



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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 75 TO FACILITY OPERATING LICENSE NO. DPR-77

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-327

1.0 INTRODUCTION

In its letter dated May 15, 1987, the Tennessee Valley Authority (TVA) requested that the requirements of license condition 2.C.(10), Water Chemistry Control Program, be deleted from the license for Sequoyah Unit 1. These requirements were discussed in Section 5.3.2 of Supplement No. 2 dated August 1980 to the Safety Evaluation Report related to the operation of the unit. The license condition was an alternate to Branch Technical Position MTEB 5-3 and incorporated staff requirements for corrective actions by TVA for condenser leaks. It constituted an acceptable basis for satisfying the pertinent sections of the requirements of General Design Criteria 14 of Appendix A to 10 CFR Part 50 with respect to interactions between condenser in-leakage and degradation of steam generation tubes.

The license condition 2.C.(10) states the following:

Prior to exceeding five percent power, TVA shall incorporate the following provisions into the secondary water chemistry control program:

1. The Hotwell pump discharge sample point along with continuous cation conductivity monitoring will be used as the control point for confirming a condenser leak and for initiating corrective action to locate and repair the leak
2. Impurity-time operating limits for feedwater should be incorporated into the water chemistry program. The limits use feedwater pH and cation conductivity impurity-time limit values the same as used for steam generator blowdown limits.

2.0 EVALUATION

In its letter dated May 15, 1987, TVA stated that license condition 2.C.(10) required certain provisions be incorporated into the Sequoyah secondary water chemistry program. These were accomplished as discussed in TVA letter dated August 13, 1980. However, TVA stated that the site program now does not follow the action levels identical to those outlined in that 1980 letter. As stated in Section 10.3.5.3, Chemistry Control, of the Sequoyah Final Safety Analysis Report, the impurity-time operating limits and action levels are consistent

with the Steam Generator Owner's Group (SGOG) Electric Power Research Institute (EPRI) Report, "PWR Secondary Water Chemistry Guidelines", Revision 1, June 1984 and will incorporate "subsequent revisions as they are deemed appropriate." TVA stated by phone on June 24, 1988 that it is presently reviewing revision 2 of the EPRI guidelines. These limits and action levels are to minimize steam generator tube degradation.

TVA stated that the SGOG guidelines were prepared by the Steam Generator Owner's Group Water Chemistry Guidelines Committee and represent a consensus opinion of a significant portion of the industry for state-of-the-art secondary water chemistry control. It further stated that Technical Specification (TS) 6.8.5.C requires a program for Unit 1 for monitoring secondary water chemistry to inhibit steam generator tube degradation. The Sequoyah secondary limits and associated action levels are based on the SGOG guidelines and are incorporated into plant procedures. These procedures, as an integral part of the Sequoyah secondary water chemistry program, help ensure that steam generator corrosion and fouling have been effectively controlled. Therefore, because these limits and action levels are in conflict with license condition 2.C.(10), TVA concluded that the license condition should be deleted.

The staff has reviewed the letter from TVA dated August 13, 1980, and agrees that the letter shows that TVA met the requirements of the license condition. Since then, TVA has revised the Sequoyah secondary water chemistry program.

In NRC Inspection 84-16, the operational history of the Sequoyah secondary water system and the efforts taken to maximize the effectiveness of this system were reviewed. The inspection was conducted on July 9-13, 1984, and the inspection report was issued on August 7, 1984. Section 5.b (Page 8) of the report discussed the scope and adequacy of TVA's secondary water chemistry program. The report stated that TVA had developed a program that implemented the requirements of TS 6.8.5.C, incorporated the guidelines of the SGOG and the EPRI, and took into consideration the nuclear steam supply system (NSSS) vendor's recommendations. The staff concluded in the report that TVA had developed an effective and acceptable secondary water chemistry program.

Based on the above, the staff concludes that the proposed deletion of license condition 2.C.(10) is 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. 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 these amendments.

4.0 CONCLUSION

We 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.

Principal Contributor: J. Donohew

Dated: July 6, 1988