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

ENCLOSURE 3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 159 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 149 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 January 22, 1990, the Tennessee Valley Authority (TVA or the licensee) proposed changes to Technical Specifications (TSs) related to post accident monitoring (PAM) system instrumentation at the Sequoyah Nuclear Plant (SQN) Units 1 and 2. By letter dated December 7, 1990, the staff evaluated the proposed TS changes and issued Amendment No. 149 to Facility Operating License No. DPR-77 and Amendment No. 135 to Facility Operating License No. DPR-79, which incorporated many of the proposed changes. However, in this letter the staff also requested that TVA make additional changes to TS Table 3.3-10, "Accident Monitoring Instrumentation," related to PAM instrumentation based on the staff position that all Regulatory Guide 1.97, Category 1 instrumentation, not just the Type A instrumentation, be included in the TSs. In addition, the staff requested that certain TS changes regarding the subcooling margin monitors be submitted to incorporate the guidance given in Generic Letter (GL) 83-37.

By letter dated April 12, 1991, TVA submitted its response to the staff's request. In this response, the licensee withdrew its request to delete the wide range containment pressure and reactor vessel level instrumentation from Table 3.3-10, and withdrew other related proposed changes to the Bases to TS 3/4.3.3.7. The staff processed this withdrawal under TAC Nos. 75841 and 75842 for Units 1 and 2, respectively and found it to be acceptable (see NRC letter dated April 30, 1991).

In this response, TVA also proposed addition of RG 1.97 containment isolation valve (CIV) position indication and essential raw cooling water (ERCW) system to auxiliary feedwater (AFW) pumps' valve position indication to the TSs. In addition, TVA proposed changes related to the subcooling margin monitors, an

increase in the Allowable Outage Times (AOTs) to be consistent with the proposed standard technical specification (STS), and changes to the Bases related to these changes.

2.0 EVALUATION

2.1 Changes to Address Regulatory Guide (RG) 1.97

By letter dated April 12, 1991, TVA proposed changes to clarify Table 3.3-10 to better describe the reactor vessel level instrumentation according to their range. These changes are administrative in nature and do not change the intent or requirements associated with the reactor vessel level instrumentation.

The licensee proposed adding the following two RG 1.97 Category I instruments to Table 3.3-10: (a) PAM CIV position indication, and (b) the ERCW to AFW valve position indication. The licensee has proposed that Action Statement 3 be applicable to PAM CIV position indication. This would specify the actions required and the AOT (30 days) if the PAM indication for either of the inboard or outboard valves for a penetration is lost. If the indication for both isolation valves is lost, the AOT would be 7 days. The licensee has proposed that Action Statement 1 be applicable to the ERCW system to AFW valve position instrumentation, which specifies the actions required and the allowed AOT of 30 days for the loss of indication of one valve for penetrations that contain two isolation valves or for penetrations where a second isolation valve is not required, and a 7-day AOT if indication for both isolation valves is lost. In addition, reference to LCO 3.6.3 would be added since some of the valves may require consideration as Primary Containment Isolation Valves, should the valves themselves be inoperable. Also, a statement indicating that the provisions of TS 3.0.4 is not applicable would be included.

In addition, TVA proposed deletion of four valves (FCV-1-181, 182, 183 and 184) for the steam generator blowdown system, from Table 3.6-2, "Containment Isolation Valves." These valves are not required for containment isolation since the piping for these valves is located inside the containment and is considered to be a closed system, which meets Criterion 57 in 10 CFR 50 Appendix A.

TVA also proposed clarifications to the Bases section for LCO 3.6.3, deletion of information regarding purge and vent times, and clarification of the requirement for valves which are required to be stroke time tested, and for valves which are required for PAM position indication purposes only.

TVA also requested changes to the actior statements for the subcooling margin monitors, to be consistent with the guidance in GL 83-37 as a result of the NUREG-0737 and RG 1.97 upgrades. GL 83-37 provides guidance for LCO actions for PAM instrumentation, based on the assumption that two instrument channels were available and to provide consistency with other two-channel PAM instrumentation.

