



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

Report Nos.: 50-390/83-25 and 50-391/83-18

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 1 and 2

Inspection at Watts Bar site near Spring City, Tennessee

Inspector: *J. J. Blake* *E/3/83*
 J. W. YORK Date Signed

Approved by: *J. J. Blake* *8/3/83*
 J. J. Blake, Section Chief Date Signed
 Engineering Program Branch
 Division of Engineering and Operational Programs

SUMMARY

Inspection on July 18 - 22, 1983

Areas Inspected

This routine, announced inspection involved 33 inspector-hours on site in the areas of licensee action on previous enforcement matters, IE Bulletin 79-14 and licensee identified items.

Results

Of the three areas inspected, no violations or deviations were identified.

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REPORT DETAILS

I. Persons Contacted

Licensee Employees

- *H. Fischer, Assistant Construction Engineer
- *E. Burke, Assistant Construction Engineer
- *C. Christopher, Assistant Quality Manager
- *A. Rogers, QA Supervisor
- *R. McKay, Supervisor IE Bulletin 79-14 Group
- *T. Hays, Supervisor Nuclear Licensing Unit
- *Q. Miles, Project Engineer, OEDC

Other licensee employees contacted included technicians and office personnel.

NRC Resident Inspectors

- *W. Swan, SRI, Construction
- *T. Heatherly, SRI, Operations
- *W. Holland, RI, Operations

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on July 22, 1983, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Enforcement Matters

(Open) Unresolved Item 390/79-09-02 and 391/79-07-02, Definition and requirements for cold spring given in specifications appear inadequate. The inspector reviewed the following documents concerning this item:

- Memorandum to J. E. Wilkins from J. C. Standifer dated May 18, 1982, Watts Bar Nuclear Plant - Sampling Program to Determine Preload to Equipment Nozzles.
- Letter to Region II from J. K. Gilleland dated April 11, 1979, Response to Infraction and Unresolved Item in Inspection Report Nos. 50-390/79-09 and 50-391/79-07.
- Memorandum to J. E. Wilkins from R. W. Cantrell dated April 7, 1981, Watts Bar Nuclear Plant - Sequencing of Piping Installation and Location Tolerances in General Construction Specification G-43.

- Memorandum to J. E. Wilkins from R. W. Cantrell dated July 24, 1981, Watts Bar Nuclear Plant - Sampling Program to Determine Preload Conditions at Equipment Nozzles - Containment Spray Pumps 1A-A and 1B-B.

There was insufficient time for the inspector to resolve several questions. Therefore, this item will remain open.

(Open) Violation 390/83-14-02, Failure to follow procedure for hanger weld inspection. This violation dealt with the fact that two previously inspected pipe support drawings called for welding all around for a particular joint and during the reinspection it was found that welding had been performed on only three sides. During the walkdown of two isometrics for IE Bulletin 79-14 (paragraph 5), reinspection of 8 hangers was performed for the verification of the IEB 79-14 inspection and the potential for closing this violation. However, another example of this violation was found on hanger no. 1-78-A454-3-28. The support drawing called for welding on three sides for two of the members, but the reinspections revealed that welding had been performed on only two sides. This deviation from the support drawing had not been identified on previous inspections. This violation will remain open.

The hanger inspector in the IEB 79-14 group that had performed the inspection on the subject support had been employed by the licensee for approximately five weeks at the time of this RII inspection. In a telecon with R. McKay, Supervisor of the IEB 79-14 Group, on July 29, 1983, it was stated that the drawings for all of the supports on which the subject inspector had performed inspections were reviewed. All of the hangers (66) that were similar in construction and design were in the process of being reinspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. IE Bulletin 79-14 - Seismic Analysis for As-built Safety-Related Piping Systems - Unit 1 (25529)

The Watts Bar IE Bulletin 79-14 Group is currently performing walkdown inspections on the safety-related piping and supports. There are 294 inspection packages that must be walked down. At the time of this inspection, 200 of the inspections had been walked down, and the estimated completion date for inspecting the remaining packages is September 1, 1983. The anticipated completion date for this program is November 1, 1983, and involves the evaluation of any as-built discrepancies by engineering design plus the completion of any modifications.

