UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 15, 2012

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
6610 Nuclear Road
Two River, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 – EVALUATION OF RELIEF REQUESTS RR-2 AND RR-3 (TAC NOS. ME7974 AND ME7975)

Dear Mr. Meyer:

By letter dated February 15, 2012, NextEra Energy Point Beach, LLC (the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for relief from certain requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV Code), Section XI, 2007 Edition with 2008 Addenda for the Point Beach Nuclear Plant (PBNP), Units 1 and 2. Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(a)(3)(i), the licensee requested relief on the basis that alternative methods will provide an acceptable level of quality and safety.

For relief request RR-2, the licensee requests to use the reporting requirements contained within ASME Code Case N-532-5 in lieu of Section XI required NIS-1, NIS-2, and Inservice Inspection summary report.

For relief request RR-3, the licensee requests to use the requirements contained within ASME Code Case N-775 in lieu of the requirements of IWA-5250(a)(2) regarding actions required when leakage is found at a bolted connection on a system borated for the purposed of controlling reactivity.

The NRC staff has reviewed the proposed requests and concludes, as set forth in the enclosed safety evaluation, that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and is in compliance with ASME Code requirements. Therefore, the NRC staff authorizes the use of ASME Code Cases N-532-5 and N-775 for the duration of the fifth 10-year ISI interval that is scheduled to commence on August 1, 2012, and end on June 30, 2022, or until the associated Code Cases are published in Regulatory Guide 1.147.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved in this relief remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact Terry Beltz of my staff at (301) 415-3049.

Sincerely,

Robert D. Carlson, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
Safety Evaluation

cc w/encl: Distribution via ListServ

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUESTS RR-2 AND RR-3

ALTERNATIVE TO THE FOURTH 10-YEAR INSERVICE INSPECTION PROGRAM INTERVAL

NEXTERA ENERGY POINT BEACH, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By letter dated February 15, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12046A796), NextEnergy Point Beach, LLC (the licensee) submitted Relief Requests RR-2 and RR-3 for the Point Beach Nuclear Plant (PBNP), Units 1 and 2, requesting relief from certain requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components."

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(i), the licensee requested to use the reporting requirements contained within ASME Code Case N-532-5 in lieu of the Section XI required NIS-1, NIS-2, and Inservice Inspection (ISI) summary report. The licensee also requested to use the requirements contained with ASME Code Case N-775, in lieu of the requirements of IWA-5250(a)(2) regarding actions required when leakage is found at a bolted connection on a system borated for the purposes of controlling reactivity.

2.0 REGULATORY REQUIREMENTS

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The ISI of ASME Code Class 1, 2, and 3, components is to be performed in accordance with Section XI, of the ASME Code and applicable edition and addenda as required by 10 CFR 50.55a(g), except where specific relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i).

As stated in 10 CFR 50.55a(a)(3), the U.S. Nuclear Regulatory Commission (NRC) may allow for alternatives to the requirements from paragraph (g) to be used if the applicant demonstrates that (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without compensating increase in the level of quality and safety.

Based on the above, and subject to the following technical evaluation, the NRC staff finds that regulatory authority exists for the licensee to request and the Commission to grant the relief requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Proposed Alternative – Relief Request RR-2

Applicable ASME Code Edition and Addenda

The ASME Code of Record for the Fifth 10 year ISI Interval is the ASME Section XI, 2007 Edition, 2008 Addenda. The fifth ISI interval began on August 1, 2012, and will end of June 30, 2022, for both Units 1 and 2.

Applicable ASME Code Requirements

The 2007 Edition with the 2008 Addenda of ASME Code, Section XI contains the following requirements concerning the use of Forms NIS-1 and NIS-2 and the inservice inspection summary report:

1. IWA-4331(d) requires Form NIS-2 to be completed for rerating, except for rerating component supports.

2. IWA-6210(c) requires a summary report to be prepared for preservice and inservice examination of Class 1 and 2 pressure retaining components and their supports.

