

Docket

November 17, 1994

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT - REVIEW OF FSAR CHAPTER 14 AS REVISED BY
AMENDMENT 88 AND STAFF POSITION ON THREE ISSUES (TAC M90253 AND
M90254)

Dear Mr. Kingsley:

The staff has completed its review of Watts Bar FSAR Chapter 14, "Initial Test Program," as updated through Amendment 88. The staff finds the information in FSAR Chapter 14 acceptable, except for the three issues delineated in the enclosure. Details of the staff's review will be published in Watts Bar Safety Evaluation Report, Supplement 14, expected to be published in the near future.

This letter informs you of the staff's position on the three issues, and requests additional information on them. Please provide your response within 45 days of receipt of this letter. This requirement affects nine or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,

Original signed by

Peter S. Tam, Senior Project Manager
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-390 and 50-391

Enclosure: WB FSAR Review Comments

cc w/enclosure: See next page

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WATTS BAR NUCLEAR PLANT

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NRC Staff Position on Watts Bar FSAR Chapter 14

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.

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.

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.