September 27, 1999

Tennessee Valley Authority
ATTN: Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: NRC INTEGRATED INSPECTION REPORT NO. 50-327/99-05 AND 50-328/99-05

Dear Mr. Scalice:

On August 28, 1999, the NRC completed an inspection at your Sequoyah 1 & 2 reactor facilities. The enclosed report presents the results of this inspection. The results of the inspection were discussed on September 7, 1999**,** with Mr. M. Bajestani and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, the inspection covered periodic resident inspections and a scheduled engineering inspection.

The NRC identified one issue of low safety significance that has been entered into your corrective action program. The issue is discussed in the summary of findings and in the body of the attached inspection report. The issue was determined to involve a violation of NRC requirements, but because of its low safety significance the violation is not cited. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Sequoyah facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any response you choose to make will be placed in the NRC Public Document Room.

Sincerely,

(Original signed by Paul E. Fredrickson)

Paul E. Fredrickson, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosure: NRC Inspection Report

cc w/encl:
Karl W. Singer, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
Electronic Mail Distribution

Jack A. Bailey, Vice President
Engineering and Technical Services
Tennessee Valley Authority
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Masoud Bajestani
Site Vice President
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cc w/encl continued: See page 3

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-327, 50-328
License Nos:	DPR-77, DPR-79
Report No:	50-327/99-05, 50-328/99-05
Licensee:	Tennessee Valley Authority (TVA)
Facility:	Sequoyah Nuclear Plant, Units 1 & 2
Location:	Sequoyah Access Road Hamilton County, TN 37379
Dates:	July 18, 1999 through August 28, 1999
Inspectors:	M. Shannon, Senior Resident Inspector D. Starkey, Resident Inspector R. Telson, Resident Inspector J. Blake, Senior Project Manager (Section 1R07)
Approved by:	P. Fredrickson, Chief Reactor Projects Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Sequoyah Nuclear Plant, Units 1 & 2
NRC Inspection Report 50-327/99-05, 50-328/99-05

The report covers a 6-week period of resident inspection. In addition, it includes the results of an announced inspection by an engineering specialist.

Inspection findings were assessed according to potential risk significance, and were assigned colors of Green, White, Yellow, or Red, based on the NRC's Significance Determination Process (SDP). Green findings are indicative of issues that, while not necessarily desirable, represent little risk to safety. White findings would indicate issues with some increased risk to safety, and which may require additional NRC inspections. Yellow findings would be indicative of more serious issues with higher potential risk to safe performance and would require the NRC to take additional actions. Red findings represent an unacceptable loss of margin to safety and would result in the NRC taking significant actions that could include ordering the plant shut down. The findings, considered in total with other inspection findings and performance indicators, will be used to determine overall plant performance.

Cornerstone: Mitigating Systems

- Green. A non-cited violation was identified for failure to identify and correct calibration process problems involving ultimate heat sink temperature monitoring instrumentation. In addition, discrepancies were identified regarding an incorrect acceptance criterion and a test methodology problem. The instrumentation met the established acceptance criterion when calibration checks were performed using the proper testing methodology, thus creating a condition having little or no impact on safety (Section 1R22.1).

Report Details

Units 1 and 2 operated throughout the inspection period at or near 100 percent power.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigation Systems, Barrier Integrity

1RO1 Adverse Weather Preparations

(Closed) Unresolved Item 50−327, 328/99004-02: Inadequate Corrective Actions to Protect the 6.9kv Switchgear and 250 vdc Distribution Panels. The inspectors determined that the inadequate corrective actions identified in this item did not affect safety-related equipment. Although the enforcement aspects of this finding have been resolved, the risk significance evaluation has not been completed. As discussed in Inspection Report 50-327, 328/99-04, Section 1R01, the risk significance of this finding will be collectively evaluated with two other findings in the report, subsequent to completing the Significance Determination Process (SDP) for the June 30, 1999, turbine building railroad bay flooding event.

1R04 Equipment Alignment

.1 Complete Walkdown of Component Cooling Water System (CCS)

a. Inspection Scope

The inspectors performed a complete walkdown of accessible portions of the CCS and conducted a detailed review of the CCS system design changes, work history, problem evaluation reports (PERs), surveillances, and Section XI, Pump and Valve Testing, of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R07 Heat Sink Performance

a. Inspection Scope

The inspector reviewed the licensee's program for maintenance and testing of risk-important heat exchangers in the essential raw cooling water (ERCW) system. The review included the program for testing and analysis of CCS plate heat exchangers, recent evolutions in the ERCW chemistry program, and preventive maintenance (PM) procedures/program for inspection of risk-important room and oil coolers. The inspector also observed the visual inspection of PMs conducted on the safety injection (SI) pump 2B-B oil cooler and containment spray (CS) heat exchanger 2B, and reviewed issues from the licensee's corrective action program related to heat exchanger performance issues.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R09 Inservice Testing of Pumps and Valves

.1 Inservice Testing of Containment Spray System Motor Operated Valves

a. Inspection Scope

The inspectors reviewed inservice testing trend data of Units 1 and 2 containment spray system motor operated valves to evaluate the effectiveness of the program to determine mitigating system equipment availability and reliability.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R16 Operator Workarounds

a. Inspection Scope

In conjunction with the CCS walkdown (Section 1R04), the inspectors reviewed the status of workaround SQ99002WA, CCS Pump Start - Vital Inverter Voltage Fluctuations, to identify any potential for operator workarounds affecting the function of mitigating systems.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R22 Surveillance Testing

.1 Verification of Ultimate Heat Sink Operability

a. Inspection Scope

The inspectors reviewed surveillance package work orders (WO) 98-012554, 98-012384, and 99-000691 which ensured proper calibration of installed instruments used in technical specification (TS) verification of ultimate heat sink operability. The inspectors also witnessed the recalibration of instrument loop 1-TM-67-426, 1B ERCW supply header temperature, following the discovery of an invalid calibration.

