



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

November 23, 1999

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

The purpose of this letter is to provide changes to the calculated peak fuel cladding temperature (PCT) resulting from recent changes to the SQN Emergency Core Cooling System (ECCS) evaluation model. This submittal satisfies the annual reporting requirements in accordance with 10 CFR 50.46(a)(3)(ii). The enclosure contains a summary of the recent changes to the SQN ECCS evaluation model and the effect of these changes on the calculated peak fuel cladding temperature. These changes have occurred since the last annual report that was submitted on November 25, 1998.

Please direct questions concerning this issue to me at (423) 843-7170 or J. D. Smith at (423) 843-6672.

Sincerely,



Pedro Salas
Licensing and Industry Affairs Manager

Enclosure
cc: See page 2

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Enclosure

cc (Enclosure):

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ENCLOSURE

**SEQUOYAH NUCLEAR PLANT (SQN) - 10 CFR 50.46 ANNUAL REPORT
EMERGENCY CORE COOLING SYSTEM (ECCS) EVALUATION MODEL CHANGES**

In accordance with the annual reporting requirements of 10 CFR 50.46 (a)(3)(ii), the following is a summary of recent changes to the SQN ECCS evaluation model and the effect of these changes on the calculated peak fuel cladding temperature. These changes have occurred since the last annual report submitted to NRC on November 25, 1998.

Large Break Loss-of-Coolant Accident (LB LOCA)

	<u>PCT</u>
Previous Licensing Basis PCT (November 25, 1998)	2162°F
<i>Increased Cold Leg Accumulator Pressure and Volume Operating Range (Framatome Cogema Fuel (FCF) Letter FPM-98-553, B38 981117 800)</i>	+23°F
Updated Licensing Basis PCT	<u>2185°F</u>
Net Change	+23°F

Small Break (SB) LOCA

	<u>PCT</u>
Previous Licensing Basis PCT (November 25, 1997)	1162°F
Updated Licensing Basis PCT	<u>1162°F</u>
Net Change	None

A detailed discussion of the LB LOCA change outlined above is attached to this enclosure. The information in the attachment is based upon the referenced Framatome Cogema Fuel submittal.

ATTACHMENT

COLD LEG ACCUMULATOR PRESSURE AND VOLUME OPERATING RANGE INCREASE

Background

Section 3.5.1.1 of the Sequoyah technical specifications (TSs) establish operability limits for cold leg accumulator pressure and contained volume. Surveillance Requirement (SR) 4.5.1.1.1.a.1 requires the operability limits to be confirmed on a 12-hour basis. Control room indicators are used for compliance with the SR. A recent corrective action document identified the need to apply instrument channel uncertainties to the control room indicated values to ensure compliance with safety analysis limits (i.e., the TS operability limits are the same as the safety analysis limits). The addition of instrument uncertainty to the control room indicated parameters reduced the allowable operating range and increased the operator effort required to maintain accumulator operability. To reduce the operator actions required to maintain accumulator operability, the safety analysis limits for accumulator level and pressure have been increased to offset the operating range reduction caused by instrumentation uncertainties.

A sensitivity analysis using the Sequoyah LB LOCA evaluation model was performed for a revised accumulator pressure range of 600 psig to 723 psig and a revised accumulator contained volume range of 8194 gallons to 7515 gallons. The sensitivity analysis was composed of four analytical cases, which addresses all the combinations of accumulator pressure and contained volume. For each case, peak fuel cladding temperatures were generated for 3 fuel elevations (including the limiting elevation for the present analysis) to assure that worst-case results were obtained.

Results

Based upon sensitivity calculations performed by Framatome using the Sequoyah plant-specific evaluation model, the increased accumulator pressure and temperature operating range results in a 23°F increase in the calculated peak fuel cladding temperature.