



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

April 23, 2013

Mr. Kevin Walsh, Site Vice President  
c/o Michael O'Keefe  
Seabrook Station  
NextEra Energy Seabrook, LLC  
P.O. Box 300  
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:  
ADDITION OF ACTION STATEMENT TO LIMITING CONDITION FOR  
OPERATION 3.6.5.1, "CONTAINMENT ENCLOSURE EMERGENCY AIR  
CLEANUP SYSTEM" (TAC NO. ME3988)

Dear Mr. Walsh:

The Commission has issued the enclosed Amendment No. 136 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 14, 2010, as supplemented by letters dated August 24, 2010, September 16, 2011, March 15, 2012, July 2, 2012, and January 31, 2013.

The amendment changes TS Surveillance Requirement (SR) 4.6.5.1.d.4 so that it will demonstrate integrity of the Containment Enclosure Building rather than operability of the Containment Enclosure Emergency Air Cleanup System. The amendment relocates SR 4.6.5.1.d.4 with modifications to new SR 4.6.5.2.b. The amendment adds a Note and Actions to TS 3.6.5.2. Additionally, the amendment makes some minor wording changes, deletes a definition, and removes a moot footnote.

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

Sincerely,

  
John G. Lamb, Senior Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:

1. Amendment No. 136 to NPF-86
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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

NEXTERA ENERGY SEABROOK, LLC, ET AL.\*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 136  
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 May 14, 2010, as supplemented by letters dated August 24, 2010, September 16, 2011, March 15, 2012, July 2, 2012, and January 31, 2013, 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 Light 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 Facility Operating License No. NPF-86 is hereby amended to read as follows:

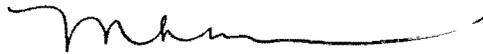
- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 136, and the Environmental Protection Plan contained in Appendix B are incorporated into the Facility 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 30 days. Implementation of the amendment shall include development of written procedures that describe compensatory measures to be taken in the event of entry into the proposed new action for two inoperable trains of the Containment Enclosure Emergency Air Cleanup System due to an inoperable Containment Enclosure Boundary.

FOR THE NUCLEAR REGULATORY COMMISSION



Meena Khanna, Chief  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the License and  
Technical Specifications

Date of Issuance: April 23, 2013

ATTACHMENT TO LICENSE AMENDMENT NO. 136

FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace the following page of 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  
3

Insert  
3

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove  
i  
vii  
1-6  
3/4 6-21  
3/4 6-22  
3/4 6-23  
3/4 6-24  
3/4 6-25

Insert  
i  
vii  
1-6  
3/4 6-21  
3/4 6-22  
3/4 6-23  
3/4 6-24  
-----

- (4) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR 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 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;
- (6) NextEra Energy Seabrook, LLC, pursuant to the Act and 10 CFR 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; and
- (7) DELETED

C. This 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; 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, as revised through Amendment No. 136\*, and the Environmental Protection Plan contained in Appendix B are incorporated into the Facility License No. NPF-86. NextEra Energy Seabrook, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) License Transfer to FPL Energy Seabrook, LLC\*\*

- a. On the closing date(s) of the transfer of any ownership interests in Seabrook Station covered by the Order approving the transfer, FPL Energy Seabrook, LLC\*\*, shall obtain from each respective transferring owner all of the accumulated decommissioning trust funds for the facility, and ensure the deposit of such funds and additional funds, if necessary, into a decommissioning trust or trusts for Seabrook Station established by FPL Energy Seabrook, LLC\*\*, such that the amount of such funds deposited meets or exceeds the amount required under 10 CFR 50.75 with respect to the interest in Seabrook Station FPL Energy Seabrook, LLC\*\*, acquires on such dates(s).

\* Implemented

\*\* On April 16, 2009, the name "FPL Energy Seabrook, LLC" was changed to "NextEra Energy Seabrook, LLC".

