



December 30, 2013

NRC 2013-0107

10 CFR 50.55a

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

Point Beach Nuclear Plant Unit 1  
Docket 50-266  
Renewed License No. DPR-24

10 CFR 50.55a Request.

Relief Request 1-RR-6

Re-Examination of the Unit 1 Reactor Pressure Vessel Indication on the "A" Inlet Nozzle Weld  
Fifth Ten-Year Inservice Inspection Program Interval

References: (1) NextEra Energy Point Beach, LLC letter to NRC, dated April 13, 2010, "Unit 1 Refueling 32 Analytical Evaluation Report for the Reactor Vessel Point Beach Nuclear Plant" (ML101050144)

Pursuant to 10 CFR 50.55a(a)(3)(i), NextEra Energy Point Beach, LLC (NextEra) requests that the Nuclear Regulatory Commission (NRC) grant relief from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV Code), Section XI, 2007 Edition with Addenda through 2008 for the re-examination of the Point Beach Nuclear Plant (PBNP) Unit 1 reactor pressure vessel (RPV) "A" Inlet Nozzle Weld RC-32-MRCL-AIII-03, specifically the requirements of paragraph IWB-2420(b).

During Unit 1 refueling outage 32 (Spring 2010), phased array ultrasonic (PA-UT) examinations of the reactor vessel inlet nozzle-to-pipe weld (RC-32-MRCL-AIII-03) identified an ASME Section XI Code rejectable indication in the "A" loop. The weld is a dissimilar metal weld (cast stainless elbow with stainless weld and stainless buttering). The indication was recorded 18 inches from top dead center (TDC) and 2.1 inches from the weld centerline on the nozzle side of the weld in the nozzle forging, and approximately 0.9 inches from the buttering.

The indication could be seen in the "toward", "away", "clockwise", and "counterclockwise" directions, indicating that it is volumetric in nature (e.g., slag inclusion). The indication orientation was determined to be predominantly circumferential in nature. In addition, an eddy current examination was performed to confirm that the indication was not connected to the inside surface. The indication was found to be acceptable for further service without repair for the remainder of the life of Unit 1, including the period of renewed operation, using the acceptance criteria found in ASME Section XI, Paragraph IWB-3600, and was re-scheduled for examination in the three subsequent, successive inspection periods in accordance with IWB-2420(b). Information on this indication was provided to the NRC in Reference (1).

The first successive examination was completed during Unit 1 refueling outage 34 (Spring 2013) using identical techniques (PA-UT), supplemented by eddy current testing. This examination confirmed that the indication had not changed in size and that the indication was not connected to the inside surface.

The enclosed 10 CFR 50.55(a) request concerns performance of the second successive examination, which would be required to be performed by Fall 2017 (end of the 2<sup>nd</sup> Period of the 5<sup>th</sup> Interval). NextEra is requesting that the second re-examination of the flaw in question be waived until the next scheduled 10-year inservice inspection of the reactor pressure vessel (currently scheduled in 2020) due to the radiological and industrial safety concerns involved in removal of the core barrel in order to access the weld in question.

NextEra requests approval of this request by January 31, 2015. The requested duration of this relief request is until the end of the Fifth Inspection Interval, which would end July 30, 2022.

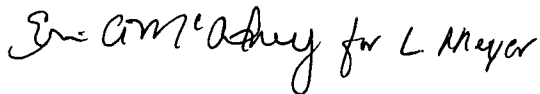
This letter contains no new Regulatory Commitments or revisions to existing Regulatory Commitments.

If you have questions or require additional information, please contact Mr. Michael Millen, Licensing Manager, at 920/755-7845.

In accordance with the provisions of 10 CFR 50.91, a copy of this submittal has been provided to the designated Wisconsin Official.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in cursive script, appearing to read "Larry Meyer for L Meyer".

