

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

Report Nos.: 50-390/84-68 and 50-391/84-49		
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 Conducted: August 28-31, 1984 Inspector: J. J. J. Gibbons		<u>9-27-84</u> Date Signed
Approved by: BR. Photosoft T. E. Conford Section Chief Engineering Branch Division of Reactor Safety		Date Signed

SUMMARY

Scope: This routine, unannounced inspection involved 28 inspector-hours on site in the areas of review of the Black and Veatch independent design review and worker concerns.

Results: No violations or deviations were identified.

REPORT DETAILS

- 1. Licensee Employees Contacted
 - *G. Wadewitz, Project Manager
 - *T. Hayes, Supervision Nuclear Licensing Unit
 - *S. Johnson, Quality Manager
 - *J. O. Selewski, Construction QA Engineer
 - A. Greer, Supervisor Electrical QC
 - J. Smith, QA Records Supervisor

NRC Resident Inspector

M. Shymlock, SRI

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 31, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Black and Veatch Independent Review

The inspector examined the Black and Veatch (B&V) Independent Review of the Auxiliary Feedwater (AFW) System. The inspector examined the electrical findings and selected the following findings for in-depth examination.

a. Findings: F101, F102, F103, F104, F105, F106, F107, F110, F111, F114, F115, F116, F117, F123, F124, F127, F130, F131, F141, F802, F803, F804, F805, F806; NCR WBN SWP 82-67

This group of findings documents undetected but minor drawing errors. The licensee indicated that normal construction testing and preoperational testing would have identified and corrected these items. The licensee has issued an Engineering Change Notice (ECN) 3647 which corrects the drawings. The inspector verified the updating of the drawings. b. Finding F100 - Failure to Monitor Operability of Motor Driven (MD) Auxiliary Feedwater Pump Lube Oil Pump

This finding discusses the compliance with Regulatory Guide 1.47, "Bypasses and Inoperable Indications for Nuclear Power Plant Safety Systems." The item in question was that the lube oil pump for the MD AFW Pump did not have automatic indication for operability. When the lube oil pump is taken out of service for maintenance, the AFW pump would be inoperable. Regulatory Guide 1.47 does not require automatic indication of any device which is not expected to be out-of-service more frequently than once a year. However, the licensee states that they have added a circuit to monitor the lube oil pump motor since Nuclear Power considers that maintenance may be performed more frequently.

c. Finding F140 - NCR WBNEEB 81-04, Insufficient Documentation to Justify Environmental Qualification of AFW Pump Motor Drives Previously Identified.

This finding discusses the environmental qualification of the auxiliary feedwater pump motor. Questions related to the qualifications of the pump motor, the auxiliary oil pump motors, electrical cable terminations, the electrical system, operability requirements and aging. The licensee has issued NCR WBNEEB 81-04 documenting that the lube oil pump motors have a lower nameplate voltage rating than required, i.e., 440 volts vs. 460 volts. The new motors will be qualified to NUREG 0588. The other questions were answered by the licensee and the response appears adequate.

d. Finding F144 - NCR WBNEEB 81-12 Some Instrumentation and Controls Not Environmentally Qualified for HELB - NUREG 0588. Program will Assure Qualification.

This finding discusses the environmental qualification of instrumentation for the AFW system. TVA notes that this was identified prior to B&V's independent review during TVA's review for NUREG 0588. This item is being handled with NRR.

e. Findings: F113, F125, F132, Time Delay Relay Settings on Schematic Drawing Do not Agree with Logic Drawing:

Finding F126, Failure to Specify Time Delay Relay Setting

Finding F801, Time Delay Relay Setting Not on Schematic Drawing

These findings discuss the absence of time delay relay setting information and disagreement of setting information between the schematic and logic diagrams. The licensee developed a procedure requiring the time delay relay settings to be entered on the drawings as either an exact value or a setting range. Procedure EN-DES-SEP 83-11, "Incorporating Time Delay Relay Setpoint on EN DES Drawings for Watts Bar, Sequoyah, and Browns Ferry Nuclear Plants," Revision R1, dated December 1, 1983, was reviewed and appears satisfactory.

f. Finding F118 - NCR GEN NEB 83-01 Failure to Monitor for the Failure of Westinghouse W-2 Switches

This finding relates to the 3 position W-2 switch which has an "a" contact that should close when the switch is spring returned to the neutral position, however, it may remain open thus defeating automatic actions.

TVA's June 2, 1982, response to NRC committed that "circuits will be wired to monitor contact continuity"... as directed by IEB 80-20.

During the evaluation of the W-2 switches, it was found that several pressure switches were not receiving divisional power as indicated in the FSAR. The licensee has taken actions which correct this condition on Construction Deficiency Report (CDR) 390-83-08 and 391-83-07. Engineering Change Notice 3951 issued to correct CDR 390-83-08, was examined, and closed in IE report 50-390/84-53.

The licensee established a task force for the review of the Black and Veatch findings. Each of the task force categories was evaluated for cause, generic examples, acceptability for licensing basis, and corrective actions. This examination has identified several areas in which the licensee intends to do additional review to assure that the generic implications are identified and corrected.

Based on the items examined, the inspector believes that the Black and Veatch Independent Design Review was complete and fully adequate. It is considered that the licensee task force review was satisfactory and covered generic items that makes further independent review redundant.

