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United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: Revision to Request for Relief from an American Society of Mechanical Engineers Boiler and Pressure Vessel Code Inservice Inspection Requirement at the Davis-Besse Nuclear Power Station (RR-E7) (TAC No. MB-1687)

Ladies and Gentlemen:

The FirstEnergy Nuclear Operating Company letter Serial Number 2672, dated September 19, 2000, submitted the revised Davis-Besse Nuclear Power Station, Unit 1 (DBNPS) Inservice Inspection Program for the third ten-year interval based on Section XI of the 1995 Edition and Addenda through the1996 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. Included with the program revision were several relief requests related to specific conformance with certain Code requirements. This letter provides revision to Relief Request RR-E7 consistent with discussions with members of the Nuclear Regulatory Commission (NRC) Nuclear Reactor Regulation (NRR) staff on August 2, 2001. Specifically, the Alternative Examination for RR-E7 is revised to include the qualifications of the individual who will establish the qualification criteria for VT-3 examinations required by IWE that do not meet the requirements of Table IWA-2210-1 for distance and illumination. The revision to RR-E7 is attached.

Approval of this relief request is requested by September 18, 2001.

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Should you have any questions or require additional information, please contact Mr. David H. Lockwood, Manager-Regulatory Affairs, at (419) 321-8450.

Very truly yours,

RMC/s

Attachments

cc: J. E. Dyer, Regional Administrator, Region III
S. P. Sands, NRC/NRR Project Manager
K. S. Zellers, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

FIRSTENERGY NUCLEAR OPERATING COMPANY
DAVIS-BESSE UNIT 1
THIRD 10-YEAR INTERVAL
RELIEF REQUEST RR-E7

System/Component(s) for Which Relief is Requested:

All components subject to examination in accordance with Subsection IWE of the 1995 Edition, 1996 Addenda of ASME Section XI.

Code Requirement:

Paragraph IWA-2210 Table IWA-2210-1 provides requirements for distance and illumination requirements for performing VT-3 visual examinations.

Code Requirement from Which Relief is Requested:

Relief is requested from the provisions of Table IWA-2210-1,Visual Examinations, when performing VT-3 examinations required by IWE. Table IWA-2210-1 requires direct visual VT-3 examinations be performed with a minimum illumination of 50 fc, and a maximum examination distance of 4 feet. The procedure must be demonstrated to resolve a lower case character height of 0.105 inches.

Basis for Relief:

IWA-2210 requires visual examinations be performed in accordance with Article 9 of ASME Section V. Direct visual examination is defined in Article 9 of the 1995 Edition, 1996 Addenda of ASME Section V as a visual examination technique performed by eye and without any visual aids (excluding light source, mirrors, and/or corrective lenses). Table IWA-2210-1 requires the VT-3 examination be performed with a minimum illumination of 50 fc and a maximum direct examination distance of 4 feet.

IWA-2216 states that when remote visual examination is substituted for direct visual examination, the remote visual examination system shall have the capability of distinguishing and differentiating between colors in addition to the requirements of ASME Section V, Article 9. Remote visual examination is defined in Article 9 of the 1995 Edition, 1996 Addenda of ASME Section V as a visual examination technique used with visual aids for conditions where the area is inaccessible for direct visual examination. Remote visual examination may use

visual aids such as mirrors, telescopes, borescopes, fiber optics, cameras, or other suitable instruments. Article 9 requires remote visual examination systems have a resolution capability at least equivalent to that obtainable by direct visual observation.

Considering the size of containment structures (as compared to Class 1, 2, and 3 components), and recognizing the varied lighting conditions, the NRC provided latitude from the requirement of IWA-2216 for VT-3 remote visual examination in 10 CFR 50.55a(b)(2)(ix)(B). 10 CFR 50.55a(b)(2)(ix)(B) states that when performing remotely the visual examinations required by Subsection IWE, the maximum direct examination distance specified in Table IWA-2210-1 may be extended and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased provided that the conditions or indications for which visual examination is performed can be detected at the chosen distance and illumination. 10 CFR 50.55a(b)(2)(ix)(B) applies to remote visual examinations, but does not apply to direct visual examinations.

