



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

August 12, 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 – TRANSITION OF COMPONENTS  
TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND  
PRESSURE VESSEL CODE, SECTION XI (TAC NO. ME0853)**

Dear Mr. Bhatnagar:

In a letter dated October 11, 2010, the Tennessee Valley Authority (TVA) described its plan for transitioning piping systems at Watts Bar Nuclear Plant (WBN), Unit 2, from the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Section III, Division 1, "Rules for Construction of Nuclear Facility Components," to Section XI, "Rules for Inservice Inspection of Nuclear Plant Components." TVA stated that the transfer of a piping system would occur upon verification that no ASME Section III activities remained on a given system, the N-5 Data Reports were completed, and the applicable N-Stamps were applied. TVA further stated that all subsequent repair and replacement activities would be performed using TVA's ASME Section XI Repair and Replacement Program procedures, which comply with ASME Section XI 2001 Edition through 2003 Addenda and are in use at WBN Unit 1. Of separate note, the WBN Unit 2 ASME Section III N-3 Data Report for the entirety of Unit 2 Section III system inspections would be completed and submitted to the NRC after all ASME Section III systems have been inspected.

For a facility being constructed and licensed under the regulation in Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 50), the U.S. Nuclear Regulatory Commission (NRC) staff agrees with TVA that an applicant can transition from ASME Code Section III to Section XI on a piping system basis (even though the plant as a whole has not been transitioned to Section XI), as long as the applicant has performed the necessary Section III inspections, completed applicable Form(s) N-5, obtained authorization from Authorized Nuclear Inspectors, and obtained the N-Stamp for the piping system.

In addition, the NRC staff notes that if a repair or replacement is needed after the transition of a system to ASME Section XI, but before the Form N-3 is filed, TVA plans to follow the requirements under its Section XI program, as discussed in the code interpretation. After the Form N-3 is filed, all repairs/replacements are normally done to Section XI.

The portion of certain piping systems common to the operation of both WBN Units 1 and 2 were already turned over to support operation of WBN Unit 1 and are governed by ASME Section XI.

Following the transfer of the Unit 2-specific portion of a system, TVA stated that all subsequent repair and replacement activities will be performed under the WBN Unit 1 Section XI program. Additionally, TVA stated that its ASME Section XI repair and replacement program is currently used to control modification, refurbishment, and repair of Unit 2 components that were installed under ASME Section III, and transitioned to ASME Section XI, but were not required for WBN Unit 1 operation.

In ASME Code Interpretation III-1-83-61, "Jurisdiction of Section III, Division 1 and Section XI Requirements When Performing Repairs or Modifications Subsequent to N-Stamping, IWA-4000," dated January 26, 1983, ASME stated that the "rules of either Section III or Section XI as determined by the Owner may be applied to the repair or modification of an N-Stamped component subsequent to stamping but prior to the filing of the Form N-3 by the Owner, or prior to start of plant operation where no N-3 Form has been filed." The NRC staff notes that there was also a Section XI code interpretation (XI-1-83-10) that read exactly the same as the Section III interpretation.

In its letter, TVA stated that ASME Section XI repair and replacement will be documented on Form NIS-2 and NIS-2A per ASME Section XI subsections IWA-6230 or ASME Code Case N-532-4 and included with the preservice inspection summary report prepared prior to commercial operation. TVA stated that it would issue an Owners Summary Report to the NRC within 90 days following Unit 2 commercial operation for those repairs or replacements, if any, which were performed under Section XI on Unit 2 prior to commercial operation. However, in accordance with ASME Section XI, subsection IWA-6240, the preservice inspection summary report shall be submitted prior to the date of placement of the unit into commercial service. TVA needs to reconcile this potential nonconformance with ASME Section XI.

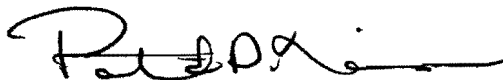
In systems where the Section III requirements have not been completed and the Form N-5 has not been filed, the use of alternative provisions in ASME Code Cases N-801, "Rules for Repair of N-Stamped Class 1, 2, and 3 Components by Organization Other Than the N Certificate Holder That Originally Stamped the Component Being Repaired," and N-802, Rules for Repair of Stamped Components by the N Certificate Holder That Originally Stamped the Component," may need to be considered. Systems are made up of numerous components that are N-stamped (valves, vessels, pumps, etc.). If repairs are required to one of these components in a system that has not been completed (i.e., all the Section III requirements performed, non-destructive examination and pressure testing completed, N-stamp applied, and Form N-5 filed), those repairs could need to be completed to Section III requirements using Code Case N-801 or N-802, as appropriate, by an organization that is an N Certificate Holder. Code Case N-801 is used when the repair organization is a different N Certificate Holder than the original manufacturer. Code Case N-802 is used when the repair organization is the same N Certificate Holder that originally stamped the component. In order to use these code cases, TVA would need to submit, and receive approval of, a request for use of an alternative in accordance with 10 CFR 50.55a(a)(3) because these code cases have not been approved in NRC Regulatory Guide 1.84 to date.

In summary, the NRC staff acknowledges that unique circumstances exist at WBN Unit 2 governing the transition of its piping systems, wherein portions of the systems are currently supporting the operation of WBN Unit 1. The staff agrees that TVA can transition from ASME Code Section III to Section XI on a piping system basis as long as the necessary Section III inspections are performed, Form(s) N-5 completed, Authorized Nuclear Inspectors authorization

obtained, and the N-Stamp for the piping system applied. This is consistent with prior industry practice, the ASME Code interpretation cited above, and the process used at WBN Unit 1, as described in NRC letter dated November 20, 1990. Although TVA will issue an Owners Summary Report for those ASME Section XI repairs or replacements, if any, that were performed prior to commercial operation, TVA must inform the NRC inspection staff of these repairs and replacements at the time of occurrence to allow the staff to have an opportunity to conduct inspection of these activities, as desired. Lastly, the NRC expects that TVA will assign the start date of its inservice inspection and testing programs to coincide with the completion of all system transitions and the filing of the complete N-3 Data Report, which will be made available at the NRC's request.

If you have any questions, please contact me at 301-415-1457.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Milano', with a stylized flourish at the end.

Patrick D. Milano, Senior Project Manager  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-391

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/RA/

Patrick D. Milano, Senior Project Manager  
Watts Bar Special Projects Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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