diverted from solid waste including post-consumer material, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- **"Reinstall"**: Place back in original condition and location, after temporary removal.
- **"Renew":** Permanently remove an item and install, in its place, a new and unused item which is identical in material, form, fit, and function; the new item must:

- Have the same shape, size, dimensions, and other physical parameters.
- Have the same ability as the old item, to physically interface or interconnect with or become an integral part of another item.
- Perform the same action or actions that the original item was designed to perform.
- **"Repair"**: To correct an identified discrepancy to a given standard of performance.
- **"Replace"**: To remove the original item and to install in its place a different item, as described in the specification.
- **"RPDM"**: Regional Programmed Depot Maintenance.
- **"Residual fluids/Residues"**: Liquid, dirt, and other substance remaining after drainage or removal, such as in a tank after loss of suction by installed equipment.
- **"Restore"**: To bring back to the former, original, or normal condition before alteration or removal.
- **"Restricted interferences"**: Restricted interferences are systems, components of systems, and vessel components that are vital to the health, well-being, and feeding of the vessel's crew that, if removed, will result in a dangerous or hazardous condition to the vessel or the environment.
- **"Rubbish"**: A variety of combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.
- **"Sewage"**: Waste characterized as domestic sanitary sewage.
- **"SCBA":** Self Contained Breathing Apparatus.
- **"Solid Waste"**: Solid waste is any waste as described in 40 CFR section 260.
- **"SQIN":** Square inch(es).
- **"SQFT":** Square foot/feet.
- **"SSDG"**: Ship's service diesel generator.
- **"SSMEB"**: Ship's Structure and Machinery Evaluation Board.
- **"Tech Rep**": Technical representative.
- **"Upgrade"**: To improve a system or system component to a higher grade, quality, or standard.
- **"U/W":** Under water
- **"Vessel":** Vessel is defined as a Coast Guard ships cutter, tender, boat, or barge.
- **"WARNING!"**: Highlights an essential operating or maintenance procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.
- **"WFT":** Wet film thickness.
- **"XO"**: Executive Officer.

2. REFERENCES

COAST GUARD DRAWINGS

Coast Guard Fleet Drawing FL 6701-110, Rev F, EM and RFI Bonding and Grounding, Installation Details and Radiation Hazard Signs, Topside-Main Deck and Above

COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (series), Coatings and Color Manual

Coast Guard Commandant Instruction (COMDTINST) M9077.1C, Change 1, Aug 2001, Equipment Tag-Out Procedures

Surface Forces Logistics Center Standard Specification 0450 (SFLC Std Spec 0450), Jan 2009, Electrical Power for Contractor's Tools and Equipment

Surface Forces Logistics Center Standard Specification 0740 (SFLC Std Spec 0740), Jan 2009, Welding and Allied Processes

Surface Forces Logistics Center Standard Specification 6341(SFLC Std Spec 6341), Jan 2009, Install New Deck Covering Systems

OTHER REFERENCES

American National Standards Institute /American Society Heating Refrigeration and Air Conditioning (ANSI/ASHRAE) 62.1, 2008, Ventilation for Acceptable Indoor Air Quality, Section 6.1 (Ventilation Rate Procedure)

American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 26, 2006, Mechanical Refrigeration and Air-Conditioning Installations aboard Ship, Paragraph 4.9 (Ventilation)

ASTM International (ASTM) D3951, Reapproved 2004, Standard Practice for Commercial Packaging

ASTM International (ASTM) D4285, Reapproved 2006, Standard Test Method for Indicating Oil or Water in Compressed Air

ASTM International (ASTM) D4414, Reapproved 2007, Standard Practice for Measurement of Wet Film Thickness by Notch Gages

ASTM International (ASTM) D4417, 2003, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

ASTM International (ASTM) D4541, 2009, Standard Test Methods for Pull-Off Strength of Coatings Using Portable Adhesion Testers

ASTM International (ASTM) D5162, 2008, Standard Practice for Discontinuity (Holiday) Testing Of Nonconductive Protective Coating on Metallic Substrates

ASTM International (ASTM) D7091, 2005, Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals

ASTM International (ASTM) E662, 2006, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

ASTM International (ASTM) F718, 2007, Standard for Shipbuilders and Marine Paints and Coatings Product/ Procedure Data Sheet

ASTM International (ASTM) F992, Reapproved 2006, Standard Specification for Valve Label Plates

Code of Federal Regulations (CFR) Title 16, Part 1303, Jan 2009, Ban of Lead-Containing Paint And Certain Consumer Products Bearing Lead-Containing Paints

Code of Federal Regulations (CFR) Title 29, Part 1910, Jul 2008, Occupational Safety and Health Standards

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2008, Occupational Safety and Health Standards for Shipyard Employment

Code of Federal Regulations (CFR) Title 29, Part 1926, Jul 2008, Safety and Health Regulations for Construction

Code of Federal Regulations (CFR) Title 33 CFR, Jul 2008, Navigation and Navigable Waters

Code of Federal Regulations (CFR) Title 40, Jul 2008, Environmental Protection Agency

Code of Federal Regulations (CFR) Title 49, Chapter I, Oct 2008, Pipeline and Hazardous Materials Safety Administration, Department Of Transportation

International Standard Organization (ISO) 8502-9, 1998, Field Method for the Conductive Determination of Water Soluble Salts

MIL-STD-1310, Jun 1996, Standard Practice for Shipboard Bonding, Grounding and other Techniques for Electromagnetic Compatibility and Safety

National Fire Protection Association (NFPA) 51, 2007, Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes

National Fire Protection Association (NFPA) 70, 2008, National Electric Code (NEC)

National Fire Protection Association (NFPA) 312, 2006, Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up, Chapter 2 (Construction, Conversion, and Repair)

NAVSEA Drawing 804-5773931, Rev A, Acoustic & Thermal Insulation For Compartments Installation Details

The Society for Protective Coatings (SSPC) Paint Application Specification No. 1 (SSPC-PA Guide 1), 2004, Shop, Field, and Maintenance Painting of Steel

The Society for Protective Coatings (SSPC) Paint Application Specification No. 2 (SSPC-PA Guide 2), 2004, Measurement of Dry Coating Thickness with Magnetic Gages

The Society for Protective Coatings (SSPC) Paint Application Specification No. 3 (SSPC-PA Guide 3), 1995, A Guide to Safety in Paint Application

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.1 (SSPC-SP 1), 2004, Solvent Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.2 (SSPC-SP 2), 2004, Hand Tool Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.3 (SSPC-SP 3), 2004, Power Tool Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 5/NACE No.1, 2007, White Metal Blast Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 7/NACE No.4, 2007, Brush-Off Blast Cleaning

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

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2004, Power Tool Cleaning to Bare Metal

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 12/NACE No.5, 2002, Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 14/NACE No. 8, 2007, Industrial Blast Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.15 (SSPC-SP 15), 2004, Commercial Grade Power Tool Cleaning

The Society for Protective Coatings (SSPC) VIS 1, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

The Society for Protective Coatings (SSPC) VIS 3, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by Power and Hand Tool Cleaning

The Society for Protective Coatings (SSPC))/NACE International (NACE) Joint Standard VIS 4 /NACE No. 7, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting

The Society for Protective Coatings (SSPC))/NACE International (NACE) Joint Standard VIS 5 /NACE No. 9, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by wet abrasive blast cleaning (SSPC-SP 6/NACE No. 3) and near-white blast cleaning (SSPC-SP 10/NACE No. 2).

The Society for Protective Coatings (SSPC) QP 1, 2004, Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures)

US Code, Title 33 (33 USC), Jan 2007, Navigation and Navigable Waters

US Code, Title 42 (42 USC), Jan 2006, The Public Health and Welfare

3. **REQUIREMENTS**

3.1 General conformance applicability. The Contractor shall be aware that the "General Requirements" are a part of the contract specifications, and that the requirements specified herein are an amplification of, or are in addition to, the solicitation provisions and contract clauses; consequently, the Contractor shall be responsible for understanding and complying with all requirements specified herein, and in addition to, the texts of all work items included in the specification package.

3.2 Administrative and work support requirements.

3.2.1 Applicable references and regulations. The Contractor shall be aware that:

- All references and regulations applicable to the contract shall be of the issue date or revision indicated in the "Consolidated List of Applicable References" section of the specification package.
- The statutes and regulations listed herein form a part of this specification to the extent referenced.
- The publications are referred to in the text by the basic designation only.

3.2.1.1 Order of precedence. In the event of a conflict between the text of the specifications and applicable references, hierarchy, priority, or order of precedence of requirements shall be as follows:

1. The text of the specification work items.
2. The text of the "General Requirements" specifications.
3. Coast Guard Drawings.
4. Coast Guard Technical Publications.
5. Commercial Drawings.
6. Commercial Technical Manuals.
7. Coast Guard Standards and Instructions.
8. Commercial or Industrial Standards.
9. Commercial Practices.
10. Federal and Military Specifications and Standards.

NOTE

Nothing in the above-listed documents, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3.2.1.2 Drawing deficiencies. Although detailed and dimensioned drawings for precision equipment are generally accurate, and provide sufficient information for estimating, the Contractor shall take into consideration allowance for changes in dimensions, due to changes of equipment and to the structure and arrangement of the vessel. Ensure that all actual installations conform to the specifications.

3.2.2 Arrival Conference. After contract award and prior to the start of contract work, the Contractor shall attend an Arrival Conference, scheduled by the KO or a designated representative of the KO, at either the Contractor's conference facilities near the vessel, or onboard the vessel (time and location of meeting to be at the sole discretion of the KO). Refer to the Arrival Conference Agenda.

NOTE

The Arrival Conference Agenda will be sent to the Contractor by the KO via letter.

3.2.3 Severe Weather Plan. The Contractor shall have a written Severe Weather Plan that will be put in effect in the event of gales, storms, hurricanes, and destructive weather. The plan shall contain specific responsibilities and detailed actions to be taken during the conditions listed in Table I (Weather Conditions).

TABLE I - WEATHER CONDITIONS

WEATHER	CONDITIONS **	WINDS (hours)	ACTION
GALE STORM/HURRICANE /TYPHOON	IV	▸ 74	Review hazardous/destructive weather implementation plan.
	III	▸ 48	Take preliminary precautions.
	II	▸ 24	Take precautions to permit establishing an appropriate state of readiness on short notice.
	I	▸ 12	Take appropriate precautions to minimize damage.
THUNDERSTORM/TORNADO (Lightning and thunder are also anticipated)	II	◂ 6	Take precautions to permit establishing an appropriate state of readiness on short notice.
	I	◂ 0*	Take appropriate precautions to minimize damage.

