DCMA NSEO MANUFACTURING PROCESS SURVEILLANCE (MPS) CHECKLIST #18

ELECTRICAL TESTING

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **SUPPLIER & CAGE:**  |  |
|  |  |
| **LOCATION:** |  |
|  |  |
| **PROCESS:** |  |

**Program Type:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Level I/SUSBAFE (LI/SS) |  | Navy Propulsion Program (NPP) |  | Deep Submergence Systems/Scope of Certification Program (DSS-SOC) |
|  | Nuclear Plant Material (NPM) |  | Naval Nuclear Propulsion Program (NNPP) |  | Aircraft Launch & Recovery Equipment (ALRE) |
|  | Fly By Wire Ships Control Systems (FBWSCS) |  | Ships Critical Safety Items (SCSIs) |  | Other: |

**Contractual Requirement(s) for this process:**

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**Supplier Procedure Number(s), Title(s) & Revision Level(s)/Date(s):**

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| --- | --- |
| Surveillance Performed By:  |  |
|  |  |
| Date(s) of Surveillance: |  |
| Contract Number(s): |  |
|  |  |
| Part Number(s)/Serial number(s)/NSN: |  |
|  |  |
| Part Nomenclature(s): |  |
|  |  |
| Supplier Personnel Contacted and Titles: |  |
|  |  |
| Drawing Number & Revision: |  |

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**Process Concerns and Guidance:**

**Class 1 — General Electronic Products:** Includes products suitable for applications where the major requirement is function of the completed assembly.

**Class 2 — Dedicated Service Electronic Products:** Includes products where continued performance and extended life is required, and for which uninterrupted service is desired but not critical. Typically the end-use environment would not cause failures.

**Class 3 — High Performance Electronic Products:** Includes products where continued high performance or performance-on-demand is critical, equipment downtime cannot be tolerated, end-use environment may be uncommonly harsh, and the equipment must function when required, such as life support or other critical systems.

* Material Control is the foundation for the Level I program, ensure this is being followed.
* Proper classifications of assemblies for evaluation not properly classified (Class 1, 2, 3) or being inspected to the correct class
* Programmable Read-Only Memory components (PROM) were burned incorrectly. The software/part/drawing numbers were correct, but the software used was the wrong version. All three must be verified separately.
* Harness assemblies were of an incorrect configuration.
* Insulation pinched between a lug and terminal seating surface caused a high resistance connection.
* Environmental testing not complied with or proper posttest inspection unsat
* Are securing mechanisms being applied/installed properly?
* Are all marking requirements, including nameplates, as required?
* Is configuration management under control?

**QARs should use the “BASIS OF DETERMINATION” column to document the objective quality evidence and/or clarify the rationale used to support their decision. (e.g. direct observation, documents verified etc.)**

S = Satisfactory U = Unsatisfactory

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| --- | --- | --- | --- |
| **SURVEILLANCE QUESTIONS** | **S** | **U** | **BASIS OF DETERMINATION** |
| 1. Is the supplier maintaining traceability markings for items that are too small to be permanently marked?
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| 1. Are procedures available to the personnel performing the task with clear acceptance criteria? Are test results documented?
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| 1. Is the documentation clear, readable and does it match with the material being processed?
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| 1. Are the test procedures being used approved, if required?
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| 1. Is the configuration of all subassemblies/end items per the documented requirements?
 |  |  |  |
| 1. Is the area where the work is being performed clean and free from dirt and debris?
 |  |  |  |
| 1. Are instruments, unique numbers of meters, probes, scopes, meggers, etc. recorded on test result documents? Isall testing equipment, requiring calibration, within date? (torque wrenches, torque screwdrivers, wire strippers, electronic testing equipment, etc.)?
 |  |  |  |
| 1. Is software used in running manufacturing, measuring and testing equipment? Is (Automated Test Equipment - ATE) correct and/or approved to assure product complies with specifications and drawing?
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| 1. Do purchase orders require original mill testing lab certifications to be submitted with material?
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| 1. Are personnel performing electrical tests knowledgeable, trained, and qualified with the procedure, use of tools, and use of instruments?
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| 1. Are test procedures that require adjustments to various electronic components/subassemblies clear and results properly recorded? (recording original value vs. adjusted value)
 |  |  |  |
| 1. Are electrical components requiring lot test markings being controlled?
 |  |  |  |
| 1. Are electrical materials controlled for part substitution? Is it within shelf life, if applicable?
 |  |  |  |
| 1. For cable/wire/harness – if applicable: Is in-process spark testing accomplished? Are electrical tests performed after each production operation (e.g. insulation resistance after twisting/shield operation)? Is there a procedure to detect splices? (splices are not allowed in finished cable)
 |  |  |  |
| 1. Is testing performed in the required environmentally controlled area? (humidity, temperature, barometric pressure)
 |  |  |  |
| 1. Does the supplier have a procedure for the counterfeit detection and avoidance system? Are electrical materials controlled for counterfeit mitigation? **(*Check the manufacturer’s certification or appropriate data for this information.)***
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| Other observations: |  |  |  |

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| **Overall MPS Results:** | **SATISFACTORY** |  | **UNSATISFACTORY** |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Corrective Action Generated?** | **No** |  |  | **Yes** |  |  | **CAR#** |  |

**FOLLOW-UP ACTION REQUIRED?**

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**SUMMARY/NOTES/COMMENTS/CONCERNS**:

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