



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

SEP 7 1979

Report No. 50-327/79-44

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

Facility Name: Sequoyah Unit 1

Docket No. 50-327

License No. CPPR-72

Inspection at Sequoyah Site near Daisy, Tennessee

Inspectors: Thomas J. Donat Sept 7, 1979
T. J. Donat Date Signed
H. C. Dance 9/7/79
H. C. Dance (8/24/79) Date Signed
Approved by: P. T. Burnett 9-2-79
P. T. Burnett, Acting Section Chief, Date Signed
RONS Branch

SUMMARY

Inspection on August 20-24, 1979

Areas Inspected

This routine, unannounced inspection involved 40 inspector-hours onsite in the areas of review of completed preoperational test packages, review of inspector followup items, startup test procedures, and review of plant status. Also documented in this report are ten hours of in-office review of items listed for inspector followup.

Results

In the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- *J. M. Ballentine, Plant Superintendent
- W. H. Kinsey, Jr., Results Supervisor
- E. A. Condon, Preoperational Test Supervisor
- C. Pendergrass, Construction QC Engineer
- *W. E. Andrews, Site QA Staff Supervisor

Other licensee employees contacted included construction craftsmen, operators, security force members, and office personnel.

NRC Resident Inspector

*W. T. Cottle

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 24, 1979 with those persons indicated in Paragraph 1 above. Within the areas of inspection the findings were clear.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Review of Previously Identified Inspector Followup Items

- a). Closed - Followup Item 79-07-01 which addressed the need to perform a review of preoperational section instruction SIL-4, "Equipment Turn-over". Revision 2 to SIL-4 dated May 9, 1979 was reviewed. The revised document is in accordance with the administrative requirements at the site, and the item is closed.
- b). Closed - Followup Item 77-16-01 which concerned incorporation of inspector comments to preoperational tests W-5.2, W-5.3, and W-5.4. The inspector reviewed the approved versions of each of these procedures along with the approved change notices, and noted that all of the inspector comments had been incorporated. This closes the item.

- c). Closed - Followup Item 79-19-04 which concerned adding locally measured leakage for penetration X-35 to the containment integrated leak rate. The inspector reviewed Change Notice 3 and Test Deficiency 6 to preoperational test TVA-2A, "Containment Integrated Leakage Rate Test", which added penetration X-35 to the list of penetrations whose leakage was to be added to the measured leakage rate. This closes the item.
 - d). Closed - Followup Item 79-22-02 which addressed hydraulic snubber leakage and loose and missing mounting hardware on snubbers, hangers, and restraints. The inspector reviewed the construction inspection program for loose hardware which is documented by construction work plans 4337, 4338, 4339, and 4340. The licensee noted that the snubbers identified by the inspector had not had a final construction QC inspection and turnover to Power Production and therefore had not instituted any additional inspection programs for leaking snubbers. The inspector performed an inspection of snubber's on the MS, FW, AFW, SI, AS, and RHR systems in the containment, steam valve vaults, and auxillary building. Of seventy eight snubbers inspected five were found to have minor evidence of oil leakage but all had completely filled reservoirs and are considered operable. This closes the item.
 - e). Closed - Followup Item 79-30-02 which concerned resolution of preoperational test deficiencies on W-2.1C, "Spent Fuel Pool Cooling System (Open Core Cooling); and W-6.10, "SIS-Safety Injection Pump and Related Injection System Performance Test". The inspector reviewed retest package E-4 for W-2.1C which contained the Refueling Cavity Purification Test and the Dewatering Capability Test which were outstanding in the first submittal. The inspector also reviewed the revised Engineering Design Acceptance form for the W-6.1D test data package which indicate that the SIS pump 1A-A cold performance was acceptable based on revised flow information obtained by a more detailed analysis of the original test data. This item is closed.
6. Review of Previously Identified Open Items
- a). Closed - Open Item 76-17-02 which concerned the adequacy of SOI-72.1, "Containment Spray System", with respect to RHR Spray Operation and of SOI-74.1, "RHR System Operation", with respect to shifting from single to two train mode of operation and adding water to the RCS when on RHR cooling. Revision 4 to SOI-72.1 and revision 8 to SOI-74.1 show that the inspectors identified deficiencies have been incorporated. The item is closed.
 - b). Closed - Open Item 77-10-02 which concerned the adequacy of the component cooling water surveillance instruction with respect to technical specification surveillance requirement 4.7.3.1.b. The inspector reviewed the, "proof and review," version of the proposed Sequoyah Unit 1 technical specification and determined that surveillance requirement 4.7.3.1.b has been deleted. The remaining requirement 4.7.3.1, checks the valve positions of alternate trains every 31 days. This

