DCMA NSEO MANUFACTURING PROCESS SURVEILLANCE (MPS) CHECKLIST #13

COMPONENT/SYSTEM CLEANLINESS

INCLUDING ULTRASONIC CLEANING, OXYGEN CLEANING, MECHANICAL CLEANING, AND CHEMICAL CLEANING

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

**Process Concerns and Guidance:**

* Foreign material, if not removed from hardware, can enter the primary loop and block flow paths in the reactor core, can prevent valves from closing and thus cause leakage, can obstruct moving parts, can interfere with heat transfer, and can clog filters.
* Foreign material trapped in crevices can cause accelerated local corrosion, and may be released later in life potentially causing the problems listed **above.**
* Storage, Issue, and Handling of welding electrode used for the welding of Navy Product continues to be a high priority during audit and surveillance of our contractors. This Mil-Spec electrode must be segregated from commercialwelding consumables, and the contractor is responsible for maintaining traceability through the use of physical and chemical properties and Heat numbers supplied by the electrode manufacturer.
* Tape, rags, and other debris have been discovered in final cleaned hardware.
* Workers have been known to warm up their lunches (especially pizza!) in covered electrode warming ovens.
* Cleanliness problems have caused long delays in deliveries or expensive ($100,000 in one case) shipyard cleaning.
* Do shop travelers require cleaning of piece parts prior to assembly and prior to heat treatment?
* Are crevices protected if dirt-producing operations are performed nearby?
* Are openings in hardware sealed up or plugged when not being worked on?
* Is a clean room or clean area used for assembly which creates inaccessible areas?
* Are the clean room or clean area and people in it clean?
* Is hardware protected from foreign material during transport from one operation to the next?
* Do shop travelers or drawings identify crevices and specify the method of crevice protection?
* Is final solvent cleaning performed with acetone, alcohol, or Grade B water if solvent-dampened cloths are used?
* Does the selected final cleaning solvent actually remove the foreign material present on the hardware?
* Do overhead cranes have drip pans to prevent oil or grease from falling on hardware?

**Additional Oversight Checklists**

* Addendums to this MPS checklist are available to use for a more in-depth process surveillance. If used, the completed Addendum(s) are to be attached to the PDREP Surveillance Plan.

* + 13 MPR-MPS - Addendum 1 – Detrimental Material 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. Are the personnel performing the component/system cleanliness functions of the appropriate skill/experience level and/or properly trained/qualified in the procedure/specification? ***What are the requirements?*** |  |  |  |
| 1. Does the fluid/medium being used to flush or test the component or system meet cleanliness requirements per the contract? |  |  |  |
| 1. Is inspection and testing equipment of the required adequacy, accuracy, precision, and range to assure supplies produced comply with specifications and drawings? *What Items were sampled and were they part of the supplier’s calibration program and within the calibration/check cycle?* |  |  |  |
| 1. Is the pressure the component/system is exposed to during the cleaning process per requirements? |  |  |  |
| 1. Does the supplier have procedures for the specific cleanliness requirements? Does the procedure include acceptance criteria? |  |  |  |
| 1. Is cleanliness verified per the required method (e.g. use of filters, viscosity, color)? |  |  |  |
| 1. Are all required tests being performed in accordance with procedures and all applicable requirements? What tests and/or documentation were reviewed? |  |  |  |
| 1. Is the process conducted under controlled environmental conditions (clean room, humidity/temperature, etc.) as required by contractual and/or supplier-imposed technical requirements? What are the environmental conditions and are they monitored (charts, gages, etc., within calibration)? |  |  |  |
| 1. Is component/system cleanliness maintained per specification or purchase order (including Coded Notes or Standard Clauses), procedure, and work instructions? |  |  |  |
| 1. Does the item require preservation after flushing for cleanliness per specification or purchase order requirements? If so, is this properly accomplished? Is the item properly identified? |  |  |  |
| 1. Do supplier's procedures require verification of cleanliness prior to packaging and shipping? Is this verification documented on the router/shop traveler? |  |  |  |
| 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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