DCMA NSEO MANUFACTURING PROCESS REVIEW (MPR) CHECKLIST #06

MATERIAL CONTROL (INCLUDING LEVEL 1/SUBSAFE)

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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:**

* Material Control is the foundation for the Level I program.
* Organizations are not passing down material control requirements to subcontractors.
* Pass down information to subcontractors incomplete. (e.g. P.O.s state only “Level I Applies”)
* Organizations are not verifying that traceability marking on product matches the traceability number on the certifications at receipt.
* Verify the organization has developed procedures which address the material control requirements.
* Review the organization’s purchase orders for proper flow down of material control requirements.
* Verify receipt inspection is verifying the traceability number on the material matches the traceability number on the certifications.
* Verify the material is properly stored and segregated from non-Level or uncontrolled material.
* Verify material maintains its traceability throughout the manufacturing process.
* Verify material is re-tested, re-certified, and re-identified after it has been subjected to a process which has altered its chemical or mechanical properties.

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

1. Are the personnel involved with the material control process of the appropriate skill/experience level and/or properly trained/certified to produce conforming product and maintain material control? Personnel may include manufacturing, engineering, purchasing, testing and quality assurance. ***What are the requirements?***

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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. Is traceability maintained from the material to the material certification test report and other required Objective Quality Evidence (OQE)? (NAV06-1)

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1. Are material traceability codes permanently applied to the material and annotated on test reports? (NAV06-3)

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1. Brazing and welding filler materials are not permanently marked. Therefore, are filler materials controlled up to the point of consumption? (NAV06-5)

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1. Is traceability maintained through all process operations, including any subcontracted operations, to the finished components? (NAV06-6)

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1. Does the contractor perform receipt inspection on vendor supplied materials? What records are available? (NAV06-10)

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* 1. Are all metallic materials 100% inspected for traceability markings and verification that the markings are legible? (NAV06-10A)

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* 1. Does the supplier perform any alloy identity testing or more sophisticated testing such as semi-quantitative analysis? (NAV06-10B)

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* 1. Does the supplier review certification test reports to ensure they are legible and complete? (NAV06-10C)

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* 1. Does the supplier verify the contents of certification test reports against the appropriate specification requirements? (NAV06-10D)

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* 1. Is material inspected in accordance with a specified sampling plan(s)? (NAV06-10E)

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* 1. Does the manufacturer elect to use Statistical Process Control (SPC) to assure product quality in lieu of the above attribute sampling plan? (NAV06-10F)

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* 1. Does the supplier review material certifications to verify compliance to DFARS 252.225-7008 & 7009 (Restriction on Acquisition of Specialty Metals/ Certain Articles Containing Specialty Metals) per the purchase order if applicable? (NAV06-10G)

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* 1. Does the supplier 100% inspect all data concerning material verification (chemical and mechanical properties), traceability (material certifications to material marking) and Non-Destructive Test (NDT) certification, and verify the material meets requirements? (NAV06-10H)

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* 1. Does the material certification data forwarded by the manufacturer contain a signed certification from an authorized representative? (NAV06-10I)

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1. Are all the raw materials, designated Level 1 or requiring certification, marked with a unique traceability number? (NAV06-11)

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* 1. Are the stored raw materials, requiring traceability, segregated to preclude intermingling with materials not requiring traceability? (NAV06-11A)

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* 1. Does the supplier segregate raw materials of different alloys and material conditions to prevent intermingling? (NAV06-11B)

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* 1. Are traceability markings properly maintained when they need to be removed by a manufacturing or fabrication process? (NAV06-11C)

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* 1. Does the supplier’s material control process include requirements for traceability of subcontracted operations? (NAV06-11D)

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* 1. If subcontracted operations would remove traceability markings, do the prime contractor’s purchase or work orders specify a method and marking location for remarking? (NAV06-11E)

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1. Are periodic inspections performed to assure compliance to work instructions for handling and storage? (NAV06-15)

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1. Are materials with shelf lives or that are age sensitive and/or environmentally sensitive identified and controlled? (NAV06-16)

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1. Does the contractor properly re-identify and re-certify material when the material is subjected to a process which alters its properties? (NAV06-17)

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1. Does the contractor’s material identification system require items that have lost traceability markings be controlled as nonconforming? (NAV06-21)

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**C. MACHINERY**:

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. Is **inspection and testing equipment** of the required adequacy, accuracy, range, and precision 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. Does equipment (to include fixtures, jigs, and software [ATE]), requiring qualification or certification approval, have contractual approval for use? *For software, was the correct software in use? What program(s) and revision level(s)/date(s) was in use?*

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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 contractor have written procedures that implement material control requirements?*If applicable, list the Reference Approval Number.* (NAV06-2)

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1. When heat traceability is not possible due to manufacturing processes (e.g. continuous pour operations), is lot traceability provided as defined in the applicable material specification and, when applicable, as further defined in the contract/purchase order? (NAV06-4)

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1. Do purchase orders for raw material specify that the material be traceable to material certification test reports? (NAV06-7)

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1. Do purchase orders require original mill testing lab certifications to be submitted with material? List the purchase orders reviewed. (NAV06-8)

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1. Are certification data requirements, invoked on the prime contractor, also invoked upon all subcontractors supplying Level 1 material? (NAV06-9)

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1. Is the inspection status of all material in process readily determinable at all times during storage and processing? (NAV06-12)

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1. Does the supplier’s material control system account for the number of pieces manufactured, tested, scrapped and rejected? (NAV06-13)

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1. Are work instructions for material handling and storage available and in use to assure adequate protection of the product to prevent loss, damage, deterioration, degradation and substitution? (NAV06-14)

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1. Does the contractor have a procedure for maintaining traceability markings for items that are too small to be permanently marked? Is it being followed? Identify the document.(NAV06-19/19A)

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1. Traceability markings shall be maintained through assembly and, whenever possible, shall be visible after assembly. For items where the marking is not visible after assembly, does the contractor have a procedure, such as, securing a permanent and/or durable tag to the item or use of an assembly record identifying the part number, piece number, traceability number and the location of the permanent marking? Identify the document. (NAV06-20) **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. When traceability markings are lost, is a procedure in place to re-establish material control, including obtaining a waiver from the procuring activity or its technical engineering agent? Identify the document. (NAV06-22)

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1. Does the organization have procedures for assessing the capability of their subcontractors to produce the products in accordance with the contract prior to issuance of any P. O.s? What assessment documentation is available?

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1. Are changes to methods (instructions) controlled and distributed adequately and timely to affected personnel?

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1. Is there supplier data available for analysis that can substantiate the effectiveness or ineffectiveness of this process? If available, what does the data indicate?

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1. Where contract marking and traceability requirements are more stringent (e.g. Level I) than applicable drawings and/or specifications, are these requirements satisfied? (NAV06-18)

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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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**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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