3. IWA-6210(d) requires Form NIS-1 to be prepared for preservice and inservice examination of Class 1 and 2 pressure retaining components and their supports.

4. IWA-6210(e) requires Form NIS-2 to be prepared upon completion of all required activities associated with the Repair/Replacement Plan.

5. IWA-6210(f) requires signatures on Forms NIS-1 and NIS-2.

6. IWA-6220 provides the requirements in the preparation of the abstract for Form NIS-1. The abstract shall include the following items:

    a. Component examined or tested
    b. Code Class
    c. Code Examination Category and Item Number
    d. Examination or test method
    e. Code Cases

f. Number and percentage of examinations completed when required by IWB-2411, IWC-2411, and IWF-2410
g. Reference to the abstracts of the conditions noted and the corrective actions recommended and taken for flaws detected during examinations or tests performed

7. IWA-6230(b) requires an inservice inspection summary report to be prepared following each refueling outage which shall include all examinations, tests, and repair/replacement activities conducted since the preceding summary report.

8. IWA-6230(c)(2) references Mandatory Appendix II for the Form NIS-1.

9. IWA-6230(c)(3) references Mandatory Appendix II for the Form NIS-2.

10. IWA-6230(d) specifies what the summary report cover sheet shall contain:

    a. Date of document completion
    b. Name and address of Owner
    c. Name and address of plant
    d. Name or number designation of the unit
    e. Commercial service date for the unit

11. IWA-6240(b) requires the inservice inspection summary report to be submitted within 90 calendar days of the completion of each refueling outage.

12. IWA-6350(d) requires Form NIS-2 to be prepared as part of the repair/replacement activity records.

13. Mandatory Appendix II includes both Forms NIS-I and NIS-2. Also included is the guide for completing both forms.

14. Mandatory Appendix IX, Article IX-1000(e) requires Form NIS-2 when welding is performed as part of the fabrication and installation of the mechanical clamping devices for Class 2 and 3 pressure boundary piping.

3.1.1 Reason for Request (as stated)

ASME Code Case N-532-4 is included in Table 1 of Regulatory Guide (RG) 1.147, Revision 16. Table 1 provides a list of code cases that are acceptable to the NRC for implementation in the ISI of light-water-cooled nuclear power plants. However, the code case is not applicable to the 2007 Edition with the 2008 Addenda of ASME Section XI. [ASME] Code Case N-532-4 has applicability from the 1981 Edition with the winter 1983 Addenda to the 2004 Edition with the 2005 Addenda. Therefore, ASME Code Case N-532-4 does not meet the requirement contained in IWA-2441(b).

The applicability is limited to the 2005 Addenda because of Table 3 in the code case which lists the paragraph number cross reference for the use of the code case with earlier editions and addenda. This table only goes to the 2004 Edition with the 2005 Addenda.

3.1.2 Proposed Alternative and Basis for Use

The licensee requests the use of ASME Code Case N-532-5 as an acceptable alternative through 10 CFR 50.55a(a)(3)(i). The licensee states that:

> [ASME] Code Case N-532-4 has been published and approved by the NRC in Regulatory Guide 1.147, Rev. 16, however the applicability does not extend to the 2007 Edition with the 2008 Addenda. PBNP requests the use of Code Case N-532-5 as discussed above in lieu of whenever completion of Forms NIS-1 and NIS-2 or an inservice inspection summary report is required in ASME Section XI (2007 Edition with the 2008 Addenda). [ASME] Code Case N-532-5 was published in Supplement 5 to the 2010 Edition of the Nuclear Code Case Book. The changes made between [ASME Code Cases] N-532-4 and N-532-5 are summarized below:
>
> 1. The scope of the code case was revised to allow the use of NIS-2A when the completion of Form NIS-2 is required in Section XI or other Section XI code cases (including rerating).
>
> 2. The use of Form NIS-2A is only completed after satisfying all Section XI requirements necessary to place the item in service and prior to inclusion in the Owner's Activity Report.
>
> 3. The Form NIS-2A is to be maintained as required by Section XI for the Form NIS-2.
>
> 4. Forms OAR-1 and NIS-2A were revised to specify those code cases that have been modified by [ASME] Code Case N-532 and later revisions. This means if a code case was used for a repair/replacement activity and that code case required the completion of Form NIS-2, then that specific code case would be listed on Form NIS-2A.

