



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

February 17, 2011

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 - RELIEF REQUEST TO USE
SUBSEQUENT EDITION AND ADDENDA OF ASME SECTION XI CODE FOR
PRESERVICE INSPECTION ACTIVITIES (TAC NO. ME3113)

Dear Mr. Bhatnagar:

By letter to the Nuclear Regulatory Commission (NRC) dated January 13, 2011 (Agencywide Documents Access and Management System Accession No. ML110140074), Tennessee Valley Authority (the applicant) submitted the proposed alternative contained in Request for Relief (RR) WBN-2/PSI-2 in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50.55a, paragraph (a)(3)(i) for Watts Bar Nuclear Plant (WBN), Unit 2. In RR WBN-2/PSI-2 the applicant requested NRC approval to use the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code), Section XI 2001 Edition through the 2003 Addenda as the code of record for the WBN, Unit 2 Preservice Inspection (PSI) Program Plan.

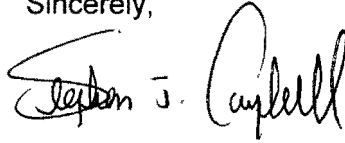
The NRC staff has reviewed the applicant's proposed alternative contained in RR WBN-2/PSI-2 and has concluded that the use of the 2001 Edition through the 2003 Addenda of the ASME Code, Section XI for construction completion activities at WBN, Unit 2 and as the code of record for the WBN, Unit 2 PSI Program Plan provides an acceptable level of quality and safety. Therefore, the staff concludes that the applicant's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the construction period of WBN, Unit 2.

A. Bhatnagar

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If you have any questions concerning this matter, please contact the WBN Unit 2 Project Manager, Mr. Justin C. Poole, at (301) 415-2048.

Sincerely,

A handwritten signature in black ink that reads "Stephen J. Campbell". The signature is written in a cursive style with a large, looped "C" at the end.

Stephen J. Campbell, Chief
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure:
Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO RELIEF REQUEST WBN-2/PSI-2

TENNESSEE VALLEY AUTHORITY

WATTS BAR NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-391

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC) dated January 13, 2011 (Agencywide Documents Access and Management System Accession No. ML110140074), Tennessee Valley Authority (TVA, the applicant) submitted the proposed alternative contained in Request for Relief (RR) WBN-2/PSI-2 in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50.55a, paragraph (a)(3)(i) for Watts Bar Nuclear Plant (WBN), Unit 2. In RR WBN-2/PSI-2 the applicant requested NRC approval to use the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code), Section XI 2001 Edition through the 2003 Addenda as the code of record for the WBN, Unit 2 Preservice Inspection (PSI) Program Plan.

2.0 REGULATORY EVALUATION

It is stated in 10 CFR 50.55a(g)(2) that for a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued on or after January 1, 1971, but before July 1, 1974, components (including supports) that are classified as ASME Code Class 1 and Class 2 must be designed and be provided with access to enable the performance of inservice examination of such components (including supports) and must meet the preservice examination requirements set forth in editions and addenda of ASME Code, Section XI incorporated by reference in paragraph (b) of this section (or the optional ASME Code cases listed in NRC Regulatory Guide (RG) 1.147, Revision 15, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," that are incorporated by reference in paragraph (b) of this section) in effect six months before the date of issuance of the construction permit. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of this Code which are incorporated by reference in paragraph (b) of this section (or the optional ASME Code cases listed in NRC RG 1.147, Revision 15, that are incorporated by reference in paragraph (b) of this section), subject to the applicable limitations and modifications. The applicant's construction permit was issued January 23, 1974. The code of record is the 1971 Edition through the winter 1971 Addenda of the ASME Code, Section XI.

Enclosure

3.0 EVALUATION

System/Components for which Relief is Requested

ASME Code Class 1, 2, 3, IWF, and MC components including the applicable Examination Categories and Item Numbers.

