



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 4, 2010

Mr. Ashok S. Bhatnagar
Senior Vice President
Nuclear Generation Development
and Construction
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – REQUEST FOR ADDITIONAL
INFORMATION REGARDING FINAL SAFETY ANALYSIS REPORT RELATED
TO SECTION 15 (TAC NO. ME4074)

Dear Mr. Bhatnagar:

By letters dated November 24 and December 14, 2009, and January 11, May 7, and May 27, 2010, Tennessee Valley Authority submitted Amendments 95, 96, 97, 98, and 99, respectively, to the Final Safety Analysis Report for Watts Bar Nuclear Plant, Unit 2.

The U.S. Nuclear Regulatory Commission staff has reviewed the information provided and determined that further information is required to complete its assessment of your submittals. The specific questions are discussed in the enclosed Request for Additional Information.

A response is required within 20 days of receipt of this letter.

If you should have any questions, please contact me at 301-415-2048.

Sincerely,

A handwritten signature in black ink, which appears to read "Justin C. Poole".

Justin C. Poole, Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

Request for Additional Information
Watts Bar Nuclear Plant, Unit 2
Final Safety Analysis Report Section 15
Tennessee Valley Authority
Docket No. 50-391

By letters dated November 24 and December 14, 2009, and January 11, May 7, and May 27, 2010, Tennessee Valley Authority submitted Amendments 95, 96, 97, 98, and 99, respectively, to the Final Safety Analysis Report (FSAR) for Watts Bar Nuclear Plant (WBN), Unit 2. The Nuclear Regulatory Commission staff has reviewed the information provided and has determined that the following information is required to complete its review.

SER 15.3.6, "Anticipated Transients Without Scram"

FSAR Chapter 15.2, CONDITION II - FAULTS OF MODERATE FREQUENCY, contains a paragraph concerning anticipated transients without scram (ATWS), in which reference is made to a series of generic studies that indicate ATWS analyses would yield acceptable consequences in cases where the turbine trip and auxiliary feedwater actuation functions are successful. This paragraph concludes with a reference to the Watts Bar ATWS mitigation system actuation circuitry (AMSAC) design description in FSAR Chapter 7.7.1.12. Please provide the following additional information, concerning ATWS in Watts Bar Unit 2:

1. Provide a discussion verifying that WBN Unit 2, with the AMSAC installed, meets the requirements of General Design Criteria 13, 14, 16, 35, 38, and 50 (NUREG-0800, Section 15.8).
2. Provide a discussion of the analysis or evaluation that shows that the reactor coolant system pressure will not exceed the American Society of Mechanical Engineers Service Level C limits (approximately 3200 psig), with AMSAC installed, for the most limiting ATWS event. If the results of generic analyses are cited, show that they apply to the specifics of the WBN Unit 2 design.
3. Provide a discussion of the analysis or evaluation showing that the containment safety parameters (e.g., temperature or pressure) will not exceed design limits, with AMSAC installed, for the most limiting ATWS event.
4. Provide a discussion of the analysis or evaluation showing, with AMSAC installed, that the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," are met for the most limiting ATWS event.
5. Verify that the moderator temperature coefficient, used in ATWS analyses or evaluations, is consistent with moderator temperature coefficient assumptions used in the bases for 10 CFR 50.62 (see Appendix C to NUREG-0460).
6. Provide a discussion indicating that WBN Unit 2 has the capability for long-term shutdown and cooling following the most limiting ATWS event, and identify the operator actions and procedures that are used.

Enclosure

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/RA JWiebe for/

Justin C. Poole, Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
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