DCMA NSEO MANUFACTURING PROCESS REVIEW (MPR) CHECKLIST #35

MARKING AND MARKING INSPECTION

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| **SUPPLIER & CAGE:** |  |
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| **LOCATION:** |  |
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**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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| **Process Reviewed By:** |  |
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| **Date(s) of Review:** |  |
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**Process Concerns and Guidance:**

* Marking results and accompanying documentation is incorrect, incomplete or missing
* Marking not performed or performed incorrectly
* Marking from incorrect drawing revision
* Visual inspection and cleanliness of items
* Lot sample sizes incorrect
* Contractor personnel may not be properly trained to perform marking.
* Some contractors may rely on the QAR’s inspection records and results to ensure marking and marking inspection compliance and justification to deliver products to the Government.
* Markings and data is transcribed incorrectly

**A**. **MANPOWER:**

1. Are the personnel performing the marking and quality assurance functions of the appropriate skill/experience level and/or properly trained/certified to produce conforming product? ***What are the requirements? Record all operations observed (include type and specification, where applicable) and the corresponding operators’ names. Did you verify QA/QC proficiency in measuring/test performance? Record names and tests or measurements witnessed, and equipment used.***

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1. Are any personnel certifications expired and are the personnel still working in the process?

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1. Are training records available (review sample) and are they accurate and complete?

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1. Are the credentials of the training/certification official in accordance with specification requirements? ***What are the requirements?***

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1. Is there a system in place for remedial training when errors occur?

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**B. MATERIALS**:

1. For Level I material, is the product controlled and traceable throughout the process?

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1. Are certifications for raw materials used in the process reviewed for acceptance and maintained on file for review?

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1. Do the raw materials comply with contract/specification and/or supplier-imposed technical requirements, including the prohibition of reclaimed material as may be required? ***What were the materials reviewed?***

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1. Are there controls to ensure conforming material is consistently used in the process?

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1. Was the material's integrity compromised by further processes and/or practices? ***If so, how?***

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**C. MACHINERY**:

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?*

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1. Are calibrated tools used in the inspection and test process current, adequate and traceable to certifications?

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1. Is Government owned equipment adequately protected/maintained in accordance with a documented process?

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**D**. **METHODS**:

1. Does the supplier have a documented and established inspection system, and are inspection instructions readily available and utilized by personnel? Record QA/QC Manual Number and Date Approved.

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1. Does the supplier inspect or verify that subcontracted marking and marking inspection processes are audited, documented and approved for use per contract requirements?

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1. Do the supplier’s procedures state marking and marking inspection frequencies, methods and accept/reject criteria, and are they clearly documented and understood by personnel?

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1. Review and identify a sample of markings and marking inspections being performed by supplier personnel in accordance with procedures, and record number of samples and the result of the review.

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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 work instructions, drawings/specifications, etc. readily available to personnel during marking and marking inspection, are they of the correct revisions for their intended function/purpose, and are they being used where applicable?

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1. Do inspection records clearly identify the results of marking inspections performed and include traceability back to the procedure, lot/heat numbers, instruments used, personnel who performed each marking and marking inspection and the finished product inspected?

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1. Does a procedure exist for the re-marking of any product requiring re-marking or re-identifying with a unique traceability number/code, as a result of a process performed that altered the material’s original properties?

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1. Are records documented satisfactorily? In ink utilizing "line thru", initial and date procedures for corrections?

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1. Is material/product, which has been through the marking and marking inspection process, positively controlled, traceable, and have the inspections/tests performed been documented to provide a positive indication of the inspection status of the material (e.g. individual inspected, operation sign-off, inspection stamped/initialed/signed accepted or rejected)?

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1. Verify the method of marking and marking inspection is correct for all material/product as per MIL-STD-792 (metallic materials only), MIL-DTL-1222, and/or any other contractual marking requirements. Record results.

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1. Verify all markings are visible, legible, permanent, complete, correct, and at the proper location after all machining, fabrication and assembly operations have been completed. For items where the marking **is not visible after assembly**, verify that a durable tag is **securely attached to the item** identifying the part number, piece number, traceability number, and the location of the permanent marking. **NOTE:** When a part is required to be physically marked (with a trace code and/or other info) and it has been discovered that it will not or cannot be marked (**this is different than the part being marked and then the marking not being visible after assembly**), tagging is not always an automatic or allowable substitute. If tagging is not specifically authorized in the contract this must be coordinated with the buying activity. (e.g. Contracts may allow tagging for items with precision machined or plated surfaces, or for parts with suitable marking surfaces less than 3/8 inches square.)

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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, and does the product match the documentation?

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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? **Describe.**

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1. Is there supplier data available for analysis that can substantiate the effectiveness or ineffectiveness of the marking and marking inspection processes? ***If available, what data was reviewed, and what does the data indicate?***

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1. Are precautions in place to prevent damage and/or **contamination** to product during and in between marking and marking inspection processes?

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**E.** **ENVIRONMENT**:

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)?***

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1. Does the supplier observe ESD practices, if applicable?

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1. Is safety equipment available and in use, if needed? ***What are the safety requirements for this process?***

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1. For products going through a required cleaning process, are the products properly segregated and bagged in an area clean of dirt and debris, as per procedures?

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**F. PRODUCT EXAMINATION:**

***The QAR must perform a product examination in order to verify the output of the process being reviewed and document the results below.***

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| Date(s) Conducted: |  |
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| Product Examination Performed By: |  |
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| Contract Number(s): |  |
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| Part Number(s)/Serial number(s): |  |
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| Part Nomenclature(s): |  |
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| Supplier Personnel Contacted and Titles: |  |
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| Drawing Number & Revision: |  |
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| Lot Size and Sample Size: |  |

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| Characteristics Examined: | # Observations |
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1. Identify the inspection methods (W, I, T, V) used to verify conformance with procedures and standards:

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| **W** |  |  | **I** |  |  | **T** |  |  | **V** |  |

**PE Comments/Concerns**

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| **Overall MPR 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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