



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4352

August 3, 2022

Mr. Michael Strobe  
Site Vice President  
NextEra Energy Point Beach, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT – TRIENNIAL FIRE PROTECTION  
INSPECTION REPORT 05000266/2022011 AND 05000301/2022011

Dear Mr. Strobe:

On June 22, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Point Beach Nuclear Plant and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

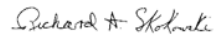
One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement; and the NRC Resident Inspector at Point Beach Nuclear Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; and the NRC Resident Inspector at Point Beach Nuclear Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Skokowski, Richard  
on 08/03/22

Richard A. Skokowski, Chief  
Engineering Branch 3  
Division of Reactor Safety

Docket Nos. 05000266 and 05000301  
License Nos. DPR-24 and DPR-27

Enclosure:  
As stated

cc w/ encl: Distribution via LISTSERV

Letter to Michael Strope from Richard A. Skokowski dated August 3, 2022.

SUBJECT: POINT BEACH NUCLEAR PLANT – TRIENNIAL FIRE PROTECTION  
INSPECTION REPORT 05000266/2022011 AND 05000301/2022011

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**U.S. NUCLEAR REGULATORY COMMISSION**  
**Inspection Report**

Docket Numbers: 05000266 and 05000301

License Numbers: DPR-24 and DPR-27

Report Numbers: 05000266/2022011 and 05000301/2022011

Enterprise Identifier: I-2022-011-0035

Licensee: NextEra Energy Point Beach, LLC

Facility: Point Beach Nuclear Plant

Location: Two Rivers, WI

Inspection Dates: May 23, 2022 to June 22, 2022

Inspectors: A. Dahbur, Senior Reactor Inspector  
M. Domke, Reactor Inspector  
A. Shaikh, Senior Reactor Inspector

Approved By: Richard A. Skokowski, Chief  
Engineering Branch 3  
Division of Reactor Safety

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a triennial fire protection inspection at Point Beach Nuclear Plant, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### List of Findings and Violations

Failure to Evaluate the Impact of PORV Tailpipe Temperature on the New Cable Routing			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000266,05000301/2022011-01 Open/Closed	[H.6] - Design Margins	71111.21N.05
The inspectors identified a finding of very low safety significance (Green) and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to evaluate the increased temperature impact of the Pressurizer Power Operated Relief Valve (PORV) tailpipe on the new cable's routing. Specifically, Modification EC 292093 rerouted the power/control cables associated with the Unit 2 PORV and its associated block isolation valve in conduits through the same opening as the PORV tailpipe discharge line penetration. However, the licensee failed to evaluate for the increased local temperature that the cables would be subjected to when the PORV is open and the tailpipe temperature rises.			

### Additional Tracking Items

None.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71111.21N.05 - Fire Protection Team Inspection (FPTI)

#### Structures, Systems, and Components (SSCs) Credited for Fire Prevention, Detection, Suppression, or Post-Fire Safe Shutdown Review (IP Section 03.01) (4 Samples)

The inspectors verified that components and/or systems will function as required to support the credited functions stated for each sample. Additional inspection considerations are located in the fire hazards analysis (FHA) or safe shutdown analysis (SSA).

- (1) Cable Spreading Room Fire Detectors, Dampers, and Suppression Systems
- (2) Emergency Diesel Generator Rooms, G01 and G02, Fire Detectors, Dampers, and Suppression Systems
- (3) Charging pumps and associated valves for inventory control
- (4) Fire Pumps and Associated Hydraulic Calculation

#### Fire Protection Program Administrative Controls (IP Section 03.02) (1 Sample)

The inspectors verified that the selected control or process is implemented in accordance with the licensee's current licensing basis. If applicable, ensure that the licensee's Fire Protection Program (FPP) contains adequate procedures to implement the selected administrative control. Verify that the selected administrative control meets the requirements of all committed industry standards.

- (1) 805 Monitoring Program

#### Fire Protection Program Changes/Modifications (IP Section 03.03) (1 Sample)

The inspectors verified the following:

- a. Changes to the approved FPP do not constitute an adverse effect on the ability to safely shutdown.
- b. The adequacy of the design modification, if applicable.
- c. Assumptions and performance capability stated in the SSA have not been degraded through changes or modifications.