The Davis-Besse containment vessel is a free standing, large volume steel vessel. Access to the surfaces of the containment vessel is provided at the 565' elevation, the 585' elevation, the 603' elevation, and the 653' elevation. Approximately 15% of the containment surface is within the maximum 4 foot examination distance necessary to perform a direct visual VT-3 examination. The remainder must either be examined from scaffold or by remote examination.

Installation of scaffold is not considered practical. Installation of scaffold would require nearly 1600 lineal feet of scaffold ranging in height of 10 feet to 40 feet. Many areas of containment do not contain sufficient room to erect scaffold within 4 feet of the containment vessel. In other areas, scaffold would restrict normal access and egress routes for personnel working in containment.

Remote visual examination may be used in lieu of building scaffold. When using remote examination, the maximum direct examination distance and the minimum illumination requirements of Table IWA-2210-1 may be extended or decreased respectively in accordance with 10 CFR 50.55a(b)(2)(ix)(B) provided conditions for which the visual examination is being performed can be identified. However, this relaxation in Table IWA-2210-1 applies only to remote visual examinations and does not apply to direct visual examinations. The direct visual examination distance and illumination requirements of Table IWA-2210-1 are impractical when performing containment examinations. Conditions for which the containment visual examinations are being performed can be seen at distances much greater than the maximum direct visual VT-3 examination distance specified in Table IWA-2210-1.

Remote visual examinations are qualified at a specific distance and illumination in accordance with 10 CFR 50.55a(b)(2)(ix)(B) using a chipped paint specimen or an 18% neutral gray card. This same chipped paint specimen or 18% neutral gray card will be used to qualify the maximum examination distance and minimum illumination for performing direct visual VT-3 examination. This qualification process will ensure that the direct visual and remote visual examination processes are equivalent.

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). Performance of direct visual VT-3 examinations qualified to the same standards as remote visual VT-3 examinations will provide an acceptable level of quality and safety.

Subsection IWE of the 1998 Edition of ASME Section XI no longer requires a VT-3 examination of the containment surfaces. Therefore, the requirements of Table IWA-2210-1 are no longer applicable to IWE containment examinations.

Alternative Examination:

Direct visual VT-3 examinations will be qualified at distances exceeding the requirements of Table IWA-2210-1 and illumination less than Table IWA-2210-1 requirements. The direct visual VT-3 examinations will be qualified on the same specimen as used to qualify the remote visual examinations. The criteria to be used to qualify the direct visual VT-3 examination procedure will be established by a Registered Professional Engineer, or other responsible individual, knowledgeable in the requirements for design, inservice inspection, and testing of Class MC components.

Justification for the Granting of Relief:

Considering the size of the containment structures and recognizing the varied lighting conditions in containments, the NRC provided latitude in 10 CFR 50.55a(b)(2)(ix)(B) from the requirement of IWA-2216 for VT-3 remote visual examination. The IWA-2216 requirements are contained in Table IWA-2210-1. However, this relaxation in Table IWA-2210-1 applies only to remote visual examinations and does not apply to direct visual examinations. Conditions for which the containment visual examinations are being performed can be seen at distances much greater than the maximum direct visual VT-3 examination distance specified in Table IWA-2210-1. Qualification of direct visual VT-3 examinations to the same specimens used to qualify remote examinations will ensure that the examinations throughout the containment are consistent and will identify any conditions which may be detrimental to the leak tight integrity of the containment vessel. Performance of direct visual VT-3 examinations qualified to

the same standards as remote visual VT-3 examinations will provide an acceptable level of quality and safety.

Implementation Schedule:

The VT-3 visual examination of the containment surfaces will be performed during the third period of the inspection interval.

COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify the Manager - Regulatory Affairs (419-321-8450) at the DBNPS of any questions regarding this document or associated regulatory commitments.

COMMITMENTS	DUE DATE
None	