6. Worker Concerns

The NRC inspector examined the concerns of a worker relating to the following subjects:

- Inspection Quotas
- Inadequate inspection of two plant areas
- Qualifications of inspectors
- Retention of records
- QC personnel performing engineering functions
- OC procedure commitments

a. Inspection Quotas

The NRC inspector discussed the quota issue with the electrical QC supervisor, a group leader, and four workers. The supervisor stated that there is no quota system, but he does look at the work accomplished. If an inspector does not complete a reasonable number of inspections, he will be spoken to about the need of completing more work. If there is a problem with the inspections, such as scaffolds or craft support, the supervisor will arrange the necessary support. The group leader stated that he had asked his men to try to achieve a reasonable number of inspections per week. He stated that overtime was available but not required until 30 days ago when all inspectors were placed on a 12 hour day schedule. The NRC inspector was shown manpower reports from September 1983 through December 1983, which identified that annual leave was granted each week. The leave granted during the time frame was 2544.5 hours and the overtime worked was 4559.5 hours.

This appears to establish that there was no quota system being enforced. The individual inspectors stated they did not like the required overtime but they stated they did not know of a quota system.

b. Inadequate Inspection of Two Plant Areas

The worker identified elevation 757' level in the reactor building and diesel generator room 2BB as areas where inspection could not be performed completely due to scaffold removal. The worker stated his supervisor told him not to issue a nonconforming report and to identify the conduits he could and list the remaining as "and others" on his report covering his inspection of conduits, and conduit and cable tray supports.

Examination by the NRC inspector revealed that the licensee uses a computer record system which requires each item to be entered by its unique identifier. The entry cannot be made on a listing of "and others". The 757 ft. elevation of the reactor building was examined by the NRC inspector. There were no conduits or supports which were not identified.

The worker questioned cable tray supports in the 2BB diesel generator room. The NRC inspector examined the 1BB and the 2BB generator rooms, examining all cable tray supports to assure that they were welded on all four sides.

c. Qualifications of Inspectors

The worker expressed concern that two inspectors who were assigned to perform inspections on bolted connections were not qualified. The inspector examined the records of the two inspectors identified by the worker. The records indicated that the required procedural qualifications had been completed for both inspectors in question. One of the inspector's records indicated that he was inspecting bolted connections at the Hartsville plant switchyard during 1981. The other inspector was assigned to the Watts Bar Electrical Engineering Unit prior to his assignment to the Electrical Quality Control Unit. One of the items in his 1983-1984 appraisal was his effectiveness at inspecting bolted connections. He received a satisfactory rating in this category. The NRC inspector did not find any inconsistencies in the qualifications of these inspectors.

d. Retention of Records

The worker expressed concern that test cards were being discarded. The NRC inspector discussed this item with the supervisor of the QA records The supervisor stated that no records are discarded by his vault. personnel. If a record is not required or if duplicate records are identified, the records are returned to the Electrical Engineering Unit for disposition. There was a total review of electrical records for accountability. During the review, the records were examined to assure the required records were on file and the non-required records were removed. Electrical QC Unit supported this review which was conducted on the second shift. Some records that were removed were cable pull card revisions which did not require rework, megger records for cables which did not require meggering, and any record which needed clarification. These records were turned back to Electrical Engineering for review, resubmission or disposal. A group leader in the Electrical Quality Control Unit verified that he worked on the review and all records removed from the files were returned to the Electrical Engineering Units.

e. QC Personnel Performing Engineering Functions

The worker questioned the use of QC inspectors to do engineering functions. The NRC inspector discussed this concern with the QC supervisor and a group leader who stated that there were no engineering duties assigned to inspectors. He did note that sometimes an inspector is asked to assist an engineer on some small tasks. He stated this happens infrequently and is used to prepare items for inspection. Further discussions will be held with QC personnel during future inspections.

f. QC Procedure Commitments

The worker had a concern that TVA was not incorporating ASME and IEEE requirements in the site procedures. He also commented that procedures are revised frequently. The licensee has prepared procedures which comply with the commitments of the FSAR. The commitments may exempt all or part of these standards. In addition, these standards frequently updated and added new requirements which are not factored into the licensee FSAR commitment. The licensee frequently revises procedures to incorporate new requirements, correct errors, or more adequately define the scope of engineering or inspection. The procedures are reviewed by the licensee staff.

There were no violations or deviations identified.



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

DCT 4 1984

Tennessee Valley Authority ATTN: Mr. H. G. Parris Manager of Power and Engineering 500A Chestnut Street Tower II Chattanooga, TN 37401

Gentlemen:

SUBJECT: REPORT NOS. 50-390/84-68 AND 50-391/84-49

On August 28-31, 1984, NRC inspected activities authorized by NRC Construction License Nos. CPPR-91 and CPPR-92 for your Watts Bar facility. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed inspection report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observation of activities in progress.

Within the scope of the inspection, no violations or deviations were identified.

In accordance with 10 CFR 2.790(a), a copy of this letter and enclosure will be $plac_1 \in in$ the NRC Public Document Room unless you notify this office by telephone within 10 days of the date of this letter and submit written application to withhold information contained therein within 30 days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1).

Should you have any questions concerning this letter, please contact us.

Sincerely,

Dawid M. Nerrelli, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure: (See page 2)

Tennesee Valley Authority

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- cc w/encl: W. T. Cottle, Watts Bar Nuclear Plant Site Director
- E. R. Ennis, Plant Manager
- J. W. Anderson, Manager Office of Quality Assurance
- H. N. Culver, Chief, Nuclear Safety Staff
- R. Pierce, Watts Bar Nuclear Plant Project Manager
- D. L. Williams, Jr., Supervisor Licensing Section
- R. E. Teamer, Project Engineer
- G. Wadewitz, Construction Project Manager
- T. J. Kenyon, Project Manager, NRR

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