## INDEX

### 1.0 DEFINITIONS

<u>SECTION</u>	<u>PAGE</u>
1.1	ACTION..... 1-1
1.2	ACTUATION LOGIC TEST..... 1-1
1.3	ANALOG CHANNEL OPERATIONAL TEST..... 1-1
1.4	AXIAL FLUX DIFFERENCE..... 1-1
1.5	CHANNEL CALIBRATION..... 1-1
1.6	CHANNEL CHECK..... 1-1
1.7	CONTAINMENT INTEGRITY..... 1-2
1.8	CONTROLLED LEAKAGE..... 1-2
1.9	CORE ALTERATION..... 1-2
1.10	CORE OPERATING LIMITS REPORT..... 1-2
1.11	DIGITAL CHANNEL OPERATIONAL TEST..... 1-2
1.12	DOSE EQUIVALENT I-131..... 1-3
1.13	$\bar{E}$ – AVERAGE DISINTEGRATION ENERGY..... 1-3
1.14	ENGINEERED SAFETY FEATURES RESPONSE TIME..... 1-3
1.15	FREQUENCY NOTATION..... 1-3
1.16	GASEOUS RADWASTE TREATMENT SYSTEM..... 1-3
1.17	IDENTIFIED LEAKAGE..... 1-3
1.18	MASTER RELAY TEST..... 1-4
1.19	MEMBER(S) OF THE PUBLIC..... 1-4
1.20	OFFSITE DOSE CALCULATION MANUAL..... 1-4
1.21	OPERABLE – OPERABILITY..... 1-4
1.22	OPERATIONAL MODE – MODE..... 1-4
1.23	PHYSICS TESTS..... 1-4
1.24	PRESSURE BOUNDARY LEAKAGE..... 1-4
1.25	PROCESS CONTROL PROGRAM..... 1-5
1.26	PURGE – PURGING..... 1-5
1.27	QUADRANT POWER TILT RADIO..... 1-5
1.28	RATED THERMAL POWER..... 1-5
1.29	REACTOR TRIP SYSTEM RESPONSE TIME..... 1-5
1.30	REPORTABLE EVENT..... 1-5
1.31	NOT USED..... 1-5
1.32	SHUTDOWN MARGIN..... 1-6
1.33	SITE BOUNDARY..... 1-6
1.34	SLAVE RELAY TEST..... 1-6
1.35	(NOT USED)..... 1-6
1.36	SOURCE CHECK..... 1-6
1.37	STAGGERED TEST BASIS..... 1-6
1.38	THERMAL POWER..... 1-6
1.39	TRIP ACTUATING DEVICE OPERATIONAL TEST..... 1-6
1.40	UNIDENTIFIED LEAKAGE..... 1-7
1.41	UNRESTRICTED AREA..... 1-7
1.42	(NOT USED)..... 1-7
1.43	VENTING..... 1-7
TABLE 1.1	FREQUENCY NOTATION..... 1-8
TABLE 1.2	OPERATIONAL MODES..... 1-8

## INDEX

### LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
Containment Air Locks.....	3/4 6-7
Internal Pressure.....	3/4 6-9
Air Temperature.....	3/4 6-10
Containment Vessel Structural Integrity.....	3/4 6-11
Containment Ventilation System.....	3/4 6-12
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS	
Containment Spray System.....	3/4 6-14
Spray Additive System.....	3/4 6-15
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	3/4 6-16
3/4.6.4 COMBUSTIBLE GAS CONTROL	
(THIS SPECIFICATION NUMBER IS NOT USED).....	3/4 6-18
(THIS SPECIFICATION NUMBER IS NOT USED).....	3/4 6-19
Hydrogen Mixing System.....	3/4 6-20
3/4.6.5 CONTAINMENT ENCLOSURE BUILDING	
Containment Enclosure Emergency Air Cleanup System.....	3/4 6-21
Containment Enclosure Building Integrity.....	3/4 6-23
Containment Enclosure Building Structural Integrity.....	3/4 6-24
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	
Safety Valves.....	3/4 7-1
TABLE 3.7-1 MAXIMUM ALLOWABLE POWER RANGE NEUTRON FLUX HIGH SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES DURING FOUR LOOP OPERATIONS.....	3/4 7-2
TABLE 3.7-2 STEAM LINE SAFETY VALVES PER LOOP.....	3/4 7-2
Auxiliary Feedwater System.....	3/4 7-3
Condensate Storage Tank.....	3/4 7-6
Specific Activity.....	3/4 7-7
TABLE 4.7-1 (THIS TABLE NUMBER IS NOT USED).....	3/4 7-8
Main Steam Line Isolation Valves.....	3/4 7-9
Atmospheric Relief Valves.....	3/4 7-10

## DEFINITIONS

---

### REPORTABLE EVENT

1.30 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

1.31 (NOT USED)

### SHUTDOWN MARGIN

1.32 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

### SITE BOUNDARY

1.33 The SITE BOUNDARY shall be that line beyond which the land is neither owned, nor leased, nor otherwise controlled by the licensee.

### SLAVE RELAY TEST

1.34 A SLAVE RELAY TEST shall be the energization of each slave relay and verification of OPERABILITY of each relay. The SLAVE RELAY TEST shall include a continuity check, as a minimum, of associated testable actuation devices.

