



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 216 TO FACILITY OPERATING LICENSE NO. DPR-77
AND AMENDMENT NO. 206 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 August 7, 1995, the Tennessee Valley Authority (the licensee) proposed changes to the Sequoyah Technical Specifications (TS) related to the heat flux hot channel factor surveillance requirement and the Core Operating Limits Report (COLR). The proposed changes would relocate the heat flux hot channel factor, $F_o(Z)$, penalty of two percent in Surveillance Requirement 4.2.2.2.e.1 to the COLR to allow for the burnup-dependent values of the penalty that are in excess of two percent. Additionally, the new methodology contained in Revision 1A to Westinghouse Commercial Atomic Power (WCAP)-10216-P-A would replace the methodology referenced in TS 6.9.1.14.a.2.

2.0 EVALUATION

During normal operation, $F_o(Z)$ is verified to be within its limits by performing measurements when power has been increased by 10 percent of rated thermal power from the previous surveillance, or at least every 31 effective full power days (EFPD). The TS requires that the maximum measured value must be compared with the maximum $F_o(Z)$ from the previous measurement. If the maximum $F_o(Z)$ has increased since the previous determination, the TS allows two options: either the current $F_o(Z)$ must be increased by two percent to account for further increases before the next surveillance, or the surveillance period must be reduced to every seven EFPD. The two percent penalty was based on the assumption that the change would be no greater than two percent between monthly flux maps. With the advent of low-leakage loading patterns, high amounts of burnable poisons, and 18 month cycles, some cores have experienced increases as high as five or six percent between monthly maps over certain burnup ranges.

To address this issue, Westinghouse submitted Revision 1 to WCAP 10216-P, which was approved by the staff on November 26, 1993. This revised methodology will be used for the Sequoyah reloads. For those cores that are predicted to have larger increases in $F_o(Z)$ over certain burnup ranges, a larger penalty will be provided on a cycle-specific basis. The burnup-dependent penalty will be included in the cycle-specific COLR as a replacement for the standard two percent value.

In agreement with the conditions in Generic Letter 88-16, which addresses COLRs, the licensee has: 1) revised SR 4.2.2.2.e.1 to replace the heat flux hot channel factor penalty with reference to the COLR, 2) listed the burnup-dependent penalty as a COLR limit under item 5 of TS 6.9.1.14 which defines the COLR, and 3) replaced the current methodology listed in TS 6.9.1.14.a with the new revision.

On the basis of our review, the NRC staff has concluded that Tennessee Valley Authority's proposal for modification of the Sequoyah Nuclear Plant TS is in agreement with the conditions in Generic Letter 88-16. The burnup-dependent penalty is cycle dependent and the methodology used to calculate the limit has been approved by the NRC and is appropriately referenced in the change to the Administrative Controls Section of the TS. Use of NRC-approved methodology to establish the values for the cycle-specific parameter will ensure that operation of the facility is consistent with the design bases and safety limits. The proposed changes are, therefore, acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. It also involves a change to an administrative procedure or requirement. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 45186). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sections 51.22(c)(9) and (c)(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 amendment.

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: December 11, 1995