UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 29, 2019

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy Seabrook, LLC
Mail Stop: EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT NO. 160 RE: MEASUREMENT AND ASSESSMENT FREQUENCY FOR TECHNICAL SPECIFICATION 6.7.6.L, "CONTROL ROOM ENVELOPE HABITABILITY PROGRAM" (EPID L-2018-LLA-0074)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 160 to Renewed Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1. This amendment consists of changes to the technical specifications in response to your application dated March 16, 2018.

The amendment revises the frequencies for performing the relative pressure measurement and the assessment of the control room envelope boundary required by Technical Specification 6.7.6.l, "Control Room Envelope Habitability Program."

A copy of the related safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

Justin C. Poole, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:
1. Amendment No. 160 to NPF-86
2. Safety Evaluation

cc: Listserv

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WASHINGTON, D.C. 20555-0001

NEXTERA ENERGY SEABROOK, LLC, ET AL.*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

# AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 160
Renewed License No. NPF-86

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment filed by NextEra Energy Seabrook, LLC, et al. (the licensee), dated March 16, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

*NextEra Energy Seabrook, LLC, is authorized to act as agent for the: Hudson Light & Power Department, Massachusetts Municipal Wholesale Electric Company, and Taunton Municipal Lighting Plant and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-86 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 160, are incorporated into the Renewed Facility Operating License No. NPF-86. NextEra Energy Seabrook, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating License
and Technical Specifications

Date of Issuance: March 29, 2019

ATTACHMENT TO LICENSE AMENDMENT NO. 160

SEABROOK STATION, UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace the following page of Renewed Facility Operating License No. NPF-86 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

| Remove | Insert |
|---|---|
| 3 | 3 |

Replace the following page of the Appendix A, Technical Specifications, with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

| Remove | Insert |
|---|---|
| 6-14a | 6-14a |

(3) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

(4) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(5) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(6) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility authorized herein.

(7) DELETED

A. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

NextEra Energy Seabrook, LLC, is authorized to operate the facility at reactor core power levels not in excess of 3648 megawatts thermal (100% of rated power).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 160, are incorporated into the Renewed Facility Operating License No. NPF-86. NextEra Energy Seabrook, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

PROCEDURES AND PROGRAMS

6.7.6 (Continued)

l. Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Makeup Air and Filtration System (CREMAFS), CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

a. The definition of the CRE and the CRE boundary.

b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.

c. Requirements for (i) determining the unfiltered air in-leakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREMAFS, operating at a flow rate of less than or equal to 600 CFM at a Frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.

UNITED STATES
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WASHINGTON, D.C. 20555-0001

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# RELATED TO AMENDMENT NO. 160 TO

# RENEWED FACILITY OPERATING LICENSE NO. NPF-86

# NEXTERA ENERGY SEABROOK, LLC

# SEABROOK STATION, UNIT NO. 1

# DOCKET NO. 50-443

## 1.0 INTRODUCTION

By letter dated March 16, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18079A058), NextEra Energy Seabrook, LLC (the licensee) submitted License Amendment Request No. 18-01, requesting changes to the technical specifications (TSs) for Seabrook Station, Unit No. 1 (Seabrook). Specifically, the licensee proposed to revise the frequencies for performing the relative pressure measurement and the assessment of the control room envelope (CRE) boundary required by TS 6.7.6.l, "Control Room Envelope Habitability Program."

## 2.0 REGULATORY EVALUATION

### 2.1 System Description

The systems and components associated with the affected measurements and assessments are described in Section 2.1, "System Design and Operation," of the license amendment request, as follows:

> The control room complex houses the controls to operate the plant safely under normal conditions and maintain it in a safe condition under all postulated accident conditions. The control room occupies the entire 75 foot level of the control building, and all controls, equipment and materials to which the control room operator would require access during an emergency are contained within this envelope except for the makeup air intakes' manual isolation valves.
>
> The structural design of the control room complex together with its supporting systems will ensure access and occupancy under accident conditions without occupants receiving radiation exposures in excess of five rem total effective dose equivalent for the duration of the accident. The control room complex is maintained at a positive pressure with respect to outside and the adjacent cable spreading room. This positive pressure prevents the infiltration of hazardous

contaminants. The control room envelope boundary is designed and maintained so that unfiltered air in-leakage is limited to less than or equal to 150 cfm during the emergency mode of operation. Redundant air conditioning systems are provided to ensure that the control room atmosphere is maintained within acceptable temperature and humidity limits for equipment operability and personnel comfort.

The control room ventilation system, which includes redundant emergency makeup air and filtration subsystems, will prevent the buildup of airborne particulates and radioactive iodines within the control room complex during an accident. Two remote air intakes (east and west) are provided to furnish makeup air to the control room complex. During normal operations, makeup air is drawn from both remote intakes and delivered to the control room complex by one of the two redundant normal makeup air fans. Under emergency conditions, makeup air is drawn from both remote air intakes and delivered to the control room complex by two fully redundant emergency filtration system fans. One hundred percent of the makeup air passes through a pre-filter, heater, and a HEPA-Carbon-HEPA filter configuration prior to discharging into the control room HVAC equipment room.

