



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

APR 30 1980

Report Nos. 50-390/80-11 and 50-391/80-08

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

Facility Name: Watts Bar Nuclear Plant

Docket Nos. 50-390 and 50-391

License Nos. CPPR-91 and CPPR-92

Inspection at Watts Bar near Spring City, Tennessee

Inspector: L. Modenos
L. Modenos

4/29/80
Date Signed

Approved by: A. R. Herdt
A. R. Herdt, Section Chief, RCES Branch

4/29/80
Date Signed

SUMMARY

Inspection on April 9-11, 1980

Areas Inspected

This special, announced inspection involved 20 inspector-hours on site in the area of pipe support base plate design using concrete expansion anchor bolts (IE Bulletin 79-02).

Results

No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- *J. E. Wilkins, Project Manager
- *H. C. Richardson, Construction Engineer
- *S. Johnson, Assistant Construction Engineer (Mechanical)
- *C. D. Christopher, Assistant Construction Engineer (Civil)
- *T. B. Bucy, Supervisor, HEU
- *L. J. Johnson, Supervisor, MEU-B

Other licensee employees contacted included construction craftsmen, technicians, and QC inspectors.

NRC Resident Inspector

- *J. McDonald
- *T. Heatherly

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 11, 1980 with those persons indicated in Paragraph 1 above.

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 paragraph 5.

5. Licensee Identified Items

- a. (Open) Item 390/79-22-01 and 391/79-18-01, "Defective Phillips Self-Drill Concrete Anchors - NCR 1433 R" (10 CFR 50.55(e))

The inspector held discussions with responsible licensee representatives of implications of NCR 1433 R to IE Bulletin 79-02. TVA's report of June 20, 1979 gave an estimate of the number of defective anchor used per craft from October 17, 1978 through January 3, 1979. The requirements of the bulletin are to assure operability of safety related piping systems. The above report identified approximately 3000

defective anchors used by the pipe fitters. The licensee agreed that in order for the requirements of the bulletin to be satisfied, all anchors used in that time frame in safety related piping systems, by the pipe fitters, must be identified and tested. In addition, the remaining anchors need to be identified and an evaluation submitted for NRC's review.

- b. (Open) Item 390/80-06-01 and 391/80-05-01, "Seismic Pipe Supports NCR 2019R" (10 CFR 50.55(e))

TVA notified RII that due to a training session for new field inspectors, a number of documented seismic supports were inspected. Each support was found to have one or more deficiencies. This prompted TVA to issue the subject 10 CFR 50.55(e) to the NRC with recommended disposition to modify their procedure used to inspect seismic pipe supports. The inspection and review of the procedure falls under the requirements of IE Bulletin 79-02 and are discussed in paragraph 6.

6. (Open) Pipe Support Base Plate Design Using Concrete Expansion Anchor Bolts (IE Bulletin 79-02)

Quality Control Procedure WBNP-QCP-4.23 "Standard Inspection and Documentation Requirements for Seismic Supports" Rev. 0 dated February 2, 1980, written to satisfy the recommended disposition of NCR 2019R referenced in paragraph 5B above, was reviewed by the inspector for the requirements of IE Bulletin 79-02. The licensee agreed with the NRC inspector that the following changes be incorporated into the procedure:

1. Attachment F of Procedure: "If one or more of the above inspections cannot be done----- the support can be accepted with appropriate comments". Appropriate comments are not acceptable unless as a minimum a visual inspection is performed of the support.
2. Appendix 1: "Section 6.2.2". How can the numbers mentioned in this paragraph be justified with the numerous nonconformances identified and the requirements of the bulletin. A special inspection program to justify these numbers was proposed which will be mentioned below.

"Section 6.4.2.2". Why are the wedge bolts not ultrasonically inspected (UT) to determine the actual length of the bolt. TVA's response was that they only had a minimum length of bolts for each size used, therefore they were assured they had the minimum length required. The inspector examined BNP's warehouse and their purchasing invoices and discovered that the 1/2" diameter and the 5/8" diameter wedge bolt lengths were less than the specified length stated in their general procedure G-32. The licensee is evaluating why these bolts were in the stock room and determine whether any had been used on safety related components. TVA will examine this occurrence with regard to all other sites to check their wedge bolts anchors on minimum length requirements. This item is identified as an unresolved item 50-390/80-11-01 and 50-391/80-08-01: General procedure G-32, Wedge bolt

minimum lengths. In addition, a paragraph will be added to this section of the procedure for UT the lengths of the wedge bolts.

- 3. "Section 7.1.3" will add a paragraph to check concrete integrity. "Section 7.2" will add a paragraph on acceptance criteria for plug depth.

"Section 7.3.2" "If anchor slips, an adjacent anchor shall also be tested" - will add a paragraph to visually inspect the remaining anchors on the plate.

"Section 7.3.3" a grouted --- anchor does not require testing" - Add 1/8 of turn beyond the requirements of G-32 after contact to assure nut is present in embed.

"Section 7.4.4" If wedge bolt projection is cut it will be replaced - Inspection of projection to be taken after torquing.

"Appendix 8", "Final Inspection of Seismic Supports" falls under the requirements of IE Bulletin 79-14. This was discussed with the licensee that this portion should be expanded to cover all the requirements of IE Bulletin 79-14.

TVA informed the inspector that a procedure was in draft form which would inspect for pipe geometry. The inspector suggested that valve verification, material verification and penetrations should be added in order for the procedure to be complete. The licensee agreed that these items will be implemented in their new procedures.

The licensee agreed on a sample inspection program similar to the one proposed at Sequoyah Nuclear Plant to assure the confidence level required to satisfy RII that WBNP meets the requirements of IE Bulletin 79-02. A minimum of 120 base plates will be selected from safety-related systems. One bolt per plate to be inspected as follows:

Diameter of Bolt Number of Bolts:

1/4	30
3/8	30
1/2	30*
5/8	30
3/4	30
7/8	30

*Excluding the 1/2" defective anchors identified in NCR 1433R.

If more than 4 anchors are found to be outside the anchor acceptance criteria, a minimum of another 120 plates, two anchors per plate are to be inspected as above and so on.

The inspector reinspected the following supports that were completed under the new QC procedure WPNP-QCP-4.23.

67-IERCW-R93
-R106
-R160
-R166

SIS-1-63-008
-458
-460
-585
-601

The inspector notified the licensee of his concern about the sign out sheets were not available to the QC inspectors and that errors could result from the method they used to sign off the inspection of the supports. This IE Bulletin 79-02 remains open until all inspections and evaluations are completed and evaluated by the NRC

No items of noncompliance or deviations were identified.