Larry Meyer  
Site Vice President

Enclosure

cc: Regional Administrator, Region III, USNRC  
Project Manager, Point Beach Nuclear Plant, USNRC  
Resident Inspector, Point Beach Nuclear Plant, USNRC  
PSCW  
Mr. Mike Verhagan, Department of Safety and Professional Services - DSPS, State of Wisconsin

## **ENCLOSURE**

### **RELIEF REQUEST 1-RR-6**

#### **NEXTERA ENERGY POINT BEACH, LLC POINT BEACH NUCLEAR PLANT UNIT 1**

#### **REQUEST FOR RELIEF IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i) ALTERNATIVE PROVIDES ACCEPTABLE LEVEL OF QUALITY AND SAFETY**

##### **ASME Code Component(s) Affected**

Code Class:	1
Examination Category:	Category R-A (B-F)
Item Number:	R1.20 (B 5.10)
Component Number:	RC-32-MRCL-AIII-03
Component Designation:	Elbow to Inlet Nozzle at 328.5°
Drawing Number:	ISI-1120

##### **Applicable Code Edition and Addenda**

NextEra Energy Point Beach, LLC (NextEra) is currently in the Fifth Ten Year inservice inspection (ISI) interval. The current ISI program is based on the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, 2007 Edition with Addenda through 2008.

##### **Applicable Code Requirements**

IWB-2420(b) states, in part, "If a component is accepted for continued service in accordance with IWB-3132.3 or IWB-3142.4, the areas containing flaws or relevant conditions shall be reexamined during the next three inspection periods listed in the schedule of the inspection program of IWB-2400."

##### **Reason for the Request**

NextEra is requesting that the second re-examination of the flaw in question be waived until the next scheduled 10-year inservice inspection of the reactor pressure vessel (currently scheduled in 2020) due to the radiological and industrial safety concerns involved in removal of the core barrel in order to access the weld in question.

##### **Proposed Alternative and Basis for Use**

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested for an alternative requirement that will provide an acceptable level of quality and safety.

The original IWB-3600 Evaluation (Attachment 2) found that there would be no appreciable flaw growth from service during the remainder of extended period of operation. The original examination and the re-examination (Attachment 1) of the flaw both confirmed that, although the flaw was evaluated as "surface-connected", it was not surface-connected. Thus, the flaw is not exposed to reactor coolant system water.

NextEra proposes to not perform the second successive ultrasonic and eddy current re-examination per IWB-2420(b) during the 2<sup>nd</sup> Period of the 5<sup>th</sup> Interval. VT-2 visual examinations are performed during the Class 1 system leakage test at the end of each refueling outage. Since the flaw has remained essentially unchanged, performing the VT-2 visual examinations during the Class 1 system leakage test with acceptable results provides reasonable assurance of continued structural integrity of the subject component and an acceptable level of quality and safety is maintained without performing the required 2<sup>nd</sup> re-examination during the 2<sup>nd</sup> Period of the 5<sup>th</sup> Interval.

### **Duration of Proposed Alternative**

The proposed alternative will be used for the Fifth 10-Year inservice inspection interval of the inservice inspection program for the PBNP that is scheduled to end on July 30, 2022.

### **Precedents**

A similar relief request was granted to Callaway Plant, Unit 1:

- NRC letter to Union Electric dated February 16, 2012, "Callaway Plant, Unit 1 – Relief Request 13R-13 From ASME Code Requirements for Reactor Pressure Vessel Flange Insert Non-Destructive Examination During Third 10-Year Inservice Inspection Interval (TAC No. ME7504) (ML120190748)

**ATTACHMENT 1**  
**ASME SECTION XI**  
**FLAW SIZING INFORMATION FOR INDICATION RECORDED ON**  
**RC-32-MRCL-AIII-03 INLET NOZZLE TO PIPE WELD 2010**



**IHI SOUTHWEST TECHNOLOGIES**

**ASME Section XI**  
**Flaw Calculations**  
**Attachment to Resolution Sheet**

Project : Point Beach Unit 1  
 Nozzle : Elbow to Nozzle @ S28.5"  
 Weld No. : RC-32-MRCL-AIII-03

Exam Data Sheet : 79RL2  
 Ind. Data Sheet : 020100  
 Indication : 79RL2-3

Flaw Throughwall Dimension "a" = 0.592  
 Flaw Length "T" = 0.71  
 Surface Separation "S" = 0.00

"T" nominal = 3.27  
 "T" measured = N/A  
 Cstd "T" nominal = 0.25

ASME SECTION XI, 1998 A2000 FOR ISI FERRITIC STEEL WELDS  
 ALLOWABLE PLANAR FLAWS FOR CATEGORY B-F AND B-J  
 TABLE IWB 3514-1 FOR 3.0" THICKNESS

