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

Report Nos.: 50-390/85-64 and 50-391/85-53

Licensee: Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Docket Nos.: 50-390 and 50-391 License Nos.: CPPR-91 and CPPR-92

Facility Name: Watts Bar 1 and 2

Inspection Conducted: December 21, 1985 to January 20, 1986

Inspectors: R E Carroll Jr for — 2/13/86
M. B. Shymlock — Date Signed

R E Carroll Jr for — 2/13/86
W. E. Holland — Date Signed

R E Carroll Jr for — 2/13/86
C. W. Caldwell — Date Signed

Approved by: S P Weise — 2/14/86
S. P. Weise, Section Chief — Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine inspection entailed 93 resident inspector - hours on site in the areas of licensee action on previous enforcement items, fire prevention and fire protection, preoperational test program implementation verification, testing of pipe support and restraint systems, welding of safety-related piping, electrical components and systems - observation of work and work activities, and licensee event followup.

Results: One violation was identified in this inspection report.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

W. R. Brown, OEDC Project Manager for Watts Bar
W. T. Cottle, Site Director
*#E. R. Ennis, Plant Manager
*#R. H. Ector, Assistant Site Director
G. Wadewitz, Construction Project Manager
*#B. S. Willis, Operations and Engineering Superintendent
*H. B. Bounds, Maintenance Superintendent
D. W. Wilson, Design Services Manager
#J. E. Gibbs, Site Services Manager
*R. Norman Jr., Operations Supervisor
*T. L. Howard, Quality Engineering Supervisor
R. C. Miles, Modifications Manager
*R. D. Greer, Electrical Maintenance Supervisor
C. D. Nelson, Special Projects Manager
M. K. Jones, Engineering Group Supervisor
R. A. Beck, Health Physics Supervisor
R. T. McCollom, Acting Instrument Maintenance Supervisor
*J. A. McDonald, Plant Compliance Supervisor
R. R. Garu, Preoperational Test Supervisor
#R. D. Tolley, Project Manager, Design Services
T. W. Hayes, Nuclear Licensing Unit Supervisor
L. C. Miller, Head, Plant Quality Engineering and Control Group
A. J. Everitt, Welding Engineer, QC
*L. E. Ottinger, Plant Compliance Staff, Nuclear Engineer
C. A. Borelli, Plant Compliance Staff, Nuclear Engineer
R. E. Yarbrough Jr., Assistant Operations Supervisor
R. E. Bradley, Assistant Operations Supervisor
M. J. Burzynski, Regulatory Engineering Supervisor
*#G. R. Owens, Nuclear Engineer, Nuclear Licensing Section
T. R. Brown, Asst. Construction Engineer - Construction
*R. L. McKnight, Engineer, Design Services - WBNP
R. C. McKay, Project Engineer, PMO-WBN
*#M. Reeves, Project Engineer, PMO-WBN
*#C. J. Riedl, Nuclear Engr., Nuclear Licensing Branch
*L. C. M. Roddye, Civil Engr., DSS
*R. G. Pratt, Project Engr., CEB
*D. G. Fickey, Supervisor Office of Engineering, WBNP
*J. E. Lee, Asst. Supervisor, Instrument Maintenance
*E. L. Burke, Assistant Quality Manager, QC
*P. J. Wilson, Nuclear Licensing Unit, QC
*A. Greer, Electrical Quality Control, QC
#R. H. Shell, Supervisor, Nuclear Licensing Branch

Other licensee employees contacted included engineers, technicians, nuclear power supervisors, and construction supervisors.

*Attended exit interview on January 23, 1986
#Attended exit interview on January 28, 1986.

2. Exit Interview

The inspection scope and findings were summarized on January 23 and January 28, 1986, with those persons indicated in paragraph one above. Two inspector followup items were identified with regards to monitoring of corrective actions for identified structural deficiencies (paragraph 6) and followup on corrective action for discrepancies identified during an electrical inspection (paragraph 8). One unresolved item was identified with regard to licensee evaluation of minimum bend radius requirements on installed electrical flexible conduit (paragraph 8). One violation was identified with regard to failure to provide timely responses to violations, and timely construction deficiency reports (CDRs) (paragraph 9).