1.35 (NOT USED)

### SOURCE CHECK

1.36 A SOURCE CHECK shall be the qualitative assesement of channel response when the channel sensor is exposed to a source of increased radioactivity.

## CONTAINMENT SYSTEMS

### 3/4.6.5 CONTAINMENT ENCLOSURE BUILDING

#### CONTAINMENT ENCLOSURE EMERGENCY AIR CLEANUP SYSTEM

##### LIMITING CONDITION FOR OPERATION

---

3.6.5.1 Two independent Containment Enclosure Emergency Air Cleanup System trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Containment Enclosure Emergency Air Cleanup System train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

---

4.6.5.1 Each Containment Enclosure Emergency Air Cleanup System train shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes;
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
  - 1) Verifying that the cleanup system satisfies the in-place penetration leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978\*, and the system flow rate is 2100 cfm  $\pm$  10%;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, by showing a methyl iodide penetration of less than or

\* ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Rev. 2, March 1978.

## CONTAINMENT SYSTEMS

### CONTAINMENT ENCLOSURE BUILDING

### CONTAINMENT ENCLOSURE EMERGENCY AIR CLEANUP SYSTEM

### SURVEILLANCE REQUIREMENTS

---

#### 4.6.5.1b.2 (Continued)

equal to 5% when tested at a temperature of 30°C, at a relative humidity of 95% and a face velocity of 46 fpm in accordance with ASTM-D3803-1989; and

- 3) Verifying a system flow rate of 2100 cfm  $\pm$  10% during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, by showing a methyl iodide penetration of less than or equal to 5% when tested at a temperature of 30°C, at a relative humidity of 95% and a face velocity of 46 fpm in accordance with ASTM-D3803-1989.
- d. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the system at a flow rate of 2100 cfm  $\pm$  10%,
  - 2) Verifying that the system starts on a Safety Injection test signal, and
  - 3) Verifying that the filter cross connect valves can be manually opened.
- e. After each complete or partial replacement of a high efficiency particulate air (HEPA) filter bank, by verifying that the cleanup system satisfies the in-place penetration leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a dioctyl phthalate (DOP) test aerosol while operating the system at a flow rate of 2100 cfm  $\pm$  10%; and
- f. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 2100 cfm  $\pm$  10%.

## CONTAINMENT SYSTEMS

### CONTAINMENT ENCLOSURE BUILDING

### CONTAINMENT ENCLOSURE BUILDING INTEGRITY

### LIMITING CONDITION FOR OPERATION

---

3.6.5.2 Containment enclosure building integrity shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

-----NOTE-----

Entry into ACTION is not required when the access opening is being used for normal transit entry or exit.

---

ACTION:

- a. Without containment enclosure building integrity for reasons other than Action b, restore containment enclosure building integrity within 12 hours. Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. Without containment enclosure building integrity when equipment ingress and egress requires the access door to be maintained open, verify a dedicated individual, who is in continuous communication with the control room, is available to rapidly close the door; and restore containment enclosure building integrity within 24 hours. Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

### SURVEILLANCE REQUIREMENTS

---

4.6.5.2 Containment enclosure building integrity shall be demonstrated:

- a. At least once per 31 days by verifying that the door in each access opening is closed except when the access opening is being used for normal transit entry and exit, and
- b. At least once per 36 months on a STAGGERED TEST BASIS by verifying the containment enclosure building can be maintained at a negative pressure greater than or equal to 0.25 inch water gauge by one train of the containment enclosure emergency air cleanup system within 4 minutes after a start signal.

## CONTAINMENT SYSTEMS

### CONTAINMENT ENCLOSURE BUILDING

#### CONTAINMENT ENCLOSURE BUILDING STRUCTURAL INTEGRITY

##### LIMITING CONDITION FOR OPERATION

---

3.6.5.3 The structural integrity of the containment enclosure building shall be maintained at a level consistent with the Containment Leakage Rate Testing Program.

APPLICABILITY: MODES 1, 2, 3, and 4.

