



Nuclear Management Company, LLC  
Point Beach Nuclear Plant  
6610 Nuclear Road  
Two Rivers, WI 54241

NPL 2000-0367

10 CFR 50.55a

August 21, 2000

Document Control Desk  
U. S. NUCLEAR REGULATORY COMMISSION  
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Ladies and Gentlemen:

DOCKETS: 50-266 AND 50-301  
ASME SECTION XI RELIEF REQUESTS  
UNIT 1 RR-1-20, RR-1-21 AND RR-1-22  
UNIT 2 RR-2-26, RR-2-27 AND RR-2-28  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

The NRC amended 10CFR50.55a via Federal Register 64FR51370 dated September 22, 1999, to require licensees to implement performance demonstration methods for ultrasonic examination systems. Licensees are required to implement Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," to ASME Section XI, 1995 Edition with the 1996 Addenda, or Appendix VIII as modified by the final rule. This modification is essentially equivalent to the implementation of Appendix VIII by the Performance Demonstration Initiative (PDI). Section 50.55a(g)(6)(ii)(C) of the final rule incorporates a phased implementation of Appendix VIII over a three-year period, requiring implementation of Supplement 4 by November 22, 2000.

Point Beach Nuclear Plant (PBNP) is currently committed to the ASME Section XI 1986 Edition, no Addenda. This edition does not incorporate Appendix VII and Appendix VIII criteria. PBNP will incorporate the appropriate portions of the 1995 Edition with Addenda through 1996 as modified by the final rule into the PBNP inservice inspection program as required to be phased in by the rulemaking. In accordance with 10 CFR 50.55a, PBNP is submitting three relief requests for each unit described as follows:

Discussions were held between the NRC Staff, PDI and representatives from the Electric Power Research Institute (EPRI) on January 12, 2000. It was identified that the length sizing used in the PDI qualification process for Supplement 4 had not been appropriately included in the

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amended rule. PBNP requests relief from the inappropriate sizing requirement in accordance with 10CFR50.55a(a)(3)(i) as discussed in Relief Requests RR-1-20 and RR-2-26 (Attachment 1).

In accordance with 10 CFR 50.55a(a)(3)(i), PBNP is requesting relief from personnel certification requirements of ASME Section XI, 1995 Edition with Addenda through 1996. While PBNP is committed to the 1986 Edition of Section XI, the requirements of IWA-2300 of the 1989 Edition of Section XI have been incorporated into the written practice. Relief Requests RR-1-21 and RR-2-27 (Attachment 2) address this issue.

In accordance with 10CFR50.55a(a)(3)(i), PBNP requests NRC authorization to use the alternative requirements of 10 CFR 50.55a(b)(2)(xiv) in lieu of Section XI, Appendix VII, Paragraph VII-4240. Use of the alternative requirements provides an acceptable level of quality and safety. This is discussed in Relief Requests RR-1-22 and RR-2-28 (Attachment 3).

Approval of these relief requests is desired prior to October 1, 2000. Please contact us if there are any questions regarding these relief requests.

Sincerely,



A. J. Cayia  
Manager  
Site Services & Assessment

FAF/tat

Attachments (3)

cc: NRC Resident Inspector  
NRC Regional Administrator  
NRC Project Manager  
PSCW

**ATTACHMENT 1**

**UNIT 1 RELIEF REQUEST RR-1-20**  
**UNIT 2 RELIEF REQUEST NO. RR-2-26**

**Components For Which Relief Is Requested**

Code Class:	Class 1
Reference:	ASME, Section XI, Tables IWB-2500-1 (1986 Edition)
Examination Category:	B-A, B-D
Item Number:	B1.11, B1.12, B1.21, B1.22, B1.30, B1.40, B1.51, B3.90, and B3.100
Description:	Alternative Requirement to Appendix VIII, Supplement 4 "Qualification Requirements for the Clad/Base Metal Interface of Reactor Vessel"
Component Numbers:	All

**Code/CFR Requirements**

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, 1986 Edition, IWA-2232(a) states "Ultrasonic examination... shall be conducted in accordance with Article 4 of Section V," with amendments.

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

**Basis for Relief**

10 CFR 50.55a requires implementation of the ASME Code Section XI, 1995 Edition with the 1996 Addenda, Appendix VIII, Supplements 4 and 6. The required implementation date for these supplements is November 22, 2000.

10 CFR 50.55a(b)(2)(xv)(C)(1) requires that when applying Appendix VIII, Supplement 4, a depth sizing acceptance criterion of 0.15 inch Root Mean Square (RMS) be used in lieu of the requirements of Subparagraph 3.2(a) and 3.2(b) of the 1995 Edition, 1996 Addenda of ASME 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) as it addresses length sizing, not depth sizing.

Qualifications administered by the Performance Demonstration Initiative (PDI) have used a length sizing acceptance criteria of 0.75 inch RMS since the inception of these demonstrations in 1994. This length sizing tolerance is included in ASME Code Case N-622 which the NRC has approved for use at Florida Power and Light Company's St. Lucie Plant Unit 2 (TAC No. MA5041).

