



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

February 2, 2021

Mr. Don Moul
Executive Vice President,
Nuclear Division and Chief Nuclear Officer
NextEra Energy Seabrook, LLC
Florida Power & Light Company
Mail Stop: EX/JB
700 Universe Blvd
Juno Beach, FL 33408

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INTEGRATED INSPECTION REPORT
05000443/2020004

Dear Mr. Moul:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. On January 13, 2021, the NRC inspectors discussed the results of this inspection with Mr. Eric McCartney, Site Vice President 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,

X /RA/

Signed by: Brice A. Bickett

Brice A. Bickett, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 05000443
License No. NPF-86

Enclosure:
As stated

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SUBJECT: SEABROOK STATION, UNIT NO. 1 – INTEGRATED INSPECTION REPORT
05000443/2020004 DATED FEBRUARY 2, 2021

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 05000443

License Number: NPF-86

Report Number: 05000443/2020004

Enterprise Identifier: I-2020-004-0014

Licensee: NextEra Energy Seabrook, LLC

Facility: Seabrook Station, Unit No. 1

Location: Seabrook, New Hampshire

Inspection Dates: October 1, 2020 to December 31, 2020

Inspectors: C. Newport, Senior Resident Inspector
T. Daun, Resident Inspector
J. Bream, Reactor Operations Engineer
P. Ott, Operations Engineer
J. Rady, Emergency Preparedness Inspector
S. Wilson, Senior Health Physicist

Approved By: Brice A. Bickett, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Seabrook Station, Unit No. 1, 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

PLANT STATUS

Seabrook Station began the inspection period operating at 100 percent rated thermal power. There were no operational power changes of regulatory significance for the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures in effect at the beginning of the inspection unless otherwise noted. Currently approved inspection procedures 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), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time the resident inspectors performed periodic site visits each week, increasing the amount of time on site as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the inspection procedures.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) During the week of November 16, inspectors evaluated the following systems prior to the onset of reduced temperatures experienced during the winter months: emergency feedwater, main feedwater, spent fuel storage, and water storage

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) 'A' emergency diesel generator during 'B' emergency diesel generator maintenance outage on December 7
- (2) Supplemental emergency power system during 'B' emergency diesel generator maintenance on December 9

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Emergency feedwater pump house (EFP-F-1-A) on November 2
- (2) Spent fuel building (FSB-F-1-A) on November 10
- (3) 'A' train electrical cable tunnel (ET-F-1A-A and ET-F-1B-A) on November 17
- (4) Residual heat removal vault (RHR-F-1B and RHR-F-1D) on December 14
- (5) Primary auxiliary building north end (PAB-F-3A-Z) on December 16

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

- (1) The inspectors reviewed and evaluated the licensed operator annual requalification results for the annual operating exam on November 6

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance of the following activities in the control room:
 - Power reduction and emergency feedwater testing on December 23
 - Control room response to alarms during routine daily evolutions on December 5 and 21

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator annual requalification exams in the simulator on October 5

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components remain capable of performing their intended function:

- (1) Inspection of external containment concrete in accordance with the Structures Monitoring Program on November 23

- (2) Rod control maintenance rule functional failure and a(1) action plans on November 24

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) Elevated risk during 345kV bus 2 maintenance on November 18
- (2) 'B' emergency diesel generator major maintenance outage on November 30

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (5 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) FLEX 405kW generator air flow damper failure (AR02375606) on November 16
- (2) Containment enclosure concrete expansion calculational error (AR02276197) on November 24
- (3) 'A' emergency feedwater pump critical oil samples (AR02376681) on December 2
- (4) EDE-I-1E vital inverter rectifier drive board failure (AR02366099) on December 14
- (5) 'B' emergency diesel generator local synch switch contact failure (AR02378354) on December 16

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Replacement of SMB-000 "Cam Style" torque switches with new "C Style" torque switches in safety related motor operated valves

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) 'B' train safety injection maintenance and testing on November 15
- (2) 'B' train service water cooling tower recirculation valve SW-V-27 diagnostic testing and maintenance on November 19
- (3) 'B' main feedwater pump digital controller reboot on December 1
- (4) 'B' emergency diesel generator major maintenance outage on December 3
- (5) Containment isolation valve MS-V-394 maintenance and testing on December 23

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) 1-ED-12-A battery discharge test on November 17
- (2) 'A' train solid state protection system testing on November 18

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) 30kW FLEX diesel generator functional testing on November 10

71114.02 - Alert and Notification System Testing

Inspection Review (IP Section 02.01-02.04) (1 Sample)

- (1) The inspectors evaluated NextEra's maintenance and testing of the Seabrook Station alert and notification system from December 7-10, 2020, for the period April 1, 2019 through November 30, 2020

71114.03 - Emergency Response Organization Staffing and Augmentation System

Inspection Review (IP Section 02.01-02.02) (1 Sample)

- (1) The inspectors evaluated the readiness of NextEra's emergency preparedness organization from December 7-10, 2020

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated the following submitted Emergency Action Level and Emergency Plan changes:
 - CRC# 2326, ER 3.2, Operational Support Center Operations, Revision 56
 - CRC# 2327, ER 3.1, Technical Support Center Operations, Revision 68
 - CRC# 2337, SSREP, Seabrook Station Radiological Emergency Plan, Revision 76
 - CRC# 2341, ER 3.3, Emergency Operations Facility Operations, Revision 65

This evaluation does not constitute NRC approval.

