



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

July 29, 2020

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

SUBJECT: POINT BEACH NUCLEAR PLANT – DESIGN BASIS ASSURANCE
INSPECTION (TEAMS) INSPECTION REPORT 05000266/2020011 AND
05000301/2020011

Dear Mr. Strobe:

On July 10, 2020, 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.

No findings or violations of more than minor significance were identified during this inspection.

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,

/RA/

Karla K. Stoedter, Chief
Engineering Branch 2
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 Strobe from Karla K. Stoedter dated July 29, 2020.

SUBJECT: POINT BEACH NUCLEAR PLANT – DESIGN BASIS ASSURANCE
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05000301/2020011

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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: 05000266/2020011 and 05000301/2020011

Enterprise Identifier: I-2020-011-0027

Licensee: NextEra Energy Point Beach, LLC

Facility: Point Beach Nuclear Plant

Location: Two Rivers, WI

Inspection Dates: June 22, 2020 to July 10, 2020

Inspectors: C. Baron, Contractor
J. Corujo-Sandin, Reactor Inspector
A. Dahbur, Senior Reactor Inspector
M. Domke, Reactor Inspector
B. Jose, Senior Reactor Inspector
E. Sanchez Santiago, Senior Reactor Inspector

Approved By: Karla K. Stoedter, Chief
Engineering Branch 2
Division of Reactor Safety

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a design basis assurance inspection (teams) 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

No findings or violations of more than minor significance were identified.

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.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), regional inspectors were directed to begin telework. Regional based inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. For the inspection documented below portions of the IP were completed remotely as well as on site and all the objections and requirements for completion of the IP were met.

REACTOR SAFETY

71111.21M - Design Bases Assurance Inspection (Teams)

The inspectors evaluated the following components and listed applicable attributes, permanent modifications, and operating experience:

Design Review - Risk-Significant/Low Design Margin Components (IP Section 02.02) (5 Samples)

(1) Station Service Transformer 2X-14

- Material condition and configuration control
- Surveillance and testing procedures
- Electrical rating and loading design
- Grounding requirements
- Maintenance history and effectiveness

(2) Emergency Diesel Generators (EDGs) G-03 and G-04

- Electrical Steady State and Transient Load Flow, Short Circuit and Voltage Drop Calculations
- Surveillance and Testing
- Updated Final Safety Analysis Report
- Technical Specifications
- Overall system health
- Fuel oil capacity
- Emergency refueling capability
- Mission time of EDGs
- Air start system capability

- Technical Specification amendment associated with fuel oil capacity
- EDG testing and acceptance criteria
- Normal and emergency procedures associated with EDG operation

(3) Containment Sump Suction Valves 2SI-HOV-850A and 2SI-MOV-851A

- Minimum Voltage available at the Motor Terminals During Worst Case Degraded Voltage Condition
- Thermal Overload Set-points
- Breaker Coordination
- Vendor Manual
- Updated Final Safety Analysis Report
- Technical Specifications
- Overall system health
- Inservice & Generic Letter 89-10 testing and acceptance criteria
- Weak link analysis
- Pressure lock/thermal binding evaluation
- Generic Letter 89-10 motor operated valve thrust analysis
- Design basis flows and delta pressures
- Normal and emergency operating procedures associated with motor operated valves
- Design and testing of valve interlocks
- Accessibility and timing of local valve operation

(4) 125 VDC Buses D03 and D04

- Short Circuit Calculation
- Voltage Drop Calculation
- Maintenance Work Orders and Surveillance Procedures
- Battery Charger Sizing and Setpoints
- Cable Protection Calculations
- Protective Devices Coordination

(5) Residual Heat Removal Pumps 2P-10A and 2P-10B

- Flow and Head Requirements
- Surveillance and Testing Procedures
- Operating Procedures
- Updated Final Safety Analysis Report
- Technical Specifications
- American Society of Mechanical Engineers (ASME) Code Requirements
- Vendor Manual
- Permanent Modifications
- Corrective Action History
- Past Operability Evaluations
- Calculations for Emergency Core Cooling System Pump Protection

