**Maintenance and Overhaul (M&O)**

 **M&O Planning Submission Guidance and Documentation Requirements**

1. **Maintenance and Overhaul Plan:** The M&O plan shall adhere to AMCOM Regulation 702-7, Aviation Critical Safety Items, Critical Application Items, and New Source Testing Program Management, 19 June 2017, Appendix D, Quality Engineering Standard-2, Revision C (QE-STD-2). Any procured replacement parts shall also adhere to Appendix C, Quality Engineering Standard-1, Revision E (QE-STD-1). In addition, Contractors shall demonstrate its understanding of the sequence of processes and the controls required to maintain the integrity of the Critical Characteristics (CCs) for the processes performed by both the contractor applicant and its proposed subcontractors. Click the icon below for an example plan.



1. The contractor applicant shall identify the following items **on the first page**:
2. Company name, address, and Commercial and Government Entity (CAGE) code.
3. Part Number (PN) and National Stock Number (NSN).
4. Plan revision level and revision date.
5. Reference the most current DMWR, the DMWR date and/or any applicable M&O requirement
6. All Maintenance Engineering Orders (MEOs) associated with the Depot Maintenance Work Requirement (DMWR).
7. Each page of the plan, and any proposed subcontractor planning which affects a Critical Characteristic, shall contain a statement that is similar to the following: “This item is a Critical Safety Item (CSI),” and reference QE-STD-2.
8. Include the following elements, at a minimum, shall be included on remaining pages and reference the applicable DMWR paragraph or work package and MEO in the operation in which they apply:
9. Receiving inspection instructions.
10. Disassembly instructions.
11. Cleaning instructions.
12. Overhaul Inspection Procedures.
13. Repair and replacement instructions.
14. Modification instructions (if applicable).
15. Reassembly instructions.
16. Testing instructions (if applicable).
17. Final assembly instructions.

j) Packaging instructions.

 k) All Special Tooling and test equipment shall be listed and identified in each step it is utilized.

1. The following are additional detailed requirements that pertain to the planning elements.
2. When subcontractors are used or anticipated for outsourced processes, such as Shot peen, Metal Plating, Non-Destructive Testing, the subcontractor’s name, address, and CAGE code at each applicable step in the plan. Receiving inspection processes for operations performed by subcontractors shall be provided to ensure that the parts are properly repaired/processed, and all Certificates of Conformance (CoC) are completed.
3. The order of operations within your plan shall flow in the same sequence as the flow of operations in your facility.
4. Detailed subcontractor process plans must be provided for any outsourced process that impacts or involves a critical characteristic and the Army will hold subcontractor plans to the same standards as the plan submitted for the qualifying part and must meet the requirements of QE-STD-2.
5. Plans required for CCs include, but are not limited to, Non-Destructive Testing and Metal Plating. Shot Peen plans are required for all parts, regardless of criticality.
6. Industry-recognized Level III Certification for Non-Destructive Testing.
7. The qualifying part plan must include a receiving inspection process for operations performed by sub-contractors to ensure the parts were properly repaired/processed and all Certificates of Conformance (CoC) are complete.
8. The plan must include any operations or procedures that deviate from those specified in the DMWR, and the underlying rationale. The Army must review and approve all proposed deviations prior to implementation.

**NOTE: Although the Army may allow deviations to the DMWR requirements as reflected in the Deviations and Exceptions section of the DMWR, the review time for a Source Approval Request (SAR) will substantially increase due to the additional time required to evaluate these non-standard requests. In the event that a contractor gains SAR approval using processes that deviate from the DMWR and is subsequently awarded a contract, the submission of a Request for Depot Engineering Support (FCDD-AMR Form 1379) will be required.**

1. Maintenance Engineering Orders (MEOs) must be referenced in the operations in which they apply.
2. Clear identification within the plan of all CCs in order to draw attention to them (any method is acceptable, e.g., <<C>>, \*\*CC\*\*, ★, etc.) and a statement that the contractor will conduct a required 100% inspection of all CCs prior to moving to subsequent operations. In addition, all CCs in the plan must be written to provide adequate space for a Quality Inspector to sign off on each applicable step.
3. When a measurement is taken for any CC operation or any other DMWR-required inspection (such as, dimension, torque, surface finish, voltage,) the characteristic inspected, actual reading or dimension (such as torque, tolerance,), date of inspection, identity of mechanic/inspector and quality inspector, calibrated tooling (name or SN), and calibration due date must be documented in that CC step. If the company has a master sheet with the Test, Measurement, and Diagnostic Equipment (TMDE) information, the tool reference number may be documented in that operation.

