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

Report No. 99900060/80-01

Company: Target Rock Corporation
1966 East Broadhollow Road
East Farmingdale, NY 11735

Inspection
Conducted: March 10-13, 1980

Inspector:

William D. Kelley
William D. Kelley, Contractor Inspector
Vendor Inspection Branch

3/20/80
Date

Approved

D. E. Whitesell
D. E. Whitesell, Chief
Components Section I
Vendor Inspection Branch

3-25-80
Date

Summary

Inspection on March 10-13, 1980 (99900060/80-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B and applicable codes and standards including; design and document control - design verification; manufacturing process control - material identification and control, forming and bending of pressure retaining materials, and machining; testing of completed products; inspection and test - magnetic particle examinations; and training - welder qualification. Also, reviewed vendor activities and conducted an exit interview.

The inspection involved twenty-five (25) inspector-hours on site by one (1) NRC inspector.

Results: In the seven (7) areas inspected, no deviations or unresolved items were identified.

DETAILS SECTIONA. Persons ContactedTarget Rock Corporation (TRC)

- *G. A. Abruzzo, Manager Quality Assurance
- J. Bocci, Manager Safety Relief Valves
- *E. F. Jordan, Metallurgist
- *V. Liantonio, Manager of Engineering
- A. H. Lloyd, Planning & Production Control Manager
- *R. M. Platz, Welding Engineer Supervisor & Chief Metallurgist
- *D. M. Pattarini, Vice President of Engineering
- *D. K. Vater, Marketing Contracts Manager

Commercial Union Insurance Company (CUI)

W. A. Roland, Authorized Nuclear Inspector (NB5776)

*Denotes those persons who attended the exit interview (See paragraph J).

B. General Review of Vendor's Activities

There has been no change in the status of the ASME Certificates of Authorization, authorized inspection agency, authorized nuclear inspector, or the percent of TRC's total workload that is nuclear as reported in NRC IE:RIV Report No. 99900060/79-02.

C. Design & Document Control - Design Verification1. Objectives

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

- a. Procedures had been prepared and approved by the vendor to prescribe a system for design verification which is consistent with NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.
- b. The design verification procedures are properly and effectively implemented by the vendor.

2. Method of Accomplishment

The objectives of this area of the inspection were accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual Revision 3, CN #3.

(1) Section 4.0, "Design, Drawing, Specification, & Procedure Control;" and

(2) Section 14.0, "Documentation;"

to verify that the vendor had established procedures to prescribe a system for design verification.

b. Reviewed the following procedures:

(1) Report No. 2036 date 10-20-77, "Indoctrination and Orientation - Engineering Department," and;

(2) Report No. 1742C, "Engineering Instruction Design Control;"

to verify that they had been prepared by the designated authority, approved by management, and reviewed by QA.

c. Reviewed the documents referenced in paragraphs a. and b. to verify that they contained measures to verify the adequacy of design, require documented results of the design verification, required the design verification to consider the importance to safety, identify the method of performing the design verification, identify items to be addressed during the design review, and prescribes the requirements for performing verification by alternate calculations, or by qualification test.

d. Reviewed design verifications:

(1) Report No. 2104A, "Design Report for the Target Rock Project 7700, Class 1, 1" Solenoid Operator Globe Valve,"

(2) Report No. 2103A, "Design Report for the Target Rock Project 7700, Class 1, 1½" Solenoid Operator Globe Valve," and

(3) Report No. 2132B "Seismic Analysis of the Target Rock Corporation, Project 7700 Series Seismic Category 1 - Nonactive Solenoid Operated Globe Valve;"

to verify that the design verification procedures are being implemented.

e. Interviews with personnel to verify that they are knowledgeable in the procedures applicable to design verification.

3. Findings

a. The inspector verified that:

- (1) Procedures had been prepared and approved by the vendor prescribing a system for design verification which is consistent with NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program, and
 - (2) The design verification procedures are properly and effectively implemented.
- b. Within this area of the inspection no deviations or unresolved items were identified.

D. Manufacturing Process Control Material Identification and Control

1. Objective

The objective of this area of the inspection was to verify that material identification and control during manufacturing is in accordance with NRC rules and regulation, and the vendor's commitments in the ASME accepted Quality Assurance Program.

