



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

Report Nos. 50-390/79-41 and 50-391/79-38

Licensee: Tennessee Valley Authority
 500A Chestnut Street
 Chattanooga, Tennessee 37401

Facility Name: Watts Bar Nuclear Plant, Units 1 and 2

Docket Nos. 50-390 and 50-391

License Nos. CPPR-91 and CPPR-92

Inspection at Watts Bar site near Spring City, Tennessee

Inspector: W. P. Kleinsorge 12/31/79
 Date Signed

Approved by: A. R. Herdt 12/31/79
 A. R. Herdt, Section Chief, RCES Branch Date Signed

SUMMARY

Inspection on December 4-7, 1979

Areas Inspected

This routine unannounced inspection involved 29 inspector-hours onsite in the areas of safety related pipe welding, safety related piping - review of quality records and material handling and storage.

Results

Of the three areas inspected, no items of noncompliance or deviations were identified in one area; two items of noncompliance were found in two areas (Infraction - Failure to establish adequate measures for handling and storage of equipment and materials - paragraph 5 and Infraction - Failure to follow welding procedure purge requirements - paragraph 6.

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DETAILS

1. Persons Contacted

Licensee Employees

- *H. C. Richardson, Acting Project Manager
- *J. F. Treadway, Construction Superintendent
- *R. L. Heatherly, QC&R Unit, Supervisor
- *A. W. Rogers, QA, Supervisor
- *S. Johnson, Assistant Construction Engineer (Mech.)
- *J. M. Lamb, Mechanical Engineer Supervisor
- *L. C. Northard, Welding Engineer, Supervisor
- *J. Weinbaum, QA Engineer
- *C. O. Christopher, Assistant Construction Engineer (Civil)

Other licensee employees contacted included eight construction craftsmen, six technicians, five mechanics and four office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 7, 1979, with those persons indicated in Paragraph 1 above. The inspector identified the areas inspected, and discussed the two items of noncompliance. No dissenting comments were received from the licensee.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraphs 5c and 6g.

5. Independent Inspection Effort (Units 1 & 2)

a. Construction Activities

The inspector conducted a general inspection of the turbine building, auxiliary building, containments Units 1 and 2, Control Room, and pipe

storage areas to observe construction progress and construction activities such as welding, materials handling and control, housekeeping and storage.

b. Material Handling and Storage

The inspector, on December 5, 1979, observed, during fit-up activities for joint no. 2-067J - T301-4 on 713 elevation of the auxiliary building, a 12" elbow supported from an installed 12" overhead horizontal pipe. The point of support, on the installed pipe, was adjacent to weld joint No. 1-067J - T524-26. In addition to the above the inspector noted, on the same date, adjacent to the stairs on the 713 elevation of the auxiliary building an approximately 12" diameter by 20' long pipe assembly supported by wire rope attached to electrical cable tray supports. The licensee stated that they had no documented instructions preventing rigging to, or supporting from, installed equipment or materials. Failure to establish adequate measures to control handling and storage of equipment and materials is in noncompliance with 10 CFR 50, Appendix B, Criterion XIII. This is an infraction and was assigned item nos. 50-390/79-41-01 and 50-391/79-38-01 - "Failure to establish adequate measures for handling and storage of equipment and materials".

c. Weld Appearance

In the course of inspection of the 2B Residual Heat Removal heat exchanger in the auxiliary building the inspector noted that Weld "G" on Dravo Corp. Sketch No. E-2882-235 had a sharp transition from the weld reinforcement to the base material. As a result of the above condition the inspector requested the radiographs for the aforementioned joint, and was informed by the licensee that the same were not immediately available. The inspector stated that this would be an unresolved item until the radiographs could be evaluated. This item was identified as 50-391/79-38-02: "Unavailable Radiographs".

No items of noncompliance or deviations, except as described in paragraph 5.b, were identified.

6. Safety-Related Piping (Welding) - Observation of Work and Work Activities (Units 1 and 2)

The inspector observed field welding of safety-related piping outside the reactor coolant pressure boundary at various states of weld completion. The applicable Code for safety-related pipe welding is ASME Boiler and Pressure Vessel Code Section III, 1971 Edition plus addenda through the summer of 1973.

