



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

Report Nos.: 50-327/86-44 and 50-328/86-44

Licensee: Tennessee Valley Authority  
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Docket Nos.: 50-327 and 50-328

License Nos.: DPR-77 and DPR-79

Facility Name: Sequoyah 1 and 2

Inspection Conducted: July 29-30, 1986

Inspectors: K. M. Jenison  
K. M. Jenison, Senior Resident Inspector

9/17/86  
Date Signed

G. K. Hunegs  
G. K. Hunegs, Reactor Engineer

August 25, 1986  
Date Signed  
9/17/86

Approved by: B. T. Debs  
B. T. Debs, Section Chief  
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9/17/86  
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#### SUMMARY

Scope: This special, unannounced inspection involved onsite inspection of the licensee's efforts to identify and correct possible inadequacies in the Sequoyah Nuclear Plant Technical Specification required surveillance inspection program. Areas examined by the inspectors were; Corrective Action Reports and Deficiency Reports, Potential Reportable Occurrence Reports, Licensee Event Reports, licensee's initial surveillance instruction program and check sheets, licensee's revised SI-1 surveillance instruction review program and check sheets, Independent Safety Engineering Group (ISEG) reports, and licensee's experience review program.

Results: One violation was identified in paragraph 8 (327,328/86-44-04, Failure to follow Appendix F check sheet review requirements as required by Surveillance Instruction SI-1).

## REPORT DETAILS

### 1. Licensee Employees Contacted

\*H. L. Abercrombie, Site Director  
\*P. R. Wallace, Plant Manager  
\*B. M. Patterson, Maintenance Superintendent  
\*J. S. Woods, PORS Supervisor  
\*F. M. Siler, Engineer EI and C Branch, DNE  
\*J. M. McGriff, SI Review Coordinator  
\*M. E. Frye, PORS Supervisor  
\*W. E. Andrews, Site Quality Manager  
\*J. W. Kelly, Engineering Assurance Engineer  
\*A. H. Ritter, Engineering Assurance Engineer  
\*T. L. Howard, Quality Surveillance Supervisor

Other licensee employees contacted included technicians, engineers, and maintenance personnel.

### 2. Exit Interview

The inspection scope and findings were summarized on July 30, 1986, with those persons indicated by an asterisk in paragraph one above. One violation, described in paragraph 8, was discussed (Failure to comply with Surveillance Instruction SI-1 Appendix F). The licensee acknowledged the inspection findings. 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 was written material provided to the licensee by the inspector.

### 3. Licensee Action on Previous Inspection Findings

Licensee action on previous inspection findings was reviewed with respect to those Watts Bar inspection reports identified in paragraph 5.

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

### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. One unresolved item was identified during this inspection (UNR 327,328/86-44-01, experience review program).

## 5. Watts Bar TS Surveillance Inspections

Several NRC inspections were conducted in 1984 and 1985 at Watts Bar Nuclear Plant (50-390/84-73, 85-21, 85-32, and 85-51). These inspections identified individual and programmatic concerns with the Technical Specification (TS) required surveillances established and implemented at Watts Bar. As a result of these inspections, Watts Bar personnel initiated an in depth TS surveillance review and approval process.

Several telephone conferences were held between the plant managers of Watts Bar and Sequoyah nuclear power plants, during which TS required surveillances were discussed. In addition, several telephone conversations, concerning surveillance instruction adequacy, took place between NRC Region II management (Weise, Olshinski) and TVA management (Wallace). As a result of these telephone conferences, an initial TS surveillance review program was established at Sequoyah. This initial TS surveillance review program was established through a plant manager memo dated August 22, 1985 - Sequoyah Nuclear Plant Technical Review of All Surveillance Instructions.

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

## 6. Sequoyah Initial TS Surveillance Review Program (Wallace Memo of August 22, 1985)

The initial TS surveillance program established a surveillance instruction check list and set a review schedule to be completed by July 1, 1987. The program required a review of all TS required surveillances. In addition, the initial TS surveillance review program required that supporting instructions also be reviewed to verify the adequacy of the TS surveillance. The initial TS surveillance review program was replaced by the revised SI-1 TS Surveillance Review Program on April 1, 1986.

The inspectors reviewed the completed check sheets from the initial TS review program. There was very little guidance given by the licensee to establish the boundaries of the TS surveillance instruction review. As a result, there was no consistency of quality or technical depth among different completed reviews. Very few procedure reviews were completed from August 1985 to April 1986, giving the indication that this program had low management priority. All reviews completed under this program were reperformed by the licensee in the revised SI-1 TS surveillance review program in order to ensure that a proper technical review was completed.

