

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5B Lookout Place

JAN 28 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) - NRC BULLETIN 88-11, PRESSURIZER SURGE LINE
THERMAL STRATIFICATION (TAC NOS. 72166/72167)

As required by the reporting requirements section of the subject bulletin, this submittal confirms the completion of Action 1.4 for SQN. Action 1.4 of NRC Bulletin 88-11 requires that TVA update its stress and fatigue analysis to account for stratification and striping. To fulfill this action, TVA contracted with Westinghouse Electric Corporation to evaluate the surge line. These evaluations have been documented in Westinghouse Commercial Atomic Power (WCAP) 12777: "Structural Evaluation of Sequoyah and Watts Bar Units 1 and 2 Pressurizer Surge Line, Considering the Effects of Thermal Stratification," Westinghouse Proprietary Class 2.

The Westinghouse analysis considered free thermal expansion of the surge line, restrained only by the pressurizer and hot leg nozzles. In order to qualify the surge line for the design plant life, it will be necessary to remove two rigid pipe supports and a portion of one jet shield for each unit. This approach will require application of the leak-before-break methodology. WCAP-12775: "Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Sequoyah Units 1 and 2," Westinghouse Proprietary Class 2, eliminates the need for postulating pipe breaks on the surge line through leak-before-break methodology, which allows Sequoyah to remove a portion of the jet shield. Note that this methodology has previously been approved by NRC for SQN's application on primary system piping (reference NRC to TVA letter dated July 19, 1989).

In accordance with 10 CFR 50, Appendix A, General Design Criteria 4, approval by NRC is required before application of the leak-before-break methodology. Since SQN currently plans to implement the required modifications at each unit's Cycle 5 outage to minimize fatigue damage, your approval of the methodology discussed in WCAP-12775 is requested in time to support Unit 1's Cycle 5 refueling outage, which is currently scheduled to begin October 4, 1991.

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In the interim, WCAP-12777 allows 11 heatup-cooldown cycles between May 1990 and modification implementation. These cycles are defined as entry to or from Mode 5 (cold shutdown). Note that Units 1 and 2 have experienced three cycles each since May 1990. TVA will continue to monitor these cycles and inform you if the number of cycles reaches nine on either unit before implementation of the modifications.

Enclosed are:

1. Westinghouse Electric Corporation WCAP-12777 (Enclosure 1), "Structural Evaluation of Sequoyah and Watts Bar Units 1 and 2 Pressurizer Surge Lines, Considering the Effects of Thermal Stratification" (Proprietary)
2. Westinghouse Electric Corporation WCAP-12778 (Enclosure 2), "Structural Evaluation of Sequoyah and Watts Bar Units 1 and 2 Pressurizer Surge Lines, Considering the Effect of Thermal Stratification" (Non-Proprietary)
3. Westinghouse Electric Corporation WCAP-12775 (Enclosure 3), "Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Sequoyah Units 1 and 2" (Proprietary)
4. Westinghouse Electric Corporation WCAP-12776 (Enclosure 4), "Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Sequoyah Units 1 and 2" (Non-Proprietary)

Also enclosed are Westinghouse authorization letters, CAW-90-111 and CAW-90-113, with their accompanying affidavit, Proprietary Information Notice, and Copyright Notice.

Since WCAP-12777 and WCAP-12775 contain information proprietary to Westinghouse, they are supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.790 of the Commission's regulations.

Accordingly, it is respectfully requested that the information, which is proprietary to Westinghouse, be withheld from public disclosure in accordance with 10 CFR Section 2.790 of the Commission's regulation.

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Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-90-111 or CAW-90-113, as appropriate, and should be addressed to R. P. DiPiazza, Manager of Operating Plant Licensing Support, Westinghouse Electric Corporation, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Enclosure 5 contains the commitments provided in this submittal.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY


E. G. Wallace, Manager
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Enclosures

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