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

Report Nos.: 50-327/85-10 and 50-328/85-10

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

Docket Nos.: 50-327 and 50-328 License Nos.: DPR-77 and DPR-79

Facility Name: Sequoyah 1 and 2

Inspection Conducted: March 6 - April 5, 1985

Inspectors: L J Watson for E. J. Ford — 4/19/85 Date Signed

L J Watson — 4/19/85 Date Signed
L. J. Watson

Approved by: G. J. Ignatonis for S. Weise, Section Chief — 4/19/85 Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection entailed 152 resident inspector-hours onsite in the areas of plant tour, Technical Specification compliance, operations performance, housekeeping, radiation control activities, site security, independent inspection and followup of events.

Results: One violation was identified: One violation concerned access control and is discussed in NRC Inspection Report 327, 328/85-12.

## REPORT DETAILS

1. Persons Contacted

Licensee Employees:

*H. L. Abercrombie, Site Director
*P. R. Wallace, Plant Manager
*L. M. Nobles, Operations and Engineering Superintendent
*J. B. Krell, Maintenance Superintendent
*M. R. Harding, Engineering Group Supervisor
J. M. Anthony, Operations Group Supervisor
J. H. Sullivan, Supervisor, Regulatory Engineering Section
D. C. Craven, Quality Assurance Supervisor
B. M. Patterson, Maintenance Supervisor (I)
D. E. Crawley, Health Physics Supervisor
J. L. Hamilton, Quality Engineering Supervisor
*G. B. Kirk, Compliance Supervisor
H. R. Rodgers, Compliance Engineer
V. A. Bianco, Project Engineer (NEB)

Other licensee employees contacted included technicians, operators, shift engineers, security force members, engineers, maintenance personnel, and corporate office personnel.

*Attended exit interview

2. Exit Interviews

The inspection scope and findings were summarized with the Plant Manager and members of his staff on April 11, 1985. A violation concerning access control was discussed. This violation is discussed in IE Inspection Report 327, 328/85-12. Further examples of a previous violation, described in paragraph 11 of this report and concerning failure to promptly identify and correct nonconforming containment pressure transmitters, were also discussed. In addition, the inspectors discussed an Unresolved Item* described in paragraph 10, and Inspector Followup Items described in paragraphs 6 and 10 of this report. 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. During the reporting period, frequent discussions were held with the Plant Manager and his assistants concerning inspection findings. At no time during the inspection was written material provided to the licensee by the inspector.

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*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

3. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Violation 328/83-29-04, Failure to provide adequate procedures for lifting leads on Unit 2 Upper Head Injection System (UHI) level switches. The inspector reviewed the licensee's response dated February 8, 1984, and their corrective action. Maintenance personnel were provided a one hour class in the use of configuration control forms during the period from January 10 thru 19, 1984. The inspector reviewed the class outline and found that the appropriate material was covered. Surveillance Instruction (SI) 196.2 was reviewed and the inspector confirmed that the configuration control forms had been added. The inspector was also informed that other surveillance instructions has been or were being revised as appropriate to contain configuration control forms.

4. Plant Tour (71707, 92706)

The inspector conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recorded as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspector determined that appropriate radiation controls were properly established, excess equipment or material was stored properly, and combustible material was disposed of expeditiously. During tours, the inspector looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint abnormal settings, various valve and breaker positions, equipment clearance tags and component status, adequacy of firefighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. The inspector performed major flowpath valve lineup verifications and system status checks on the following systems:

(1) Containment Spray System
(2) Residual Heat Removal System
(3) Safety Injection System
(4) Turbine Driven Auxiliary Feedwater System
(5) Motor Driven Auxiliary Feedwater System
(6) Condensate Storage Tank (supply and recirculation flow paths)
(7) Refueling Water Storage Tank (supply to centrifugal charging pumps)
(8) Upper Head Injection System
(9) Auxiliary Control Air System
(10) 6.9kV Shutdown Boards
(11) 480 VAC Shutdown, Reactor MOV, and Containment and Auxiliary Ventilation Boards
(12) 120 VAC Vital Plant Control Power System
(13) 125 VDC Vital Plant Control Power System

No violations or deviations were identified.