##### ACTION:

With the structural integrity of the containment enclosure building not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

---

4.6.5.3 The structural integrity of the containment enclosure building shall be determined in accordance with the Containment Leakage Rate Testing Program. Any abnormal degradation of the containment enclosure building detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.8.2 within 15 days.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 136

TO FACILITY OPERATING LICENSE NO. NPF-86

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

1.0 INTRODUCTION

By letter dated May 14, 2010,<sup>1</sup> as supplemented by letters<sup>2</sup> dated August 24, 2010, September 16, 2011, March 15, 2012, July 2, 2012, and January 31, 2013, NextEra Energy Seabrook, LLC (NextEra or the licensee) submitted license amendment request (LAR) LAR 10-02 to revise the technical specifications (TSs) for Seabrook Station, Unit No. 1 (Seabrook). The proposed amendment would change TS Surveillance Requirement (SR) 4.6.5.1.d.4 so that it will demonstrate integrity of the Containment Enclosure Building (CEB) rather than operability of the Containment Enclosure Emergency Air Cleanup System (CEEACS). The amendment relocates SR 4.6.5.1.d.4 with modifications to new SR 4.6.5.2.b. The amendment adds a Note and Actions to TS 3.6.5.2. Additionally, the amendment makes some minor wording changes, deletes a definition, and removes a moot footnote.

The application was initially noticed in the *Federal Register* on July 13, 2010 (75 FR 39979). The notice was reissued in its entirety to include a revised description of the amendment request on April 17, 2012 (77 FR 22815). The notice was reissued again in its entirety to include a revised description of the amendment request on July 24, 2012 (77 FR 43378). The supplement dated January 31, 2013, provided additional information that clarified the application, did not expand the scope of the application as noticed, and did not change the Nuclear Regulatory Commission staff's proposed no significant hazards consideration determination as published in the *Federal Register* (FR) July 24, 2012.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission's (NRC's or the Commission's) regulatory requirements related to the content of the TSs are set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." This regulation requires that the TS include limiting conditions for operation (LCOs), which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML101390041.

<sup>2</sup> ADAMS Accession Nos. ML102380100, ML11266A041, ML120790307, ML12195A006 and ML13037A089, respectively.

10 CFR 50, Appendix A, requires an applicant for a license to develop a set of principal design criteria that establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety. Appendix A provides a set of General Design Criteria (GDC) that establish minimum requirements for the principal design criteria. The appendix further identifies there will be some plants for which fulfillment of the GDC is not necessary. Any departure from the GDC must be identified and justified.

GDC 16, "Containment design," states that reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.

GDC 19, "Control room," states that a control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents (LOCAs). Adequate radiation protection shall be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident.

GDC 41, "Containment atmosphere cleanup," states that systems to control fission products, hydrogen, oxygen, and other substances which may be released into the reactor containment shall be provided as necessary to reduce, consistent with the functioning of other associated systems, the concentration and quality of fission products released to the environment following postulated accidents, and to control the concentration of hydrogen or oxygen and other substances in the containment atmosphere following postulated accidents to assure that containment integrity is maintained. Each system shall have suitable redundancy in components and features, and suitable interconnections, leak detection, isolation, and containment capabilities to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) its safety function can be accomplished, assuming a single failure.

GDC 60, "Control of releases of radioactive materials to the environment," states that the nuclear power unit design shall include means to control suitably the release of radioactive materials in gaseous and liquid effluents and to handle radioactive solid wastes produced during normal reactor operation, including anticipated operational occurrences (AOOs).

GDC 64, "Monitoring radioactivity releases," states that means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of LOCA fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including AOOs, and from postulated accidents.

10 CFR 50.67, "Accident source term," establishes limits on the accident source term used in design basis radiological consequence analyses with regard to radiation exposure to members of the public and to control room occupants.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Description of Seabrook Containment Systems

The Seabrook containment is a reinforced concrete dry structure, which is designed to function at atmospheric conditions. It consists of an upright cylinder topped with a hemispherical dome, supported on a reinforced concrete foundation mat. A welded steel liner plate, anchored to the inside face of the containment, serves as a leak tight membrane.

Located outside the Containment Building and having a similar geometry is the CEB. This structure provides leak protection for the containment and protects it from certain loads. The containment enclosure completely encloses the containment, forming a second barrier to the uncontrolled escape of radioactive sources in the event of an accident. The space between the Containment and the Enclosure Building is maintained at a slight negative pressure during accident conditions. The containment enclosure includes the emergency core cooling systems (ECCS) equipment vaults and the containment penetration area.

The CEEACS has two functions: (1) to produce a negative pressure post accident in the annular, cylindrical volume between the containment and the containment enclosure, and (2) to collect any hazardous materials that might leak into these areas from the containment structure or equipment and systems located within the enclosure, so that they may be disposed of in a controlled manner.

#### 3.2 Administrative Revision of LCO 3.6.5.1 Wording

Currently, LCO 3.6.5.1 states:

3.6.5.1 Two independent Containment Enclosure Emergency Air Cleanup Systems shall be OPERABLE.

The licensee has proposed to modify the wording of LCO 3.6.5.1 as follows:

3.6.5.1 Two independent Containment Enclosure Emergency Air Cleanup System trains shall be OPERABLE.

The licensee proposed an editorial change in TS 3.6.5.1 in which the term "train" is added to the LCO and ACTION in TS 3.6.5.1 in order that reference is made to trains, rather than the systems. The NRC staff accepts the change because it establishes TS that are derived from the analyses in the safety analysis report.

