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

Report No. 99900271/79-01 Program No. 51400

Company: Rosemount, Incorporated
12001 West 78th Street
Eden Prairie, Minnesota 55344

Inspection Conducted: October 22-26, 1979

Inspectors: J. R. Agee 11/19/79
J. R. Agee, Contractor Inspector Date
Components Section II
Vendor Inspection Branch

Approved by D. M. Hunnicutt 11/19/79
D. M. Hunnicutt, Chief Date
Components Section II
Vendor Inspection Branch

Summary

Inspection on October 22-26, 1979 (99900271/79-01)

Areas Inspected: Implementation of 10 CFR 50 Appendix B criteria, and applicable codes and standards including: management meetings, action on previous inspection findings; document control; inspection and test; and measurement and calibration. The inspection involved thirty-three (33) inspector-hours on site by one (1) NRC inspector.

Results: In the five (5) areas inspected no deviations or unresolved items were identified.

DETAILS SECTION

A. Persons Contacted

*G. D. Anderson - Senior Quality Assurance Representative
R. L. Barnes - Lead Technician, Electrical Metrology Laboratory
*R. J. Blakely - Vice President, Industrial Instrumentation Operations
E. Coyer - Senior Module Production Supervisor
E. Frazier - Nuclear Production Supervisor
B. Haraway - Lead Person, Central Release
D. R. Matychuk - Supervisor Environmental & Test Metrology
*F. J. Oakley - Quality Assurance Director
*C. I. Oldegarde - Nuclear Operations Manager
*R. A. Ward - Senior Vice President, Operations Group

*Attended exit interview

B. Management Meeting

An initial management meeting was held with new senior management personnel to apprise them of the NRC organization, the functions of the NRC Region IV Vendor Inspection Branch (VIB), the company responsibilities and obligations prescribed by Public Law 93-438, reporting requirements of 10 CFR Part 21, publication of the White Book, and the VIB method of conducting contractor inspections including submittal of all documentation concerning inspections to the Public Document Room.

Management members described their roles in the Rosemount Company and their intent to comply with regulatory and codes and standard requirements imposed on them for supplying fully qualified instrumentation components for use in Class IE safety related applications in the commercial nuclear power industry.

C. Action On Previous Inspection Findings

1. (Deviation) Closed (Inspection Report 78-01): Reels of production silver coated temperature element wire were stored, intermingled with other reels of non-production wire in a staging area without proper identification. The inspector verified by inspection of the production area and review of the Rosemount Corrective Action Report No. 279 dated August 29, 1979, that temperature element wire stored in the production area was segregated from production wire and each was appropriately identified.

2. (Unresolved Item) Open (Inspection Report 78-01): In compliance with contractural commitments Rosemount completed the redesign of a line of Class 1E transmitters to meet IEEE 1974/1975 standards; however, during the qualification testing of the transmitters, pressure boundary o-ring and sealant materials used were unsatisfactory. Subsequent qualification tests involving the new o-rings and sealant materials will be conducted in late 1979. Final qualification data and reports for these tests will be issued in 1980.

D. Document Control

1. Objectives

The objectives of this area of the inspection were to verify that a system had been implemented for the issue, distribution, and change control of documents which relate to product quality.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual, Section 4.11 Quality Records, Section 4.12 Document Control and Quality Implementation Procedure (QIP) 56C, Record Maintenance, Revision B.

b. Inspection of the records storage areas including:

(1) Vendor Quality History and product inspection records. The product inspection records are microfilmed on a yearly basis and maintained in the Division QA Office permanent record files.

(2) Central Release files where drawings, procedures and reports are maintained, controlled and distributed as required. These permanent records are selectively microfilmed on a yearly basis and stored in the Disaster Files or the Penn Avenue files from which they are retrievable.

c. Obtaining several randomly selected technical reports and procedures from the Central Release and Disaster Files and verifying they were the latest revisions.

d. Verifying that the latest operature cards were identical to the latest revision of the original tracing.

3. Findings

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

E. Inspection and Test

1. Objectives

The objectives of this area of the inspection were to verify that approved procedures had been implemented for systematic inspection and test of Class 1E products throughout the production cycle.

a. Review of the QA Manual Sections:

(1) 4.5 Manufacturing Control

(2) 4.6 Final Inspection and Test

b. Review of Quality Implementation Procedures:

(1) QIP 22E In Process Inspection

(2) QIP 31E Final Inspection

(3) QIP 32E Functional Inspection

(4) QIP 46E Equipment Calibration

c. Inspection tour of the manufacturing area where in process activities of assembly, testing, inspection and calibration were observed during the production of Class 1E transmitters.

d. Verified production documentation was maintained throughout the manufacturing process in the form of individual travelers, lot travelers, route sheets, inspection records and inspection reports.

e. Verified by inspection that production calibration at the final production work station 1808 was conducted in compliance with the procedure, "Absolute Calibration Procedures for 1153AB Finals, Drawing No. 01153-3108."

3. Findings

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

F. Measurement and Calibration

1. 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.

(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.

2. Method of Accomplishment

The preceding objectives were accomplished by:

a. Review of the QA Manual, Section 4.9 Equipment Control.

b. Review of the QIP 46C, Equipment Calibration, Revision D.

c. Inspection of the electrical metrology laboratory including its standards equipment, calibration stations, secondary standards, instrument recall files, calibration schedules instrument calibration procedures, computer instrumentation data sheets.

d. Discussions with the metrology laboratory supervisor regarding operating practices in the laboratory.

e. Verifying that the instrument recall system has been implemented and that instruments are recalled and calibrated in compliance with the recall schedule.

f. Verifying, by inspecting the calibration labels on approximately twenty (20) instruments located throughout the manufacturing area, that each instrument has been calibrated and in the required calibration cycle.

3. Findings

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

Comments

The Rosemount calibration cards are issued to record data concerning calibrations made. Generally the data recorded on the cards states such as this, "Calibration O.K." or "Calibration O.K., replaced or repaired . . . ." Neither the QA Manual nor the QIP's commit to recording calibration data, such as the measured readings and required accuracies for each point verified on the calibrated instrument's scale or range; although the instrument calibration procedures prepared by Rosemount, based on the instrument manufacturers' recommendations, identify the required accuracies in calibration for each category of instruments. The Rosemount metrology laboratory practices violate no calibration commitments, however the calibration records, especially for instruments on a three (3) month calibration cycle, contain no data concerning the degree of accuracy of the calibrations or data reflecting trends in the accuracy of the instrument which may affect the quality of the end product.

G. Exit Interview

A meeting was held at the conclusion of the inspection with management representatives denoted by an asterisk (*) in paragraph A on October 26, 1979, at the Eden Prairie Plant. The inspector summarized the scope and findings of the inspection concerning:

(1) Management meeting

(2) Action on previous inspection findings

(3) Document control

(4) Inspection and test

(5) Measurement and calibration

Management acknowledged statements by the inspector.