▸ Trend indicates a possible threat of destructive winds within the number of hours shown.
◂ Destructive winds accompanying the phenomenon indicated are reported or expected in the general area within the number of hours shown.
***IMMINENT**
****NOTICE: The Vessel CO will set all conditions.**

3.2.3.1 Minimum inclusions. Ensure the plan contains, as a minimum, the following information as dictated by conditions listed in Table I (Weather Conditions):

- Steps to be taken to remove or secure staging items or equipment on vessel decks, pier or dry dock, including cranes that could become windborne.
- Protection of vessels from damage from other floating equipment, such as barges, doughnuts, work floats and other vessels.
- Provisions for security, emergency fire and flooding protection, emergency shipboard dewatering and firemain capability, electrical power generation, and communication.
- Steps to be taken, to secure the vessel to the Contractor's pier or drydock, including the following:
- Size, type, and number of lines to be used to secure the vessel.
- Sketch, showing location of all securing devices, including fenders, bumpers, and camels.
- Method to be used to check tension and slack in lines during heavy weather.
- Steps to be taken to assure that all openings are made watertight.
- Steps to be taken to secure floating piers during high winds or high tides.
- The name and telephone number (business and residential) of the Contractor’s single point of contact, who has the authority to commit the contractor to take necessary actions as requested by the vessel’s CO.
- Steps to be taken to secure and safeguard all other Government properties, including, but not limited to removed interferences, GFP, and MTI items.

3.2.3.2 Plan submission. Submit a copy of the plan to both the KO and COTR at the Arrival Conference.

3.2.4 QC/QA Program.

3.2.4.1 General. The Contractor shall be aware that QC/QA is the sole responsibility of the Contractor; consequently, the Contractor shall implement a QC/QA Program, to ensure that Contractor work meets the requirements of the specifications, without undue delay and re-work. Be aware that:

- The COTR may delegate inspection responsibilities to members of the vessel's crew, to monitor the progress and quality of work done by the Contractor.
- If, during the performance of work the Coast Guard Inspectors witness work that fails to meet the specifications, work that is otherwise unsatisfactory, or conditions which may lead to an unsatisfactory end product, the inspectors will alert the KO, who will then advise the Contractor informally of the deficiency. If the deficient work is not corrected within a reasonable period of time (as approved by the KO), the KO will officially alert the Contractor via a CDR.

3.2.4.2 In-process QC measures for "critical-coated surfaces". The Contractor shall abide by the below-specified in-process QC measures during preservation of "critical-coated surfaces" (see the definition of "critical-coated surfaces" in paragraph 1.3 (Acronym and term definitions)).

3.2.4.2.1 Painting contractor certification program requirement. Be aware that a "QP 1 Certification", in accordance with the SSPC QP 1 Certification Programs, is required for all Contractors or sub-Contractors who engage in preservation (excluding touch-ups) of "critical-coated surfaces". Ensure that the QP 1-Certification is in effect prior to contract award, and remains so during any surface preparation or painting of said surfaces. Notify the KO of any change in contractor certification status. In addition, be aware that:

- If the certification expires during the performance period, preservation tasks will not be allowed to continue, until said certification has been reissued.
- Requests for extension of time for any delay to the completion of the project due to an inactive certification will not be considered.

NOTE

Information on the SSPC certification programs can be found at www.sspc.org

3.2.4.2.2 Coating Tech Rep. In lieu of meeting the "QP 1 Certification" requirements, the Contractors may opt to provide the services of a coating Tech Rep, in accordance with the following guidelines:

3.2.4.2.2.1 Qualifications. The Tech Rep shall be a Certified Coating Inspector, having successfully completed the NACE-International Coating Inspector Program (CIP), Level 3 - Peer Review.

NOTE

Information regarding the CIP may be obtained at the following URL address: www.nace.org

3.2.4.2.2.2 Professional independence. The Tech Rep shall neither be an employee of the Contractor, nor of any coating system manufacturer.

3.2.4.2.3 QP 1 Inspector or Tech Rep duties. The Coating Inspector for the "QP 1-certified" Contractor or the Contractor-provided NACE-certified Tech Rep shall remain on site, to perform the following duties, as applicable, for each work item that involves preservation of "critical-coated surfaces":

- Verify inspection instrument calibration.
- Verify and approve the suitability of ambient conditions before surface preparation is begun, and before each coat of paint is applied.
- Verify all aspects of surface preparation – including, but not limited to:
  - Cleanliness of compressed air.
  - Adequacy of solvent cleaning.
  - Proper handling of blast media.
  - Actual surface preparation procedure.
- Inspect and approve final surface preparation, before application of primer coat.
- Supervise and approve coating system preparation and application procedures, including but not limited to: mixing and thinning, stripe coating application, spray techniques, and film thickness measurements and recordings.
- Determine when applied coats have sufficiently cured for overcoating, or for system service resumption (see paragraph A2.1.18 (Critical drying time requirements)).
- Complete and sign the quality assurance (QA) inspection forms (see QA-1 thru QA-5), provided in Appendix A (Requirements for Preservation of Ship Structures) of this document.
- Submit all completed QA inspection forms to the COTR (through the Contractor), upon completion of work.

3.2.4.2.4 Certification document submission. The Contractor shall submit, to the KO, the QP 1 Certificate or the name of the NACE-Certified Tech Rep, along with Certificate Number, during the pre-award phase of the contract.

3.2.5 Planning document. The Contractor shall accomplish the following tasks:

3.2.5.1 Provide a legible Planning Document (PD) with the following characteristics:

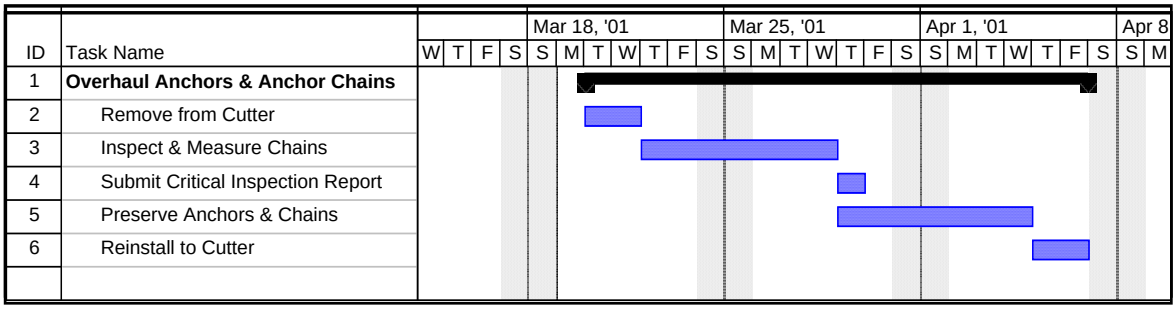
- Graphical in format (see Fig. 1 (Sample Planning Document Submittal)).
- Shows overall period of performance for each CLIN, with start and stop dates of major sub-tasks.
- Contains due dates for Critical Inspection Reports (CIR) and any events requiring Coast Guard Inspector presence.

3.2.5.2 Submit 3 copies of the PD to the COTR at the Arrival Conference and at all weekly Progress Meetings.

NOTE

A separate document, specifically prepared for the Government is not desired or required. A copy or summary of the Contractor's internal scheduling document is preferred.

FIG. 1 - SAMPLE PLANNING DOCUMENT SUBMITTAL



3.2.6 Inspection requirements.

3.2.6.1 Time of performance. The Contractor shall ensure that all required readings and inspections are performed within 24 hours after machinery and systems have been tagged-out and opened.

3.2.6.2 Advance notice for CG Inspector verification. The Contractor shall notify the COTR of the time and location of inspections requiring Coast Guard verification 24 hours prior to the inspections, unless such inspections need to be conducted more than 50 road miles from the primary place of contract performance - in which case three working day notice shall be required, in order to make travel arrangements for the CG Inspectors.

3.2.6.3 Instrument/tooling calibration. The Contractor shall ensure that all measurements and readings are taken with calibrated measurement and test instruments/equipment. Submit to the COTR a list of all instruments to be used for specified inspections and tests, complete with date of calibration (for each instrument) at the Arrival Conference.

3.2.6.4 Submission forms. The Contractor shall submit all reports of readings, operational tests, and inspections required by the specifications to the COTR, in writing, using a CFR.

NOTE

A sample inspection report form will be provided by the Coast Guard, upon request by the Contractor. The Contractor is encouraged to generate and submit all inspection reports in electronic format.

3.2.6.5 Inspection report particulars. The Contractor shall do the following:

3.2.6.5.1 Time of submission. Submit all CIRs and CFRs for routine inspections and tests within 24 hours after completing the specified inspections and tests. Submit CFRs for unexpected conditions within 24 hours of discovery.

3.2.6.5.2 Report contents. Include the following details, at a minimum, in each report, to facilitate the contract-change process:

- Sequential number to indicate order of submission.
- CLIN and title to which the condition-found report relates - for example: CLIN 19-D, Propeller Shaft Remove, Inspect, and Reinstall or CLIN 25-O, Propeller Shaft Covering Renew (where “D” and “O” stand for “Definite” and “Option”, respectively).

- A clear statement, definition, and description of the condition found, including but not limited to frame numbers, part numbers, materials, and dimensions as appropriate.
- A proposed or recommended repair to correct the defective condition, including but not limited to frame numbers, part numbers, materials, and dimensions as appropriate.
- Indication whether the report requires Coast Guard action or if it is provided "for information" only. If action is required, indicate the time and date when the Coast Guard response is required in order to complete the action within the specified contract performance period. If the action cannot be completed within the specified contract period, so state.
- When Coast Guard action is required, indicate the response time needed to avoid a contract extension and how many additional days past the scheduled completion date the added work will require.
- Space on the form for the Coast Guard designated representative to make comments.
- Signature of the Contractor Ship Superintendent, including date of signature and condition-found report submission.

NOTE

The Contractor is encouraged to generate and submit all inspection reports in electronic format. Promptness in taking and reporting readings is particularly important – for example, in underbody work items such as shaft bearing or rudder bearing clearances. Often during the progress of a work item, conditions are discovered by the Contractor which are considered abnormal for reasons of safety, expected reliability, health, or habitability; these conditions must be brought to the attention of the Coast Guard using a CFR. Details provided by the Contractor in a CFR are important because the CFR may result in a contract change.

3.2.7 Contractor-furnished properties and services. The Contractor shall furnish all necessary labor, equipment, materials, staging, fittings, and tools, for proper completion of each item of work, unless otherwise specified as Government-furnished in particular work items. Provide all services which include, but are not limited to the below-listed, as required, for completion of Contractor-work, unless otherwise specified in a work item:

- Electrical power (see SFLC Std Spec 0450).
- Compressed air.
- Steam.
- Crane services.
- Garbage and refuse disposal.
- Phones.
- Office space.

NOTE

These services are for the Contractor's use only; services required by the vessel will be listed in the "Provide Temporary Logistics" item of the specification package, when required.

3.2.8 GFP. The Contractor shall refer to the Government-furnished property clauses in the Master Solicitation document for guidance on handling of GFP.

NOTE

The term GFP may be used interchangeably for GFE and GFM.

3.2.9 Government-loaned equipment. The Contractor shall return all Government-loaned equipment in a same condition as when received, excluding the normal wear and tear. Repair or renew all equipment that are damaged due to improper use, when requested by the COTR.

