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Fred Dacimo
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December 30, 2003
NL-03-189

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, DC 20555-0001

SUBJECT: Indian Point Nuclear Generating Units No. 2 and No. 3
Docket No. 50-247, and 50-286
Alternative to Appendix VIII, Supplement 4 requirements for Reactor
Vessel Pressure Retaining Weld Inspection

References: 1. US NRC letter, from Anthony J. Mendiola to Howard Bergendahl, "Davis-Besse Nuclear Power Station, Unit 1 – Inservice Inspection Relief Request No. RR-A23 for the Second 10-Year Inspection Interval (TAC NO. MB1608)", dated February 13, 2002.

Dear Sir:

Pursuant to 10CFR50.55a(a)(3)(i), Entergy Nuclear Operations, Inc. (Entergy) hereby requests the Nuclear Regulatory Commission (NRC) to approve the use of an alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI requirements regarding the inspection of Class 1, Examination Category B-A, pressure retaining welds in reactor vessel.

Enclosed are two (2) similar requests for relief (RRs) to use the proposed alternatives for Indian Point Nuclear Generating Unit No. 2 (IP2, Enclosure 1) and Indian Point Nuclear Generating Unit No. 3 (IP3, Enclosure 2). The ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, requires that performance demonstration results satisfy the statistical parameters of Paragraph 3.2(c). The statistical parameters of Paragraph 3.2(c) of Supplement 4 to Appendix VIII are inconsistent with the PDI program criteria.

Relief is requested to use the root mean square (RMS) value of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies the depth sizing criteria of ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c) of Supplement 4 to Appendix VIII. Pursuant to 10CFR50.55a(a)(3)(i), the proposed alternative maintains an acceptable level of quality and safety.

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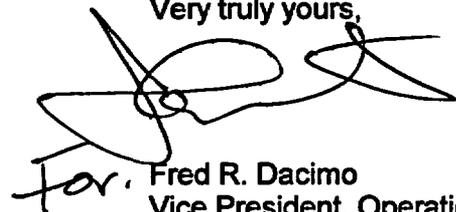
These requests for relief for IP2 and IP3 are for their 3rd ISI Interval, and the applicable code of record is the 1989 Edition, No Addenda of the ASME Section XI Code.

A similar request for relief was granted to Davis-Besse, Unit 1 (Reference 1).

Entergy requests approval of the IP2 relief request (Enclosure 1) by June 2004 to support its Fall 2004 refueling outage. Since these RRs are practically identical, Entergy requests that the IP3 relief request (Enclosure 2) be approved at the same time.

There are no new commitments made in this letter. If you have any questions, please contact Ms. Charlene Faison at 914-272-3378.

Very truly yours,



for. Fred R. Dacimo
Vice President, Operations
Indian Point Energy Center

List of Enclosures:

1. Indian Point Generating Station Unit No. 2, RR-70
2. Indian Point Generating Station Unit No. 3, RR 3-39

cc:

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**INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
THIRD TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM
RELIEF REQUEST RR-70**

**Proposed Alternative
In Accordance with 10CFR50.55a(a)(3)(i)**

--Alternative Provides Acceptable Level of Quality and Safety--

1. ASME Code Component(s) Affected

Component Numbers: ASME Section XI Class 1 Pressure Retaining Welds in Reactor Vessel

Examination Category: B-A

**Item Number: B1.10 Circumferential and Longitudinal Shell Welds
B1.20 Head Welds**

2. Applicable Code Edition and Addenda

The Code of Record for the third Inservice Inspection Interval is ASME Section XI Code, 1989 Edition, No Addenda.

3. Applicable Code Requirements

ASME Code, Section XI, Appendix VIII, Supplement 4, Subparagraph 3.2(c), states that the UT performance demonstration results must be plotted on a two-dimensional plot with the measured depth plotted along the ordinate axis and the true depth plotted along the abscissa axis. For qualification, the plot must satisfy the following statistical parameters: (1) slope of the linear regression line is not less than 0.7, (2) the mean deviation of flaw depth is less than 0.25 inches, and (3) correlation coefficient is not less than 0.70.

4. Reason for Request

The statistical parameters of Paragraph 3.2(c) of Supplement 4 to Appendix VIII are inconsistent with the PDI program criteria.

5. Proposed Alternative

Pursuant to 10CFR50.55a(a)(3)(i), relief is requested to use the root mean square (RMS) value of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies the depth sizing criteria of ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c) of Supplement 4 to Appendix VIII.

