



Parts Management Implementation Spring 2016 - LMI

PM Implementation

Goal

Develop and define processes and training for the implementation of the Parts Management requirements in MIL-STD-3018

- Initial 3 step approach:
 - ✓ Define sample Contract Wording
- Create sample Processes and Procedures
 - Challenge: Manage differences between Electrical and Mechanical Plans
- Implementation and checks & balances

PM Implementation

Process

- The Implementation Team will be creating specific processes and procedures to address the requirements in defined in MIL-STD-3018.
- These will be specific How To elements each one intended to provide a recommended generic practice for Mechanical Parts Management.
- **The intention is to NOT reiterate the requirements ~ but replicate best practices across industry:**

PM Implementation

Basic PM Elements – MIL-STD-3018

- Preferred Parts Selection List
- Parts Selection and Authorization Process
- Obsolescence Management
- Parts List or BOM
- Subcontractor Management
- Part and Supplier Quality
- Part Level Documentation Procedures
- Substitute and Alternative Part Procedures
- Customer - Contractor Teaming
- Counterfeit Parts
- Lead - Free Electronic Parts
- Metrics and Reporting*
- Continuous Improvement *

**Currently not a part of MIL-STD-3018*

PM Implementation

ECMP vs PMP

- Electronic Components Management Plan
 - SAE EIA STD 4899
- Parts Management Plan
 - MIL-STD-3018

PM Implementation

Will Not Be Addressed

ECMP Focused Elements

- Component Application
- Component Qualification
- Component Quality Assurance
- Component Dependability
- Component Compatibility with the Equipment Manufacturing Process

Company specific since it is critical for the plan owner to review and understand the design, materials, configuration control, and qualification methods of all “as-received” electronic components, and their capabilities with respect to the application; identify risks, and where necessary, take additional action to mitigate the risks.



Minimum PM Elements

Part selection baseline. A corporate baseline (CB), parts selection list, to give visibility to designers and subcontractors of parts preferred for use

Part selection and authorization. The management and organizational structure for standardization Functions

Obsolescence management. The plan must include procedures for obsolescence management, such as proactive obsolescence forecasting and mitigation for applicable part types

Parts list or bill of materials (BOM). The plan must detail how and when the contractor submits initial and updated parts lists or BOMs to the government, as required by contract.

Subcontractor management. The plan must describe contractor procedures for establishing and maintaining subcontractor participation to the extent necessary to ensure satisfaction of the parts management objectives.

Part and supplier quality. The plan must describe provisions for assessing part suppliers and part quality, such as statistical process control data, audits, and past performance.

Part-level documentation procedures. Part-level documentation procedures must be detailed and consistent with the program's configuration management, logistics strategies, and total life-cycle requirements.



Minimum PM Elements - Contd

Substitute and alternate part procedures. The process for the management, definition, and documentation of substitute and alternate parts .

Replacement Process the contractor must ensure the program is consistent with the intent and application of SE disciplines (configuration management, quality, logistics, etc.).

Customer-contractor teaming. The parts management plan must address customer teaming to allow for continued insight into processes for program verification.

Counterfeit parts. Address the detection, mitigation, and disposition of counterfeit parts, including electronic, electrical, and mechanical parts. SAE International's AS5553 should be used for guidance for electronic parts.

Lead-free electronic parts. The parts management plan must address the process to manage the risk associated with using lead-free parts. TechAmerica GEIA-STD-0005-1 may be used for guidance for lead-free electronic parts.

Additional elements (lead free, counterfeit parts, etc.). The process for addressing those additional elements, as identified by contract, must be defined.

Parts Management Effectiveness (Metrics)



Reference - Contract Wording



Examples Contract Wording

Parts Management Program – The contractor shall establish and/or maintain a parts management program in accordance with MIL-STD-3018.

- The contractor shall notify the Government as soon as a part is identified as obsolete. For obsolete parts, the contractor shall locate a second source, a different MIL-qualified part that performs the same function without redesign, or a non-standard part that performs the same function without redesign.
- If a non-standard part is chosen, the contractor shall submit a non-standard parts request. If the aforementioned steps do not produce a substitute part and a redesign is required to solve the obsolete part problem, the contractor shall submit an ECP upon government direction



Examples Contract Wording

Parts Management Program – The contractor shall establish and implement a parts obsolescence program. This program shall include a report to categorize and quantify identification of obsolete parts, problem resolution, and a recommended approach for mitigating risks associated with obsolete parts over the life of the system. The contractor shall maintain a parts selection, control, and standardization program in accordance with this task. The contractor may select parts from the criteria listed below, provided that they meet component performance (e.g., tuning, tolerance, temperature, etc.) and environmental and physical characteristics (form, fit, and function) requirements to the shop replacement unit (SRU) level.

- a. Program Parts Selection List
- b. MIL-STD.
- c. QPL.
- d. QML.
- e. DSCC.
- f. Parts from ISO-9000 certified vendors.
- g. Previously-approved non-standard parts
- h. MIL-FLOW (MIL-FLOW is defined as parts that are specified to meet the form, fit, and functional requirements but are only exposed to a subset of the full MIL-STD screening and testing).

Any other requests that do not meet these requirements must have prior approval from the Government via a contracts letter. The Government will provide a response within 45 days of receipt of the contractor request. When there is no known replacement part from the part criteria list, plastic parts may be evaluated to resolve obsolescence problems. Plastic parts must be qualified in accordance with *contractor name internal procedure*. The test report, detailing the results of the qualification tests shall be referenced as part of the Class I/II ECP that incorporates the change into the hardware. Plastic parts approved for use shall be stored and handled in accordance with *contractor name internal procedure*