

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 99900329/79-01

Program No. 51400

Company: Gould-Brown Boveri
Switchgear Operations
Norristown Road
Springhouse, Pennsylvania 19477

Inspection at: Tulsa, Oklahoma

Inspection Conducted: June 4-6, 1979

Inspectors: J. Barnes 7/23/79
for J. R. Agee, Contractor Inspector Date
Components Section II
Vendor Inspection Branch

V. H. Hunter 7/23/79
for V. H. Hunter, Contractor Inspector Date
Components Section I
Vendor Inspection Branch

Approved by: J. Barnes 7/23/79
for D. M. Hunnicutt, Chief Date
Components Section II
Vendor Inspection Branch

Summary

Inspection conducted June 4-6, 1979 (99900329/79-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B criteria including: quality assurance program; audits; inspection; receiving inspection; and control of measuring and test equipment. The inspection involved forty (40) inspection-hours on site by two (2) NRC inspectors.

Results: In the five (5) areas inspected, no unresolved items were identified and no deviations were identified in two (2) areas. The following deviations were identified in the remaining areas.

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Deviations

Audits - (1) QA manager conducted audits in areas for which he has organizational responsibility (See Notice of Deviation, Item A); - (2) Audit files did not indicate that internal audits had been conducted in conjunction with all customer or outside audits that were conducted (See Notice of Deviation, Item B);
Receiving Inspection - defects described on Inspection Report form were not recorded on the quality control record card (See Notice of Deviation, Item C);
Control of Measuring and Test Equipment - Calibration record and repair cards had not been compiled for 5KV and 15KV test fixtures (See Notice of Deviation, Item D).

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Details Section

(Prepared by J. R. Agee and V. H. Hunter)

A. Persons Contacted

- *H. L. Arnold, Engineering Manager
- R. W. Callin, Inspector Leadman
- *W. A. Donaldson, Manager of Operations
- *D. R. Purkey, Quality Assurance Manager
- *E. W. Rhoads, Quality Assurance Manager,
Fort Washington, Pennsylvania
- W. A. Smith, Material Control Supervisor

*Attended the exit interviews.

B. Initial Management Meeting

An initial management meeting was conducted to acquaint the Tulsa Plant management with the NRC responsibility to protect the health and safety of the public and to inform them of certain responsibilities imposed on vendors by the "Energy Reorganization Act of 1974" (Public Law 93-438) and 10 CFR Part 21.

1. Objectives

The objectives of the Initial Management Meeting were to:

- a. Meet with the Tulsa Plant management personnel and establish channels of communication.
- b. Acquaint them with their responsibilities under Section 206 of Public Law 93-438.
- c. Learn how the plant operates and its policies and practices concerning quality assurance and quality control relative to those of the corporate organization.
- d. Obtain information related to the plant's contribution of switchgear products to the nuclear industry.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Explaining the inspection base and how inspections are conducted.

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- b. Describing how inspection results are documented including the vendor's opportunity to review the report for the purpose of identifying items considered to be proprietary.
- c. Describing the vendor's responsibility in responding to identified enforcement items relating to:
 - (1) Correction of the identified deviation.
 - (2) Action to be implemented to prevent recurrence.
 - (3) The date(s) when corrective action(s) for both (1) and (2) above will be implemented or completed.
- d. Explaining that all reports and communications are placed in the Public Document Room (PDR).
- e. Explaining the publication and function of the "White Book."
- f. Requesting management to explain its policies and practices concerning quality assurance and its organizational structures.
- g. Requesting a brief summary of the plant's operation, its contribution to the nuclear industry and management's involvement to assure adequate quality assurance for nuclear products.

3. Results

Management explained the plant manufactures switchgear products for standard commercial applications and for both Class IE and non Class IE applications in nuclear power generating stations.

C. Quality Assurance Program

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Plant quality practices were implemented in compliance with the corporate QA Manual.
- b. Procedures pertinent to the Tulsa Plant had been implemented.
- c. The QA organization is structured to have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend or provide solutions; and to verify implementation of solutions.

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- d. A training and indoctrination program had been implemented to improve and maintain the proficiency of:
 - (1) Personnel performing quality activities
 - (2) Personnel who verify that quality activities have been correctly performed.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Discussions with corporate and plant quality assurance managers concerning the QA manual and the corporate QA program as implemented in the Tulsa Plant.
- b. Review of QA Manual, Section 3.1, Organization, concerning qualifications of personnel whose responsibilities affect quality. This revealed the Tulsa Plant manpower level is maintained at a minimum. This affects the workload of several people whose responsibilities appear to cover more than one (1) discipline: example, the Plant QA Manager.
- c. Review of the QA Manual, Section 3.2.2, Training, which stated that quality assurance training seminars for exempt personnel are held periodically. This could not be verified since training records for exempt personnel are maintained at the Gould, Fort Washington, Pennsylvania, site. Those training records will be inspected at the Fort Washington site in a subsequent inspection.
- d. Review of QA department files for evidence of training for inspector personnel. This review revealed there is no committed schedule for training purposes; however, training sessions are held on an infrequent, as-need-to basis for specific functions: example, on May 9, 1978, a session was held for inspection personnel on working procedures QAPs 9.8, 10.2, 11.1, and 11.2 concerning control of special processes, product inspections, switchgear production tests, and bus duct inspection, respectively.

3. Findings

Within this area of the inspection, no deviations or unresolved items were identified.

