



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-390/84-15 and 50-391/84-12

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

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Facility Name: Watts Bar Units 1 and 2

Inspection at Watts Bar site near Spring City, Tennessee

Inspectors: W C Liu for 3/26/84
J. L. Coley Date Signed

W C Liu 3/26/84
W. C. Liu Date Signed

Approved by: J. J. Blake 3/26/84
J. J. Blake, Section Chief Date Signed
Engineering Program Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on March 6-9, 1984

Areas Inspected

This routine, unannounced inspection involved 44 inspector-hours on site in the areas of independent inspection effort and follow-up on licensee identified items.

Results

Of the areas inspected, 2 apparent violations were identified - (Inadequate Corrective Action for Improper Weld Attachment of Shear Lugs, paragraph 5.a. and Failure to Follow Procedure for Hanger Inspection, paragraph 5.b.).

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PDR ADOCK 05000390
Q PDR

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *G. Wadewitz, Project Manager - WBNP
- *S. Johnson, Quality Manager - WBNP
- *G. Owens, Licensing Engineer - ENDES
- *T. Hayes, Supervisor, Licensing Unit - W2NP
- *P. Wilson, Licensing Unit - WBNP
- *D. Knight, Project Managers Office, OEDC
- *C. Hutzler, Hanger Engineering Unit - WBNP
- *R. Miles, Project Managers Office - WBNP
- *T. Brown, Assistant Construction Engineer, Hanger Unit
- *L. Johnson, Assistant Construction Engineer, Mechanical and Welding

Other licensee employees contacted included construction craftsmen, technicians, security force members, and office personnel.

NRC Resident Inspector

*W. Swan

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on March 9, 1984, with those persons indicated in paragraph 1 above. The licensee acknowledged the following inspection findings:

Violation (390/84-15-01; 391/84-12-01), Inadequate Corrective Action for Improper Weld Attachment of Shear Lugs, paragraph 5.a.

Violation (390/84-15-02), Failure to Follow Procedure for Hanger Inspection, paragraph 5.b.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Independent Inspection Effort - Units 1 and 2 (92706B)

The inspectors conducted surveillance inspections of Units 1 and 2 reactor containments and the auxiliary building to determine whether the installations of safety-related pipe supports and restraint systems comply with NRC requirements and licensee commitments.

- a. During one inspection, an inspector observed construction craftsmen removing hanger shear lugs from four six-inch diameter stainless steel pipe on the essential raw cooling water system. The inspector reviewed the work plan for removing the shear lugs and found that as a result of a hanger modification, the shear lugs had been ground and found not to be full penetration welds as required by the TVA Design Specification G29M-1.M.1.2-12. The apparent cause was failure of engineering to establish holdpoints for backgrinding and inspection of the root weld. The nonconformance (NCR) had been documented in NCR-5435; however, the inspector observed that the NCR had been designated as nonsignificant and that the corrective action would not consider the generic implication of the nonconformance. The inspector was aware that this was a repetitive nonconformance and that a licensee identified item (CDR 390, 391/80-51) had previously reported a similar occurrence on the HVAC Chilled Water system.

The inspector held discussions with the licensee's quality reviewer to determine why the NCR had been designated nonsignificant when paragraph 6.2.3 of the licensee's procedure WBNP-QCI-1.02, Revision 11, stated that a nonconformance is classified as "significant", if it requires or indicates a condition which, if uncorrected, could adversely affect the safety of plant operations, have generic implications, or was repetitive of a particular nonconformance. During the discussions with the quality reviewer, it was determined that the reviewer did not have a file that categorized NCR's or other mechanism for determining whether an NCR was a repetitive item or if it had generic implication. The decision for determining the significance of an item was strictly based on the reviewer's memory and best judgement. Failure to designate an NCR as significant means that TVA's Design and Nuclear Licensing sections were not notified, Region II was not notified, and the NCR was not evaluated for root cause, generic implication, and actions required to prevent recurrence.

10 CFR 50, Criterion XVI requires that measures shall be established to assure the identification of the significant condition adverse to quality, the cause of the condition and the corrective action taken shall be documented and reported to appropriate levels of management. This item was reported to the licensee as Violation 390/84-15-01 and 391/84-12-01, Inadequate Corrective Action for Improper Weld Attachment of Shear Lugs.

- b. In addition to the above, the inspectors noted that Hanger No. 62-1CVC-V180, Revision 902, in the chemical and volume control system was damaged in that item 3 of the 3/8" diameter vertical rod became bent. The design drawing showed that this rod should be straight in the vertical direction. Hanger No. 62-1CVC-R34, Revision 906, in the chemical and volume control system was visually examined. It was found that four shear lugs (1" x 1/2" x 2") were not specified in the hanger design drawings nor were they documented in the QC inspection package. The aforementioned two hangers were previously inspected and accepted by the hanger QC group in accordance with procedure WBNP-QCP-4.23-8. The failure to identify the above hanger discrepancies during QC inspection is a violation of 10 CFR 50, Appendix B, Criterion V. This item is identified as Violation 390/84-15-02, Failure to Follow Procedure for Hanger Inspection.

During the field walkdown inspection, the NRC inspectors observed that hanger/snubbers 1-03A-520, 1-03A-580, 1-03A-584, and 1-03A-585 in the main feedwater system showed either the snubber end bushing slipped out or washers missing at the connection end. Inspection data shown on the computer CRT screen indicated that the aforementioned snubbers were previously inspected and accepted by the hanger QC group. The inspectors held discussions with the responsible licensee representatives regarding the above concerns. It was noted that these snubbers had been identified as having improper installation conditions in a nonconformance report (NCR 4428). This NCR is still open at the time of this inspection.

