

August 13, 2001
5928-01-20221

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Three Mile Island, Unit 1
Facility Operating License No. DPR-50
NRC Docket No. 50-289
Implementation of the Performance Demonstration Methods

- References:
- 1) Letter from J. J. Hagan (PECO Energy Company, AmerGen Energy Company, LLC) to NRC, dated December 21, 2000
 - 2) Letter from J. J. Hagan (Exelon Generation Company, LLC and AmerGen Energy Company, LLC) to NRC, dated February 20, 2001
 - 3) Letter from T. G. Colburn (NRC) to M. E. Warner (AmerGen Energy Company, LLC), dated June 7, 2001
 - 4) Letter from J. A. Hutton (Exelon Generation Company, LLC and AmerGen Energy Company, LLC) to NRC, dated July 6, 2001

Dear Sir/Madam:

Pursuant to 10 CFR 50.55a(a)(3)(i), and 10 CFR 50.55a(g)(6)(i), AmerGen Energy Company, LLC (Licensee under Facility Operating License No. DPR-50 for Three Mile Island, Unit 1) requested approval of proposed alternatives and a proposed relief request. These proposed alternatives and relief request concern performance demonstration methods for ultrasonic examination systems. This letter revises Alternative Number VIII-1 and VIII-2 to indicate that the alternatives are being requested for both the second and third intervals at Three Mile Island, Unit 1.

If you have any questions, please contact us.

Very truly yours,



Michael P. Gallagher
Director – Licensing
Mid-Atlantic Regional Operating Group

Enclosures

cc: H. J. Miller, Administrator, Region I, USNRC
J. D. Orr, TMI, Senior Resident Inspector
File No. 01002

A047

ENCLOSURE

**ALTERNATIVE NUMBER VIII-1
DEPTH SIZING CRITERIA**

**ALTERNATIVE NUMBER VIII-2
ANNUAL TRAINING**

ALTERNATIVE NUMBER VIII-1
DEPTH SIZING CRITERIA
REVISION 0

Peach Bottom Atomic Power Station, Units 2 and 3
Limerick Generating Station, Units 1 and 2
Three Mile Island, Unit 1
Oyster Creek Generating Station
(Page 1 of 3)

COMPONENT IDENTIFICATION

Code Class: Class 1

Reference: ASME, Section XI, Table IWB-2500-1
 (1989 Edition for Peach Bottom Atomic Power Station, Units 2
 and 3, and Limerick Generating Station, Units 1 and 2; 1986
 Edition for Oyster Creek Generating Station and 1986 Edition
 (second interval) and 1995 Edition with 1996 addenda (third
 interval) for Three Mile Island, Unit 1)

Examination Categories: B-A

Item Numbers: B1.11, B1.12, B1.21, B1.22, B1.51

Description: Alternative requirements to Appendix VIII, Supplement 4,
 “Qualification Requirements for the Clad/Base Metal Interface
 of Reactor Vessel”

Component Numbers: All Components

CODE REQUIREMENT

Section XI (1995 Edition with the 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.”

10 CFR 50.55a(b)(2)(xv)(C)(1) as amended by Federal Register Notice (Volume 64, No. 183 dated September 22, 1999), requires that when applying Appendix VIII, Supplement 4, a depth sizing acceptance criterion of 0.15 inch Root Mean Square (RMS) shall be used in lieu of the requirements of Subparagraph 3.2(a) and 3.2(b) of the 1995 Edition, 1996 Addenda of the ASME BPV Code, Section XI, Appendix VIII. Subparagraph 3.2(c) contains additional requirements for statistical parameters.

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REVISION 0

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BASIS FOR ALTERNATIVE

10 CFR 50.55a as amended by Federal Register Notice (Volume 64, No. 183 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 (Volume 64, No. 183 dated September 22, 1999), requires that when applying Appendix VIII, Supplement 4, a depth sizing acceptance criterion of 0.15 inch Root Mean Square (RMS) shall be used in lieu of the requirements of Subparagraph 3.2(a) and 3.2(b) of the 1995 Edition, 1996 Addenda of the 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.

Performance demonstrations administered by the Performance Demonstration Initiative (PDI) have used a length sizing acceptance criteria of 0.75 inch RMS since its inception. This length sizing tolerance is included in ASME Code Case N-622. 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).

