



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

March 13, 2013

Mr. Michael D. Skaggs  
Senior Vice President  
Nuclear Construction  
Tennessee Valley Authority  
Lookout Place 6A  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – REQUEST FOR ADDITIONAL  
INFORMATION REGARDING TECHNICAL SPECIFICATIONS CHANGES –  
INSTRUMENTATION AND CONTROLS BRANCH (TAC NO. ME7713)

Dear Mr. Skaggs:

By letter dated February 28, 2012, Tennessee Valley Authority (TVA) submitted developmental Revision G of the Watts Bar Nuclear (WBN) Unit 2, Technical Specifications (TS) and TS Bases. The U.S. Nuclear Regulatory Commission (NRC) staff has been reviewing the information provided by TVA in support of the operating license application for WBN Unit 2.

The staff of the Instrumentation and Controls Branch has reviewed the submittal for the areas under their review responsibilities and determined that the following additional information is needed to complete the review.

These questions were sent to TVA as draft on January 7, 2013 (Agencywide Document Access and Management System Accession No. ML13036A244). Based on discussions with your staff on January 29, 2013, Questions 1 and 11 have been withdrawn due to the NRC staff already having this information, and Questions 12 and 13 will be provided to you under separate correspondence. Also, TVA stated to the NRC staff that responses would be completed within 30 days of the date of this letter. If the responses cannot be completed by that date, submit a written request to the NRC for an extension and include a justification for the time period requested.

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

Sincerely,

A handwritten signature in black ink, appearing to read "JP", with a long horizontal stroke extending to the left.

Justin C. Poole, Sr. Project Manager  
Plant Licensing Branch II-2  
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

TECHNICAL SPECIFICATIONS REVIEW

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-391

By letter dated February 28, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML120650055), the Tennessee Valley Authority (TVA, the applicant) submitted developmental Revision G of the Watts Bar Nuclear (WBN) Unit 2, Technical Specifications (TS) and TS Bases.

The Nuclear Regulatory Commission (NRC) staff (Instrumentation and Controls Branch) is reviewing the applicant's submittal for the areas under our review responsibilities and determined that the following additional information is needed to complete the review, as outlined below:

1. Withdrawn.
2. In TS Section 3.3.1, "RTS [Reactor Trip System] Instrumentation," Over-temperature delta-T, Surveillance Requirement (SR) 3.3.1.3, Note 2, the rated thermal power within 96 hours of which the surveillance is to be performed was changed from greater than or equal to ( $\geq$ ) 15 percent RTP (Rated Thermal Power) to  $\geq$  25 percent RTP.

Provide a justification for this change including where in the Final Safety Analysis Report (FSAR) or the Supplemental Safety Evaluation Report (SSER) it is addressed.

Also, provide a summary of the calculation for this change and a description of the methodology used to make the calculation.

3. In TS Section 3.3.1, "RTS Instrumentation," Functional Unit 5, "Source Range Neutron Flux," the Allowable Value (AV) was changed from less than or equal to ( $\leq$ ) 1.5 E5 counts per second (cps) to  $\leq$  1.33 E5 cps.

Provide a justification for this change, including where in the FSAR or the SSER it is addressed.

Also, provide a summary of the calculations used for determining the AV, Nominal Trip Setpoint (NTSP), Total Loop Uncertainty, As-Found and As-Left Tolerances, as applicable, and a description of the methodology used to make the calculations.

4. In TS Section 3.3.1, "RTS Instrumentation," Functional Unit 11, "Undervoltage RCPs [Reactor Coolant Pumps]," the AV was changed from  $\geq$  4734 Volts (V) to  $\geq$  5112 V, and the NTSP changed from 4830 V to 5400 V.

Enclosure

Provide a justification for these changes including where in the FSAR or the SSER they are addressed.

Provide a summary of the calculations used for determining the AV, NTSP, Total Loop Uncertainty, As-Found and As-Left Tolerances, as applicable, and a description of the methodology used to make the calculations.

5. In TS Section 3.3.1, "RTS Instrumentation," Functional Unit 14.a, "Turbine Trip, Low Fluid Oil Pressure," SR 3.3.1.18 was changed to SR 3.3.1.10.

Provide a justification for this change including where in the FSAR or the SSER it is addressed.

6. In TS Section 3.3.1, "RTS Instrumentation," Functional Unit 14.a, "Turbine Trip, Low Fluid Oil Pressure," the AV was changed from  $\geq 43$  psig to  $\geq 38.3$  psig.

Provide a justification for these changes including where in the FSAR or the SSER they are addressed.

