



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

Report No.: 50-327/78-26

Docket No.: 50-327

License No.: CPPR-72

Licensee: Tennessee Valley Authority
830 Power Building
Chattanooga, Tennessee 37401

Facility Name: Sequoyah Unit 1

Inspection at: Sequoyah Site, Daisy, Tennessee

Inspection conducted: August 23-25, 1978

Inspectors: J. A. Dyer
T. J. Donat

Accompanying Personnel: M. J. Graham
G. A. White

Approved by: *R. D. Martin*
R. D. Martin, Chief
Nuclear Support Section No. 1
Reactor Operations and Nuclear Support Branch

7/20/78
Date

Inspection Summary

Inspection on August 23-25, 1978 (Report No. 50-327/78-26)

Areas Inspected: Routine unannounced inspection relating to the review of preoperational test procedures, review of complete preoperational test packages, followup on previous unresolved items, and facility tour. The inspection involved 64 inspector hours on site by two NRC inspectors and two NRC trainees.

Results: Within the areas inspected no items of noncompliance or deviations were identified.

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DETAILS I

Prepared by:

T. J. Dohat
 T. J. Dohat, Reactor Inspector
 Nuclear Support Section No. 2
 Reactor Operations and Nuclear Support
 Branch

9/20/78
 Date

Dates of Inspection: August 23-25, 1978

Reviewed by:

R. D. Martin
 R. D. Martin, Chief
 Nuclear Support Section No. 1
 Reactor Operations and Nuclear Support
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1. Persons ContactedTennessee Valley Authority (TVA)

- *W. Andrews, Plant QA Staff Supervisor
- *E. Condon, Preoperational Test Section Supervisor
- *R. M. Mooney, Mechanical Engineer
- S. M. Franks, Nuclear Engineer
- R. H. Smith, Electrical Engineer
- W. M. Halley, Nuclear Engineer

*Denotes those present at exit interview.

2. Licensee Action or Previous Inspection Findings

Not inspected.

3. Unresolved Items

None

4. Exit Interview

The inspectors met with Mr. W. Andrews and Mr. E. Condon at the conclusion of the inspection on August 25, 1978. The inspector summarized, as reported in the following paragraphs, the purpose and findings of the inspection. Within the areas inspected no items of noncompliance or deviations were identified.

5. Preoperational Test Procedure Review

The following Preoperational Test Procedures were reviewed for conformance to Regulatory Guide 1.68, FSAR Section 7.6.3 and 9.1.4.3, FSAR Table 14.1, and the FSAR Proposed Technical Specifications.

W-7.1B - "Fuel Handling Tools and Fixtures" Revision 0

W-8.5B - "Reactor Plant System Setpoint Verification" Revision 0

No deficiencies were noted during the review of these procedures.

6. Review and Evaluation of Completed Preoperational Test Procedures

The following completed preoperational test procedures were reviewed for conformance to Regulatory Guide 1.68, FSAR Sections 8.3.1.1, 9.1.4.2.2, 9.1.4.3.1, 7.6.3 and FSAR Table 14.1.

W-7.1A - "Fuel Handling Tools and Fixtures" Revision 0

W-7.2A - "Fuel Transfer System - Operation of New Fuel Elevator, Spent Fuel Pit Bridge Crane-etc." Revision 0

W-7.20 - "Fuel Transfer System Operational Checkout of the Fuel Storage Rocks"

There were no discrepancies noted during the review of the procedures which included: (1) verification that all data had been recorded, and was either within specification or had been already identified by the licensee and resolved, (2) verification that all prerequisites had been signed off as having been satisfied or a Test Change Notice written against the prerequisite, (3) verification that all change notices to the procedure had been reviewed and approved by the Test Program Coordinator and the Plant Superintendent, (4) verification that all procedural steps requiring a signoff had been signed and dated, and (5) verification that the final data package included: (a) the signed off procedure, (b) a copy of all test change notices and test deficiencies together with their resolutions; (c) a copy of the chronological test log; and (d) a copy of each of the completed document review sheets indicating that reviews had been completed by the Test Director, the Chief of the Mechanical Engineering Branch of the Design Engineering Department, and by the Representative of Westinghouse as the Nuclear Steam Supply System vendor.