3.2.10 Mandatory turn-in items. For each removed equipment/component that is identified as a MTI item in the specification package, the Contractor shall accomplish the following tasks:

3.2.10.1 Package the item in accordance with ASTM D3951; ensure that all surfaces subject to corrosion, including internal hollow spaces, are coated with a thin film of corrosion preventative compound, as applicable. Install all blanks or securing hardware provided with the replacement item. In addition, wrap and seal all weather-exposed surfaces with heavy duty, weather/water-proofed, barrier material.

NOTE

The Contractor may use the original crate or shipping box, if all previous shipping information is permanently covered or removed.

3.2.10.2 Temporarily store the item, to prevent damage, prior to shipping; work with the Coast Guard PA, to ensure that all necessary turn-in documents are properly completed and enclosed with the item. Provide heavy lifting services, as applicable, to load item onto a Government-provide vehicle.

3.2.11 Temporary sanitary and sewage facilities.

3.2.11.1 Sanitary facilities for vessel-personnel – due to disruption of grey water system. When the shipboard grey water system is disrupted due to repairs required by contract work, the Contractor shall provide vessel-personnel with a sanitary facility, within a five minute walking distance from the vessel, to include the amenities listed in Table II (Sanitary Facility Amenities). Ensure the following:

- Shower stalls are equipped with privacy screens.
- Sinks are provided with fresh hot and cold water.
- Electrical convenience GFI receptacles, in accordance with NFPA 70, National Electric Code (NEC), are located in vicinity of sinks.
- Toilets have doors or privacy dividers.
- Lockers are capable of being locked.

TABLE II - SANITARY FACILITY AMENITIES

VESSEL						
LENGTH (feet)	**TYPE**	**SHOWER STALL**	**TOILET**	**SINK**	**CHAIR**	**LOCKER**
65	BUS	1	1	1	2	2
	WLI	1	1	1	2	2
	WLR	2	2	2	4	4
	WYTL	1	1	1	2	2
75	WLIC	2	2	2	4	4
	WLR	2	2	2	4	4
87	WPB	2	2	2	4	4
100	WLI	2	2	2	4	4
	WLIC	2	2	2	4	4
110	WPB	2	2	2	4	4
140	WTGB	2	2	2	4	4
160	WLIC	2	2	2	4	4
175	WLM	2	2	2	4	4
179	WPC	2	2	2	4	4
210	WMEC	2	2	2	4	4
213	WMEC	2	2	2	4	4
225	WLB	2	2	2	4	4
240	WAGB	2	2	2	4	4
270	WMEC	2	2	2	4	4
282	WMEC	2	2	2	4	4
295	WIX	2	2	2	4	4
378	WHEC	2	2	2	4	4
400	WAGB	2	2	2	4	4
418	WMSL	2	2	2	4	4
420	WAGB	2	2	2	4	4

3.2.11.2 HVAC system. Ensure that the facility is equipped with heating, filtered ventilation, and air conditioning to maintain interior temperatures in the 65 to 78 degree Fahrenheit range, and has local climate control for the user.

3.2.11.3 Janitorial services. Ensure that the facility is cleaned at least once a day, and cleaning shall include, but not be limited to:

- Trash removal.
- Restocking of consumables (toilet paper, soap, etc.).
- Cleaning of toilets, showers and sinks.

NOTE

All plumbing repairs such as unclogging of toilets and shower and sinks drains shall be the responsibility of the Contractor.

3.2.11.4 Security. Ensure that the facility is capable of being locked from the outside and is also equipped, on the inside, with a suitable locking mechanism such as a sliding latch. Provide the COTR with two keys for each lock.

3.2.11.5 Additional sanitary facility for mixed gender crew. If the vessel consists of a mixed gender crew, provide an additional equal facility that is completely separate, with its own entrance.

3.2.11.6 Sewage facilities for vessel personnel – due to disruption of sewage system. When the shipboard toilets are unavailable due to contract work, and no permanent shore side facilities are available, the Contractor shall provide vessel-personnel with portable toilets as specified in Table III (Portable Toilets). Ensure that the toilets are:

- Located as close as possible to the vessel, at a distance not to exceed 100 yards.
- Cleaned and emptied daily, and restocked with consumables.

TABLE III - PORTABLE TOILETS

VESSEL		PORTABLE TOILETS (QTY)
LENGTH (feet)	TYPE	
65	BUS	1
	WLI	2
	WLR	2
	WYTL	1
75	WLIC	2
	WLR	2
87	WPB	2
100	WLI	2
	WLIC	2
110	WPB	2
140	WTGB	2
160	WLIC	2
175	WLM	3
179	WPC	3
210	WMEC	5
213	WMEC	5
225	WLB	4
240	WAGB	4
270	WMEC	5
282	WMEC	5
295	WIX	3
378	WHEC	6
400	WAGB	6
418	WMSL	6
420	WAGB	6

3.2.12 Sanitary facilities for Contractor-personnel. The Contractor shall be responsible for providing sanitary facilities for all Contractor-personnel, ensuring that such facilities are distinct and separate from facilities used by vessel personnel.

3.3 Work control requirements.

3.3.1 Personnel safety and property protection - general. The Contractor shall comply with all OSHA safety and health regulations for ship repairing, and any other applicable Federal, state, and local laws, codes, ordinances, and regulations, for the protection of both personnel and property. Be aware of the following safety practices, which are often overlooked:

- Anti-backflash control valves are required on all welding rigs (NFPA 51).
- Suitable scaffolding and/or lifelines are required when working above five feet (29 CFR 1910 and 1915).
- Gear and equipment for rigging and lifting shall be in good working condition and operated according to regulations set forth in 29 CFR 1915.111-116 and 29 CFR 1910.184. Proper safety precautions shall be practiced in the use of tag lines, mousing of hooks, and moving loads. In addition to the above requirements, all cranes used for work on the vessel or for handling GFP shall have a current weight handling certification, in accordance with Federal, state, and local regulations.
- All shore supplied power circuits shall be protected in accordance with 29 CFR 1915 Subpart H, and have a grounding circuit back to shore. In addition, all power tools shall be approved by Underwriters' Laboratories (UL), or by other testing laboratories approved by the KO, and either shall be double insulated or have a grounded circuit.
- Personnel protective equipment must be maintained and used (29 CFR 1915.151-160). Where personnel exposures can not be maintained below the personnel exposure level (PEL) using appropriate engineering controls, provide all Contractor personnel with appropriate respiratory protective equipment or other protective equipment specified by the manufacture; where the Contractor/Contractor's industrial hygienist has determined that exposures could exceed the PEL, ensure personnel are properly protected from sensitizing agents/conditions reported by the manufacturer in the MSDS.

WARNING!

Operations which may lead to personnel sensitization include, but are not limited to spray painting and grinding.

- Selection of respiratory protective equipment shall be based on sound industrial hygiene sampling data for the material being worked. Airline hose masks or SCBA shall be provided to all personnel conducting abrasive blasting or in confined space operations, unless an industrial hygienist has determined that exposures can be maintained below the PEL. In addition, respiratory protection for all work which could be immediately dangerous to life and health must consist of either an SCBA or an airline hose mask with an escape bottle as a designed component of the mask assembly.

- Air line respirators shall be fitted with a pressure regulating valve, a filter which will remove oil, water, and rust particles, and a carbon monoxide alarm. The air intake shall be from a source free from all contaminants, such as the exhaust from internal combustion engines, and shall meet at least the requirements of the specification for Grade D breathing air, as described in accordance with 29 CFR 1910.134. Safety harnesses shall be equipped with lifelines which are secured with a minimum of slack when in use. Lifelines must not permit a drop of greater than six feet or contact with any lower level.
- MSDS, for all hazardous materials (including, but not limited to: all petroleum products, paints, solvents, cleaners, and abrasive blasting grits) used under this contract, shall be provided to the COTR at least two working days prior to their use.
- Each fuel and gas system supplied from shore shall be arranged to be secured by a valve located off the ship and marked to show its purpose. When not in use, fuel and gas hose valves shall be secured at the manifolds and the hoses pulled back to the open deck. Unused manifold valves shall be capped.
- Paints, solvents, etc., used in, on or around the vessel are used in a manner which prevents personnel exposure to concentrations of vapors exceeding the PELs, or Threshold Limit Values (TLVs) for chemicals for which PELs are not listed in OSHA standards.
- Abrasive blast grit shall not contain free-silica, and dust generated by abrasive-blasting shall be sufficiently controlled, to prevent exposure to personnel at or greater than Permissible Exposure Limits (as defined by OSHA).
- Diving operations must be accomplished in accordance with the requirements of 29 CFR 1910.401 to 440, including appendices. No person may fill more than one assignment if it an emergency response or other incident may require complete dedication to one of the tasks.

3.3.1.1 Temporary ventilation. The Contractor shall provide all equipment and services necessary, to ensure continuous positive ventilation in all spaces/compartments (affected directly and indirectly by contract work). Ventilate compartments in accordance with 29 CFR 1910.94, 1926.57, or 1926.353, as applicable; ANSI/ASHRAE 62.1, Section 6.1, and ASHRAE Std 26, Paragraph 4.9. When ventilation is shut down due to contract work, provide ventilation to manned compartments equivalent to the normal zonal ventilation rating for that space. Provide additional exhaust ventilation to spaces contaminated by fumes caused by contract work (welding, preservation, cleaning, adhesive application, etc…).

3.3.1.2 Confined or enclosed space entry and hot work.

3.3.1.2.1 Precaution for safe entry. Before entering a tank, void, and any other confined or enclosed space; and before performing manual cleaning and other cold work, the Contractor shall ensure that space is tested and certified “SAFE FOR WORKERS”, in accordance with 29 CFR 1915.11-13.

3.3.1.2.2 Precaution for safe hot work. Before performing hot work in a confined or enclosed space, compartment below deck, and on a vessel component, the Contractor shall ensure that the space or component is certified “SAFE FOR HOT WORK” in accordance with 29 CFR 1915.14 and 1915.51-54.

3.3.1.2.3 Maintenance of safe conditions and warning signs.

3.3.1.2.3.1 The Contractor shall maintain safe conditions, in accordance with 29 CFR 1915.15; ensure that testing is performed, as often as necessary, and all necessary measures (including, but not limited to opening, cleaning, and ventilating) are taken to maintain the safe conditions for the duration of the work being performed. In addition, ensure that Marine Chemist Certificates, Shipyard Competent Person Log of Inspections, and suitable warning signs and labels are posted in view of all affected employees, in accordance with 29 CFR 1915.16.

3.3.1.2.3.2 The Contractor shall post Gas Free Certificates, indicating the current status of all affected compartments, posted on the Quarterdeck and at each open access to the compartments. Submit one copy to the CG Inspector.

3.3.1.3 Fire watch requirements. The Contractor shall ensure that fire watch personnel and fire extinguishers are provided for all work as required by applicable law or regulation and any work activity meeting the definition of hot work. Be aware that this requirement applies to all work under the scope of the contract, subsequently modified into the contract, and any contract extension periods granted.