5. Technical Specification Compliance (71707)

During this reporting interval, the inspector verified compliance with selected limiting conditions for operation (LCO) and reviewed results of selected surveillance tests. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions, and review of completed logs and records. The licensee's compliance with selected LCO action statements were reviewed as they happened.

No violations or deviations were identified.

6. Plant Operations Review (71707, 37700, 92706, 61726)

a. The inspector periodically during the inspection interval reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs, auxiliary logs, operating orders, standing orders, jumper logs and equipment tagout records. The inspector routinely observed operator alertness and demeanor during plant tours. During abnormal events, operator performance and response actions were observed and evaluated. The inspector conducted random off-hours inspections during the reporting interval to assure that turnovers were observed to verify that they were conducted in accordance with approved licensee procedures.

b. AFW Modifications (Unit 2)

During the fall, 1984 refueling outage for Unit 2, the licensee installed cavitating venturis in the discharge lines of the motor driven auxiliary feedwater (AFW) pumps 2A-A and 2B-B. Initial post-modification testing of AFW pump 2A-A identified a reduction in flowrate of approximately 50 gpm; AFW pump 2B-B flowrate was satisfactory. On November 1, 1984, considerably prior to unit re-start, the licensee performed a 10 CFR 50.59 review with Westinghouse assistance. Westinghouse re-evaluated the FSAR Chapter 15 accident analyses and concluded that by using conservative assumptions in these analyses there is still sufficient margin to accommodate reduced AFW flow to the steam generators. Consequently, the accident analysis results did not change. Further testing of the affected pump during heatup showed a pump capacity degradation of about 8 gpm below the 440 gpm referenced in the Technical Specification bases. On March 20, 1985, the Region II office was informed of the above described deficiency and actions taken by the licensee, and concluded that the AFW pump was operable.

On April 4, 1984, the inspector witnessed a portion of special testing on the 2A-A motor driven auxiliary feedwater pump, which the licensee was conducting to identify the cause of the flowrate discrepancy. This observation partly fulfilled an Inspector Followup Item (IFI)

328/84-35-02 which was opened subsequent to inspector activities on November 14, 1984 on the 2B-B pump (Inspection Report 328/84-35). Discussions regarding test conduct were held with licensee technical personnel and activities in the auxiliary building and main control room were observed. The inspector reviewed the placement and calibration status of the test equipment in use for monitoring of pump and system pressures and flows.

The testing and test results on the 2A-A pump will be monitored by the inspector as the data becomes available. Additional questions regarding system flow rates and test instrumentation accuracies will be tracked as inspector followup item (IFI 328/85-10-03).

7. Physical Protection (71707)

The inspector verified by observation and interview during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the establishment and maintenance of gates, doors and isolation zones in the proper condition, that access control and badging was proper, that search practices were appropriate, and that escorting and communications procedures were followed. One violation was identified. This violation is discussed in NRC Inspection Report 327, 328/85-12.

8. Licensee Event Report (LER) Followup (92700)

a. The inspector reviewed the following LER's to verify that the report details met NRC requirements, identified the cause of the event, described appropriate corrective actions, adequately assessed the event and addressed any generic implications. Corrective action and appropriate licensee review of the below events were verified. The following LERs are closed.