Design Review - Large Early Release Frequency (LERFs) (IP Section 02.02) (1 Sample)

(1) Residual Heat Removal Return Line Isolation Valve 2RH-MOV-720

- Maintenance Work Orders
- Surveillance and Test Work Orders
- Vendor Manual
- ASME Code Requirements
- Updated Final Safety Analysis Report
- Technical Specifications and Bases
- Design Basis Flows and Delta Pressures
- Boric Acid Evaluations
- Corrective Action History
- Motor Stem Thrust Calculation

Modification Review - Permanent Mods (IP Section 02.03) (6 Samples)

- (1) EC-289692, Update Battery Room VAC System Temperature Setpoints
- (2) EC-2622464, Equivalency Needed to Replace the 1D-205 and 2D-205 Batteries, Inter Rack, Inter Tier, and Crossover Cables with 4 3/0 Multi Strand Cables Per Set
- (3) EC-291259, Y16 Breaker Replacement
- (4) EC-273236, Reset Safety Injection Accumulator Pressure and Level Alarm Setpoints to Allow for Wider Operating Bands within Technical Specifications
- (5) EC-259510, Emergency Diesel Generator Air Start Motor Replacement (G-01, G-02, G-03, G-04)
- (6) EC-284675, Generic Safety Issue 191 Unit 1 Modifications

Review of Operating Experience Issues (IP Section 02.06) (2 Samples)

- (1) NRC Information Notice 17-06, Battery and Battery Charger Short-circuit Current Contributions to a Fault on the Direct Current Distribution System
- (2) Regulatory Issue Summary 00-24, Offsite Power Voltage and Grid Reliability due to Industry Deregulation

INSPECTION RESULTS

No findings were identified.

EXIT MEETINGS AND DEBRIEFS

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

- On July 10, 2020, the inspectors presented the design basis assurance inspection (teams) inspection results to Mr. M. Strope, Site Director and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.21M	Calculations	2000-0036 Attachment 4	pH of Post LOCA Sump and Containment Spray	3
		2001-0001	Hydraulic Pressures Associated with SI-850 Valves	1
		2001-0033	Electrical Input Calculation: 345kV to 480V Switchgear Circuits	0
		2003-046	Battery Charger Sizing and Current Limit Setpoint	9
		2004-0002	AC Electrical System Analysis	5
		2005-0007	PBNP Electrical System Transient Analysis	3
		2010-0024	Point Beach EOP Time Setpoints	4
		2014-04473	Internal Flooding Assessment of Emergency Diesel Generator Building	2
		2016-005	125 Vdc Cable Protection	1
		CN-CRA-08-47	Steam Generator Tube Rupture (SGTR) Margin to Overfill Analysis for Point Beach Units 1 and 2 (WEP/WIS) to Support the Extended Power Uprate	1
		N-92-005	125 Vdc Protection Devices Calculation	3
		N-92-086	ECCS Pump Protection	5
		N-93-076	1(2) SI-851A, 851B 1(2) SI-856A, 856B (Group 16) MOV Differential Pressure Calculation	1
		N-93-079	1(2)SI-896A/B and 1(2)SI-870A/B (Group 19) MOV Differential Pressure Calculation	3
		N-94-019	Determination of Conditions for MOV Pressure Locking and Thermal Binding	0
		N-94-142	Emergency Diesel Generator, Gas Turbine and Fire Pump Diesel Engine Fuel Oil Systems	8
		P-89-031	Voltage Drop Across MOV Power Lines	13
		P-90-017	MOV Undervoltage Stem Thrust and Torque	23
		P-94-004	MOV Overload Heater Evaluation	14
		P-94-005	Motor Stem Thrust Calculation for Gate and Globe Valves	11
		P-94-005	Motor Stem Thrust Calculation for Gate and Globe Valves	Minor B
	Corrective Action Documents	1345764	NRC Information Notice 2008-02: Findings Identified During CDBIs	06/20/2008