The NRC staff has documented its assessment of the PDI program in their report dated March 6, 1996 (TAC No. 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 of 0.75 inch RMS.

Conversations between NRC staff and PDI representatives were held on January 12, 2000. In this conversation it was acknowledged that the 0.75-inch RMS length-sizing criteria should have been addressed in the modifications provided in 10CFR50.55a(b)(2)(xv)(C). It was also stated this would be corrected in future revisions.

#### Alternative Examination

Pursuant to 10 CFR 50.55a(a)(3)(i), PBNP requests to use alternative requirements for length sizing in lieu of those listed in ASME Section XI, 1995 Edition with the 1996 Addenda. PBNP will use the length sizing requirements of Appendix VIII, Supplement 4, Subparagraph 3.2(b), that have a length sizing acceptance criteria of 0.75 inch RMS. As discussed above and demonstrated by the PDI, use of a 0.75 inch RMS length sizing criterion will provide an acceptable level of quality and safety.

#### Implementation Schedule

This alternative to the requirements will be implemented during the remainder of the third ten-year inspection interval of the PBNP inservice inspection program. This will be the subject of a forthcoming relief request.

**ATTACHMENT 2**

**UNIT 1 RELIEF REQUEST NO. RR-1-21**  
**UNIT 2 RELIEF REQUEST NO. RR-2-27**

**Section For Which Relief Is Requested**

Components subject to ultrasonic examination with Appendix VIII to the 1995 Edition with 1996 Addenda of ASME Section XI.

**Code/CFR Requirements**

10CFR50.55a(g)(ii)(C), dated September 22, 1999, provides an implementation schedule for the supplements to Appendix VIII of Section XI, 1995 Edition with the 1996 Addenda.

Supplements 1, 2, 3, and 8	May 22, 2000
Supplements 4 and 6	November 22, 2000
Supplement 11	November 22, 2001
Supplements 5, 7, 10, 12, and 13	November 22, 2002

Appendix VIII, VIII-2200 "Personnel Requirements" states, "Personnel shall meet the requirements of Appendix VII and shall be qualified in accordance with VIII-3000."

Appendix VII-1000 specifies personnel qualifications in accordance with IWA-2300 that references the use of ANSI/ASNT CP-189 for the development of a written practice.

Subarticle IWA-2300, of the 1995 Edition, 1996 Addenda of ASME Section XI requires qualification of examiners to CP-189 as amended by Division 1. The 1986 Edition of ASME Section XI, Subarticle IWA-2300, defines the qualification requirements for NDE personnel as ASNT SNT-TC-1A, 1980, and the additional requirements of Division 1.

**Relief Requested**

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i) to continue basing the requirements for initial certification and recertification of ultrasonic examination personnel on the 1986 Edition of Section XI. PBNP is adopting, in its written practice, the most stringent requirements of both the 1986 and 1989 Editions of Section XI, IWA-2300. This includes the use of ASNT SNT-TC-1A, 1980 and 1984 Editions, as amended by IWA-2300.

**Basis for Relief**

The 1986 Edition of ASME Section XI, Subarticle IWA-2300, requires qualification of NDE personnel using a written practice prepared in accordance with ASNT SNT-TC-1A, 1980, and the additional requirements of Division 1. Pt. Beach Nuclear Plant (PBNP) currently has in place a written practice incorporating the most restrictive portions of both the 1980 and 1984 Editions of ASNT SNT-TC-1A, which makes it comply to the requirements of IWA-2300 of the

1989 Section XI as well. In addition, the written practice is being revised to incorporate the requirements of Appendix VII, 1995 Edition of Section XI with Addenda through 1996 (95A96).

10 CFR 50.55a requires an expedited implementation schedule for Appendix VIII qualification requirements of the 95A96 Edition of Section XI. The schedule is as follows:

Supplements 1, 2, 3, and 8--May 22, 2000  
Supplements 4 and 6--November 22, 2000  
Supplement 11--November 22, 2001  
Supplements 5, 7, 10, 12, and 13--November 22, 2002

Appendix VIII imposes the requirements of Appendix VII of the 95A96 Edition of Section XI. This includes Subarticle IWA-2300, which requires a written practice prepared in accordance with CP-189, 1991, as amended by the requirements of Division 1. Current certifications of PBNP personnel are not affected, as paragraph IWA-2310 in the 95A96 Edition of Section XI states certifications based on SNT-TC-1A are valid until recertification is required.

Implementing CP-189 requires the development, implementation, and to the extent possible, consolidation of a multifaceted written practice specific to Ultrasonic examination personnel. This would need to be done to address the various differing requirements between SNT-TC-1A and CP-189, as amended by different Editions and Addenda of Section XI, including IWA-2300 and Appendix VII.