Relief Requested (As Stated)

Section 50.55a(g)(2) requires the PSI code of record to be based on the ASME Section XI Code in effect six months prior to the date of issue of the Construction Permit. Because the construction permit for WBN Unit 2, CPPR-92, is dated January 23, 1973, the applicable [ASME] Code would be the 1971 Edition through Winter 1971 Addenda of ASME [Code,] Section XI. Since 10 CFR 50.55a(g)(2) also allows the use of subsequent [ASME] Code Editions/Addenda, which are incorporated by reference in 10 CFR 50.55a(b)(2), TVA identified the 2001 Edition through 2003 Addenda as the applicable [ASME] Code of record based on the date associated with resumption of construction activities.

Basis of Relief (As Stated)

Construction activities at WBN Unit 2 resumed approximately 35 years after the initial construction permit was issued. The 10 CFR 50.55a(g)(2) method for determining the PSI code of record requires the use of the 1971 Edition through Winter 1971 (71/W71) Addenda of ASME [Code,] Section XI; however, the provision in 10 CFR 50.55a(g)(2) to allow the use of subsequent [ASME] Code Editions/Addenda, which are incorporated by reference in 10 CFR 50.55a(b)(2), allows the use of a technically superior PSI code of record based on 30 years of ASME Code committee knowledge and revisions. For example, Class MC, metal containment, examination was not required in the 71/W71 [ASME,] Section XI Code, but it is a requirement of Subsection IWE of the 2001 Edition through 2003 Addenda of ASME [Code,] Section XI.

The 2001 Edition through 2003 Addenda of ASME [Code,] Section XI was approved for use in 10 CFR 50.55a(b)(2), and 10 CFR 50.55a(g)(2) allows the use of subsequent [ASME] Code Editions/Addenda that are incorporated by reference in 10 CFR 50.55a(b)(2). The version of 10 CFR 50.55a(b)(2) in place in 2008 states:

- (2) As used in this section, references to Section XI of the ASME Boiler and Pressure Vessel Code refer to Section XI, and include the 1970 Edition through the 1976 Winter Addenda, and the 1977 Edition (Division 1) through the 2003 Addenda (Division 1)...

The 2001 Edition through 2003 Addenda of ASME [Code,] Section XI incorporates 30 years of technical lessons learned when compared to the 1971 Edition through Winter 1971 Addenda of the ASME Section XI Code. Thus, the requested relief would permit use of the code that was current at the time construction activities resumed at WBN, Unit 2.

Staff Evaluation

The applicant requested to use the 2001 Edition through 2003 Addenda of ASME Code, Section XI, subject to the modifications and limitations imposed by 10 CFR 50.55a, as the WBN, Unit 2 code of record for construction completion activities at WBN, Unit 2 and WBN, Unit 2 PSI Program Plan pursuant to 10 CFR 50.55a(a)(3)(i). The staff determined that since the 2001 Edition through the 2003 Addenda of the ASME Code, Section XI has been approved for general use in 10 CFR 50.55a(b)(2) and 10 CFR 50.55a(g)(2) allows an applicant to use a later Edition/Addenda of the ASME Code approved in 10 CFR 50.55a(b)(2), the applicant's proposed alternative to use the alternative ASME Code Edition/Addenda for the code of record for construction completion activities and the WBN, Unit 2 PSI Program Plan provides an acceptable level quality and safety.

4.0 CONCLUSION

The staff has reviewed the applicant's proposed alternative contained in RR WBN-2/PSI-2 and has concluded that the use of the 2001 Edition through the 2003 Addenda of the ASME Code, Section XI for construction completion activities at WBN, Unit 2 and as the code of record for the WBN, Unit 2 PSI Program Plan provides an acceptable level quality and safety. Therefore, the staff concludes that the applicant's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the construction period of WBN, Unit 2.

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in the subject requests for relief remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: Thomas McLellan

Date: February 17, 2011

A. Bhatnagar

- 2 -

If you have any questions concerning this matter, please contact the WBN Unit 2 Project Manager, Mr. Justin C. Poole, at (301) 415-2048.

Sincerely,
/RA/

Stephen J. Campbell, 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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*via memorandum

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