



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

September 9, 2009

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

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – SAFETY EVALUATION INPUT  
REGARDING REPLACEMENT ITEMS CORRECTIVE ACTION PROGRAM  
(TAC NO. ME2168)

Dear Mr. Bhatnagar:

By letter dated January 29, 2008 (ADAMS Accession No. ML080320443), as supplemented by letters dated September 26, 2008 (ADAMS Accession No. ML082750019), and July 10, 2009 (ADAMS Accession No. ML091960112), the Tennessee Valley Authority (TVA) submitted an application for approval of the Replacement Items Corrective Action Program (CAP for Watts Bar Nuclear Plant (WBN), Unit 2.

The staff has reviewed TVA's application including the supplemental letters; the staff concludes that there is reasonable assurance that, when implemented, the Replacement Items CAP will be appropriately resolved for WBN Unit 2. Enclosed is the staff's safety evaluation completing the staff's efforts for TAC No. ME2168.

If you have any questions regarding this issue, please feel free to contact John G. Lamb at (301) 415-3100.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Raghavan".

L. Raghavan, Chief  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure: As stated



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SAFETY EVALUATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REGARDING THE REPLACEMENT ITEMS CORRECTIVE ACTION PROGRAM

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-391

1.0 INTRODUCTION

The Watts Bar Nuclear Performance Plan (WBNPP) was submitted to the U. S. Nuclear Regulatory Commission (NRC) by Tennessee Valley Authority (TVA) letter dated May 27, 1988 (Agency Document and Management System Accession Number ML080390551). The NRC staff documented its review and findings concerning the WBNPP in NUREG-1232, Volume 4, "Safety Evaluation Report on Tennessee Valley Authority: Watts Bar Nuclear Performance Plan." In this safety evaluation, the NRC staff found that there were several issues that required additional information before they could complete their review. The NRC staff stated therein that these programs will continue to be reviewed and monitored and NRC would issue a revised evaluation in a supplement to NUREG-0847, "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Units 1 and 2." Starting in Supplement 5, a Section on corrective action programs (CAPs) and special programs (SPs) was added to NUREG-0847 to provide the status of TVA's implementation and the status of the NRC staff review.

By letter dated September 6, 1991, the TVA transmitted Revision 1 of the WBNPP to the NRC. The NRC staff concluded in NUREG-0847, Supplement 9 that the revision did not necessitate a revision of NUREG-1232. As reported in NUREG-0847, Supplement 19, all CAPs and SPs were acceptably implemented by the licensee. Supplement 19 also listed all applicable safety evaluations that found these programs acceptable and the inspection reports that verified implementation.

Because the NRC has not issued a safety evaluation for these programs for Watts Bar Nuclear Plant (WBN) Unit 2, the NRC staff had asked TVA to confirm that previous WBNPP submittals for WBN Unit 1 were also applicable to Unit 2. Further, the NRC staff asked TVA to identify any cases where TVA expects to revise a CAP or SP for use on WBN Unit 2 and provide a schedule for submitting justification for the revision to NRC for its review. Therefore, TVA provided, as one of the enclosures to its January 29, 2008, letter, a table giving the status of these programs and TVA commitments for Unit 2. TVA also provided a separate table listing those CAP and SP items requiring NRC review and approval. In this regard, TVA stated that it had evaluated these CAPs and SPs and determined that the Replacement Items CAP will be resolved using the methodology employed for Unit 1.

ENCLOSURE

Based on discussions with the NRC staff, TVA agreed to supplement the CAP and SP summaries to provide additional information on the status of these programs, basis for proposed action, and impact on other aspects of the licensing framework due to these programs. In a letter, dated September 26, 2008 (ML082750019), TVA provided the summaries of the CAPs and SPs describing the proposed actions, current status of licensing review, analysis of conformance, impact on final safety analysis report, impact on technical specifications and technical requirements manual, items requiring verification and inspection, and interdependencies of these issues.

## 2.0 REGULATORY EVALUATION

On September 17, 1985, the Executive Director for Operations of the NRC issued a letter to the Chairman of the Board of Directors of the TVA pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(f) requesting information on the actions the licensee was taking to resolve NRC's concerns about TVA's nuclear program.

