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DEC 22 1998

U.S. Nuclear Regulatory Commission
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Gentlemen:

In the Matter of) Docket No. 50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) - GENERIC LETTER 90-06 -
CLARIFICATION OF COMMITMENT FOR TESTING PRESSURIZER POWER OPERATED
RELIEF VALVES (PORVs)

The purpose of this letter is to clarify WBN's commitments for testing the pressurizer PORVs. TVA's most recent WBN correspondence on this matter was provided in a commitment clarification letter to the staff dated October 26, 1995. In that letter, TVA stated, in part, that the PORVs will be stroke time tested in Mode 3 or 4 when proceeding from power to a condition where the PORVs are relied upon by the cold overpressure mitigation system (COMS) and as required by the cold shutdown ASME Section XI scheduling requirements.

This commitment is being revised as follows: The PORVs will be operated through one complete cycle of full travel at least once per 18 months in Modes 3, 4, or 5 with a steam bubble in the pressurizer, and as required by the cold shutdown ASME Section XI scheduling requirements. As discussed in Enclosure 1, the revised commitment meets the PORV testing requirements of WBN Technical Specifications and ASME Section XI and is consistent with the intent of testing recommended by GL 90-06.

Enclosure 2 lists the commitments made in this submittal.

If you have any questions concerning this matter, please call P. L. Pace at (423) 365-1824.

Sincerely,



R. T. Purcell

Enclosure

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ENCLOSURE 1

GENERIC LETTER 90-06 - CLARIFICATION OF COMMITMENT FOR TESTING
PRESSURIZER POWER OPERATED RELIEF VALVES (PORVs)

TVA's commitment to stroke test the WBN PORVs in Mode 3 or 4 was initially made in TVA's December 21, 1990, reply to GL 90-06, issued in June 1990. In GL 90-06, the NRC requested licensees to address several staff positions. Position 2 requested, in part, that stroke testing of PORVs should only be performed during Mode 3 or Mode 4 and in all cases prior to establishing conditions where the PORVs are used for low-temperature overpressure protection (LTOP). The generic letter provided little insight as to why Mode 3 or Mode 4 may be desired, except to suggest in Position 3 that it would be better by simulating representative temperature and pressure environmental conditions. In Position 3, GL 90-06 requested that licensees modify their Technical Specifications for PORVs and block valves and provided a proposed Technical Specification model for Westinghouse plants utilizing two PORVs. The Surveillance Requirement for this model specified:

"In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by operating the PORV through one complete cycle of full travel during Modes 3 or 4"

In response to Position 3, TVA's letters of December 21, 1990, and May 16, 1991, stated that WBN Technical Specifications were being developed under the Restructured Standard Technical Specifications (RSTS) that were being jointly developed by the industry and NRC. TVA stated specifically, "The current draft RSTS has technical content which differs from that described in Enclosure A of GL-90-06. TVA will implement the NRC staff's requirements via the RSTS and can make no explicit commitment to GL-90-06 in regard to technical specifications at this time." Through this process, the WBN Technical Specifications issued with the low power operating license by NRC in November 1995 did not impose a mode restriction on testing of the PORVs. The WBN Technical Specification surveillance requirement 3.4.11.2 as originally issued (and currently) states:

"Perform a complete cycle of each PORV," with a stated Frequency of 18 months.

WBN had intended to reflect the PORV testing program in terms of the Technical Specification and ASME Section XI requirements. However, the Mode 3/Mode 4 testing commitment was inadvertently maintained and is now considered unnecessary in view of the WBN PORV testing methodology currently being implemented.

ENCLOSURE 1 (Continued)

The WBN PORVs are tested in accordance with the ASME XI Inservice Testing Program (IST) in conjunction with cold shutdown. Testing includes full stroke exercising and stroke time determination and occurs in Mode 5 or Mode 6. In addition, ASME Section XI position verification testing is performed by stroking the PORVs in Mode 5 with steam pressure in order to positively verify flow since direct observation of stem movement is not available due to WBN's valve design. The WBN Technical Specification surveillance test (SR 3.4.11.2) for the PORVs is performed in conjunction with the Section XI tests to minimize the out-of-service time for the PORVs. The ASME Code testing for the PORVs is specified as cold shutdown testing since there is an inherent risk in testing during operation due to a potential loss of inventory of a PORV sticking open if the testing were performed at power. Changing the mode requirement to allow Mode 5 performance provides flexibility in testing and eliminates duplication while maintaining WBN ASME Section XI requirements and compliance with Technical Specifications.

Testing of the WBN PORVs in Mode 5 with a steam bubble provides conservatism and ensures PORV reliability. WBN's design utilizes Target Rock PORVs which are direct-acting, solenoid-operated globe valves that use the opening of an internal pilot within the main disc to equalize pressure so that fluid force aids the solenoid force to open the valve and aids the spring force to close the valve. For this design, lower pressure is a more conservative test of the valve's ability to open and close. An added benefit of testing at lower pressure is being able to avoid problems with steam seat cutting which could potentially result in valve leakage and may require block valve closure in order to remain within identified leakage limits. The reliability of the PORVs is ensured by testing the valves in Mode 5 with a steam bubble. Mode 4 is defined as between 350°F and 200°F. With a steam bubble in the pressurizer, the steam temperature is greater than 200°F which is higher than the lowest temperature for Mode 4. Thus, testing in Mode 5 with a steam bubble is within the representative test requirements assessed in GL 90-06. This methodology is consistent with the recent NRR conclusion to allow Mode 5 testing discussed in the SER for Sequoyah Nuclear Plant license amendment 239/229 dated November 19, 1998.

Watts Bar's current maintenance practice for PORVs is to exchange both valves with refurbished valves each refueling outage. The removed valves are functionally tested and inspected at an offsite facility to

ENCLOSURE 1 (Continued)

provide additional assurance of valve operability and reliability. Testing includes steam seat leakage and steam operability which are performed at essentially normal operating conditions and include a verification of the valve stroke time. These valves are then stored in a controlled environment until needed for installation during the next refueling outage. Following installation, the refurbished valves (or the existing valves if not refurbished) are tested in accordance with the ASME Section XI and Technical Specification requirements previously discussed and remain operable until the next required testing interval, generally 18 months. Therefore, retesting the valves in Mode 4 while proceeding into an outage is unnecessary and would provide questionable benefit when the valves remain operable based on previous acceptable test results which remain within frequency. Further, by eliminating the additional testing requirement in Mode 4, the amount of time that the PORVs are unavailable to perform their LTOP function is minimized.

Therefore, TVA's commitment revision for testing the pressurizer PORVs is safe, ensures their reliability, and meets WBN Technical Specification and ASME Section XI IST requirements. Further, the revised commitment is consistent with and meets the intent of testing recommended in Generic Letter 90-06.

ENCLOSURE 2

LIST OF COMMITMENTS

The WBN PORVs will be operated through one complete cycle of full travel at least once per 18 months in Modes 3, 4, or 5 with a steam bubble in the pressurizer and as required by the cold shutdown ASME Section XI scheduling requirements.