The licensee acknowledged the inspection findings with no dissenting comments; however, the licensee stated in the exit on January 28, 1986, that they were aware of the problem identified with providing timely responses to violations and CDRs, even though a condition adverse to quality (CAQ) report was never issued. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection. At no time during the inspection period did the inspectors provide written material to the licensee.

3. Licensee Action on Previous Enforcement Matters (92702)

(Open) UNR 390/85-53-02; 391/85-43-02, Apparent ASCO Solenoid Mounting Problems. The subject item was identified in inspection report 390/85-53; 391/85-43. The apparent mounting problems were identified on a tour when the inspector noted that several ASCO solenoid valves for the Safety Injection System near the Boron Injection Tank were not mounted flush with their hangers. As a result, the licensee issued nonconformance report (NCR)-6298 for the Office of Engineering (OE) to perform an analysis of this mounting method with regard to the seismic qualification. During this time frame, the environmental qualification was also questioned because it was determined that the NUREG 0588 boundary on these solenoids was violated.

Since the original identification of this problem, the inspector has continued a review of applicable ECNs, Work Plans, and other associated documentation. The inspector has held numerous discussions with the licensee to determine the details of the ASCO solenoid mounting problem. The inspector is reviewing the solenoid installation and the method of implementing the design requirements specified in the mounting details. As a result of the ASCO solenoid mounting concerns, the licensee has conducted a generic review of the mounting methods for these solenoids and all locally mounted instruments. The inspector will review this effort during a future inspection.

4. Fire Prevention and Fire Protection - Unit 2 (42051)

During plant tours, the inspectors conducted observations of fire prevention and protection activities in areas containing combustible materials where ignition of these materials could damage safety - related structures,

systems or components. The observations included verification that applicable requirements of Administrative Instruction (AI) 9.9 (Torch Cutting, Welding, and Open Flame Work Permit), Standard Practice WB 12.6 (Fire Brigade Instructor's Guide and Fire Brigade Handbook), AI 1.8 (Plant Housekeeping) and WBNP Quality Control Instruction (QCI) 1.36 (Storage and Housekeeping) were being implemented with regard to fire prevention and protection.

Within this area inspected, no violations or deviations were identified.

5. Preoperational Test Program Implementation Verification - Unit 1 (71302)

The inspectors conducted routine tours of the facility to make an independent assessment of equipment conditions, plant conditions, security, and adherence to regulatory requirements. The tours included a general observation of plant areas to determine if fire hazards existed, observation of other activities in progress (e.g., maintenance, preoperational testing, etc.) to determine if they were being conducted in accordance with approved procedures. Also, observation of other activities which could damage installed equipment or instrumentation. The tours also included evaluation of system cleanliness controls and a review of logs maintained by test groups to identify problems that may be appropriate for additional followup.

Within this area inspected, no violations or deviations were identified.

6. Testing of Pipe Support and Restraint Systems - Unit 1 (70370C)

The inspector toured areas of the Unit 1 auxiliary building and reactor building. Numerous snubbers and restraints were observed. Visual examinations were conducted to check for deterioration and physical damage of mechanical snubbers. Visual examinations were also conducted to check for proper installation of base support plates, fasteners, locknuts, brackets, and clamps of fixed pipe supports.

During this inspection period, the licensee furnished the inspectors copies of Significant Condition Reports (SCRs) and Problem Identification Reports (PIRs) which identified potential structural deficiencies in the plant. The SCRs and PIRs identified were:

- SCRWBNCEB8576 - Inadequate flexibility for tubing attached to the steel containment vessel.

- SCRWBNEEB8572 - Piping installed in the Radiation Sampling and Radiation Monitoring System was installed to meet seismic qualification without adequate consideration of thermal effects.

- SCRWBNCEB8537 - Seismic supports designed such that significant lateral loads on the support have not been documented in the design of the support.

- PIRWBNCEB8540 - Pipe support design instability for pin connected components.

- WBNPIRCEB8536 - Design calculations do not document thermal movement considerations with regards to additional loading to baseplates/ embedded plates which support them.

The inspectors will monitor the corrective actions of these deficiencies to determine if inspections during future walkdowns could identify similar conditions. This followup inspection effort is an inspector followup item (390/85-64-01).

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

7. Welding of Safety-Related Piping - Unit 2 (55083C)

The inspector reviewed the following welds on the Essential Raw-Cooling Water System:

- Weld number-2-067C-T648-19
  Class of Weld-ASME Sec. III Class 3
  Weld process was on 4"-316 stainless steel pipe.
  Work package/plan-N067C01.