#### 3.3 Deletion of Footnote

The licensee has proposed to delete the footnote associated with LCO 3.6.5.1. The footnote provided a one-time extension of the existing action statement from 7 days for one train of the CEEACS inoperable to 14 days. This one-time extension was only applicable to the action statement entry that occurred on June 4, 2006. Since this footnote is no longer applicable, its removal is appropriate and serves to clarify the TS. The NRC staff finds the proposed change to be acceptable, because it is no longer applicable.

### 3.4 CEEACS SRs Relocation

#### 3.4.1 Licensee Event Report 2010-001

On May 14, 2010 (ADAMS Accession No. ML101390208), NextEra submitted Licensee Event Report (LER) 2010-001 for an event that was discovered on March 17, 2010, regarding CEEACS. For approximately 5 hours on March 15, 2010, and approximately 4 hours on March 17, 2010, a door in the CEB was opened by NextEra to support planned maintenance activities in the charging pump room. The breach in the CEB created by the open door would have prevented both trains of the CEEACS from establishing the minimum required negative pressure in the enclosure. This condition placed the plant in TS 3.0.3, although it was unrecognized by NextEra at that time, and resulted in a loss of safety function for the CEEACS. As determined by NextEra, the causes of the event included lack of programmatic controls to ensure the control room is notified prior to propping open a CEB door, and historical guidance that led the operators to believe that only TS 3.6.5.2, "Containment Enclosure Boundary Integrity," applied when a CEB door was open. NextEra's planned corrective actions were to strengthen an existing program to address opening CEB doors and revise the TS by this LAR.

#### 3.4.2 NRC Integrated Inspection Report 2010-003

By letter dated August 13, 2010 (ADAMS Accession No. ML102250014), the NRC issued Inspection Report 2010-003. The NRC inspectors reviewed LER 2010-001. The NRC inspectors dispositioned the violation identified by NextEra as a non-cited violation (NCV). This NCV had very low safety significance, because the primary containment barrier remained intact, and the CEEACS function could have been restored upon demand by closing the door.

#### 3.4.3 Standard TSs

NRC NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," Revision 4 (ADAMS Accession No. ML102590431), dated fall 1981, included Shield Building Air Cleanup System, and Shield Building Integrity technical specifications. NUREG-0452 established the NRC staff position that the surveillance requirement for verifying the Shield Building Air Cleanup System is capable of establishing a negative pressure relative to atmospheric pressure in the Shield Building is a requirement for operability of TS 3/4.6.8.1, "Shield Building Air Cleanup System," and not TS 3/4.6.8.2, "Shield Building Integrity."

In NUREG-1431, Revision 4, "Standard Technical Specifications - Westinghouse Plants," dated April 2012 (ADAMS Accession No. ML12100A222) (improved STS) the NRC staff recognized that the surveillance requirement for the Shield Building Air Cleanup System to establish the minimum required negative pressure in the Shield Building is a test which demonstrates Shield Building integrity. Therefore, improved STS moved the Shield Building negative pressure test to TS 3.6.8, "Shield Building (Dual and Ice Condenser)," from TS 3.6.13, "Shield Building Air Cleanup System (SBACS) (Dual and Ice Condenser)."

#### 3.4.4 Current Seabrook TSs

Seabrook current TSs were developed using the guidance of NUREG-0452. Consistent with the staff positions in NUREG-0452, Revision 4, the Seabrook TS 3/4.6.5.1, "Containment Enclosure Emergency Air Cleanup System (CEEACS)," contains a surveillance requirement to

verify that a negative pressure can be established in the Containment Enclosure Building for the CEEACS to be operable, but this requirement does not apply to TS 3/4.6.5.2, "Containment Enclosure Building Integrity (CEB)" operability.

Seabrook TS Definition 1.31 states:

CONTAINMENT ENCLOSURE BUILDING INTEGRITY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit,
- b. The Containment Enclosure Emergency Air Cleanup System is OPERABLE, and
- c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

Seabrook TS Definition 1.31, CONTAINMENT ENCLOSURE BUILDING INTEGRITY is used in the limiting condition for operation of TS 3/4.6.5.2, "Containment Enclosure Building Integrity (CEB)," to define Containment Enclosure Building Integrity.

