



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

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Report Nos.: 50-327/92-08 and 50-328/92-08

Licensee: Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

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

Facility Name: Sequoyah 1 and 2

Inspection Conducted: March 9-13, 1992

Inspector:

W Rankin

for G. Salyers

4/3/92

Date Signed

Approved by:

W Rankin

4/3/92

Date Signed

William H. Rankin, Chief
Emergency Preparedness Section
Radiological Protection and Emergency
Preparedness Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the area of emergency preparedness, and included review of the following programmatic elements: (1) Radiological Emergency Plan and its implementing procedures; (2) emergency facilities, equipment, instrumentation, and supplies; (3) organization and management control (4) independent reviews/audits; and (5) training.

Results:

In the area inspected, no violations or deviations were identified. The emergency preparedness program received adequate management support. Emergency response facilities, equipment, and supplies were properly maintained. Training of emergency response personnel was effective. The requirements and commitments addressed by the emergency preparedness program were effectively managed by the licensee's staff. Records of program activities were maintained and readily auditable. The results of this inspection indicated that the licensee was prepared to

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respond to a radiological emergency at the Sequoyah Nuclear Plant.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *N. Catron, Emergency Preparedness Manager
- J. Chenkus, Emergency Preparedness, Corporate
- *M. Cooper, Licensing Manager
- *T. Flippo, Site Quality Manager
- K. Giggy, Emergency Preparedness, Corporate
- *R. Kitts, Emergency Preparedness Manager, Corporate
- B. Marks, Emergency Preparedness, Corporate
- L. Smith, Emergency Preparedness, Corporate
- *R. Thompson, Compliance Licensing Manager
- *P. Wallace, Site Support Manager
- *C. Whittemore, Licensing Engineer
- *H. Williamson, Emergency Preparedness Engineer
- *J. Wilson, Site Vice President, Sequoyah

Other licensee employees contacted during this inspection included engineers, operators, security force members, technicians, and administrative personnel.

NRC Resident Inspectors

- *W. Holland
- *R. McWhorter

*Attended exit interview

2. Emergency Plan and Implementing Procedures (82701)

Pursuant to 10 CFR 50.47(b)(16), 10 CFR 50.54(q), and Appendix E to 10 CFR Part 50, this area was reviewed to determine whether changes were made to the program since the last routine inspection (April 1990), and to assess the impact of these changes on the overall state of emergency preparedness at the facility.

The inspector reviewed the licensee's program for making changes to the Emergency Plan (EP) and the Emergency Plan Implementing Procedures (EPIPs). A review of selected licensee records confirmed that all changes to the EP and EPIPs since January 1991 were approved by management and submitted to the NRC within 30 days of the effective date as required.

The inspector reviewed the Emergency Action Levels (EALs) and the licensee's cross reference document to NUREG-0654. The inspector concluded that the licensee's EALs followed the guidance listed in NUREG-0654. The classification procedure provided for emergency classification and timely offsite notifications.

The inspector noted that the licensee was concerned with the increased number of Notification of Unusual Events (NOUEs) classifications. As a result of the number of NOUEs, licensee management had asked that TVA's EPIP-1 (EALs) be compared to selected other licensee's EALs. Inspector discussion with the licensee and licensee documentation indicates the licensee plans to adopt the Nuclear Management and Resource Council's (NUMARC) EALs when they are approved by the NRC. The licensee stated in an attempt to enhance human factors of the EALs, that when NUMARC is adopted they are considering incorporating the initiating conditions currently in EPIP-1 into a flowchart type format.

The inspector reviewed letters dated March 29, 1990 and March 8, 1991 which indicated that the EALs were presented to and reviewed by the State. The State did not make any recommended changes to the EALs in 1990; but in 1991, the State suggested that REP EAL PA1, item 3, be revised to read greater than or equal to 5 percent failed fuel instead of greater than 5 percent failed fuel.

The inspector noted that the licensee was forwarding Information Notices (IN) to the Emergency Preparedness Group. The inspector discussed with the licensee their action in response to IN 92-08 "Revised Protective Action Guidance for Nuclear Incidents". The licensee stated that they had reviewed the IN and planned to take appropriate action when further guidance is given by the NRC.