Within the areas examined, no violations or deviations were observed, except as noted in (a.) and (b.) above.

6. Licensee Identified Items - Units 1 and 2 (92700B)

- a. (Closed) LII 390/83-60, "Target Rock Pressurizer PORV Failed to Open" (10 CFR 50.55(e)).

The final report was submitted on October 21, 1983. The report has been reviewed and determined to be acceptable. The inspectors held discussions with responsible licensee representatives and reviewed supporting documentation to verify that the corrective actions identified in the report have been completed. The inspectors concluded that the licensee had determined the extent of the reported condition, performed the necessary survey, and followup action to correct this condition and to preclude recurrence of similar circumstances.

- b. (Closed) LII 390/83-47, "Target Rock PORV Opening and Closing Times" (10 CFR 50.55(e)).

The final report was submitted on December 7, 1983. The report has been reviewed and determined to be acceptable. The inspectors held discussions with responsible licensee representatives and reviewed

supporting documentation to verify that the corrective actions identified in the report have been completed. The inspectors concluded that the licensee had determined the extent of the reported condition, performed the necessary survey, and followup action to correct this condition and to preclude recurrence of similar circumstances.

- c. (Closed) LII 390/83-09, "Valve Position Indication Problems for EMD Gate Valves" (10 CFR 50.55(e)).

The final report was submitted on September 29, 1983. The report has been reviewed and determined to be acceptable. The inspectors held discussions with responsible licensee representatives and reviewed supporting documentation to verify that the corrective action identified in the report have been completed. The inspector concluded that the licensee had determined the extent of the reported condition, performed the necessary survey, and followup action to correct this condition and to preclude recurrence of similar circumstances.

- d. (Closed) LII 390/83-52, "Leaking Containment Isolation Valves" (10 CFR 50.55(e)).

The final report was submitted on January 16, 1983. The report has been reviewed and determined to be acceptable. The inspectors held discussions with responsible licensee representatives and reviewed supporting documentation to verify that the corrective action identified in the report have been completed. The inspectors concluded that the licensee had determined the extent of the reported condition, performed the necessary survey, and followup action to correct this condition and to preclude recurrence of similar circumstances.

- e. (Open) LII 390/81-04-04, "Improper Installation of Bellows Type Penetrations" (10 CFR 50.55(e)).

The final report was submitted to Region II on June 18, 1981. The inspectors held discussions with responsible licensee representatives and reviewed supporting documentation to verify that the corrective actions identified in the report. This matter remains open pending the licensee submittal of a supplemental final report. Since the licensee's previous final report was issued in June 1981, rework has occurred on these penetration for the purpose of maintaining bellows alignment. As a result, the rework and further evaluations have changed the status of the penetrations within the three categories of the CDR and in some cases deleted penetrations entirely. The inspectors informed the licensee that a supplemental response is needed to clarify the present status of bellows type penetrations. In addition, several other CDRs pertaining to bellows type penetrations have been written since the final report was issued on this CDR. The inspectors asked the licensee to review their responses to the later CDRs to insure that they do not impact this final reply.

- f. (Closed) LII 390/83-14, Interpretation of Rigidity Requirements. The final report was submitted by TVA for nonconformance report number WBN SWP 8319 on September 20, 1983. This item involved a concern about interpretation of rigidity requirements for seismic pipe support designs. TVA evaluated 182 pipe supports for Unit 1 to assure that rigidity requirements with respect to frequency and deflection were met. Only two supports required modification by either adding a kick brace or adding a steel member to stiffen up the existing support. This effort was covered under ECN 4228 and was verified by the NRC inspectors during this inspection.
- g. (Closed) LII 390/82-77, Frequency Criteria for Piping Supports. The final report was submitted on September 20, 1983. This item involved an investigation by the licensee for information regarding frequency criteria for pipe supports between Section 3.9.3.4.2(1d) of FSAR and Section 8.2.3 of design criteria WB-DC-40-31.9. A change in the design criteria from 33Hz to 20 Hz to represent the natural frequency of a fixed support was initiated as a result of this investigation. The inspectors held discussions with responsible licensee representatives, reviewed supporting documentation, and observed the work to verify that the corrective actions identified in the report have been completed.
- h. (Closed) LII 390/81-99, Loading Criteria for Structural Steel and Supports. The final report was submitted on June 13, 1983. A supplemental final report for Unit 1 and final report for Unit 2 was submitted on August 2, 1983. A supplemental information was submitted on October 27, 1983. The report identified that several notes in general notes drawings series 47A050 and 47A058 permit TVA's CONSTRUCTION to make attachments or alterations to buildings, miscellaneous steel, and cable tray supports for pipe supports of all types. The loading criteria did not clearly define the consideration of cumulative loads for construction application, and it was also misinterpreted by CONSTRUCTION. The inspectors held discussions with responsible licensee representatives and reviewed supporting documentation to verify that the corrective actions identified in the report have been completed.
- i. (Closed) LII 390/81-71, Qualification of Epoxy for Safety-Related Applications. The final report for Unit 1 was submitted on September 13, 1983. The report stated that epoxy grout may have its load-carrying capabilities reduced at temperatures above 120°F. Also, the epoxy grout has not been qualified to a radiation environment inside containment. The inspectors held discussions with responsible documentation to verify that the corrective actions identified in the report have been completed. This matter is considered closed.