



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

November 10, 2005

10 CFR 50.55a

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of)	Docket Nos.	50-259	50-260
Tennessee Valley Authority)		50-328	50-390
			50-327	

BROWNS FERRY NUCLEAR PLANT (BFN) UNITS 1 AND 2, SEQUOYAH NUCLEAR PLANT (SQN) UNITS 1 AND 2, AND WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) BOILER AND PRESSURE VESSEL CODE, TVA REQUEST TO USE ASME SECTION XI, 2001 EDITION, THROUGH THE 2003 ADDENDA GENERICALLY FOR NONDESTRUCTIVE EXAMINATION (NDE) PROCEDURES - GISI- 4

In accordance with the guidelines in NRC Regulatory Issue Summary (RIS) 2004-12 and pursuant to 10 CFR 50.55a(g)(4)(iv), TVA requests approval to use the provisions of the 2001 Edition through the 2003 Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, for the conduct of NDE performed as part of TVA's ASME Section XI In-service Inspection (ISI) programs at BFN Units 1 and 2, SQN Units 1 and 2, and WBN Unit 1. BFN Unit 3 is not part of this generic relief request because it is required to be updated to the 2001A03 Code in accordance with the 10 CFR 50.55a at the start of its third 10-year ISI program interval which begins on November 19, 2005. The 2001 Edition through the 2003 Addenda (2001A03) of the ASME Section XI Code is the latest approved Code edition and addenda as delineated in 10 CFR 50.55a(b)(2).

TVA proposes to update NDE procedures and processes to comply with the provisions of the 2001A03 Code, and as required by related limitations and conditions imposed in 10 CFR 50.55a(b). This approach will standardize TVA's ISI/NDE processes at our operating units, reduce the chance of errors in the application of the NDE requirements, and allow the use of the latest NRC-approved NDE techniques.

A047

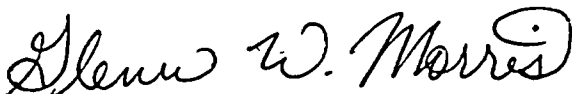
Currently, TVA uses the provisions of the 1995 Edition through the 1996 Addenda of the ASME Section XI Code for the performance of NDE at our operating units. This code-of-record for NDE procedures was adopted in accordance with NRC's approval letter dated May 24, 2002 [see ML 021490190]. However, the BFN Unit 3 ISI program interval is near the end of its second 10-year program interval which is scheduled to end November 18, 2005. In accordance with the requirements of 10 CFR 50.55a(g)(4)(ii), the BFN Unit 3 ISI program must be updated to meet the provisions and "the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (b) of this section 12 months before the start of the 120-month inspection interval..." (i.e., the latest edition and addenda approved as of November 19, 2004; the 2001A03 Code). Along with these ISI program requirements, the NDE procedures used must be revised to comply with the same approved edition and addenda of the Code. With the update of the Unit 3 ISI program and NDE procedures, use of a standardized set of NDE processes for Units 1 and 2 at the same site (BFN) will greatly reduce the potential for errors in the application of Code requirements. Also, standardization of the NDE procedures across TVA will reduce the burden of procedure maintenance.

The enclosure to this letter contains TVA's detailed request submitted pursuant to the requirements of 10 CFR 50.55a(g)(4)(iv) and the guidance of RIS-2004-12.

TVA requests NRC review and approval within the standard NRC review schedule for similar licensee requests. TVA will use the requirements of the 2001A03 Code for the conduct of NDE at BFN Unit 3 commencing November 19, 2005, in accordance with the requirements of the updated Unit 3 ISI program. In accordance with the guidance of RIS 2004-12 and once approved by NRC, TVA will incorporate the use of the 2001A03 Code for the performance of NDE at our other operating units.

There are no new regulatory commitments made in this letter. If you have any questions in this matter, please contact Rob Brown at (423) 751-7228.

Sincerely,

A handwritten signature in cursive script that reads "Glenn W. Morris". The signature is written in dark ink and is positioned above the printed name and title.

