November 30, 2021

L-2021-224
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 - FIRST ANNUAL UPDATE

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)

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 License Renewal Rule, 10 CFR 54.21(b), requires that each year following submittal of an LRA, and at least 3 months before scheduled completion of the NRC review, an update to the LRA must be submitted that identifies any change to the current licensing basis (CLB) of the facility that materially affects the content of the LRA including the Updated Final Safety Analysis Report Supplement.

In accordance with the License Renewal Rule, NEPB has performed the annual review of PBN Units 1 and 2 CLB changes since SLRA submittal to determine whether any sections of the SLRA were materially affected by these changes. As a result of this annual review, NEPB identified three changes to the PBN Units 1 and 2 CLB materially affecting SLRA content. A description of these changes and the corresponding affected SLRA content revisions are attached.

For ease of reference, the index of attached information is provided on page 3 of this letter. Attachment 2 includes associated revisions to the SLRA (Enclosure 3 Attachment 1 of Reference 1) denoted by ~~strikethrough~~ (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 30th day of November 2021.

Sincerely,

William Maher

Digitally signed by William Maher
DN: cn=William Maher, o=Nuclear, ou=Nuclear Licensing Projects, email=william.maher@fpl.com, c=US
Date: 2021.11.30 10:55:50 -05'00'

William D. Maher
Licensing Director - Nuclear Licensing Projects

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.	Subject
1	Current Licensing Basis (CLB) Changes Affecting the SLRA
2	Affected SLRA Content Revisions

CURRENT LICENSING BASIS (CLB) CHANGES AFFECTING THE SLRA

PBN 1 and 2 CLB Change Item[1]	Screening / Aging Management Review (AMR) Document Affected	SLRA Section Affected
Change 1: The Unit 2 Component Cooling Water (CCW) pumps were replaced and a minimum flow (recirculation) cross connections installed. A new P&ID was created for the cross connected piping and instruments. The SLRA is updated to add a new boundary drawing and a new pump casing material. Strainers and orifices are new component types with new intended functions that are added to the SLRA.	FPLCORP00036-REPT-015	Sections 2.3.3.2 and Table 3.3.2-2
Change 2: As part of the transition to NFPA-805, the Nuclear Safety Capability Assessment (NSCA) and the Non-Power Operation (NPO) analysis were both revised, which affects the SLRA. The SLRA is updated to show that the circulating water (CW) system has a fire protection function, a new CW boundary and drawing, a new component intended function and a new aging effect. The SLRA is updated to add boundary drawing numbers associated with the new components in the condensate (CS) and instrument air (IA) systems, which are added to the SLRA per the NSCA revision. The CW and IA sections of the SLRA are updated, accordingly.	FPLCORP00036-REPT-023 FPLCORP00036-REPT-026 FPLCORP00036-REPT-034	Sections 2.3.3.12, 2.3.3.15, 2.4.2, 3.3.2.1.12, and Table 3.3.2-12
Change 3: Heat trace and insulation was installed around Unit 1 and Unit 2 MFIV Actuator Three Way Valves CS-256A & B and CS-257A & B, which are within SLR scope. The SLRA is updated to add a new component type [valve body (insulated)] and material (aluminum) combination.	FPLCORP00036-REPT-026	Table 3.3.2-15

[1] Excludes change determinations where the SLRA was unaffected although a Screening / AMR document was affected.

As a result of PBN current licensing basis (CLB) changes made during the first SLRA annual update period, SLRA Sections 2.3.3.2, 2.3.3.12, 2.3.3.15, 2.4.2, and 3.3.2.1.12 and Tables 3.3.2-2, 3.3.2-12, and 3.3.2-15 are amended as indicated by the following text deletion (~~strikethrough~~) and text additions (**red underlined font**) revisions.

[Change 1]

2.3.3.2 **Component Cooling Water**

The CC system boundaries are reflected on the SLR boundary drawings listed below. There are differences between these boundaries and the boundaries identified as part of the original PBN license renewal effort due to abandonment of the blowdown evaporator.