**B. Associated Required Documents:**

1. List of Proposed Subcontractors: A list of all proposed subcontractors that will be used to perform M&O processes and a copy of the M&O plan or process that the Government deems significant to the overhaul regardless of the criticality of the process/procedure. Please refer to table 1-1 below as examples of processes that are always considered significant. Any subcontractors used for M&O processes and operations are required to obtain the Army’s approval.

Table 1-1

|  |  |
| --- | --- |
| Process | Type/example |
| Non-Destructive Inspection/testing (NDI/NDT) | Magnetic Particle Inspection (MPI), Fluorescent Penetrant Inspection (FPI), Ultrasonics, Radiography, Eddy Current, etc. |
| Surface finish/prep process | Nital Etch, Plating, Heat Treat, Embrittlement Bake, etc. |
| Cleaning process | Chemical cleaning |
| Machining | Turning, Drilling, Milling, Grinding (Mechanical or Manual) |
| Adhesive Bonding | Metallic, Composite, etc.  |
| Shot peening  | NA |
| Testing | Acceptance Test Procedures (ATP’s), Subcomponent/subassembly testing.  |

Note: The Government reserves the right to request any subcontractor planning during the review process if it is deemed significant for airworthiness review.

1. Master Tooling Certification: Include a written statement certifying possession of or access to any required special tooling and inspection equipment and required special test equipment current to latest DMWR revision. If you plan to use equivalent tooling instead of the tooling specified in the DMWR, include a complete technical description of the tooling with sufficient substantiation to determine equivalency, i.e form, fit, and function. Specify the availability of the DMWR specified test equipment or if equivalent test equipment has been purchased. For equivalent test equipment, the Contractor shall provide the following for review and Government approval:

1. A documented and traceable method to establish equivalency, certify and release for production, and maintain serviceability. Serviceable asset is preferred to establish equivalency, but other methods will be considered. A serviceable asset is defined as an asset which has passed DMWR Final Test OR the Original Equipment Manufacturer (OEM) Acceptance Test Procedure (ATP) and is deemed ready for installation (RFI). An overhauled asset is not considered a serviceable asset until it has passed DMWR final test or ATP.
2. Such method and related testing results shall exhibit repeatability and reproducibility. Testing tolerances and parameters used to establish equivalency shall demonstrate compliance to DMWR requirements.
3. A demonstration of equivalency shall be performed, and all records and data collected shall be made available upon request by the Government.
4. QE-STD-2 Compliance: Address how you have complied with or plan to comply with the requirements listed in QE-STD-2. This requirement can normally be met by modifying the company’s current quality plan to incorporate the QE-STD-2 requirements. Click the icon below to see QE-STD-2.



 4). Replacement Parts Procurement: If overhaul requires the procurement of any sub-components or parts that are themselves Critical Safety Items and, therefore, must be purchased from contractors approved by SRD, your SAR must address your plan to comply with the requirements of QE-STD-1. Click the icon below to see QE-STD-1.



 5). A copy of the companies Quality Policy/Manual that adheres to industry standards. (ISO-9000, AS9110, MIL-I-45208, MIL-Q-9858, or equivalent)

**C. Obtaining Government Technical Data**

The Army requires completion of the Military Critical Technical Data Agreement (DD Form 2345) before requesting technical data including both DMWRs and MEOs. A copy of Department of Defense (DD) Form 2345 can be found at the website: <https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd2345.pdf>

Send a completed DD Form 2345, with your SAR number, to usarmy.redstone.devcom-avmc.list.amr-sm-library@army.mil for any required MEOs after the publication date of the applicable DMWR.

**D. Non-Disclosure Agreement (NDA)**

Some of the personnel who review your submitted documents might be covered government support contractors in support of the Army within the meaning of the Department of Defense Federal Acquisition Regulation Supplement (DFARS) Clause 252.227.7013, Rights in Technical Data-Noncommercial Items. However, if you want to provide your own NDA for any contractor personnel to sign regarding your specific technical data, please indicate this in your cover letter.