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

September 11, 2017

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

SUBJECT: SEABROOK STATION, UNIT NO. 1, AND ST. LUCIE PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENTS REGARDING ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE (TSTF) TRAVELER TSTF-522 (CAC NOS. MF9541, MF9542, AND MF9543)

Dear Mr. Nazar:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the following enclosed amendments: Amendment No. 156 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1; Amendment No. 240 to Renewed Facility Operating License No. DPR-67 for the St. Lucie Plant, Unit No. 1; and Amendment No. 191 to Renewed Facility Operating License No. NPF-16 for the St. Lucie Plant, Unit No. 2.

In response to the application dated March 30, 2017, from NextEra Energy Seabrook/Florida Power & Light Company, the amendments revise the Technical Specifications consistent with Technical Specifications Task Force (TSTF) Traveler TSTF-522, Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month."

A copy of the related Safety Evaluation is 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 Nos. 50-443, 50-335, and 50-389

Enclosures:
1. Amendment No.156 to NPF-86
2. Amendment No. 240 to DPR-67
3. Amendment No. 191 to NPF-16
4. Safety Evaluation

cc w/encl.: 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. 156
License No. NPF-86

1. The U.S. 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 30, 2017, 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 Operating License and 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. 156, 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 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 Operating License
and Technical Specifications

Date of Issuance: September 11, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 156

SEABROOK STATION, UNIT NO. 1

FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace page 3 of Facility Operating License No. NPF-86 with the attached page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

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

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| 3/4 7-16a | 3/4 7-16a |
| 3/4 9-13 | 3/4 9-13 |

(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. 156*, 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".

## 3/4.7.6 CONTROL ROOM SUBSYSTEM

### EMERGENCY MAKEUP AIR AND FILTRATION

LIMITING CONDITION FOR OPERATION (Continued)

In MODE 5 or 6, or during movement of irradiated fuel assemblies:

d. With one CREMAFS train inoperable for reasons other than an inoperable CRE boundary, restore the inoperable system to OPERABLE status within 7 days or either immediately initiate and maintain operation of the remaining OPERABLE CREMAFS train in the filtration/recirculation mode or immediately suspend movement of irradiated fuel assemblies.

e. With both CREMAFS trains inoperable, or with the OPERABLE CREMAFS train, required to be in the filtration/recirculation mode by ACTION d., not capable of being powered by an OPERABLE emergency power source, immediately suspend all movement of irradiated fuel assemblies.

f. With one or both CREMAFS trains inoperable due to an inoperable CRE boundary, immediately suspend movement of irradiated fuel assemblies.

SURVEILLANCE REQUIREMENTS

4.7.6.1 Each CREMAFS train shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 continuous minutes with the heaters operating;

REFUELING OPERATIONS

3/4.9.12 FUEL STORAGE BUILDING EMERGENCY AIR CLEANING SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.12 Two independent trains of the Fuel Storage Building Emergency Air Cleaning System shall be OPERABLE whenever irradiated fuel is in the storage pool and shall be OPERABLE with one train operating during fuel movement.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

a. With one train of the Fuel Storage Building Emergency Air Cleaning System inoperable, fuel movement within the storage pool or crane operation with loads over the storage pool may proceed provided the OPERABLE train of the Fuel Storage Building Emergency Air System is capable of being powered from an OPERABLE emergency power source and is in operation and discharging through at least one train of HEPA filters and charcoal adsorbers.

b. With no trains of the Fuel Storage Building Emergency Air Cleaning System OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until at least one train of the Fuel Storage Building Emergency Air Cleaning System is restored to OPERABLE status and is in operation.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The above required trains of the Fuel Storage Building Emergency Air Cleaning System shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 continuous minutes with the heaters operating;

b. In accordance with the Surveillance Frequency Control Program 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:

**UNITED STATES**
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**WASHINGTON, D.C. 20555-0001**

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 240
Renewed License No. DPR-67

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

   A. The application for amendment by Florida Power & Light Company (FPL, the licensee), dated March 30, 2017, 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.

2. Accordingly, the license is amended by changes to the Operating License and Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-67 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 240, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

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 Operating License
and Technical Specifications

Date of Issuance: September 11, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 240

ST. LUCIE PLANT, UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace page 3 of Renewed Facility Operating License No. DPR-67 with the attached page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

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

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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:

A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 3020 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 240, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

Appendix B, the Environmental Protection Plan (Non-Radiological), contains environmental conditions of the renewed license. If significant detrimental effects or evidence of irreversible damage are detected by the monitoring programs required by Appendix B of this license, FPL will provide the Commission with an analysis of the problem and plan of action to be taken subject to Commission approval to eliminate or significantly reduce the detrimental effects or damage.

C. Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on March 28, 2003, describes certain future activities to be completed before the period of extended operation. FPL shall complete these activities no later than March 1, 2016, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on March 28, 2003, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed license. Until that update is complete, FPL may make changes to the programs described in such supplement without prior Commission approval, provided that FPL evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

D. Sustained Core Uncovery Actions

Procedural guidance shall be in place to instruct operators to implement actions that are designed to mitigate a small-break loss-of-coolant accident prior to a calculated time of sustained core uncovery.

## CONTAINMENT SYSTEMS

### 3/4.6.6 SECONDARY CONTAINMENT

### SHIELD BUILDING VENTILATION SYSTEM

### LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent shield building ventilation systems shall be OPERABLE.

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

**ACTION:**

a. With one shield building ventilation system inoperable, restore the inoperable system 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.

| NOTE |
| --- |
| Action not applicable when second shield building ventilation system intentionally made inoperable. |

b. With two shield building ventilation systems inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one shield building ventilation system to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

### SURVEILLANCE REQUIREMENTS

4.6.6.1 Each shield building ventilation system shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 continuous minutes with the heaters on.

b. By performing required shield building ventilation system filter testing in accordance with the Ventilation Filter Testing Program.

c. In accordance with the Surveillance Frequency Control Program by:

1. Verifying that the air flow distribution is uniform within 20% across HEPA filters and charcoal adsorbers when tested in accordance with ASME N510-1989.

2. Verifying that the filtration system starts automatically on a Containment Isolation Signal (CIS).

3. Verifying that the filter cooling makeup air and cross connection valves can be manually opened.

4. Verifying that each system produces a negative pressure of $\geq$ 2.0 inches W.G. in the annulus within 2 minutes after a Containment Isolation Signal (CIS).

**UNITED STATES**
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**WASHINGTON, D.C. 20555-0001**

FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF
THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 191
Renewed License No. NPF-16

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

   A. The application for amendment by Florida Power & Light Company, et al. (FPL, the licensee), dated March 30, 2017, 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.

2. Accordingly, the license is amended by changes to the Operating License and Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. NPF-16 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 191, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

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 II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Operating License
and Technical Specifications

Date of Issuance: September 11, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 191

ST. LUCIE PLANT, UNIT NO. 2

RENEWED FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace page 3 of Renewed Facility Operating License No. NPF-16 with the attached page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Replace the following page of the Appendix A Technical Specifications with the attached pages. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

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neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required.

D. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL 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

E. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, FPL to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission's regulations: 10 CFR Part 20, Section 30.34 of 10 FR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; 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 below:

A. Maximum Power Level

FPL is authorized to operate the facility at steady state reactor core power levels not in excess of 3020 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 191, are hereby incorporated in the renewed license. FPL shall operate the facility in accordance with the Technical Specifications.

## CONTAINMENT SYSTEMS

### 3/4.6.6 SECONDARY CONTAINMENT

### SHIELD BUILDING VENTILATION SYSTEM (SBVS)

### LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent Shield Building Ventilation Systems shall be OPERABLE.

**APPLICABILITY:** At all times in MODES 1, 2, 3, and 4.
In addition, during movement of recently irradiated fuel assemblies or during crane operations with loads over recently irradiated fuel assemblies in the Spent Fuel Storage Pool in MODES 5 and 6.

**ACTION:**

a. With the SBVS inoperable solely due to loss of the SBVS capability to provide design basis filtered air evacuation from the Spent Fuel Pool area, only ACTION-c is required. If the SBVS is inoperable for any other reason, concurrently implement ACTION-b and ACTION-c.

b. (1) With one SBVS inoperable in MODE 1, 2, 3, or 4, restore the inoperable system to OPERABLE status within 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

**NOTE**
Action not applicable when second SBVS intentionally made inoperable.

(2) With both SBVSs inoperable, within 1 hour verify at least one train of containment spray is OPERABLE, and restore at least one SBVS to OPERABLE status within 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. (1) With one SBVS inoperable in any MODE, restore the inoperable system to OPERABLE status within 7 days; otherwise, suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

(2) With both SBVS inoperable in any MODE, immediately suspend movement of recently irradiated fuel assemblies within the Spent Fuel Storage Pool and crane operations with loads over recently irradiated fuel in the Spent Fuel Storage Pool.

### SURVEILLANCE REQUIREMENTS

4.6.6.1 Each Shield Building Ventilation System shall be demonstrated OPERABLE:

a. In accordance with the Surveillance Frequency Control Program by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 continuous minutes with the heaters on.

b. In accordance with the Surveillance Frequency Control Program 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. Performing a visual examination of SBVS in accordance with ASME N510-1989.

