May 24, 2002

Mr. J. A. Scalice
Chief Nuclear Officer
and Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: BROWNS FERRY UNITS 1 AND 3, SEQUOYAH UNITS 1 AND 2, AND WATTS BAR UNIT 1 — SAFETY EVALUATION RE: REQUEST TO UPDATE THE NONDESTRUCTIVE EXAMINATION PROCEDURES TO THE 1995 EDITION WITH THE 1996 ADDENDA OF SECTION XI OF THE ASME BOILER AND PRESSURE VESSEL CODE (TAC NO. MB2756)

Dear Mr. Scalice:

By letter dated August 10, 2001, the Tennessee Valley Authority (TVA) proposed to update all the Inservice Inspection program nondestructive examination (NDE) procedures to the 1995 Edition with the 1996 Addenda of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code at all the TVA plants listed above.

The U.S. Nuclear Regulatory Commission staff evaluated the proposed alternative examinations and determined that updating the NDE procedures for all the TVA plants listed above to the 1995 Edition with the 1996 Addenda of the ASME Section XI Code is acceptable. If you have any questions regarding this issue, please contact me at 301-415-1496.

Sincerely,

/RA/

Kahtan N. Jabbour, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-296, 50-327,
50-328, and 50-390

Enclosure: Safety Evaluation

cc w/enclosure: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

UPDATE OF NONDESTRUCTIVE EXAMINATION PROCEDURES FOR

INSERVICE INSPECTION PROGRAM EXAMINATIONS

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1 AND 3

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

WATTS BAR NUCLEAR PLANT, UNIT 1

DOCKET NOS. 50-259, 50-296, 50-327, 50-328 AND 50-390

1.0 INTRODUCTION

Title 10, *Code of Federal Regulations* (10 CFR), Section 50.55, requires that inservice inspection (ISI) of American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel (B&PV) Code and applicable Edition and Addenda, except where specific relief has been granted by the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(g)(6)(i). In 10 CFR 50.55a(a)(3), it states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the applicant demonstrates that (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, “Rules for Inservice Inspection of Nuclear Power Plant Components,” to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

2.0 LICENSEE’S REQUEST FOR RELIEF

By letter dated August 10, 2001, the licensee, Tennessee Valley Authority (TVA), submitted a letter stating its intent to revise its Nondestructive Examination (NDE) procedures to meet the requirements of the 1995 Edition with the 1996 Addenda (95A96) of the ASME Code, Section XI, for Browns Ferry Nuclear Plant, Units 1 and 3, Sequoyah Nuclear Plant, Units 1 and 2, and Watts Bar Nuclear Plant, Unit 1. TVA has recently completed the update for the Browns Ferry Nuclear Plant, Unit 2, Second Interval ISI Inspection Program to meet the

ENCLOSURE

requirements of the 95A96 Edition of Section XI, as required by 10 CFR 50.55a(g)(4). The licensee stated that this approach would allow TVA to use one set of procedures that include the latest NRC-approved NDE techniques at all TVA sites.

NDE procedure revisions will incorporate the following portions of the 95A96 ASME Section XI Code:

a. Examination Methods, Subarticle IWA-2200 up to and including IWA-2240, and portions of Appendices IV, VII, and VIII. TVA will comply with the requirements of Appendix VII and Appendix VIII through the use of the Performance Demonstration Initiative (PDI) program document, "PDI Program Description," Revision 1, Change 1, as allowed in the discussion on the proposed rule change in the *Federal Register*, Volume 64, No. 183, except where specific relief has been requested or granted.

b. Qualification of Nondestructive Examination Personnel, Subarticle IWA-2300.

c. Weld Reference System, Subarticle IWA-2600 up to and including Paragraph IWA-264.

d. Standards for Examination Evaluation - Articles IWA-3000, IWB-3000, IWC-3000, IWD-3000, and IWF-3000.

As part of this upgrade of NDE procedures to the 95A96 Code, TVA will continue to perform the examination of containment structures to the 92A92 Code requirements with the exception that the qualifications of NDE personnel for ultrasonic examinations will be in accordance with the 95A96 Code requirements.

The ASME Code sections utilized for weld selection (which include areas and volume to be examined), scheduling, and reporting (Article IWA-6000) are not impacted by the above changes.

3.0 EVALUATION

It is stated in 10 CFR 50.55a(g)(4) that components (including supports) classified as ASME Code Class 1, Class 2, and Class 3 shall meet, to the extent practical, the requirements set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components." The regulations require that inservice examination of components comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a (b) on the date 12 months prior to issuance of the operating license, or on the date 12 months prior to the start of a successive 120-month interval, subject to the limitations and modifications listed therein. Preservice examination of components shall meet the requirements set forth in the applicable edition and addenda of Section XI as specified in 10 CFR 50.55a(g)(2) and 10 CFR 50.55a(g)(3). Preservice and inservice examination of components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed therein. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

Browns Ferry Unit 1 is currently in its first 10-year ISI interval. The Code of Record for Browns Ferry Unit 1 is the 1974 Edition, Summer of 1975 Addenda. The licensee included Browns Ferry Unit 1 in the request because there may be a need for inspections in the evaluation of Unit 1 to determine the feasibility for recovery of the unit and TVA wants to maintain one NDE program for all three units. Browns Ferry Unit 3 is currently in its second 10-year ISI interval. The Code of Record for Browns Ferry Unit 3 is the 1989 Edition. Sequoyah Units 1 and 2 are currently in their second 10-year ISI interval. The Code of Record for the Sequoyah units is the 1989 Edition. Watts Bar Unit 1 is currently in its first 10-year ISI interval. The Code of Record for Watts Bar Unit 1 is the 1989 Edition.

Use of later editions and addenda of the ASME Code that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed therein, is allowed by 10 CFR 50.55a(g)(4)(iv) with staff approval. The licensee's intent to upgrade its NDE procedures to the 1995 Edition with the 1996 Addenda of the ASME Code, which has been incorporated by reference into 10 CFR 50.55a(b)(2) is within the regulations, and should improve the quality and efficiency of ISI at all TVA plants. Therefore, the licensee's proposal to revise NDE procedures for all TVA plants to meet the requirements of the 1995 Edition with the 1996 Addenda of ASME Code, Section XI is acceptable as it provides an acceptable level of quality and safety.

4.0 CONCLUSION

Since the use of the 95A96 Code requirements, as described in TVA's submittal, has been incorporated by reference into 10 CFR50.55a, the staff finds the licensee's request to implement the NDE requirements of the 1995 Edition with the 1996 Addenda of the ASME Code and related requirements, to be in accordance with 10 CFR 50.55a(g)(4)(iv).

Based on the above, the staff concludes that revision of the NDE procedures to the 95A96 ASME Code, Section XI, at the subject TVA plants provides an acceptable level of quality and safety, pursuant to 10 CFR 50.55a(a)(3)(i) and is, therefore, acceptable.

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Date: May 24, 2002

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BROWNS FERRY NUCLEAR PLANT
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