



October 25, 2021

L-2021-200  
10 CFR 54.17

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
11545 Rockville Pike  
One White Flint North  
Rockville, MD 20852-2746

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

**SUBSEQUENT LICENSE RENEWAL APPLICATION - AGING MANAGEMENT REQUESTS FOR  
ADDITIONAL INFORMATION (RAI) SET 11 RESPONSE**

References:

1. NextEra Energy Point Beach, LLC (NEPB) Letter NRC 2020-0032 dated November 16, 2020, Application for Subsequent Renewed Facility Operating Licenses (ADAMS Package Accession No. ML20329A292)
2. NRC Email and Attachment dated September 29, 2021, Point Beach SLRA Safety RAI Set 11 Final (ADAMS Accession Nos. ML21287A085, ML21287A086)

NEPB, owner and licensee for Point Beach Nuclear Plant (PBN) Units 1 and 2, has submitted a subsequent license renewal application (SLRA) for the Facility Operating Licenses for PBN Units 1 and 2 (Reference 1). The attachment to this letter provides the response to the NRC's Set 11 RAI (Reference 2).

For ease of reference, the index of attached information is provided on page 3 of this letter. The attachment includes associated revisions to the SLRA (Enclosure 3 Attachment 1 of Reference 1) denoted by ~~strike through~~ (deletion) and/or **bold red underline** (insertion) text. Previous SLRA revisions are denoted by **bold black** text. SLRA table revisions are included as excerpts from each affected table.

Should you have any questions regarding this submittal, please contact me at (561) 304-6256 or William.Maher@fpl.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 25<sup>th</sup> day of October 2021.

Sincerely,  
**William  
Maher**

Digitally signed by William Maher  
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William D. Maher  
Licensing Director - Nuclear Licensing Projects

NextEra Energy Point Beach, LLC

Document Control Desk  
L-2021-200 Page 2

Cc: Administrator, Region III, USNRC  
Project Manager, Point Beach Nuclear Plant, USNRC  
Resident Inspector, Point Beach Nuclear Plant, USNRC  
Public Service Commission Wisconsin

Attachments Index		
Attachment No.	RAI No.	Subject
1	B.2.3.15-3	Inspection of Penetration Seals and Fire Damper Assemblies

## **SLRA Section B.2.3.15, “Fire Protection”**

### **RAI B.2.3.15-3 (Inspection of penetration seals and fire damper assemblies)**

#### Regulatory Basis:

Section 54.21(a)(3) of Title 10 of the Code of Federal Regulations (10 CFR) requires an applicant to demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation. One of the findings that the U.S. Nuclear Regulatory Commission (NRC) staff must make to issue a renewed license (10 CFR 54.29(a)) is that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis. In order to complete its review and enable it to make a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

#### Background:

The “corrective actions” program element in GALL-SLR Report AMP XI.M26, “Fire Protection,” states, in part, that “During the inspection of penetration seals, if any sign of degradation is detected within that sample [emphasis added], the scope of the inspection is expanded to include additional seals in accordance with the plant’s approved fire protection program.”

SLRA Appendix A, Section 16.2.2.15, “Fire Protection,” and Appendix B, Section B.2.3.15, “Fire Protection,” state, in part, that “During the inspection of penetration seals and fire damper assemblies, if any sign of abnormal degradation is detected within the sample [emphasis added], the inspection sample size is expanded, in accordance with the approved PBN fire protection program, to include an additional 10 percent of each type [emphasis added] of sealed penetration or fire damper assembly.”

The enhancement to the “monitoring and trending” and “corrective actions” program elements in SLRA Section B.2.3.15 states, “Enhance plant procedures to require an inspection of an additional 10 percent of a type of seal when more than 15 percent of the sample population does not meet any acceptance criteria [emphasis added] during the 18-month inspection period.”

The NRC staff notes that Routine Maintenance Procedure (RMP) 9057, “Fire Barrier Penetration Fire Seal Surveillance,” states, for fire dampers, that an additional 10 percent will be tested due to damper failure and that the additional testing continues until failures is less than 15 percent.

#### Issue:

The NRC staff is unclear on whether the additional 10 percent is of each type of penetration seal or of a type of penetration seal, what is meant by “abnormal



degradation,” and whether the additional 10 percent sample is inspected when any sign of degradation within the sample is detected or only when more than 15 percent of the sample does not meet any acceptance criteria.

Request:

1. Please discuss, including the basis/justification, whether the Fire Protection program will include inspection of an additional 10 percent of each type of penetration seal or an additional 10 percent of a type of penetration seal.
2. Given that GALL-SLR AMP XI.M26 states “any sign of degradation,” please discuss what is meant by “abnormal degradation.”
3. Please discuss whether the additional 10 percent sample is inspected when any sign of degradation within the sample is detected or only when more than 15 percent of the sample does not meet any acceptance criteria. If the later, then provide the basis/justification for “more than 15 percent.” In addition, discuss the basis/justification for continuing additional testing for fire dampers until failures are less than 15 percent.

