



September 5, 2013

NRC 2013-0074
10 CFR 55.a

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

Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
Renewed License Nos. DPR-24 and DPR-27

Request for Approval of Risk-Informed/Safety Based
Inservice Inspection Alternative for Class 1 And 2 Piping
In Accordance With 10 CFR 50.55a(a)(3)(i)
Response to Request for Additional Information

- References:
- (1) NextEra Energy Point Beach, LLC letter to NRC, dated March 19, 2013, Request for Approval of Risk-Informed/Safety Based Inservice Inspection Alternative for Class 1 and 2 Piping in Accordance with 10 CFR 50.55a(a)(3)(i) (ML13079A092)
 - (2) NRC electronic mail to NextEra Energy Point Beach, LLC, dated July 3, 2012, Point Beach Units 1 and 2 – Draft RAI re: Risk Evaluation for Fifth 10-Year ISI Program Plan (TAC Nos. MF1150 and MF1151)

NextEra Energy Point Beach, LLC (NextEra) requested in Reference (1) 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 from the requirements of IWB-2200 IWB-2420, IWB-2430, and IWB-2500, which provide the examination requirements for Category B-F and Category B-J welds. Similarly, relief is requested from the requirements IWC-2200, IWC-2420, IWC-2430, and IWC-2500, which provide the examination requirements for Category C-F-1 and C-F-2 welds.

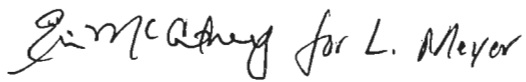
Specifically, NextEra proposed to use a risk-informed/safety-based inservice inspection (RIS_B) process as an alternate to the current ISI program for Class 1 and 2 piping. The RIS_B process used in this submittal is based upon ASME Code Case N-716, Alternative Piping Classification and Examination Requirements, Section XI, Division 1.

Via Reference (2), the NRC determined additional information was required to enable the staff's continued review of the Request for Approval of Risk-Informed/Safety Based Inservice Inspection Alternative for Class 1 And 2 Piping. The Enclosure to this letter contains the response to the request for additional information in Reference (2).

This letter contains no new commitments and no changes to existing commitments.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in cursive script that reads "Jim McAthey for L. Meyer".

Larry Meyer
Site Vice President

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
Mr. Mike Verhagan, Department of Commerce, State of Wisconsin

ENCLOSURE

NEXTERA ENERGY POINT BEACH, LLC POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

REQUEST FOR APPROVAL OF RISK-INFORMED/SAFETY BASED INSERVICE INSPECTION ALTERNATIVE FOR CLASS 1 AND 2 PIPING IN ACCORDANCE WITH 10 CFR 50.55a(a)(3)(i) RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information was required (Reference 1) to enable the continued review of the request for approval of risk-informed/safety based inservice inspection alternative for class 1 and 2 piping in accordance with 10 CFR 50.55a(a)(3)(i) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

The U.S. Nuclear Regulatory Commission (NRC) staff in the Piping & NDE Branch (EPNB) of the Office of Nuclear Reactor Regulation is reviewing the March 19, 2013, application submitted by NextEra Energy Point Beach, LLC, in support of its request for approval of fifth ten-year interval inservice inspection program plan (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13079A092) for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. The program is a risk-informed, safety-based (RIS_B) program based on American society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV Code) Code Case N-716, "Alternative Piping Classification and Examination, Section XI, Division 1."

The NRC staff has identified areas where additional information is needed to complete its review, as provided below.

RAI 1

The last paragraph on page 6 of the enclosure to the March 19, 2013, submittal states, in part, that if a weld is determined to be susceptible to intergranular stress corrosion cracking (IGSCC) then it moves into an "augmented program" where it is monitored for special damage mechanisms. Tables 3.3a and 3.3b show that there are welds at PBNP Units 1 and 2 which are susceptible to IGSCC; however, Section 2.2 which discusses Augmented Programs does not discuss an augmented program for IGSCC susceptible piping.

Please clarify how the IGSCC susceptible piping is handled (e.g., an augmented program or not).

Response

Augmented programs for IGSCC per NRC Generic Letter 88-01 have only been established for BWRs. Since PBNP Units 1 and 2 are PWRs, there are no specific augmented programs for welds with IGSCC. The PBNP submittal should not have referenced an IGSCC augmented program. Welds with IGSCC will be managed under the RIS_B program. Tables 3.2 through 4b in the original submittal provide various examples of IGSCC welds.

RAI 2

On page 12 of the enclosure to the March 19, 2013, submittal, there is a table which provides a summary of the number of welds and the welds selected for examination.

Note 4 to this table states that two service water welds in the cable spreading room are defined as High Safety Significance and are included in the RIS_B Program.

Please clarify if these welds are included in the number of welds shown in the columns under "All Piping Welds."

Response

The two service water welds in the cable spreading room are not included in the number of welds shown in the columns under "All Piping Welds". Therefore, the numbers in this table for Unit 1 under "All Piping Welds" could be adjusted to state, Total – 1899, and Selected – 86.

RAI 3

There are several places within the March 19, 2013, submittal which discuss examination of alloy 82/182 welds for primary water stress corrosion cracking (PWSCC) to MRP-139 or other regulatory requirements. The NRC issued rulemaking on June 21, 2011, which requires licensees to follow an augmented inservice inspection program in accordance with ASME Code Case N-770-1, "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated with UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities," and conditions listed in 10 CFR 50.55a(g)(6)(ii)(F). In addition, on July 12, 2011, the NRC held a public meeting to discuss the June rulemaking and the implementation of Code Case N-770-1. ADAMS Accession No. ML112240818 documents the NRC summary of that meeting.

