

June 11, 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 FIRE PROTECTION PROGRAM  
(TAC NO. ME0853)

Dear Mr. Bhatnagar:

The purpose of this letter is to inform you that the U.S. Nuclear Regulatory Commission (NRC) needs additional information to complete its review of the fire protection program for Watts Bar Nuclear Plant (WBN), Unit 2.

In accordance with Section 50.48, "Fire protection," of Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR), Tennessee Valley Authority (TVA) is required to have a fire protection plan that satisfies General Design Criterion 3.

Section 9.5.1, "Fire Protection System," of the WBN Unit 2 Final Safety Analysis Report indicates that the Fire Protection Program is described in the WBN Fire Protection Report. In a letter dated November 1, 1995, TVA submitted Revision 5 to the WBN Fire Protection Report to the NRC to support the staff's review and approval of the WBN Fire Protection Program. In Section 3.0, "Basis of the Fire Protection Plan," of Part II of the WBN Fire Protection Plan, TVA noted its commitment to implement Sections III.G, J, and O of Appendix R to 10 CFR 50 and Appendix A to Branch Technical Position APCS 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976" (August 23, 1976). TVA also noted that the requirements contained in Section III.L of Appendix R are applicable to areas where alternate shutdown capability is selected.

In NRC Report NUREG-0847, "Safety Evaluation Report related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2" (SER), the staff provided its review of the WBN Fire Protection Report and fire hazards analysis dated April 18, 1977, as supplemented on September 8, 1980, and August 28, 1981. TVA subsequently revised its fire protection program as a result of a comprehensive review under its Fire Protection Corrective Action Program. In Supplement 18 to the SER, dated October 1995, the staff documented its review of the revised Fire Protection Report, which described the operational phase of the fire protection program and consolidated the fire protection program into a single document. The staff also stated that its evaluation applied to the fire protection program for both WBN Units 1 and 2. At that time, the staff concluded that the fire protection program's design criteria and bases were acceptable and met the requirements of 10 CFR 50.48 and General Design Criteria 3 and 5. The review considered the changes to the WBN Fire Protection Report through Revision 4, dated September 28, 1995.

In a letter dated November 1, 1995, TVA provided Revision 5 of the WBN Fire Protection Report to address open issues and to update information based on the completion of fire protection activities. The NRC staff supplemented or revised its evaluation in Appendix FF to Supplement 19 of the SER, dated November 1995. In addition, when the operating license (OL) was granted for WBN Unit 1, a condition was placed in the license stating that the licensee may make changes to the approved fire protection program without prior approval of the NRC only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

In its Staff Requirements Memorandum, SECY-07-0096, dated July 25, 2007, the Commission directed the NRC staff to use a licensing review approach that employs the current licensing basis for Unit 1 as the reference basis for the review and licensing of Unit 2. Therefore, in support of its review of the OL application for WBN Unit 2, the NRC staff will assess your current fire protection program to confirm that prior staff conclusions regarding program acceptability remain valid, including those related to safe shutdown capability, including treatment of operator manual actions (OMAs). In particular, the staff will need to review the changes made by TVA since the last NRC formal review of the program. Because most of these changes were completed during a period of single-unit operation, the staff will also assess the impacts of shared fire protection system operation during dual-unit operation.

Therefore, the NRC staff requests that TVA submit the following information in order for the staff to complete its review of the fire protection system for WBN Unit 2:

1. WBN Fire Protection Report

- a. The proposed revision of the WBN Unit 2 portion of the Fire Protection Report, with notation of all changes made after the last approval of the report by the NRC.
- b. The proposed revision of the common portions of the WBN Fire Protection Report, with notation of all changes made after the last approval of the report by the NRC.
- c. For each change that was previously approved by the NRC:
  - (i) Provide detail concerning the approval,
  - (ii) A reference to the approving document, and
  - (iii) An excerpt documenting the approval.
- d. For each change that was not previously approved by the NRC:
  - (i) Provide a summary description of the evaluation, and
  - (ii) TVA's justification for the acceptability of the change.

2. Multiple Spurious Actuations

Regarding TVA's review of multiple spurious actuation scenarios that could affect post-fire safe shutdown, provide:

- a. A description of the method TVA used to systematically identify possible multiple spurious actuation scenarios that could affect safe shutdown,
- b. A description of each of the scenarios identified by the analysis, including how post-fire safe shutdown is ensured for each scenario.

3. Operator Manual Actions

For all OMAs needed to assure post-fire safe shutdown when redundant trains are in the same fire area outside of primary containment, provide:

- a. A description of the method that TVA used to evaluate OMAs,
- b. A description of, and a schedule for, completing plant modifications that are being performed to reduce OMAs,
- c. A list of OMAs that could not be resolved through modifications,
- d. The plan and schedule for submitting a request for NRC approval of the OMAs that could not be resolved through modifications.

In order to continue its review, the NRC staff requests the submission of this information within 30 days of receipt of this letter. If any of the above requested information cannot be provided within 30 days, provide: (1) a detailed schedule for submitting this information, including a detailed list of TVA actions to complete the activity, and (2) a plan and schedule for TVA to request NRC approval for any of the foregoing.

If you should have any questions, please contact me at 301-415-1457.

Sincerely,

**/RA/**

Patrick D. Milano, Senior Project Manager  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

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