During the Cycle 4 outages, TVA upgraded the subcooling margin monitors so that there are now two channels for each Unit. As a result, TVA has proposed changes to TS Table 3.3-10 to replace the reference to Action Statement 6 (which the amendment would also delete) with Action Statement 1. which contains the AOT requirements and action statements. TVA also proposed deletion of TS 6.8.5.d that describes the requirements for a backup method for determining subcooling margin, since the requirement is no longer necessary now that two channels of subcooling margin monitoring are available and, as a result of these proposed TS changes, a plant shutdown would be required if the AOT is exceeded, rather than simply assigning a dedicated shift crew member to monitor subcooling margin. This represents a more conservative approach and is consistent with the GL guidance.

All of these proposed changes are either consistent with the GL guidance or represent a more conservative approach. Therefore, the staff finds them acceptable.

2.2 Changes to TS Table 3.3-10 based on Technical Specification Improvement Program (TSIP):

Proposed changes to Action Statements 1 and 5, would specify an AOT of 30 days if one channel of the referenced instrumentation is lost and 7 days for the loss of two channels of the referenced instrumentation. This is consistent with the TSIP. Also, the AOT for Action Statement 2 would be reduced to 30 days from 31 days to be consistent with the TSIP.

For Action Statements 1, 2, 3 and 3, the licensee proposed changing the AOT for transition to Mode 3 from 12 hours to 6 hours and to Mode 4 within the next 12 hours for loss of the referenced instrumentation. However, the TSIP does not allow 12 hours for the transition to Mode 4, but allows only 6 hours. This difference was discussed with the licensee in a telephone conference and the licensee has agreed to the AOT of 6 hours.

The licensee proposed changing the AOT for Action Statement 4 (containment area radiation monitoring instrumentation) from 7 days to 30 days to be consistent with changes proposed in Action Statements 1 and 5. The requirement to establish alternate method of monitoring the containment area radiation would remain at 72 hours. Also, the licensee proposed an editorial

change to indicate that a special report must be submitted within the next 14 days if the 30 day AOT is exceeded.

The present TSs reference the AOT and actions in Action Statement 3 for loss of incore thermocouples, which requires plant shutdown upon failure to maintain at least one channel per core quadrant per train for greater than 48 hours. The licensee has proposed to refer to Action Statement 1 for the AOT related to incore thermocouple requirements. This proposed change is consistent with the requirements proposed in the current TSIP.

During our review of the submittal, the staff noted an inconsistency in the wording for proposed Action Statements 3a and 3b. If the AOT for the valves is exceeded such the plant must be shutdown in accordance with these statements, the submittal requires that the plant be placed "in at least HOT SHUTDOWN within the next 6 hours and HOT STANDBY within the next 6 hours." Following discussions with the licensee, it was agreed that the "HOT SHUTDOWN" and "HOT STANDBY" words should be reversed so that the HOT STANDBY condition is required prior to the HOT SHUTDOWN condition. The staff has incorporated these changes into the appropriate TS pages, which is consistent with the TSIP.

Since all of these proposed changes are consistent with the TSIP or its intent, they are acceptable.

2.3 Administrative Changes

The licensee submitted clarifications to the channel requirements for the reactor coolant T_{hot} and T_{cold}, incore thermocouple, steam generator level (wide range), and the reactor vessel level instrumentation in Table 3.3-10. These changes are administrative in nature and do not change the intent or requirements of the TSs and, hence, are acceptable.

Proposed changes to Table 3.3-10, Action Statements 1 and 5, would replace the reference to Table 3.3-9 with reference to LCO 3.3.3.5. This is an administrative change that enhances the understanding and thus the application of the specification. It does not change the requirements of the TSs and, hence, is acceptable.

A proposed change to the Bases for Specification 3/4.3.3.7, "Accident Monitoring Instrumentation," would provide a generalized explanation of instruments that are considered to be Type A and Category 1 monitors. This description is meant to provide the basis that was used to determine which instruments to incorporate into the specification, and is an adaptation of information provided in RG 1.97. Since it is meant to be used for information purposes only and will not, in itself, form the basis for including or excluding specific instruments from being designated as Type A or Category 1 instruments, its inclusion in the TS Bases is satisfactory.

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 amendments also involve a change in a requirement with respect to administrative procedures or requirements. 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 (56 FR 22478). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (10). 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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