



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

September 29, 2010

Mr. Ashok S. 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 – REQUEST FOR RELIEF
REGARDING ALTERNATIVE RULES FOR RENEWAL OF ACTIVE OR
EXPIRED N-TYPE CERTIFICATES (TAC NO. MD8314)

Dear Mr. Bhatnagar:

By letter dated June 25, 2010, Tennessee Valley Authority (TVA) submitted a request for the use of alternatives to certain American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section III requirements at the Watts Bar Nuclear Plant (WBN) Unit 2.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), 50.55a(a)(3)(i), TVA requested to use the provisions of ASME Code Case N-520-3, "Alternative Rules for Renewal of Active or Expired N-Type Certificates for Plants Not in Active Construction, Section III, Division 1" on the basis that it provides an acceptable level of quality and safety.

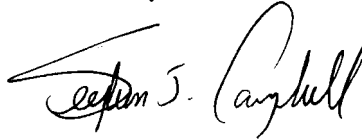
Based on the enclosed safety evaluation, the staff concludes that ASME Code Case N-520-3 provides an acceptable level of quality and safety to the requirements of Section NCA-8100, "Authorization to Perform Code Activities," of Section III, Division 1 of the ASME Code. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized for WBN Unit 2. However, when Code Case N-520-3 is referenced in Regulatory Guide 1.84, and if at that time, the applicant wishes to continue to use the Code Case, it may do so provided that all conditions, limitations and modifications regarding the use of the Code Case, if any, are met.

A. Bhatnager

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If you have any questions regarding this issue, please contact Joel Wiebe at (301) 415-6606.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen J. Campbell". The signature is written in a cursive style with a large, sweeping initial "S".

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: Via Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST TO USE THE AMERICAN SOCIETY OF MECHANICAL
ENGINEERS BOILER AND PRESSURES VESSEL CODE, CODE CASE N-250-3,
“ALTERNATIVE RULES FOR RENEWAL OF ACTIVE OR EXPIRED N-TYPE CERTIFICATES
FOR PLANTS NOT IN ACTIVE CONSTRUCTION, SECTION III, DIVISION 1”
WATTS BAR NUCLEAR PLANT, UNIT 2
DOCKET NO. 50-391

1.0 INTRODUCTION

By letter dated June 25, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101760222), Tennessee Valley Authority (TVA) submitted a request for the use of alternatives to certain American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section III requirements at the Watts Bar Nuclear Plant (WBN), Unit 2. Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(a)(3)(i), TVA requested to use the provisions of ASME Code Case N-520-3, “Alternative Rules for Renewal of Active or Expired N-Type Certificates for Plants Not in Active Construction, Section III, Division 1” on the basis that it provides an acceptable level of quality and safety.

The Code Case would allow TVA to request an extension of its temporary Certificate of Authorization from the American Society of Mechanical Engineers (ASME) to complete and transfer documentation of the partially completed ASME Section III systems and components to the jurisdiction of a subcontractor that is an ASME Section III N-Certificate holder.

2.0 REGULATORY REQUIREMENTS

As stated in 10 CFR 50.55a, systems and components of nuclear power reactors must meet the requirements of the ASME Boiler and Pressure Vessel Code. The WBN Unit 2 ASME piping systems and components were designed and constructed to meet the 1971 Edition with addenda through the Summer 1973 Addenda of Section III, as the construction Code-of-Record. TVA’s ASME Section III Quality Assurance Manual, in effect at the time WBN Unit 2 construction activities were suspended, was written to meet the requirements of the 1980 Edition through the Winter 1981. In part, 10 CFR 50.55a(a)(3) states that alternatives to the requirements of select portions of 10 CFR 50.55a may be used, when authorized, if the applicant demonstrates that proposed alternatives would provide an acceptable level of quality and safety.

TVA submitted the request to use an alternative Code Case under the provisions of 10 CFR 50.55a(a)(3)(i). Specifically, TVA requested to use ASME Code Case N-520-3, “Alternative

Rules for Renewal of Active or Expired N-Type Certificates for Plants Not in Active Construction, Section III, Division 1” on the basis that it provides and acceptable level of quality and safety.

3.0 TECHNICAL EVALUATION

3.1 ASME Code Requirements

Construction activities shall be conducted in accordance with the requirements of the ASME Section III requirements.

3.2 Applicant’s Basis for Requesting Alternative

3.2.1 Background

Construction activities were halted on a number of nuclear power plants in the late 1970s and 1980s and this interrupted Code activities. As a result, Code Case N-520 was developed and revised (Code Case N-520-1) to provide guidance on what an N-Certificate Holder had to do to document and certify (i.e., N-Stamp) the work performed. These cases considered the situation where the Certificate Holder had maintained its Certificate. Under these two Code Cases, the N-type Certificate could be renewed at the site without a survey.