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# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. NPF-86

# AMENDMENT NO. 240 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-67

# AMENDMENT NO. 191 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-16

# SEABROOK STATION, UNIT NO. 1

# ST. LUCIE PLANT, UNIT NOS. 1 AND 2

# NEXTERA ENERGY RESOURCES/FLORIDA POWER & LIGHT COMPANY, ET AL.

# DOCKET NOS. 50-443, 50-335, AND 50-389

## 1.0 INTRODUCTION

By letter dated March 30, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17093A688), Florida Power & Light Company and NextEra Energy Seabrook, LLC (together considered the "licensee"), requested changes to the Technical Specifications (TSs) for the Seabrook Station, Unit No. 1 (Seabrook), and the St. Lucie Plant, Unit Nos. 1 and 2 (St. Lucie). Specifically, the licensee requested to adopt U.S. Nuclear Regulatory Commission (NRC or the Commission)-approved Technical Specifications Task Force (TSTF) Improved Standard Technical Specifications (STS) Change Traveler TSTF-522, Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month" (ADAMS Accession No. ML100890316), dated March 30, 2010.

The proposed change would revise surveillance requirements (SRs) that currently require operating the ventilation system for at least 10 continuous hours with the heaters operating at a frequency controlled in accordance with the Surveillance Frequency Control Program (SFCP). The SRs would be changed to require at least 15 continuous minutes of ventilation system operation with the heaters operating at a frequency controlled in accordance with the SFCP.

For Seabrook, changes were proposed for TS 3.7.6, "Control Room Subsytem Emergency Makeup Air and Filtration System," and TS 3.9.12, "Fuel Storage Building Emergency Air Cleaning System." In particular, SRs 4.7.6.1 and 4.9.12, which currently require operating the respective systems for at least 10 continuous hours with heaters operating at a frequency controlled in accordance with the SFCP, would be changed to require at least 15 continuous minutes of ventilation system operation with the heaters operating at a frequency controlled in accordance with the SFCP.

For St. Lucie, changes were proposed for TS 3.6.6.1, "Secondary Containment Shield Building Ventilation System." In particular, SR 4.6.6.1, which currently requires operating the respective systems for at least 10 continuous hours with the heaters on at a frequency controlled in accordance with the SFCP, would be changed to require at least 15 continuous minutes of ventilation system operation with the heaters on at a frequency controlled in accordance with the SFCP.

The licensee stated that the license amendment request is consistent with NRC-approved TSTF-522. The availability of this TS improvement was announced in the *Federal Register* on September 20, 2012 (77 FR 58421), as part of the consolidated line item improvement process.

## 2.0 REGULATORY EVALUATION

One of the reasons air filtration and adsorption systems are required at nuclear power plants is to lower the concentration of airborne radioactive material that may be released from the site to the environment due to a design-basis event. Lowering the concentration of airborne radioactive materials can mitigate doses to plant operators and members of the public in the event of a design-basis event. A typical system consists of ventilation ductwork, fans, dampers, valves, instrumentation, prefilters or demisters, high efficiency particulate air (HEPA) filters, heaters, and activated charcoal adsorbers. These systems are tested by operating the systems and monitoring the response of the overall system, as well as individual components. Laboratory tests of charcoal adsorbers are also performed to ensure the charcoal adsorbs an acceptable amount of radioactive gases.

Current testing requirements for the air filtration and adsorption systems state that the systems should be operated for at least 10 continuous hours with heaters operating at a frequency controlled by the SFCP. These requirements are based on NRC staff guidance for testing air filtration and adsorption systems that has been superseded. New NRC staff guidance states at least 15 continuous minutes of ventilation system operation with heaters operating every 31 days is acceptable for those plants that test ventilation system adsorption at a relative humidity of less than 95 percent. Plants that test ventilation system adsorption at a relative humidity of 95 percent do not require heaters for the ventilation system to perform its specified safety function, and the bracketed phrase, "with heaters operating," is not included in the SRs.

The licensee has proposed revising SRs that currently require operating the ventilation system for at least 10 continuous hours with the heaters operating at a frequency controlled in accordance with the SFCP. The SRs would be changed to require at least 15 continuous minutes of ventilation system operation with the heaters operating at a frequency controlled in accordance with the SFCP.

The regulatory requirements for design and testing of these systems are contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.67; 10 CFR Part 100; and 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criteria 19, 41, 42, 43, and 61.

Regulatory Guide (RG) 1.52, Revision 2, "Design, Testing, and Maintenance Criteria for Post Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants" (ADAMS Accession No. ML003740139), was published in March 1978 to provide guidance and criteria acceptable to the NRC staff for licensees to implement the regulations in 10 CFR Part 50 related to air filtration and adsorption systems.