3.3.1.3.1 Contractor provided fire watch personnel. When fire watch is to be conducted by Contractor personnel, the Contractor shall provide fire watch personnel with appropriate personal protective gear and necessary functioning equipment, on a per job basis, in accordance with NFPA 312, Chapter 2. Ensure that all Contractor welders, brazers, and cutters check in with the COTR, with their Contractor-provided fire watch, prior to commencing any hotwork. Notify the COTR upon the completion of hotwork.

3.3.1.3.2 Coast Guard fire watch personnel – provision of fire extinguishers. When fire watch is to be conducted by Coast Guard personnel in lieu of Contractor personnel, the Contractor shall provide fully-charged portable fire extinguishers, on a loan basis, for use by each assigned Coast Guard fire watch personnel. In addition, notify the COTR at least 24 hours before hot work is begun, and ensure that all Contractor welders, brazers, and cutters check in with the COTR, in order to be assigned with a Coast Guard fire watch personnel. Replace all discharged fire extinguishers with fully charged units, immediately after discharge.

NOTE

Fire watch responsibility will be specified in the "General Requirements" item, which is used to invoke this standard specification.

3.3.1.4 Tag-out requirements - boats. To prevent injury to personnel and damage to ship systems equipment the Contractor shall coordinate with the COTR to ensure tag-outs are done in a thorough and efficient manner, as outlined below, and in accordance with in COMDTINST 9077.1:

3.3.1.4.1 Tag-out/lock-out establishment.

3.3.1.4.1.1 Prior to starting work on applicable systems, notify the COTR, in writing, of equipment, systems, circuits, components, piping, and valves that require isolation so that tag-outs/lock outs can be accomplished.

3.3.1.4.1.2 Position equipment and install tags when tag-out of equipment, systems, circuits, components, piping, or valves is required.

3.3.1.4.1.3 Accompanied by the COTR, verify that the tag-out /lock-out is sufficient to prevent operation

of equipment, systems, circuits, components, piping, or valves from all stations that could exercise control. Ensure that tags / locks are also be hung / used to control the status of non-permanent jumpers, locking devices, seals, blank flanges, relief valve gags, or similar safety devices.

NOTE

The COTR will verify that each tag lock is attached to the proper component and that it is in the condition required by the tag-out lock-out record sheet. This verification will be made by witnessing the actions of the Contractors representative posting or checking the tags /locks and observing devices such as valve position indicators, operating handles, etc.

3.3.1.4.2 Tag-out clearance.

3.3.1.4.2.1 To facilitate prompt removal of tags, the Contractor shall notify the COTR immediately when the Contractor's work is complete and the affected system, piping, or circuit is ready for activation.

3.3.1.4.2.2 Ensure that tags / locks shall be cleared and removed in accordance with established Contractor procedures, before the equipment is operationally tested or operated.

3.3.1.4.2.3 Accompanied by the COTR, verify that the work necessary to clear a tag-out has been completed prior to authorizing removal of the tags.

NOTE

Both parties (Contractor and COTR) must concur to clearing the tag-out by signing the contractors tag-out / lock-out record sheet.

3.3.1.4.2.4 Remove all tags / locks so authorized for clearance.

3.3.1.5 Tag-out procedures – cutters and barges. To prevent injury to personnel and or damage to ship systems equipment, the Contractor shall ensure that tag-outs are properly conducted. Work closely with ship's force to ensure tag-outs are done in a thorough and efficient manner as outlined below.

3.3.1.5.1 Tag-out establishment.

3.3.1.5.1.1 Prior to start of work on this Item, notify the Coast Guard Inspector in writing of equipment, systems, circuits, components, piping, and valves that require isolation so that tag-outs can be accomplished as required by COMDTINST 9077.1.

3.3.1.5.1.2 Allow ship's force personnel to position equipment and install tags when tag-out of equipment, systems, circuits, components, piping, or valves as required.

3.3.1.5.1.3 Accompanied by authorized ship's personnel, verify that the tag-out is sufficient to prevent operation of equipment, systems, circuits, components, piping, or valves from all stations that could exercise control. Ensure that that tags are hung, as required, to control the status of non-permanent jumpers, locking devices, seals, blank flanges, relief valve gags, or similar safety devices.

3.3.1.5.1.4 Verify that each tag is attached to the proper component and that it is in the condition required by the tag-out record sheet.

NOTE

This verification shall be made by witnessing the actions of the Ship's Force member posting or checking the tags and observing devices such as valve position indicators, operating handles, etc.

3.3.1.5.2 Ensure that a Contractor's designated representative shall sign and identify the Contractor's name on each ship's tag-out record sheet, and tag prepared to support the Contractor's work.

3.3.1.5.3 Tag-out clearance. To facilitate prompt removal of tags, the Contractor shall notify the Coast Guard Inspector immediately when the Contractor's work is complete and the affected system, piping, or circuit is ready for activation. Ensure that tags shall be cleared and removed in accordance with COMDTINST 9077.1, before the equipment is operationally tested or operated.

3.3.1.6 Shipboard bonding, grounding and shielding. The Contractor shall restore bonding, grounding or shielding to all equipment or structures which may have been disturbed due to any interference work, in accordance with MIL-STD-1310, and as shown on Coast Guard FL Drawing 6701-110.

3.3.1.7 Temporary covers for deck openings. The Contractor shall install a suitable plate or cover over each resulting deck opening, to prevent injury to personnel, and protect the vessel's interior spaces and equipment against outside contamination. When covering a deck opening left from a removed hatch or scuttle, ensure that the cover is configured to allow normal passage of ship's personnel and equipment.

3.3.1.8 Temporary lines or rails. The Contractor shall install temporary lines or rails to replace all removed lifelines or liferails.

3.3.1.9 Temporary lighting. The Contractor shall install temporary lighting circuits, and equip all lamps used in temporary lighting with suitable fixtures or lamp holders with guards.

3.3.1.9.1 Protect flexible cords and cables from damage, by avoiding pinch points and routing to eliminate tripping hazards. Do not route lighting cords through watertight access.

3.3.1.9.2 Install suitable disconnecting switches or plug connectors, to permit disconnection of ungrounded conductors in each temporary lighting circuit.

3.3.1.10 Exposure to asbestos, lead, and PCB. Refer to Appendix B (Environmental Compliance) of this document, for requirements applicable to asbestos, lead, and PCB exposure.

3.3.2 Vessel protection.

3.3.2.1 Pier or wharf facility. Unless in drydock or at the vessel's home pier, the Contractor shall provide a secure pier or wharf during the performance period of the contract. Ensure that the pier or wharf has adequate clearance to safely accommodate the vessel being moored.

3.3.2.1.1 Water depth. Ensure that water depth is sufficient at the pier to allow the vessel's lowest underwater appendage to clear the bottom by at least two feet at:

- Ordinary low water mark on non-tidal rivers.
- Mean low tide conditions for tidal rivers and other navigable waterways (Bay, Lake, etc.).

3.3.2.1.2 Construction. Ensure that the pier or wharf is adequately constructed and conditioned to support weight-handling gear such as cranes, forklifts, and delivery vehicles that are necessary for the completion of the specification requirements; in addition ensure that load limitations are clearly identified and marked in a conspicuous location.

3.3.2.1.3 Collision protection. Provide a fender system to prevent the vessel's sides from chafing and colliding with the pier or wharf while moored at the Contractor's facility. Ensure that no other vessel is moored alongside the vessel without specific permission from the COTR.

3.3.3 Vessel component, space, and equipment protection. The Contractor shall take the following protective measures, as applicable, in addition to all other requirements that may be specified in individual work items, to prevent contamination and surface damage of non-affected shipboard equipment, components, and spaces:

- Plug, blank, wrap, cover, seal, and mask equipment, components, cables, wire ways, boats, and openings using fire retardant/water repellent materials, and prevent entry of contaminants to machinery, winches, rigging, machinery surfaces, weapons systems, electrical equipment, electronic equipment, valves, vents not in use, and other openings.
- Place drain channels in overboard discharges in use, to direct discharges away from the hull.
- Provide wooden plugs or coverings for sea chest spool pieces, scuppers and overboard discharges not in use.
- Cover all glass (port lights, windows, etc.) adjacent to areas interior and exterior where abrasive blasting, burning, or welding is required or accomplished, to prevent scarring and damage.
- Install fire retardant industrial filter material on the intake of supply and exhaust end of ventilation systems which will be in use. Maintain all filter materials, to prevent excessive air restriction and/or damage to ventilation motors.
- Install double curtain baffles at the entrances of each access where airborne contamination could occur during contamination-producing operations. Install a dirt-collecting mat on the deck directly inside each access.
- Provide adequate protection to all deck covering or deck surfaces in areas where the work under items of these specifications is being accomplished and on all main access routes to these areas. Immediately repair or renew any protective coverings which are damaged during the course of work.

NOTE

Acceptable protective deck covering may be either heavy cardboard, masonite (fiberboard), or plywood installed in sufficient quantities to adequately protect deck surfaces.

3.3.3.1 Ensure that temporary coverings are not removed during contamination-producing operations without permission of the COTR.

3.3.3.2 Inspect the integrity of the protective covering at the beginning of each shift in which contamination-producing operations will be accomplished. Ensure that equipment and machinery have not been infiltrated by contaminants. Notify the COTR immediately by verbal means, followed on the next workday in writing, if contamination or surface damage has occurred. Reseal to prevent further entry of contaminants or surface damage.

3.3.3.3 Remove protective coverings upon completion of contamination-producing operations and inspect for presence of contamination or surface damage. Notify the COTR immediately by verbal means, followed on the next workday in writing, if contamination or surface damage has occurred, prior to removal of the contamination and repair of damage.

3.3.3.4 Dispose of all protective coverings, upon completion of work.

NOTE

Any damage resulting from failure by the Contractor to provide adequate coverings shall be repaired at the Contractor's expense.

3.3.4 Vessel access. During work at the Contractor's facility, provide a minimum of two means of access or egress to the vessel, in accordance with 29 CFR 1915, Subpart E; ensure that gangways, at a minimum, have the following:

- Adequate walking surface width and strength and be safely secured.
- A railing, with a mid-rail, on each side of the gangway, and a turn table if necessary.
- Substantial steps properly secured and equipped with at least one handrail, when the upper end of the gangway rests on or is flush with the top of the bulwark of the dock.
- Nets or other suitable protection on both sides, when there is a danger of personnel falling between the ship and the dock.
- Proper trimming at all times.
- Adequate illumination for their full length.

3.3.4.1 Gangway alternative. If gangways are not practicable, submit to the COTR a proposal for a suitable alternative.

3.3.4.2 Obstructions. Do not lay obstructions on or across the means of access/egress. Do not pass loads or cargo over the means of access/egress while personnel are on them.

3.3.5 Interferences. The Contractor shall remove all interferences in way of specified work, as necessary, without regard to whether interferences are listed in applicable work items; restore all removed interferences upon completion of the specified work. The Contractor may exercise the discretion to work around certain interferences, when possible, so long as the specified work is successfully accomplished.

3.3.5.1 Operational testing. Witness an operational test of all electrical/electronic and mechanical equipment by the vessel crew, prior to disturbing or removing, and after reinstalling equipment.