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requirement is satisfied by surveillance instruction SI-32, "Component Cooling Water Valves (Position Verification)," Revision 3 dated 2/6/79. The inspector reviewed the surveillance instructions and identified minor discrepancies which the licensee correct 1. This closes the item.

- c). Closed - Open Item 77-02-01 which concerned SOI-99.1, "Reactor Protection System," power availability checklist lacking a Supervisory signoff. The inspector reviewed revision 2 dated May 8, 1979 of SOI-99.1 and the necessary signature block has been added. The item is closed.
- d). Closed - Open Item 77-20-01 which concerned the inclusion of vibration monitoring steps in preoperational tests W-6.1A2 and W-6.1A3. Also, the item identified the need to include temperature and pressure tolerances in W-6.1A3 and the need to verify check valve operability during hot functional testing. Preoperational test W-6.1A2, "SIS-Integrated Actuation and Alarm Tests," was deleted from the preoperational test program. The areas previously to be tested by W-6.1A2 were incorporated into W-6.1A1, W-6.1E and W-6.1A3. The inspector reviewed W-6.1A3, "SIS-Integrated Check Valve Flow and Integrity Test," and noted that (a) vibration observation and measurement were required, (b) a specific section was added to verify the operability of hot leg and cold leg check valves and to measure the injection flow rates, (c) temperature and pressure tolerances had been added. This closes the item.
- e). Closed - Open Item 78-43-01 which concerned review of the completed preoperational test package for W-6.2, "Upper Head Injection System." The inspector reviewed the completed test package with specific attention to the second blowdown. The calculations of the final volume discharged to the reactor vessel during this blowdown and the required level trip settings for the isolation valves were reviewed. The test package was found acceptable and the item is closed.
- f). Closed - Open Item 77-33-12 which concerned installation of the meteorological tower recorders in the main control room and the performance of preoperational test TVA-54. The inspector reviewed preoperational tests TVA-54, "Meteorological Tower," and TVA-54RT1, "Meteorological Tower Retest 1." The first test checked out data transmission for all meteorological tower instruments but problems were experienced due to occasional dropped data bits. The retest performed by TVA-54RT1 verified that this problem had been corrected by replacement of a data encoder multiplexer card. The completion of these tests closes this item.
- g). Closed - Open Item 77-33-10, which concerned the need to perform a test of the site's emergency lighting systems. The inspector reviewed completed preoperational test TVA-36, "Emergency Lighting." The test had identified two deficiencies on panels which did not have sufficient light. These were resolved by moving other lights and reperform-

ing the test. Based on the successful completion of the test this item is closed.

- h). Closed - Open Item 77-33-09 which concerned completion of preoperational test TVA-11A and TVA-11B. The inspector reviewed the completed test packages for preoperational tests TVA-11A, "Plant Communications - Emergency Sound Powered Telephones" and TVA-11B, "Plant Communications - Evacuation Signal." The tests listed four outstanding test deficiencies which were being tracked separately by the licensee and are designated to be closed prior to fuel loading. Based on this the item is considered closed.
- i). Closed - Open Item 79-27-05 which concerned the proper storage of HEPA filters onsite. The inspector reviewed the warehouse services memorandum of 5/25/79 specifying proper HEPA filter storage practices and the inspection requirements specified in the licensee's document SNPCP No. P-6 attachment A. The inspector checked that inspection of HEPA storage condition had been made for the last three months and the inspector examined the filters presently in storage. The procedures, inspection logs, and storage area were found acceptable and the item is closed.

7. Review of Licensee Identified Items

Closed - Licensee Identified Item 78-38-04 which concerned the Safety Injection rate into the Reactor Coolant System from SI-Accumulator # 2. The inspector reviewed completed preoperational test procedure W-6.1B, "SIS-Safety Injection Accumulator" and Westinghouse letter TVA-7520 dated 6/26/79 documenting that even though the flow resistance factor, $f(L/D)$ for SI accumulator # 2 was outside of the Westinghouse test procedure acceptance criteria the accumulator performance was judged by Westinghouse to be acceptable by a separate analyses. Based on these documents this item is closed.