| LER | Event |
|---|---|
| 327/83-126 | Ice Buildup on Intermediate Deck Doors |
| 327/83-152 | Inoperable RCDT Containment Isolation Valve |
| 327/83-054 | Failure of SG Blowdown Isolation Valve |
| 327/83-020 | Inoperable Containment Isolation Due To Surveillance Requirement (SR) Time Not Met |
| 327/83-053 | Inoperable SG Blowdown Isolation Valve |
| 327/83-108 | Inoperable Sub-Cooling Margin Monitor |
| 327/83-134 | Loss of Sub-Cooling Margin Monitor Due To Computer Loss |
| 327/83-117 | Failure to Perform SR on Power Range |
| 327/83-150 | Failure of RCP UF Trip Due To Bad SSPS Card |

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|---|---|
| 328/83-140 | Containment Sump Level Channels Out Of Tolerance |
| 328/83-130 | Containment Sump Level Channel Failed Surveillance |
| 328/83-034 | Loss of Sub-Cooling Margin Monitor Due To Plant Computer Loss |
| 328/83-046 | Inoperable Sub-Cooling Margin Monitor Due To Faulty Disc |

b. The following LER's were reviewed for closeout action and, as a group, referred to difficulties with maintaining containment to annulus pressure differential. The inspector treated this category of events as related deficiencies. These items are closed based on licensee corrective actions and lack of significant recurrence.

| | |
|---|---|
| 327/83-018 | 328/83-017 |
| 327/83-040 | 328/83-027 |
| 327/83-119 | 328/83-033 |
| 327/83-139 | 328/83-166 |

9. Independent Inspection Effort (92706)

The inspector routinely attended the morning staff meetings during the reporting period. These meetings provide a daily status report on operational and maintenance activities in progress as well as discussion of significant problems or incidents associated with the plant.

10. Event Follow-up-Auxiliary Building Isolation (93702, 71707, 61726)

On April 4, 1985, the licensee informed the NRC Operations Duty Officer of an auxiliary building isolation (ABI). The ABI was discovered by operator observation of decreasing annulus-to-containment differential pressure on a control room trending recorder. Annunciators in the main control room associated with radiation monitors normally alarm certain conditions which indicate an ABI; however, these alarms were masked by ongoing surveillance testing of associated radiation monitors. The ABI appears to have been caused by this testing, but the licensee and inspector are evaluating the specific events and their cause. The inspector is also evaluating the adequacy of communications between technicians conducting surveillance activities and the operations staff. This item is unresolved pending development of further information (UNR 327, 328/85-10-02). Additionally an inspector followup item is opened pertaining to the adequacy of explicit annunciator of an ABI. (IFI 327, 328/85-10-01).

11. Containment Pressure, Transmitter Environmental Qualification (71707, 62703)

On March 21, 1985, Region II management became aware of safety concerns regarding Units 1 and 2 containment pressure transmitters. These concerns centered on the environmental qualification of pressure transmitters PDT-30-44 and -45 used for post-accident monitoring and operator action

during accident recovery. Discussions were held between the Senior Resident, Regional management, and licensee site engineering and supervisory personnel to determine the safety issues involved and their impact on continued plant operation.

Licensee personnel indicated that nonconformance report (NCR) SQNNEB 8501 had been received from TVA's Office of Engineering (OE), concerning potential out-of-tolerance conditions when exposed to the containment post-accident environment. The transmitters' ability to provide engineered safety features actuation was not at issue. Site personnel indicated that Revision 0 of this NCR was not considered technically adequate in that the referenced environmental testing document had been misapplied, that the site believed adequate similarity existed between the installed model of the transmitters and the tested model, and that the transmitters were installed in the annulus vice inside containment. Subsequent discussions with the Manager, Office of Nuclear Power determined that TVA considered the pressure transmitters fully operable. Based on the information available and Region II's understanding of the technical data, Technical Specifications for PAM operability appeared to be met. The inspector reviewed NCR SQNNEB 8501 Revision 0 and Revision 1 issued on March 22. Revision 1 continued to maintain that the transmitters be replaced, but provided justification for continued operation which indicated no immediate safety concern.

