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R.J. Adney
Site Vice President
Sequoyah Nuclear Plant

October 31, 1995

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 INSPECTION REPORT NOS. 50-327, 328/95-18 - REPLY TO NOTICE OF VIOLATION (NOV) 50-327, 328/95-18-01

Enclosed is TVA's reply to Mark S. Lesser's letter to O. D. Kingsley, Jr., dated October 2, 1995, which transmitted the subject NOV. This NOV pertains to corrective action associated with emergency core cooling system throttle valves.

TVA denies that a violation occurred as stated in the NOV. The enclosure explains the reasons for TVA's denial.

In addition, the discussion in Inspection Report 95-18 concerning this issue indicates a difference of opinion between NRC and TVA in the application of Generic Letter 91-18 and 10 CFR 50.59 when discrepancies between the plant and its licensing basis are identified. TVA has requested a meeting with NRC to resolve this difference of opinion. We believe the resolution of this difference may affect the ultimate disposition of this violation.

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If you have questions regarding this response, please telephone R. H. Shell at (423) 843-7170.

Sincerely,

R. J. Adney

Enclosure
cc (Enclosure):

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ENCLOSURE
RESPONSE TO NRC INSPECTION REPORT
NOS. 50-327, 328/95-18
MARK S. LESSER'S LETTER TO OLIVER D. KINGSLEY, JR.
DATED OCTOBER 2, 1995

Violation 50-327, 328/95-18-01

"10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to ensure that conditions adverse to quality are promptly identified and corrected.

"Contrary to the above, prompt corrective action was not implemented for a condition adverse to quality. Specifically, on July 18, 1994, Westinghouse notified the licensee of an adverse condition involving accelerated degradation of Emergency Core Cooling System throttle valves during accident scenarios which could cause premature system pump failure, and actions to correct or compensate for the condition were not implemented until July 17, 1995.

"This is a severity level IV violation (Supplement 1)."

Background Information

The subject issue involves a condition where throttle valves in the high head and intermediate head safety injection portion of the emergency core cooling system may degrade as a result of a high pressure drop across the valves during a loss of coolant accident (LOCA). This pressure drop is postulated to result in cavitation-induced erosion of the throttle valve seats. Erosion of the valve seat could result in a loss of flow resistance which may allow the emergency core cooling system (ECCS) pumps to approach or exceed run-out flow within 48 hours post-LOCA.

The issue was originally identified at Sequoyah Nuclear Plant (SQN) through the corrective action program generic review of a Watts Bar Nuclear Plant (WBN) problem. During a design review of the WBN emergency core cooling system, the WBN intermediate and high head injection flow balance valves were determined to be globe valves which are not designed for flow balancing operation. A subsequent review of the valves at SQN confirmed these valves to be significantly different from the WBN valves. The SQN valves are throttle valves which are specifically designed for flow balancing operation. To demonstrate the suitability of the SQN valves, TVA performed a calculation utilizing the methodology and acceptance criteria from Electric Power Research Institute (EPRI) Standard NP-6516, "Guide for the Application and Use of Valves in Power Plant Systems." This calculation concluded that the SQN valves could be required to operate under flow conditions which result in valve seat erosion.

At that time, Westinghouse was contacted to assist in the evaluation of the subject condition since the susceptible valves were within the scope of the equipment originally supplied by the nuclear steam supply systems (NSSS) equipment vendor and were originally specified by Westinghouse before the EPRI standard was published.

Westinghouse provided SQN with a justification for continued operation which indicated that the existing throttle valves will perform their function for a minimum of 48 hours following a LOCA. Westinghouse concluded that the intermediate and high-head injection pumps are not required to operate more than 48 hours following a LOCA since the reactor coolant system conditions are such that a single RHR pump is sufficient for long-term cooling. This evaluation assumed that the existing SQN emergency operating procedures would be in effect for accident mitigation and recovery.

As part of the closure process for the corrective action document, the Management Review Committee (MRC) reviewed the issue in February 1995. The MRC directed that this issue be captured in the Technical Support Center activation and operation procedure (Emergency Plan Implementing Procedure [EPIP] 6). The MRC believed that this procedure was the best place to remind plant personnel of the issue because the procedure would be in use if the potential degradation were to occur. The subject procedure was revised on July 17, 1995.

Basis for Denial of the Violation

TVA does not dispute that it did not promptly respond to the MRC direction to revise the Technical Support Center activation and operation procedure. However, TVA concluded in the Summer of 1994 and still concludes that based on the evaluation performed by Westinghouse, a revision to the procedure was not required for continued safe operation of the plant. Consequently, it was not a required corrective action in the context of 10 CFR 50, Appendix B, Criterion XVI. The subject procedure revision was merely an enhancement to remind plant personnel of a potential condition following a LOCA. This position is backed by a revised Westinghouse evaluation which clarified that the original justification of continued operation was based upon accident mitigation and recovery utilizing the existing emergency procedures and that no supplemental procedure changes were necessary. If the existing procedures were followed, RCS conditions would be such that operation of the intermediate and high-head ECCS pumps would be limited during the time when significant erosion of the flow-balancing valves is postulated to occur. The plant emergency procedures will ensure that sufficient RHR flow is available for long-term core cooling.

In summary, because the existing plant emergency procedures would limit throttle valve seat erosion and the fact that the subject pumps would not be required to operate if the valve seats became eroded several days following a LOCA, no further corrective actions were needed. The subsequent revision to EPIP-6 was an enhancement not a corrective action. As such, the timeliness of its implementation should not be the basis of a violation.

For these reasons, TVA denies this violation.