Aspect Ratio	Surface	Subsurface	Truth	Surface	Subsurface
a/l	a/l %	a/t %		a/l %	a/t %
0.00	11.1	13.8	FALSE	-	-
0.05	11.8	14.4	FALSE	-	-
0.10	13.0	15.6	FALSE	-	-
0.15	14.4	17.2	FALSE	-	-
0.20	14.4	17.2	FALSE	-	-
0.25	14.4	17.2	FALSE	-	-
0.30	14.4	17.2	FALSE	-	-
0.35	14.4	17.2	FALSE	-	-
0.40	14.4	17.2	FALSE	-	-
0.45	14.4	17.2	FALSE	-	-
0.50	14.4	17.2	TRUE	14.40	17.20 Y
				Allowed	Allowed
				14.40	0.00

a = 0.592  
 a/l value = 0.600 If a/l > .5, then a/l = .5  
 Y = 0.000 Y = S/a, If Y > 1, then Y = 1

Flaw is Surface

Allowed a/l = 10.72%  
 a/l = 18.10%

Flaw is unacceptable by Table IWB-3514-1.

Comments : The required sizing correction of 0.067" has been added to the "a" dimension.  
 The surface "S" dimension of 0.00" was used to account for near surface uncertainties.

Analyt: JRM  
 Low: JRM Date: 18 MAR 10

Reviewed By: [Signature]  
 Date: 18 MAR 10

**ATTACHMENT 1**  
**ASME SECTION XI**  
**FLAW SIZING INFORMATION FOR INDICATION RECORDED ON**  
**RC-32-MRCL-AIII-03 INLET NOZZLE TO PIPE WELD 2013**



**IHI SOUTHWEST TECHNOLOGIES**

**ASME Section XI**  
**Flaw Calculations**  
**Attachment to Resolution Sheet**

Project: Point Beach Unit 1  
 Nozzle: Elbow to Nozzle @ 328.6"  
 Weld No. RC-32-MRCL-AIII-03

Exam Date Sheet: Exam 1 Sizing Away  
 Ind. Date Sheet: 020001  
 Indication: 1

Flaw Thruwall Dimension "a" = 0.589  
 Flaw Length "T" = 0.71  
 Surface Separation "S" = 0.00

"T" nominal = 3.27  
 "T" measured = N/A  
 Clad "T" nominal = 0.25

**ASME SECTION XI, 2007 A2803 FOR ISI FERRITIC STEEL WELDS**  
**ALLOWABLE PLANAR FLAWS FOR CATEGORY B-F AND B-J**

**TABLE IWB 3514-1 FOR 3.0" THICKNESS**

Aspect Ratio	Surface	Subsurface		Surface	Subsurface
a/l	a/l %	a/l %	Truth	a/l %	a/l %
0.00	7.0	8.7	FALSE	-	-
0.05	7.5	9.1	FALSE	-	-
0.10	8.2	9.9	FALSE	-	-
0.15	8.1	10.9	FALSE	-	-
0.20	10.3	12.3	FALSE	-	-
0.25	11.7	13.9	FALSE	-	-
0.30	13.2	15.7	FALSE	-	-
0.35	13.2	17.7	FALSE	-	-
0.40	13.2	17.7	FALSE	-	-
0.45	13.2	17.7	FALSE	-	-
0.50	13.2	17.7	TRUE	13.20	17.70 Y
				Allowed	Allowed
				13.20	0.00

a = 0.589  
 a/l value = 0.500 If a/l > .5, then a/l = .5  
 Y = 0.000 Y = S/a, if Y > 1, then Y = 1

Flaw is Surface

Allowed a/l = 13.20%  
 a/l = 18.01%

Flaw is unacceptable by Table IWB-3514-1.

Comments: The required sizing correction of 0.087" has been added to the "a" dimension.  
 The surface "S" dimension of 0.00" was used to account for near surface uncertainties.

Analyst: TRM Date: 6 APR 2013 Reviewed By: PODAPPOO  
 Level: with QA PAWP NDE L6V2 III 04-27-13 Date: 6 APR 13  
 ASMT Jeff Behrman 4/11/13

**ATTACHMENT 2**

**RELIEF REQUEST 1-RR 6**

**NEXTERA ENERGY POINT BEACH, LLC  
POINT BEACH NUCLEAR PLANT UNIT 1**

**WESTINGHOUSE REPORT  
LTR-PAFM-10-50-NP, REVISION 0  
SECTION XI FLAW EVALUATION OF INDICATION RECORDED ON  
RC-32-MRCL-AIII-03 OF THE POINT BEACH UNIT 1 INLET NOZZLE TO PIPE WELD**