AUCLEAR REGULATOR	UNITED STATES NUCLEAR REGULATORY COMMISSION REGION II 101 MARIETTA STREET, N.W. ATLANTA, GEORGIA 30323	·
Report Nos	.: 50-259/89-14, 50-260/89-14, and 50-296/89-14	
Licensee:	Tennessee Valley Authority 6N 38A Lookout Place 1101 Market Street Chattanooga, TN 37402-2801	-
Docket Nos	.: 50-259, 50-260 and 50-296 License Nos.:	DPR-33, DPR-52, and DPR-68
Facility N	ame: Browns Ferry Nuclear Plant	
Inspection	Conducted: March 27-31, 1989	
Inspector:	ames L. Kreh	4-26-89
Approved by	. D. M. Collins	4-26-89
for	-W. H. Rankin, Chief Emergency Preparedness Section Emergency Preparedness and Radiological Protect Branch	Date Signed
	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 associated implementing procedures; (2) emergency facilities, equipment, instrumentation, and supplies; (3) organization and management control; (4) training; and (5) independent reviews/audits.

# Results

In the area inspected, no violations or deviations were identified. Emergency response facilities, equipment, and supplies were properly maintained and the training of emergency response personnel appeared to be effective. It was observed that there were many make-up sessions for emergency response training, thereby reducing the staff time available for undertaking program initiatives (see Paragraph 4 for details). From an overall perspective, the findings of the inspection indicated that the licensee was adequately prepared to respond to a radiological emergency at the Browns Ferry Nuclear Plant.

# **REPORT DETAILS**

## 1. **Persons Contacted**

Licensee Employees

- \*M. Bolch, Program Manager, Radiological Emergency Preparedness
- \*G. Campbell, Plant Manager
- \*T. Cornelius, Project Engineer, Radiological Emergency Preparedness
- \*W. Ivey, Compliance Licensing Engineer
- T. Jones, Shift Operations Supervisor \*J. Olson, Site Support Manager
- W. Percle, Project Manager, Project Operations
- C. Robertson, Senior Program Manager (Corporate)
- \*J. Savage, Compliance Supervisor
- E. Webb, Quality Assurance Specialist
- \*T. Youngblood, Program Manager, Emergency Preparedness Branch (Corporate)

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

NRC Resident Inspector

\*D. Carpenter

\*Attended exit interview

Emergency Plan and Implementing Procedures (82701) 2.

Pursuant to 10 CFR 50.47(b)(16), 10 CFR 50.54(q), Appendix E to 10 CFR Part 50, and Section 16 of the licensee's Radiological Emergency Plan (REP), this area was inspected to determine whether significant changes were made in the licensee's emergency preparedness program since the inspection in April 1988, and to assess the impact of any such changes on the overall state of emergency preparedness at the facility.

The inspector reviewed the licensee's system for making changes to the REP and the Emergency Plan Implementing Procedures (EPIPs). Two revisions to the REP and 42 revisions to the EPIPs were issued to copyholders between April 1, 1988 and the current inspection. The inspector verified that licensee management approved those revisions to the REP and EPIPs, and that all changes were submitted to the NRC within 30 days of the effective date, as required.

In April 1988, the licensee issued a generic REP which consolidated the previously separate plant REPs into a single plan with site-specific appendices. Regional Office evaluation of this document identifed a minor deficiency in Appendix B (for the Browns Ferry Nuclear Plant) which was corrected in Revision 1 to the REP.

The inspector reviewed selected EPIPs and portions of the REP. Three minor discrepancies in the licensee's presentations of Emergency Action Levels (EALs) were noted and discussed (REP Appendix A vs. EPIP-1). The licensee was preparing a major revision to EPIP-1, "Emergency Plan Classification Logic", which would resolve the referenced discrepancies. The inspector also noted that REP Figure A-4 and Section A.3.2 (respectively, a diagram and description of the Operations Support Center [OSC]) and Figure A-3 (layout of the Technical Support Center [TSC]) contained extensive inaccuracies, since many changes were made in those facilities during the previous eight months (see Paragraph 3). The licensee was developing a REP revision to update the information regarding the OSC and TSC.

The inspector reviewed documentation of events for which the REP was implemented. Since January 1, 1988, three emergency declarations were made (all in the Notification of Unusual Event [NOUE] category). These occurred on November 4, 1988, and on March 5, 1989 (two declarations this date), and each was based on National Weather Service issuance of a tornado warning for the immediate area or an adjacent county. As a result of the November 4, 1988 event, EPIP-18, "Tornado Emergency Procedure", was revised to significantly enhance the safety of plant personnel. Following the third tornadic NOUE, the licensee concluded that the applicable EAL was probably excessively conservative. A revision was being considered which would more closely align that EAL with NRC guidance on the subject (viz., NUREG-0654 example initiating condition 13.c for NOUE: "Any tornado on site").

No violations or deviations were identified.

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

Pursuant to 10 CFR 50.47(b)(8) and (9), 10 CFR 50.54(q), and Section IV.E of Appendix E to 10 CFR Part 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 following onsite ERFs: Control Room (Units 1 and 2), TSC, and OSC. Selective examination of emergency equipment and supplies therein indicated that an adequate state of readiness was being maintained. Documentation of the quarterly inventories specified in EPIP-17, "Emergency Equipment and Supplies", was reviewed for the period January 1988 to February 1989. The records indicated that identified deficiencies were resolved expeditiously.

A major renovation of the TSC (a dedicated facility) was completed during 1988. A partition was removed and the layout revised to more effectively

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use the relatively small space. The number of persons in the TSC proper was reduced by relocating the Technical Assessment Team to the Assistant Shift Operations Supervisor's office. A new PA allowed the Site Emergency Director's briefings to be heard by the Technical Assessment Team and, optionally, in the OSC as well.

