



QUALITY ALERT

June , 2, 2018

- Attention:** **Huntington Ingalls Incorporated, Newport News Shipbuilding (NNS) Supply Base**
- Subject:** Non-Conforming Material, Seamless Inconel (A600) Pipe made to ASTM B167 N06600 Upgraded to MIL-F-23508E
- Purpose** NNS recently identified a concern related to Suppliers that upgrade material from commercial to military specifications.
- Background** It is common practice for Navy Suppliers to purchase raw material which meet commercial specification and later upgrade the material to the requirements of a military specification (mil spec). In order for the material to be fully compliant to the mil spec referenced in the purchase order, a review of all material test reports must be accomplished. The original mill test reports must be compared to the additional laboratory test reports used for the upgrade. Suppliers must ensure the material meets all NNS Purchase Order requirements.
- NNS received notification from Electric Boat, our teaming partner, of a request to approve low carbon content in NICKFE (INCONEL 600) material used to make elbows. After investigation into the application in which the elbows were to be used, the request was denied. Further analysis indicated a breakdown in the Suppliers' review of test report certifications, inconsistencies in the test methods utilized by the independent laboratory, and a lack of record retention in order to validate the test results.
- Analysis** The first issue concerns the incomplete review of the mill test report by the Supplier. The material test reports provided by the original mill report were in compliance to the commercial specification (ASTM-B167) but did not meet the carbon content to qualify for MIL-F-23508 Rev E. Despite the low carbon, the material was sent to an independent laboratory (lab) for upgrade testing. The independent lab test report indicated higher carbon content than the original test report. The values indicated by the lab stated that the carbon content was compliant with MIL-F-23508 Rev E. The Supplier made the determination that the material was acceptable based solely on the chemical test report provided by the independent lab without comparison to the original mill report.
- The Suppliers process demonstrated a lack of procedural compliance:
- 1) The supplier did not perform a proper review of the original mill test report. The material should not have been sent to the independent lab for upgrade testing due to an already indicated low carbon content condition as required by MIL-F-23508 Rev E. The Supplier did not compare the independent laboratory report to the original mill report, so the difference in carbon content went undetected.

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Analysis

The second issue concerns a failure in the independent lab's practices. Two different test methods resulted in different test results, only one of which was reported. The first chemical test utilized the Atomic Emission Spectroscopy (AES) method for carbon and sulfur analysis. The test results indicated that the carbon content was not compliant with MIL-F-23508 Rev E. The second test, performed by the same lab using the preferred Combustion method, yielded carbon content that was compliant. Sample specimens and supporting data had not been retained so reverification of the test results was not possible.

The Supplier has the ultimate responsibility for upgrading material from commercial specifications to military specifications. All requirements, such as the specification, attributes included in the test reports (i.e. test methods, equipment used and calibration dates), retention periods for records, and physical samples identified in the Supplier's purchase order must be flowed down to the laboratory performing material testing. The Supplier should also have a process to vet the test laboratories and sub-tier suppliers.

This Quality Alert is being provided to all NNS Suppliers. No response is required.

Disclaimer:

Any action taken as a result of this letter is not to be interpreted as a basis for a contractual commitment binding upon NNS, nor should it be used as a basis for any change in price, delay in delivery, or any other modification of NNS purchase order requirements.

Point of Contact

If you have any questions or concerns with regards to this Alert, please contact Marian Morrow, NNS Supplier Quality, email LettersofAdvisement@hii-nns.com or phone 757-688-0208.

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