PBN Unit 1:
SLR-110E018 Sheet 1SLR-110E018 Sheet 2
SLR-110E018 Sheet 3

PBN Unit 2:
SLR-110E029 Sheet 1
SLR-110E029 Sheet 2
SLR-110E029 Sheet 3
SLR-110E029 Sheet 4

Point Beach Common:
SLR-PBM-230

Table 2.3.3-2

Component Cooling Water System Components Subject to Aging Management Review

Component Type	Component Intended Function(s)
Bolting	Mechanical closure
Flow element	Leakage boundary (spatial) Pressure boundary
Heat exchanger (component cooling)	Heat transfer Pressure boundary
Heat exchanger (pressurizer liquid sample)	Pressure boundary
Heat exchanger (pressurizer steam sample)	Pressure boundary
Heat exchanger (reactor coolant hot leg sample)	Pressure boundary
Heat exchanger (steam generator blowdown sample)	Pressure boundary
Instrument	Pressure boundary
Orifice	**Pressure boundary** **Throttle**

Component Type	Component Intended Function(s)
Piping	Leakage boundary (spatial) Pressure boundary
Piping and piping components	Structural integrity (attached)
Pump casing	Leakage boundary (spatial) Pressure boundary
Steel components adversely affected by boric acid leakage	Leakage boundary (spatial) Pressure boundary
Strainer	**Filter** **Pressure boundary**
Tank (surge)	Pressure boundary
Thermowell	Pressure boundary
Valve body	Leakage boundary (spatial) Pressure boundary

Table 3.3.2-2: Component Cooling Water – Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
Orifice	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Closed Treated Water Systems (B.2.3.12)	VII.C2.A-52	3.3-1, 049	B
Orifice	Throttle	Stainless steel	Treated water (int)	Loss of material	Closed Treated Water Systems (B.2.3.12)	VII.C2.A-52	3.3-1, 049	B
Orifice	Pressure boundary	Stainless steel	Air – indoor uncontrolled (ext)	Cracking	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.E1.AP-209b	3.3-1, 004	A
Orifice	Pressure boundary	Stainless steel	Air – indoor uncontrolled (ext)	Loss of material	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.E1.AP-221b	3.3-1, 006	A
Pump casing	Pressure boundary	Carbon steel	Air – indoor uncontrolled (ext)	Loss of material	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.I.A-77	3.3-1, 078	A
Pump casing	Pressure boundary	Carbon steel	Treated water (int)	Loss of material	Closed Treated Water Systems (B.2.3.12)	VII.C2.AP-202	3.3-1, 045	B
Strainer	Filter	Stainless steel	Treated water (int)	Loss of material	Closed Treated Water Systems (B.2.3.12)	VII.C2.A-52	3.3-1, 049	B
Strainer	Pressure boundary	Stainless steel	Air – indoor uncontrolled (ext)	Cracking	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.E1.AP-209b	3.3-1, 004	A
Strainer	Pressure boundary	Stainless steel	Air – indoor uncontrolled (ext)	Loss of material	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.E1.AP-221b	3.3-1, 006	A
Strainer	Pressure boundary	Stainless steel	Treated water (int)	Loss of material	Closed Treated Water Systems (B.2.3.12)	VII.C2.A-52	3.3-1, 049	B

[Change 2]

2.3.3.12 **Circulating Water**

Description

The circulating water system provides a reliable supply of water from Lake Michigan to condense the steam exhausted from the low-pressure turbines. It is a non-seismic piping system whose primary function is to remove heat from the steam cycle via the main condensers. The principal components of the circulating water system (CW) are the circulating water pumps, traveling screens and screen wash pumps and the associated piping and valves.

The CW system does not perform any safety related functions. ~~The~~ **A** portion of the circulating water system that is in-scope includes the screen wash piping and associated components within the service water pump room. These are in-scope of SLR in accordance with 10 CFR 54.4(a)(2) due to the potential for leakage which could prevent the performance of a service water system safety function. **The forebay inlet MOVs 1/2CW-2 are in-scope because these valves perform a fire protection function.**

The portions of the CW system containing components subject to an AMR include the flood dampers and screen wash piping, valves, and associated components.

Boundary

The SLR boundaries are reflected on the SLR boundary drawings listed below. There are significant differences between these boundaries and the boundaries identified as part of the original PBN license renewal effort due to the addition of flood dampers to the circulating water pump house (CWPH) structure floor. These dampers eliminate the possibility for flooding from the circulating water system to affect safety related service water components. These damper housings are addressed as part of plant structures in Section 2.5.1.2.

The subsequent license renewal boundaries include interfaces with the service water system as can be seen on drawings SLR-M-212, Sheet 1 at G-7 and SLR-M-2212 at A-8. **The forebay inlet MOVs 1/2CW-2 are shown on SLR-M-212, Sheet 2 at G-4 & 7.** The circulating water system also interfaces with the fire water system as can be seen on drawing SLR-M-212, Sheet 2 at C-7.

PBN Unit 1:
SLR-M-212 Sheet 1

System Intended Functions

Safety-related functions (10 CFR 54.4(a)(1)):

None.

Nonsafety-related components that could affect safety-related functions (10 CFR 54.4(a)(2)):

(1) Maintain integrity of nonsafety-related components such that no interaction with safety-related components could prevent satisfactory accomplishment of a safety function.