3.3.5.2 Handling of restricted interferences. Before removing restricted interferences, submit to the COTR a written plan for the removal within 48 hours before that process is begun. Ensure the plan includes:

- Procedures for removing the interferences.
- Time at which interferences will be restored.
- Alternate arrangements, as necessary, to minimize the crew's inconvenience, or to alleviate the hazardous conditions.

3.3.5.3 Labeling and stowing requirements. The Contractor may stow removed interferences onboard the vessel; however, location and condition of stowage shall be approved by the COTR. When stowing

onboard the vessel is not practical, the Contractor shall stow all interferences in a suitable shore side stowage. Ensure that interferences are protected from weather and damage during removal, stowage, and reinstallation. In addition, ensure that all stowed items are tagged with removable tags, or stenciled with paint, with the following information:

- Vessel name.
- Location from which items have been removed.

3.3.5.4 Disturbed hydraulic systems. If a hydraulic system is disturbed as interference, in a particular work item, the Contractor shall perform all tasks associated with hydraulic system cleanliness, fuel disposal and replenishment in accordance with SFLC Std Spec 5000.

3.3.5.5 System restoration. The Contractor shall ensure that all ship spaces or compartments, components, or equipment that are damaged or exposed due to interference removal are restored to original conditions in form, fit, function, and appearance. Renew the following components or disturbed portions of systems, as applicable, when reassembling or reinstalling affected systems:

- Gasket materials.
- Insulation material permanently installed with adhesive (see NAVSEA Drawing 804-5773931).
- Disturbed portions of deck covering systems (see SFLC Std Spec 6341).

3.3.6 Welding and brazing requirements. The Contractor shall perform all welding and allied processes, and nondestructive inspection (NDI), in accordance with SFLC Std Spec 0740 - whether explicitly stated in work items or not, and for other work subsequently authorized by changes, modifications, or extensions to the contract.

3.3.7 Housekeeping. The Contractor shall accomplish the following, in regards to housekeeping:

- Maintain good housekeeping conditions at all times, and provide adequate aisles and passageways in all work areas. Ensure that all staging platforms, ramps, stairways, walkways, aisles, and passageways on vessels or dry docks are kept clear of all tools, materials, and equipment (except those that are in use), and all debris such as welding rod tips, bolts, nuts, and similar material; ensure that hoses and electric conductors are elevated over or placed under the walkway or working surfaces or covered by adequate crossover planks.
- Ensure that all working areas on or immediately surrounding vessels and dry docks, graving docks, or marine railways are kept reasonably free of debris, and construction material. Ensure that materials and debris do not present a hazard to personnel.
- Take action to mitigate any slippery condition on walkways or working surfaces.
- Maintain free access at all times to all exits and to all fire alarms or fire-extinguishing equipment.
- Keep all oils, paint thinners, solvents, waste, rags, or other flammable substances in fire resistant covered containers when not in use.

- Take care to prevent job site contamination by materials, equipment, and personnel; provide, when applicable, protective clothing and plastic shoe covers for all Contractor personnel and Coast Guard Inspectors, who must access the work areas, to prevent outside contamination. Upon completion of all work, remove equipment and material from the work site and restore all existing facilities affected by the work to original conditions.

3.3.8 Disposal of non-reusable equipment, components, and materials. During the availability, the Contractor shall dispose of, as scrap, all items or materials removed from the vessel that are not designated to be: reinstalled, retained and shipped by the Contractor to a Coast Guard authorized facility, or turned over to the Coast Guard Inspector. Ensure that all item/material disposals are in accordance with applicable Federal, state, and local regulations. Refer to Appendix B (Requirements for Environmental Protection) of this standard, and to the paragraph titled "HW Disposal" in the "General Requirements" item, for requirements pertinent to disposal of hazardous wastes.

3.3.9 Restoration of damaged equipment. The Contractor shall restore, renew, or repair all machinery, piping, wiring, insulation, paint work, deck coverings, and any other article or component removed, moved, disturbed, or damaged by the Contractor in accomplishing the work outlined in the specification package.

3.3.10 Workmanship. The Contractor shall ensure that care is taken to smooth off all ragged edges or burned off edges by grinding or filing to leave a smooth surface. Ensure that removal of fixtures, equipment, plating, piping, and fittings shall be made clean to the root and finished off. Where pipes, cables, and fittings are removed, ensure that the hole shall be blanked off flush with welded plates of like material and thickness.

3.3.11 Bracket and supports. The Contractor shall ensure that all pipes, cables, duct work, installed furniture, and equipment shall be bracketed, supported, and/or secured so as to carry the weight, prevent excessive vibration, and withstand inertia forces resulting from rolling and pitching.

3.3.12 Labels/tags. The Contractor shall provide label plates for all new and redesignated access fittings, compartments, electrical and electronic equipment and fittings, ventilation blowers and systems, valves; and any other equipment and fittings requiring labels or tags indicated on installation drawings, in accordance with the below-provided guidance.

3.3.12.1 Valves. Install label plates on all new valves, in accordance with ASTM F992.

3.3.12.2 Piping.

3.3.12.2.1 Stencil the following onto the pipe surfaces:

- Name of the piping system service.
- Destination, where feasible.
- Direction of flow, indicated by an arrow 3 inches long pointing away from the lettering (for reversible flow, point an arrow away from each end of the lettering).

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

- Black in color, in general, but white for dark-colored piping.
- Applied in conspicuous locations, preferably near control valves.

NOTE

For piping systems that are insulated, labeling shall be stenciled onto the insulation material.

3.3.12.3 Other equipment/components. Unless specifically shown otherwise on the installation drawings, ensure that the fabrication, engraving, and installation of labels/tags on all other equipment shall conform to that for existing plates aboard the vessel. In the absence of guidance regarding the inscriptions, ensure that the plates shall be engraved with the inscriptions provided by the COTR.

3.3.13 Tests and inspections. The Contractor shall perform all tests and inspections required in individual work items, in the presence of the COTR, CG Inspector or Port Engineer. Be aware that the Government reserves the right to perform any additional inspections deemed necessary to ensure the work conforms to the prescribed requirements.

3.3.13.1 Operational testing. Accomplish the following operational tests; when required in a particular work item, or when deemed necessary by the CG Inspector:

3.3.13.1.1 Initial test. Witness an operational pre-test (by CG personnel) of all items or shipboard devices to be disturbed, used, repaired, or altered, to demonstrate existing operational condition (see 4.1 (Equipment operation)).

3.3.13.1.2 Post-repair test. Witness a final operational test (by CG personnel) test of all items or shipboard devices that have been disturbed, used, repaired, altered, or installed, to prove that they are in satisfactory operating condition

4. **NOTES**

4.1 Equipment operation. Coast Guard personnel will operate all shipboard machinery and equipment during all operational, weight, and other required tests.

4.2 Coast Guard Inspector responsibilities. Although the Contractor is responsible for applying appropriate quality control measures, the Coast Guard Inspector will have the following duties:

- Monitor all work evolutions and keep informed of progress, to ensure that the specifications are being followed.
- Witness all tests, measurements, and inspections, as necessary.

4.3 MTI item documentation and shipping procedures. The Coast Guard PA will accomplish the following for each MTI item:

- Call the SFLC MTI item Coordinator at (410)762-6122, to receive a Return Authorization Control Number, to allow for the return of the item to SFLC at no extra cost to the unit.

NOTE

All repairable items supported by the SFLC are listed in various Support Grams published and advertised on SFLC's intranet web site @ http://cgweb.sflc.uscg.mil/sflcweb/.

- Ensure the following is marked on the shipping crate:
  - Item's Part Number, NSN, Serial Number (as applicable).
  - Dimensions.
  - Weight.
  - "F Condition".
  - Source Code/POC.
  - Return Authorization Control Number.
- Ensure that Shipping Document (DD-1348-1) is properly completed and securely attached to the crate.
- Ship the crate, by "traceable means, to the following address:

  Commanding Officer
  Surface Forces Logistics Center
  Coast Guard Yard (Receiving Bldg 86)
  2401 Hawkins Point Road
  Baltimore, MD 21226-1797

APPENDIX A

REQUIREMENTS FOR PRESERVATION OF SHIP STRUCTURES

A1. SCOPE

A1.1 Intent. This appendix describes requirements applicable to preservation of Coast Guard ship structures.

A2. REQUIREMENTS

A2.1 Preservation requirements - general. The Contractor shall abide by the requirements, contained herein, in addition to all other requirements that are specific in individual work items in the specification package, for all work involving surface preparation and coating application.

A2.1.1 Authorized coating systems. When guidance for surface preparation and coating application tasks is not provided in a work item, standard specification, or any other forms of contract document, the Contractor shall select applicable surface preparation methods and coating systems for exterior and interior shipboard surfaces in accordance with Appendix A (Cutter and Boat Exterior Painting Systems) and Appendix B (Cutter and Boat Interior Painting Systems) of COMDTINST M10360.3, respectively. In addition, select “Option I" systems, as applicable, from the above-mentioned appendices, unless otherwise designated by the KO.

A2.1.1.1 Brand name and color compliance. Ensure that all contractor-furnished coatings and selected colors, are in conformance with Appendix C (Authorized Coatings for Use on Cutters and Boats) and Chapter 11 (Cutter and Boat Colors – Exterior and Interior), respectively, in COMDTINST M10360.3, unless a waiver has been granted (in writing) by the KO, or otherwise expressly specified in particular work items.

A2.1.1.2 Material receipt conformance. Ensure that all procured coating-related materials are delivered to the job site in original and unopened containers, with the following information/documentation:

- Product manufacturer’s name and product’s name or number.
- Batch number.
- Date of manufacture.
- Shelf life.
- Product data sheets or ASTM F718 sheet and MSDS.
- COC.

A2.1.1.3 Document submission. Submit copies of all product data sheets, MSDS, and COC to the COTR, prior to commencement of work.

A2.1.1.4 Material storage, handling, mixing, and application. Observe all coating manufacturers' recommended procedures, as well as the good painting practice recommendations outlined in SSPC-PA Guide 1, for all aspects involving storage, handling, mixing, and application of paint materials.

A2.1.2 Personnel health and safety compliance. In addition to the safety requirements specified in paragraph 3.3.1 (Personnel safety and property protection - general), observe all personnel safety protective measures applicable to surface preparation and application of marine coatings, as specified in the following documents:

- MSDS.
- SSPC-PA Guide 3.

A2.1.3 Substrate contamination prevention. Take extreme care to prevent contamination of prepared surfaces by materials, personnel, and equipment.

A2.1.4 Ambient condition parameters. Ensure that the following ambient condition parameters are strictly adhered to, as applicable, unless otherwise allowed by particular coating system manufacturers:

- Coating materials must be maintained at a temperature range of 65 to 85°F, at all times.
- Work surface and surrounding temperature must be between 50 and 90°F, for water-thinned coatings, and 35 and 95°F for other coatings.
- Coatings must not be applied when the temperature is expected to drop to the freezing mark, before the coatings cure.
- Relative humidity must be less than or equal to 50 percent for confined spaces such as forepeak compartments, tanks, and voids; and not more than 85 percent for all other open areas.
- Coatings must be applied only when surfaces are completely dry, and surface temperature at least 5°F above the dew point.