CEEACS TS Surveillance Requirement (SR) 4.6.5.1.d.4 requires verifying each CEEACS system produces a negative pressure of greater than or equal to 0.25 inch Water Gauge in the annulus [this refers to the volume between containment and the Containment Enclosure Building] within 4 minutes after a start signal. Currently, if one CEEACS train is inoperable, the existing TS 3/4.6.5.1 requires the licensee to restore the train to operable status within 7 days or the plant must be in Cold Shutdown within 30 hours. Also, as described in LER 2010-001, a breach in the CEB is created each time a CEB door is open and this breach will prevent both trains of the CEEACS from establishing the SR 4.6.5.1.d.4 minimum required negative pressure in the Enclosure Building. There is no action statement in TS 3/4.6.5.1 for the case where both CEEACS trains are inoperable. In this situation, operation of the plant is governed by LCO 3.0.3, which requires a controlled plant shutdown even though both trains of CEEACS would start and run to produce the airflow to drawdown the annulus.

TS 3/4.6.5.2, Containment Enclosure Building Integrity and TS 3/4.6.5.3, Containment Enclosure Building Structural Integrity, require the integrity and leak tightness of the CEB, respectively. When either of these LCOs are not met, TSs allow 24 hours to restore their respective CEB limits; otherwise a plant shutdown is required.

#### 3.4.5 Proposed Seabrook Technical Specification Changes

NextEra proposed to relocate CEEACS SR 4.6.5.1.d.4 to CEB Integrity TSs as SR 4.6.5.2.b, consistent with improved STS, so that the CEB annulus drawdown surveillance test demonstrates CEB integrity rather than CEEACS operability. Thus, the proposed changes will remove the dependence between LCO 3.6.5.1 and LCO 3.6.5.2 that exists in the current TSs. The result of eliminating the dependence between the two TSs is that inoperability of the CEEACS or the CEB requires entering only the Action of the applicable TS 3.6.5.1 or TS3.6.5.2, respectively.

In addition, NextEra proposed to modify SR 4.6.5.1.d.4 (new SR 4.6.5.2.b) to require testing be performed using one train of CEEACS on an alternate basis:

At least once per 36 months on a STAGGERED TEST BASIS by verifying the containment enclosure building can be maintained at a negative pressure greater than or equal to 0.25 inch Water Gauge by one train of the containment enclosure air cleanup system within 4 minutes after a start signal.

The Seabrook TS defines STAGGERED TEST BASIS as follows:

- 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.

Applying a 36-month frequency on a STAGGERED TEST BASIS to new SR 4.6.5.2.b requires that the test be performed every 18 months using alternating trains of the CEEACS to ensure that either train of the CEEACS is capable of establishing Containment Enclosure Building Integrity.

#### 3.4.6 NRC Review

The Seabrook Updated Safety Evaluation Report (UFSAR), Chapter 6, "Engineered Safety Features," states the following:

One train of the Containment Enclosure Emergency Cleanup System is required to be able to draw down the entire Containment Enclosure Area to a negative differential pressure of 0.25 inch water gauge."

The Seabrook UFSAR also states, "[t]his negative differential pressure has to be established within 8 minutes following a LOCA."

The NRC staff reviewed the proposed change. The proposed SR 4.6.5.2.b verifies that the building can be drawn down to a negative pressure greater than or equal to 0.25 inch Water Gauge using one train of CEEACS within 4 minutes after a start signal. This 4 minute time limit ensures the Containment Enclosure Building negative differential pressure will be within required limits in 8 minutes following a LOCA in accordance with the Seabrook UFSAR. Since the proposed SR 4.6.5.2.b is a CEB boundary integrity test, it does not need to be performed with each CEEACS train during each surveillance frequency. Therefore, SR 4.6.5.2.b requires testing by one CEEACS train on a staggered test basis to ensure that either train can be used to meet the test. The primary purpose of this SR is to demonstrate CEB integrity. The secondary purpose of this SR is to ensure that the CEEACS train used for the test will function as designed. The proposed relocation of the CEB annulus drawdown SR from CEEACS to CEB integrity assures that the necessary quality of TS required safety systems are maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. This change is also consistent with the NRC staff position in NUREG-1431, Revision 4.0 in that NUREG-1431 SRs for ensuring Containment Enclosure Building Integrity are located in

Containment Enclosure Building Integrity TS and SRs for ensuring containment air cleanup system operability are located in the containment air cleanup system TS. Successfully completing proposed SR 4.6.5.2.b will demonstrate that the CEB can be drawn down to the required negative pressure of greater than or equal to 0.25 inch Water Gauge using one train of CEEACS within 4 minutes after a CEEACS start signal. This 4 minutes limit ensures the building has established the required negative differential pressure within 8 minutes following a LOCA in accordance with the Seabrook UFSAR. Therefore, the NRC staff finds the proposed SR 4.6.5.2.b acceptable and meets GDC 16.