In its letter dated February 1, 2008 (ADAMS Accession No. ML080370185), TVA requested approval to use ASME Code Case N-520-2, “Alternative Rules for Renewal of Active or Expired N-type Certificates for Plants Not in Active Construction, Section III, Division 1.” TVA’s N-Certificate for WBN Unit 2 expired in October 1996. The Code Case was used as part of the completion of construction activities associated with ASME Section III systems and components of WBN Unit 2. The Code Case allowed the applicant to obtain a temporary Certificate of Authorization from ASME to begin transferring documentation of the partially completed ASME Section III systems and components to the jurisdiction of a subcontractor that is an ASME Section III N-Certificate Holder. The subcontractor will complete the construction of the WBN, Unit 2 systems and complete the associated N-5 Code Data Reports to certify that the required portions of the plant were constructed in accordance with ASME Section III and allow the applicant to document completion of the plant as part of the Owner’s Section III requirements.

An N-5 Code Data Report is a Certificate Holder’s documentation for installation or shop assembly of a nuclear power plant’s components, supports or appurtenances. The N-5 Code Data Reports were not completed on most of the WBN Unit 2 systems because construction activities were halted before the plant’s completion. Code Case N-520-2 allowed the start of partially completed work to be properly documented through the issuance of “Partial N-5 Code Data Reports,” which are then transferred to the TVA subcontractor N-Certificate Holder’s jurisdiction for final completion of the documentation. TVA was not authorized to perform any physical work or repairs under the temporary Certificate of Authorization.

Code Case N-520-3 would allow TVA to request an extension of its temporary Certificate of Authorization for an additional year from ASME to complete and transfer documentation of the partially completed ASME Section III systems and components to the jurisdiction of a subcontractor who is an ASME Section III N-Certificate holder.

3.3 Applicant's Proposed Alternative

Pursuant to 10 CFR 50.55a(a)(3)(i), TVA requested that the staff approve the use of Code Case N-520-3. The NRC had not yet reviewed this Code Case nor approved its generic use by the industry through the usual process of incorporation into Regulatory Guide (RG) 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," and incorporation into 10 CFR 50.55a.

3.3.1 Applicant's Basis for Relief Request

TVA stated that, pursuant to 10 CFR 50.55a(a)(3)(i), approval for the use of ASME Code Case N-520-3 provides an acceptable level of quality and safety for the required quality process of the construction of WBN Unit 2 to the rules and requirements of ASME Section III.

3.3.2 Description of the Proposed Alternative

As previously evaluated by the staff in the letter dated October 2, 2008 (ADAMS Accession No. ML082560373), Code Case N-520-2 imposed conditions on the Owner to ensure proper transfer of the documentation and associated Code items, from the organization with the expired Certificates of Authorization to the N-type Certificate Holder subcontractor. The provisions of the Code Case contained the following requirements:

Where the N-type Certificate Holder has permitted the Certificates to expire, and has returned the Code Symbol Stamps to ASME, and the Owner plans to contract with a new Certificate Holder to complete construction of the nuclear facility, the expired Certificate Holder may apply to ASME for temporary Certificates of Authorization and such Certificates and applicable Code Symbol Stamps shall be issued by ASME subject to the following conditions:

1. The scope of the certificates shall be limited to the Code Edition and Addenda to which the nuclear plant has been docketed. No new Code work may be performed under these temporary Certificates. Repair welding of material imperfections and existing welds shall not be performed.
2. An accredited Authorized Nuclear Inspection Agency (ANIA) shall be employed to review the completed work and monitor and verify compilation and completion of all documentation such as Data Report Forms and supporting Data Packages.
3. The Authorized Nuclear Inspector (ANI) shall certify all partial Data Reports and authorize the temporary Certificate Holder to stamp the previously completed work with the appropriate Code Symbol Stamp.
4. The QA program previously accepted by ASME shall be implemented (NCA-8140) and any revisions to the program shall be acceptable to the ANIA. All required revisions to the QA manual shall be reviewed and accepted by the ANI Supervisor prior to implementation. The revised program shall govern all activities required to document and stamp all previously completed work.