Glenn W. Morris
Manager, Corporate Nuclear Licensing
and Industry Affairs

Enclosure
cc: See page 3

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cc (Enclosure):

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**ENCLOSURE
TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN) UNITS 1 and 2
SEQUOYAH NUCLEAR PLANT (SQN) UNITS 1 and 2
WATTS BAR NUCLEAR PLANT (WBN) UNIT 1**

**AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) SECTION XI IN-SERVICE
INSPECTION (ISI) PROGRAM**

**TVA GENERIC REQUEST TO USE
ASME SECTION XI, 2001 EDITION
WITH ADDENDA THROUGH THE 2003 ADDENDA,
FOR THE PERFORMANCE OF NONDESTRUCTIVE EXAMINATIONS (NDE)**

GISI-4

TVA requests approval to use the requirements of the 2001 Edition with addenda through the 2003 Addenda of ASME Boiler and Pressure Vessel Code, Section XI, for the performance of ISI NDE at all of its operating nuclear units.

EXECUTIVE SUMMARY:

In accordance with the guidelines in NRC Regulatory Issue Summary (RIS) 2004-12 and pursuant to 10 CFR 50.55a(g)(4)(iv), TVA requests approval to use the 2001 Edition through the 2003 Addenda (2001A03) of the ASME Boiler and Pressure Vessel Code, Section XI, for the conduct of NDE performed as part of TVA's ASME Section XI ISI programs at BFN Units 1 and 2; SQN Units 1 and 2, and Watts Bar Unit 1. The 2001 Edition through the 2003 Addenda (2001A03) of the ASME Section XI Code is the latest Code edition and addenda currently approved in 10 CFR 50.55a(b). The BFN Unit 3 ISI and NDE Program will be upgraded to use the 2001A03 Code as part of the normal 10-year interval program requirements beginning November 19, 2005.

I. SYSTEM/COMPONENT(S) AFFECTED:

ASME Code Class 1, 2, and 3 (or equivalent) systems, piping, and components within the scope of the ASME Section XI ISI/NDE programs for the associated units.

II. CURRENT TVA APPLICABLE ISI/NDE PROGRAM CODE EDITIONS AND ADDENDA:

This table provides a summary of the applicable ISI program intervals and program Codes-of-Record for unit-specific ASME Section XI ISI/NDE programs:

TVA ISI/NDE PROGRAM EFFECTIVE INTERVALS AND CODES-OF-RECORD

Plant/ Unit	ASME ISI/NDE Programs Codes-of-Record Edition/Addenda	Current 10-Year Interval and Dates
BFN U1	1995 Edition with the 1996 Addenda [1995A96] (with Preservice Inspection [PSI] & re-baseline examinations) for both ISI & NDE; 1995A96 for NDE with selections of exams to the 1974 Edition with addenda through the Summer 1975 addenda (for the remaining 1 st interval ISI examinations)	1 st Interval 09/16/75 to 1 year after restart (currently scheduled May, 2007)
BFN U2	1995 Edition with the 1996 Addenda for both ISI & NDE	3 rd Interval 05/25/2001 to 05/24/2011
BFN U3 ¹	1989 Edition (No Addenda) for the ISI Program, 1995 Edition with the 1996 Addenda for the NDE procedures 2001 Edition with the 2003 Addenda for both ISI & NDE	Currently - 2 nd Interval 11/19/1996 to 11/18/2005 As of 11/19/2005 - 3 rd Interval 11/19/2005 to 11/18/2015
SQN U1	1989 Edition (No Addenda) for the ISI program, 1995 Edition with the 1996 Addenda for the NDE procedures	2 nd Interval 12/16/1995 to 05/31/2006
SQN U2	1989 Edition (No Addenda) for the ISI program, 1995 Edition with the 1996 Addenda for the NDE procedures	2 nd Interval 12/16/1995 to 05/31/2006
WBN U1	1989 Edition (No Addenda) for the ISI Program, 1995 Edition with the 1996 Addenda for the NDE Procedures	1 st Interval 05/27/1996 to 12/26/2006

¹ Note that BFN Unit 3 is not included as part of this request because it is required to be updated to the 2001A03 Code in accordance with the 10 CFR 50.55a at the start of its third 10-year ISI program interval, as indicated above. The BFN Unit 3 information is included here as a matter of completeness and for information purposes only.