Conversations between NRC Staff and representatives from PDI 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 for Supplement 4 to Appendix VIII in 10 CFR 50.55a(b)(2)(xv)(C). It was also stated that this omission in the rule will be corrected in an upcoming rule.

Additionally, in a public meeting on October 11, 2000, the PDI identified the discrepancy between Subparagraph 3.2(c) and the PDI program. The NRC agreed that 10 CFR 50.55a(b)(2)(xv)(C)(1) should have excluded Subparagraph 3.2(c) as a requirement. The staff will correct the errors in an upcoming rule.

PROPOSED ALTERNATIVE EXAMINATION

Pursuant to 10 CFR 55.55a(a)(3)(i), Peach Bottom Atomic Power Station, Units 2 and 3, Limerick Generating Station, Units 1 and 2, Three Mile Island, Unit 1, and Oyster Creek Generating Station request approval to use the alternative requirements for length sizing (length sizing of .75 RMS) in lieu of Subparagraph 3.2(b). Specifically, in lieu of the length sizing requirements of Supplement 4 Subparagraph 3.2(b) of the 1995 Edition, 1996 Addenda of ASME Section XI, Appendix VIII, a length sizing qualification of .75

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inch RMS will be used. We also request the use of the Root Mean Square (RMS) calculations of 3.2(a), which utilizes an RMS value of 10 CFR 50.55a(b)(2)(xv)(C)(1) (.15 inch), and 3.2(b) (.75 inch RMS), in lieu of the statistical parameters of 3.2(c).

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.

APPLICABLE TIME PERIOD

This alternative is requested for the remaining duration of the inspection interval at Peach Bottom Atomic Power Station, Units 2 and 3, Limerick Generating Station, Units 1 and 2, Three Mile Island, Unit 1 (second interval), and Oyster Creek Generating Station. Additionally, this alternative is being requested for the third interval at Three Mile Island, Unit 1, which began on April 20, 2001.

ALTERNATIVE NUMBER VIII-2

ANNUAL TRAINING

REVISION 0

Peach Bottom Atomic Power Station, Unit 2 and 3
Limerick Generating Station, Unit 1 and 2
Three Mile Island, Unit 1
Oyster Creek Generating Station
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COMPONENT IDENTIFICATION

Code Class: All

Reference: 1995 Edition with 1996 Addenda, Appendix VII, VII-4240

Examination Categories: All

Item Number: All

Description: Alternative Requirements to Appendix VII of Section XI (1995 Edition with the 1996 Addenda), VII-4240, "Annual Training"

Component Numbers: All Components Subject to Ultrasonic Examination

CODE REQUIREMENT

The 1995 Edition, with the 1996 Addenda of ASME Section XI, Subsubarticle VII-4240, requires a minimum of 10 hours 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.

CODE REQUIREMENT FOR WHICH AN ALTERNATIVE IS REQUESTED

An alternative is requested in accordance with 10 CFR 50.55a(a)(3)(i) to the provisions of Subsubarticle VII-4240, "Annual Training."

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BASIS FOR ALTERNATIVE

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 the 1996 Addenda of Section XI. This includes Subsubarticle 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 taken no earlier than 6 months prior to performing examinations at a licensee's facility.

Paragraph 2.4.1.1.1 in the Federal Register notice for the final rule (64 Fed. Reg. 51370 (1999)) contained the following statement:

The NRC had determined that this requirement was inadequate for two reasons. The first reason was that the training does not require laboratory work and examination of flawed specimens. 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 Sec. 10 CFR 50.55a(b)(2)(xiv) of the final rule.

Implementation of the requirements contained in ASME Section XI and 10 CFR 50.55a will result in redundant training programs. The use of the regulatory requirements in lieu of additional requirements will simplify record keeping, satisfy needs for maintaining skills, and provide an acceptable level of quality and safety.

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PROPOSED ALTERNATIVE EXAMINATION

Annual ultrasonic training shall be conducted in accordance with 10 CFR 50.55a(b)(2)(xiv) in lieu of Section XI, Appendix VII, Subsubarticle VII-4240.

APPLICABLE TIME PERIOD

This alternative is requested for the remaining duration of the inspection interval at Peach Bottom Atomic Power Station, Units 2 and 3, Limerick Generating Station, Units 1 and 2, Three Mile Island, Unit 1 (second interval), and Oyster Creek Generating Station. Additionally, this alternative is being requested for the third interval at Three Mile Island, Unit 1, which began on April 20, 2001.