5. A survey or audit by ASME shall be required for the issuance of the requested Certificates and Stamps to the expired Certificate Holder. Code activities performed prior to the issuance of the temporary Certificates shall be subject to the acceptance of the ANI (NCA-8153, "Code Activities Prior to Obtaining a Certificate").
6. The Owner shall apply to ASME for an Owner's Certificate (NCA-8162, "Evaluation for an Owner's Certificate"), and the evaluation interview by ASME shall include a review of the scope of activities to be performed under the temporary Certificates. A complete list of all work remaining to be documented and stamped shall be provided to the ANIA prior to completion of all work. The Regulatory Authority and Jurisdictional and Enforcement Authority (if applicable) shall be notified of the completion of these activities.
7. The term of the temporary Certificates shall be for one year, and may be extended once by ASME upon receipt of a request submitted by certified mail for an additional period not to exceed one year. Subsequent renewals shall be treated as renewals of active Certificates.
8. The Owner shall maintain the Owner's Certificate in accordance with existing Code requirements until all Code activity has been completed, and the N-3 Data Report Form has been completed and filed (NCA-8180, "Renewal," paragraph c). The N-3 Data Report Form lists all ASME components in the nuclear power plant at the completion of construction activities.
9. The temporary Certificates and Code Symbol Stamps shall be returned to ASME when all previously completed work has been documented and stamped. The only revision to Code Case N-520-3 is to Condition No. 7 above. The revision would allow the term of the temporary Certificates to be for one year, and may be extended twice by the ASME upon receipt of a request submitted by certified mail for an additional period not to exceed one year each. Subsequent renewals shall be treated as renewals of active certificates.

4.0 NRC STAFF EVALUATION

The staff has reviewed the information in TVA's letter dated June 25, 2010, regarding the applicant's use of the alternative documented in Code Case N-520-3 and the previous safety evaluation that addressed Code Case N-520-2. The staff noted that the only distinction between the two Code Cases was the allowance of the term of the temporary certificates to be extended twice by the ASME upon receipt of a request submitted by certified mail for an additional period not to exceed one year each.

The staff recognizes that the NRC actively participates in the ASME review and approval of Code Cases. The staff considered that during review of Code Case N-520-3, the NRC had the opportunity to review the Code Case's requirements and apply any additional measures to

ensure the proper completion of documentation and transference of the temporary certificates to the chosen N-Certificate Holder subcontractor that will complete ASME Code activities on WBN Unit 2. The Code Case was reviewed and approved by ASME. The NRC supports Code Case N-520-3. However, it is not yet referenced in RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," for generic use.

5.0 CONCLUSIONS

Based on the above evaluation, the staff concludes that Code Case N-520-3 provides an acceptable level of quality and safety to the requirements of Section NCA-8100, "Authorization to Perform Code Activities," of Section III of the ASME Code. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative is authorized for WBN Unit 2. However, when Code Case N-520-3 is referenced in RG 1.84, and if at that time, the applicant wishes to continue to use the Code Case, it may do so provided that all conditions, limitations and modifications regarding the use of the Code Case, if any, must be met.

6.0 REFERENCES

- (1) Letter from M. Bajestani (WBN) to NRC Document Control Center Desk, dated June 25, 2010, "Watts Bar Nuclear Plant (WBN) Unit 2 – Request to Use American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Code Case N-520-3, 'Alternative Rules for Renewal of active or expired N-Type Certificates for Plants not in Active Construction, Section III, Division 1'"
- (2) Letter from L. Raghavan (NRC) to A. S. Bhatnagar (TVA) dated October 2, 2008, "Watts Bar Nuclear Plant, Unit 2 – Request for Relief Regarding Alternative Rules for Renewal of Active or Expired N-Type Certificates" (TAC NO. MD8314)
- (3) Letter from M. Bajestani (WBN) to NRC Document Control Center Desk, dated July 2, 2008, "Watts Bar Nuclear Plant (WBN) Unit 2 – Request to Use American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Code Case N-520-2, 'Alternative Rules for Renewal of Active or Expired N-Type Certificates for Plants not in Active Construction, Section III, Division 1' – Response to Request for Additional Information" (TAC No. MD8314)
- (4) Letter from P. D. Milano (NRC) to A. S. Bhatnagar (TVA), dated May 22, 2008, "Watts Bar Nuclear Plant, Unit 2 – Request for Additional Information Regarding Renewal of Active or Expired N-Type Certificates for Plants Not in Active Construction" (TAC No. MD8314)
- (5) Letter from M. Bajestani (WBN) to NRC Document Control Center Desk, dated February 1, 2008, "Watts Bar Nuclear Plant (WBN) Unit 2 – Request to Use American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Code Case N-520-2, 'Alternative Rules for Renewal of Active or Expired N-Type Certificates for Plants not in Active Construction, Section III, Division 1'"

Principal Contributor: Paul F. Prescott

Date: September 29, 2010

A. Bhatnager

- 2 -

If you have any questions regarding this issue, please contact Joel Wiebe at (301) 415-6606.

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: Via Listserv

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NSanfilippo, EDO

ADAMS Accession No. ML102700527

*via memo dated 9/21/10

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