2. Method of Accomplishment

The objective of this area of the inspection was accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual Revision 3, CN #3;
 - (1) Section 5.0, "Material Control;"
 - (2) Section 7.0, "Process Control;" and
 - (3) Section 11.0, "Cleaning, Handling, Storage and Shipping;"to verify that procedures had been established for material identification and control during manufacturing.
- b. Review of the following procedures:
 - (1) QC1-1310/1410EN, "Receiving, Storage and Acceptance of Raw Material;"
 - (2) QC1-1400B, "Handling and Storage of Conforming Parts and Assemblies;"
 - (3) QC1-1900D, "Control and acceptance of Work, In-Progress;" and
 - (4) QC1-2800F, "Training of Inspection and Test Personnel;"

to verify they provided for the identification and control of purchased materials, requires positive identification of materials throughout the manufacturing cycle, and provide for the segregation and disposition of nonconforming materials.

- c. Reviewed certified material test reports to verify they conformed with ASME Code requirements, applicable material specifications, and/or special requirements, are included in the procurement documents.
- d. Examined representative material in various stages of manufacturing and verified that the identification, and traceability to the certified mill test report, was being maintained.
- e. Interviews with personnel to verify they are knowledgeable in the procedures applicable to material identification and control.

3. Findings

- a. The inspector verified that the material identification and control during manufacturing was consistent with NRC rules and regulation, and the vendor's commitments.
- b. Within this area of the inspection no deviations or unresolved items were identified.

E. Manufacturing Process Control - Forming and Bending of Pressure Retaining Materials

1. Objectives

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

- a. The forming and bending of pressure retaining materials were under a controlled system of fabrication which meets NRC rules and regulations and the vendor's commitments in the ASME accepted Quality Assurance Programs.
- b. The controlled system of forming and bending of pressure retaining materials was effective in assuring product quality.

2. Method of Accomplishment

The objectives of this area of the inspection were accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual Revision 3, CN #3, Section 7.0, "Process Control."

- b. Review of the "Approved Vendor's List."
- c. Interviews with personnel to verify they were knowledgeable in the procedures applicable to forming of pressure retaining materials.

3. Findings

- a. The inspector verified that the forming of pressure retaining materials meets the applicable NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.
- b. The only forming of pressure retaining material performed for TRC valves is the forging of parts by vendors that have been surveyed, qualified, and placed on the approved vendors list in accordance with the requirements of the ASME accepted Quality Assurance Program and in accordance with a TRC approved procedure.
- c. Within this area of the inspection no deviations or unresolved items were identified.

F. Manufacturing Process Control - Machining

1. Objectives

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

- a. The machining operations were performed under a controlled system of manufacturing which meets NRC rules and regulations and the vendor's commitments in the ASME accepted Quality Assurance Program.
- b. The controlled system of manufacturing was effective in assuring product quality.

2. Method of Accomplishment

The objectives of this area of the inspection were accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual, Revision 3, CN #3;
 - (1) Section 5.0, "Material Control;"
 - (2) Section 7.0, "Process Control;" and
 - (3) Section 13.0, "Nonconforming Parts;"

to verify that procedures had been established to prescribe a control system of operation.

b. Review these selective specification and procedures:

- (1) QC1-1902 D, "Control of Work In Progress;"
- (2) QC1-1906 C, "Control of Work In Progress - Work Output Ticket;"
and
- (3) QC1-1907D, "Control of Work In - Progress - Material Control;"

to verify that they had been prepared by the designated authority, approved by management, and reviewed by QA, and are consistent with NRC regulation, Code requirements, and QA commitments.

c. Review of the following documents:

- (1) Ten (10) Traveler Operation Sheets
- (2) Ten (10) Drawings
- (3) Two (2) Manufacturing and Inspection Procedures
- (4) Four (4) Certified Material Test Reports
- (5) Five (5) Engineering Release Sheet

to verify that they provide drawing/document control in the shop, and also provides for part identification and traceability, in-process and final inspections, identification and segregation of defective items, the resolving of nonconforming items, and that the gages and measuring devices are under a controlled calibration system.

d. Examine three (3) representative samples of finished machined parts to verify that they were properly identified and machined to conform to the drawings and specifications.

e. Examined the documents of the following parts:

- (1) Indicator Tubes - S. O. 39933
- (2) Body - S. O. 40017
- (3) Disc - S. O. 41734
- (4) Bonnet - S. O. 40018
- (5) Main Body - S. O. 38547

to verify compliance with applicable documentation requirements.