TVA's Corporate Nuclear Performance Plan (CNPP), which was prepared in response to the NRC letter, was submitted to the NRC on November 1, 1985. In addition to its CNPP, TVA prepared separate plans to address site-specific problems at each of its nuclear plants. NUREG-1232, Volume 4 documents the NRC staff's review of the corrective actions developed by TVA to resolve problems listed in Volume 4 of the CNPP, "Watts Bar Nuclear Performance Plan (WBNPP)."

## 3.0 TECHNICAL EVALUATION

By letter dated August 7, 1989 (ML073541111), TVA provided Revision 2 of the Replacement Items CAP for NRC review and approval. By letter dated November 22, 1989, the NRC staff approved Revision 2 of the Replacement Items CAP for WBN Unit 1.

By letter, dated February 11, 1991 and in Appendix N of NUREG-0847, Supplement 9, "Safety Evaluation Report related to the operation of Watts Bar Nuclear Plant, Units 1 and 2, Docket Nos. 50-390 and 50-391" (ML072060464), the NRC staff approved Revision 3 of the Replacement Items CAP for WBN Unit 1.

By letter, dated January 20, 1995, TVA provided Revision 6 of the Replacement Items CAP for NRC review and approval. By letter, dated February 6, 1995, the NRC staff approved Revision 6 of the Replacement Items CAP for WBN Unit 1.

In a letter, dated January 29, 2008 (ML080320443), TVA committed to implement the Replacement Items CAP for WBN Unit 2 with the WBN Unit 1 approach.

In a letter, dated September 26, 2008 (ML082750019), TVA provided the summaries of the CAPs and SPs describing the proposed actions, current status of licensing review, analysis of conformance, impact on final safety analysis report, impact on technical specifications and technical requirements manual, items requiring verification and inspection, and interdependencies of these issues. In their letter dated September 26, 2008, TVA states that several of the actions performed at the completion of WBN Unit 1, such as the evaluation of warehouse inventory and continued control of dedications are common to both units are

considered complete. TVA states that for WBN Unit 2, an extensive refurbishment program is planned, which will address the replacement items used during prior WBN Unit 2 activities and this process will ensure proper documentation and control of replacement parts. Based on the above, the NRC staff concludes that those actions performed at the completion of WBN Unit 1 that have continuing controls that apply to both units should be considered complete.

In a letter, dated February 11, 2009 (ML090210107), the NRC staff asked for clarification of the Replacement Items CAP. The staff requested information regarding the need for back checks of previously installed replacement items and procured replacement items. TVA responded in a letter, dated July 10, 2009 (ML091960112). In their letter dated, July 10, 2009, TVA states that they plan to sample the WBN Unit 2 safety and quality-related materials installed by previous maintenance and construction activities to ensure that there were no unique items used on WBN Unit 2 and, if there were, that no deficiencies were associated with these items. TVA plans to bias the sample to exclude materials that will be replaced by either the refurbishment program or by the 10 CFR 50.49 scope of work. In addition, TVA plans to evaluate or replace the known deficiencies in commercial grade dedication.

The NRC staff reviewed and finds acceptable the Replacement Items CAP for WBN Unit 2 as described in the WBN "Replacement Items Program (Piece Parts) Corrective Action Program Plan," Revision 6, dated January 20, 1995, as supplemented by letters dated January 29, 2008, September 26, 2008, and July 10, 2009. The NRC staff will perform inspections to assure adequate implementation of the Replacement Items CAP for WBN Unit 2.

#### 4.0 CONCLUSION

The NRC staff concludes that there is reasonable assurance that, when implemented as described, the Replacement Items CAP will be appropriately resolved for WBN Unit 2. Use of the WBN Unit 1 approach and the sampling plan described in TVA's letter, dated July 10, 2009, is acceptable.

Principle Contributor: John G. Lamb

Date: September 9, 2009

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Sincerely,  
/RA/

L. Raghavan, Chief  
Watts Bar Special Projects Branch  
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| DATE   | 09/ 03 /09   | 09/ 08 /09   | 08/ 19 /09 | 09/09/09     |

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