



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

February 13, 1996

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

In the Matter of)	Docket Nos.	50-259	50-327
Tennessee Valley Authority)		50-260	50-328
			50-296	50-390

BROWNS FERRY (BFN), SEQUOYAH (SQN), AND WATTS BAR (WBN) NUCLEAR PLANTS - 180-DAY RESPONSE TO GENERIC LETTER (GL) 95-07 - "PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED POWER-OPERATED GATE VALVES"

The purpose of this letter is to provide a summary description of the results of the evaluations and corrective actions to be implemented for safety-related power-operated gate valves as required by GL 95-07. Enclosure 1 to this letter provides the results of the evaluations and the corrective actions scheduled for those valves identified as being susceptible to pressure locking and thermal binding. As new or improved calculation methodologies are developed by the owners' groups, TVA may elect to do selective evaluations as appropriate.

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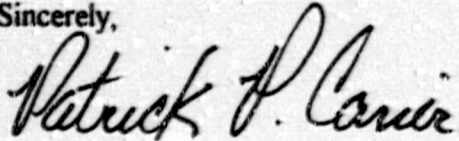
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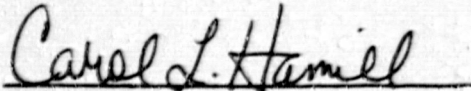
Commitments contained in this letter are identified in Enclosure 2. If you have any questions regarding this matter, please contact Mike Hellums at (423) 751-2695.

Sincerely,



Patrick P. Carier
Manager
Corporate Licensing

Subscribed and sworn to before me
this 13 day of February 1996



Notary Public

My Commission Expires 9-8-1999

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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY BROWNS FERRY, SEQUOYAH, AND WATTS BAR NUCLEAR PLANTS

GENERIC LETTER (GL) 95-07, 180-DAY RESPONSE "PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED POWER-OPERATED GATE VALVES"

SUMMARY DESCRIPTION OF EVALUATION

Background

As required by GL 95-07, licensees are required to provide a 180-day response that provides a summary description of the evaluations performed for pressure locking and thermal binding of safety-related power-operated gate valves. Further, licensees were required to discuss the schedule for completing the corrective actions to be taken for those valves identified to be susceptible. This enclosure provides TVA's response to the actions identified in its December 15, 1995 letter to the NRC that provided a supplemental response to GL 95-07. The following provides further details of the evaluations performed for each site and corrective actions.

Browns Ferry Nuclear Plant (BFN)

BFN evaluated 148 valves for susceptibility for pressure locking and thermal binding. Unit 1 will be evaluated for the requirements of GL 95-07 prior to restart. The safety-related power-operated gate valve population is the motor-operated type. The evaluation methodology used the following steps:

1. A component evaluation included valve positions in normal, safety, and testing conditions and the valve types: solid wedge, parallel disc, etc. The test position is based on system or valve functional operability testing or Section XI valve testing performed during reactor power operation. This evaluation is similar to the NRC recommended criterion presented at the November 1995 NRC Region II Workshop.
2. A "modified valve" evaluation considered whether a valve had been previously modified to prevent the pressure locking phenomenon by having the disc face drilled or provided a relief line to the valve bonnet.
3. A system evaluation included the system conditions during a situation when the valves are required to function. Temperature and pressure effects were also considered as part of the evaluation.

BFN - Units 2 and 3 Evaluation Results

One High Pressure Core Injection (HPCI) steam admission valve per unit has been determined to be susceptible to thermal binding following testing. The surveillance procedures for the HPCI system will be revised by July 1, 1996, to stroke each valve during cool down from a test to prevent the thermal binding phenomenon.

Sequoyah (SQN)/Watts Bar (WBN) Nuclear Plants

SQN evaluated 154 valves and WBN evaluated 73 valves. The safety-related power-operated gate valve population is also the motor-operated type. The evaluation methodology used is similar to that used by BFN and the criteria recommended by the Westinghouse Owners Group.

SQN - Units 1 and 2 Evaluation Results

The evaluation results indicate that there is acceptable MOV performance under postulated pressure locking and thermal binding conditions. The evaluation included system response, actuator capability, and inservice operating and test experience at SQN. There are no valves that have been identified which require corrective actions.

WBN - Unit 1 Evaluation Results

The steam generator No. 4 steam admission valve to the Turbine-Driven Auxiliary Feedwater Pump (TDAFWP) has been determined to be potentially susceptible to pressure locking. This valve is capable of opening under the worst case bonnet pressurization condition; however, the margin for degradation over the plant life may not be sufficient. This condition exists when a feedwater line break for steam generator No. 1 drops the steam line pressure from steam generator No. 4. In order to provide for future degradation margin, a modification will be carried out during the first refueling outage to eliminate the possibility for trapping pressure in the valve bonnet.

SQN/WBN Evaluation Comparison

Though SQN and WBN have similar designs, the differences in the evaluation results are primarily attributable to the differences in valve designs or system configurations. The SQN steam generator No. 4 steam admission valve to the TDAFWP has acceptable design margin.

ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY, SEQUOYAH, AND WATTS BAR NUCLEAR PLANTS

GENERIC LETTER 95-07, 180-DAY RESPONSE
"PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED
POWER-OPERATED GATE VALVES"

COMMITMENT SUMMARY

TVA will complete corrective actions for the subject valves at each site as follows:

Watts Bar: The steam generator No. 4 steam admission valve to the Turbine-Driven Auxiliary Feedwater Pump will be modified during the first refueling outage.

Browns Ferry: The surveillance procedures for the High Pressure Core Injection system will be revised by July 1, 1996, to stroke each steam admission valve during cool down from a test.

Unit 1 will be evaluated for the requirements of GL 95-07 prior to restart.