



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

March 15, 1985

Docket Nos: 50-390  
and 50-391

Mr. H. G. Parris  
Manager of Power  
Tennessee Valley Authority  
500A Chestnut Street, Tower II  
Chattanooga, Tennessee 37401

Dear Mr. Parris:

Subject: Initial Test Program for the Watts Bar Nuclear Plant,  
Units 1 and 2

The staff has completed its review of the Watts Bar Initial Test Program through FSAR Amendment 54 and finds that significant changes have been made to the previously reviewed and approved test program. Enclosure (1) is a list of open items that have the potential for delaying licensing of Unit 1. Enclosure (2) is a request for additional information that is considered confirmatory in nature because it covers primarily administrative detail (except Q 413.04, as it pertains to Unit 2) and represents a need to clarify the FSAR. We ask that you respond to these concerns in a time frame consistent with your fuel load schedule.

The staff is currently reviewing FSAR Amendment 55, and any concerns resulting from that review will be forwarded to you as soon as possible. If you have any questions concerning this matter, please contact the project manager, T. J. Kenyon, at FTS 492-7266.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Elinor G. Adensam, Chief  
Licensing Branch No. 4  
Division of Licensing

Enclosures:  
As stated

cc: See next page

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A PDR

DESIGNATED ORIGINAL

Certified By

WATTS BAR

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ENCLOSURE (1)

CONCERNS REGARDING THE WATTS BAR

INITIAL TEST PROGRAM

We have completed our review of the applicant's FSAR, Section 14.2, Initial Plant Test Program, through Amendment 54 and letters from L. M. Mills, TVA, to E. Adensam, NRC, dated February 26, 1982, and J. A. Domer, TVA, to E. Adensam, NRC, dated November 20, 1984, and find that significant changes have been made to the previously reviewed and approved test program. The new open items which have resulted from changing the previously reviewed and approved test program are as follows:

The following item numbers refer to Request for Additional (RAI) question numbers.

Item	Description
413.02	<p>The response to Part z of this item, with regard to FSAR Table 14.2-1, TVA-1 (Shield Building Inleakage Rate Tests, Emergency Gas Treatment System Functional Tests), is not acceptable.</p> <p>(1) Either reinstate that the containment vessel will be isolated for the test by automatic isolation, or provide technical justification for not performing the test as required.</p> <p>(2) Either reinstate that the total infiltration will be less than the values listed in FSAR Subsection 6.2.3.2.1, or provide technical justification for allowing a 50 cfm deviation.</p>
413.12	<p>(1) The response to Part 17 of this item, with regard to FSAR Table 14.2-1, TVA-18A (Essential Raw Cooling Water System), is not acceptable.</p>

- (a) The response to this item states that identification of FSAR sections containing minimum component flow requirements is addressed in Test Objective 6. This test objective has been deleted. Either reinstate the appropriate test objective, or modify the response to this item accordingly.
  - (b) Either reinstate the acceptance criteria that the ERCW pumps can achieve rated flows in 15.5 seconds, or provide technical justification for why this response time was revised to 20 seconds.
- (3) The response to Part 30 of this item, with regard to FSAR Table 14.2-1, TVA-11B (Communication System), has not been provided.
- (a) Acceptance criteria relating to the audibility of the Plant Evacuation Alarm System should be reinstated.
- 413.23 (2) FSAR Table 14.2-2A, SU-3.9 (Natural Circulation Test) should be modified to comply with the training objectives of NUREG-0694, "TMI Related Requirements for New Operating Licenses," Item I.G.1. Reference the letter dated September 14, 1981, from L. M. Mills (TVA) to E. Adensam (NRC). The response should ensure accomplishment of the following training objectives:
- Each licensed reactor operator (RO or SRO who performs RO or SRO duties respectively) should participate in the initiation, maintenance, and recovery from the natural circulation mode. Operators should be able to recognize when natural circulation has been stabilized and should be able to control saturation margin, RCS pressure, and heat removal rate without exceeding specified operating limits.