- d. The FPP documents, such as the Updated Final Safety Analysis Report, fire protection report, FHA, and SSA were updated consistent with the FPP or design change.
- e. Post-fire Safe Shutdown operating procedures, such as abnormal operating procedures, affected by the modification were updated.

(1) EC292093, Reroute Unit 2 PORV/Block Valve Cables for Construction Truss

## INSPECTION RESULTS

Failure to Evaluate the Impact of PORV Tailpipe Temperature on the New Cable Routing			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000266,05000301/2022011-01 Open/Closed	[H.6] - Design Margins	71111.21N.05
<p>The inspectors identified a finding of very low safety significance (Green) and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to evaluate the increased temperature impact of the Pressurizer Power Operated Relief Valve (PORV) tailpipe on the new cable's routing. Specifically, Modification EC 292093 rerouted the power/control cables associated with the Unit 2 PORV and its associated block isolation valve in conduits through the same opening as the PORV tailpipe discharge line penetration. However, the licensee failed to evaluate for the increased local temperature that the cables would be subjected to when the PORV is open and the tailpipe temperature rises.</p> <p><u>Description:</u> License Amendment Request 278 discussed how PORV control and power cables were protected from a postulated falling object. However, the control and power cables for 2RC-431C, T-1 PZR power-operated relief, and 2RC-515, T-1 PZR RC-431C power-operated relief isolation, were routed through conduits 2V431, 2-515, and 2-431. Portions of the cables were routed through areas of the 66' level of containment which were not protected from postulated falling objects. To resolve this issue, the licensee implemented Modification EC 292093 that rerouted the supply and control cables for both 2RC-515 and 2RC-431C from the Pressurizer Cubicle to tray 2VB05 via new conduits located on the 46' level of containment. The new conduits were routed through the same opening in the pressurizer cubicle wall as the PORV tailpipe discharge line penetration located on the 46' elevation.</p> <p>During the inspectors' review of EC 292093, the inspectors noticed that EC 292093 did not evaluate the increased temperature impact of the PORV tailpipe on the portion of the cables routed in the same penetration as the tailpipe when the PORV is open causing the tailpipe to heat-up. Based on the inspectors' concern, the licensee entered this issue into their corrective action program as AR 02429445 and performed a preliminary evaluation for the maximum potential temperature that the cables may be subjected to because of the tailpipe temperature heat-up. The licensee was able to show that for the bounding event/accident, small Loss of Cooling Accident (LOCA), the maximum likely temperature that the tailpipe can reach was 340 degrees-Fahrenheit (F). This maximum tailpipe temperature was bounded by the enveloping test profile for these types of cables. The enveloping test profile used a LOCA test of 340 degrees-F. Therefore, the licensee's preliminary evaluation reasonably determined that the new rerouted cables through the PORV tailpipe discharge line penetration would not become adversely affected by being located adjacent to the pressurizer exhaust piping.</p>			

Corrective Actions: The licensee took an immediate corrective action of performing a temperature analysis to determine that the cables in question would remain functional when the PORV is open and tailpipe temperature rises.

Corrective Action References: AR 02429445

Performance Assessment:

Performance Deficiency: The failure to evaluate the increased temperature impact of the PORV tailpipe on cables routed in the same penetration as the tailpipe was contrary to 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and was a performance deficiency.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to evaluate the increased temperature impact of the tailpipe on cables when the PORV is open did not ensure that it would not cause degradation of the cables and potentially result in the PORV remaining open.

Significance: The inspectors assessed the significance of the finding using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using Exhibit 2, "Mitigating Systems Screening Questions," the finding screened as having very low safety significance (Green) because the finding did not represent a loss of operability or functionality and did not represent an actual loss of safety function of the system or train. Specifically, in response to inspector's concern, the licensee performed a preliminary evaluation and reasonably determined that the cables would remain functional in the event of the PORV open causing the tailpipe to heat-up.