Current SR 4.6.5.2 (new SR 4.6.5.2.a) demonstrates CONTAINMENT ENCLOSURE BUILDING INTEGRITY exists, when (a.) Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, (b.) The Containment Enclosure Emergency Air Cleanup System is Operable, and (c.) The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is Operable, at least once per 31 days by verifying that the door in each access opening is closed except when the access opening is being used for normal transit entry and exit.

Proposed SR 4.6.5.2.a also demonstrates the current surveillance requirements to verify access openings are closed, the CEEACS is Operable, and sealing mechanisms associated with each penetration are Operable at the same frequency without relying on the defined term "CONTAINMENT ENCLOSURE BUILDING INTEGRITY." SR 4.6.5.3 also maintains the structural integrity of the CEB. The NRC reviewed the proposed SR 4.6.5.2.a and the proposed removal of definition 1.31 from Seabrook TS by this license amendment request and concludes that since the current Containment Integrity LCO 3.6.5.2 test requirements (SR 4.6.5.2) for demonstrating compliance with the current TS Definition 1.31 are preserved in proposed SR 4.6.5.2.a and SR 4.6.5.3 without reliance on the defined term CONTAINMENT ENCLOSURE BUILDING INTEGRITY, it is acceptable to remove the definition from the proposed TS 3/4.6.5.2 limiting condition for operation and proposed SR 4.6.5.2.a.

### 3.5 Note and Actions of TS 3.6.5.2

In response to the NRC's staff's concern that a 24-hour allowance to restore CEB integrity is not an appropriate limit when performing maintenance on CEB doors, NextEra proposed to revise the Actions of TS 3.6.5.2 to the following:

- a. Without containment enclosure building integrity due to other than (b), restore containment enclosure building integrity within 12 hours. Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. Without containment enclosure building integrity when equipment ingress and egress requires the access door to be maintained open, verify a dedicated individual, who is in continuous communication with the control room, is available to rapidly close the door; and restore containment enclosure building integrity within 24 hours. Otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Action (a) would apply when CEB integrity is not maintained due to reasons other than Action (b). NextEra stated that the duration for completing maintenance involving CEB doors is in the range of approximately 12 hours. The NRC staff considered the limited leakage design of Seabrook containment, the low probability of a design-basis accident occurring during the Action time that results in a release of fission products, and the risks associated with an immediate plant shutdown. The staff notes that 10 CFR 50.67 and the General Design Criteria define design requirements. It is noted that the licensee did not request to revise their design requirements in the license amendment request. The licensee requested to revise its TSs, which are operational restrictions on a plant and include the actions that the staff find acceptable when the plant is not meeting the LCO. Based on engineering judgment, the staff has determined that allowing the licensee 12 hours to perform the action to avoid an unnecessary transient provides reasonable assurance that adequate protection will be maintained. Therefore, the NRC finds Action (a) acceptable.

Action (b) would apply when CEB integrity is not maintained for equipment ingress and egress which requires the access door to be maintained open. Action (b) requires a dedicated individual, who is in continuous communication with the control room, to be available to rapidly close the door. Action (b) requires that CEB integrity be restored within 24 hours. By letter dated January 31, 2013, NextEra stated that:

Proposed Action b provides a 24-hour completion time for the condition in which an operable containment enclosure boundary door is held open to support movement of equipment through the access opening, or routing hoses, cables, etc., through the access opening. This action requires the availability of a dedicated individual with a preplanned method to rapidly close the containment enclosure boundary door in the event of actuation of the CEEACS. The dedicated individual must be stationed at the door and have continuous communications capability with the control room. Hoses and cables running through the access opening must employ a means that allows prompt removal of the obstruction to permit closure of the door without delay.

Based on the requirements in the above paragraph, the limited leakage design of Seabrook containment, the low probability of a design-basis accident occurring during the Action time that results in a release of fission products, and engineering judgment, the NRC staff finds Action (b) acceptable.

The proposed change to TS 3.6.5.2 is revised with the addition of an Action Note that states entry into Action is not required when the access opening is being used for normal transit entry or exit. Seabrook's current CONTAINMENT ENCLOSURE BUILDING INTEGRITY TS Definition 1.31 states, "CONTAINMENT ENCLOSURE BUILDING INTEGRITY shall exist when: (a) Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, (b) The Containment Enclosure Emergency Air Cleanup System is OPERABLE, and (c) The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE." The proposed Action Note is consistent with the existing TS Definition 1.31 that each door in each access opening is closed except when the access opening is being used for normal transit entry and exit. Since TS Definition 1.31 is being deleted (see Section 3.6), the NRC staff finds the addition of the Note acceptable.

