

May 2, 2001

10 CFR Part 50
Section 50.55a

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Request for Relief No. 13 for the 3rd 10-Year Interval Inservice Inspection Program

- Ref. 1 Duane Arnold Energy Center Letter to US NRC, Inservice Inspection (ISI) Program Revised Relief Requests NDE-R037, NDE-R038, NDE-R039, and NDE-R040, dated November 14, 2000
- Ref. 2 NRC letter to Duane Arnold Energy Center, "Safety Evaluation for Proposed Alternatives to ASME Section XI Inservice Inspection Program Related to Length Sizing Qualification Criterion and Training for Ultrasonic Testing Personnel for the Duane Arnold Energy Center (TAC No. MA8914)," dated January 22, 2001
- Ref. 3 Federal Register, Rules and Regulations, March 26, 2001 (66 FR 16391)

On April 14, 2000, we submitted Revision No. 3 of the Monticello third 10-year Inservice Inspection Examination (ISI) Plan for review. The purpose of this letter is to request review and approval of ISI Relief Request No. 13 to the third 10-year plan. Relief Request No. 13 would revise the statistical parameters of Appendix VIII, Supplement 4 part 3.2(c) which is currently in error.

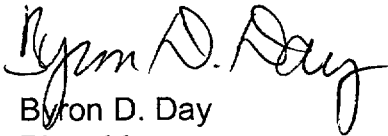
This relief request was developed using guidance contained in the draft version of the Electric Power Research Institute (EPRI) Performance Demonstration Initiative (PDI) ASME Section XI, Appendix VIII Implementation Guideline. Since that time, several minor changes to the Implementation Guideline and the associated sample requests for relief have been made. In addition, on October 11, 2000, in a public meeting between PDI and NRC, a discrepancy between the PDI program and Subparagraph 3.2(c) of Supplement 4 to Appendix VIII was identified.

Reference 1 provides a precedent relief request submitted by the Duane Arnold Energy Center (DAEC) which was considered in preparation of this submittal. By Reference 2, the NRC approved Reference 1.

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References 1 and 2 were based on correcting two errors in 10 CFR 50.55a(b)(2)(xv)(C)(1). By Reference 3, the NRC corrected one of the errors. Our attached relief request still discusses both errors, but requests relief for only the remaining error. This allows for more complete discussion of the closely associated errors. It should also facilitate NRC review and approval since our relief request is nearly an exact duplicate of Reference 1.

Nuclear Management Company (NMC) requests approval of this relief request prior to October 1, 2001 to support the Monticello upcoming fall refueling outage. Should you have any questions regarding this matter, please contact Sam Shirey, Sr. Licensing Engineer, at (763) 295-1449. This letter contains no new Nuclear Regulatory Commission commitments.



Byron D. Day
Plant Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr. Resident Inspector, NRC
Minnesota Department of Commerce
J Silberg

Attachment: ISI Relief Request No. 13

Monticello Unit 1 - Relief Request No. 13 (Rev. 0)

Appendix VIII Supplement 4

SYSTEM/COMPONENT(S) FOR WHICH RELIEF REQUEST WILL BE USED

Code Class: Class 1
Reference: ASME, Section XI, Tables IWB-2500-1
(1986 Edition, No Addenda)
Examination Category: B-A
Item Number: B1.10, B1.20
Description: Alternative Requirement to Appendix VIII, Supplement 4
"Qualification Requirements for the Clad/Base Metal
Interface of Reactor Vessel"
Component Numbers: All

CODE REQUIREMENT

10 CFR 50.55a(b)(2) was amended to reference Section XI of the ASME Code through the 1995 Edition with the 1996 Addenda (64 FR 51370). 10 CFR 50.55a provides an implementation schedule for the supplements to Appendix VIII of Section XI (1995 Edition with the 1996 Addenda).

Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(b) requires "flaw lengths estimated by ultrasonics be the true length $-\frac{1}{4}$ inch +1 inch."

As amended, 10 CFR 50.55a(b)(2)(xv)(C)(1) required a depth sizing acceptance criteria of 0.15 inch root mean square (RMS) be used in lieu of the requirements of Subparagraphs 3.2(a) and 3.2(b) to Supplement 4 to Appendix VIII. Subparagraph 3.2(c) contains additional requirements for statistical parameters.

The final rule for 10 CFR 50.55a was published in the Federal Register on September 22, 1999 (64 FR 51370). This was amended by Federal Register Notice (66 FR 16391) dated March 26, 2001, which specified the use of a flaw length sizing criterion for reactor vessel qualification. However, in this notice the statistical parameters of 3.2(c) were not corrected to reflect the use of the RMSE calculations of 3.2(a) and 3.2(b).

This relief request was developed using guidance contained in the draft version of the Electric Power Research Institute (EPRI) Performance Demonstration Initiative (PDI) ASME Section XI, Appendix VIII Implementation Guideline. Since that time, several minor changes to the Implementation Guideline and the associated sample requests for relief have been made. In addition, on October 11, 2000, in a public meeting between PDI and NRC, a discrepancy between the PDI program and Subparagraph 3.2(c) of Supplement 4 to Appendix VIII was identified.

Reference 1 provides a precedent relief request submitted by the Duane Arnold Energy Center (DAEC) which was considered in preparation of this submittal. By Reference 2, the NRC approved Reference 1.

References 1 and 2 were based on correcting two errors in 10 CFR 50.55a(b)(2)(xv)(C)(1). By Reference 3, the NRC corrected one of the errors. Our attached relief request still discusses both errors, but requests relief for only the remaining error. This allows for more complete discussion of the closely associated errors. It should also facilitate NRC review and approval since our relief request is nearly an exact duplicate of Reference 1.