71114.05 - Maintenance of Emergency Preparedness

Inspection Review (IP Section 02.01 - 02.11) (1 Sample)

- (1) The inspectors evaluated the maintenance of the emergency preparedness program from December 7-10, 2020, for the period April 1, 2019 through November 30, 2020

SAFEGUARDS

71130.09 - Security Plan Changes

The inspectors evaluated the security plan changes through completion of the following procedure elements:

Review Security Plan Changes (IP Section 02.01) (1 Sample)

- (1) Since the last NRC inspection of this program area, Security Plan Revision 24 was implemented based on your determination, in accordance with 10 CFR 50.54(p)(2), that the changes resulted in no decrease in safeguards effectiveness of the security plan, and that the revised security plan changed continues to meet the requirements of 10 CFR 73.55(b). The inspectors conducted a review of the security plan changes to evaluate for potential decrease in safeguards effectiveness of the security plan. However, this review does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) For the period April 1, 2019 through September 30, 2020

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) For the period April 1, 2019 through September 30, 2020

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) For the period April 1, 2019 through September 30, 2020

MS05: Safety System Functional Failures (IP Section 02.04) (1 Sample)

- (1) For the period October 1, 2019 through September 30, 2020

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) For the period October 1, 2019 through September 30, 2020

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) For the period October 1, 2019 through September 30, 2020

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) For the period July 1, 2019 through September 30, 2020

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual
Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample
(IP Section 02.16) (1 Sample)

- (1) For the period July 1, 2019 through September 30, 2020

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends that might be indicative of a more significant safety issue

Annual Follow-up of Selected Issues (IP Section 02.03) (2 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Evaluation of Agastat relay performance issues associated with failed setpoint testing (AR02345369)
- (2) Negative trend identified with supplemental emergency power system coolant leakage (AR02366099)

INSPECTION RESULTS

Observation: Agastat Relay Setpoint Testing Failures	71152
<p>The inspectors performed a review of safety related Agastat relays that failed set point testing which have resulted in repeated operability determinations, critical equipment out of service time, and elevated online risk. The inspectors reviewed NextEra's evaluations related to the set point testing failure trend, implemented corrective actions, and relay preventive maintenance tolerances and frequency.</p> <p>The inspectors determined that NextEra's actions to trend relay preventive maintenance data and utilize trend data for input to preventive maintenance frequency changes have been appropriate for the circumstances and reasonable.</p>	
Observation: Negative Trend Identified with Supplemental Emergency Power System Coolant Leakage	71152
<p>The inspectors performed a review of a negative trend of glycol coolant leakage associated with the 'B' supplemental emergency power system diesel generator. A slowly degrading trend and reduced margin to the low-pressure trip setpoint was identified by NextEra personnel during routine system monitoring and entered into the corrective action program. After being unable to determine the precise cause of the slowly lowering pressure, NextEra personnel consulted with the system vendor and developed a work plan to replace the pressure sensing switch and install additional high-fidelity sensing equipment. The</p>	

additional data provided by this equipment will then be analyzed to generate additional corrective actions as necessary.

The inspectors determined that NextEra's actions to identify and address the decreasing supplemental emergency power system coolant pressure trend have been appropriate for the circumstances and reasonable.

Observation: Semiannual Trend Review

71152

The inspectors reviewed NextEra's corrective action program for trends that might be indicative of more significant safety issues. The inspectors reviewed condition reports, level one assessments, system health reports, and control room/panel deficiencies. In particular, the inspectors evaluated the operator challenges program including an audit of control room deficiencies, control board notifications, and operator workarounds.

Based on the overall results of the semiannual trend review, the inspectors determined that issues were appropriately evaluated by NextEra staff for potential trends and resolved within the scope of the corrective action program and other requisite procedures.

EXIT MEETINGS AND DEBRIEFS

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

- On December 10, 2020, the inspectors presented the emergency preparedness program inspection results to Mr. Ken Browne, Safety Assurance and Learning Site Director and other members of the licensee staff.
- On January 13, 2021, the inspectors presented the integrated inspection results to Mr. Eric McCartney, Site Vice President and other members of the licensee staff.

THIRD PARTY REVIEWS

Inspectors reviewed Institute on Nuclear Power Operations reports that were issued during the inspection period.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71114.02	Miscellaneous	Design Report	NextEra Energy Seabrook Alert and Notification System Design Report	January 31, 2014
71114.03	Miscellaneous		Seabrook Station On-Shift Staffing Analysis Report	Revision 1
71114.04	Procedures	EP-AA-100-1007	Evaluation of Changes to the Emergency Plan, Supporting Documents and Equipment (10CFR50.54(Q))	Revision 9
71114.05	Corrective Action Documents Resulting from Inspection	AR 02377644		
	Procedures	SM 7.28	Seabrook Equipment Important to Emergency Response	Revision 7