



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENCLOSURE 3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-77
AND AMENDMENT NO. 173 TO FACILITY OPERATING LICENSE NO. DPR-79
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

By application dated February 9, 1994, the Tennessee Valley Authority (TVA or the licensee) proposed amendments to the Technical Specifications (TS) for Sequoyah Nuclear Plant (SQN) Units 1 and 2. The requested changes would change Technical Specification Table 3.3-11 to reflect the addition of ionization fire detectors to Fire Zones 184, 185, 186, and 187. The proposed changes would increase the number of ionization detectors in each of the four zones from 6 to 7 for each of the units.

A supplemental letter dated April 13, 1994, supplied clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

Fire protection instrumentation includes an early warning fire detection system to notify personnel of a fire, actuate automatic suppression systems, and control auxiliary equipment. The National Fire Protection Association (NFPA) 72E requires ceiling obstructions and potential changes in air movement to be considered in the spacing of fire detectors. However, it has been determined that the 6900 volt shutdown board room corridors on Elevation 734 of the auxiliary building are not within the range of coverage for the existing shutdown board room detectors, contrary to NFPA 72E. Specifically, the corridor ceiling is separated from the general room area ceiling by a concrete beam, which could result in failure to detect smoke from a fire in the corridor when the air flow is low, such as when the general room area fans are not running.

Based on the NFPA requirements, two additional cross-zone detectors will be added in each of the Units 1 and 2 6900 volt shutdown board room corridors on Elevation 734 of the auxiliary building. The additional detectors will provide alarms in the main control room and the local fire detection alarm panel, charging of the shutdown board room spray headers, and actuation of the shutdown board room fire dampers. Water discharge from the spray headers will not, however, occur until the fusible link directly associated with the fire actuates.

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The addition of the detectors and associated equipment will increase the conservatism for the detection and suppression of potential fires in the zones. They will enhance the reliability of the fire protection system and help ensure cross-zone protection for the 6900 volt shutdown board room corridors. Incorporating the new detectors into the TS Table 3.3-11 will ensure that they are controlled in the same manner and receive the same surveillance tests as the existing detectors. Therefore, the staff finds the proposed TS changes acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (59 FR 12369). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: May 23, 1994

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