BASIS FOR ALTERNATIVE EXAMINATION

10 CFR 50.55a, as amended by Federal Register Notice (64 FR 51370) dated September 22, 1999, requires the implementation of the ASME Code Section XI, Appendix VIII, Supplement 4, 1995 Edition with the 1996 Addenda. The required implementation date for Supplement 4 was November 22, 2000.

10 CFR 50.55a(b)(2)(xv)(C)(1), as amended by Federal Register Notice, (64 FR 51370) dated September 22, 1999, requires that when applying Appendix VIII, Supplement 4, a depth sizing acceptance criterion of 0.15 inch Root Mean Square Error (RMSE) be used in lieu of the requirements of Subparagraph 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, NRC Staff, representatives from the Electric Power Research Institute (EPRI) Nondestructive Examination Center, and representatives from the Performance Demonstration Initiative (PDI) participated in a conference call. The discussion during the conference call included the difference between Supplement 4, "Qualification Requirements for the Clad/Base Metal Interface of Reactor Vessel," to Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," Paragraph 10 CFR 50.55a(b)(2)(xv)(C)(1) in the rule (Federal Register, 64 FR 51370), and the implementation of Supplement 4 by the PDI Program. Supplement 4, Subparagraph 3.2(b) imposed a flaw sizing tolerance of $-\frac{1}{4}$ inch, +1 inch of the true length to the performance demonstration qualification criteria. The rule changed Subparagraph 3.2(b) to a depth sizing requirement of 0.15 inch Root Mean Square (RMS), and the PDI program uses a length sizing tolerance of 0.75 inch RMS for paragraph 3.2(b). The NRC Staff acknowledged that Paragraph 10 CFR 50.55a(b)(2)(xv)(C)(1) in the rule was an error and should actually be a length sizing tolerance of 0.75 inch RMS, the same tolerance that was being implemented by the PDI program.

In a public meeting on October 11, 2000 at NRC offices in White Flint, MD, the PDI identified the discrepancy between Subparagraph 3.2(c) and the PDI program. The NRC agrees that Paragraph 10 CFR 50.55a(b)(2)(xv)(C)(1) should have excluded Subparagraph 3.2(c) as a requirement.

The U.S. nuclear utilities created the PDI to implement demonstration requirements contained in Appendix VIII. PDI developed a performance demonstration program for qualifying UT techniques. In 1995, the NRC Staff performed an assessment of the PDI program and reported that PDI was using a length sizing tolerance of 0.75 inch RMS for reactor pressure vessel performance demonstrations. This criterion was introduced to reduce testmanship (passing the test based on manipulation of results rather than skill). The Staff noted in the assessment report (Reference 4) that the length sizing tolerance was not according to Appendix VIII but did not take exception to PDI's implementation of the 0.75 inch RMS length sizing tolerance. The Staff requested that the length sizing difference between PDI and the Code be resolved.

The solution for resolving the differences between the PDI program and the Code was for PDI to participate in the development of a Code case that reflected PDI's program. The Code case was presented to ASME for discussion and consensus building. NRC representatives participated in this process. ASME approved the Code case and published it as Code Case N-622, "Ultrasonic Examination of RPV and Piping, Bolts and Studs, Section XI, Division 1." The NRC approved the use of Code Case N-622 for Florida Power and Light Company's St. Lucie Plant Unit 2 (TAC No. MA5041).

Operating in parallel with the actions of PDI, the Staff incorporated most of Code Case N-622 criteria in the rule published in the Federal Register, 64 FR 51370. Appendix IV to Code Case N-622 contains the proposed alternative sizing criteria which has been authorized by the Staff. The Staff agrees that the omission of the length sizing tolerance of 0.75 inch RMS in the rule and the inclusion of the statistical parameters of Paragraph 3.2(c) of Supplement 4 to Appendix VIII was an oversight. The Staff will correct the error in an upcoming rule.

ALTERNATIVE EXAMINATION

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to use the RMSE calculations of Subparagraph 3.2(a) and 3.2(b) of Supplement 4 of the 1995 Edition 1996 Addenda of ASME Section XI Appendix VIII in lieu of the statistical parameters of Subparagraph 3.2(c). As discussed above and demonstrated by the PDI, this will provide an acceptable level of quality and safety.

IMPLEMENTATION SCHEDULE

This alternative is requested for the third ten-year interval of the Inservice Inspection Program for Monticello.

REFERENCES

1. Duane Arnold Energy Center Letter to US NRC, Inservice Inspection (ISI) Program Revised Relief Requests NDE-R037, NDE-R038, NDE-R039, and NDE-R040, dated November 14, 2000
2. NRC letter to Duane Arnold Energy Center, "Safety Evaluation for Proposed Alternatives to ASME Section XI Inservice Inspection Program Related to Length Sizing Qualification Criterion and Training for Ultrasonic Testing Personnel for the Duane Arnold Energy Center (TAC No. MA8914)," dated January 22, 2001
3. Federal Register, Rules and Regulations, March 26, 2001 (66 FR 16391)
4. NRC Assessment of the PDI Program, Jack R. Strosnider, Chief Materials and Chemical Engineering Branch, to Bruce J. Sheffel, Chairman PDI, March 6, 1996, Table 2, Item 94-005, page 34.
5. Meeting Summary, Teleconference between NRC and representatives from PDI, D.G. Naujock, Metallurgist, NDE & Metallurgy Section, to Edmund J. Sullivan, Chief NDE & Metallurgy Section, Chemical Engineering Branch, Division of Engineering, U.S. NRC, March 6, 2000.
6. NRC staff letter to Mr. T.F. Plunkett, Florida Power and Light Company dated September 23, 1999.