Duration of Proposed Request

The duration of use of the proposed alternative is for the fifth 10 year ISI interval or until ASME Code Case N-532-5 is approved by the NRC in RG 1.147. At that time, the licensee will use ASME Code Case N-532-5 as approved by the NRC with any conditions identified.

3.1.3 NRC Staff Evaluation

ASME Code Case N-532 was developed to provide an alternative to the use of Form NIS-1, "Owner's Report for Inservice Inspections," Form NIS-2, "Owner's Report for Repair/Replacement Activity," and the ISI 90-day summary report. Revision 5 to the code case addresses several items:

1. A requirement in IWA-4331 (rerating) to use Form NIS-2, which is not addressed by Revision 4.

2. Other ASME Section XI Code Cases that require the use of Form NIS-2, which is not addressed by Revision 4.

3. The wording in the Certificate of Inservice Inspection block on NIS-2A and OAR-1 Forms is being modified to make these forms consistent with all other ASME Code Data reports.

4. Clarify the timing of the completion of Form NIS-2A.

5. Table 3 was deleted

6. Most specific ASME Code paragraph references were deleted. The two remaining references are valid for the range of ASME Code Editions and Addenda in the applicability statement.

7. Revision 5 clarifies the intent to use Form NIS-2A as an alternative for all cases where Form NIS-2 is required.

At the ASME Code Standards Committee, the NRC staff approved the revisions made to ASME Code Case N-532 and concluded that ASME Code Case N-532-5 is acceptable for use. Use of ASME Code Case N-532-5 is authorized until such time as the code case is published in a future version of RG 1.147 and incorporated by reference in 10 CFR 50.55a(b). At that time, if the licensee intends to continue implementing ASME Code Case N-532-5, it must follow all provisions of ASME Code Case N-532-5 with conditions as specified in RG 1.147 and limitations as specified in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if any.

3.2 Licensee's Proposed Alternative – Relief Request RR-3

ASME Code Components Affected

Bolted connections in borated systems, examination category B-P, C-H and D-B, item numbers B15.10, B15.20, C7.10 and D2.10.

Applicable ASME Code Edition and Addenda

The ASME Code of Record for the Fifth 10 year ISI Interval is the ASME Section XI, 2007 Edition, 2008 Addenda. The fifth ISI interval began on August 1, 2012, and will end of June 30, 2022, for both Units 1 and 2.

Applicable ASME Code Requirements

The applicable code requirement is IWA-5250, "Correction Action". Leakage identified during the pressure tests performed in accordance with the subject Examination Categories is subject to corrective actions to meet the requirements of IWA-5250. IWA-5250(a)(2) indicates that if leakage occurs at bolted connections in a system borated for the purpose of controlling reactivity, one of the bolts shall be removed and VT-3 Examined and evaluated in accordance with IWA-3100. The bolt removed shall be the one closest to the source of leakage. If the removed bolt has evidence of degradation, all of the remaining bolting in the connection is required to be removed, VT-3 examined and evaluated in accordance with IWA-3100. As an alternative to IWA-5250(a)(2), IWA-5251 contains provisions for correcting

the leak and performing an evaluation of joint integrity in lieu of removing the bolt for the VT-3 examination.

3.2.1 Reason for Request

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested from the requirements of ASME Section XI, IWA-5250(a)(2), on the basis that the proposed alternative provides an acceptable level of quality and safety.

