DATA ITEM DESCRIPTION
Title: CORROSION PREVENTION AND CONTROL PLAN (CPCP)

Number: DI-MFFP-81403B
AMSC Number: N10166
DTIC Applicable: No
Preparing Activity: AS
Applicable Forms: N/A

Approved Date: 20200331
Limitation: N/A
GIDEP Applicable: No
Project Number: MFFP-2020-004

Use/Relationship: The Corrosion Prevention and Control Plan (CPCP) is applicable to any system acquisition that includes a requirement for a corrosion prevention and control program and shall be used for the entire system and all major subsystems including airframe, avionics, engine, launch and recovery systems, mechanical subsystems and support equipment.

This Data Item Description (DID) contains the format, content and intended use information for the data deliverable resulting from the technical requirements described in the latest version of MIL-STD-1568, Materials and Processes for Corrosion Prevention and Control in Aerospace Weapons Systems, MIL-STD-1587, Material and Process Requirements for Aerospace Weapons Systems, and MIL-STD-1530, Aircraft Structural Integrity Program. (Copies of all these documents are available online at https://quicksearch.dla.mil).

This DID supersedes DI-MFFP-81403A.

Requirements:

1. Reference Documents. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

2. Format. The CPCP shall be in the contractor's format.

3. Content. The specific approaches used for corrosion prevention and control (CPC) of the system shall be documented utilizing the requirements in the latest version of MIL-STD-1587. Additional guidance for CPC can be found in the Department of Defense (DOD) Corrosion Prevention and Control Planning Guidebook for Military Systems and Equipment. (Copies of the above documents are available online at https://quicksearch.dla.mil).

3.1. Management considerations: Identify the contractor's office of primary responsibility, including relationship to the organization and authority with respect to drawing release and material and process selections.

3.2. General considerations: Describe processes to ensure compliance with corrosion prevention and control procedures during design/development, manufacturing, materials handling, packaging, shipping, testing, modification, and operation and at all other time that the equipment is in custody of the contractor.

3.3. Corrosion Reviews: Describe plans for periodic reviews during Engineering & Manufacturing Development and Production & Deployment to evaluate the adequacy of the contractor's efforts in corrosion prevention and control.

3.4. Requirements Derivation: Describe the design usages and service environments that form the design criteria and are the origin of corrosion prevention and control requirements. Detail which requirements this plan addresses, including the verification approach used to meet each basic requirement. Identify data sources (system and subsystem specifications, corrosion and finish specifications, operational or storage conditions, drainage and venting requirements, manufacturing conditions, corrosion requirements derived from operational performance requirements, and usage environments) from which corrosion requirements are derived.

3.5. Requirements Flow down: Describe how system corrosion requirements are translated into sub-tier requirements, considering criticality of particular hardware, severity of local environment and difficulty of maintenance. Include how the prime contractor communicates these sub-tier requirements to designers, vendors, and subcontractors. Describe how the prime contractor verifies the vendor and subcontractor compliance with the requirements prior to acceptance of the design for production.

3.6. Corrosion Engineering Management Approach: Describe the responsibilities and authority for the engineering, manufacturing, quality assurance, sustainment and other functions that affect CPC for the system.

3.7. Evaluation of Corrosion Susceptibility: Describe results of corrosion susceptibility evaluation to include locations that might be susceptible to corrosion and the expected type(s) of corrosion (e.g. exfoliation, uniform, crevice, intergranular, and stress-corrosion cracking) that could occur at these locations.

3.8. Corrosion Prevention and Control Methods Applied: Describe the methods used to minimize the potential for corrosion to include selection of materials, fabrication techniques, sealants, protective finishing systems, and design features. Describe the supplier's process and organizations that will be used in allocating its requirements to applicable production drawings and maintenance documents.

3.8.1. Selection of Materials, Fabrication Technology, Sealant, Protective Coating, Design Features and Other Measures to Achieve Corrosion Prevention and Control Requirements: List

and describe the materials and processes, design approaches, maintenance approach for sustainment (e.g., technical manuals, data capture, etc.), and other relevant concepts used to prevent corrosion.

3.8.2. Finish Specification: Provide reference to the document delivered, if required by contract and DI-MFFP-81402B, or list and describe the finishes, coatings and films used to prevent corrosion.

3.9. Corrosion Assessments: Describe the methods used to determine the timing and scope of periodic corrosion assessments and how the results will be used to update the corrosion prevention and control plan.

3.10. Design, Performance, and Operational Requirements: The Corrosion Prevention and Control Plan (CPCP) provides data for detailed evaluation of the contractor's approaches and methods to implement corrosion prevention and control measures to meet the specific design, performance, and operational requirements of the contract. The CPCP shall, as a minimum:

3.10.1. Define corrosion mitigation requirements and describe how they are integral to the Systems Engineering process.

3.10.2. Reference applicable specifications and standards.

3.10.3. Address system design, engineering and manufacturing requirements, operations, logistics, and sustainment phases to ensure consistency throughout system life.

3.10.4. Describe an engineering management approach for an integrated management structure to ensure ongoing, effective communication and coordination among team members including prime contractors, subcontractors, and government organizations. This structure is intended to prevent the formation of a "stove pipe" organization: define roles and responsibilities for quality assurance, process control, materials/process engineering, manufacturing, low observables, technical writing and Environment, Safety, and Occupational Health (ESOH) compliance.

3.10.5. Describe the corrosion prevention and control interface with suppliers, subcontractors, sub-systems manufacturers and the procurement of commercial-off-the-shelf items. Explain how this interface will validate, verify and ensure compliance to the plan and process/finish specification.

3.10.6. Outline materials, processing methods, manufacturing techniques, fabricating processes and protective treatments to be detailed in the process/finish specification.

3.10.7. Describe sustainability, logistics support, maintenance planning, (such as methods/equipment for corrosion monitoring and non-destructive inspection), ground support and test equipment, handling, transportation, and storage of parts/assemblies, personnel training and the generation/validation/verification of technical data.

3.18.8. Describe the approach to achieve compromises between conflicting requirements of corrosion mitigation, low observables, electrical grounding, environmental compliance, safety and occupational health. Life Cycle Costs shall be a factor in achieving said compromises.

3.10.9. Describe the performance verification approach for full stack-ups of the overall protective schemes, including low observable materials.

End of DI-MFFP-81403B