



**Triumph Fabrications -
Orangeburg**
A Triumph Group Company

Audit Report

2013-EA-03-Element

- Internal Audit
- NQA-1 Audit
- Process Audit
- Re-Certification Audit
- Supplier Audit

Audit Date

December 16-17, 2013

Report Date:

December 19, 2013



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Audit Information

Auditing Organization: Triumph Fabrications - Orangeburg

Audit Date(s): December 16 - 17, 2013

Audit Number: 2013-EA-03-Element

Audited: Element Materials Technology Charlotte
1200 Westinghouse Blvd. Suite A
Charlotte, NC 28273
Phone: (704) 705-1775
Fax: (704) 989-2933
Supplier Code: 5008

Scope of Products/Services: NDE Services

Requirements: 10 CFR 50 Appendix B
ASME NQA-1-2008 (2009 addenda)
10 CFR Part 21

Audit Personnel: Silvia Flores, Lead Auditor
Lionel Ferguson, Lead Auditor in Training

Personnel Contacted: Arvind Keskar, Quality Manager
Charles Beasley, Mechanical Technician
Ron Laurita, Process Planning Engineer

Approval Status: Approved



I. Audit Purpose

This audit was performed to evaluate the implementation and effectiveness of the quality assurance program for Element Materials Technology in Charlotte, North Carolina. This is a supplier re-evaluation by Triumph Fabrications - Orangeburg.

II. Scope

The scope of this audit is for NDE services provided from the facility located in Charlotte, NC.

III. Summary

The audit resulted in zero (0) nonconformance' and 18 observations. A summary of the observations reviewed are as follows:

- **Organization**

The quality assurance organization is defined within the organizational structure and lead by the Quality Manager. The QA Manager reports directly to the General Manager and has independence and authority to make decisions regarding quality issues.

The Quality organization is responsible for inspection and testing responsibilities of materials during receiving, during any processes, and prior to shipment to ensure all requirements have been met. This is a distinct and independent quality function that is responsible for identifying quality problems and has the authority to implement solutions.

- **Quality System**

Element Materials Technology has a well-established, mature, quality assurance program that is compliant with ASME NQA-1-08 (09a) as well as ASME Section III for a materials organization. The quality assurance program has been audited multiple times by utilities (NUPIC) and other nuclear customers. The Quality Assurance Manual makes reference to supporting procedures, forms, and reference documents that are used to implement the system.

Inspectors are trained and qualified to perform activities regarding verification of materials to specifications. This includes verification of dimensions, material physical and chemical characteristics, and any other requirements as determined by their job function. There is a system for ensuring employees are trained and qualified to perform activities affecting quality.

A documented program for periodic review of the program for implementation and effectiveness is implemented by management.



- ***Design***

Design is not applicable to this supplier.

- ***Procurement Document Control***

Purchase orders are issued for the materials from ASME certified suppliers or evaluated by Element Materials Technology Charlotte. Purchase orders include technical requirements, quality assurance requirements, reporting of nonconformances, documentation, and other relevant information related to the orders. Purchase orders are reviewed and approved by the sales organization or purchaser.

- ***Instructions, Procedures, and Drawings***

Work instructions are provided on how to perform activities affecting quality. These instructions include procedures and drawings that designate inspections/tests to be performed. Employees are provided sufficient details of procedures and acceptance criteria.

- ***Document Control***

The quality assurance manual, procedures, and other documents such as the approved vendors list was reviewed and found to be current at the distributed locations.

The document control system is primarily electronically available at the point of use that provides the most current documents to employees. All paper copy issue of the document control system is in the possession of the Quality Manager. These procedures are available within the facility electronically and show evidence of approval by the authority designated in the quality assurance manual. Employees are notified of changes in documents and training is provided if needed.

- ***Control of Purchased Material, Equipment, and Services***

Element Materials Technology Charlotte works primarily in rendering NDE services to customers. There is extensive listing of suppliers for both nuclear safety-related and commercial suppliers. All suppliers of materials related to NDE services were reviewed evaluated by on-site audit or documented survey.

Acceptance of items is by receipt inspection.

- ***Identification and Traceability***

Items are identifiable and traceable from the time of receipt through delivery to the customer. This is done by use of a tracking number based upon the customer's order number and includes traceability to all materials and processes.

- ***Control of Special Processes***

This supplier does not perform any activities that are considered "special process" by NQA-1 at this facility.



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- ***Inspection***

Typical inspections (and testing) performed includes dimensional requirements along with physical and chemical characteristics of the product.

Inspections are planned and performed according to customer requirements and written procedures. Procedures include equipment to be used, environmental conditions, inspector qualifications, and other appropriate information. Acceptance criteria are provided to the inspector and quality records are kept of product acceptability.

- ***Testing***

Test may be performed and include the same controls as Inspection (see above).

