



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

JAN 05 1995

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

WATTS BAR NUCLEAR PLANT (WBN) - REPLY TO NRC STAFF POSITION ON WATTS BAR
FSAR CHAPTER 14

By letter dated November 17, 1994, the NRC transmitted the staff's evaluation results of WBN FSAR Chapter 14, "Initial Test Program," as updated through Amendment 88. With the exception of three issues, the staff's review found Chapter 14 to be acceptable. The purpose of this letter is to provide TVA's response (Enclosure 1) to these three issues. Enclosure 2 summarizes the commitments made in this submittal.

If you should have any questions, contact John Vorees, at (615)-365-8819.

Sincerely,

Dwight E. Nunn
Vice President
New Plant Completion
Watts Bar Nuclear Plant

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Enclosure

cc (Enclosure):

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ENCLOSURE 1

Response to NRC Letter of November 17, 1994
Request for Additional Information on FSAR Chapter 14

NRC Position - Item 1

In Amendment 88, Section 14.2.7, Subparagraph 4.A.(1)(a,1), the applicant has taken exception to performing Chemical Control System (boration) operability tests in accordance with the guidance in RG 1.68, Appendix A, subparagraphs 1.b.2, and 1.n.12. The applicant stated that boron will not actually be introduced to plant systems during preoperational testing, and proposed to simulate boron system operations using demineralized water. System operations using boron will be accomplished as part of surveillance testing in preparation for the power ascension phase. In addition, the applicant deleted verification of reactor coolant boron concentration adjustment as a test objective and acceptance criteria from Table 14.2-1, Sheets 18 and 19, "Chemical and Volume Control System Test Summary."

The staff finds the applicant's justification for not verifying proper boron concentration adjustment in the reactor coolant system during preoperational testing unacceptable. The applicant should reinstate its commitment to performing boration in accordance with RG 1.68, Appendix A, subparagraphs 1.b.2, and 1.n.12 or provide the necessary technical justification and/or analysis to demonstrate that simulating boron system operations using demineralized water confirms the ability of the system to batch, store, and transfer boric acid in accordance with the design basis requirements described in FSAR Section 9.3.8.

TVA Response - Item 1

TVA agrees and will reinstate our commitment to perform boration in accordance with RG 1.68, Appendix A, subparagraphs 1.b.2, and 1.n.12. FSAR Chapter 14 (Amendment 88), Section 14.2.7, Subparagraph 4.A.(1)(a,1) will be deleted. Table 14.2-1, Sheets 18 and 19 will be restored to their previous wording under Amendment 84. TVA will submit these changes to FSAR Chapter 14 under Amendment 89.

NRC Position - Item 2

In Amendment 88 to FSAR Chapter 14, Table 14.2-1, "Preoperational Test Summaries," Sheet 48 of 90, "AC Power Distribution System Test Summary," the applicant deleted the requirement to verify, under "Test Method," the capability of each common station service transformer (CSST) to carry the load required to supply emergency safety feature (ESF) loads of one unit under loss-of-coolant-accident conditions, in addition to power required for shutdown of the nonaccident unit in accordance with Subparagraph g.(1) of Appendix A to RG 1.68. This requirement is related to the design bases of WBN Units 1 and 2.

Although the applicant has not formally withdrawn its license application for Unit 2, the applicant is presently concentrating all its efforts towards obtaining the operating license (OL) for WBN Unit 1 only. Therefore, under the current scenario it would be sufficient for the applicant to demonstrate the capability of each CSST to carry the load required to supply ESF loads of one unit (Unit 1) under loss of coolant accident conditions to comply with the provisions of RG 1.68. Prior to the issuance of an OL for Unit 2, however, the applicant would have to demonstrate the capability of each CSST to carry the load required to supply ESF loads of one unit under loss of coolant accident conditions in addition to power required for shutdown of the nonaccident unit.

Therefore, the applicant should reinstate the deleted test objective and demonstrate the CSST capability related to both units, or alternatively, should commit to performing the requisite testing, subject to the conditions described above, for Unit 1 only.

