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

Report Nos. 50-327/80-50 and 50-328/80-28

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

Docket Nos. 50-327 and 50-328

License Nos. DPR-77 and CPPR-73

Inspection at Sequoyah site near Chattanooga, Tennessee

Inspector: R. V. Crlenjak for 2/13/81
S. D. Butler Date Signed

Approved by: R. A. Taylor for 2-13-81
H. C. Dance, Section Chief, RONS Branch Date Signed

SUMMARY

Inspection on December 1-24, 1980

Areas inspected

This routine inspection involved 88 inspector-hours onsite in the areas of licensee action on previous inspection findings, operational safety verification, power ascension test witnessing, licensee event report review, Office of Inspection and Enforcement Circular and Bulletin review, independent inspection effort and followup on plant events.

Results

Of the 7 areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

J. M. Ballentine, Plant Superintendent
C. E. Cantrell, Assistant Plant Superintendent
W. T. Cottle, Assistant Plant Superintendent
J. M. McGriff, Assistant Plant Superintendent
J. W. Doty, Maintenance Supervisor (M)
B. M. Patterson, Maintenance Supervisor (I)
W. A. Watson, Maintenance Supervisor (E)
D. J. Record, Operations Supervisor
W. H. Kinsey, Results Supervisor
R. J. Kitts, Health Physics Supervisor
C. R. Brimer, Outage Director
R. S. Kaplan, Supervisor, Public Safety Services
W. M. Halley, Preoperational Test Supervisor
D. C. McCloud, Quality Assurance Supervisor

Other licensee employees contacted included 1 construction craftsman, 3 technicians, 8 operators, 6 shift engineers, 3 security force members, 9 engineers, 2 maintenance personnel, 2 contractor personnel, and 1 corporate office personnel.

Other Organizations

Seven NRC Inspectors, Region II
Two Members of the Office of Nuclear Reactor Regulation

2. Exit Interview

The inspection scope and findings were summarized with the Plant Superintendent and members of his staff on December 12, 1980 and December 24, 1980.

3. Licensee Action on Previous Inspection Findings

(Closed) Infraction 327/80-36-01, Failure to Properly Control Designated Vehicles. The inspector reviewed the licensee's response to the item of noncompliance dated October 30, 1980, and their corrective action. The inspector had no further questions in this area.

(Closed) Infraction (327/80-36-05) Failure to Comply with Limiting Condition for Operation of Technical Specification 3.6.3.1. The inspector reviewed the licensee's response to the item of noncompliance dated October 30, 1980, and their corrective action. The licensee is presently performing a periodic cycling of glycol system containment isolation valves to prevent ice buildup from affecting their performance.

(Closed) Infraction (327/80-36-06) Failure to Follow Procedure for Operation of Emergency Diesel Generators. The inspector reviewed the licensee's response to the item of noncompliance dated October 30, 1980, and their corrective action. The inspector had no further questions in this area.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Operational Safety Verification

The inspector toured various areas of Unit 1 on a routine basis throughout the reporting period. The following activities were reviewed/verified:

a. Adherence to limiting conditions for operation which were directly observable from the control room panels.

b. Control board instrumentation and recorder traces.

c. Proper control room and shift manning.

d. The use of approved operating procedures.

e. Unit operator and shift engineer logs.

f. General shift operating practices.

g. Housekeeping practices.

h. Posting of hold tags, caution tags and temporary alteration tags.

i. Personnel, package, and vehicle access control for the Unit 1 protected area.

j. General shift security practices on post manning, vital area access control and security force response to alarms.

k. Surveillance testing and startup testing in progress.

l. Maintenance activities in progress.

m. Annunciator status on Main and Auxiliary Control Boards.

On December 10, 1980, during a routine tour, the inspector questioned the licensee's implementation of 10CFR73.55(d)(8). Plant instructions were to incorporate a commitment regarding the requirements of containment access. The Region II Safeguards Specialist concurred with this course of action. Subsequent tours were made to verify the commitment.

On December 15, 1980, the inspector reviewed Surveillance Instruction SI-155, Reactor Coolant System Flow Determination. Several inconsistencies were found in the licensee's calculations but in each instance they affected the final flow calculation in the conservative direction. Some incomplete data sheets were also noted but they were previously identified by the licensee's quality assurance staff for resolution. The inspector compared the raw data with other unofficial data taken during comparable plant conditions and found it to be consistent. The calculations were discussed with the lead reactor engineer and all inconsistencies were resolved. The inspector reviewed the corrected calculations for reactor coolant system flow and had no further questions.

No violations or deviations were identified.

6. Power Ascension Test Witnessing

During the reporting period the inspector witnessed the performance of the following tests:

a. S/U 9.1 - 10%, Load Swing at 75% Power

b. S/U 9.3 - 50%, Load Rejection at 75% Power

In each instance the inspector verified proper shift manning and crew performance, proper use of approved procedures and related test equipment, initial conditions and prerequisites met, data properly collected for analysis and overall test acceptance criteria have been met.

No violations or deviations were identified.