Controlled copies of the Emergency Telephone Directory, Emergency Plan, and EPIPs were audited in the Control Room and Technical Support Center (TJC), and found to be up to date.

No violations or deviations were identified.

3. Emergency Facilities, Equipment, Instrumentation, and Supplies (82701)

Pursuant to 10 CFR 50.47(b)(8) and (9), and 10 CFR 50.54(g), and Section IV.E of Appendix E to 10 CFR 50, this area was inspected to determine whether the licensee's Emergency Response Facilities (ERFs) and other essential emergency equipment, instrumentation, and supplies were maintained in a state of operational readiness; and to assess the impact of any changes in this area upon the emergency preparedness program.

The inspector toured the licensee's ERFs, including the Control Room, TSC, Operations Support center (OSC), and Corporate Emergency Control Center (CECC). The facilities and emergency equipment therein appeared to be maintained in a state of readiness.

The inspector reviewed the licensee's maintenance records of the equipment and supplies inventory list identified in EPIP-17, "Emergency Equipment and Supplies". The inspector noted that the supplies and equipment were being maintained and inventories performed as specified in the procedure.

The inspector observed an inventory check of the TSC, OSC and Environmental Monitoring Van by the licensee. Although all of the supplies identified in the inventory list were accounted for, the equipment identified in the list was not necessarily in the cabinet. For example, Appendix I, under "2 Cabinets In Operations Support Center (OSC)", identifies items such as a Telecopier, Computer Terminal, Modem, and a (4' X 6') Marker Board as essential to the OSC, but which were not located in the "Emergency Cabinets". The importance of maintaining the essential minimum supplies and equipment in a locked or controlled cabinet was discussed with the licensee. The licensee noted the inspectors comment and stated that management would review the comment as a possible improvement item.

The inspector reviewed the licensee's documentation of required monthly communications tests in the TSC and OSC from January 1991 through February 1992. According to the records, and selective operational checks by the inspector, the communication lines in the facilities were being properly maintained.

A new communication system that is independent of commercial phone systems has been installed throughout the TVA system. The system includes nine major switch nodes, one at the Emergency Operations Center, three at Browns Ferry, three at Sequoyah, and two at Watts Bar. These systems are interconnected to support emergency reconfiguration, provide voice and data connection between sites and provide overall system management from a central location in Chattanooga. The system was designed to provide the Nuclear Program with the ability to provide centralized management of emergencies.

The inspector noted that the licensee performs a detailed and comprehensive test of the equipment in the TSC and OSC. The equipment being tested in the TSC and OSC include facsimile machine, copiers, clocks, printers, SPDS terminals, PA systems, Ringdown phone, Fujitsu Telephones, radio headsets, Meteorological data system and the dose computer. The testing was being performed under the guidance of Emergency Preparedness Staff Instruction Letter (EPSIL) EPSIL-5. Further investigation revealed that EPSILs are written by the Emergency Preparedness Group solely for policy guidance and they are not required and not formally controlled.

The inspector also noted the corporate offices utilize the same technique in the maintenance and testing of the CECC. The corporate office uses Emergency Preparedness Instruction Letter (EPIL) EPIL-11 to perform basically the same detailed test of the CECC as the site does in using EPSIL-5 to test the TSC and OSC.

The importance of testing, procedure control, and documentation was discussed with the licensee. Since the licensee is already performing the test, the inspector discussed with the licensee that as an improvement item, portions of the EPSIL-5 "TSC and OSC Equipment Checks and Maintenance" be incorporated into EPIP-17 "Emergency Equipment and Supplies". The licensee committed to evaluate placing parts of EPSIL-5 into EPIP-17.

The inspector reviewed the emergency equipment and supplies located in the new Environmental Monitoring Van and found the inventory complete. The inspector noted that the licensee had evaluated the optional uses of the van and the equipment to support those optional uses. The results was a van that was roomy, well laid out, and employed human factors in its design.

