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Docket Number 50-346

License Number NPF-3

Serial Number 2644

February 27, 2000

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

Subject: 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-A21)

Ladies and Gentlemen:

The purpose of this letter is to request relief pursuant to 10 CFR 50.55a(a)(3) from a Section XI requirement of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (BPV) Code at the Davis-Besse Nuclear Power Station (DBNPS). 10 CFR 50.55a, as amended by the Federal Register Notice 64 FR 51370, dated September 22, 1999, requires implementation of Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," Supplement 4 of the 1995 Edition, 1996 Addenda of ASME Section XI prior to November 22, 2000. Supplement 4 imposes qualification requirements for procedures, equipment and personnel involved in performing ultrasonic examinations. The FirstEnergy Nuclear Operating Company (FENOC) plans to utilize Supplement 4 of Appendix VIII during the Twelfth Refueling Outage examinations of the DBNPS Reactor Vessel. The Twelfth Refueling Outage is scheduled to commence in April 2000.

The Performance Demonstration Initiative (PDI) is an organization of U.S. nuclear utilities that was formed for developing an efficient, cost-effective, and technically sound implementation of ultrasonic examination performance demonstration requirements. The PDI has worked with the ASME BPV Code committee in developing Supplement 4. Paragraph 2.4.1 in the summary of comments issued with the above cited Federal Register notice, stated that the PDI requirements are directly contained in paragraph 10 CFR 50.55a(b)(2)(xv) of the revised 10 CFR 50.55a. However, during discussions held on January 12, 2000, between the NRC Staff, PDI, and representatives from the Electric Power Research Institute (EPRI), it was identified that the

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length sizing used in the PDI qualification process for Supplement 4 of Appendix VIII had not been appropriately included in the revised rule 10 CFR 50.55a(b)(2)(xv).

Accordingly, enclosed is DBNPS Relief Request RR-A21 which requests relief from the inappropriate flaw length sizing requirements of 10 CFR 50.55a(b)(2)(xv) that reference Subparagraph 3.2(b) in Supplement 4 to Appendix VIII of the 1995 Edition, 1996 Addenda of ASME BPV Code Section XI. As an alternative, FENOC proposes use of the appropriate length sizing requirements used in Supplement 4 to the Appendix VIII PDI qualification process. Relief is requested from the NRC in accordance with 10 CFR 50.55a(a)(3)(i).

The NRC's approval of this relief request is requested prior to March 29, 2000, in order to support the DBNPS Twelfth Refueling Outage. Should you have any questions or require additional information, please contact Mr. James L. Freels, Manager-Regulatory Affairs, at (419) 321-8466.

Sincerely yours,



DHL/dlc

Enclosure

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

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**RELIEF REQUEST
RR-A21**

Component Description:

Reactor Vessel Welds

ASME BPV Code Class:

ASME BPV Code Section XI, Class 1

ASME BPV Code Examination Requirements:

Subparagraph 3.2(b) in Supplement 4 of the 1995 Edition, 1996 Addenda of ASME BPV Code Section XI, Appendix VIII requires flaw lengths estimated by ultrasonic examination to be the true length $-\frac{1}{4}$ inch, +1 inch. Relief to use a flaw length sizing acceptance criterion of 0.75 inch Root Mean Square (RMS) is requested.

Basis for Relief:

Supplement 4, "Qualification Requirements for the Clad/Base Metal Interface of Reactor Vessel," Subparagraph 3.2(b) of the 1995 Edition, 1996 Addenda of ASME Section XI, Appendix VIII requires flaw lengths estimated by ultrasonic examination to be the true length $-\frac{1}{4}$ inch, +1 inch.

10 CFR 50.55a(b)(2)(xv)(C)(1), as revised by Federal Register Notice (64 FR 51370), requires that when applying Appendix VIII, Supplement 4, a depth sizing acceptance criterion of 0.15 inch RMS be used in lieu of the requirements of Subparagraphs 3.2(a) and 3.2(b) of the 1995 Edition, 1996 Addenda of ASME BPV Code Section XI, Appendix VIII. This depth sizing criterion of 0.15 inch RMS is appropriate to Subparagraph 3.2(a), but is not appropriate to Subparagraph 3.2(b) because Subparagraph 3.2(b) addresses length sizing, not depth sizing.

On January 12, 2000, discussions were held between the NRC Staff and representatives from the Electric Power Research Institute (EPRI) Nondestructive Examination (NDE) Center and the utilities' PDI. In this discussion it was acknowledged by the NRC staff that the 0.75 inch RMS length sizing criterion should have also been addressed in the modifications provided for Appendix VIII, Supplement 4, in 10 CFR 50.55a(b)(2)(xv)(C)(1).

It should be noted that the 0.75 inch RMS length sizing criterion has been incorporated into paragraph 3.2 in Appendix IV to Code Case N-622, "Qualification Requirements for the Clad-to-Base Metal Interface of Reactor Vessel." The NRC has approved the use of Code Case N-622 for Florida Power and Light Company's St. Lucie Plant Unit 2 (TAC No. MA5041).

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Furthermore, the NRC has documented their assessment of the PDI Program in its report (No. 999 01288/95-01) dated March 6, 1996 (TAC Number M98046). Table 2 of this report stated that the NRC assessment team reviewed and did not take exception to the PDI position to change the Appendix VIII, Supplement 4 length tolerance to 0.75 inch RMS.

The PDI qualification of the inspection system to be utilized for the DBNPS Reactor Vessel examinations in the upcoming Twelfth Refueling Outage has used the appropriate 0.75 inch RMS length sizing criterion, in lieu of applying the inappropriate 0.15 inch RMS. As discussed above and demonstrated by the PDI, the use of a 0.75 inch RMS length sizing criterion will provide an acceptable level of quality and safety. Accordingly, relief is requested in accordance with 10 CFR 50.55a(a)(3)(i). This relief is proposed to be effective until 10 CFR 50.55a(b)(2)(xv)(C)(1) is revised by the NRC to apply an appropriate length sizing criterion.

Alternative Examination:

In lieu of the length sizing requirements (-1/4 inch, + 1 inch) of Supplement 4, Subparagraph 3.2(b) of the 1995 Edition, 1996 Addenda of ASME BPV Code, Section XI, Appendix VIII, a length sizing acceptance criterion of 0.75 inch RMS will be used.

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 THIS 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 (419-321-8466) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENT

DUE DATE

In lieu of the length sizing requirements of Supplement 4, Subparagraph 3.2(b) of the 1995 Edition, 1996 Addenda of ASME BPV Code, Section IX, Appendix VIII, a length sizing acceptance criterion of 0.75 inch RMS will be used.

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