

SSC Project Recommendation for FY 2022

Practical Vessel Corrosion Prevention, Assessment and Coatings Application / Inspection

1.0 OBJECTIVE.

- 1.1 The objective of this project is to evaluate current applications of coating systems and inspections during vessel construction, maintenance of coating systems post-delivery, and corrosion assessments aboard Coast Guard vessels that are performed by unit and maintenance support personnel. This will document the level of consistency across all platforms on coating system application, inspection, and assessment processes. The project will focus on developing a better understanding on where to look, how to document, and how to mitigate corrosion. Developing a practical methodology and procedure for implementing inspections and assessments at the deck plate level is critical.

2.0 BACKGROUND.

- 2.1 Corrosion can significantly impact vessel readiness if maintenance is ignored. Costs can be extensive, and for complex systems, combating its effects may require significant maintenance and repair.
- 2.2 To yield success against corrosion, there must be a holistic approach, as no one unit representative (Port Engineer, CPAC Corrosion Prevention Advocate, etc), rank or rate, or department, can do it alone. It is crucial that a coating system is applied correctly during construction and during depot level repairs and preservation.
- 2.3 Adherence to guidance developed through time-tested methods of vessel assessment and coatings application and inspection will result in the optimal balance between acquisition and life-cycle costs for ship and boat programs. The following are considerations applied during coatings application, inspection, and assessment:
 - 2.3.1 Areas prone to corrosion through the understanding of vessel design
 - 2.3.2 Materials used during construction of a vessel and the influence of corrosion and maintenance
 - 2.3.3 New vessel construction processes and their influences on corrosion considering required inspections and corrosion prevention techniques (Corrosion Prevention and Control Plan)
 - 2.3.4 Process of proper application and inspection of coating systems during maintenance periods
 - 2.3.5 Increase in corrosion potential based on operating environment
 - 2.3.6 Unit and maintenance planners' level of capabilities and responsibilities

3.0 REQUIREMENTS.

- 3.1 Scope.
 - 3.1.1 Phase 1: The Contractor shall review records related to corrosion assessments, coatings application, inspection, and coating failures on agreed-upon vessel class.

- 3.1.2 Phase 2: The Contractor shall evaluate current corrosion assessment and coatings application/inspection processes and procedures during new ship building (CPCP) and maintenance planning.
- 3.1.3 Phase 3: The Contractor shall perform a corrosion assessment with designated representatives on agreed-upon vessel(s).

3.2 Tasks.

Each phase of the project shall be accomplished through one or more tasks.

- 3.2.1 In Phase 1, the Contractor shall undertake a comprehensive literature review and develop a work plan for Phases 2 and 3 including the following tasks:

- 3.2.1.1 Project Kick Off Meeting: Review project objectives, scope, and administration to ensure a common understanding of the project is held by the Contractor and the Project Technical Committee.

- 3.2.1.2 Records Review: Conduct an evaluation of documentation related to corrosion assessments, assessment results, coatings application (including inspection), and coating failures on agreed-upon vessel(s). A focus on common issues across platforms will be noted for further investigation in Phase 2 during process review.

- 3.2.2 In Phase 2, the Contractor shall evaluate the process and procedures:

- 3.2.2.1 Applied during corrosion assessments by unit personnel

- 3.2.2.2 Applied during corrosion assessments by maintenance planners

- 3.2.2.3 To identify and document commonalities across vessel class and across platforms

- 3.2.3 In Phase 3, the Contractor shall participate in corrosion assessment(s) with vessel inspectors, both unit and maintenance planners, to evaluate their performance in following written procedures and proficiency.

- 3.3 The anticipated duration of this project is twelve (12) months.

4.0 **GOVERNMENT FURNISHED INFORMATION.**

- 4.1 Standards for the Preparation and Publication of SSC Technical Reports.

5.0 **DELIVERY REQUIREMENTS.**

- 5.1 The Contractor shall provide quarterly progress reports to the Project Technical Committee, the Ship Structure Committee Executive Director, and the Contract Specialist.

- 5.2 The Contractor shall provide interim reports for each phase of the project.

- 5.3 The Contractor shall provide a master final report and an electronic copy, including the above deliverables, formatted in accordance with the SSC Report Style Manual.

6.0 PERIOD OF PERFORMANCE.

- 6.1 This project will require approximately 12 months to complete, including all the tasks identified at Section 3.2.
- 6.2 Project Completion Date: 12 months from the date of award

7.0 GOVERNMENT ESTIMATE. These contractor direct costs are based on previous project participation expenses.

- 7.1 Project Duration: 12 months
- 7.2 Total Estimate: \$150,000
- 7.3 The Independent Government Cost Estimate: To be provided with full proposal

8.0 REFERENCES.

- 8.1 BMT Designers & Planners Port Engineer and Maintenance Manager Training Program
- 8.2 BMT Designers & Planners Corrosion and Coating Inspector Training Program
- 8.3 SFLC Corrosion Prevention and Control (CPAC) Program Process Guide (CGTO PG-85-00-60-S)
- 8.4 USCG Port Engineer Training Course
- 8.5 USCG CPAC Training Course
- 8.6 STD SPEC 6310, TS-631, NSTM 631
- 8.7 SSPC and NACE Standards
- 8.8 ABS Inspection Grading Criteria for the ABS Hull Inspection and Maintenance Program (HMIP)
- 8.9 ASTM, ISO, OSHA

9.0 SUGGESTED CONTRACTING STRATEGY.

- 9.1 BMT maintains an active GSA Schedule contract under the new Professional Services Schedule (PSS). Using the streamlined procurement procedures in FAR Subpart 8.4 Federal Supply Schedules, PSS offers federal agencies access to commercial professional services at “Most Favored Customer” pricing. SSC may use the simplified acquisition procedures to issue a Request for Quotation (RFQ) using GSA’s eBuy solicitation system, or directly to contractors according to governing agency procedures. Special Item Number (SIN) 871-1 (Strategic Planning for Technology Programs/Activities) or SIN 871-2 (Concept Development and Requirements Analysis) would be appropriate classifications for the proposed project.