During the review of Preoperational Test Procedure TVA-14D, Preoperational Test 125V Diesel Generator Battery System, Rev. 0, the inspector noted that FSAR Section 8.3.1.1 identified two battery conditions existing prior to the 30 minute load test. These were that the battery charge

should be 80% of its initial capacity and that the battery should be at its lowest expected temperature. Procedure TVA-14D, in part, calculated an equivalent load test duration based on the difference between the actual battery temperature and the lowest expected temperature but failed to reduce the battery charge to 80% of its initial capacity. Licensee supervisory personnel informed the inspector that a subsequent test still has to be performed on the diesel generator battery and that the procedure will be changed to include a load test initiated at 80% of battery initial capacity and whose duration will be adjusted for the difference between battery ambient temperature and lowest expected battery temperature. The inspector stated he would hold this item open until the new procedure has been issued. (78-26-01)

7. Inspector Identified Items from Previous Inspections

- a. In IE Report 50-327/78-04 Detail I.5.b.2.c the inspector identified that Preoperational Test W-12.1 "Ice Condenser Reactor Containment" - Rev. 0 did not demonstrate that the ice bed was sufficiently well insulated and subcooled so that upon loss of the refrigeration system or all air handlers, ice melting would not initiate for a period of one week as stated in FSAR Section 6.5.6.1 and 6.5.6.3. Based on further review by the inspector at the NRC Regional office and with IE Headquarters sufficient information is available on the insulation properties of the ice condenser materials so that this design aspect of on Ice Condenser operation does not have to be verified by a Preoperational Test.
- b. In IE Report No. 50-327/77-20, Detail I.5, the inspector's comment pertained to vibration data on pumps and motors; observation of piping restraints, snubbers, and supports; check valve operability; and verification of valve opening time under maximum expected differential pressure condition for the W-6.1 series ECCS tests and for the W-2.2 RHR system test. The inspector has reviewed Preoperational Tests W-2.2 Residual Heat Removal System Test" and W-6.1C "Centrifugal Charging Pump and Related Injection System Performance Test" and has no further comments concerning that procedure. The inspector will review the other procedures when they have been issued.
- c. The following items were discussed in IE Report 50-327/78-04:
 1. Detail I.5.b.1 pertained to the UHI (W-6.2) hydraulic isolation valve closing time acceptance criteria. The closing time criteria has not yet been resolved by the licensee.

In addition to the closing time criteria, the inspector noted during this inspection (50-327/78-17) that there are no steps that require observation of the UHI piping, restraints,

snubbers, and supports during dynamic testing of the system. A licensee supervisory representative stated that steps would be added to include observation of piping during dynamic testing of the system. The inspector will review the revised procedure at a later date for: resolution of the valve closing criteria; revision to include observation of piping during dynamic testing; and appropriate review and approval.

2. Detail I.5.b.2 pertained to ice condenser (W-12.1) floor drain valve opening criteria and maximum total weight of ice baskets. These items have not yet been resolved by the licensee. The inspector will review this test subsequent to the resolution of these items.
3. Detail I.6 pertained to ECCS pumps being lined up for recirculation instead of the normal accident condition line up during safety injection system integrated testing. A licensee supervisory representative stated the preoperational test procedure TVA-13B(2) is being revised to include required accident condition flows during integrated testing. The inspector will review TVA-13B(2) subsequent to its revision and approval.

8. Monitoring of Preoperational Testing in Progress

Preoperational test W-6.1C "Centrifugal Charging Pump and Related Injection System Performance Test" was in progress while the inspectors were onsite. The test was reviewed to insure that all prerequisites were signed indicating that they were satisfied or test change notices submitted where prerequisites were not applicable. The procedure was also examined to insure that all preceding steps had been signed and all necessary data had been recorded. The test was monitored in the control room and in the enclosure for centrifugal charging pump 1B-B to insure all personnel had up-to-date procedures. No deficiencies were noted in the conduct of test W-6.1C for centrifugal charging pump 1B-B.

9. Site Tour

The inspectors toured portions of Units 1 and 2 auxiliary buildings, the control bay, Unit 1 reactor building, Unit 2 reactor building, and the turbine building. Housekeeping and general plant cleanliness were observed. No discrepancies were identified.