NOTE

Some of the Coatings specified in COMDTINST M10360.3, Appendices B and C as coating systems for "Bilges, Cofferdams, and Forepeaks, Steel" have no dew point restrictions – hence, may be applied at relative humidity between 10 and 100 percent.

A2.1.5 Tenting. If a Change Request has been authorized and released, provide suitable enclosure/tenting, to protect exterior surfaces from inclement weather.

A2.1.6 Ambient condition control. If a Change Request has been authorized and released, do the following:

A2.1.6.1 Provide suitable ambient condition control equipment, which may include, but not be limited to the below-listed, to create and maintain ambient conditions recommended by the coating system's manufacturer, and facilitate successful coating application and curing:

- AC system.
- Heaters.
- Blowers.
- Dehumidifiers.

A2.1.6.2 Submit an ambient condition control plan to the COTR within 24 hours prior to initiating ambient condition control process.

A2.1.7 Pre-surface preparation requirements. Prior to beginning all surface preparation procedures, accomplish the following tasks:

A2.1.7.1 Compressed air cleanliness check. Check the cleanliness and suitability of the compressed air for all blasting operations, in accordance with ASTM D4285, at the following instances, and when requested by the Coast Guard Inspector:

- Prior to the start of blasting operations.
- When blasting operations have been suspended for a period of time that would permit a temperature change of the compressed air and drier systems.
- When an equipment malfunction or improper performance is suspected.

A2.1.7.2 Weld splatter removal. Remove all existing weld splatter, using a chipping hammer, spud bar, scraper, or grinder, as applicable.

A2.1.7.3 Surface contaminant removal. Perform a low-pressure (maximum 3,000 psi) fresh water wash down of the surfaces, to remove all existing surface contaminants such as sea salts, grease and oil (hydrocarbons), loose rust, mud and marine growth, as applicable, and achieve the cleanliness requirements of SSPC-SP 1. Use vacuum to remove standing water followed by an adequate period of time to allow the surface to dry prior to surface preparation. When fresh water wash is not possible or practical, remove surface contaminants by one or a combination of solvent cleaning methods in accordance with SSPC-SP 1.

A2.1.8 Post-surface preparation requirements. After surface preparation is completed, and before applying primer coating, accomplish the following:

A2.1.8.1 Surface cleanliness evaluation – visual standards. In the presence of the CG Inspector, verify the resultant surface cleanliness level, in accordance with the texts of the specified surface preparation standard in conjunction with associated visual/pictorial guide, as listed in Table AI (Surface Preparation Visual Guides).

TABLE AI - SURFACE PREPARATION VISUAL GUIDES

SURFACE PREPARATION STANDARD	VISUAL GUIDE
Dry-abrasive blast cleaning: SSPC-SP 5/NACE No. 1 SSPC-SP 6/NACE No. 3. SSPC-SP 7/NACE No. 4 SSPC-SP 10/NACE No. 2. SSPC-SP 14/NACE No. 8.	SSPC-VIS 1
Wet-abrasive blast cleaning: SSPC-SP 6/NACE No. 3. SSPC-SP 10/NACE No. 2	SSPC-VIS 5/NACE VIS 9
Hand Tool Cleaning: SSPC-SP 2. Power Tool Cleaning SSPC-SP 3. SSPC-SP 11. SSPC-SP 15.	SSPC-VIS 3
Waterjetting (SSPC-SP 12/NACE No. 5).	SSPC-VIS 4/NACE VIS 7

A2.1.8.2 Debris removal and disposal. Completely remove all dust and residues from the prepared surfaces by vacuuming. Do not brush or blow down the surfaces to remove dust and residues. Dispose of generated wastes in accordance with all applicable Federal, state, and local regulations.

A2.1.8.3 Surface profile measurements. Measure the profile of the resultant bare surfaces, in accordance with ASTM D4417, Method A or C.

A2.1.8.4 Soluble salt conductivity measurements. Measure and document conductivity due to soluble salts, randomly over the prepared surfaces (take 5 measurements every 1,000 square feet or five total measurements for surfaces less than 1,000 square feet), using a suitable surface contamination analysis equipment, in accordance with ISO 8502-9.

A2.1.8.5 Soluble salt removal. If salt conductivity measurements exceed the respective values in Table II (Soluble Salt Maximum Conductivity Threshold), accomplish the following:

- For surfaces prepared by abrasive-blasting, wash the affected areas with fresh water, with a maximum of 5,000 psi.
- Remove all standing water, dry, and retest the affected areas. Repeat water-wash and retest until satisfactory levels are obtained.

NOTE

De-ionized water may have to be used in cases where available fresh water has excessive chloride/chlorine content. A CFR will need to be submitted and approved, prior to using said water.

- For surfaces prepared by water-jetting, resume water-jetting of affected areas. Remove all standing water, dry, and retest the affected areas. Resume water-jetting and retest until satisfactory levels are obtained.
- For power tool-cleaned surfaces, circle affected areas and perform spot solvent cleaning (Super High Flash Naphtha) followed by retest. Repeat spot solvent cleaning and retest until satisfactory results are obtained.
- For power tool-cleaned surfaces not practical for spot cleaning method, water wash said surfaces with copious amounts of fresh water, using hand scrub brush. Remove all standing water and dry the affected areas. Remove all flash rusting, if any, caused by the water wash by disk sanding affected areas with a #36 disk. Perform an SSPC-SP 1 solvent wipe on all sanded areas and retest. Repeat necessary steps until satisfactory levels are obtained.

TABLE AI -SOLUBLE SALT MAXIMUM CONDUCTIVITY THRESHOLD

SURFACES	CONDUCTIVITY (microsiemens/cm)
Submerged	30
Non-Submerged	70

A2.1.8.6 Hydrocarbon substance removal. Remove all grease and oil surface contaminants by one or a combination of solvent cleaning methods in accordance with SSPC-SP 1.

NOTE

An ultraviolet light source may be used to detect the presence of hydrocarbons; however, for proper detection, artificial lights must be off for interior spaces, and the inspection must be conducted during darkness for surfaces exposed to sunlight. When hydrocarbons are present, the hydrocarbons will fluoresce as bright green, lime green, or blue/violet on the surface.

A2.1.8.7 Flash rusting/surface oxidation limitations. Limit surfaces being preserved in size to an area that can be prepared and coated before flash rusting/surface oxidation occurs. If flash rusting or oxidation does occur before primer coat application, ensure the following:

- For surfaces prepared by water-jetting, the rust must be tight and adherent, and not exceed the "WJ-2/L" (Very Thorough or Substantial Cleaning, Light Flash Rusting) requirement, in accordance with SSPC VIS 4/NACE No.7.
- For surfaces prepared by methods other than water-jetting, the rust or oxidation must be completely removed by abrasive-sweeping or mechanical cleaning.

A2.1.9 Use of contrasting colors. Ensure that all coats in multi-coat systems, including stripe coats, are applied in contrasting colors.

A2.1.10 Coating inspection. Inspect each applied paint coat to ensure that there are no misses, skips, runs, sags, overspray, underspray, dryspray, or other visible paint defects that will affect the performance of the coating system. Repair all defects.

A2.1.11 Stripe coat application.

A2.1.11.1 After each primer coat has sufficiently cured for overcoating, apply an un-thinned coat of the same primer coating over all weld seams, edges, and other surfaces with complex geometric shapes – including, but not limited to the following, as applicable:

- Features in freeboard, superstructure, underwater body, and main deck surfaces:
  - Bulwarks.
  - Ladder rungs.
  - Port lights.
  - Doubler plates.
  - Hawse piping.
  - Spray rails.
  - Rub rails.
  - Chocks and cleats.
  - Deck machinery and fittings.
  - Hull markings (i.e. draft marking, emblem locators…).
  - Vents and overboard discharges.
  - Stiffeners, supports, and brackets.
  - Datacouples.
- Foot/hand holds (including inaccessible areas, such as back side of piping, under side of I-beams), and other mounting hardware (non-flat surface).

A2.1.11.2 Apply stripe coating at three to four mils WFT, ensuring that the coating encompasses all edges, as well as at least one-inch border outside each edge, and is neat in appearance. Minimize extra thickness applied to edges, as well as streaks and drops of paint.

A2.1.11.3 For multi-coat systems with inorganic zinc as the primer coat, apply the stripe coat following the mist coat application, using the same coating used for the mist coat.

A2.1.12 Touch-ups and minor coating repairs. When performing touch-ups or minor coating repairs, adhere to the following guidelines:

- Each area identified for touch-up preservation shall include the area itself and all attached framing, stiffeners, brackets, mounting plates/frames, pad eyes, ducting, piping, equipment support, etc., as applicable, up to three inches adjacent to the area to be painted.
- The total area designated shall account for the three-inch boundary segment wherein the repair is faired into the surrounding intact coating system.

A2.1.12.1 Prepare surfaces in which mechanical damage extends into the substrate to bare metal in accordance with SSPC-SP 11; feather surrounding intact coating into the prepared areas, to create a smooth transition. Roughen all painted surfaces, to provide a suitable surface profile.

A2.1.12.2 Abrade areas where primer coat is exposed with 100-grit paper, and feather back to firm edge of existing topcoat finish.

A2.1.12.3 Perform solvent cleaning of all surfaces, in accordance with SSPC-SP 1.

A2.1.12.4 Hand brush, or in larger areas airless-spray apply applicable coatings, to match existing adjacent areas.

A2.1.12.5 Substitute epoxy or organic zinc primers for inorganic zinc primers, when applicable.

A2.1.13 Overcoating cautions. Strictly abide by coating system manufacturer's recommendations, to ensure proper inter-coat adhesion, when performing overcoating, to ensure the following:

- Overcoating window is not exceeded.
- Undercoating system is properly prepared, when overcoating window is exceeded.
- Rules for tie-coat application or tacky undercoating are followed, when overcoating an existing coating with a top-coating of different chemistry (e.g.: overcoating inorganic zinc with epoxy, or overcoating epoxy with antifouling top-coating).

A2.1.14 Coating system tests. In addition to the coating inspection requirements specified in paragraph A2.1.10 (Coating inspection), test each applied coat at random locations, using the test methods specified in Table AII (Coating Test Methods).

A2.1.15 Rework. Remove and re-apply coating in all areas where failure has occurred. If failure occurs in areas totaling 50 percent or more of the surfaces being preserved, remove and re-apply 100% surface coating.

A2.1.16 Repairs. Touch up all areas where coating has not failed, but has been disturbed by adhesion testing.

TABLE AII - COATING TEST METHODS

TEST	INSTRUMENT	SPECIAL INSTRUCTIONS
Wet Film Thickness (WFT)	Conventional Notch Type/with "teeth" WFT gage	Refer to ASTM D4414.
Dry Film Thickness (DFT)	Magnetic or Eddy Current Gauge	Refer to SSPC-PA 2, for ferrous metal base; and ASTM D 7091, for non-ferrous metal base.
*Pinhole/Holiday Detection	Low Voltage Holiday Detector	Refer to ASTM D5162.
**Pull-off Strength of Coatings	Portable Adhesion Testers	Refer to ASTM D4541.