- 413.24 Modify FSAR Table 14.2-1, TVA-9B (Reactor Building Purge System) to reinstate the acceptance criteria for minimum air flow rate in accordance with FSAR Subsection 9.4.6.2 (28,000 cfm), or provide technical justification for the revised air flow rate (22,949 cfm) acceptance criteria.
- 413.26 Address the following items with regard to SU-1.1 (Startup Test Program Master Sequence), as contained in the November 20, 1984 letter:
- (1) FSAR Table 14.2-2A, SU-3.9 (Natural Circulation Test) acceptance criteria states that stable conditions are established as per SU-1.1. SU-1.1 should be modified to provide appropriate acceptance criteria.
  - (2) FSAR Table 14.2-2A, SU-4.10A (RCCA Pseudo Drop Test) acceptance criteria references SU-1.1. SU-1.1 should be modified to include SU-4.10A.
  - (3) FSAR Table 14.2-2A, SU-4.11 (RCCA Pseudo Ejection Test) acceptance criteria references SU-1.1. SU-1.1 should be modified to include SU-4.11.

The staff will review the applicant's response to these items and report our findings in a subsequent safety evaluation report.

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT

REQUEST FOR ADDITIONAL INFORMATION AND STAFF POSITIONS

The following items are primarily administrative in nature and do not represent substantive technical issues. However, the administrative detail should be corrected to avoid confusion in interpreting the FSAR. These items have resulted from review of the Watts Bar Initial Plant Test program through FSAR Amendment 54 (1-85) and letters dated February 26, 1982, from L. M. Mills (TVA) to E. Adensam (NRC) and November 20, 1984, from J. A. Domer (TVA) to E. Adensam. The items are considered confirmatory in nature except Q413.04, which pertains to Unit 2.

- | Item   | Description  |
|--------|--|
| 413.03 | The response to Part D.1.a of this item should be modified to address the inclusion of SU-3.9 (Natural Circulation Test) in the startup test program.  |
| 413.04 | The response to Part r of this item is not acceptable. Either reinstate SU-6.2 (Loss of Offsite Power) in FSAR Table 14.2-2B (Unit 2 Startup Test), or provide technical justification for performing this test only on Unit 1.  |
| 413.05 | The response to this item should be modified to address the inclusion of SU-3.9 (Natural Circulation Test) in the startup test program.  |
| 413.12 | (2) The response to Part 29 of this item, with regard to FSAR Table 14.2-1, TVA-1 (Shield Building Inleakage Rate Tests, Emergency Gas Treatment System Functional Tests), should be provided as stated in the letter dated February 26, 1982.<br><br>(3) The response to Part 30 of this item, with regard to FSAR Table 14.2-1, TVA-11B (Communication System), has not been provided.<br><br>(b) The response to this item should be provided as stated in the letter dated February 26, 1982.<br><br>(c) The response to this item as stated in the letter dated February 26, 1982, references Item 40.77. Part e of Item 40.77 requests information regarding communication system testing. A response to this item should be provided. |
| 413.23 | (1) The response to this RAI, as contained in the letter from D. S. Kammer (TVA) to E. Adensam (NRC), dated May 2, 1984, should be included in the FSAR.   |
| 413.25 | FSAR Table 14.2-2A, SU-4.3 (RCCA or Bank Worth Measurement at Power) references SU-1.5 and SU-1.6 for test prerequisites. SU-1.5 (30% Power Test Sequence), SU-1.6 (50% Power Test Sequence), and Figure 14.2-3A (Startup Test Sequence - Unit 1) should be modified to include SU-4.3.  |

413.27 FSAR Table 14.2-1 and Table 14.2-2B test abstracts should be modified to address the following items:

- (1) W1.8 (Reactor Coolant Flow Coastdown) - The last Test Prerequisite is not complete.
- (2) W10.1B (Spent Fuel Pit Cooling System) - The test objectives have been misnumbered.
- (3) TVA-9C (Aux. Build. HVAC) - The Test Prerequisites have been inappropriately combined.
- (4) SU-4.6 (Steam Generation Moisture Carryover Measurement) - The acceptance criteria reference to "of 95" should be deleted.