

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

Report No. 9900751/81-01

Program No. 51300

Company: Richmond Engineering Company, Inc.
Post Office Box 25189
Richmond, VA 23260

Inspection Conducted: June 1-5, 1981

Inspector:

J. Barnes
for H. W. Roberds, Contractor Inspector

Reactive Inspection Section
Vendor Inspection Branch

7-8-81

Date

Approved by:

J. Barnes
I. Barnes, Chief

Reactive Inspection Section
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Summary

Inspection conducted on June 1-5, 1981 (Report No. 99900751/81-01)

Areas Inspected: Implementation of 10 CFR Part 50 Appendix B criteria and applicable codes and standards, including: an initial management meeting; manufacturing process control; special processes personnel qualification (nondestructive examination); and welding material control. The inspection involved 28 inspector-hours on site by one NRC inspector.

Results: In the four areas inspected, no apparent nonconformances or unresolved items were identified in three areas, with the following nonconformances identified in the remaining area:

Nonconformances: Manufacturing Process Control - Sign off of final acceptance was not in accordance with Criterion V of 10 CFR Part 50, Appendix B and Section 3 of the QA program (Notice of Nonconformance, Item A.). Ultrasonic thickness measurements of gas decay tank heads less than the minimum required

by Criterion V of 10 CFR Part 50, Appendix B and RECO Drawing No. D-76-344 (Notice of Nonconformance, Item B.). Selection of weld electrode not in accordance with Criterion V of 10 CFR Part 50, Appendix B and weld procedure specification P/MMA/DBW/1 PIPE (Notice of Nonconformance, Item C.). Copies of certified material test reports not included in the record package for gas decay tank No. N-2320.50 as required by Criterion V of 10 CFR Part 50, Appendix B and NA-4831 in Section III of the ASME Code (Notice of Nonconformance, Item D.). Leg beam to plate fillet weld sizes not in accordance with Criterion V of 10 CFR Part 50, Appendix B and RECO Drawing No. D-76-344 (Notice of Nonconformance, Item E.).

DETAILS SECTIONA. Persons Contacted

- *F. G. Louthan, Jr., President
- **G. A. Harding, Vice President
- ***H. N. Upson, Executive Vice President
- ***J. W. Coaker, Manager of Engineering
- ***C. H. Massengill, Corporate QA/QC Manager
- ***H. J. McSwain, Quality Assurance Coordinator

*Denotes those persons who attended exit meeting.

**Denotes those persons who attended initial management meeting.

***Denotes those persons who attended both initial management meeting and exit meeting.

B. Initial Management Meeting1. Objectives

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). Those in attendance are denoted in paragraph A.

2. Methods of Accomplishment

The preceding objectives were accomplished by:

- a. Describing the historical events that indicated the need for the Vendor Inspection Program.
- 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 nonconformances, in regard to providing corrective action measures and steps to preclude recurrence.
- e. Identifying that all reports and correspondence are placed in the Public Document Room.

- f. Identifying the publication and function of the "White Book," Licensee Contractor and Vendor Inspection Status Report, NUREG-0040.
- g. Explaining the recent reorganization of the Vendor Inspection Branch and the functions of the Reactive Inspection Section.

3. Findings

The Richmond plant holds Nuclear Certificates of Authorization N-2150-1 and N-2151-1 with an expiration date of July 21, 1981, and had completed a re-survey for renewal on May 18-20, 1981. Approximately 10% of their work is nuclear and they currently have contracts to supply components to fourteen nuclear sites. Richmond Engineering retains Royal Globe Insurance Companies as their Authorized Inspection Agency and is served by an authorized nuclear inspector on a resident basis.

C. Manufacturing Process Control

1. Objectives

The objectives of this area of the inspection were to ascertain whether:

- a. A system had been established for the control of manufacturing, which was consistent with applicable regulatory, code, and contract requirements.
- b. The system was implemented.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of Section III of the Quality Assurance program "Process Control."
- b. Review of Combustion Engineering P. O. 9600808
- c. Review of Richmond Engineering Company, Inc. (RECO) Drawing No. 76-344.
- d. Examination of issued operational work sheets for the following previously completed and shipped gas decay tanks:
 - (1) WPPSS-WNP3, Tank No. 2320.30.
 - (2) WPPSS-WNP3, Tank No. 2320.10
 - (3) WPPSS-WNP3, Tank No. 2320.50.

(4) WPPSS-WNP3, Tank No. 2320.70.

e. The criteria used for examination of the operational work-sheets described in d. above were as follows:

- (1) Definition of and control of sequencing of manufacturing operations to provide for compliance with contract fabrication requirements.
- (2) Compliance with designated hold points.
- (3) Performance of all designated inspections and non-destructive examinations.
- (4) Evidence of definition of required fabrication inspection and performance consistent with QA program commitments.
- (5) Completeness of operation sign off.
- (6) Performance of operations by appropriately qualified personnel.

3. Findings

a. Nonconformances

- (1) See Notice of Nonconformance, Item A.
- (2) See Notice of Nonconformance, Item B.

RECO Drawing No. D76-344 specifies a minimum top and bottom head thickness of 1.259 inches. The following is a tabulation of ultrasonic thickness measurements taken by Quality Testing Laboratories, Inc.:

<u>Head No.</u>	<u>Top</u>	<u>Bottom</u>
2320.10	1.250"	1.240"
2320.20	1.270"	1.250"
2320.30	1.255"	1.255"
2320.40	1.240"	1.205"
2320.50	1.255"	1.240"
2320.60	1.270"	1.260"
2320.70	1.260"	1.245"

2320.80	1.255"	1.235"
2320.90	1.230"	1.125"

(3) See Notice of Nonconformance, Item C.

(4) See Notice of Nonconformance, Item D.

(5) See Notice of Nonconformance, Item E.

D. Special Processes Personnel Qualification (Nondestructive Examination)

1. Objectives

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

- a. The employer, RECO, has developed a written practice for control and administration of NDE personnel training, examination and certification in accordance with applicable NRC and ASME Code requirements.
- b. Personnel records are complete and are current.
- c. Personnel performing nondestructive examination are qualified for the method used and have current eye examinations as defined in SNT-TC-1A.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Quality Assurance Program in regard to non-destructive examination requirements.
- b. Review of Procedure No. ES-190, "Written Practice for NDE Personnel Qualification and Certification."
- c. Review of Procedure ES-133, "Quality Control Personnel Qualification."
- d. Review of six personnel certification and qualification record packages, including results of eye examinations.

3. Findings

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

E. Welding Material Control

1. Objectives

The objectives of this area of the inspection were to verify that measures are established to control the purchasing, storage, handling and issuance of weld materials in accordance with the manufacturer's QA program and applicable ASME Code and NRC requirements.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of the Quality Assurance Manual, Section 5.1 "Welding Material Control."
- b. Review of the Quality Assurance Manual, Section 5.2 "Rebaking Procedure."
- c. Review of Quality Control Procedure No. ES-170 "Standard for Control of Welding Processes on Nuclear Orders."
- d. Observation of the weld material storage area and coated electrode holding ovens.
- e. Review of weld material certification for E-7018 electrode lot No. 38E.

3. Findings

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

F. Exit Meeting

An exit meeting was held with the management representatives denoted in paragraph A. above at the conclusion of the inspection on June 5, 1981. The inspector summarized the scope and findings of the inspection and advised management that the findings would be documented in a report, which would require submittal of written corrective action, steps to preclude recurrence, and the date actions would be completed. Management comments were confined primarily to clarification of the identified findings.