The NRC staff's concern is that the welds required to be examined in accordance with the augmented program required by 50.55a(g)(6)(ii)(F) should not be counted as exams selected to satisfy the RI-ISI program.

Please describe how PBNP will address the requirements of the June 2011 rulemaking and ASME Code Case N-770-1 in implementing the RIS_B Program at PBNP Unit 2.

Response

Per NRC rulemaking related to ASME Code Case N-770-1, welds requiring examination in accordance with the augmented program required by 10 CFR 50.55a(g)(6)(ii)(F) are not counted as exams selected to satisfy the RI-ISI program at PBNP Units 1 and 2. As stated in Section 2.2 of the submittal, for PBNP, the only Alloy 82/182 Category B-F dissimilar metal welds greater than NPS 1 are the four Unit 2 steam generator hot leg and cold leg primary nozzle to safe-end welds. However, these welds were factory clad with 52/152 material which is considered to be resistant to PWSCC. PBNP intends to manage these welds per the requirements of Code Case N-770-1 as outlined in 10 CFR 50.55a. The examination frequency for these four welds is currently based on the frequencies established by these requirements. The RIS_B Program will not be used to eliminate any Code Case N-770-1 or regulatory requirements.

These four N-770-1 welds are not counted as exams selected to satisfy the RI-ISI program. PBNP will continue to manage these welds per the requirements of Code Case N-770-1 and 10CFR50.55a.

RAI 4

Of those welds not selected for future examinations in the RIS_B program, have previous examinations of any of these welds identified service-induced degradation? If degradation was identified, what was done to mitigate the degradation?

Response

A full service history review was performed at the time of the original N-578 evaluation. Indication disposition reports (IDRs) and engineering changes (ECs) were reviewed for the 2009 periodic update. IDRs and ECs were also reviewed as part of the degradation mechanism evaluation that was performed for the High safety-significant (HSS) piping in the RIS_B application scope. These reviews identified two indications with a potential bearing on the application scope:

IDR 2009-08: In October 2009, automated ultrasonic examination (AUT) of Unit 2 weld RC-32-MRCL-BIII-03 revealed one indication, (#76-1), which was detected and sized with phased array (PA) AUT. This indication was determined to be contained wholly within the clad, and therefore did not require further evaluation in accordance with IWB-3514.1(d)(1).

IDR 2010-032: In March 2010, AUT of Unit 1 weld RC-32-MRCL-AIII-03 revealed one indication, (#79-3), which was detected and sized with PA AUT. It was then scanned with supplemental eddy current (ECT) probes to assist in characterizing the indication, which determined that the indication was not connected to the inside surface (ID). Flaw sizing was performed in accordance with the criteria committed to by PBNP in Relief Request RR-21, which required the addition of a "correction factor" to the flaw sizing information recorded by UT. When the correction factor was added to the indication size, the indication was then considered to be "surface by proximity". The indication exceeded the acceptance standards of ASME Section XI, but was accepted by analytical evaluation in accordance with IWB-3132.3. This indication will need to have successive examinations performed in accordance with IWB-2420, or relief from this requirement will need to be obtained from the NRC. This weld is a dissimilar metal weld between the cast stainless elbow and carbon steel nozzle using stainless steel filler material.

The active degradation mechanism responsible for these two indications was not specifically identified but they are very likely not service-induced. For IDR-2010-032, the fact that the flaw did not originate in the ID makes it unlikely that one of the mechanisms evaluated in the EPRI methodology was active. Therefore, these two indications did not impact the degradation mechanism evaluation that was performed for the HSS piping in the RIS_B application scope.

No other findings of service- induced degradation were identified.

RAI 5

Section 3.3.4 of the March 19, 2013, submittal discusses Program Relief Requests and states that PBNP will calculate coverage and use additional examinations or techniques in the same manner it has for traditional Section XI examinations.

Have any of the welds selected for examination in the RIS_B been previously examined and resulted in limited examination coverage (i.e. less than 90%)? If so, please explain why other welds have not been selected to minimize the number of examinations with limited exam coverage.

Response

The RIS_B methodology sometimes requires the selection for examination of welds with limited examination coverage (i.e. less than 90 percent). This can occur when there are a limited number of welds susceptible to a particular degradation mechanism (or combination of degradation mechanisms), or a limited number of welds located between the first isolation valve and the reactor pressure vessel. In these cases, the need for full examination coverage is considered along with the other considerations mentioned above before making the final decision regarding element selection.

Only two piping welds (one per unit) with limited examination coverage were selected for examination in the RIS_B. These two limited exams were documented in Relief Request RR-4L3, submitted to the NRC under letter dated March 19, 2013 (ML13079A144). These welds are the only welds in their risk category, (see Tables 3.3a and b, and Tables 4a and b of original submittal), which is why they were selected for examination.

References

- (1) NRC electronic mail to NextEra Energy Point Beach, LLC, dated July 3, 2012, Point Beach Units 1 and 2 – Draft RAI re: Risk Evaluation for Fifth 10-Year ISI Program Plan (TAC Nos. MF1150 and MF1151)
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