UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-390/93-37 and 50-391/93-37

Licensee: Tennessee Valley Authority
3B 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: May 11-17, 1993

Inspector: C. Smith 6-3-93
C. Smith Date Signed

Approved by: C. Julian 6/8/93
C. Julian, Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of preoperational test procedure review of PTI-214.01, 480 Volt Control and Auxiliary Building Ventilation Boards, Revision 0, and followup on licensee's corrective actions for previously identified inspection findings.

Results:

In the areas inspected, violations or deviations were not identified. Preoperational Test Instruction NO. PTI-214.01, 480 Volt Control and Auxiliary Building Vent Boards, Revision 0, was reviewed to verify compliance with (1) the licensee's Chapter 14 FSAR commitments; (2) Startup Manual Administrative requirements; and (3) design basis development references. The inspector concluded that the procedure format and content, required scope of testing, and acceptance criteria were consistent with administrative controls and design output documents. Two previously identified violations were closed.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*S. Anthony, Licensing Engineer
*T. Arney, Senior Quality Project Manager
*M. Bellamy, Startup Manager
C. Christensen, Site Quality Manager
*S. Crowe, QA Manager
*W. Elliot, Engineering Manager
*D. Johnson, Startup Test Engineer
*N. Kazanas, Vice President, Construction Assurance
*D. Koehl, Technical Support Manager
*D. Moody, Plant Manager
*W. Museler, Vice President
*P. Pace, Corporate Licensing Manager
*G. Pannell, Licensing Manager
*R. Purcell, Startup Test Manager
*S. Tanner, Support Services Manager
*C. Touchtone, Licensing Engineer

Other licensee employees contacted during this inspection included engineers and administrative personnel.

Other Organizations

EBASCO

NRC Employees

*P. Taylor, Reactor Inspector
*G. Walton, Senior Resident Inspector

*Attended exit interview

2. Action on Previous Inspection Findings (92702)

a. (Closed) Severity Level IV Violation (50-390/92-41-01) Failure to implement adequate design controls.

The licensee response dated February 8, 1993, was considered acceptable by Region II. The inspector reviewed procedure EAI-3.05, Design Change Notices, Revision 12, and verified that the revised procedural controls do not permit the use of Advanced Authorizations (AAs) for changing system logic, function/performance or operations. The inspector also determined that the revised procedural controls do not allow the use of AAs for changing wire termination points; system set points; nor protective device ratings or configurations. Removal of the 52 auxiliary contact was verified by review of Work Order No. 92-11367-00, page 2 of 17, which documented closure of this work activity. The inspector also verified completion of QC personnel

retraining by reviewing the Stone and Webster Training Report. The inspector concluded that the licensee had satisfied the commitment for retraining of QC personnel. Based on review of the above objective evidence this item is closed.

The inspector concluded that the licensee had determined the full extent of the violation, taken action to correct current conditions, and developed corrective actions needed to preclude recurrence of similar problems. Corrective actions stated in the licensee response have been implemented.

b. (Closed) Severity Level IV Violation (50-390/92-41-02) Failure to use adequate procedures to ensure correct plant configuration.

The licensee response dated February 8, 1993 was considered acceptable by Region II. The inspector reviewed the results of a 100% visual inspection of cable leads performed under Work Requests C137174, C137175, C137176 and C137177. This inspection of system 200, 201, 202 and 244 was completed on December 11, 1992, and did not identify any unintentional lifted leads or jumpers. The inspector also reviewed procedure SMP6.0, Component Test Program, which had been revised to require the use of lifted lead/land logs, jumper logs, and fuse logs in generic test procedures. Requirements for second party verification of relanding or removing wires had also been incorporated in SMP 6.0. The inspector verified that the above requirements had been incorporated in the following generic test procedures:

GTE-XXX-01 through - 04

GTE-XXX-09

GTE-XXX-13 through -17

GTI-XXX-02

GTM-XXX-01 and 02

Additional program changes reviewed by the inspector included revision of SMP 9.0, Test Conduct, to more clearly define the approved scope of trouble shooting activities and the appropriate transition point to other work control processes. Based on the review of the above objective evidence this item is closed.

The inspector concluded that the licensee had determined the full extent of the violation, taken action to correct current conditions, and developed corrective actions needed to preclude recurrence of similar problems. Corrective actions stated in the licensee response have been implemented.

3. Preoperational Test Procedure Review - (IP70300)

The licensee's letter dated January 13, 1993, Subject: WBN Initial Test Program Response to NRC Request for additional information on FSAR Chapter 14, Amendment 69 (TAC M82644 and M82645), transmitted their commitments concerning testing of the Alternating Current, (AC), Power Distribution System. Test Scoping Document, TVA 13A, Onsite AC Power Distribution System, Revision 3, Change 3, specified requirements for preoperational test of the 480 Volt Motor Control Centers (MCCs). Paragraph 7.3 of this document established requirements for the preoperational test to verify the correct and reliable operation of the 480 Volt MCCs as depicted on their single line diagrams. Verification of each Class 1E 480V MCC control and operational functions was required to be performed for the following:

- Non Automatic circuit breakers
- Power Outlets
- Time Delay Relays

Instrumentation functions were also required to be verified for indicating lights, annunciation and thermal overload bypass controls. Test acceptance criteria was delineated in Table 8.3 of the test scoping document.

The inspector reviewed preoperational test instruction PTI-214.01, 480 Volt Control and Auxiliary Building Vent Boards, Revision 0, to determine if the scope of testing, test objectives, and acceptance criteria were adequate to demonstrate that the 480V Control and Auxiliary Building Vent Boards, i.e. MCCs, would perform its design function. Based on this review the inspector determined that Section 1.0, Test Objectives, did not provide clear and concise statements of the test objectives as required by SMP 8.0, Administration of Preoperational Test Procedures, paragraph 2.3.A.2. This administrative deficiency was corrected prior to completion of the inspection by Change Notice Number 1. This Change Notice also added step 4.1.20 which is a pre-requisite to ensure proper configuration control of System 55, Annunciator and Sequential Events Recording, for support of PTI 214.01. The inspector has no further concerns regarding the administrative controls implemented for development of PTI-214.01. The preoperational test was considered technically adequate. All test requirements and test acceptance criteria were fully supported by design output documents. The inspector noted that PTI-214.01 steps which simulated undervoltage alarms for the MCCs did not require verifying the associated six seconds time delay. Discussions with TVA personnel revealed that this design feature had been previously verified via component tests. At the exit interview the inspector stated that the PTI should clearly state that the test objective for the undervoltage alarms is to verify the integrity of the alarm circuits and not to

verify the time delays which had previously been demonstrated to meet design requirements. This clarification is intended to address test requirements delineated in the test scoping document concerning time delay relays.

The inspector concluded that the procedure content, required scope of testing and acceptance criteria were consistent with the licensee's startup Manual Procedures, design basis documents, and FSAR commitments.

Within this area no violation or deviation was identified.

3. Exit Interview

The inspection scope and results were summarized on May 17, 1993 with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.