Phase II of the IEB 79-14 program involves a sampling inspection of the total and will be performed by an organization outside of TVA. The licensee stated that because hot functional will not be completed until August 18, 1983, that the Phase II part of the program will not begin until mid August 1983. The anticipated length of the Phase II walkdown is two weeks.

The inspector selected two isometrics (inspection packages) and four hangers on each isometric for a reinspection by the IEB 79-14 group. The isometrics and hangers are as follows:

- Isometric No. 1R70-47W464-209 Rev. 5
- Hanger No. 1-70-ICC-R744 Rev. 902
- Hanger No. 1-70-ICC-R742 Rev. 0
- Hanger No. 1-70-ICC-R741 Rev. 901
- Hanger No. 1-70-ICC-R743 Rev. 1

- Isometric No. 1R78-47W454-203 Rev. 5
- Hanger No. 1-78-A454-3-37 Rev. 0
- Hanger No. 1-78-A454-3-38 Rev. 0
- Hanger No. 1-78-A454-3-25 Rev. 2
- Hanger No. 1-78-A454-3-28 Rev. 1

The inspector found two fillet welds missing on hanger no. 1-78-A454-3-28 but this is discussed in paragraph 3 under violation 390/83-14-02.

Within the areas inspected, no violations or deviations were identified.

6. Licensee Identified Items (92700)

(Closed) LII 50-390/81-44, 50-391/81-43, CVCS (Chemical and Volume Control System) analytical piping model errors. A final report was submitted by TVA for nonconformance report number WBN CEB 8107 on January 5, 1982. Two analysis problems are involved in this nonconformance, and they involve analytical computer models of portions of the chemical and volume control system (CVCS). The analytical model of piping problems N3-62-5A did not match the piping design configuration. A portion of the piping system was modeled with the wrong insulation weight, and various portions of the piping model have geometry errors such as overlapping pipe members. The piping model of problem N3-62-10A did not include valve weights. There are seven valves in this piping problem, and the omission of the valve weights could produce unconservative stress results. TVA has reanalyzed these piping problems with the correct analysis model. Approximately, 37 support changes were required.

The changes for the 37 supports were authorized under Engineering Change Notice No. 2829. Some supports only had the load tables changed on the individual support drawing. Other supports had the load table changed and spring can settings changed. It was noted that one support had a snubber added. The inspector examined the following supports to ascertain that the changes had been completed:

- Hanger No. 62-1-LCV-V96 Rev. 1, change spring can settings
- Hanger No. 62-1-LCV-V210 Rev. 3, change spring can settings
- Hanger No. 62-1-LCV-V85 Rev. 1, change spring can settings
- Hanger No. 62-1-LCV-R92 Rev. 902, add snubber

In addition, hanger no. 62-1-LCV Rev. 2, was reinspected using the site QC inspectors. This item is considered closed.

(Closed) LII 390, 391/81-04-03, Unacceptable welds on duct supports in the auxiliary building. A final revised report was submitted by TVA for nonconformance report number 2654R on January 25, 1982.

This report stated that in a random inspection of 245 Auxiliary Building duct supports inspected before March 27, 1980, approximately 22 percent were found to have welds which are unacceptable. The defects found include undersized welds, incomplete welds, slag inclusions, porosity, and overlap. TVA has reevaluated the subject deficiency. As a result, an alternate criteria has been established by TVA for the visual inspection of fillet welds instead of the requirements of AWS D1.1.

The NCR was revised to institute a comprehensive weld sampling program for all previously installed duct supports. TVA has evaluated the results of this sampling program. The results obtained from the sampling program were reviewed and it was determined that the weld quality was acceptable to ensure structural integrity. Therefore, the welds on the subject duct supports were suitable for use as-installed. The aforementioned corrective actions meet the requirements of the AISC Specification for the design, fabrication, and erection of structural steel for building. The licensee stated that the FSAR had been changed to reflect the change in inspection criteria for HVAC supports.

The inspector examined the HVAC support inspection sheets to determine the defects reported. In addition, the inspector visually examined portions of the following HVAC supports:

- Hanger No. 1030-DW920-26H-0149
- Hanger No. 1030-DW920-17H-0347
- Hanger No. 1030-DW920-06H-2123
- Hanger No. 1030-DW920-05H-0213
- Hanger No. 1030-DW920-17H-2077

This item is considered closed.

Within the areas inspected, no violations or deviations were identified.