



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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 55 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 letter dated May 22, 1987, Tennessee Valley Authority (TVA, the licensee) submitted proposed Sequoyah Nuclear Plant Units 1 and 2 Technical Specification (TS) changes revising various functions for the reactor protection system and engineered safety features actuation system instrumentation including the deletion of the channel calibration requirement for the P-4 function, clarification for manual actuation, a response time correction, and the addition of automatic actuation logic requirements.

2.0 EVALUATION

The licensee's proposed changes to the technical specification and staff's evaluation have been itemized below.

2.1 Reactor Trip, P-4 Function Deletion

The licensee proposes to remove the channel calibration requirement for the reactor trip, P-4 function, from Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements." The TS define the channel calibration as the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The channel calibration shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the channel functional test. The channel calibration may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated. The P-4 interlock performs its designated function when a 1 of 2 logic is present. Since no setpoint is involved, the channel output is not dependent on any range or accuracy. As soon as the P-4 contact senses a signal, the channel output is performed. The proposed TS change is also consistent with Standard Technical Specification (STS), NUREG-0452, Revision 4. Therefore, channel calibration is not applicable for the reactor trip, P-4 function from Table 4.3-1, and the staff finds this change acceptable.

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## 2.2 Channels to Trip for Manual Containment Spray

The licensee proposes to clarify the channels to trip for manual containment spray and Phase B isolation in Table 3.3-3, "Engineered Safety Feature Actuation System Instrumentation." A clarification footnote is added to state that two switches must be operated simultaneously in order to trip one channel. The staff finds that change acceptable because present requirements have not been changed and clarification only, has been added.

## 2.3 Reactor Trip on High-High Steam Generator Water Level

The licensee proposes to remove the response time requirement for reactor trip from Item 8, "Steam Generator Water Level -- High-High," of Table 3.3-5, "Engineered Safety Features (ESF) Response Times. The licensee's ESF system generates a turbine trip and feedwater isolation on high-high steam generator water level to prevent water from entering the steam lines and water carryover to the turbine. At operations above 50 percent of rated thermal power, once the turbine has been tripped, a reactor trip signal will be generated. Amendment 7, dated June 26, 1981 to the SQN Unit 1 facility operating license approved the deletion of a reactor trip on turbine trip for operation below 50 percent of rated thermal power. Since a reactor trip does not provide for protection from water carryover into the turbine, it should not be listed with the turbine trip in Table 3.3-5 as having a required ESF response time. The staff finds this request to be consistent with the response time requirements for a high-high steam generator water level as given in STS, NUREG-0452, Revision 4, (that is, for turbine trip only) and, therefore, this change is acceptable.

## 2.4 Automatic Logic Requirements for Turbine Trip, Feedwater Isolation and Containment Sump Functions

The licensee proposes to add automatic logic requirements to Table 3.3-3 for the "Turbine Trip and Feedwater Isolation" function and the "Automatic Switchover to Containment Sump" function. Also, the licensee proposes to extend the time allowed to perform associated surveillance testing from one hour to two hours.

The staff agrees that automatic actuation logic requirements must exist to verify the required logic output from various input combinations. Automatic Actuation Logic requirements exist for similar functional units of the same tables, such as "Steam line Isolation." This equipment is required to have automatic isolation logic as described in Sections 7.2 and 7.3 of the Standard Review Plan, NUREG 0800, July 1981 and required by 10 CFR 50, Appendix A, General Design Criteria 20, Protection System Functions. This change is also consistent with STS, NUREG-0452, Revision 4, and, therefore, is acceptable.

The staff notes that adequate reliability and margin exists for the proposed increase for the associated surveillance testing in Action Statements 15 and 23. The change is also consistent with the basis for the current requirements and the current equivalent surveillance requirements in the STS NUREG-0452, Revision 4, and, therefore, is acceptable.

## 2.5 Miscellaneous Changes

The licensee proposes to delete a redundant listing of automatic switchover to containment sump. This is applicable to Unit 2 only. Table 4.3-2 of the Unit 2 TS, as it currently exists, has duplicate entries of Item 9, "Automatic Switchover to Containment Sump." The duplication of the two entries was verified by an item-by-item comparison of the two entries. Therefore, the deletion of the redundant entry of Item 9 in Table 4.3-2 as it appears on Page 38 of the Unit 2 TS will not alter the requirements for channel checks, channel calibrations, or channel functional tests; nor will it change the modes for which surveillance is required. The staff considers this change to be strictly administrative and, therefore, finds this change to be acceptable.

The licensee proposes to delete an associated footnote of Table 4.3-2, applicable to both units, concerning manual switchover of residual heat removal suction from the refueling water storage tank to the containment sump. The associated footnote provided temporary relief to the requirements of Item 9 of Table 4.3-2. The duration of the relief was to last for 30 days, extending from June 18, 1982, until July 18, 1982. The applicability of this footnote has long since expired and its deletion will provide for keeping the TS free from obsolete statements. The staff considers this change to be strictly administrative, and therefore, acceptable.

## 3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. 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 nor environmental assessment need be prepared in connection with the issuance of the amendments.

## 4.0 CONCLUSION

The licensee's proposed TS changes remove redundant and outdated information, add clarification to existing requirements, delete inappropriate test requirements, and add missing operability and testing requirements in a manner consistent with STS, NUREG-0452, Revision 4. The staff finds the proposed changes enhance plant reliability and safety, and therefore finds them to be acceptable.

We also have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security nor to the health and safety of the public.

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Dated: December 31, 1987