- Weld number-2-067C-T648-18
  Class of Weld- ASME Sec III Class 3
  Weld process was on 4"-316 stainless steel pipe.
  Work package/plan-N067C01.

The inspector observed fitup, purging and in-progress welds. He verified that weld filler was stainless steel type 316 for use on the pipe that was stainless steel type 316. He checked these weld operations for compliance with documentation, welder qualification, non-destructive inspection requirements, and adherence to procedures.

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

8. Electrical Components and Systems - Observation of Work and Work Activities - Unit 2 (51053C)

The inspector conducted a tour of the Unit 2 Reactor Building in order to observe and evaluate work activities with regard to electrical components and systems. During this inspection the inspector noted two discrepancies in the area where most penetrations entered containment from the auxiliary building. These discrepancies were:

- An air supply line to valve 2-FCV-63-21 was disconnected from the valve.

- Engineered support 47A406-11-8 did not appear to be properly fastened in that the torque seal did not cover both the mounting bolts and nuts in a manner such that the nuts could be loosened without affecting the torque seal.

The inspector identified these discrepancies to the licensee. Followup on corrective action for these discrepancies is identified as inspector followup item (391/85-53-01).

Also, during the inspection, the inspector noticed that several electrical flexible conduits appeared to have very sharp bend radii. Specific components with electrical flexible conduits connected to them in this condition were valves 2-FCV-77-18, 2-FCV-77-19, and 2-FCV-83-21. The inspector identified this condition to the licensee and requested that a determination be made as to whether these bend radii were within design specification. This item is unresolved (391/85-53-02) pending licensee evaluation and response.

Within the areas inspected, one unresolved item was identified.

9. Licensee Event Followup (92700)

During this inspection period, the inspectors found that several construction deficiency reports (CDRs) and a violation response were not provided to NRC in the required time frame. The inspector determined that on January 6, 1986, the licensee requested extensions for three CDRs which were delinquent at that time. They were:

- CDR 390/86-01, Incorrect Door Check on Fire Door. Report due December 12, 1985.

- CDR 391/86-01, Overpressurization of Volume Control Tank. Report due December 20, 1985.

- CDR 390/86-03, Unacceptable Appendix R Interaction on AFWS. Report due December 27, 1985.

The inspector also determined that on January 21, 1986, the licensee requested extensions for four CDRs which were delinquent at that time. They were:

- SCRWBNNEB 85-28; 85-29, Incorrect Accident Doses on Design Drawings. Report due January 10, 1986.

- NCR 6463, Discrepancies on QA Supports. Report due January 13, 1986.

- NCR 6467, Discrepancies on Control Air System Supports. Report due January 14, 1986.

- NCR W-313P, As-Constructed Drawings do not Reflect Field Configuration. Report due January 16, 1986.

The inspector also determined that on December 31, 1985, the licensee requested an extension to the response for violations identified in Inspection Report Nos. 50-390/85-53 and 50-391/85-43 which was transmitted to the licensee on October 25, 1985. The licensee requested the extension more than 30 days after the due date. The violations were:

- Violation No. 390/85-53-01, Failure to Follow Procedure in Various Construction, OE, and NUC PR Areas for Unit 1. Report due November 24, 1985.

- Violation No. 391/85-43-01, Failure to Follow Procedure and Inadequate Procedure in Construction and NUC PR Areas for Unit 2. Report due November 24, 1985.

The inspector informed the licensee in the exit meeting on January 28, 1986, that the NRC acknowledged receipt of the response to the violations dated January 3, 1986; however, that acknowledgement, dated January 15, 1986, did not imply that the delinquency with regard to the time requirements of 10 CFR 2.201 was satisfactory. The inspector then informed the licensee that failure to submit a written report on a reportable deficiency within 30 days is a violation of 10 CFR 50.55(e)(3) and failure to submit a written explanation or statement in reply to a notice of violation within the specified time (30 days) is a violation of 10 CFR 2.201(a). Repeated delinquency of required reports and responses indicates that the licensee's administrative controls for reports and responses has not been effective over the past three months. This issue is identified as a violation (390/85-64-02; 391/85-53-03) for both units.