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		1391503	NRC Information Notice 2010-0011: LHSI Operability in Mode 4	06/23/2010
		1788486	Low Margin on Overcurrent Set Points	07/27/2012
		1788537	Impact to Plant Procedures due to New Revision to Calculation	07/27/2012
		1952942	2-87-2/A06 as Found Target Test Unsatisfactory	05/14/2014
		2196130	2P-10B, RHR Pump Vibration Trend	04/04/2017
		2209496	Change in 2P-10B RHR Pump Vibrations	06/18/2017
		2227317	IN 2017-07 Battery Charger Fault Current Test	04/27/2018
		2239980	Increasing Vibration Trend 2P-10B RHR Pump	12/11/2017
		2244199	2P-10B Pump Suction Pipe Resonance	01/11/2018
		2252938	2P-10B RHR Vibrations Post Coupling Replacement	03/07/2018
		2340495	ODA-3056A Relief Valve Documentation	01/08/2020
		CAP050179	Industry OE - Callaway -Inoperability of Both Offsite Power Sources	09/15/2003
	Corrective Action Documents Resulting from Inspection	02361293	2020 DBAI: SI-850 Electrical Analysis	06/29/2020
		2360746	2020 DBAI Need Review of EOP 1.3 for Both Units	06/23/2020
		2360749	NRC Identified Typo in EOP 1.3 Unit 2	06/23/2020
		2361017	Substandard MOV Design Basis Calculation	06/25/2020
		2361018	DBAI 2020 -EC284675 Valve Quality Level Testing Requirement	06/20/2020
		2361545	Potential for Accelerated RWST Draw-Down	07/01/2020
		2362062	Review EOP-1.4 for Enhancement	07/07/2020
		2362318	No Explicit Design Doc for Local SI-857 Operation	07/09/2020
	Drawings	110E017 Sh 1	P&ID Safety Injection System	60
		110E017 Sh 2	P&ID - Safety Injection System	66
		110E029 Sh 1	P&ID Auxiliary Coolant System Point Beach Nuclear Plant Unit 2	57
		110E035 Sh 1	P&ID Safety Injection System	56
		110E035 Sh 2	P&ID Safety Injection System	60
		541F091 Sh 1	P&ID Reactor Coolant System	58
		541F445 Sh 1	P&ID Reactor Coolant System	52
		541F445 Sh 2	P&ID Reactor Coolant System	34

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		8551-1	Containment Isolation Valve	4
		E-222201	Diesel Generator Building Piping Arrangement	6
		M-219 Sh 1	P&ID Fuel Oil System	51
		M-219 Sh 2	P&ID Fuel Oil System Diesel Generator Building	16
		M-219 Sh 3	P&ID Fuel Oil System Diesel Generator Building	17
	Engineering Changes	257171	Stator Rewind Using Equivalent Materials and Processes by Westinghouse	1
		259510	Emergency Diesel Generator Air Start Motor Replacement (G-01, G-02, G-03, G-04)	0
		262464	Equivalency Needed to Replace the ID-205 Batteries, Inter Rack, Inter Tier and Crossover Cables	0
		273236	Reset SI Accumulator Pressure and Level Alarm Setpoints to Allow for Wider Operating Bands Within Tech Specs	0
		284675	GSI-191 Risk-Informed Unit 1 Modifications; Extend Drain Pan Under Stairway 22, Modify Cavity Drain Line, Convert Debris Interceptors to Flow Diverters	5
		289692	Update Setpoint Document STPT 17.1 Heating and Ventilation System Section 1.13 Battery Room VAC System (VNBI) Actuation Setpoints and Remove Reset Values	0
		290751	Temporary Change in Support of Maintenance Evaluation	0
		291259	Y-16 Breaker Replacement	0
		291434	RHR Pump Suction Piping Grout Penetration Repair	1
		2017-0012	Basis for Recovering/Realigning RHR Following a Mode 4 LOCA	0
	Engineering Evaluations	278719	Basis for Mission Time of Emergency Diesel Generators	0
		EQCK-PRONTO-001	Environmental Qualification (EQ) Binder for Marathon Electric Hydraulic Pump Unit Motor	1
		BG EOP-1.4	Background Document - Transfer to Containment Sump Recirculation High Head Safety Injection	20
	Miscellaneous	CE01175866-01	NRC Information Notice 2010-0011	07/09/2010
		EQMR-PRONTO-MTR	EQ Maintenance Requirements for Hydraulic Pump Unit Motor	0
		IST Program	PBNP Inservice Testing Program 5th Interval	8