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D. Audits

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Management audits are conducted on a regular basis.
- b. Audit training is provided.
- c. Audits are performed by trained personnel having no direct responsibility in the area audited.
- d. Records of quality training are maintained.
- e. Records of internal audits are maintained.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of audit files which revealed the Tulsa Plant did not institute the management audit program until 1978. Since then one (1) management audit was conducted on August 16-18, 1978.
- b. Review of the plant internal and customer audit records.
- c. Discussions with the plant QA Manager regarding the plant auditor training program and the identity of plant qualified auditors, which revealed the QA Manager is currently the only active qualified auditor. The engineering manager who was previously identified as a qualified auditor has not performed audit activities, such as management audits.
- d. Discussions with QA management concerning training of personnel whose activities affect quality. This revealed that operator personnel receive on the job training but are not allowed to progress to higher rated classifications without evidence of satisfactory performance.
- e. Review of Coordinating Agency for Supplier Evaluation (CASE) audit report of the Tulsa Plant's QA program in which the CASE auditors inspected to the eighteen (18) criteria of 10 CFR 50 Appendix B, by prepared checklist, and identified four (4) findings. Those findings were subsequently satisfied. CASE issued a letter January 1, 1979, approving the Tulsa Plant as a supplier of electrical equipment under the CASE program.

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3. Findingsa. Deviations

(1) See Notice of Deviation, Item A.

(2) See Notice of Deviation, Item B.

b. Unresolved Items

None

E. Inspection1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Controlled and documented inspection programs are maintained to assure quality conformance.
- b. Responsibilities for implementation of the inspection are clearly defined and that inspections are conducted by personnel independent of activities being performed.
- c. Inspection points are identified for each activity and records are maintained for inspections made.
- d. Inspection and test procedures are maintained in the area where inspections are conducted.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Discussions with manufacturing and inspection personnel regarding their respective inspection practices.
- b. Review of the following quality assurance procedures:
 - (1) 10.1 Inspection Policy and Requirement, dated April 25, 1978.
 - (2) 10.2 Product Inspections, dated May 26, 1978.
 - (3) 11.1 Production Tests-Switchgear, dated June 16, 1978.
 - (4) 14.1 Indication of Inspection status, dated June 23, 1978.

(5) 15.1 Nonconforming Materials, dated May 26, 1978.

c. Inspection of manufacturing and inspection practices from the first hold point and inspection station to final assembly, test and checkout. Some examples of inspection include the following:

- (1) Each tensile testing machine was calibrated before each operation. Records indicated each weld sample had been completed within required tolerance and pressure setting for the respective material per QAP 10.6-T.
- (2) Nonconforming materials were segregated for rework or scrap.
- (3) Metal tags were placed on production items.
- (4) Mechanical and electrical instruments throughout manufacturing process were within required calibration cycle.
- (5) Electrical assembly drawings for two (2) separate projects, under assembly and checkout, were compared with drawing revisions on the bills-of-material and the original tracings in the print control room. Each drawing in use was of the correct revision.
- (6) Production testing in progress (of a non class IE project) was being completed in compliance with QAP 11.1 production tests-switchgear.

3. Findings

Within this area of the inspection, no deviations or unresolved items were identified.

F. Receiving Inspection

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Procedures had been implemented to assure that materials received conform to the ordered materials requirements.
- b. Materials received are inspected in compliance with an approved and implemented inspection program.

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2. Method of Accomplishment

The pending objectives were accomplished by:

- a. Review of QAPs 7.1 Receiving Inspection - Resale Items dated June 16, 1978, and 7.2 Receiving Inspection - Raw Materials dated April 25, 1978.
- b. Review of inspection practices and records at the receiving inspection area.

3. Findingsa. Deviations

See Notice of Deviations, Item C.

b. Unresolved Items

None

c. Comments

QAP 7.1-T and 7.2 were not at the receiving inspection station for reference and use by personnel involved.

G. Control of Measuring and Test Equipment1. Objectives

The objectives of this area of the inspection were to verify that:

- a. A system has been established and is maintained to assure that tools, gages, instruments and other measuring devices used in activities affecting quality are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within specified limits.
- b. Calibration records are kept for each instrument and that these records include the following information:
 - (1) Purchase date and calibration history.
 - (2) Accuracy required and calibration results.
 - (3) Location for use.

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- (4) Present calibration interval and date due.
- (5) All maintenance and repair details.
- (6) Persons or agency performing all calibration.
- (7) Serial number or identification of each standard used to perform the calibration.
- (8) Number or name of the calibration procedure.
- (9) Environmental conditions used during calibration.
- (10) Equipment recall schedules.
- (11) Disposition of obsolete, unrepairable and unusable test equipment.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the QA Manual, Section 3.12, Control of Measuring and Test Equipment.
- b. Review and inspection of the calibration record cards and system for control of both mechanical and electrical test equipment.

3. Findings

a. Deviations

See Notice of Deviations, Item D.

b. Unresolved Items

None

c. Comments

None of approximately forty (40) calibration cards reviewed contained all of the history, frequency, calibration, etc., data purported to be maintained on the cards by the QA Manual and QA Procedures.

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H. Exit Interview

At the conclusion of the inspection the inspectors met with members of management, denoted by an asterisk (*) in paragraph A at the Tulsa Plant on June 6, 1979. In this meeting the inspectors discussed the scope of the inspection relating to the functions inspected, namely:

1. Initial Management Meeting
2. Quality Assurance Program, including training
3. Audits
4. Inspection
5. Receiving Inspection
6. Control of Measuring and Test Equipment

Details of adverse findings in the audits, receiving inspection, and control of measurement and test equipment sections were acknowledged by management.

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