7. Licensee Event Report (LER) Review

During the reporting period, LER's were reviewed on a routine basis as they were received from the licensee. Each LER was reviewed to determine that:

a. The report accurately described the event

b. The reported cause was accurate and the LER form reflected the proper cause code

c. The report satisfied the technical specification reporting requirement with respect to information provided and timing of submittal

d. Corrective action appeared appropriate to correct the cause of the event

e. Generic implications if identified were incorporated in corrective action

f. Corrective action taken or to be taken was adequate, particularly to prevent recurrence

g. The event did not involve continued operation in violation of regulatory requirements or license conditions

The inspector completed a detailed review of the following LER's: 80088, 80113, 80144, 80148, 10150, 80152 thru 80182, 80184 and 80186. In addition, the following LER's were selected to determine if corrective action was complete and consistant with that described in the report: 80113, 80144, 80150, 80152, 80157, 80158, 80159, 80174, 80175, 80181, and 80184. Corrective action for LER's 80113 and 80184 is not complete and they will be reviewed again when completed.

No violations or deviations were identified.

8. Office of Inspection and Enforcement Circular and Bulletin Review

The following circulars were reviewed by the inspector to determine if they had been received by the plant and reviewed by responsible licensee personnel:

78-07, 78-15, 78-16, 78-19, 79-02, 79-04, 79-05, 79-08, 79-10, 79-11, 79-12, 79-13, 79-17, 79-18, 79-19, 79-20, 79-21, 79-22, 79-23, 79-24, 80-01, 80-02, 80-03, 80-10, 80-11, 80-12, 80-15, 80-17

Based on the inspector's review, the above Circulars are closed for Units 1 and 2.

Based on a memorandum from L. Modenos, Reactor Construction and Engineering Support Branch, Region II, to C. Julian, Reactor Operations and Nuclear Support Branch, Region II dated October 16, 1980, Bulletin 79-02 is closed for Unit 1.

No violations or deviations were identified.

9. Independent Inspection Effort

The inspector routinely attended the morning scheduling and staff meetings during the reporting period. These meetings provide a daily status report on the operational and testing activities in progress as well as a discussion of significant problems or incidents associated with the start-up testing and operations effort.

On December 12, 1980, the inspector discussed the status of Sequoyah Unit 2 with members of an Office of Nuclear Reactor Regulation case load forcast team. The inspector also attended a meeting of the team with licensee representatives to determine the licensee's completion and fuel load schedule for Unit 2.

No violations or deviations were identified.

10. Followup on Plant Events

During the reporting period, the licensee experienced numerous Unit 1 reactor trips due to equipment malfunctions. In each instance, the inspector reviewed the circumstances concerning each occurrence to determine proper response including: reporting to the Nuclear Regulatory Commission, use of procedure subsequent to the trips for plant recovery, operation of safety related equipment, and plant and operator response. In addition, the cause of equipment malfunction was determined and the inspector followed the licensee's corrective action to ensure it was adequate.

On two occasions during the reporting period, the licensee experienced small releases of gaseous and/or particulate radioactivity in the auxiliary building. There was no significant personnel contamination or exposure and levels were below maximum permissible concentrations. In both instances, the source of contamination was identified and corrected. In each instance, the inspector reviewed the licensee's actions to protect personnel and considered them adequate. Region II management and health physics specialists were kept informed.

On December 1, 1980, during performance of S/U 10.2, Steam Generator Moisture Carryover, slightly less than one curie of Sodium 24 was inadvertently drained into the turbine building sump. The radioactive tracer was to have been injected into the main feedwater header to be carried into the steam generators. However, a feedwater sample valve was prematurely opened by a chemistry technician allowing the sodium to drain into the turbine sump. Due to the time delay involved with analyzing samples, the problem was first noted when the turbine sump pump energized and actuated the turbine sump high radiation alarm in the control room. Operators immediately secured the sump pump and as soon as an operator could be dispatched to the yard pond, the sump effluent was diverted from the diffuser pond to the large holding pond to preclude a possible release to the river. Samples were subsequently taken from the sump discharge at the diffuser pond and determined to be less than maximum permissible concentrations. The licensee continued sampling until the activity was determined to have decayed. The inspector reviewed the sequence of events and interviewed various personnel involved. The Nuclear Regulatory Commission was properly notified per 10CFR50.72. S/U 10.2 was reviewed by the inspector and changes to the procedure to add more stringent valve lineup controls were discussed with licensee personnel. Region II management and health physics specialists were briefed on the occurrence and given the results of sample analysis. The inspector reviewed the licensee's corrective action to prevent recurrence of the incident which included stricter procedural controls on valve positions and requirements that chemistry personnel are adequately informed of their responsibilities. The licensee has subsequently performed S/U 10/2 at 75% power without incident.

On December 4, 1980, the inspector was notified that the licensee had confiscated the shoes of one of its employees after detecting contamination on the soles. Isotopic analysis showed the activity was from slivers of Uranium 235 embedded in the soles of the employees shoes and did not

originate at Sequoyah. The worker was formerly employed at a fuel enrichment plant. The inspector informed Region II management and health physics specialists and the State of Tennessee was informed by the licensee.

No violations or deviations were identified.