III. PROPOSED SUBSEQUENT CODE EDITION AND ADDENDA (OR PORTION):

TVA is requesting approval to use those portions of the 2001 Edition through the 2003 Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, pertaining to the conduct of NDE performed as part of TVA's ASME Section XI ISI programs at BFN Units 1, and 2; SQN Units 1 and 2, and Watts Bar Unit 1. TVA's intent is to update the NDE programs and procedures in conjunction with the required update for the BFN Unit 3 ISI/NDE program. This upgrade of the NDE procedures will encompass all aspects of the NDE programs, from personnel certifications and qualifications to evaluation of examination results. The functional areas of the NDE procedures to be upgraded and the associated 2001A03 Section XI Code paragraphs are as follows:

- Examination Methods - Sub-articles IWA-2200, up to and including IWA-2240, and the related portions of mandatory Appendices I, III, IV, VI, VII, and VIII. The requirements and limitations of 10 CFR 50.55a(b)(2)(xix), (xxi), and (xxii) will be followed. In the case of Appendix VIII, the referenced links back to Appendix VII, and the related special conditions and limitations delineated in 10 CFR 50.55a(b)(2) paragraphs (xiv) through (xvi) and (xxiv), TVA will continue to comply with these requirements, as they are applicable with the update to the NDE procedures. TVA complies with these requirements through the use of the Electric Power Research Institute's (EPRI) program document (IR-2005-83), "Performance Demonstration Initiative (PDI) Program Description," Revision 4, except where specific relief from certain parts of the Code has been requested and granted.

NRC has approved four TVA relief requests related to the requirements for compliance with the ASME Section XI Appendix VIII rules. These include Nos. PDI-1, PDI-2, PDI-3, and PDI-4.

NRC approved PDI-1 and PDI-2 by letters dated September 19, 2001, and October 16, 2003 (see ML012690125 and ML032890406, respectively). PDI-1 allowed for a proposed alternative to the requirement to perform a minimum of ten hours annual training in ultrasonic examinations (UT) qualification in accordance with Article VII-4240 in addition to the imposed eight hours minimum training in 10 CFR 50.55a(b)(2)(xiv). PDI-2 reduced the required examination volume to be covered on Class 1 nozzle-to-vessel welds from ½-inch wall thicknesses to just ½-inch beyond the outermost edge of the weld.

NRC approved PDI-3 by letters dated October 8, 2003, and August 10, 2004 (see ML032810624 and ML042250137, respectively). PDI-3 allowed relief from certain requirements of Appendix VIII, Supplement 10, with the qualification requirements of UT used during the examinations of dissimilar metal welds.

NRC approved PDI-4 by letter dated August 2, 2005 (see ML051730487). PDI-4 allowed use of Appendix VIII and PDI processes in lieu of Appendix I and Article 4 of ASME Section V for the examinations of reactor pressure vessel shell-to-flange weld examinations.

TVA intends to continue to use these four approved relief requests as they remain applicable to their respective unit-specific ISI/NDE programs before and after the review and approval of the subject request. However, in the case of BFN Unit 3, the use of PDI-1 and PDI-3 will not be required because the impractical Code requirements that precipitated these two requests have been deleted in the 2001A03 Code. Similarly, PDI-1 and PDI-3 will not be required for TVA's other operating units if this request is approved. However, the need to use PDI-2 and PDI-4 will continue for all of TVA's operating units. In the case of

BFN Unit 3, PDI-2 and PDI-4 will be resubmitted for review, approval, and renewal for the Unit 3 NDE activities as part of the Unit 3 submittal package for its third 10-year interval ISI program. At BFN Unit 3, TVA will continue to apply the provisions of the existing PDI-2 and PDI-4 approved relief requests until such time as the third interval's relief requests have been reviewed, and the associated safety evaluation report (SER) has been issued. TVA also will continue to use PDI-2 and PDI-4 at our operating units before and after the review of this request. Following the BFN Unit 3 ISI program relief request review by NRC's staff, and/or the review and approval of this request (whichever comes last), TVA intends to adjust implementation of the provisions of the PDI-2 and PDI-4 relief requests, pertaining to TVA's use of the 2001A03 NDE processes, at our operating units as indicated in the latest associated SER. In addition, TVA will evaluate the need to withdraw or amend and resubmit PDI-2 and PDI-4, as appropriate.

- Qualifications of NDE personnel - Sub-article IWA-2300, with the exception that requirements of 10 CFR 50.55a(b)(2)(xviii), will be followed in that personnel trained to the alternative requirements for the performance VT-2 examinations will only be used to perform system leakage and hydrostatic tests in accordance with IWA-5211(a) and (b). Personnel qualified to the IWA-2316 alternative requirements will not be used to perform pneumatic-type system leakage tests.