***Primer coat only (except for inorganic zinc primer coat), for "critical-coated surfaces".**
****Primer and second coats for all tank and void coatings conforming to MIL-PRF-23236, and primer coats only for all other "critical-coated surfaces".**

A2.1.17 Ventilation requirements for confined spaces. During preservation of confined spaces (confined spaces such as Forepeak Compartments, voids, tanks…), ensure that the ventilation equipment, as required in paragraph 3.3.1.1 (Temporary ventilation) are in place and operating prior to the start of surface preparation, to create one complete air change every four hours. In addition, ensure the following:

- Ventilation system remains in place and energized during the application of the coating system, from the initial coating application through the final coating application and cure.
- Ventilation ductwork is placed at the bottom most and pocket locations in the space, to ensure complete solvent exhausting.

CAUTION!

Failure to maintain proper ventilation in enclosed spaces during preservation may result in solvent entrapment, which then may lead to delay in coating final cure or outright failure of coating to cure.

A2.1.18 Critical drying time requirements. Ensure that all coating system cure times (including for touch-up preservation) are in accordance with manufacturer's recommendation for intended service.

A2.1.18.1 Potable and feed water tank systems. For potable and feed water tanks, ensure that the coating manufacturer's technical guidance is followed - to include but not limited to: ventilation requirements, application temperatures, thru coat times, final cure times, and hold time before placing tank into immersion service. If ventilation requirements are not provided by the coating manufacturer, the ventilation requirements in paragraph A2.1.17 (Ventilation requirements for confined spaces) shall be the minimum requirements. The Contractor shall maintain and record tank temperatures during the application of the coating system from initial coat to the final cure, applying heat as required. Ensure that ventilation is maintained from final cure thru the minimum hold time before placing the tank back in service. For touch-up preservation, abide by the coating manufacturer's recommendations or observe the following curing requirements – whichever is more stringent:

- 24 hours between coats and 24 hours (@ 77 degrees F), if the largest single touch-up area is less than one square foot, and the cumulative total touch-up area is less than four square feet.
- 24 hours between coats and 48 hours (@ 77 degrees F), if the largest single area is between one and two square feet, and the cumulative total touch-up area is less than ten square feet.
- 24 hours between coats and minimum seven full days (@ 77 degrees F), if any single area is greater than two square feet.

A2.1.18.2 Underwater body antifouling systems. For underwater body antifouling systems, ensure that the paint manufacturer's minimum curing time is met before the vessel is re-floated.

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

Vessel Name: _____ **Hull Number:** _____
CLIN No.: _____ **Work Item Title:** _____
Specific Area Being Preserved: _____

CHECKPOINT 1 – COATING SYSTEM COMPLIANCE	
	Ensure all coatings are in compliance with COMDTINST M10360.3, 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 manufacturer(s).
CHECKPOINT 3 - AMBIENT CONDITIONS	
	Ensure surface and surrounding temperatures are each between 50 and 90°F for water-based 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 manufacturer(s).
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.
CHECKPOINT 5 - SURFACE PREPARATION	
	Verify environmental conditions (see CHECKPOINT 3).
	Ensure cleanliness of prepared surface is as per specification (i.e.: SSPC SP-12, SP-11, SP-10…).
	Verify surface anchor profile (1.5-3.5 mils for abrasive-blasted steel surfaces; 1.0 mil (minimum) for power-tool cleaned surfaces; 1.0-1.5 mils for abrasive-blasted aluminum surfaces); and 1.5 –2.5 for surfaces to be coated w/single coat of inorganic zinc). Conduct 5 sets of 3 readings for the first 3 100-sqft areas, followed by 5 sets of 3 readings for each succeeding 1000-sqft area.
	Measure soluble salt conductivity (5 measurements per 1000 sqft) – maximum threshold: 70 microsiemens/cm for non-submerged surfaces and 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.
	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 or NACE-Certified Inspector: _____ **Cert. No.:** _____
Signature of Inspector: _____ **Date:** _____ **Time:** _____

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

Vessel Name: _____ **Hull Number:** _____
CLIN No.: _____ **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	ENTER ACTIVITY (Surface preparation, primer coat, barrier coat, top coat, etc…)	LOCATION	TEMPERATURE				% REL. HUMIDITY	SIGNATURE OF INSPECTOR
			DEW POINT	SURFACE	AMBIENT	ΔT | DP - Surface |		

Name of QP-1 or NACE-Certified Inspector: _____ **Cert. No.:** _____
Signature of Inspector: _____ **Date:** _____ **Time:** _____

QA-3 - QUALITY ASSURANCE INSPECTION FORM
(SURFACE PROFILE LOG)

Vessel Name: ______________________ **Hull Number:** _____________
CLIN No.: ____________ **Work Item Title:** ____
Location of Surface Profile Measurements: ____

SURFACE PREPARATION METHOD		PROFILE (mils)		
		Min	Max	Avg.
SSPC-SP-10/NACE No. 2	☐			
SSPC-SP-12/NACE No. 5	☐			
SSPC-SP-3	☐			
SSPC-SP-11	☐			
SSPC-SP-11 (inaccessible area)	☐			
Brush-blasting (non-metallic substrate)	☐			

Abrasive Manufacturer and Sieve Size: ________________________________

Place Surface Profile Replica Tapes In The Spaces Provided Below, To Serve As Permanent QA record. Maintain separate log for each area/location. When an Area Is Divided Into Separate Sections, Maintain A Separate Log for Each Section.		
Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils
Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils
Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils
Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils	Place Surface Profile Replica Tape Here Reading:__________ mils
Average Mil Reading (IAW ASTM D4417-Method C) for above 15 readings: ______________		

Name of QP-1 or NACE-Certified Inspector: ____ **Cert. No.:** ___________
Signature of Inspector: _____________________________________ **Date:** _______________ **Time:** _________

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

Vessel Name: _____ **Hull Number:** _____
CLIN No.: _____ **Work Item Title:** _____

Location of Work (including frame numbers): _____

Area (square feet): _____

DATE	TEST LOCATIONS	CONDUCTIVITY (microsiemens/cm)

Name of QP-1 or NACE-Certified Inspector: _____ **Cert. No.:** _____
Signature of Inspector: _____ **Date:** _____ **Time:** _____

QA-5 - QUALITY ASSURANCE DATA FORM
(COATING THICKNESS)
(Use one sheet for each sequence)

Vessel Name: ______________________ **Hull Number:** _____________

CLIN No.: ____________ **Work Item Title:** ____

Coating Manufacturer: __________________ **Product Name:** ______________________ **Batch Number:** ___________

Induction Time: ____

Coating System Sequence (Indicate Whether: Primer, Touch-Up Primer, Barrier Coat, 3rd Coat…): _________________

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-Of (Type I/Banana) Gauge Is Used.**

Location (Frame Reference): ___________________

SPOT	1	2	3	4	5	Overall Avg. DFT	ADJUSTMENTS	
1							Avg. BMR	Deviation
2								
3						Before Adjustments	After Adjustments	
Avg.								

Location (Frame Reference): ___________________

SPOT	1	2	3	4	5	Overall Avg. DFT	ADJUSTMENTS	
1							Avg. BMR	Deviation
2								
3						Before Adjustments	After Adjustments	
Avg.								

Location (Frame Reference): ___________________

SPOT	1	2	3	4	5	Overall Avg. DFT	ADJUSTMENTS	
1							Avg. BMR	Deviation
2								
3						Before Adjustments	After Adjustments	
Avg.								

Application Method (Airless, Conventional Spray, Rolled): ___________________

Average DFT: ____

Name of QP-1 or NACE-Certified Inspector: ____ **Cert. No.:** ___________

Signature of Inspector: ____________________________________ **Date:** ________________ **Time:** _________

APPENDIX B

REQUIREMENTS FOR ENVIRONMENTAL PROTECTION

B1. SCOPE

B1.1 Intent. This appendix describes the requirements for ensuring Contractor environmental protection compliance.

B2. REQUIREMENTS

B2.1 Environmental Management Plan. The contractor shall submit an acceptable hazardous waste management plan to the KO or COTR at the Arrival Conference. The plan shall outline how the Contractor will handle hazardous materials, petroleum products, hazardous substances, hazardous wastes, and other solid wastes. The Plan shall comply with all Federal, state, and local regulations applicable to handling and disposal of hazardous materials, hazardous wastes, and or non-hazardous wastes; and shall address, at a minimum, the following requirements:

- A General Storage Site Plan.
- EPA and local authority hazardous waste generator ID numbers or registration of the contractors, his transporters, and Treatment, Storage and Disposal Facilities (TSDFs).
- An inventory of all hazardous chemicals, compounds and other agents brought aboard the facility accompanied by their respective MSDS.
- A list of all anticipated hazardous wastes (HW) to be generated and a Federal/state/local regulation cross reference list for those wastes.
- Waste collection and containment procedures.
- A Hazardous Material (HM) Spill and Cleanup Plan including tools and materials that will be on hand and readily available to facility containment and cleanup.
- Training certification for the Contractor's hazardous waste manager.
- Methods used to analyze and identify whether or not generated material (blasting debris, paint waste, etc.) are hazardous wastes.
- Any HW licenses and permits.
- Air district permits.
- Any permits required by the National Pollutant Discharge Elimination System (33 U.S.C. 1342).
- A Noise Control Plan.

B2.2 General compliance. The Contractor shall provide and maintain environmental protection during the life of the Contract to control pollution or to correct conditions that develop during performance of the contract. Comply with all Federal, State, and local laws and regulations pertaining to water, air, and noise pollution.

NOTE

Be aware that the Coast Guard has the right to require removal from the contract any subcontractor whose performance fails to comply with these and any other environmental laws and regulations, or who fails to provide appropriate evidence of compliance with said regulations.

B2.2.1 Waste management. With the exception of materials specifically indicated or specified to be salvaged for reuse, and turned over to the Government, the Contractor shall assume responsibility for removal of all non-hazardous wastes and demolished materials from the job site, daily. Comply with all requirements of 49 CFR 178, in regards to proper storage container and labeling of wastes. In addition, comply with the HW disposal requirements specified in the "General Requirements" item, for the locality in which the repair availability will occur.

B2.2.2 HM/HW Spill Response. The Contractor shall be responsible for all contract/availability related spills, and consequently, shall have a spill prevention and countermeasure plan, in accordance with 40 CFR 112 et seq. Be aware that this contractual authority to assume cleanup direction is in addition to, and does not affect, the Coast Guard's regulatory authority to initiate Federal spill control and cleanup operations, as prescribed under the National Oil and Hazardous Substances Contingency Plan (40 CFR 300). The Contractor's responsibility shall also include the removal of spill response waste from the work site, upon completion of spill cleanup.

NOTE

The Coast Guard will assume control of the spill response, if the Contractor's response is deemed inadequate by Government. The Contractor shall be responsible for reimbursing the Coast Guard for all expenses incurred.