The inspector reviewed the licensee's documentation of required communications tests for the period of January 1991 to March, 1992, including the following: (1) CECC communications system functional tests, (2) monthly communications drills involving message transmission from the CECC to the state Warning Point and (3) tests of the Emergency Notification System (ENS). Documentation indicated that the tests were satisfactory and the equipment was being maintained.

The inspector noted the licensee had installed a new Emergency Paging System (EPS). The EPS is an computerized automated ten phone line (channel) paging system which is used to automatically page key personnel during nuclear emergencies. The system can be activated from the Shift Operations Supervisor's clerk's office in the control room or Operations Duty Specialist from the CECC. When the system is activated all personnel designated as first responders will be paged. The system will continue to page each pager for one hour or until the page is answered. As an average, it takes approximately eight minutes to complete all of the pages, and two minutes for the personnel to acknowledge the message with a phone response.

The Prompt Notification System (PNS) consisted of 107 fixed sirens. The licensee had installed a computerized data logger and feedback system. The system provides on line

capabilities to monitor the activation and operability of the PNS system. The inspector reviewed records that indicated the licensee had conducted silent tests, quarterly growl tests and monthly counter readings. The inspector reviewed Sequoyah's 1991 siren reliability report to the Federal Emergency Management Agency (FEMA), Region IV. The report indicated a 98.3 percent siren reliability rating.

The inspector viewed the placement of emergency evacuation signs by driving portions of the evacuation routes. The signs were observed to be in good repair. The inspector also viewed emergency notification signs placed in public areas such as parks and beach areas. Although in good condition, both the size of the signs and print were small. The inspector observed that the signs were difficult to read at approximately ten feet, and that the signs were not necessarily placed in the most conspicuous or highest personnel traffic area. These comments were discussed with the licensee. The licensee stated the State Department of Parks and Recreation controls the size and placement of signs in the parks, and the licensee would discuss the placement of larger signs with the state.

The inspector reviewed the licensee's agreement letters with hospitals, ambulance support, and offsite Fire Department Support and found them to be current.

No violation, or deviations were identified.

4. Organization and Management Control (82701)

Pursuant to 10 CFR 50.47(b)(1) and (16) and Section IV.A of Appendix E to 10 CFR Part 50, this area was inspected to determine the effects of any changes in the licensee's emergency response organization and/or management control systems in the emergency preparedness program and to verify that such changes were properly factored into the EP and EPIPs.

The organization and management of the emergency preparedness program were reviewed and discussed with licensee representatives. Although Emergency Preparedness still reports to Site Support, one layer of management had been removed between Emergency Preparedness Group and the Site Vice President. The management organizational changes in the program since the last inspection did not change nor affect the licensee ability to respond.

The inspector reviewed the licensee's Emergency Plan and Implementing Procedures methodology for program maintenance. The Emergency Plan and EPIP-19 "Radiological Emergency Preparedness Training and Drills" addressed the performance of a variety of required activities, including testing of communication systems, training of licensee and offsite emergency response personnel, shift augmentation drills, and other program maintenance activities. Documentation of these activities was maintained. Records were reviewed in the following areas:

- * Emergency Communications Test
- * Early Warning System Function Test
- * Early Warning System Siren Activation Monitoring
- * Emergency Plan Augmentation Callout
- * Emergency Plan Radiation Instruments and Emergency Kit Inspection and Checks

All of the required records reviewed by the inspector were found to be properly maintained and current.

No violations or deviations were identified.

5. Independent Review/Audits (82701)

Pursuant to 10 CFR 50.47(b)(14) and (16) and 10 CFR 50.54(t), this area was inspected to determine whether the licensee has performed an independent review audit of the emergency preparedness program, and whether the licensee has a corrective action system for deficiencies and weaknesses identified during exercise and drills.

The inspector reviewed the most recent independent audit of the program. The audit was dated July 15, 1991 and was conducted by Tennessee Valley Authority Nuclear Quality Audit and Evaluation. The Audit was an integrated audit of the emergency preparedness program. The inspector's review of the audit report indicated that the licensee had audited the following areas of the program:

- * Meteorological Monitoring
- * Emergency Response Organization
- * Training
- * Facilities/Documents/Equipment
- * Emergency Plan and Implementing Procedures
- * Drills/ Exercises

The audit did not identify any concerns or weakness in the emergency preparedness area.