Another major ERF change that occurred in 1988 was the relocation of the OSC from the Maintenance Shop to the Restart Operations Center, with a staging area for repair personnel located one floor below. This represented a significant physical improvement in the facility. All telephones for the OSC staff were in daily use and required no special surveillance program.

The inspector reviewed documentation of the periodic testing of communications equipment in the TSC, including the Emergency Notification System link. No test records existed for the period October 1988 to February 1989, although the Emergency Preparedness Program Manager (EPPM) believed that such testing had been performed. Furthermore, the inspector learned that the procedure for the referenced testing, Site Services Instruction Letter (SSIL) T-2, was no longer in force, since the Site Services group was abolished in early 1988. Licensee management agreed during the exit interview to formulate corrective action which addresses this finding.

Inspector Follow-up Item (IFI) 50-259, 260, 296/89-14-01: Resumption of a surveillance program for the TSC communications systems.

The licensee completed the deployment of 45 additional sirens for the Prompt Notification System (PNS), bringing the total number of PNS sirens in the 10-mile emergency planning zone to 99. The new sirens, declared operable in February 1989, were placed in the 5- to 10-mile annulus and superseded the mobile-siren routes previously designated for alerting the populace of that area. The inspector reviewed the PNS test data for the period January 1988 to March 1989; those records indicated that the system was being properly maintained.

No violations 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 changes in the licensee's emergency response organization and/or management control systems on the emergency preparedness program, and to verify that such changes were properly factored into the REP and EPIPs.

The organization and management of the emergency preparedness program were reviewed. Since the last inspection of this program element (April 1988), a plant reorganization resulted in a change in the reporting chain for the EPPM. The position to which the EPPM reported changed from the Manager of Project Operations to the Site Support Manager. This change did not 2

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appear to negatively affect the "visibility" of the site emergency preparedness program. As a result of imposed staff reductions, the emergency preparedness program lost two technical positions (of a total of four) and gained one clerical position. While the long-term impact of this staff reduction will have to be assessed during future program inspections, it should be pointed out that the problem identified as an IFI in Paragraph 3 was directly attributable to the elimination of one of the positions.

The inspector held discussions with licensee representatives concerning management control of emergency preparedness training for nonlicensed plant staff (i.e., designated Site Emergency Directors and TSC/OSC management and staff). In order to comply with the requirement for annual retraining of emergency response personnel, the EPPM's staff conducted during 1988 a total of approximately 50 training sessions, each 2-3 hours long. The majority of these were make-up classes, held for the benefit of persons who did not attend their scheduled sessions; many classes were given to only 1-3 attendees. Based on information provided by licensee representatives and the inspector's knowledge of other licensees' programs, it was concluded that additional management support for emergency preparedness training was needed to ensure that personnel attend scheduled Such support could drastically reduce the number of make-up classes. sessions and allow the emergency preparedness staff more time for the implementation of program initiatives. development and These observations were conveyed in detail to licensee management during the exit interview.

No violations or deviations were identified.

5. Training (82701)

Pursuant to 10 CFR 50.47(b)(2) and (15), Section IV.F of Appendix E to 10 CFR Part 50, and REP Section 15.0, this area was inspected to determine whether the licensee's key emergency response personnel were properly trained and understood their emergency responsibilities.

The inspector reviewed records of training required by the REP for a representative sample of persons assigned to the onsite emergency organization. Information obtained from the licensee's computerized record-retrieval system indicated that (for the sample chosen) personnel were provided with training which was appropriate, in terms of content and frequency, and consistent with the applicable requirements.

The inspector conducted an interview with one Shift Supervisor, who was given several sets of hypothetical emergency conditions and plant data, and was asked in each case to talk through the response he would provide as Site Emergency Director if such conditions actually existed. The individual demonstrated a thorough understanding of the REP and EPIPs. No problems were observed in the areas of event classification, protective action decision-making, and notifications.

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No violations or deviations were identified.

6. Independent Reviews/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 had performed an independent review or audit of the emergency preparedness program, and whether the licensee had a corrective action system for deficiencies and weaknesses identified during exercises and drills.

Records of emergency preparedness audits were reviewed. An independent audit was conducted by the Division of Nuclear Quality Assurance (DNQA) during the period May 23-July 5, 1988, and was documented in Report No. SSA88809, dated July 27, 1988. That report identified one significant finding ("condition adverse to quality", in the licensee's terminology) with regard to the Browns Ferry emergency preparedness program. The subject finding was closed by DNQA on March 1, 1989. The referenced audit fulfilled the 12-month frequency requirement for such an audit. The report provided evidence that the State and local government interfaces were properly evaluated. Audit findings and recommendations were presented to plant and corporate management.

Deficiencies identified during audits by DNQA and during drills and exercises by licensee evaluators were tracked for follow-up on a computer-based file known as the Activities Management and Oversight System (AMOS). The inspector determined that the licensee was effectively using AMOS as a management tool for ensuring the completion of corrective action for emergency preparedness problems.

No violations or deviations were identified.

# 7. Exit Interview

The inspection scope and results were summarized on March 30, 1989, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. The inspector also noted the large number of make-up sessions for emergency response training, and discussed the desirability of increasing management support of this program (see Paragraph 4). Although proprietary information was reviewed during this inspection, none is contained in this report. Dissenting comments were not received from the licensee.

Item No.

# Description and Reference

50-259, 260, 296/89-14-01

IFI: Implementation of a routine surveillance program for TSC communications equipment (Paragraph 3).

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