### 3.6 Deletion of Definition

Relocating the CEEACS SRs as described in Section 3.4 above, the result is that the dependence between TS 3.6.5.1 and TS 3.6.5.2 is eliminated. As a result of eliminating the dependence, TS Definition 1.31, "Containment Enclosure Building Integrity," requires a change to be consistent with the revised TS. The definition states, in part, that CEB integrity exists when "...The Containment Enclosure Emergency Air cleanup system is Operable...." Operability of the CEEACS has no impact on the integrity of the CEB. Integrity exists regardless of whether the CEEACS is operable when the containment enclosure access doors are closed except during normal transit and when the containment enclosure boundary pressure seals are intact.

The NRC staff has reviewed the proposed deletion of TS Definition 1.31 and the NRC staff finds it acceptable.

### 3.7 Summary

The NRC staff reviewed the proposed changes to relocate SR 4.6.5.1.d.4 with modifications to new SR 4.6.5.2.b, to add a Note and Actions to TS 3.6.5.2, to make some minor wording changes, deletion of a definition, and removal of a moot footnote. Based on the discussion above, the NRC staff finds the proposed changes acceptable.

This amendment applies to the Seabrook license and takes into consideration the Seabrook specific design considerations. Thus, it should not be construed a generic approval for such licensing actions including, but not limited to, a TS Task Force Travelers or a Consolidated Line Item Improvement Process.

## 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Hampshire and Massachusetts State officials were notified of the proposed issuance of the amendment. The State officials provided no comments.

## 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. 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 (75 FR 39979, 77 FR 22815, and 77 FR 43378). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). The amendment also makes editorial and corrections and thus meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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 Contributors: E. Miller  
J. Lamb  
C. Schulten  
D. Duvigneaud

Date: April 23, 2013

April 23, 2013

Mr. Kevin Walsh  
Site Vice President  
c/o Michael O'Keefe  
Seabrook Station  
NextEra Energy Seabrook, LLC  
P.O. Box 300  
Seabrook, NH 03874

**SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE: ADDITION OF ACTION STATEMENT TO LIMITING CONDITION FOR OPERATION 3.6.5.1, "CONTAINMENT ENCLOSURE EMERGENCY AIR CLEANUP SYSTEM" (TAC NO. ME3988)**

Dear Mr. Walsh:

The Commission has issued the enclosed Amendment No. 136 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 14, 2010, as supplemented by letters dated August 24, 2010, September 16, 2011, March 15, 2012, July 2, 2012, and January 31, 2013.

The amendment changes TS Surveillance Requirement (SR) 4.6.5.1.d.4 so that it will demonstrate integrity of the Containment Enclosure Building rather than operability of the Containment Enclosure Emergency Air Cleanup System. The amendment relocates SR 4.6.5.1.d.4 with modifications to new SR 4.6.5.2.b. The amendment adds a Note and Actions to TS 3.6.5.2. Additionally, the amendment makes some minor wording changes, deletes a definition, and removes a moot footnote.

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

Sincerely,

*/ra/*

John G. Lamb, Senior Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures:

1. Amendment No. 136 to NPF-86
2. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:

PUBLIC

RidsNrrDorlDpr Resource

RidsNrrDirsltsb Resource

RidsOgcRp Resource

LPLI-2 R/F

RidsNrrDorlLp1-2 Resource

RidsNrrPMSeabrook Resource

RidsNrrAadb Resource

RidsAcrsAcnw\_MailCTR Resource

RidsRgn1MailCenter Resource

RidsNrrLAABaxter Resource

RidsNrrCvib Resource

ADAMS Accession No.: ML113000063

\*via email

OFFICE	LPL1-2/PM	LPL1-2/LA	SCVB/BC	ITSB/BC	AADB/BC	AADB	SCVB
NAME	JLamb	ABaxter *	RDennig	CSchulten for RElliott	TTate	MBlumberg – Non-Concur	HWalker – Non-Concur
DATE	02/21/13	01/19/12 04/23/13	02/22 /13	02/22/13	03/05/13 /13	04/10/12	04/10/12
OFFICE	OGC (NLO)	LPL1-2/BC	DORL/DD	LPL1-2/PM			
NAME	LSubin	MKhanna	LLund	JLamb			
DATE	04/23/13	03/27 /13 04/23/13	04/23/13	04/23/13			