Also, provide summary calculations used for determining the AV, NTSP, Total Loop Uncertainty, As-Found and As-Left Tolerances, as applicable, and a description of the methodology used to make the calculations.

7. In TS Section 3.3.2, "ESFAS [Engineered Safety Feature Actuation System] Instrumentation," SR 3.3.2.5, and in TS Section 3.3.6 "Containment Vent Isolation Instrumentation," SR 3.3.6.5, the following note was added to the 18 month frequency:

*"and Potter & Brumfield MDR [motor-driven rotary] Series relays."*

The proposed changes would extend the test frequency of the Potter & Brumfield MDR Series relays to 18 months. The applicant has also proposed adding the same changes to the respective TS Bases.

The current WBN Unit 1 TS only identifies the Westinghouse type AR relay as having a surveillance frequency of 18 months.

By letter dated December 30 1998, the NRC issued Amendment No. 17 to Facility Operating License No. NPF-90 for WBN Unit 1. The amendment was in response to TVA's license amendment application dated February 28, 1996, as supplemented by letters dated October 2 and December 12, 1997, March 30 and December 11, 1998. The February 28, 1996, letter, proposed to extend the surveillance interval for Westinghouse type AR relays with alternating current and direct current coils from quarterly to an 18 month interval. The letter of December 11, 1998, revised the scope of the application such that it applies only to Westinghouse type AR relays, which use alternating current (ac) coils.

Based on the review of Westinghouse reports WCAP-13877, Rev. 1, WCAP-13900, Rev. 0, and the licensee's submittals referencing these topical reports (TR), the NRC staff concluded in the Safety Evaluation for Amendment 17 that the proposed test

interval extension to 18 months for Westinghouse type AR relays with ac coils used in ESFAS slave relays applications was justified for WBN Unit 1.

Only Westinghouse type AR relays with ac coils are within the scope of WCAP-13877. Potter & Brumfield MDR Series relays are not within the scope WCAP-13877 (Rev. 1 or Rev. 2) and the conclusions of Amendment 17 are not applicable to Potter & Brumfield MDR relays.

TR, WCAP-13878, however, addresses the surveillance extension of Potter & Brumfield MDR relays. Licensees that use Potter & Brumfield MDR relays for ESFAS subgroup relay applications and that propose test interval extensions based on WCAP-13878 should:

1. Confirm the applicability of the WCAP-13878, Rev. 1 analyses for their plant.
2. Ensure that their procurement program for Potter & Brumfield MDR relays is adequate for detecting the types of failures that are discussed in References 9, 10, 11, and 12 of the SER to WCAP-13878.
3. Ensure that all pre-1992 Potter & Brumfield MDR relays that are used in either normally energized or a 20 percent duty cycle, have been removed from ESFAS applications.
4. Ensure that the contact loading analysis for Potter & Brumfield MDR relays has been performed to determine the acceptability of these relays.

The NRC staff has not identified a previous NRC staff Safety Evaluation approving the surveillance extension of Potter & Brumfield MDR relays for WBN or a License Amendment Request from TVA requesting such an extension for WBN based on WCAP-13878.

Provide a justification for extending the test frequency of the Potter & Brumfield MDR Series relays to 18 months.

8. In TS Section 3.3.2, "ESFAS Instrumentation," SR 3.3.2.8, the following words were added at the end of the surveillance note:

*"for manual initiation"*

The note now reads: "Verification of setpoint not required *for manual initiation*."

Provide a justification for this change including where in the FSAR or the SSER it is addressed.

9. In TS Section 3.3.2, "ESFAS Instrumentation," Functional Unit 6.d, "Auxiliary Feedwater, Loss of Offsite Power," the following note was added to the surveillance requirement:

*"Notes (b) and (c) are applicable to SR 3.3.5.2 for this function."*

Provide a justification for this change including where in the FSAR or the SSER it is addressed.

10. In TS Section 3.3.2, "ESFAS Instrumentation," Functional Unit 6.e, "Auxiliary Feedwater, Trip of all Turbine Driven Main Feedwater Pumps," the AV was changed from  $\geq 48$  psig to  $\geq 43.3$  psig.

Provide a justification for this change including where in the FSAR or the SSER it is addressed.

Also, provide summary calculations used for determining the AV, NTSP, Total Loop Uncertainty, As-Found and As-Left Tolerances, as applicable, and a description of the methodology used to make the calculations.

11. Withdrawn.

March 13, 2013

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Sincerely,  
/RA/

Justin C. Poole, Sr. Project Manager  
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ADAMS Accession No. ML13037A265

\*Via memo

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