3.2.2 Proposed Alternative and Basis for Use

When a leak is identified at a bolted connection in systems borated for the purpose of controlling reactivity, the licensee proposes to either meet the requirements of IWA-5250(a)(2) or IWA-5251, or stop the leak, address the cause of the leak using their corrective action program, and replace all of the bolting at the connection in accordance with IWA-4000. A VT-3 of the removed bolting will not be performed as all bolting will be discarded and not reused.

ASME Section XI Code Case N-775 was approved by the ASME on June 24, 2010 and published in Supplement 2 of the Nuclear Code Case Book. This code case provides an alternative to IWA-5250(a)(2). The code case requires the following to be completed:

1. Corrective action shall be taken to stop the leak. The cause of the leakage shall be addressed in accordance with the Owner's corrective action program.

2. All pressure retaining bolting at the leaking connection shall be replaced in accordance with IWA-4000 (IWA-7000 in the 1989 Edition with the 1990 Addenda and earlier editions and addenda). VT-3 visual examination of the removed bolting is not required.

The fundamental purpose of performing the VT-3 of the bolt closest to the leak on systems borated for the purpose of controlling reactivity is to determine the condition of the remaining bolting which may affect the integrity of the connection. For those systems that are borated, if there is a leak the boric acid that forms on the pressure boundary material has been shown to corrode and cause degradation. If all of the bolts are replaced, the integrity of the connection is maintained and therefore provides an acceptable alternative.

Duration of Proposed Request

The duration of use of the proposed alternative is for the fifth 10 year ISI interval or until ASME Code Case N-775 is approved by the NRC in RG 1.147. At that time, the licensee will use ASME Code Case N-775 as approved by the NRC with any conditions identified.

3.2.3 NRC Staff Evaluation

Current ASME Code rules require a VT-3 examination of bolting even if all of the bolting is to be replaced. The rational is that bolting may provide insights into use of incorrect materials or problems associated with the connection itself. ASME Code Case N-775 would allow restoration

of the connection through maintenance and replacement activities which would eliminate the requirement for a VT-3 examination.

The NRC staff has supported ASME Code Case N-775 in various ASME Code Committee meetings and has already approved a previous Code Case N-566-2, which also provided alternative requirements to IWA-5250(a)(2) and eliminated the VT-3 examination requirement. ASME Code Case N-775 requires the cause of the leak to be addressed by the Owner's corrective action program and all bolting in the leaking connection to be replaced. The Owner's corrective action program should require the cause of any degradation to be identified. The replacement of all the bolting in the joint and the determination of the cause of any degradation should insure the integrity of the bolting connection. Use of ASME Code Case N-775 is authorized until such time as the ASME Code Case is published in a future version of RG 1.147 and incorporated by reference in 10 CFR 50.55a(b). At that time, if the licensee intends to continue implementing ASME Code Case N-775, it must follow all provisions of ASME Code Case N-775 with conditions as specified in RG 1.147, and limitations as specified in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if any.

4.0 CONCLUSION

As set forth above, the NRC staff determines that the proposed alternative provides an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and is in compliance with the ASME Code's requirements.

Therefore, the NRC staff authorizes the use of ASME Code Cases N-532-5 and N-775 at PBNP, Units 1 and 2, for the duration of the fifth 10-year ISI interval that is scheduled to commence on August 1, 2012, and end on June 30, 2022, or until the associated Code Cases have been published and approved by the NRC in RG 1.147. At that time, if the licensee intends to continue implementing ASME Code Cases N-532-5 and N-775, it must follow all provisions of the aforementioned ASME Code Cases with conditions as specified in RG 1.147, and limitations as specified in 10 CFR 50.55a(b)(4), (b)(5), and (b)(6), if any.

All other requirements of the ASME Code for which relief has not been specifically requested and authorized remain applicable, including a third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: Margaret Audrain, NRR

Date: November 15, 2012

If you have any questions, please contact Terry Beltz of my staff at (301) 415-3049.

Sincerely,

/RA/

Robert D. Carlson, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
Safety Evaluation

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