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

Report No. 99900353/79-01 Program No. 51400

Company: Gould Incorporation
Industrial Battery Division
West Station Road
Kankakee, Illinois

Inspection at: Kankakee, Illinois

Inspection Conducted: February 5-8, 1979

Inspector: for D M Hunnicutt 3/7/79
J. R. Agee, Contractor Inspector, Vendor Inspection Branch Date

Approved by: D M Hunnicutt 3/7/79
D. M. Hunnicutt, Chief Components Section II, Vendor Inspection Branch Date

Summary

Inspection on February 5-8, 1979 (99900353/79-01)

Areas Inspected: Initial Management Meeting and implementation of Quality Assurance Program to 10 CFR 50, Appendix B, ANSI N45.2, and applicable codes and standards relative to the following: Quality Assurance Manual/Program; Audits, Customer Contracts; Design Control; and Measurements and Calibration. The inspection involved twenty-eight (28) inspector-hours on site by one (1) NRC inspector.

Results: In the five (5) areas inspected, one (1) deviation was identified in each of three (3) areas while one (1) unresolved item was identified in each of two (2) areas and are described as follows:

Deviations: Quality Assurance Manual/Program - Records do not exist describing the disposition of defect materials by the Material Review Board. (See Enclosure, Item A.)

Audits - Followup audits had not been conducted on certain audits nor had reaudits been made within the specified seven (7) day period to assure implementation of corrective action. (See Enclosure, Item B.)

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Measurements and Calibration - calibration resu had not been recorded on calibration data forms.

Unresolved Item: Audits - Division QA files concerning auditor training and qualifications were not available for verification (Details Section, paragraph D.3.b).

Design Control - Current generic batteries have not been fully qualification tested to meet criteria of current IEEE standards for Class 1E applications. Current test programs in progress will be inspected in a subsequent inspection.

Details Section

A. Persons Contacted

*J. Corn, Plant Manager
*G. E. Moon, Manager of Quality Assurance
*L. J. Smith, Division, Quality Assurance Manager
*T. C. Theesfeld, Manager of Manufacturing

*Attended the exit interview.

B. Initial Management Meeting

An initial management meeting was conducted to acquaint the vendor's 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 21.

1. Objectives

The objectives of the Initial Management Meeting were to:

a. Meet with the vendor's 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 company operates and its policies and practices concerning quality assurance and quality control.

d. Obtain information related to the company's contribution to the nuclear industry.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Describing the historical events that indicated the need for the Vendor Inspection Program (VIP).

b. Explaining the inspection base and how the inspections are conducted.

c. Describing how inspection results are documented and how proprietary items are handled, including the vendor's opportunity to review the report for the purpose of identifying items considered to be proprietary.

d. 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.

e. Explaining that all reports and communications are placed in the Public Document Room (PDR).

f. Explaining the publication and function of the "White Book".

g. Requesting the company's management to explain its policies and practices concerning quality assurance and its organizational structure.

h. Requesting a brief summary of the company's operation, its contribution to the nuclear industry and management's involvement to assure adequate quality assurance for nuclear products.

3. Findings

Management explained their organization manufactures industrial batteries with a small percentage of the production going to safety related systems for Class 1E applications in nuclear power generating stations. Historically the company has provided industrial batteries to approximately thirty-two (32) nuclear power stations.

C. Quality Assurance Manual/Program

1. Objectives

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

a. QA Manual addresses the appropriate QA criteria stated in 10 CFR 50, Appendix B.

b. The QA Program has been documented in writing and its implementation ensures completed products are manufactured in compliance with electrical code requirements and prescribed quality standards.

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.

d. Detailed written procedures are properly, reviewed, approved, released, and issued to control quality activities, as appropriate.

e. A training and indoctrination program has been implemented to improve or 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 the Division and Plant Quality Assurance Managers concerning the Quality Assurance Manual and the Division Quality Assurance Program as implemented in the Kankakee Plant. These discussions revealed the currently implemented QA Program described in the QA Manual has been in effect approximately eighteen (18) months.

b. Review of the Quality Assurance Manual which revealed the manual has not been thoroughly edited. Generally, the manual addresses the intent of the criteria of 10 CFR 50, Appendix B, but is tailored to the plant conventional manufacturing functions.

c. Review of the QA Manual section entitled, "Quality Assurance Organization Chart."

d. Review of the QA Manual, Quality Control Procedure Number 4, Revision 3, dated April 1, 1977, entitled "Materials Review Board."

e. Review of randomly selected procedures from the Factory Procedures and Engineering Specification Manual.

3. Findings

a. Deviations

See Enclosure, Item A.

b. Unresolved Item

None.