Note that TVA currently has permission to use the provisions in IWA-2316, "Alternative Qualifications of VT-2 Visual Examination Personnel," from the 1998 Code as an application of only a portion of later Edition and Addenda (i.e., as an amendment to the general use of the 1995A96 Code as the base Code for TVA's current set of NDE procedures).

Permission to use IWA-2316 from the 1998 Code was granted by NRC letters dated January 14, 2004, March 11, 2004, with clarification of these permissions in a letter dated February 15, 2005 (see ML040140762, ML 040720457 and ML050250415, respectively). If (and when) this request to upgrade TVA's NDE procedures to the 2001A03 Code is approved, the special permission to use the 1998 Code will no longer be needed.

- Weld Reference System - Sub-article IWA-2600, up to, and including, paragraph IWA-2641.
- Standards for Examination Evaluation - Articles IWA-3000, IWB-3000, IWC-3000, IWD-3000, and IWF-3000.
- In accordance with 10 CFR 50.55a(b)(2)(vi), NDE of TVA's primary containment structures are performed to the requirements of Subsections IWE and IWL of 1992 Edition with addenda through the 1992 Addenda (1992A92). As part of this request to upgrade the ISI/NDE program procedures to the 2001A03 Code, TVA will continue to perform the specific examinations of the containment structures to the 1992A92 Code requirements, with the exception that the qualifications of the NDE personnel for UT will be in accordance with the upgraded 2001A03 Code requirements as requested above.

IV. RELATED REQUIREMENTS:

All other related requirements of the 2001A03 Code have been addressed as part of the descriptions of the proposed alternatives above. Aspects of the ASME Section XI base Codes-of-Record for the units' ISI programs, such as weld selection, extent of examination [Articles IWA-2500, and IW(X)-2500 for each corresponding Class], scheduling, and reporting (Article IWA-6000) are not impacted by this request to use the 2001A03 Code for the NDE procedures.

Special conditions and limitations on the use of the 2001A03 Code NDE requirements that are delineated in 10 CFR 50.55a(b)(2) have been addressed as part of the descriptions above.

V. IMPLEMENTATION SCHEDULE AND DURATION OF REQUEST:

TVA plans to apply the 2001A03 Code ISI/NDE provisions for BFN Units 1 and 2; SQN Units 1 and 2, and WBN Unit 1; until the end of each unit's current 10-year ISI program interval when the unit's corresponding ISI programs are updated. For BFN Unit 3, the use of 2001A03 NDE procedures will be required as part of the routinely scheduled update of the ISI/NDE programs for its third interval which is scheduled to start on November 19, 2005. The respective unit's current ISI program interval schedules are as follows:

BFN Unit 1 is currently in the third period of the first 10-year ISI program interval as part of an extended shutdown. In accordance with the ASME Section XI Unit 1 ISI program Code-of-Record paragraph IWA-2400, the Unit 1 first ISI program interval will be extended by a period equal to the length of the extended shutdown. By letter dated March 1, 1988, TVA established that the current Unit 1 ISI program interval would be extended from its start on September 16, 1975, to a period of one year after restart of the unit. Unit 1 is currently scheduled for restart in May, 2007.

BFN Unit 2 is currently in the second period of their third 10-year ISI program interval which extends from May 25, 2001, through May 24, 2011.

BFN Unit 3 is currently in the third period of its second 10-year ISI program interval which extends from November 19, 1996, through November 18, 2005. BFN Unit 3 will start its third ISI 10-year program interval commencing November 19, 2005, and continue through the end of the third interval which is currently scheduled for November 18, 2015.

SQN Units 1 and 2 are currently in the third periods of their second ISI program intervals which extend from December 16, 1995, through May 31, 2006.

WBN Unit 1 is currently in the third period of its first ten-year ISI program interval which extends from May 27, 1996, through December 26, 2006.

TVA will implement the requirements of the 2001A03 Code for the conduct of NDE at BFN Unit 3 commencing November 19, 2005, in accordance with the requirements of the updated third 10-year interval ISI program. In accordance with the expectations shown in RIS 2004-12, TVA will implement the use of the 2001A03 Code for the performance of NDE at the other operating units if (and when) written approval is received.

VI. PRECEDENTS

This request is similar to a previous TVA request to consolidate its NDE procedures under the 1995 Edition with addenda through the 1996 Addenda of ASME Section XI. TVA requested the generic use of 1995A96 Code by letter dated August 10, 2001 (reference ML012320186). NRC approval was provided by letter dated May 24, 2002 (reference ML021490190).