3. Findings

a. The inspector verified that:

- (1) The machining operations were performed under a controlled system of manufacturing which meets NRC rules and regulations and the vendor's commitments in the ASME accepted Quality Assurance Program.
- (2) The controlled system of manufacturing was effective in assuring product quality.

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

G. Testing of Completed Products

1. Objectives

The objectives of this area of the inspection was to verify that products are assembled in accordance with approved procedures and drawings, all material complied with the specifications, and the functional test of the products were performed.

2. Method of Accomplishment

The objectives of this area of the inspection was accomplished by:

a. Review of test documentation to verify:

- (1) test procedures and/or instructions were available at the test station and had been approved by engineering and quality assurance.
- (2) the test had been performed in accordance with the procedures and/or instructions.
- (3) changes made to test procedure had been approved by engineering and quality assurance and they had been followed.
- (4) the test data was documented and dispositioned in accordance with the procedure and/or instructions.

(5) the limits of acceptability of test results had been established and were being used for rejection or acceptance of the product.

b. Review of test instrumentation used to verify they are as specified by the procedure and/or instruction and were in calibration.

3. Findings

a. The inspector verified that products are assembled in accordance with approval procedures and drawings, all material complied with the specification, and the functional test of the products were performed.

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

H. Inspection and Test - Magnetic Particle Examination

1. Objectives

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

a. The magnetic particle examination procedures used by the vendor meets the applicable NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.

b. The magnetic particle examinations are performed by properly qualified personnel in accordance with the procedures.

2. Method of Accomplishment

The objectives of this area of the inspection were accomplished by:

a. Review of:

(1) The ASME accepted Quality Assurance Manual Revision 3, CN #3, Section 10, "Nondestructive;" and

(2) TRP-1932A, "NDE Personnel Examination/Qualification Procedure for ASME Section III;"

to verify that procedures had been established for magnetic particle examination.

b. Review of Report No. 1935A, "Magnetic Particle Examination Procedure In Accordance with ASME Code Requirements;"

to verify that it had been reviewed, approved, and qualified, in accordance with the quality assurance program and Code requirements, and accepted by the Authorized Nuclear Inspector.

- c. Interviews with personnel to verify they are knowledgeable in the procedures applicable to magnetic particle examination.

3. Findings

- a. The inspector verified that the magnetic particle examination procedures used by the vendor meets the applicable NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.
- b. TRC does not perform magnetic particle inspection in house at the present time. All magnetic particle inspection is performed by an outside testing laboratory that has been surveyed, qualified, and placed on the approved vendor list in accordance with the requirements of the ASME accepted Quality Assurance Manual. However, TRC has written a magnetic particle inspection procedure and are in the process of training the Level II inspector and will demonstrate the procedures to the Authorized Nuclear Inspector.
- c. Within this area of the inspection no deviations or unresolved items were identified.

I. Training - Welder Qualification

1. Objectives

The objectives of this area of the inspection were to verify that the welders and welding operators are qualified in accordance with NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.

2. Method of Accomplishment

The objectives of the inspection were accomplished by:

- a. Review of:
 - (1) the ASME accepted Quality Assurance Manual Revision 3, CN#3, Section 8, "Welding;" and
 - (2) TRP-1139, "Welder Qualification ASME Special Welds;"

to verify that procedures had been established requiring the qualification of welders and welding operators.

- b. Review of the record of performance qualification tests of welders and welding operators, to verify that they are in conformance with ASME Code requirements.
- c. Review of welders qualification log, to verify that the vendor has provided a system for maintaining a continuous record of the welder qualifications; and that the welders have been, and are currently, qualified to weld under the prescribed procedures.
- d. Interviews with personnel to verify they are knowledgeable in the procedures applicable to welder qualification.

3. Findings

- a. The inspector verified that the welders and welding operators were qualified in accordance with NRC rules and regulations, and the vendor's commitments.
- b. TRC established a schedule to revise procedure TRP-1139 to consolidate all welding procedure and welder qualification and revise the ASME accepted Quality Assurance Manual and present it to the AIA for acceptance.
- c. Within this area of the inspection no deviation or unresolved items were identified.

J. Exit Interview

At the conclusion of the inspection on March 13, 1980 the inspector met with the company's management, identified in paragraph A, for the purpose of informing them as to the results of the inspection. During this meeting management was informed no deviations or unresolved items were identified.

The company's management acknowledged the inspector's statement and had no additional comments.