D. Audits

1. Objectives

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

a. Procedures or policy documents clearly identify organizations responsible for audits and define their responsibilities and authorities.

b. Measures have been established to assure that auditors are independent of any direct responsibility for performance of activities which they are auditing and that persons having direct responsibility for performance of the activities being audited are not involved in the selection of the audit team.

c. All auditing personnel, including technical specialists, are required to receive appropriate training or orientation to develop their competence for performing required audits.

d. Guidelines and requirements are established for audit scheduling and that they take into consideration the status and importance of the activities to be audited.

e. Sufficient instructions or guidance are available to the auditors in the form of checklists or procedures to perform the audits effectively and in accordance with the audit plan.

f. Deficiencies identified by the audits are closed out by appropriate corrective action and timely followup, including reaudit of deficient areas.

g. Audit records are collected, stored and maintained in accordance with applicable code and contract requirements.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual section entitled, "Quality Assurance Audit System." This section is not dated but represents the Division/Plant audit program.

b. Review of audit records which revealed that seven (7) management audits had been made of the Kankakee Plant by Division Audit teams since November 1974. These audit reports varied in thoroughness and completeness but fullfilled the annual audit commitments.

c. Review of the plant internal audit files.

d. Discussions with QA Management concerning plant auditor training, which revealed that the Kankakee Plant has one professional quality assurance employee. Internal audits are conducted by selected QA and Plant management personnel by use of a prepared checklist and form which requires followup action to audit findings.

e. Discussions with QA management concerning Division auditor training.

f. Review of internal audit records including internal audits that had been conducted on the following dates or periods: November 1974, 1975; April, May, June, and September 1976, 1977; and February 1978. These audits do not include daily inspection records of manufacturing functions which represent QA overview of product quality.

3. Findings

a. Deviations

See Enclosure, Item B.

b. Unresolved Items

Division QA files were not available at the Kankakee Plant. Determination of division auditor training and qualifications could not be verified. Applicable files will be reviewed at the Division Office facilities during a subsequent inspection.

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E. Customer Contracts

1. Objectives

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

a. Customer contracts (purchase orders) impose adequate technical and quality assurance requirements on the suppliers for equipment to be used in commercial nuclear power industry applications.

b. Technical Specifications require compliance to applicable codes and standards (specifically IEEE Standards for Class 1E equipment) of the proper revision and date for the nuclear facility in which the equipment will be installed.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the following contracts:

(1) Purchase Order No. 194757 dated April 19, 1976, containing Technical Specification F-2819/L-2819 for 125V storage batteries and racks, Class 1E. The specification required compliance to the latest applicable industrial standards in effect on the date of the contract including IEEE Standards -323, -344, and -450.

(2) Purchase Order No. 78K4-822384 dated November 2, 1977, containing Technical Specification 510-05-AB dated May 8, 1975 for 125V Batteries. Also, included was specification number 300-03-AB dated March 17, 1976, Seismic Qualification of Engineering Equipment. These specifications required compliance to the latest editions of IEEE Standards -308, -323, -336, -344, -450, and -484.

(3) Purchase Order No. C 91710 dated July 26, 1977, containing Technical Specification CNS-1356.01-00-0001 dated September 1, 1976, for 125VDC I&C Vital Power Batteries. This specification required compliance to IEEE Standards -323 (1971) and -450 (1975).

3. Findings

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

F. Design Control

1. Objectives

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

a. Products are designed, qualification tested and manufactured in compliance with established national electrial codes and standards.

b. Certified documentation is provided for all nuclear safety related products manufactured.

2. Methods of Accomplishment

The preceding objectives were accomplished by:

a. Discussions with Plant and Division Quality Assurance Managers concerning:

(1) design and qualification testing of Class 1E battery and

(2) manufacturing practices for Class 1E batteries.

b. Review of approximately twelve (12) drawings for manufacture of Class 1E batteries. These drawings represented approved design concepts originating from Division headquarters.

3. Findings

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

Comment

No battery systems designated as Class 1E that required compliance to the current edition of applicable 1E standards have been manufactured and shipped by the Gould Company to commercial nuclear power facilities. The battery systems that have been shipped and installed have been designed,

manufactured and tested to meet applicable codes and standards in effect at the date of the contract for manufacture of the batteries shipped. Some current contracts require compliance to the latest code revisions of the IEEE standards such as -323 (1974), -344 (1975), and -450 (1975). The Gould Company does not currently have Class 1E batteries fully qualified to the latest IEEE standards referenced above; however, the company has completed initial qualification test procedures to which batteries will be fully qualification tested and certified for use in Class 1E applications. This test program is in progress and is scheduled for completion before current contracts require shipment of Class 1E batteries fully qualification tested to the latest IEEE Standards. Test procedures describing the current qualification test program were not at the Kankakee Plant for review but will be reviewed by an NRC inspector at Division QA Offices during a subsequent inspection.

G. Measurements and Calibration

1. Ojbectives

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

a. A system has been establisned 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.

(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 unuseable test equipment.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual, Quality Control Procedure No. 7, Revision 3, entitled, "Equipment Calibration Procedure" dated April 1, 1977.

b. Verification of calibration status of approximately twelve (12) voltmeters and ammeters located in the calibration laboratory and manufacturing areas.

c. Inspection tour of the calibration and test laboratory and discussion with calibration technicians.

3. Findings

a. Deviations

See Enclosure, Item C.

b. Unresolved Items

None.

H. Exit Interview

The inspector meet with management representatives denoted in paragraph A at the conclusion of the inspection at the Kankakee Plant on February 8, 1979. The inspector summarized the scope of the inspection concerning the following areas:

1. Quality Assurance Manual/Program.

2. Audits.

3. Customer Contracts.

4. Design Control.

5. Measurements and Calibration.

Management acknowledged statements made by the inspector.