DCMA NSEO MANUFACTURING PROCESS SURVEILLANCE (MPS) CHECKLIST #34

MACHINING OPERATIONS

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

**Program Type:**

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| --- | --- | --- | --- | --- | --- |
|  | 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:**

* Machining operation results and accompanying documentation incorrect, incomplete or missing
* Machining operations not performed or performed incorrectly
* Machining operations from incorrect drawing revision
* Visual inspection and cleanliness of items
* Lot sample sizes incorrect
* Contractor personnel may not be properly trained to perform machining operations.
* Some contractors may rely on the QAR’s inspection records and results to ensure fabrication and assembly compliance and justification to deliver products to the Government.
* Foreign material, if not removed from hardware, can enter and block flow paths, can prevent valves from closing and thus cause leakage, can obstruct moving parts, can interfere with heat transfer, clog filters and other operational problems.
* Foreign material trapped in crevices can cause accelerated local corrosion, and may be released later in life potentially causing the problems listed above.

**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. Review a sample of machining operations being performed by supplier personnel in accordance with procedures. Record all operations observed (include appropriate specification or work instruction, where applicable) and the corresponding operators’ names. Are the operators qualified (proper training or certification documentation or equivalent) to perform the machining operations reviewed?
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| 1. Is machining operation equipment used by personnel adequate to machine supplies in compliance with contractual specifications and drawing(s)? Record names of machining operations witnessed, and equipment used.
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| 1. Are calibrated tools used in the machining process current, adequate and traceable to certifications?
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| 1. Are adequate cleaning facilities available and in use?
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| 1. For the applicable cleaning process, is flushing media (solvents, water, air, etc.) monitored and controlled so as not to introduce contamination to the product? Are flushing procedures such as direction, velocity, duration, filter particulate acceptance criteria and equipment detailed in a written procedure and being followed?
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| 1. For the applicable cleaning process, are products properly segregated and bagged in an area clean of dirt and debris, as per procedures?
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| 1. Is **manufacturing equipment** (tooling, fixtures, jigs, temperature controllers, ammeters, voltmeters, etc.) adequate to produce/assess conforming supplies in compliance with contractual specifications and drawing(s)? *What Items were sampled and were they part of the supplier’s calibration program and within the calibration/check cycle?*
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| 1. Are work instructions, drawings, specifications and machining operation procedures, travelers, etc. being used current, adequate, clear, concise and up to date (latest revision)? Are they readily available to personnel and are they following them?
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| 1. Do machining operations have in-process inspections or checkpoints and are the results documented?
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| 1. Is there an over check program in effect to confirm worker's or inspector's results on a sampling basis and is it known to exist by the workers/inspectors?
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| 1. Are records documented satisfactorily? Are positive inspection or testing results recorded (ie. SAT or UNSAT) to clearly indicate the status of the supplies after the inspection or test? Are records in ink with errors utilizing "line thru", initial and date procedures?
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| 1. Is material/product, which has been through the machining process, being positively controlled, traceable and identified to indicate its current status (e.g. individual operation sign-off/inspection stamping/accepted or rejected)?
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| 1. Is the product adequately identified with the proper documentation and certifications to provide clear material traceability throughout the products’ processing, where required, and does the product match the documentation?
 |  |  |  |
| 1. Are there adequate methods of segregating accepted and rejected material in use? (e.g. materials awaiting inspection, are they identified and segregated from materials which have been accepted or rejected?
 |  |  |  |
| 1. Are precautions in place to prevent damage and/or contamination to product during and in between machining operation processes?
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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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