

October 23, 2007

William R. Campbell, Jr.  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – INFORMATION NEEDED  
FOR LICENSING REVIEW RECONSTITUTION

Dear Mr. Campbell:

In a letter dated August 3, 2007, the Tennessee Valley Authority (TVA) informed the Nuclear Regulatory Commission (NRC) of its intent to reactivate and complete construction of the Watts Bar Nuclear Plant (WBN) Unit 2. TVA's letter also described information that TVA plans to submit to document its view of the remaining regulatory reviews needed to complete licensing of this facility. The purpose of this letter is to inform you of information the NRC staff will need for its own assessment of the status of the licensing review. Providing this information in your upcoming submittals will facilitate the timely review of your application.

The NRC staff will review information you provide in accordance with direction provided by the Commission in its July 25, 2007, Staff Requirements Memorandum (SRM) (ADAMS Accession Number ML072060688). This memorandum directs the staff to employ the current licensing basis of WBN Unit 1 as the reference basis for the review and licensing of WBN Unit 2.

The staff understands that a significant amount of licensing review for WBN Unit 2 was completed in NUREG-0847, "Safety Evaluation Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2" and its supplements. Therefore, the staff has determined that reconstituting the status of the review for each topic addressed in NUREG-0847 with regard to WBN Unit 2 will be the focus of our initial efforts. Similarly, the staff intends to reconstitute the status of WBN Unit 2 reviews for TVA Nuclear Performance Plan topics, and for NRC generic communications.

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The enclosure to this letter describes information that will facilitate reconstitution of the licensing review in accordance with the SRM. Addressing these topics in TVA's upcoming submittals will assist the efficient review of your application.

If you have questions regarding these information requests, please contact me at 301-415-1470 or at [jfw1@nrc.gov](mailto:jfw1@nrc.gov).

Sincerely,

**/RA/**

Joseph F. Williams, Senior Project Manager  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure: Info Needed for  
Reconstruction of WBN-2 Licensing Review

cc w/encl: See next page

## Information Needed For Reconstitution of Watts Bar Nuclear Plant Licensing Review

### In Accordance With July 25, 2007, Staff Requirements Memorandum

1. In its August 3, 2007, letter, the Tennessee Valley Authority (TVA) stated that it plans to provide a “red-line” version of the WBN Unit 1 Final Safety Analysis Report (FSAR), documenting differences between the current FSAR and the FSAR in place at the time the Unit 1 operating license was issued. This submittal will assist the Nuclear Regulatory Commission (NRC) staff in fulfilling the Commission’s direction to use the Unit 1 current licensing basis as the reference basis for Unit 2. To fully implement the Commission’s direction, please ensure your submittal addresses the following topics:
  - a. Describe the differences between WBN Units 1 and 2 expected at the time Unit 2 licensing is anticipated. For example, does TVA plan to request that Unit 2 be licensed at the power level currently described in its operating license application 3411 megawatts thermal (MWt) or at the current Unit 1 licensed power level (3459 MWt)?
  - b. Describe the process for evaluation of WBN Unit 1 modifications to be implemented on Unit 2 to identify whether a previous NRC safety evaluation will need to be revised. Existing licensing reviews for WBN Unit 2 contained in NUREG-0847, and its supplements, are for plant configurations as described in various revisions of the operating license application FSAR. It is the NRC’s understanding that TVA has completed modifications to WBN Unit 1 that it intends to implement on Unit 2, as well. If these modifications affect the configuration described in previous NRC safety evaluations, those evaluations may need to be revised to reflect the plant configuration as it will be completed.
  - c. Describe how TVA will ensure that engineering and Title 10, Code of Federal Regulations, Section 50.59 evaluations for WBN Unit 1 modifications implemented since initial licensing will remain valid when WBN Unit 2 begins operations.
  - d. Describe changes to the WBN Unit 1 licensing basis that will be required to accommodate multi-unit operations. Also, describe how TVA will demonstrate that the existing WBN Unit 1 configuration is applicable to Unit 2 for multi-unit operations.
2. Operation of WBN Unit 2 will rely on common systems and structures that have already been in use supporting Unit 1 full-power operation since 1996. Based on the expected completion of WBN Unit 2 in 2012 and issuance of a 40-year operating license, these common systems and structures will be required to perform their intended functions well beyond the original term of the Unit 1 operating license. Additionally, Unit 2 components and structures already installed may have experienced degradation during the period of time construction was suspended. Therefore, TVA should describe how it will ensure these common and previously-constructed systems, structures, and components will be capable of performing their intended functions for the entire license term expected for WBN Unit 2.

3. TVA has indicated that it intends to apply Nuclear Performance Plan (NPP) corrective action and special programs used for WBN Unit 1 to WBN Unit 2. The staff notes that the NRC has not issued a safety evaluation for these programs for WBN Unit 2. Therefore, TVA should confirm that previous NPP submittals for WBN Unit 1 are also applicable to Unit 2. TVA should identify if there are any cases where TVA wishes to revise a corrective action or special program for use on WBN Unit 2, along with a schedule for submitting justification for the revision to NRC for its review.
4. Please identify submittal dates for the following items:
  - a. Application for extension of the WBN Unit 2 construction permit
  - b. Items given in Attachment 6 of the August 3, 2007, letter, if no date was provided.
  - c. Topics that TVA has already identified as requiring NRC review to complete WBN Unit 2 licensing.

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The enclosure to this letter describes information that will facilitate reconstitution of the licensing review in accordance with the SRM. Addressing these topics in TVA's upcoming submittals will assist the efficient review of your application.

If you have questions regarding these information requests, please contact me at 301-415-1470, or at [jfw1@nrc.gov](mailto:jfw1@nrc.gov).

Sincerely,

**/RA/**

Joseph F. Williams, Senior Project Manager  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure: Info Needed for  
Reconstruction of WBN-2 Licensing Review

cc w/encl: See Next Page

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WATTS BAR NUCLEAR PLANT

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