**NEPB Response:**

1. Each inspection sample comprises multiple penetration seal types. If degradation is detected in more than 15 percent of a given penetration seal type in the inspection sample, then the Fire Protection program will require an expanded sample. The expanded sample will include an additional 10 percent of the remaining population of the fire penetrations seal type(s) that exceeded the 15 percent threshold in the initial inspection sample.

[Note: Basis for the 15 percent failure threshold / 10 percent scope expansion values above is discussed in the response to request #3.]

Limiting scope expansion in this manner will focus the inspection on the extent of condition for the seal type(s) of concern. This is similar to the approach used for other sample inspection programs described in NUREG-2191 where components of different materials are grouped separately to establish populations and sample sizes. The Appendix A and Appendix B Fire Protection sections in the SLRA will be revised to clarify that the additional inspections will include the penetration seal type(s) that exceeded the 15 percent threshold.

2. The word abnormal should not have been used. It will be removed from Appendix A, Section 16.2.2.15 and Appendix B, Section B.2.3.15. The acceptance criteria for seal inspections currently are no visual indications of cracking, separation of seals from building structures and components, rupture, or puncture. Following incorporation of commitment 19.a of this subsequent license renewal application, the acceptance criteria will include no indications of hardness, shrinkage and loss of strength as well.
3. The intent was that the latter threshold (i.e., the additional 10 percent sample is inspected only when more than 15 percent of the sample does not meet any

acceptance criteria) would be used to determine when an increase in the inspection sample size for fire barrier penetration seals would occur.

The basis for selecting this threshold was that it is consistent with the approach used for increasing the sample inspection size for fire dampers that is part of the plant's approved fire protection program as documented in ML20149E960 and ML20245A450. The same NRC-accepted sample population and acceptable failure rate for fire dampers (Reference ML20245A450) is considered to provide an equivalent standard of acceptability for fire barrier penetration seals to ensure that degradation is detected prior to loss of function.

The basis for continuing additional testing of fire dampers until failures are less than 15 percent is that this is in accordance with the plant's approved fire protection program as documented in ML20149E960 and ML20245A450.

#### References:

1. Letter from USNRC to Wisconsin Electric Power Company, Subj: NRC Receipt of Technical Evaluation of Fire Damper Tests for Point Beach Nuclear Plants, Units 1 and 2 in Response to Inspection Reports No. 50-266/87007 and No. 50-301/87007 (ADAMS Accession No. ML20149E960)
2. NRC Inspection Reports No. 50-266/89006 and No. 50-301/89006 (ADAMS Accession No. ML20245A450)
3. NextEra Energy Point Beach, LLC (NEPB) Letter to NRC L-2021-081 dated April 21, 2021, Subsequent License Renewal Application – Aging Management Supplement 1 (ADAMS Accession No. ML21111A155)

#### Associated SLRA Revisions:

SLRA Appendix A, Section 16.2.2.15, last paragraph (page A-23), is revised as follows:

The results of inspections and functional testing of the in-scope fire protection equipment are collected, analyzed, and summarized by engineers in health reports. The system and program health reporting procedures identify adverse trends and prescribe preemptive corrective actions to prevent further degradation or future failures. When performance degrades to unacceptable levels, the PBN CAP is utilized to drive improvement. During the inspection of penetration seals and fire damper assemblies, if **more than 15 percent of a type of penetration seal or fire damper assembly have** any sign of abnormal degradation is detected within the sample, the inspection sample size is expanded, in accordance with the approved PBN fire protection program, to include an additional 10 percent of each type of sealed penetration or fire damper assembly **that exceeded the 15 percent threshold.**

SLRA Appendix A, Table 16-3, Commitment No. 19 k) (page A-77), as amended by Reference 3 is revised as follows:



19	Fire Protection (16.2.2.15)	XI.M26	<p>Continue the existing PBN Fire Protection AMP, including enhancement to:</p> <ul style="list-style-type: none"> <li>a) Enhance plant procedures to specify that penetration seals will be inspected for indications of increased hardness, shrinkage and loss of strength,</li> <li>b) Enhance plant procedures to specify that any loss of material to the fire damper assembly is unacceptable,</li> <li>c) Enhance plant procedures to specify that well-sealed and robustly secured components and fully enclosed cable tray covers credited to prevent internal fires from propagating outside of the component, and fire proofing material sprayed onto structural steel will be inspected for loss of material, cracking, and changes to elastomer properties as appropriate,</li> <li>d) Enhance plant procedures to add spalling and scaling to the degradation effects for which masonry block walls are inspected,</li> <li>e) Enhance plant procedures to indicate that personnel performing FP inspections will be qualified to do so,</li> <li>f) Enhance plant procedures to state that at least 10% of each <b>type</b> of seal will be visually inspected every 18 months,</li> <li>g) Enhance plant procedures to include <b>inspecting</b>, monitoring, and trending of oil collection channels, trenches, and skids credited to mitigate the spread of combustible liquids for cracking and loss of material <b>at least once every 18 months. The acceptance criteria will be no indication of cracking or loss of material,</b></li> <li>h) Enhance plant procedures to specify that well-sealed and robustly secured components and fully enclosed cable tray covers credited to prevent internal fires from propagating outside of the component, and fire proofing material sprayed onto structural steel will be inspected every 4.5 years (33% of the population every 18 months),</li> <li>i) Enhance plant procedures to specify that the dry chemical fire extinguishing systems will be inspected semi-annually,</li> <li>j) Enhance plant procedures to specify that the dry chemical fire extinguishing system inspections will be monitored and trended, and</li> <li>k) Enhance plant procedures to require an inspection of an additional 10% of <b>a-each</b> type of seal when more than 15% of <b>that type of seal within</b> the sample population does not meet any acceptance criteria during the 18-month inspection period.</li> </ul>	<p>No later than 6 months prior to the SPEO, i.e.:  PBN1: 04/05/2030  PBN2: 09/08/2032</p>
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SLRA Appendix B, Section B.2.3.15, Program Description subsection, last paragraph on page B-123, is revised as follows:

The results of inspections and functional testing of the in-scope fire protection equipment are collected, analyzed, and summarized by engineers in health reports. The system and program health reporting procedures identify adverse trends and prescribe preemptive corrective actions to prevent further degradation or future failures. When performance degrades to unacceptable levels, the PBN CAP is utilized to drive improvement. During the inspection of penetration seals and fire damper assemblies, if **more than 15 percent of a type of penetration seal or fire damper assembly have** any sign of abnormal degradation ~~is detected within the sample~~, the inspection sample size is expanded, in accordance with the approved PBN fire protection program, to include an additional 10 percent of each type of sealed penetration or fire damper assembly **that exceeded the 15 percent threshold.**

SLRA Appendix B, Section B.2.3.15, Enhancements subsection, portion shown on page B-124, as amended by Reference 3 is revised as follows:

Element Affected	Enhancement
1. Scope of Program 3. Parameters Monitored or Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Enhance plant procedures to specify that penetration seals will be inspected for indications of increased hardness, shrinkage and loss of strength.
1. Scope of Program 3. Parameters Monitored or Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Enhance plant procedures to specify that any loss of material to the fire damper assembly is unacceptable.
1. Scope of Program 3. Parameters Monitored or Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Enhance plant procedures to specify that well-sealed and robustly secured components and fully enclosed cable tray covers credited to prevent internal fires from propagating outside of the component, and fire proofing material sprayed onto structural steel will be inspected for loss of material, cracking, and changes to elastomer properties as appropriate.



Element Affected	Enhancement
1. Scope of Program 3. Parameters Monitored or Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Enhance plant procedures to add spalling and scaling to the degradation effects for which masonry block walls are inspected.
<b>1. Scope of Program</b> <b>3. Parameters Monitored or Inspected</b> <b>4. Detection of Aging Effects</b> 5. Monitoring and Trending <b>6. Acceptance Criteria</b>	Enhance plant procedures to include <b>inspecting</b> , monitoring, and trending of oil collection channels, trenches, and skids credited to mitigate the spread of combustible liquids for cracking and loss of material <b>at least once every 18 months. The acceptance criteria will be no indication of cracking or loss of material.</b>
4. Detection of Aging Effects	Enhance plant procedures to indicate that personnel performing FP inspections will be qualified to do so.
4. Detection of Aging Effects	Enhance plant procedures to state that at least 10 percent of each <b>type</b> of seal will be visually inspected every 18 months.
4. Detection of Aging Effects	Enhance plant procedures to specify that well-sealed and robustly secured components and fully enclosed cable tray covers credited to prevent internal fires from propagating outside of the component, and fire proofing material sprayed onto structural steel will be inspected every 4.5 years (33% of the population every 18 months).
4. Detection of Aging Effects	Enhance plant procedures to specify that the dry chemical fire extinguishing systems will be inspected semi-annually.
5. Monitoring and Trending	Enhance plant procedures to specify that the dry chemical fire extinguishing system inspections will be monitored and trended.
5. Monitoring and Trending 7. Corrective Actions	Enhance plant procedures to require an inspection of an additional 10 percent of a- <b>each</b> type of seal when more than 15 percent of <b>that type of seal within</b> the sample population does not meet any acceptance criteria during the 18-month inspection period.

**Associated Enclosures:**

None.