Fire protection, EQ, PTS, ATWS, and SBO functions (10 CFR 54.4(a)(3)):

(1) Perform a function that demonstrates compliance with the Commission's regulations for fire protection program.

~~None.~~

UFSAR References

10.1

Components Subject to AMR

Table 2.3.3-12 lists the circulating water system component types that require AMR and their associated component intended functions.

Table 3.3.2-12 provides the results of the AMR.

Table 2.3.3-12
Circulating Water System Components Subject to Aging Management Review

Component Type	Component Intended Function(s)
Bolting	Mechanical closure
Piping	Leakage boundary (spatial)
Pump casing	Leakage boundary (spatial)
Valve body	Leakage boundary (spatial) **Pressure boundary**

2.3.3.15 Plant Air

Description

The plant air system for PBN Units 1 and 2 are essentially identical. On this basis, the following discussion applies to both units. This system includes instrument air (IA), service air (SA), and emergency breathing air (EBA) sub-systems. The IA and SA sub-systems supply compressed air throughout the plant. The IA sub-system supplies

dry, oil-free air to various components for the normal operation of both units. The SA sub-system supplies non-dried, oil-free air to those plant services not requiring dry air. The EBA sub-system is no longer credited after implementation of NFPA 805 and therefore not in the scope of SLR.

The IA sub-system consists of two air compressors, air receivers, air dryer units, filters, and air header piping and valves. The air compressors and aftercoolers are cooled by the service water system (SW). Normally one IA compressor is sufficient to supply plant requirements. The instrument air sub-system is normally in continuous operation during normal plant operation and shutdown.

In order to maintain operability on loss of IA, some components use nitrogen bottles, regulators, check valves, and/or air accumulators to maintain pressure at a component for varying periods of time to support or as a backup for the subsequent license renewal component intended function (including air to the pressurizer PORVs, purge supply and exhaust boot seals, main steam isolation valves, main feedwater isolation valves, and auxiliary feedwater discharge and mini-recirc valves).

The in-scope portion of the IA sub-system includes those IA components that support the pressurizer PORVs, the IA containment isolation valves, ~~and~~ the main feed isolation valve operators**, and fire protection**. The compressors, air receivers, and air dryers for IA are not required as the system has sufficient accumulators and tanks to support the system intended functions following loss of the compressors.

The SA sub-system consists of two air compressors, receivers, and the SA header piping and valves. The air compressors and aftercoolers are cooled by the SW system. In addition to supplying normal SA loads, SA is also a backup supply to IA, and a backup supply to the EBA sub-system. Normally one SA compressor is sufficient to supply system demands. The SA sub-system is normally in either continuous or intermittent operation during normal plant operation and shutdown. The portions of the SA system containing components subject to an AMR include the containment isolation valves.

- Auxiliary feedwater
- Containment ventilation

Boundary

The SLR boundaries are reflected on the SLR boundary drawings listed below. SLR-M-209, Sheets 5 and 7 contain containment isolation valves that are included in the containment isolation system (Section 3.2.2.1.4). Boundary changes since the initial license renewal include the addition of the air supplies to the new main feedwater isolation valves to support EPU, the removal of the connection to the charging pump controller and variable drives (this change removed all required components on SLR-M-209, Sheet 8), and the installation of the backup pneumatic supply to the PORVs. Additionally, ~~removal of the EBA system via~~ **due to** plant conversion to NFPA 805 [Ref. 8.18]**, removal of the EBA system from the SLR**

scope ~~removed~~ **deleted** all required components from SLR-M-209 Sheet 13 **and added isolation valves credited in the Nuclear Safety Capability Assessment on SLR-M-209, Sheets 5, 6, 7, 9 and 10**. Other than these changes there are no other significant differences between these boundaries and the boundaries identified as part of the original PBN license renewal effort. Boundaries with other systems include the feedwater system at the feedwater isolation valve actuators on SLR-M-209 Sheet 5 and Sheet 7, the reactor coolant and connected piping system at the PORVs on SLR-M-209 Sheet 11, the auxiliary feedwater system valves on SLR-M-217 Sheet 2, the safety injection system at valve 1/2SI-905 on SLR-110E017 Sheet 1 and SLR-110E035 Sheet 1, and the containment ventilation system at the purge exhaust and supply fan suction boot seals on SLR-PBM-332 and SLR-PBM-2332.

PBN Unit 1:
SLR-110E017 Sheet 1
SLR-PBM-332

PBN Unit 2:
SLR-110E035 Sheet 1
SLR-M-209, Sheet 10
SLR-PBM-2332

PBN Common:
SLR-M-209 Sheet 2
SLR-M-209 Sheet 5
SLR-M-209, Sheet 6
SLR-M-209 Sheet 7
SLR-M-209, Sheet 9
SLR-M-209 Sheet 11
SLR-M-217 Sheet 2

2.4.2 Circulating Water Pumphouse Structure

Boundary

The circulating water pumphouse boundary includes all the structural components that comprise the circulating water pumphouse and forebay. There are no significant differences between the current boundaries and those identified as part of the original PBN license renewal effort.

