



Tennessee Valley Authority, Post Office Box 2000, Saddy-Daisy, Tennessee 37379

February 27, 1991

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

SEQUOYAH NUCLEAR PLANT (SQN) - 10 CFR 50.46 ANNUAL REPORT

- Reference:
1. TVA's letter to NRC dated March 5, 1990, "Sequoyah Nuclear Plant (SQN) - Exemption to 10 CFR 50.46(a)(1) For Operating Cycle 4"
 2. TVA letter to NRC dated January 12, 1990, "Sequoyah Nuclear Plant (SQN) - Technical Specification (TS) Change 89-25"

10 CFR 50.46 requires reporting, on at least an annual basis, each change to or error discovered in an acceptable loss of coolant accident (LOCA) evaluation model or in the application of such a model that affects the peak clad temperature (PCT) calculation. The purpose of this letter is to provide that report.

As indicated in Reference 1, SQN's exemption to 10 CFR 50.46(a)(1) would expire when the evaluation presented by Reference 2 became effective after removal of the upper head injection (UHI) during each units' Cycle 4 refueling outage. Reference 2 provided the calculated PCT, with any associated error or changes to the LOCA model, up to the time of restart for either units' Cycle 4 refueling outage. Since these restarts, the large break LOCA PCT has been increased by 12 degrees Fahrenheit (F) to 2,013 degrees F. The small break LOCA PCT has not been impacted and remains at 2,105 degrees F. The 12 degrees F increase in the large break is a result of the current SQN cores containing a mixture of Vantage 5 Hybrid and standard Westinghouse Electric Corporation fuel.

It should be noted that several potential issues (e.g., cold leg streaming and chopped cosine flux distribution) have been identified that could impact the calculated PCT for both large and small break LOCAs. The potential issues have had PCT margin allocated by Westinghouse

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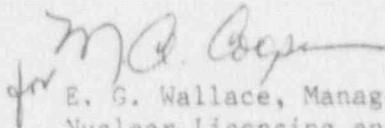
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to ensure the cumulative effects are tracked such that the 10 CFR 50.46 PCT limit of 2,200 degrees F is not exceeded. At the present time, these issues have not been resolved and the permanent impact on the PCT has not been quantified. These issues are being resolved through efforts with Westinghouse. Upon resolution of these issues, any impacts on the PCT will be reported in accordance with the reporting requirements of 10 CFR 50.46.

Please direct questions concerning this issue to J. D. Smith at (615) 843-6672.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


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