TVA Response - Item 2

TVA agrees and will revise FSAR Chapter 14, Sheet 48, to clarify that the preop test methodology requires demonstration of the capability of each CSST to carry the load required to supply ESF loads of one unit (Unit 1) under loss of coolant accident conditions. TVA will submit this change to FSAR Chapter 14 under Amendment 89. TVA concurs that in the event an OL is pursued for Unit 2, FSAR Chapter 14 would require an amendment to reflect CSST capability with one unit under LOCA and the other Unit in shutdown.

NRC Position - Item 3

In Amendment 88 to FSAR Chapter 14, Table 14.2-1, "Preoperational Test Summaries," Sheet 11 of 90, "Post Accident Sampling System Test Summary," the applicant deleted the requirement to confirm, under "Acceptance Criteria," the capability of safely transporting all samples for onsite analysis, or to a transfer point for offsite analysis, and have them analyzed within the required timespan as described in FSAR Section 9.3.2.6. Following the accident at Three Mile Island, Unit 2, the NRC promulgated that licensees shall have the capability of promptly obtaining (within 3 hours or less from the time a decision is made to obtain the sample) a sample of the reactor coolant and containment atmosphere sampling line systems under accident conditions without incurring a radiation exposure to any individual in excess of 3 and 18-3/4 rem to the whole body or extremities, respectively. This requirement was designated as Item II.B.3, "Postaccident Sampling Capability," of NUREG-0737, "Clarification of TMI Action Plan Requirements." In Amendment 87 to FSAR Section 9.3.2.6.1, the applicant states that the postaccident sampling subsystem (PASS) is designed to meet the intent of and provide for sample acquisition, analysis, and disposal, as described in Section II.B.3 of NUREG-0737, and keep personnel exposures within General Design Criteria (GDC) 19 limits.

The staff finds the applicant's proposal of not having to demonstrate this capability during preoperational testing unacceptable. The applicant should reinstate the text deleted from Table 14.2-1, Sheet 11 of 90, "Post Accident Sampling System Test Summary," and perform the requisite testing, or should

provide clarification on how the applicant intends to demonstrate that requirements in Section II.B.3 of NUREG-0737 are satisfied.

TVA Response - Item 3

Subsequent to receipt of the staff's November 17, 1994 letter, TVA and NRC have had several discussions on this issue, resulting in agreement on the approach for performing comprehensive testing of the PASS. This approach provides for rigorous testing of the PASS prior to Unit 1 fuel load through performance of (1) preoperational testing under PTI-43-01 in accordance with the current Chapter 14 test commitments, and (2) practical "test" scenario(s), using plant personnel and procedures, which demonstrate that PASS samples can be collected, transported, and analyzed within the required timeframes and dose limits committed by TVA's final responses to Item II.B.3 of NUREG-0737, dated September 20, 1993 and July 13, 1984. With few exceptions, the testing under PTI-43-01 will be performed prior to beginning WBN's second hot functional test (HFT 2), scheduled for Spring 1995. The practical NUREG-0737 demonstration will be performed during HFT 2. TVA is finalizing plans for this practical demonstration, and will provide a response to the staff summarizing the scenario objectives by February 7, 1995.

ENCLOSURE 2

LIST OF COMMITMENTS

1. TVA will reinstate FSAR Chapter 14 commitments to perform boration in accordance with RG 1.68, Appendix A, subparagraphs 1.b.2, and 1.n.12. TVA will submit these changes to FSAR Chapter 14 under Amendment 89.
2. TVA will revise FSAR Chapter 14, Sheet 48, to clarify that the preop test methodology requires demonstration of the capability of each CSST to carry the load required to supply ESF loads of one unit (Unit 1) under loss of coolant accident conditions. TVA will submit this change to FSAR Chapter 14 under Amendment 89.
3. With few exceptions, the testing under PTI-43-01 will be performed prior to beginning WBN's second hot functional test (HFT 2), scheduled for Spring 1995.
4. The NUREG-0737 (II.B.3) practical demonstration will be performed during HFT 2. TVA is finalizing plans for this practical demonstration, and will provide a response to the staff summarizing the scenario objectives by February 7, 1995.