

February 25, 2010

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

SUBJECT: WATTS BAR NUCLEAR PLANT, UNIT 2 – SAFETY EVALUATION
REGARDING GENERIC LETTER 2006-03, “POTENTIALLY
NONCONFORMING HEMYC AND MT FIRE BARRIER CONFIGURATIONS”
(TAC NO. MD6729)

Dear Mr. Bhatnager:

In a letter dated September 7, 2007 (see Agencywide Document Access and Management System Accession No. ML072570676), which references letter dated June 7, 2006 (ML061600208), the Tennessee Valley Authority (TVA) submitted a response to U.S. Nuclear Regulatory Commission (NRC) Generic Letter 2006-03, “Potentially Nonconforming Hemyc and MT Fire Barrier Configurations,” for Watts Bar Nuclear Plant, Unit 2.

The NRC staff has reviewed TVA’s response. Enclosed is the NRC staff’s safety evaluation. This completes the NRC staff’s efforts regarding WBN Unit 2 for TAC No. MD6729.

Sincerely,

/RA/

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

Docket No. 50-391

Enclosure: Safety Evaluation

cc w/encl: Distribution via Listserv

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SAFETY EVALUATION BY THE
OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO
GENERIC LETTER 2006-03, "POTENTIALLY NONCONFORMING HEMYC AND
MT FIRE BARRIER CONFIGURATIONS"
TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT, UNIT 2
DOCKET NO. 50-391

1.0 INTRODUCTION

In a letter dated September 7, 2007 (see Agencywide Document Access and Management System Accession No. ML072570676), which references letter dated June 7, 2006 (ML061600208), the Tennessee Valley Authority (TVA) submitted a response to U.S. Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2006-03, "Potentially Nonconforming HEMYC and MT Fire Barrier Configurations," for Watts Bar Nuclear Plant (WBN), Unit 2.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.48, "Fire protection," requires that each operating nuclear power plant have a fire protection plan that satisfies 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 3, "Fire Protection." GDC 3 requires that structures, systems, and components (SSCs) important to safety be designed and located to minimize, in a manner consistent with other requirements, the probability and effect of fires and explosions. Fire protection features required to satisfy 10 CFR 50.48 include features to limit fire damage to SSCs important to safety so that the capability to shut down the plant safely is ensured. One means of complying with this requirement includes using rated fire barriers to separate one safe shutdown train from its redundant train. The duration of fire resistance required of the barriers, usually 1 hour or 3 hours, depends on the other fire protection features in the fire area.

3.0 TECHNICAL EVALUATION

GL 2006-03, dated April 10, 2006 (ML053620142), requested licensees determine whether or not Hemyc or MT fire barrier material is installed and relied upon for separation and/or safe shutdown purposes to satisfy applicable regulatory requirements at their facilities. In addition, licensees were asked to describe controls that were used to ensure the adequacy of other fire barrier types, consistent with the assessment requested in GL 1992-08, "Thermo-Lag 330-1 Fire Barriers," dated December 17, 1992. TVA provided its response to GL 2006-03 for WBN Unit 1 in a letter dated June 7, 2006 (ML061600208). In a letter, dated January 31, 2007 (ML070250345), the NRC staff acknowledged receipt of TVA's response to GL 2006-03 regarding WBN Unit 1.

Enclosure

In its letters of June 7, 2006, TVA stated that Hemyc or MT fire barrier materials are not used at WBN Unit 1. TVA had also stated that it relies upon Thermo-Lag fire barrier material to protect fire safe shutdown circuits at WBN Unit 1 as approved by the NRC Staff. Further, it stated that the installed configurations are in accordance with the tested configurations or have been evaluated by persons knowledgeable in fire barrier design and installation. These fire barrier configurations, both those specifically tested and unique configurations, are documented in facility design basis documentation that are controlled and maintained in accordance with TVA's Design Control and Quality Assurance Programs.

The TVA responses to GL 1992-08 described the fire barriers used to separate redundant safe shutdown trains located within the same fire area at Watts Bar. In a December 18, 1995, letter, TVA stated that the work associated with the resolution of GL 1992-08 for WBN Unit 1 had been completed. The NRC issued a letter on January 6, 1998, stating that the NRC staff had determined that the actions requested in GL 1992-08 were complete for WBN Unit 1.

In the letter dated September 7, 2007, TVA stated that the GL 2006-03 response of June 7, 2006, also applies to WBN Unit 2 and that it does not rely on Hemyc or MT materials to protect electrical and instrumentation cables or equipment that provide safe shutdown capability during a postulated fire. TVA also provided a similar discussion as for WBN Unit 1 regarding the use of Thermo-Lag fire barrier material used to protect fire safe shutdown circuits at Unit 2. In addition, TVA committed to the following:

The Fire Protection Corrective Action Program will ensure Watts Bar Unit 2 conforms with NRC requirements and applicable guidelines prior to fuel load. The fire barrier configurations are documented in facility design basis documentation that are controlled and maintained in accordance with TVA's Design Control and Quality Assurance Programs.

The NRC staff has reviewed TVA's response, dated September 7, 2007, and confirmed that the required response for WBN Unit 2 is identical to WBN Unit 1. Since the WBN Unit 1 response was previously accepted by the NRC staff by letter dated January 31, 2007, the staff finds the response for WBN Unit 2 acceptable.

4.0 CONCLUSION

Staff Requirements Memorandum (SRM), dated July 25, 2007 (ML072060688), for SECY-07-0096 – "Possible Reactivation of Construction and Licensing Activities for the Watts Bar Nuclear Plant Unit 2," stated:

The Commission supports 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.

In accordance with the SRM for SECY-07-0096, the NRC staff finds that TVA's responses for WBN Unit 2 regarding GL 2006-03 are acceptable for the issue of Hemyc and MT fire barriers. TVA's response for other fire barrier materials is acceptable, subject to TVA completing its commitment stated in its letter, dated September 7, 2007.

Principle Contributor: John G. Lamb

Date: February 25, 2010