Structure Intended Functions

Safety-related functions (10 CFR 54.4(a)(1)):

(1) Support and house six service water pumps.

Nonsafety-related functions that could affect safety-related functions (10 CFR 54.4(a)(2)):

(1) Provide nonsafety-related flood barriers.

Fire protection functions (10 CFR 54.4(a)(3)):

(1) Structurally support and house two fire water pumps**,** ~~and~~ a jockey pump**, and the forebay inlet motor-operated valves**.

(2) Provide fire barriers.

UFSAR References

2.5
2.6
2.8
9.6
10.1

Subsequent License Renewal Drawing

The subsequent license renewal drawing for the circulating water pumphouse structure is LR-C-3.

3.3.2.1.12 Circulating Water

Materials

The materials of construction for the circulating water system components are:

- Carbon steel
- Gray cast iron
- Stainless steel

Environments

The circulating water system components are exposed to the following environments:

- Air – indoor uncontrolled
- Raw water

Aging Effects Requiring Management

The following aging effects associated with the circulating water system require management:

- Cracking
- **Long-term loss of material**
- Loss of preload
- Loss of material
- Wall thinning – erosion

Aging Management Programs

The following AMPs manage the aging effects for the circulating water system components:

- Bolting Integrity (B.2.3.9)
- External Surfaces Monitoring of Mechanical Components (B.2.3.23)
- Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.3.25)
- **One-Time Inspection (B.2.3.20)**
- Selective Leaching (B.2.3.21)

Table 3.3.2-12: Circulating Water System – Summary of Aging Management Evaluation								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-2191 Item**	**Table 1 Item**	**Notes**
Bolting	Mechanical closure	Carbon steel	Raw water (ext)	Loss of material	Bolting Integrity (B.2.3.9)	VII.I.A-423	3.3-1, 142	A
Bolting	Mechanical closure	Carbon steel	Raw water (ext)	Loss of preload	Bolting Integrity (B.2.3.9)	VII.I.AP-124	3.3-1, 015	A

Table 3.3.2-12: Circulating Water System – Summary of Aging Management Evaluation								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-2191 Item**	**Table 1 Item**	**Notes**
Valve body	Pressure boundary	Carbon steel	Raw water (ext)	Long-term loss of material	One-Time Inspection (B.2.3.20)	VII.C1.A-532	3.3-1, 193	A
Valve body	Pressure boundary	Carbon steel	Raw water (ext)	Loss of material	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.C1.A-727	3.3-1, 134	E, 2
Valve body	Pressure boundary	Carbon steel	Raw water (int)	Long-term loss of material	One-Time Inspection (B.2.3.20)	VII.C1.A-532	3.3-1, 193	A
Valve body	Pressure boundary	Carbon steel	Raw water (int)	Loss of material Flow blockage	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.3.25)	VII.C1.A-727	3.3-1, 134	A
Valve body	Pressure boundary	Carbon steel	Raw water (int)	Wall thinning – erosion	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.3.25)	VII.C1.A-409	3.3-1, 126	E, 1

Generic Notes

A. Consistent with component, material, environment, aging effect and aging management program listed for NUREG-2191 line item. AMP is consistent with NUREG-2191 AMP description.
E. Consistent with NUREG-2191 material, environment, and aging effect but a different AMP is credited or NUREG-2191 identifies a plant-specific AMP.

Plant Specific Notes

1. The Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.3.25) AMP is enhanced to manage the wall thinning due to erosion aging effect.
2. **The External Surfaces Monitoring of Mechanical Components (B.2.3.23) AMP used to manage loss of material of the submerged forebay inlet motor operated valves.**

[Change 3]

Table 3.3.2-15: Plant Air – Summary of Aging Management Evaluation								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-2191 Item**	**Table 1 Item**	**Notes**
Valve body	Pressure boundary	Aluminum	Air – dry (int)	Loss of material	Compressed Air Monitoring (B.2.3.14)	VII.D.A-764	3.3-1, 235	A
Valve body (insulated)	Pressure boundary	Aluminum	Air – indoor uncontrolled (ext)	Loss of material	External Surfaces Monitoring of Mechanical Components (B.2.3.23)	VII.I.A-774c	3.3-1, 245	A
Valve body (insulated)	Pressure boundary	Aluminum	Air – indoor uncontrolled (ext)	Cracking	External Surfaces Monitoring of Mechanical Components	VII.I.A-762c	3.3-1, 233	A