The inspector and other NRC personnel conducted a review of the history behind the Sequoyah NCR in order to ascertain how long the issue had been known to licensee management and what evaluations had been conducted to resolve the conflicting technical information. The inspector determined that OE, in response to NRC licensing reviewer comments on the adequacy of Watts Bar containment pressure transmitter environmental qualifications, conducted a re-review of those transmitters. This review determined that the transmitters were non-conforming as documented in NCR WBNNEB 8415. The Watts Bar NCR was originated October 26, 1984 and determined to be significant and applicable to SNP about November 5, 1984.

The inspector reviewed OE procedure EP 1.26, Nonconformances - Handling and Reporting, and determined that an NCR should have been immediately initiated and significance determined within eight calendar days. Review of the Sequoyah NCR, SQNNEB 8501, indicated that the NCR was not initiated until January 16, 1985 - over two months after NCR WBNNEB 8414 identified the generic implications to the Sequoyah plant. Additionally, after initiation of the NCR, the significance determination was made on January 31, which again was not within eight calendar days. Once the determination was made that the NCR was a significant condition adverse to quality, EP 1.26 requires the preparation of a failure evaluation/engineering report (FE/ER) in accordance with OE procedure EP 1.48. EP 1.48 requires that the FE/ER be completed and issued within fifteen calendar days. The inspector identified that SQNNEB 8501 and accompanying FE/ER were not formally transmitted to Sequoyah until about March 5, 1985. These findings indicated that this NCR,

which ultimately was assigned to TVA's highest category of significance, was not handled in accordance with established procedures and did not receive timely management escalation or timely notification of site management. These three instances of failure to implement established procedures for handling nonconforming conditions are similar to a violation cited in Inspection Report 327, 328/84-38, concerning inadequate handling of a radiation monitors noncomformance. Corrective actions for that violation were not required to be completed until April 12, 1985.

The handling of these and other NCRs, TVA's procedural controls for initiating and processing NCRs, and licensee personnel's understanding of their NCR responsibilities is still under review by the NRC. Results of future and ongoing inspections will be evaluated to determine if additional enforcement action is warranted.

12. TMI Action Item Closeout (25553)

(Closed) NUREG 0737 Item II.K.3.1, Installation and Testing of Automatic Power-Operated Relief Valve (PORV) Isolation System. Per NRC letter from Mr. T. M. Novak to Mr. H. G. Parris of TVA, dated March 27, 1985, the NRC has determined that there is no need for an automatic PORV isolation system for Sequoyah Units 1 and 2. Therefore, no modifications are required and inspector followup is not needed. This item is closed.

13. Training (71707)

The inspector reviewed selected training records and tracking mechanisms which assure appropriate training for fire brigade members and fire watch personnel. The inspector determined that sufficient numbers of personnel had been trained for the fire brigade and fire watch duties.

The training for the fire brigade is tracked utilizing a computer printout which indicates eligibility for assignment, individuals who are eligible but require training within an allowed grace period, and individuals who are ineligible due to failure to receive training within the appropriate time. The printout is utilized by Operations to assign eligible fire brigade members on a weekly basis and to track training requirements. The inspector identified no deviations or violations in this area.

The inspector reviewed the computer printout used to schedule the fire watch training and to determine eligible fire watch personnel. The inspector noted that the printout provided only the last date when training was received and did not indicate historical training dates. The inspector selected several fire watch personnel who had recently received retraining and tracked their assignment to the fire watch post against previous training. Training records indicated that one individual hired on December 4, 1984 had stood the fire watch post from that time through February 27, 1985, but did not receive initial fire watch training until March 1, 1985. During the inspectors followup inspection, it was determined

that Operations personnel had determined on February 27, 1985 that the individual had not been trained and had immediately removed the individual from the post. The individual was subsequently trained, on March 1, 1985, and returned to duties. This failure to follow procedures was licensee identified and promptly corrected, therefore, no notice of violation will be issued. The inspector found no violations or deviations in the remainder of the records reviewed.