Basis for Use

ASME Code, Section XI, Appendix VIII, supplement 4, Subparagraph 3.2(c) imposes three statistical parameters for depth sizing. The first parameter, 3.2(c)(1), pertains to the slope of a linear regression line. The linear regression line is the difference between actual versus true value plotted along a through-wall thickness. For Supplement 4 performance demonstrations, a linear regression line of the data is not applicable because the performance demonstrations are performed on test specimens with flaws located in the 15 percent through-wall. The differences between the actual versus true value produce a tight grouping of results, which resemble a shotgun pattern. The slope of a regression line from such data is extremely sensitive to small variations, thus making the parameter of 3.2(c)(2), an inappropriate criterion. The second parameter, 3.2(c)(2), pertains to the mean deviation of flaw depth. The value used in the Code is too lax with respect to evaluating flaw depths within the inner 15 percent of wall thickness. Therefore, Entergy Nuclear Operations, Inc. (Entergy) proposes to use the more appropriate criterion of 0.15 inch RMS of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies Subparagraph 3.2(a), as the acceptance criterion. The third parameter, 3.2(c)(3), pertains to a correction coefficient. The value of the correction coefficient in Subparagraph 3.2(c)(3) is inappropriate for this application since it is based on the linear regression from Subparagraph 3.2(c)(1).

Entergy believes the proposed alternative to use the RMS value of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies the criterion of ASME Code, Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c), will provide an acceptable level of quality and safety.

6. Duration of Proposed Alternative

It is proposed to use the alternative for the remainder of the Third Inservice Inspection Interval for IP2.

7. Precedents

A similar request for relief was granted to Davis-Besse, Unit 1 (Docket No. 50-346, TAC NO. MB1608, dated February 13, 2002).

8. Attachment

None

**INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
THIRD TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM
RELIEF REQUEST RR 3-39**

**Proposed Alternative
In Accordance with 10CFR50.55a(a)(3)(i)**

--Alternative Provides Acceptable Level of Quality and Safety--

1. ASME Code Component(s) Affected

Component Numbers: ASME Section XI Class 1 Pressure Retaining Welds in Reactor Vessel

Examination Category: B-A

**Item Number: B1.10 Circumferential and Longitudinal Shell Welds
B1.20 Head Welds**

2. Applicable Code Edition and Addenda

The Code of Record for the third Inservice Inspection Interval is ASME Section XI Code, 1989 Edition, No Addenda.

3. Applicable Code Requirements

ASME Code, Section XI, Appendix VIII, Supplement 4, Subparagraph 3.2(c), states that the UT performance demonstration results must be plotted on a two-dimensional plot with the measured depth plotted along the ordinate axis and the true depth plotted along the abscissa axis. For qualification, the plot must satisfy the following statistical parameters: (1) slope of the linear regression line is not less than 0.7, (2) the mean deviation of flaw depth is less than 0.25 inches, and (3) correlation coefficient is not less than 0.70.

4. Reason for Request

The statistical parameters of Paragraph 3.2(c) of Supplement 4 to Appendix VIII are inconsistent with the PDI program criteria.

5. Proposed Alternative

Pursuant to 10CFR50.55a(a)(3)(i), relief is requested to use the root mean square (RMS) value of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies the depth sizing criteria of ASME Code, Section XI, 1995 Edition, 1996 Addenda, Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c) of Supplement 4 to Appendix VIII.

Basis for Use

ASME Code, Section XI, Appendix VIII, supplement 4, Subparagraph 3.2(c) imposes three statistical parameters for depth sizing. The first parameter, 3.2(c)(1), pertains to the slope of a linear regression line. The linear regression line is the difference between actual versus true value plotted along a through-wall thickness. For Supplement 4 performance demonstrations, a linear regression line of the data is not applicable because the performance demonstrations are performed on test specimens with flaws located in the 15 percent through-wall. The differences between the actual versus true value produce a tight grouping of results, which resemble a shotgun pattern. The slope of a regression line from such data is extremely sensitive to small variations, thus making the parameter of 3.2(c)(2), an inappropriate criterion. The second parameter, 3.2(c)(2), pertains to the mean deviation of flaw depth. The value used in the Code is too lax with respect to evaluating flaw depths within the inner 15 percent of wall thickness. Therefore, Entergy Nuclear Operations, Inc. (Entergy) proposes to use the more appropriate criterion of 0.15 inch RMS of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies Subparagraph 3.2(a), as the acceptance criterion. The third parameter, 3.2(c)(3), pertains to a correction coefficient. The value of the correction coefficient in Subparagraph 3.2(c)(3) is inappropriate for this application since it is based on the linear regression from Subparagraph 3.2(c)(1).

Entergy believes the proposed alternative to use the RMS value of 10CFR50.55a(b)(2)(xv)(C)(1), which modifies the criterion of ASME Code, Appendix VIII, Supplement 4, Subparagraph 3.2(a), in lieu of Subparagraph 3.2(c), will provide an acceptable level of quality and safety.

6. Duration of Proposed Alternative

It is proposed to use the alternative for the remainder of the Third Inservice Inspection Interval for IP3.

7. Precedents

A similar request for relief was granted to Davis-Besse, Unit 1 (Docket No. 50-346, TAC NO. MB1608).

8. Attachment

None