8. Review of Completed Preoperational Test Packages

The following completed preoperational test packages were reviewed for conformance to Regulatory Guide 1.68, FSAR sections 14.1, 6.3, 8.3, 9.3, 10.2 and 10.6:

- W-6.1A3, "SIS-Integrated Check Valve Flow and Integrity Test"
- W-6.1B, "SIS-Accumulator Blowdown Test"
- W-6.1C, "SIS-Centrifugal Charging Pump Performance Test"
- W-6.1D, "SIS-SI Pump Performance Test"
- W-6.1E, "SIS-RHR Pump Performance Test"
- W-6.2, "Upper Head Injection"
- W-8.1A, "Reactor Protection System Time Response"
- W-1.2B, "Reactor Coolant System Heatup"

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W-1.3, "Reactor Coolant System at Temperature"
W-1.4, "Reactor Coolant System Cooldown"
W-1.7, "Reactor Coolant System Thermal Expansion"
TVA-11A, "Plant Communications System Emergency Sound Powered Telephones"
TVA-11B, "Plant Communications System Evacuation Signal"
TVA-13A, "Onsite AC Distribution System (Board Transfer)"
TVA-13C, "Onsite AC Distribution System (Diesel Generator Qual)"
TVA-13D, "Onsite AC Distribution System (Blackout with Diesel Generator in Test Mode)"
TVA-15, "Vital 120 VAC Power System"
TVA-21A, "Containment Spray System (Nozzle Test)"
TVA-21B, "Containment Spray System (Pump Performance Test)"
TVA-36, "Emergency Lighting"
TVA-54, "Meteorological Tower"
TVA-54RT1, "Meteorological Tower Retest"
Retest Deficiency Packages for W-2.1C, W-5.4, W-6.1C, and W-6.1E

The review included:

- a). verifying that all prerequisites had been signed or a change notice or exception had been generated.
- b). verifying that all change notices to the procedure had been reviewed to determine if they were or were not safety related and had been approved before implementation by at least a DPP representative, the test program coordinator, and the plant superintendent or his designee.
- c). verifying that all procedural steps had been signed and dated.
- d). verifying that the final data package included the signed off procedure, a copy of all test change notices, test deficiencies including their resolution and a copy of the test chronological log.
- e). verifying that all data had been recorded, and was within specification or that discrepancies had been identified by the licensee and were either resolved or being tracked as outstanding.

The inspector noted only minor discrepancies which the licensee promptly corrected. The findings are clear in this area.

9. Review of Startup Test Procedures

The licensee forwarded the following Startup Test Procedures for review by the inspector:

50-1.2A, Revision 1, "Shutdown from Outside Control Room"
50-1.2B, Revision 1, "Cooldown from Outside Control Room"
SU-8.4, Revision 2, "Incore-Excore Detector Calibration"

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SU-8.5.2, Revision 1, "Precritical Temperature Instrumentation
Offset and Linearity Check"
SU-8.6B, Revision 1, "Axial Xenon Oscillation"
SU-9.5, Revision 2, "Rod Group Drop and Plant Trip"
SU-1.0, Draft Rev. 2, "Plant Measurements-Operational and Baseline
Data"
SU-1.1, Draft Rev. 2, "Loss of Offsite Power"
SU-9.1, Draft Rev. 2, "10% Load Swing Test"
SU-9.3, Draft Rev. 2, "Large Load Reduction Test"
SU-9.4A, Draft Rev. 3, "Plant Trip From 100% Power"
SU-9.4B, Draft Rev. 3, "100% Net Load Trip"
SU-10.2, Draft Rev. 2, "Steam Generator Moisture Carryover
Measurement"

The inspector acknowledges receipt of the above procedures and will review and report his findings in a subsequent report.

10. Plant Tour

A tour was made of the Unit 1 reactor containment, the auxiliary building, the fuel handling building, the control building, and the turbine building. Housekeeping and general cleanliness were observed. The findings were clear in this area.

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