

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

Report No. 9990749/81-01

Program No. 51300

Company: Norwalk Fabricators, Inc.
200 N. Branford Road
Branford, CT 06405

Inspection Conducted: May 18-22, 1981

Inspector:

E. E. Ellershaw
E. Ellershaw, Contractor Inspector
Reactive Inspection Section
Vendor Inspection Branch

7/8/81
Date

Approved by:

I. Barnes
I. Barnes, Chief
Reactive Inspection Section
Vendor Inspection Branch

7/8/81
Date

Summary

Inspection conducted May 18-22, 1981 (Report No. 9990749/81-01)

Areas Inspected: Implementation of 10 CFR Part 50 Appendix B criteria, and applicable codes and standards, including: follow up on a 10 CFR Part 50.55(e) construction deficiency report; procurement source selection; and control of welding. The inspection involved 29 inspector-hours on site.

Results: In the three areas inspected, two violations and six nonconformances were identified.

Violations: 10 CFR Part 21 - Posting of 10 CFR Part 21 and Section 206 of Energy Reorganization Act on 1974, or an appropriate notice had not been accomplished (See Notice of Violation, Item A.). Procedures for evaluating and notifying had not been adopted pertaining to 10 CFR Part 21. (See Notice of Violation, Item B.).

Nonconformances: Follow up on a 10 CFR Part 50.55(e) Construction Deficiency Report - Certain designated Hold Points had not been signed off and manufacturing proceeded past these points (See Notice of Nonconformance, Item A.).

Procurement Source Selection - Certain items were procured from vendors who had not been audited and were not on the AVL, nor did they have ASME certificates. (See Notice of Nonconformance, Item F.).

Control of Welding - Unidentified temporary attachments were used, and welding material, welders, and WPSs were not identified when used for temporary attachments (See Notice of Nonconformance, Item B.). Certain nonessential variables were not listed on WPSs (See Notice of Nonconformance, Item C.). Changes were made to nonessential variables without these changes being documented (See Notice of Nonconformance, Item D.). A WPS was not qualified for tube-to-tubsheet welding (See Notice of Nonconformance, Item E.).

DETAILS SECTION

(Prepared by L. E. Ellershaw)

A. Persons Contacted

- T. N. Beaudry - Welding Engineer
- *C. Beebe - President
- *K. Bunnel - Vice President, Administration
- *L. F. Guglielmoni - Manager, Quality Assurance
- J. Kinsman, Project Engineer
- A. DeMattia - Plant Manager
- J. Parky - Purchasing Agent
- T. A. Schneider - Quality Control Inspector
- *J. Young - Vice President, Engineering

*Attended exit meeting.

B. Follow-up on a 10 CFR Part 50.55(e) Construction Deficiency Report (CDR)1. Introduction

Tennessee Valley Authority (TVA) notified Region II of the Office of Inspection and Enforcement, on October 8, 1980, of deficient welds, e.g., undersized fillet welds, visible porosity, lack of penetration in piping welds and arc strikes, in the gas stripper supplied to Combustion Engineering and furnished to TVA for Yellow Creek Nuclear Plant, Unit 1.

2. Objectives

The objectives of this area of the inspection were to establish the causes of the problem, ascertain the generic implications, and to assess the corrective action and the actions taken to preclude recurrence.

3. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of Combustion Engineering, Inc. (CE) purchase orders to Norwalk Fabricators, Inc. (NFI): 9871212-14074 for Yellow Creek, Unit 1, and 9871212-14174 for Yellow Creek, Unit 2.
- b. Review of Field Action Request No. 14074-68 dated September 30, 1980, from CE to NFI, and TVA Nonconformance Condition Report No. YC-100 to CE dated September 15, 1980.

- c. Review of CE Project Specification No. 14074-PE-231, Revision 5.
- d. Observation of the skid mounted piping on the gas stripper pump module returned to NFI for repairs.
- e. Review of manufacturing/quality assurance records associated with the Yellow Creek, Unit 1 gas stripper.
- f. Discussions with cognizant personnel.

4. Findings

a. Nonconformances

See Notice of Nonconformance, Item A.

A review of four travelers pertaining to the Yellow Creek, Unit 1 gas stripper, revealed that certain designated hold points had not been signed-off by the responsible personnel:

- (1) Traveler No. 7347-C-CB-3-k, Stripper Column - Operation 2, a special requirement for spot radiography of the shell to head welds, and a designated hold point by NFI and the Authorized Nuclear Inspection (ANI), had not been signed off by either. There was a reader sheet filled out by Peabody Testing Services, the NDE subcontractor who performed the radiography. Operations 13 - Cleaning, and 14 - Painting, had not been signed off by NFI.
- (2) Traveler No. 7347-F-CB-3-k, Heat Recovery Exchanger - Operation 1, a special requirement for spot radiography of the shell and tube side, and a designated Hold point by NFI, the ANI, and the customer, was signed off by the ANI only. There was a reader sheet filled out by Peabody Testing Services. Operations 16 - Cleaning, and 17 - Painting, were not signed off by NFI.
- (3) Traveler No. 7347-D-CB-B-k, Thermosyphon Reboiler Heat Exchanger - Operations 5, Weld Tubes to Tubesheet; 13, Cleaning; 14, Painting; and 15, Tubesheet to Shell Fit-up, were not signed off by NFI. Customer designated hold points: Air test tube to Tubesheet, Dyecheck Tube to Tube sheet, and Hydro were not signed off. The ANI hold point for hydro test was not signed off. There was a Hydrostatic Test Inspection Report which showed the satisfactory performance of the Hydro Test, and which stated that the Hydro Test was witnessed by the ANI. This statement was entered by NFI.