## 2.2 Proposed Technical Specification Changes

The licensee proposed changing the measurement and assessment frequencies in item d in TS 6.7.6.l from "18 months on a STAGGERED TEST BASIS" to "36 months on a STAGGERED TEST BASIS," as shown below (with deletions in strike-through and additions in bold).

> d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREMAFS, operating at a flow rate of less than or equal to 600 CFM at a Frequency of ~~18~~ **36** months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the ~~18~~ **36** month assessment of the CRE boundary.

## 2.3 Regulatory Requirements and Guidance

The following are the regulatory requirements and guidance that the U.S. Nuclear Regulatory Commission (NRC or the Commission) staff considered in its review of the license amendment request.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," establishes the regulatory requirements related to the content of TSs.

Section 50.36(c)(3) of 10 CFR states, in part, that surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

Section 50.36(c)(5) of 10 CFR states, in part, that the TSs will include provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner.

NUREG-1431, Revision 4, Volume 1, "Standard Technical Specifications, Westinghouse Plants" (ADAMS Accession No. ML12100A222), is the current NRC guidance document for format and content of TSs for Westinghouse plants. The format and content of the Seabrook TSs follow previous guidance in NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (STSs) (ADAMS Accession No. ML102590431).

## 3.0 TECHNICAL EVALUATION

TS 3.7.6.1 specifies the operability requirements for the control room emergency makeup air and filtration system (CREMAFS). Surveillance Requirement 4.7.6.1.g requires performing CRE unfiltered air in-leakage testing in accordance with the Control Room Envelope Habitability Program.

TS 6.7.6.l establishes the requirements for the Control Room Envelope Habitability Program. Among other requirements, the program requires determining CRE unfiltered air in-leakage and assessing CRE habitability at the frequencies specified in Regulatory Guide (RG) 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," dated May 2003 (ADAMS Accession No. ML031490664). Element d of the program currently requires measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREMAFS, operating at a flow rate of less than or equal to 600 cfm at a frequency of 18 months on a STAGGERED TEST BASIS. Element d further requires that the results shall be trended and used as part of the 18-month assessment of the CRE boundary.

TS 6.7.6.l was based on the STS Control Room Envelope Habitability Program in NUREG-1431. In NUREG-1431, Section 1.1, "Definitions," STAGGERED TEST BASIS is defined as:

> A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.

Seabrook TS Definition 1.37 for STAGGERED TEST BASIS differs from that in NUREG-1431 and states:

a. A test schedule for n systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into n equal subintervals, and

b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

The licensee is required to apply its definition of STAGGERED TEST BASIS to TS 6.7.6.l, which has the effect of requiring a relative pressure test every 9 months using one train of the control room emergency filtration system with the test completed for both trains every 18 months, which is twice as frequent as was intended in NUREG-1431.

The licensee stated that the proposed changes would align the frequency of the CRE relative pressure test with NUREG-1431 and eliminate unnecessary testing. The licensee further justified the proposed changes by stating:

> Regulatory Guide (RG) 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," establishes performance-based frequencies for CRE testing. Specifically, Figure 1 in the RG, Periodic Testing and Assessment Schedule, shows that assessments are performed three years following a successful CRE in-leakage test. Consistent with RG 1.197 and the proposed frequency for the CRE boundary relative pressure test, this change also revises the frequency associated with the assessment of the CRE boundary to 36 months. The proposed frequency is more frequent than the six-year control room in-leakage test and ensures that significant degradation of the boundary will not go undetected between CRE in-leakage determinations.

The NRC staff reviewed the proposed changes, the differences between NUREG-1431 and the Seabrook TSs, and the licensee's justifications for the proposed changes. The NRC staff determined that the proposed changes will allow testing to be less frequent than the current requirement at Seabrook, but the testing frequency will align with that intended in NUREG-1431. The NRC staff also determined that TS 6.7.6.l will continue to assure operation of the facility in a safe manner. Therefore, the TS, as modified by the proposed changes, will continue to meet the regulatory requirements of 10 CFR 50.36(c)(3) and (5) and are acceptable.

## 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Hampshire State and Commonwealth of Massachusetts officials were notified of the proposed issuance of the amendment on March 13, 2019. The officials had no comments.

## 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on July 3, 2018 (83 FR 31186). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the

amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Hamm

Date: March 29, 2019

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT NO. 160 RE: MEASUREMENT AND ASSESSMENT FREQUENCY FOR TECHNICAL SPECIFICATION 6.7.6.L, "CONTROL ROOM ENVELOPE HABITABILITY PROGRAM" (EPID L-2018-LLA-0074) DATED MARCH 29, 2019

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| DATE | 03/12/2019 | 03/08/2019 | 11/16/2019 | 03/13/2019 |
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