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Document		
		NP 8.4.17	PBNP Flooding Program	32
		VTM 00558	Vendor Manual for Containment Sump Isolation Valves	8
		VTM-00176	Basler Electric (Relay)/Westinghouse X-03	18
	Operability Evaluations	000122	Complications with D-09 Charger	2
	Procedures	AOP-22	EDG Load Management	19
		CL 11A G-03	G-03 Diesel Generator Checklist	9
		EOP-1	Loss of Reactor or Secondary Coolant	46
		EOP-1.3	Transfer to Containment Sump Recirculation – Low Head Injection	57
		EOP-1.4	Transfer to Containment Sump Recirculation – High Head Injection	30
		OI 92A	Fuel Oil Ordering, Receipt Sampling, and Offloading	29
		OM 4.3.8	Control of Time Critical and Time Sensitive Operator Actions	16
		OP 3C	Hot Standby to Cold Shutdown Unit 2	17
		RMP 9314	1(2)SI-850A/B Maintenance, Static Test, and Adjustment	18
	Work Orders	315772	Bus Work Inspection	03/14/2011
		368148	2-50G/A52-89 Calibration Ground	03/14/2011
		380449	2-50D/A52-89 Calibration 2A-06 Instantaneous Current Relay	03/20/2011
		40412681	125 Vdc Distribution Panel	03/03/2016
		40430297-01	TS-31, Unit 2 High/Low Head Safety Injection Check Leakage Test	04/09/2017
		40431018-01	IT-04D, RHR Valve Testing for Unit Operation or Shutdown	04/10/2017
		40495025-01	G-03 EDG Operability Test	07/17/2017
		40519260-01	G-04 EDG Operability Test	12/18/2017
		40526137-01	TS-31, Unit 2 High/Low Head Safety Injection Check Leakage Test	10/21/2018
		40544138-01	IT-04D, RHR Valve Testing for Unit Operation or Shutdown	10/23/2018
		40577277-04	Operation of 2P-10B RHR Pump at Test Flow While Adjusting Weights Applied to Suction Piping	03/07/2018
		40635246-01	TS-31, Unit 2 High/Low Head Safety Injection Check	04/02/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Leakage Test	
		40635249-01	IT-04D, RHR Valve Testing for Unit Operation or Shutdown	04/20/2020
		40635309-01	IT-04A, Train A RHR Pump and Valve Tests in Decay Heat Removal Mode	03/11/2020
		40635609-01	IT-536, U2 Cont Sump B Suction Line Leak Test (RFSD)	03/23/2020
		40642212-01	TS-84, G-04 Emergency Diesel Generator Operability Test	12/17/2019
		40651478-01	IT 04 Low Head Safety Injection Pumps and Valves Train A Unit 2	12/10/2019
		40651481-01	IT 45 Train A Safety Injection Valves (Quarterly) Unit 2	12/17/2019
		40664852-01	IT 04 Low Head Safety Injection Pumps and Valves Train A Unit 2	03/11/2020
		40664855-01	IT 45 Train A Safety Injection Valves Train A Unit 2	03/13/2020