

SAFETY EVALUATION BY THE OFFICE OF
NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 1 TO LICENSE DPR-77
TENNESSEE VALLEY AUTHORITY

Introduction

By letter dated March 28, 1980 the Tennessee Valley Authority (TVA) proposed changes to the technical specifications for Sequoyah Unit 2 dealing with the auxiliary feedwater system and the rod position indicating system. We have evaluated these changes.

Two changes were proposed which would provide operational flexibility during startup.

- a. The steam driven auxiliary feedwater pump cannot be demonstrated operable before entering Mode 3 (HOT STANDBY) due to insufficient steam supply. This demonstration could be performed during Mode 3 operation.
- b. The initial calibration of the rod position indication system could be performed during rod bank withdrawal provided the Keff is maintained less than or equal to 0.95 and only one bank is withdrawn from the fully inserted position at one time.

In addition to the above proposed changes (1) the licensee has agreed to modify the surveillance requirements on testing the auxiliary feedwater system to include each of the safety related auxiliary feedwater actuation signals and (2) we are correcting a typographical error to Table 4.8-1 and page 6-21.

On April 14, 1980, TVA requested a change to the surveillance requirements for the divider barrier seal. This barrier prevents the flow of steam during an accident from the lower compartment to the upper compartment.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Evaluation

The proposed change to the Sequoyah Technical Specifications for divider barrier seal surveillance involves use of a different method of testing for

the divider barrier seal sample coupons to assure that seal integrity is maintained in the event of an accident. Rather than testing the tensile strength of a coupon as previously prescribed, the licensee proposes a new method which would test the ability of the coupon to withstand a differential pressure of at least 15 psid without rupturing or otherwise losing integrity. The maximum calculated differential pressure which the seal would be expected to experience during an accident is no more than 12 psid. In view of the conservatism in the calculational methods, the actual expected maximum differential pressure would be less than 12 psid. The coupons for the 15 psid test would also be subjected to a LOCA environment simulation (radiation, humidity, temperature) before the proposed testing to 15 psid. The acceptance level of 15 psid provides adequate margin for continued assurance of seal integrity during an accident, considering the Technical Specification test frequency (i.e., once per 18 months).

In addition, the licensee proposes to test coupons (before LOCA environment simulation) at a series of higher differential pressures before performing the 15 psid acceptance test. If tests at 60 psid produced no failures, the results would be acceptable and further testing would not be performed. A failure during the 60 psid test would indicate a need for testing at 30 psid, and no failures there would mean acceptance and a stop to further testing. A failure at 30 psid would then be followed by the 15 psid testing described above. We find that this "screening" test sequence is acceptable.

We therefore conclude that the proposed testing method, for determining the integrity of the divider barrier seal will assure the integrity of the seal in the event of an accident, and that the proposed change to the Technical Specifications is acceptable.

The other changes, above, add requirements or clarify requirements currently stated in the Standard Technical Specifications and are acceptable.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 22, 1980