DCMA NSEO MANUFACTURING PROCESS SURVEILLANCE (MPS) CHECKLIST #14

TORQUE

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| |  |  | | --- | --- | | **SUPPLIER & CAGE:** |  | |  |  | | **LOCATION:** |  | |  |  |   **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:**

* Does the supplier have an effective system in place to ensure proper calibration of torque tools?
* Does the supplier have procedures defining the proper use of the torque tools?
* Do the supplier’s procedures define the proper use of extensions?
* Are supplier personnel following proper techniques for applying torque to multiple bolts/nuts, (i.e. a star pattern)
* Verify the supplier is flowing down all requirements. (Passing down contractually invoked drawings and specifications to any subcontractors involved in assembly with torque requirements)
* Verify the torque tool is calibrated and the correct range for the required job.
* If supplier personnel are using an extension, verify computations have been made to adjust the torque value, and that the computation is in accordance with accepted practice.
* Verify any required torque pattern is being followed to prevent damage to mating surfaces.
* If the torque tool is the dial indicator type, verify that the reading is taken correctly. (i.e. is the operator at an angle that would produce an inaccurate reading?)
* Have all documentation requirements been complied with?

**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 torque requirements identified in purchase order, procurement specification, drawing or other document? |  |  |  |
| 1. Is a procedure/work instruction readily available for torque requirements? Record torque procedure/work instruction number and appropriate approval. |  |  |  |
| 1. Are the personnel performing the Torque and quality assurance functions of the appropriate skill/experience level and/or properly trained/certified to produce conforming product? What are the requirements? |  |  |  |
| 1. Are operators performing the torque operation properly and in accordance with procedure/work instructions? |  |  |  |
| 1. Are the tools/instruments being utilized for torque operations calibrated, correct range for task, properly maintained and stored, and controlled for issue? |  |  |  |
| 1. Are torque results documented and traceable to components, materials, areas, personnel, etc.? |  |  |  |
| 1. Are items requiring torque properly marked, sealed, and/or lockwired, etc. when required by specifications, after proper values have been obtained? |  |  |  |
| 1. Are torque records retained as required by specifications or procurement documents? |  |  |  |
| 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)?*** |  |  |  |
| 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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