- ***Control of Measuring and Test Equipment***

Calibrations are performed by outside calibration laboratories. These sources are audited by Element Materials Technology Charlotte but also have accreditation by A2LA.

Equipment reviewed was suitable to the inspections and tests being performed. Equipment used to verify product compliance with specifications is included in the calibration program. This ensures that equipment is periodically calibrated at defined intervals and is capable of providing adequate measurements. Procedures meet requirements for investigation of incidents where suspect readings were possible; however there were not any applicable situations for review.

- ***Handling, Shipping, and Storage***

The supplier has appropriate procedures in place to ensure that product is not subjected to conditions that would degrade product quality. Items are metals that are not considered be susceptible to damage by exposure to temperatures, vibration, or other hazards. Items are protected from damaging environmental conditions by the use of storage facilities upon receipt.

- ***Inspection, Test, and Operating Status***

Each project is initiated with a Work Order number. This contains all information related to the job and the status of the work. Records include inspections, tests, and other processes that are signed and dated by the operator to show completion.

- ***Control of Nonconforming Items***

Purchase Orders and Items are inspected upon receipt for content and shipping damage then placed into a staging area for addition testing and inspection. Items are tagged and placed into a secured area for nonconforming items upon discovery.

There were no 10 CFR Part 21 reportable events. A program is implemented with suitable training of employees and posting of documents in the office area.



- ***Corrective Action***

The quality assurance manager or other management may issue corrective actions when nonconforming conditions are identified. There is a documented corrective action system that addresses the requirements of the standard including the identification of the cause of deficiencies and the actions to be taken, including verification.

- ***Control of Records***

Element Materials Technology Charlotte delivers a documentation package with each delivery. This documentation contains inspection/test records, certifications, C of C's, and any other data relevant to showing product conformance. These are usually considered the lifetime records.

Records that are used to verify the performance of the quality system, such as those for training, corrective action, management reviews, etc. were also included and being adequately maintained according to procedures for no less than seven (7) years or as required by the customer or other regulatory requirements. Paper copies are being maintained with electronic, scanned copies also available.

- ***Quality Audits***

Internal audits are being performed on an annual basis. This is done primarily by an auditor who has no other functions within the area being audited. Another auditor performs the audit of Section 18.

IV. Nonconformance

No nonconformance's identified during the audit.

V. Review of Previous Audit Findings

Previous audits of this supplier had no nonconformances.

VI. Strengths

Dimension requirements and other critical aspects are checked for each order. Quality control is extensive and effective in ensuring items meet customer requirements.

VII. Areas of Concern

Identification of items used for the testing and inspection of the services provided was found to be lenient in some areas as opposed to others.

VIII. Audit Approach

The investigation was conducted using the NUPIC checklist. This checklist was reviewed and contains the 18 Criteria of NQA-1, as applicable. The audit was conducted using performance-based auditing techniques whenever possible to verify effective implementation of the quality system requirements and control.



IX. Conclusions

These results were observed on a sample basis and should not be considered all-inclusive. Purchase order(s) P000003063 and P000004226 issued for procurement of services were used to review Element Materials Technology Charlotte quality system. Samples of procedures and records were found to be in compliance with the quality program as established by policies and procedures. Approval does not waive or delete any requirements imposed by product drawings or applicable specifications, nor does it guarantee acceptance of product. The results of the survey were discussed with the personnel of Energy & Process Corporation at the conclusion of the survey.

The overall quality assurance program was implemented and effective for the areas reviewed.

X. General Information

Element Materials Technology was founded in 1911 by James Herron in Cleveland, OH as The James H. Herron Co. Herron Testing Laboratories, Charlotte was open in 1986 by John Herron. Stork purchased Herron in 1997 and changed their name to Stork-Herron Testing Laboratories which later was changed to Element Materials Technology in 2011. Element Materials Technology located in Charlotte, NC is a laboratory focused on metals. 30,000 square foot facility. Element Materials Technology employs 53, with 13 in administration, two (2) in quality, three (3) engineers, and 35 in manufacturing. Element Materials Technology provides services to wide range of industries, 40% Aerospace, 25% Power Gen., 25% Material Supply, and 10% Misc.

Element Materials Technology provides services such as Tensile, Hardness, Charpy Impact, Proof Load and Torsional Strength Testing, Chemical and Metallurgical Analysis, NDT Testing, Creep and Stress Rupture, Heat Treating, Machining, and Failure Analysis. The most recent addition to their testing capabilities involves Scanning Electron Microscope (SEM) with full color and photo capabilities. They offer quick turnaround, high-quality products and reliable service.

XI. Acknowledgement

The audit team appreciated the cooperation of all Element Materials Technology Charlotte personnel who participated in this audit. The personnel interviewed during this audit responded in a professional manner that demonstrated a commitment to the Element Materials Technology Charlotte quality program.

Approved by:

Silvia Flores, Lead Auditor

Date: 19 December 2013