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

## 7. Experience Review Program

The following licensee experience review procedures were reviewed by the inspectors to determine if the licensee's experience review commitments (TVA letter A27 801223 019 to NRC) were implemented with respect to the NRC inspection reports mentioned in paragraph 5:

### SQA-26 - Review, Reporting, and Feedback of Operating Experience Items Site Plan 0601.01 - Operating Experience Review Flow Diagram

The inspector was not able to verify that step 2.0 of site plan 0601.01 was implemented in the case of the NRC inspection reports identified in paragraph 5. Step 2.0 states that among other sources of information, NRC inspection reports shall be evaluated for applicability and relevant information shall be distributed to responsible organizations. The plan also states that the sites will receive all operating experience review items and will process and/or review per their own specific plant instructions. The site had no record of receiving any original or condensed material concerning the inspection reports identified in paragraph 5, and the corporate experience review staff was not able to produce any auditable record to indicate that a review and evaluation took place.

NRC Order EA 85-49 concerned the preparation of nonconformance reports (NCR) related to the installation of containment pressure transmitters. The order identified a breakdown in the management controls for evaluating and reporting of potentially significant safety conditions. Inherent in this issue was the failure of the licensee to relay to the appropriate levels of management, adequate information with regard to specific issues to allow the appropriate level of management to properly evaluate specific issues for safety significance. The management of experience review information appears to have similarly failed with respect to NRC inspection reports. This is an unresolved item (327,328/86-44-01) pending further NRC review.

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

## 8. Revised SI-1 TS Surveillance Review Program

The revised SI-1 Surveillance Program replaced the initial TS surveillance review program described in paragraph 6 of this report. The inspectors reviewed SI-1 Surveillance Program, Rev. 13, dated March 13, 1986. To determine the effectiveness and implementation of the new program, a review of the completed SI technical review cover sheets and checklists was performed. The performance of the SI review checklist by the licensee, appeared to be administrative in nature. The inspector identified the following issues which support the conclusion that the reviews conducted under the revised SI-1 surveillance review program were not always complete or accurate:

- Different SI reviews of identical procedures resulted in different deficiencies being identified. The conclusions reached as a result of the above reviews were also different. Examples of surveillance instruction reviews that had different deficiencies and conclusions were SI 102 E/SA Rev. 0, SI 180 Revs. 4 and 5, SI 122 Revs. 3 and 4, and SI 233.4 Revs. 0, 1, and 2. No indication of management resolution of these differences was found.
- The initial TS SI Review Program checklist was still in use after the revised SI-1 TS Surveillance Program review checklist was in effect (April 1, 1986).
- Some surveillance instruction review cover sheets and checklists are incomplete and some incomplete checklists were approved by the cognizant supervisor. Examples of these were:

SI-256 R6  
SI-234.7  
SI-247.100A R3

- Section I.A.9 requires all instructions referenced for performance under the SI to be reviewed using the SI review checklist. The review process established in SI-1, Appendix F, Section I.A.9 was found to be inadequately implemented in the following SIs.

SI 102E/SA  
SI-7 R34  
SI-6 R18

Technical Specification 6.8.1 states that written procedures shall be established, implemented, and maintained covering surveillance and test activities of safety related equipment. SI-1, Surveillance Program, implements the requirement for a surveillance program for safety related equipment. Appendix F of SI-1 establishes the requirement for technical review of surveillance instructions in accordance with a prescribed checklist. Step I.A.9 of SI-1, Appendix F checklist requires that all instructions referenced for performance under the SI be reviewed using the SI review checklist. The surveillance instructions identified above are examples in which step I.A.9 was inadequately implemented. This is a violation 327,328/86-44-04.

- The completion of the SI review checklist for many SIs has been waived by TVA managers. The SI-1 surveillance program does not provide guidance on this waiver policy.
- SI-2, SI-3, and SI-4 were reviewed by TVA under the revised SI-1 TS review checklist and were also reviewed by the TS Surveillance Review Committee. Different conclusions were reached by the TS Surveillance Review Committee than were reached during the SI-1 TS checklist review. The study conducted by the TS Surveillance Review Committee resulted in approximately 15 Potentially Reportable Occurrences which eventually were included in approximately 10 Licensee Event Reports.

- Most of the revised SI-1 TS review check sheets reviewed by the inspectors were completed after June 1, 1986. The licensee had again apparently not carefully defined the boundaries and requirements of the revised SI-1 review. This may indicate a less than appropriate level of priority attached to TS surveillance instruction review by licensee management.

Within this area inspected, one violation was identified.

#### 9. Quality Assurance

Site Corrective Action Reports (CARs), Deficiency Reports (DRs), and Audits covering the period of January 1, 1984 to April 1, 1986, were reviewed to determine if any pattern of missed or inadequate surveillance instructions existed. These reports were reviewed to determine if onsite/offsite QA personnel identified procedural errors within surveillance instructions that contributed to potential TS violations.

<u>Year</u>	<u>Total Items Involving SI Performance</u>	<u>Total Items Identifying SI Inadequacy</u>
84	19	3
85	15	2
86	7	2

The inspectors determined that the QA onsite and offsite organizations contributed to the verification of procedural compliance with respect to surveillance performance. The QA onsite and offsite organizations did not appear to contribute to the verification of surveillance procedure adequacy in any substantial manner. In addition, there is no indication that the onsite QA organization tracks or trends QA findings to determine root causes of general categories of CARs or DRs.