B2.2.2.1 For oil and hazardous material spills which are reportable under Federal, State, and local laws and regulations, immediately notify the vessel's Hazardous Waste Coordinator and Contracting Officer along with the required agencies.

B2.2.2.2 Manage and dispose of petroleum products and petroleum contaminated water in accordance with procedures meeting Federal, State, and local laws and regulations.

B2.2.3 Oil Spill Response Plan. The Contractor shall be aware that transfers of any amount of "oil", as defined by 33 CFR 154.105, between the vessel and the Contractor's facility, or a mobile tank facility (subcontracted or otherwise arranged by the Contractor) are subject to the oil spill response plan requirements of 33 CFR 154.1010 et seq; consequently, the Contractor shall have an approved and current Facility Response Plan for any fixed or mobile facility transferring oil to or from the vessel whether the transfer is done by the Contractor or Subcontractor. Similarly, the Contractor shall have any other applicable Facility Response Plans, required by Federal, state, or local requirements. The required plans shall be made available for review by the COTR at the Arrival Conference.

NOTE

Above requirements are applicable to fixed or mobile facilities transferring oil, including fuel and oily wastes, to or from a vessel with a capacity 10,500 gallons or more. A current USCG Marine Safety Office (MSO) / Captain of the Port (COTP)-approved Facility Response Plan per 33 CFR Section 154.1017 will be considered acceptable in meeting these requirements.

B2.2.4 Refrigerants. The Contractor shall at all times adhere to the requirements of the Clean Air Act, 42 U.S.C. 7401 et seq., and all other Federal, state, and local regulations. The Contractor may not knowingly vent or otherwise knowingly release or dispose of any Class I or Class II refrigerants, as defined in 42 U.S.C. 7671a, into the environment. The Contractor shall ensure that when servicing small appliances (refrigerators, freezers, water coolers etc.), high pressure systems, or low pressure systems, all servicing and recovery requirements for the appropriate level of equipment are met. Whenever reclaimed refrigerant is used, the Contractor shall provide the Coast Guard Inspector proof that the refrigerant meets the relevant standard of purity. All Contractor servicing technicians must have obtained the required level of EPA certification necessary to service the equipment (i.e. small appliances, high pressure systems, low pressure systems, etc.) in question. Submit documentation of EPA certification for each servicing technician to the KO or COTR at the Arrival Conference.

B2.2.5 Hazardous substance abatement.

B2.2.5.1 Government reporting of known hazardous substances. The Contractor shall be aware that the Government will make every possible effort to inform the Contractor of the presence of hazardous substances, such as lead, chromium, asbestos, and PCB; and will inform the Contractor of the presence of said substances, in specification items, when applicable; however, the Contractor shall be responsible for conducting all appropriate tests for determining appropriate engineering controls and personnel protection actions to be taken, to protect contractor-personnel, in accordance with applicable OSHA, state, and local regulations. Submit copies of all sample results to the COTR prior to commencing work.

B2.2.5.2 Contractor surveying for the presence of suspected hazardous substances. If the presence of lead, chromium, asbestos, or PCB is suspected in any material which may be disturbed, and adequate survey of the work-area has not been accomplished by the Coast Guard to determine the extent of suspected hazardous substance, the Contractor shall be responsible for conducting hazard evaluations pursuant to OSHA requirements. Provide the COTR with a description, location, and analysis results for all materials samples taken during personnel hazard evaluations before work commences in the affected area.

B2.2.5.3 Lead abatement compliance. When a work item requires the removal of a coating with a lead content in excess of 0.06 percent by weight, the Contractor shall comply with all applicable Federal, State, and local laws and regulations regarding paint containing lead, when engaging in lead-based paint activities, or when addressing lead-based paint hazards and disposal. Applicable laws or regulations include, but are not limited to: 16 CFR 1303, 29 CFR 1910, 29 CFR 1915.1025, 29 CFR 1926.62, 15 U.S.C. 2601, and the Residential Lead-Based Paint Exposure Reduction Act.

WARNING!

The inorganic zinc primer specified in COMDTINST M10360.3 may contain concentrations of lead, but not in excess of 0.06% by weight. COMDTINST M10360.3 specifies inorganic zinc for interior steel surfaces including machinery decks, voids, chain lockers, inaccessible areas, and fire zone bulkheads; exterior steel surfaces including weather decks, work areas, deck plates, superstructures, stack casings, freeboards, and inaccessible areas; and steel items subject to condensation.

B2.2.5.3.1 Do not release lead or lead-contaminated materials into the environment. Conduct periodic air monitoring (as appropriate) for lead in the worker's breathing zone, during the course of any abatement work involving lead containing materials, to prevent exposure beyond the PEL. Submit results of all air monitoring samples to the COTR, within 24 hours of completion of sampling.

B2.2.5.3.2 Dispose of lead-contaminated materials in accordance with all applicable hazardous waste laws and this contract. When handling and storing lead contaminated materials, comply with 42 U.S.C. 9601-9675, 42 U.S.C.6901-6991, and all other applicable Federal, state, and local environmental laws and regulations.

B2.2.5.4 Asbestos abatement compliance. When a work item requires the removal of asbestos-containing materials, the Contractor shall comply with all applicable Federal, state and local laws and regulations including 40 CFR 61.150 and 29 CFR 1915.1001. Provide all notices to the EPA, as required by 40 CFR 61.145 and other applicable state and local agencies, prior to commencing asbestos removal work. In addition, provide 48 hours written notice to the KO before commencing any asbestos work.

B2.2.5.5 PCB abatement compliance. When a work item requires the removal of PCB-containing materials, the Contractor shall comply with the Toxic Substances Control Act (TSCA), 15 U.S.C. 2601-2692; 40 CFR 761 et seq. and all other applicable Federal, state, and local laws and regulations related to the removal and disposal of PCB containing articles.

B2.2.5.6 Chromium abatement compliance. When a work item requires the removal of a coating with a chromium-containing coating, the Contractor shall comply with all applicable Federal, State, and local laws and regulations regarding paint containing lead, when engaging in lead-based paint activities, or when addressing chromium-based paint hazards and disposal

B2.2.5.6.1 Do not release chromium, chromium-contaminated contaminated materials into the environment. Conduct periodic air monitoring (as appropriate) for chromium in the worker's breathing zone, during the course of any abatement work involving lead containing materials, to prevent exposure beyond the PEL. Submit results of all air monitoring samples to the COTR, within 24 hours of completion of sampling.

B2.2.5.6.2 Dispose of materials containing chromium contaminated materials in accordance with any applicable hazardous waste laws and this contract. When handling and storing lead contaminated materials, comply with 42 U.S.C. 9601-9675, 42 U.S.C.6901-6991, and all other applicable Federal, state, and local environmental laws and regulations.

B2.2.6 Volatile Organic Compounds (VOC) - regulations governing VOC emissions and solvent content in paints, coatings, solvents, adhesives and cleaners. The Contractor shall submit a VOC Plan to the COTR at the Arrival Conference. The VOC Plan shall comply with all Federal, state, and local VOC laws and regulations, and shall have an acceptable VOC compliance plan. The plan shall demonstrate that the use of paints, solvents, adhesives and cleaners comply with local VOC laws and regulations. All required permits shall be obtained, prior to starting work involving VOC, in the air quality district in which the work will be performed. An acceptable compliance plan shall contain, as a minimum: a listing of each material subject to restrictions in the air quality management district in question, the rule governing its use, a description of the actions which the Contractor will use to comply with the laws and regulations, and any changes in the status of compliance during the life of the contract. Alternatively, if no materials are subject to the restrictions in the air quality management district where the work will be performed, or if there are no restrictions, the compliance plan shall so state.

B2.2.7 Containment - general. The Contractor shall employ suitable containment methods to include, but not be limited to those listed below; to protect the air and waterways, during the performance of exterior surface preparation and coating application procedures, and performance of other tasks involving dust creation.

B2.2.7.1 Containment during preservation tasks.

B2.2.7.1.1 Utilize fixed or floating platforms as work surfaces, when working at the water surface. Ensure that platforms are also used to provide a surface to catch spent abrasives, slag, paint products, trash, and other debris/pollutants. Collect and dispose of all debris at the end of each work shift.

B2.2.7.1.2 Ensure that the bottom edges of free hanging barriers are weighted, in order to hold them in place during light breezes. When performing topside surface preparation procedures, ensure that all vessel openings and open areas between decks (including but not limited to scuppers, railings, freeing ports, ladders, and doorways) are properly covered, to prevent discharges into waterways.

B2.2.7.1.3 Direct all shipboard cooling water and process water away from contact with spent abrasives, paint and other debris. Ensure proper segregation and control of wastewater streams.

B2.2.7.1.4 Ensure that all mixing of paints and solvents is done in locations and under conditions such that no accidental spills will enter adjacent waterways.

B2.2.7.1.5 Do not mix paints and solvents in areas where spillage would have direct access to waterways, unless containment measures are employed. Employ suitable drip pans or other protective devices such as drop cloths or tarpaulin for all paint mixing and solvent transfer operations, unless the mixing operation is carried out in controlled areas away from storm drains, surface waters, shorelines and piers. Ensure absorbents are always on hand, to soak up liquid spills.

B2.2.7.1.6 Ensure that all paint and solvent spills are treated as oil spills and are prevented from reaching storm drains or deck drains and subsequently discharging into the water.

NOTE

Other forms of containment include, but are not limited to:

1. Total or mini enclosures.
2. Use of surface preparation tools equipped with vacuum attachments.
3. Water injection into abrasive stream during abrasive blasting, to reduce/eliminate dust.

B2.2.7.1.7 Collect and contain all run-offs from waterjetting and washing operations, to prevent from entering the ground, waterways, storm water and sewer systems.

B2.2.7.1.8 Control painting overspray, to minimize the spreading of wind blown materials. Perform frequent cleanups of affected areas, to prevent paint wastes from being washed into storm sewers or adjacent waterways.

B2.2.7.2 Dust control. Keep dust down at all times; be aware of the following:

- No dry power brooming is permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming.
- Air blowing is permitted only for cleaning non-particulate debris, such as steel reinforcing bars.
- No abrasive blasting is permitted unless dust is confined. Control dust from abrasive-blasting to minimize the spreading of wind blown materials. Perform frequent cleanups of affected areas, to prevent abrasive-blasting wastes from being washed into storm sewers or adjacent waterways.
- No unnecessary shaking of bags is permitted where bagged material is used.

B2.2.8 Noise control. The Contractor shall make the maximum use of “low-noise-emission products” as certified by EPA and described at 40 CFR Part 204. Comply with applicable portions of 42 USC §4901 to 4918. The Contractor is responsible for complying with all other Federal, state, and local noise control laws and regulations.

B2.2.9 Use of recovered materials. The Contractor shall, to the greatest extent possible and at no additional cost to the Coast Guard, use recovered materials that meet existing performance standards when performing work under this specification. Be aware that it is the Government’s policy to use, in a cost-effective manner, products composed of the highest percentage of recovered materials practicable without adversely affecting performance requirements or exposing vendor employees to undue hazards from the recovered materials.