Cross-Cutting Aspect: H.6 - Design Margins: The organization operates and maintains equipment within design margins. Margins are carefully guarded and changed only through a systematic and rigorous process. Special attention is placed on maintaining fission product barriers, defense-in-depth, and safety related equipment. Specifically, the licensee failed to ensure that the new routing still maintained the design margins for the cable qualification.

Enforcement:

Violation: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires in part, that design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.

Contrary to the above, on April 03, 2020, the licensee failed to verify or check the adequacy of design of safety related cables associated with Unit 2 PORV by the performance of design review, the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Specifically, Modification EC 292093 failed to evaluate/verify that the increased temperature of the PORV tailpipe, when the PORV is open, would not impact the new routing of the control and power cables for the Unit 2 PORV 2RC-431C and its associated block isolation valve 2RC-515.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.



## **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report.

- On June 22, 2022, the inspectors presented the triennial fire protection inspection results to Michael Strobe and other members of the licensee staff.

## DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21N.05	Calculations	2002-0003	Service Water System Design Basis	7
		2017-0006	Water Based Suppression System Supply Calculations	5
		2018-0016	Service Water Flow during NFPA 805 Fire Events	0
		WE-100069	Piping Analysis Stress Report, Subsystem 1KB1A, "Fire Protection Sprinkler System in Diesel Generator Room (G01 Room)"	2
	Corrective Action Documents	2428020	Update FPTE 2016-007 & FPTE 2016-008	05/19/2022
	Corrective Action Documents Resulting from Inspection	2429441	Inspect/Replace As Needed, FP Components Upstream of YS-7305B	06/08/2022
		2429445	2022 TFP Inspection EC 292093 Did Not Evaluate Cable Routing Through Pressurizer Shield Wall	06/08/2022
	Drawings	30001260C Sheets 1 - 6	Charging Pumps Control Schematic 125 (150) HP	
		499B466 Sheet 316B	Elementary Wiring Diagram - Charging Pump 1P-2A	08
		684J741 Sheet 2	P&ID Chemical and Volume Control	84
		M-109	Heating and Ventilation Turbine Building Area 3 Plans at Elevation 44' & 60'	21
		M-207 Sheet 1	PID Service Water Point Beach Nuclear Plant Unit 1	81
		M-207 sheet 1A	PID Service Water Point Beach Nuclear Plant Unit 1	40
		M-208 Sheet 4	P&ID Fire Protection Sprinkler System Point Beach Nuclear Plant Unit 1	28
	Engineering Changes	285626	Halon System Upgrades for Reliability	6
		292093	Reroute U2 PORV/Block Valve Cables for Construction Truss	7
		EC 294900	Incorporate Reports 003 (Scoping) and 004 (Screening) into FPTE 2016-007 and FPTE 2016-008	0
	Engineering Evaluations	PRA 8.14	Fire PRA Main Control Room Abandonment MAAP Run Notebook	0
		PRA 8.15	Fire PRA Post-Fire Human Reliability Analysis Notebook	2
	Procedures	0-PT-FP-005	Annual Underground Fire Main Flow Test	08/18/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		AOP-40A	Control Room Abandonment Due to Fire	7
		AOP-40H	Response to Fire in Cable Spreading Room Turbine Hall 26	8
		FP-E-SE-04	System Engineering Walkdowns	12
		NP 7.7.25	PBNP Renewed License Program	11
		OM 3.27	Control of Fire Protection and NFPA 805 Equipment	81
	Work Orders	384946-01	Fire Barrier Inspection per RMP 9057	06/09/2011
		40374688-01	Fire Barrier Inspection per RMP 9057	02/11/2016
		40488220-19	EC285626 Acceptance Testing	12/04/2017
		40563059-12	YS-077305B Install Strainer and 4"x2 1/2" Spool Piece	11/14/2017
		40728194-13	PF-3742/Inspect Valve Internals	06/18/2020
		40774454-01	TS-77, Smoke Detection System Integrity Test	02/18/2022
		40780035-01	TS-78, Halon Fire Suppression Test	04/24/2022
		40786083-01	TS-76, Automatic Sprinkler/Water Spray Surveillance Test	05/12/2022