The involvement of QA (both onsite and offsite) in the initial TS Surveillance Review and Revised SI-1 Surveillance Review Program was examined by the inspectors. The inspectors were not able to identify any QA organization involvement in either of the two above programs. The Sequoyah Nuclear Plant Manager requested QA/QC involvement after two separate attempts to initiate the above programs resulted in a need to reverify initial data check sheets.

The inspectors reviewed a special QA report that addressed the Auxiliary Air system. This report was prepared by a special multi-discipline team of inspectors reporting to the QA onsite organization. This report was forwarded with recommendations to the site director in January 1986. The special report was detailed, and identified several technical issues that coincided with the same findings of the licensee's Design Verification efforts.

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

#### 10. Potential Reportable Occurrence (PRO)/Licensee Event Reports (LER)

Site PROs and LERs covering the period of January 1, 1984 to April 1, 1986, were reviewed to determine if any pattern of missed or inadequate SI existed. These documents were reviewed to determine if procedural errors contributed to plant perturbations and to determine if plant operational data was reviewed by compliance staff or Regulatory Engineering Groups for generic concerns. There is no indication that the compliance staff or Regulatory Engineering Groups reviewed and/or trended PRO or LER data to determine if generic or programmatic issues existed within the TS surveillance program.

<u>Year</u>	<u>Total Items Involving SI Performance</u>	<u>Total Items Identifying SI Inadequacy</u>
84	20	10
85	19	8
86	4	2

In addition, the inspector reviewed a random sample of surveillance instruction changes to determine if there were inadequate surveillance instructions identified and changed that did not result in PROs being issued. In the sample examined, the inspectors identified no cases where a PRO should have been written and was not.

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

#### 11. Independent Safety Engineering Group (ISEG)

The inspectors reviewed all available ISEG reports from January 1984 through May 1986. The licensee did not document any generic review of surveillance adequacy as a result of ISEG activity. In addition, the ISEG did not appear to conduct any generic or programmatic reviews in any area of the plant. The ISEG reports seemed to be limited to plant event investigation and special issues.

TS 6.2.3 states that the ISEG shall be responsible for maintaining surveillance of plant activities to provide independent verification that these activities are performed correctly and that human errors are reduced as much as practical. Although there is no specific requirement to review surveillance activities for programmatic or generic issues, this requirement is implied by the intent of TS 6.2.3. The ISEG has recently been reassigned to a new organization and staffed with new personnel. The inspector will review the activities of the ISEG to determine if it is meeting the intent of the TS when the new TVA organization is fully implemented (IFI 327,328/86-44-02).

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

#### 12. TVA Technical Specifications Surveillance Task Force

As a result of several NRC inspection findings, the licensee established a special task force to examine the technical adequacy of the surveillance instructions intended to comply with TS surveillance requirements.

The inspectors reviewed the special report issued by the TVA TS surveillance Review Committee dated July 10, 1986. This report involved approximately 15 potentially reportable TS issues. In addition, approximately 160 enhancement items were identified by the TS Review Committee and were evaluated by the licensee as not violating any TS surveillance requirement. A review of the 160 enhancement items is Inspector Followup Item 327,328/86-44-03 and should be completed prior to the startup of either unit.

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

#### 13. Licensee Event Reports (LER) That Address Surveillance Instruction Review Adequacy

The following LERs address SI review adequacy and were referred to NRC Region II for disposition:

<u>Licensee Event Report Numbers</u>	<u>Title</u>
327/86-07	Failure to Test Reactor Trip Function of Manual SI Hand Switch
327/86-08	Failure to Perform the Correct Monthly Channel Check for the Steam Generator Level
327/86-11	Error in Technical Specification for Contain- ment Sump Level
327/86-12	Failure to Properly Stroke Time Containment Isolation Valves

327/86-13	Failure to Perform Adequate Testing of Engineered Safety Features
327/86-14	Inoperability of Auxiliary Building Gas Treatment System
327/86-15	Failure to Properly Functional Test RCP UV and UF Devices and Electrical Breakers
327/86-17	Failure to Test Radiation Monitors During Core Alterations
327/86-18	Conduit Penetrating a Fire Barrier Without Being Sealed
327/86-20	Failure to Perform a Quarterly Functional Test Per Technical Specifications
327/86-23	Channel Calibration of Flow Indicator Not Performed as Required

#### 14. Conclusion

The inspectors concluded that Sequoyah Nuclear Plant management established too low a priority for surveillance review programs (the initial TS review program and revised program). Both surveillance review programs were not well defined or supported. This resulted in each program producing data which had to be rederived to ensure its accuracy. As late as July 13, 1986, completed review sheets had to be reevaluated in order to determine their accuracy.

Sequoia Nuclear Plant (SQN) management's position in mid 1985 was that it did not have a serious breakdown in the onsite TS surveillance program. This position was based on relatively no significant warning signs from the several support organizations (ISEG, QA (both onsite and offsite), Experience Review, PROs, and LERs). This management position was maintained through the establishment of the special surveillance task force.

QA involvement in the Initial Surveillance Review Program, Revised SI-1 TS Surveillance Review Program, and the Special TS Surveillance Review Task Force was not identified by the inspector.