Both SNT-TC-1A and CP-189, when implemented, provide criteria for qualification and certification of individuals performing NDE based on education, training, and testing in accordance with Appendix VIII. In addition to the criteria set up in the written practice, regardless of whether SNT-TC-1A or CP-189 is used, personnel performing ultrasonic examinations shall meet the requirements specified in 10CFR50.55a as amended by 64 FR 51370 which sets forth the requirements for the qualification of personnel by demonstration. The combination of a written practice based on SNT-TC-1A and a performance based demonstration for personnel performing ultrasonic examination of welds or components will continue to ensure the structural integrity of systems and components.

In lieu of maintaining redundant, possibly conflicting programs, the proposed alternative of maintaining the current program for qualifications of UT personnel will simplify record keeping, satisfy the need to maintain personnel qualifications, eliminate redundancy, and provide an acceptable level of quality and safety commensurate with the other NDE disciplines.

#### Alternative Requirements

Initial certification and recertification of NDE personnel will continue to be conducted in accordance with the requirements contained in the 1986 Edition of ASME Section XI. Personnel performing ultrasonic examinations shall also meet the requirements specified in 10CFR50.55a which sets forth the requirements for the qualification of personnel by demonstration. The combination of a written practice based on SNT-TC-1A and a performance based demonstration for personnel performing ultrasonic examination of welds or components will continue to ensure the structural integrity of the systems/components.

Level III personnel will be qualified to IWA-2323 of the 1995 Edition of Section XI with addenda through 1996.

The current written practice will be upgraded to include the requirements of IWA-2300 of the 1989 Edition of Section XI, and the Appendix VII requirements of the 1995 Edition of Section XI with Addenda through 1996.

#### Implementation Schedule

This alternative to the requirements will be implemented during the remainder of the third ten-year inspection interval of the PBNP inservice inspection program, which is scheduled to end on December 31, 2001 (subject of a separate relief request).

**ATTACHMENT 3**

**UNIT 1 RELIEF REQUEST NO. RR-1-22**  
**UNIT 2 RELIEF REQUEST NO. RR-2-28**

**Components For Which Relief Is Requested**

Reference: ASME, Section XI, Appendix VII, VII-4240,  
1995 Edition with Addenda through 1996  
Description: Alternative Requirements to VII-4240 "Annual Training"

**Code/CFR Requirements**

Appendix VII "Qualification of Nondestructive Examination Personnel for Ultrasonic Examination", Paragraph VII-4240 requires supplemental training on an annual basis. The training is required to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by the Employer. The extent of the training shall be a minimum of 10 hours per year. A record of attendance and topics covered shall be maintained.

10 CFR 50.55a(b)(2)(xiv) requires personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII to receive eight hours of annual hands-on training on specimens containing cracks. This training must be completed no earlier than six months prior to performing ultrasonic examinations at Pt. Beach Nuclear Plant.

**Relief Requested**

Relief is requested in accordance with 10 CFR 50.55a(a)(3)(i) from the provisions of Subarticle VII-4240, Annual Training.

**Basis for Relief**

10 CFR 50.55a was amended in the Federal Register (Volume 64, No. 183 dated September 22, 1999) to require the 1995 Edition, with the 1996 Addenda of Section XI for Appendix VIII qualification requirements. This also imposes the requirements of Appendix VII of the 1995 Edition, with 1996 Addenda of Section XI. This includes Subarticle VII-4240, which requires a minimum of 10 hours of annual training.

10 CFR 50.55a(b)(2)(xiv) requires that all personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility.

Paragraph 2.4.1.1.1 in the Federal Register contained the following statement:

“The NRC had determined that this requirement (10 hours of training on an annual basis) was inadequate for two reasons. The first reason was that the training does not require laboratory work and examination of flawed specimens. Ultrasonic signals can be difficult to interpret and, as detailed in the regulatory analysis for this rulemaking, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation. The second reason is related to the length of training and its frequency. Studies have shown that an examiner’s capability begins to diminish within approximately 6 months if skills are not maintained. Thus, the NRC had determined that 10 hours of annual training is not sufficient practice to maintain skills, and that an examiner must practice on a more frequent basis to maintain proper skill level. The PDI program has adopted a requirement for 8 hours of training, but it is required to be hands-on practice. In addition, the training must be taken no earlier than 6 months prior to performing examinations at a licensee’s facility. PDI believes that 8 hours will be acceptable relative to an examiner’s abilities in this highly specialized skill area because personnel can gain knowledge of new developments, material failure modes, and other pertinent technical topics through other means. Thus, the NRC has decided to adopt in the Final Rule the PDI position on this matter. These changes are reflected in §50.55a(b)(2)(xiv)”.

Implementation of the requirements contained in ASME Section XI and the Final Rule will result in redundant systems. The use of the Final Rule requirements in lieu of additional requirements will simplify record keeping, satisfy needs for maintaining skills, and provide an acceptable level of safety.

#### Alternative Requirement

Annual ultrasonic training shall be conducted in accordance with 10 CFR 50.55a(b)(2)(xiv).

#### Implementation Schedule

This alternative to the requirements will be implemented during the remainder of the third ten-year inspection interval of the PBNP inservice inspection program.