The inspector reviewed records and scenarios of medical emergency drills, radiological monitoring drills, radcon drills, radiochemistry drills and radiological dose assessment drills. All drills were satisfactory and met their stated objectives and the drill frequency specified in the Radiological Emergency Plan, Section 14.

The inspector reviewed documentation from EPIL-4, Attachment 1. The attachment was a historical record of Sequoyah's annual exercises. The attachment indicated that the licensee was in compliance with requirements for all elements of 5 year cycle participations, each of the two different time frame off hour exercises at once every 6 years, and the requirements of an ingestion pathway exercise.

The inspector reviewed documentation of unannounced emergency response facility staffing drills. The inspector reviewed a report of a drill conducted on August 21, 1991 that was unsatisfactory. The inspector noted that the licensee had taken six corrective action measures. Two of the more significant corrective actions were:

1. Weekly pager test will be conducted until duty personnel response is 100 percent for three consecutive weeks and overall response is equal to or greater than 95 percent averaged over that three week period.
2. Additional unannounced off-hours drills will be conducted until the one-hour staffing/activation can be met.

The inspector reviewed the report of a follow-up off-hours unannounced augmentation drill conducted on January 30, 1992, at 8:35 P.M.. The report indicated the test was satisfactory. The inspector noted that the licensee was still conducting weekly pager tests.

The licensee's program for follow-up on findings from audits, drills, and exercises was reviewed. The licensee has established a facility wide computer-based system called AMOS (Activities Management and Oversight System) as a tool for managing the follow-up actions required for deficient areas of the program as identified by NRC, INPO, FEMA, QA and Drills. A sample review of completed corrective actions indicated that findings were satisfactorily addressed and appropriate corrective actions had been completed.

No violations or deviations were identified.

6. Training (82701)

Pursuant to 10 CFR 50.47(b)(2) and (15), and Section IV. F of Appendix E to 10 CFR Part 50, this area was inspected to determine whether the licensee's key emergency response personnel were properly trained and understood their emergency responsibilities.

The inspector noted that at the site, emergency response training for both the licensed and non-licensed emergency response personnel was being performed by the Emergency Coordinator and that the responsibility was in the process of being transferred to the Sequoyah Training Department.

The inspector reviewed randomly selected emergency response training lesson plans for the Sequoyah site and corporate offices. The inspector found the lesson plans to be well organized with stated objectives.

The inspector noted Appendix A "CECC REP Training Matrix" of TRN-30 "Radiological Emergency Preparedness Training" specified the required training modules for the different positions in the emergency response organization. A similar matrix existed for the Sequoyah site. Using the matrix and a list of qualified emergency response personnel, the inspector randomly selected and reviewed training records and Emergency Plan training requirements for five individuals from the corporate emergency response organization and five individuals from the site emergency response organization. All reviewed records indicated each individual's required initial training was complete and the required retraining was current.

The inspector noted although the licensee has a computer base for tracking emergency response training, the Emergency Preparedness Group has incurred problems with the system, and has chosen to manually track emergency response training by manually transferring class attendance sheets onto a computer list of members in the emergency response organization. The list is then visually scanned to verify that an individuals training is current or needing scheduled for retraining. The licensee stated that if an individuals training has expired, security is informed and their access to their response area is removed until they are retrained.

The inspector reviewed documentation to S. Ball from C. D. Pond, Program Manager EP Program Planning and Implementation that indicated in 1991, TVA provided annual REP training per EPT 050.025 to off-site support personnel.

No violations or deviations were identified.

7. Actions on Previous Inspection Findings (92701)

No previous or outstanding open items existed.

8. Exit Interview

The inspection scope and results were summarized on March 13, 1991 with those persons indicated in Paragraph 1. During the exit, no dissenting comment were expressed by the licensee. No propriety information was reviewed during this inspection, and none is contained in this report. Licensee management was informed that there were no prior open items needing to be closed.