` b. Observations and Findings

Brief Overview

A non-cited violation (NCV) was identified for failure to identify and correct problems in the calibration process for the TS required ultimate heat sink temperature detectors following a July 1, 1999, calibration of instrument loop 2-TM-67-425, the 2A ERCW supply header temperature (reference WO 98-012554). Also, the lack of an extent of condition review for this problem resulted in identifying a deficient condition in another instrument loop in an untimely manner.

Discussion

During a detailed review of the TS required ultimate heat sink operablility surveillance, the inspectors requested calibration data for the temperature detectors used during the surveillance. During retrieval of the data, the licensee discovered that on July 1, 1999, an improper testing methodology (not accounting for instrument lead resistance) had been identified being used during the calibration check of temperature detector 2-TM-67-425. At the time of discovery in July, the calibration check was reperformed for this detector using the correct testing methodology. However, a PER was not initiated for this problem and thus, an extent of condition evaluation was not performed. While following-up on this issue during the current inspection period, the licensee identified an additional testing deficiency involving use of unacceptable calibration data during an April 14, 1999, calibration of temperature detector 1-TM-67-426. This instrument was subsequently checked for proper calibration and was found to be acceptable using the proper testing methodology. For this detector, the lack of a July 1999 extent of condition evaluation resulted in the licensee identifying this problem in August 1999 instead of July 1999.

The licensee initiated PER 99-008048 to address the prior incorrect acceptance criterion and methodology problems, while the timely identification and corrective action issue was appended to existing PER 99-007820, which identified other occasions when PERs were not initiated as required by the Maintenance Instrumentation Group. The ultimate heat sink temperature detectors met the established acceptance criteria when calibration checks were performed using the proper testing methodology, thus creating a condition having little or no impact on safety. Therefore, the inspectors screened the ultimate heat sink instrumentation issues in SDP Phase 1 as a Green finding.

10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires that “Measures shall be established to ensure that conditions adverse to quality are promptly identified and corrected.” The licensee’s corrective action program implements this requirement by requiring that adverse conditions be documented as PERs. The failure to document the improper temperature detector testing methodology as a PER in the licensee’s corrective action program was considered to be a violation of 10 CFR 50, Appendix B, Criterion XVI and is being treated as an NCV, consistent with Appendix F of the Enforcement Policy. This violation is identified as NCV 50-328/99005-01, Failure to Promptly Identify and Correct Problems with Calibration of Ultimate Heat Sink Instrumentation and is in the licensee’s corrective action program as PER 99-007820.

.2 Containment Isolation Valve Leak Rate Test

a. Inspection Scope

The inspectors reviewed SI-158.1, Containment Isolation Valve Leak Rate Test, Rev. 37, to verify that the surveillance instruction appropriately addressed the leak test requirements.

b. Observations and Findings

No findings were identified and documented through this inspection.

1EP1 Drill, Exercise, and Actual Events

.1 1999 Off-Year Graded Emergency Preparedness (EP) Exercise

a. Inspection Scope

The 1999 off-year EP exercise was conducted on July 21, 1999. The inspectors reviewed the exercise plan and observed control room (simulator), technical support center and operations support center activities. The inspectors attended post-exercise critiques, reviewed the licensee's exercise evaluation, dated August 9, 1999, and PER 99-007481 which addressed exercise deficiencies. The inspectors also discussed the exercise with EP personnel.

b. Observations and Findings

The licensee characterized the exercise to have been successful with all exercise objectives met, but noted that the exercise did not meet the standard of performance established by the licensee in the 1998 exercise.

The inspectors and licensee observed that a Site Area Emergency (SAE) classification was made approximately 30 minutes later than anticipated. The licensee characterized the SAE as a failed opportunity to make a timely classification under the drill/exercise performance indicator (PI). In addition, the scenario planners anticipated the classification to be made based on a reactor coolant system leak rate exceeding the capacity of one charging pump but it was instead made based on site emergency director judgment. The corrective action item was entered into the licensee's corrective action program as PER 99-007481.

The inspectors also noted the apparent discrepancy with the exercise being characterized as meeting all objectives given the untimely SAE classification. The EP personnel indicated that the assessment process and objectives were under review to improve alignment with the new drill/exercise PI's.

4. OTHER ACTIVITIES

4OA5 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. M. Bajestani, Site Vice President, and other members of licensee management at the conclusion of the inspection on September 7, 1999. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee
M. Bajestani, Site Vice President
H. Butterworth, Operations Manager
E. Freeman, Maintenance and Modifications Manager
J. Gates, Site Support Manager
C. Kent, Radcon/Chemistry Manager
D. Koehl, Plant Manager
M. Lorek, Site Engineering Manager
B. O'Brien, Maintenance Manager
R. Rogers, System Engineering Manager
P. Salas, Manager of Licensing and Industry Affairs
J. Valente, Engineering & Support Services Manager

NRC
P. Fredrickson, Chief, Reactor Projects Branch 6, DRP
R. Bernhard, Region II Senior Reactor Analyst

ITEMS OPENED AND CLOSED

Opened and Closed

NCV 50-328/99005-01 Failure to Promptly Identify and Correct Problems with the Calibration of Ultimate Heat Sink Instrumentation (Section 1R22).

Closed

URI 50-327,328/99004-02 Inadequate Corrective Actions to Protect the 6.9kv Switchgear and 250 vdc Distribution Panels (Section 1R01).