



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

Report Nos. 50-390/81-18 and 50-391/81-18

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

Facility Name: Watts Bar

Docket Nos. 50-390 and 50-391

License Nos. CPPR-91 and CPPR-92

Inspection at Watts Bar site near Chattanooga, Tennessee

Inspectors:

R. V. Hargrett for
J. A. McDonald

10/5/81
Date Signed

R. V. Hargrett for
T. L. Heatherly

10/5/81
Date Signed

Approved by:

D. R. Quick
D. R. Quick, Section Chief, Division of Resident
and Reactor Project Inspection

10/7/81
Date Signed

SUMMARY

Inspection on August 21 - September 20, 1981

Areas Inspected

This routine announced inspection involved 40 resident inspector-hours on site in the areas of licensee action on previous inspection findings, fuel receipt and storage and preoperational test program implementation.

Results

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

8111050530 811007
PDR ADOCK 05000390
G PDR

DETAILS

1 Persons Contacted

Licensee Employees

- *J. E. Wilkins, Project Manager
- *H. J. Fisher, Assistant Construction Engineer
- *T. W. Hayes, Instrumentation Supervisor
- M. K. Jones, Preoperational Test Supervisor
- *R. C. Manley, Plant Services Supervisor
- *R. W. Olson, Construction Engineer

Other licensee employees contacted included six engineers, and 15 corporate personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 18, 1981 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

The inspectors participated in several meetings and phone conferences with licensee personnel from the construction, Nuclear Power, and Engineering Design staffs concerning development of corrective actions and the status of implementation of corrective actions for outstanding NRC inspection findings. Issues which were not ready for closure and which did not warrant an updating are not discussed in this report. The following issues were considered by the licensee to be ready for closure, were inspected and either closed or their status updated.

- a. (Closed) Infraction (390/80-23-04): Failure to follow work plan procedures. Twelve safety-related work plans were reviewed to insure compliance with revised site procedures WBNP-QCI-1.30 and WBNP-AI-8.B. The licensee has corrected conflicts between these two interfacing procedures and has better defined the administrative review and approval responsibilities for implementing work plans.
- b. (Open) Deviation (390/80-26-01): Failure to implement Upper Head Injection (UHI) system testing commitments made to NRC. During the course of testing, evaluation of results, and response to IE concerns, TVA concluded the performance of Unit 1 system was adequate. However, the relationships to Sequoyah testing were not borne out (piping hydraulic resistance is different) and utilization of the Sequoyah water level setpoints is not appropriate. Therefore TVA must still resolve test program commitments with NRR, including updating of the FSAR.

- c. (Closed) Violation (390/81-03-07): Failure to compensate instrumentation for elevation effects. As committed in response to this violation, preoperational test section instruction letters 6 and 16 have been revised. These instructions now require recording of height compensation information in both the Test Director's log and the test data sheets. Also prior to the execution of a test the Test Director must ensure the elevation effects have been properly accounted for. The generic resolution of this item requires the issuance of a staff procedures manual for testing at Bellefonte and later plants. This will be addressed as an open item under the Bellefonte docket.
- d. (Closed) Unresolved Item (390/81-09-12): Installation of check valves in the vertical position. Concurrence by the four involved valve manufacturers was reviewed. The correspondence indicated that installation of their respective check valves in the vertical position was acceptable and would not cause adverse effects on system operation or cause valve malfunction.
- e. (Closed) Unresolved Item (390/81-09-14): Diesel Generator Control Panel fire. This fire occurred as a result of mishandling leads which had been temporarily lifted as part of a panel wire check. The licensee concluded from its investigation and discussion with the resident inspector, that improved specification of post maintenance testing and establishment of temporary marking requirements were appropriate. Appropriate revisions to Standard Practice 7.1.2. have been issued.
- f. (Closed) Open item (390/80-21-12): Specification of hydrostatic test pressures. The issuance of QCT-4.37 including Section 7.3 "Test Pressure" and generic revisions to 47 W8xx series flow diagrams has clarified the manner of determining hydrostatic test pressures.
- g. (Closed) Open Item (390/80-21-13): Preoperational test acceptance criteria for valve stroking time. Preoperational test W-3.1E "Residual Heat Removal Pump and related Injection System Performance Test", has been revised to appropriately include acceptance criteria for the stroking time of valves as required by Appendix C to Regulatory Guide 1.6.8. initiated a nonconforming Condition Report to identify it.
- h. (Closed) Open Item (390/80-23-15): Refueling Water Storage Tank (RWST) cavity piping sleeves allowed drainage to sump rather than underground drain system. TVA reviewed this design and issued Engineering Change Notice 2774 which sealed the residual heat removal and containment spray piping sleeves. The inspector observed the completed work and noted that water, apparently from rain and/or RWST instrument line leaks was filling the cavities. The drain systems were not effectively removing the water. TVA noted this condition and had initiated a nonconforming condition report to identify it.
- i. (Closed) Open Item (390/80-23-16): Upper Head Injection System test W-10.8. These procedural inadequacies have been corrected and testing