- a. The inspector examined weld joint fitup, prior to welding, to determine whether weld identification/location, joint preparation and

alignment, evidence of QC verification meet applicable procedures. The following weld joints were examined:

Joint No.	Size	Unit No.	System
1-067J-T526-17	8"	1	Ess. Raw Cooling Water
1-067C-T289-02	3"	1	Ess. Raw Cooling Water
2-067J-T301-04	12"	2	Ess. Raw Cooling Water

- b. The inspector examined weld joints where the root pass (only) has been completed to determine; weld/welder identification, qualified welder/weld procedure, physical appearance of weld and evidence of QC verification. The following weld joints were examined.

Joint No.	Size	Unit No.	System
1-067J-T526-17	8"	1	Ess. Raw Cooling Water
2-067J-T303-04	8"	2	Ess. Raw Cooling Water
2-067J-T303-05	8"	2	Ess. Raw Cooling Water
2-067J-T301-04	12"	2	Ess. Raw Cooling Water

- c. The inspector examined weld joints of pipe to pipe/fitting (PPF) and pipe to components (PC) where welding was beyond the root pass to determine; weld/welder identification, qualified welder/weld procedure, periodic checks of welding variables, use of specified weld material, proper interpass temperature and where applicable pre-heat and post-weld treatment and physical appearance of weld (e.g. starts, stops, undercut and surface imperfections). The following weld joints were examined.

Joint No.	Type	Unit No.	Size	System
1-067J-T526-17	PPF	1	8"	Ess. Raw Cooling Water
2-067J-T303-04	PPF	2	8"	Ess. Raw Cooling Water
2-067J-T303-05	PPF	2	8"	Ess. Raw Cooling Water
2-067J-T301-04	PPF	2	12"	Ess. Raw Cooling Water

- d. The inspector examined the following welds where non-destructive testing (NDE) was in progress to determine; surface suitability, specified NDE being performed and with qualified personnel. The following weld joints were examined.

Joint No.	Unit No.	Size	System
2-067J-T301-04	2	12"	Ess. Raw Cooling Water
2-067J-T303-04	2	8"	Ess. Raw Cooling Water

- e. The inspector observed activities at weld material issue stations to determine adequacy of; weld material storage/segregation, oven temperatures, issue records and return of unused weld material. Also observed work areas for uncontrolled weld material.

- f. On December 5, 1979, during root and tack welding inspection of joint No. 1-067C-T289-02, a 3" diameter stainless steel pipe to 90 degree elbow, ASME Class III, open root, butt joint, welded to the requirements of TVA Detail Welding Procedure No. GT-8-8-0-3 Revision 0 the inspector noted that the internal root reinforcement of the weld had a black and sugary appearance indicating that the weld was made without an internal inert gas purge. The above is contrary to the requirements of Detail Welding Procedure GT-8-8-0-3 which requires an internal inert gas purge. Upon notification the licensee stated that the joint would be cutout and rewelded.

Failure to follow Welding Procedure Specifications is in noncompliance with 10 CFR 50, Appendix B, Criterion V. This is an infraction and was assigned item No. 50-390/79-41-02: "Failure to follow welding procedure purge requirements."

- g. The total halogen analysis, certification for liquid penetrant cleaner, control No. 79G-030, used in the nondestructive examination of paragraph 6d above, was not available to the inspector during this inspection.

The inspector informed the licensee that the above would be an unresolved item No. 50-391/79-38-03 "Unavailable NDE Materials Certification".

- h. The inspector noted that the electrode baking oven in the rod issue station had exceeded its calibration period and was not suitably marked "Not to be Used". Upon investigation the inspector determined that the oven had not been used since the calibration expiration, and therefore presented no safety related problem, the licensee agreed to take immediate corrective action; to so mark, or remove the oven from the issue station.

No items of noncompliance or deviations, except as described in paragraph 6.f, were identified.

7. Safety Related Piping - Review of Quality Records (Units 1 and 2).

The inspector reviewed the quality records for safety related piping components and installation outside the reactor coolant pressure boundary. The applicable code for related piping construction installation is as listed in paragraph 6 above.

The records review included, where applicable, the following; material test reports/certification records, vendor manufacturing certifications, NSSS manufacturers quality release forms, receiving inspection reports (including records of disposition of nonconforming materials). The inspector reviewed the quality records for materials joined by welds of paragraph 6 above.

Within the areas examined, there were no items of noncompliance or deviations identified.