- (4) Traveler No. 7347-G-CB-3-k, Feed Preheater Exchanger - Operation 15, Hydro Test, a designated ANI Hold point, was not signed off by the ANI. However, NFI entered a statement on the Hydrostatic Test Inspection Report which stated that the ANI and customer witnessed the Hydro Test.

b. Unresolved Items

None.

c. Other Findings

The NRC inspector was informed by NFI, that ASME Code required liquid penetrant (PT) examination of circumferential butt welds in the Class 3 piping was not specified on the travelers and had not been performed on the gas strippers furnished to CE for installation at a Duke Power Company's nuclear plant and TVA's Yellow Creek, Unit 1. The travelers had been approved by CE. The gas stripper system consists of two separate modules: the pump module and the process module. The gas stripper pump module, returned from Yellow Creek for weld repairs, will have a PT examination after completion of all weld repairs. The process module will be PT examined at the site.

Subsequent to this inspection, NFI informed the NRC inspector that the PT examination of the Duke Power Company gas stripper is scheduled to be performed at the site, on June 22, 1981.

A review of the travelers for the second units for Duke and TVA showed that PT examination had been included as a required operation.

C. Control of Welding

1. Objectives

The objectives of this area of the inspection were to verify that NFI had implemented the requirements for the control of welding in accordance with the QA Manual and applicable NRC and ASME Code requirements.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of QA Manual Section No. 7, "Control of Inspection Processes."
- b. Review of Welding Procedure Specification (WPS) Nos. 2, 11, 17 and 25, and their respective Procedure Qualification Records (PQR).

- c. Observation of welding material storage, including holding ovens.
- d. Observation of weld material issuance and control of electrode exposure time.
- e. Review of certified material test reports for eight different heats of welding electrodes.
- f. Observation of in-process GTAW welding being performed on a gas stripper column for Shop Order 7394-C-CB-3-k.
- g. Discussions with cognizant personnel.

3. Findings

a. Nonconformances

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

The welding of unidentified temporary attachments took place on the Stripper Column for the Duke Power Company, Unit 2, Traveler No. 7394-C-CB-3-k. At the time the NRC inspector identified this nonconformance, NFI removed and replaced the attachments with identified material.

- (2) See Notice of Nonconformance, Item C.

- (3) See Notice of Nonconformance, Item D. Observation of in-process GTAW being performed on piping for the stripper column on Shop Order 7394-C-CB-3-k revealed changes in the following non-essential variables without such changes being documented:

- i A change from grinding to wire brushing on the initial and interpass cleaning.
- ii A change in qualified position, from 1G to 5G.
- iii A change in the range of amperage, from 90-160 to unknown in that the available tong meter was graduated in such large increments that the actual amperage could not be measured.

- (4) See Notice of Nonconformance, Item E.

b. Unresolved Items

None.

D. Procurement Source Selection

1. Objectives

The objectives of this area of the inspection were to verify that NFI had implemented the requirements for procurement source selection in accordance with the QA Manual and applicable NRC and ASME Code requirements.

2. Method of Accomplishment

The preceding objectives were accomplished by:

- a. Review of QA Manual Section No. 4, "Procurement Document Control."
- b. Review of components used on the gas stripper for Yellow Creek, Unit 1, and their applicable CMTRs.
- c. Review of the Approved Vendor List and vendor audits.
- d. Review of NFI's purchase orders to their vendors for the components in b. above.
- e. Discussions with cognizant personnel.

3. Findings

a. Nonconformances

See Notice of Nonconformance, Item F.

- (1) NFI placed purchase orders dated January 19, 1979, with Flocon, Inc., for orifice flange assemblies. These were ordered in accordance with the CE specification, and the Bill of Materials showed that Certified Material Test Reports (CMTR) were required. Flocon acting as a sales office, in turn placed the orders with Fluidic Techniques. Fluidic procured the material from SMS of Texas, Inc., a material supplier, who in turn procured the material from Texas Metal Works, Inc. A CMTR dated March 22, 1979, was provided by Texas Metal Works.

The vendor audit records showed that NFI audited Fluidic Techniques on February 29, 1980.

- (2) NFI placed Purchase Order No. 4115, dated April 17, 1980, with Norwalk Valve and Fitting Company for connectors. The

purchase order required the fittings to be in accordance with ASME Section III, Class 3, Summer of 1977 Edition. Certifications were required with the shipment. Drawing 1-1407-7347, Revision 2 dated January 7, 1980, and the Bill of Materials, required CMTRs.

Norwalk Valve and Fitting Company in turn subcontracted the order with Crawford Fitting Company.

The fittings were subsequently received by NFI on April 28, 1980, without CMTRs.

Neither Norwalk Valve and Fitting Company nor Crawford Fitting Company were on the Approved Vendor List and NFIs vendor audit records showed that neither had been audited, surveyed or qualified.

E. Exit Meeting

The scope and findings of this inspection were summarized at the conclusion of this inspection on May 22, 1981, with the management representatives denoted by an asterisk in paragraph A.

Management acknowledged the statements made relative to the findings.