accomplished for Unit 1. Appropriate revisions to the Unit 2 procedure have not yet been issued, therefore that item remains open.

- j. (Closed) Open item (390/80-26-04, 391/80-26-02): Upper Head Injection Sytem flow control valve accumulator weight switches have been eliminated by design change. Design (EN DES) has approved and issued a Westinghouse recommendation for monitoring accumulator charge by monitoring accumulator pressure. This has provisions for determining if a reduction in accumulator pressure is due to an accumulator oil leak or nitrogen leak. These provisions have been incorporated in Standard Operating Instruction 87.1. It was noted that TVA was considering a design change to facilitate additional accumulator monitoring. However, the current provisions for monitoring accumulator status were considered by the inspector to be adequate in the short and long term.
- k. (Closed) Open Item (390/80-35-04, 391/80-22-03): Adequate application of quality control procedures to activities affecting quality. In an overall effort to improve the QA program, construction has completed a review of all upper tier documents to ensure that these requirements are in the site QA program. This effort was in response to other enforcement items and problems recognized by site management. A similar effort covering the adequacy of upper tier documents in transcribing regulatory commitments is underway. Commitments related to this effort are being addressed in the licensee's response to IE report 50-390/81-09, 50-391/81-09.
- l. (Closed) Open Item (390/80-35-13): Incorrect G-37 Specification. Section 2.3 of G-37 has been revised, and distributed. The guidance given for placement of the low pressure tap on the HVAC flow balancing test equipment was corrected.
- m. (Closed) Open Item (390/81-03-06): Maintenance of Outstanding Work Item List (OWIL) after system tentative transfer. The inspector reviewed the revised formal administrative controls provided in Section D.v. of Standard Practice 14.1 and Section 6.1 of QCI-1.30. These interfacing Nuclear Power and Construction procedures provide the requirements and consistent administrative controls for updating the OWIL.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Fuel Receipt and Storage

The licensee notified the resident inspector office on August 28, that approximately ten inches of water had been found in the spent fuel pit. This water was in contact with the bottom nozzles of approximately 250 new fuel assemblies which were supposed to be secure in dry storage. The water was apparently introduced since the pit was last closed on August 21. The

licensee investigated the incident, while keeping the inspector appraised of progress. The investigation did not identify the source of the water. The following actions were identified, and reported to be implemented by the licensee to correct the condition and to help minimize the possibility of recurrence:

- .The water was sampled, found slightly contaminated (0.3 ppm chloride), and was removed.
- .Surfaces of four fuel assembly bottom nozzles were swiped and found not to have been contaminated.
- .The fuel manufacturer was contacted with these chemistry results and preliminarily indicated that no adverse consequences were expected.
- .Valves in piping systems entering the spent fuel pit were lockwired shut, in addition to the hold order tags in effect during the time of the incident.
- .Weekly removal of the spent fuel pit covers for inspection has been initiated, in addition to the tamper alarm circuit which was in effect during the incident.

The inspector observed a portion of the investigation of system lineups and also confirmed, by a sample inspection, that lockwires were added to valve handwheels. The inspector concluded that the licensee's efforts adequately addressed fuel condition and physical security.

Additionally, the licensee plans to install a temporary level alarm in the spent fuel pit. This action, if taken, will be an NRC concern only as it pertains to control of temporary alternations.

Based upon this review, no violations or deviations were identified.

6. Preoperational Test Program Implementation

- a. The administrative controls implemented during the plant's preoperational test phase for processing Design Change Requests (DCR) was reviewed. Twelve safety-related DCRs were reviewed for appropriateness of disposition. Within the areas inspected no violations or deviations were identified.