

June 3, 2008

Mr. Ashok Bhatnagar
Senior Vice President
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Tennessee Valley Authority
6A Lookout Place
1101 Market Street
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SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – REQUEST FOR SUPPLEMENTAL
INFORMATION FOR REVIEW OF SUPPLEMENTAL ENVIRONMENTAL
STATEMENT (TAC MD8203)

Dear Mr. Bhatnagar:

The Nuclear Regulatory Commission (NRC) staff has determined that the Tennessee Valley Authority (TVA) must provide supplemental information in order for the staff to supplement its environmental statement supporting the Watts Bar Nuclear Plant, Unit 2, operating license review. The staff has examined TVA's February 15, 2008 submittal, "Watts Bar Nuclear Plant (WBN) – Unit 2 – Final Supplemental Environmental Impact Statement [FSEIS] for the Completion and Operation of Unit 2," and has concluded that the submittal does not provide all information required for environmental reports by Title 10 of the Code of Federal Regulations (10 CFR) sections 51.45 and 51.53.

Background

Applicants for a license to operate a production or utilization facility, such as a nuclear power plant, are required by 10 CFR 51.53(b) to submit information supplementing environmental information submitted in support of the NRC's review of a construction permit. Among other things, this regulation requires applicants to discuss the same matters described in 10 CFR 51.45, 10 CFR 51.51, and 10 CFR 51.52, but only to the extent that they differ from those discussed or reflect new information in addition to that discussed in the final environmental impact statement prepared by the NRC in connection with the construction permit. Applicants are required by 10 CFR 51.45 to submit an environmental report that includes a discussion of the impact of the proposed action on the environment. Applicants are also required to analyze alternatives available for reducing or avoiding adverse environmental effects.

The NRC's initial environmental review for WBN Units 1 and 2 is documented in NUREG-0498, "Environmental Statement Related to Operation of Watts Bar Nuclear Plant Units 1 and 2," December 1978. In April 1995, the staff completed NUREG-0498, Supplement 1, to support issuance of the WBN Unit 1 operating license.

The staff recently began work to supplement NUREG-0498 in support of the WBN Unit 2 operating license review. This effort includes review of environmental information submitted by

TVA in accordance with 10 CFR 51.45. The staff has determined that TVA's February 15, 2008, submittal did not completely address requirements in 10 CFR 51.53 and 10 CFR 51.45 regarding information needed for the NRC's review of the environmental impact of WBN Unit 2 operation.

The NRC staff has identified that TVA's submittal does not adequately address a major potential difference between current operations from those proposed regarding the cooling mode to be used once WBN Unit 2 begins operations. Specifically, TVA's submittal did not clearly describe the plant cooling mode, including the flow rate of water used for once-through cooling of the facility. As stated on page 26 of TVA's submittal, neither unit will operate in a fully-closed mode. Previous analyses described in NUREG-0498 and its supplement assume completely closed cycle cooling would be used. The difference between closed and open-cycle cooling could result in an adverse environmental impact that has not been presented or evaluated in the application. Therefore, the submittal does not fulfill requirements of 10 CFR 51.53(b) to describe differences or reflect new information, does not fulfill requirements of 10 CFR 51.45(b) to describe the impact of the proposed action, and does not address alternatives available for reducing or avoiding adverse environmental effects as required by 10 CFR 51.45(c).

The NRC staff has also determined that TVA's February 15, 2008, submittal does not provide an adequate analysis of severe accident mitigation design alternatives (SAMDA). TVA's submittal describes an evaluation based upon the WBN Unit 1 probabilistic safety assessment model, stating that it is considered applicable because of the similarity between WBN Units 1 and 2. However, no information is provided to justify this statement. The NRC staff has concluded that sharing of systems previously dedicated to Unit 1 operation would likely result in a Unit 2 risk profile different from that previously evaluated for Unit 1. Therefore, TVA's February 15, 2008, submittal does not fulfill requirements of 10 CFR 51.53(b) to describe such differences.

TVA's submittal also indicated that background information and analyses associated with the severe accident analysis are available at the site for review. However, making the information available in this manner does not fulfill the requirements of 10 CFR 51.45(c) for submittal of information regarding alternatives for reducing or avoiding adverse environmental effects. Information at the site is also not available to the public, which does not enable the NRC to seek public input and comments on this information as part of its environmental review.

Requests for Supplemental Information

To address the issues described above, TVA is requested to provide the following supplemental information:

1. Provide a description of the plant cooling water modes that will be used once WBN Unit 2 begins operation, including a discussion of the differences from modes described in previous environmental reviews completed by the NRC, as required by 10 CFR 51.53(b). TVA's response should describe any changes and analyses as required by 10 CFR 51.45(b) and (c), and should include information of the impact on fish and shellfish resources as should be shown in a copy of the Clean Water Act 316(b) determination.
2. Provide an analysis of alternatives available for preventing or mitigating adverse environmental effects of severe accidents for WBN Unit 2. The analysis should be consistent in

scope and content with severe accident mitigation alternative analyses provided in support of recent license renewal applications, and should consider risks from both internal and external events. The analysis should demonstrate that differences between WBN Units 1 and 2, and the effects of multi-unit operations are adequately addressed, and should be supported by completion of a probabilistic safety assessment reflecting the impact of simultaneous operation of both WBN units. TVA's response should clearly demonstrate the applicability of any information submitted to WBN Unit 2.

These requests were discussed with TVA representatives in telephone conferences on April 17 and 24, 2008.

These requests reflect only the NRC staff's initial review of TVA's February 15, 2008, submittal. Once complete information is provided, it is anticipated that requests for additional information will be needed as the staff's review proceeds.

Please provide the requested information within 30 days of the date of this letter, or provide a schedule for submittal of the information. The NRC staff will inform the public of our review schedule via a *Federal Register* Notice once complete information is received.

The NRC staff notes that prior to receipt of the February 15, 2008, submittal, the NRC staff had discussed the need for complete information to address SAMDA with TVA representatives. NRC staff had examined TVA's FSEIS, which was available through public sources, including TVA's Internet web site. Based on the staff's examination of the FSEIS, we indicated to TVA that it appeared that SAMDA was not addressed in sufficient detail to conduct our review. TVA's February 15, 2008, submittal apparently addressed this issue by stating that background information and analyses are available at the site for review. As indicated above, TVA's approach did not satisfy regulatory requirements or provide adequate information for meaningful public participation in the NRC's environmental review.

I can be reached at 301-415-1470 or at joseph.williams@nrc.gov if you have questions regarding this topic.

Sincerely,

/RA/

Joseph F. Williams, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

cc: See next page

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