Regulatory Position 4.d of Revision 2 of RG 1.52 states that, "Each ESF [engineered safety feature] atmosphere cleanup train should be operated at least 10 hours per month, with the heaters on (if so equipped), in order to reduce the buildup of moisture on the adsorbers and HEPA filters." The purpose of this position is to minimize the moisture content in the system and thereby enhance efficiency in the event the system is called upon to perform its

design-basis function. Testing requirements for air filtration and adsorption systems currently require operating the heaters in the respective ventilation and filtering systems for at least 10 continuous hours every 31 days. The current STS Bases explain that operation of heaters for 10 hours would eliminate moisture on the charcoal adsorbers and HEPA filters.

Subsequently, the NRC staff was informed that 10 continuous hours of system operation would dry out the charcoal adsorber for a brief period of time but, following heater de-energization, the level of moisture accumulation in adsorbers would rapidly return to the pre-test level. The NRC staff found this information persuasive and subsequently issued NRC Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999 (ADAMS Accession No. ML082350935), and Errata, dated August 23, 1999 (ADAMS Accession No. ML031110094). GL 99-02 requested licensees to confirm their charcoal testing protocols accurately reflect the adsorber gaseous activity capture capability. GL 99-02 also requested the licensees to account for the effects of moisture accumulation in adsorbers.

Therefore, the NRC staff updated RG 1.52 in June 2001 to include this new information (ADAMS Accession No. ML011710176). RG 1.52, Revision 3, Regulatory Position 6.1 states, "Each ESF atmosphere cleanup train should be operated continuously for at least 15 minutes each month, with the heaters on (if so equipped), to justify the operability of the system and all its components."

One of the reasons for the previous 10-hour requirement for ventilation system operation with the heaters on was to minimize the effects of moisture on the adsorber's ability to capture gaseous activity. However, these effects are already accounted for in the Seabrook SRs 4.7.6.1b, 4.7.6.1c, and 4.9.12.b by performing testing at a relative humidity of 70 percent, and the St. Lucie TS 6.8.4.k, "Ventilation Filter Testing Program (VFTP)," which requires testing charcoal adsorbers in a manner to account for the effects of moisture on the adsorber's ability to capture gaseous activity by performing testing at a relative humidity of 70 percent for Unit No. 1 and 95 percent for Unit No. 2.

The NRC's regulatory requirements related to the content of the TSs are contained in 10 CFR 50.36. The regulations at 10 CFR 50.36 require that the TSs include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls. SRs 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 LCOs will be met.

The NRC's guidance for the format and content of licensee TSs can be found in NUREG-1432, "Standard Technical Specifications – Combustion Engineering Plants."

## 3.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee's proposed change against the applicable regulatory guidance in RG 1.52, Revision 3, guidance in the STS, as modified by TSTF-522, and the regulatory requirements of 10 CFR 50.36.

The NRC staff evaluated the licensee's proposed change against the applicable regulatory guidance in RG 1.52, Revision 3. The proposed change would require at least 15 minutes of system operation with heaters operating. The NRC staff found that the proposed change is consistent with guidance in RG 1.52, Revision 3.

The NRC staff evaluated the licensee's proposed change against the applicable regulatory guidance in the STS, as modified by TSTF-522. The proposed change adopted the TS format and content, to the extent practicable, contained in the changes made to NUREG-1431 by TSTF-522. The NRC staff found that the proposed change is consistent with guidance in the STS, as modified by TSTF-522.

The NRC staff compared the proposed change to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36. The existing SRs provide assurance that the necessary quality of ventilation systems and components will be maintained and that the LCOs will be met. The proposed change reduces the amount of required system operational time from 10 hours to 15 minutes. The 10-hour operational requirement for heaters was based on using the SR to eliminate moisture in the adsorbers and thus ensure the adsorbers would capture gaseous activity. As discussed in Section 2.0 of this safety evaluation, the effects of moisture on the adsorber's ability to capture gaseous activity are accounted for at Seabrook in SRs 4.7.6.1b, 4.7.6.1c, and 4.9.12.b by performing testing at a relative humidity of 70 percent, and at St. Lucie by performing testing at a relative humidity of 70 percent for Unit No. 1 and 95 percent for Unit No. 2, in accordance with TS 6.8.4.k. Since the SRs (4.7.6.1.a and 4.9.12.a for Seabrook, and 4.6.6.1.a for St. Lucie) are no longer relied upon to ensure the effects of moisture on the adsorber's ability to capture gaseous activity are accounted for, the 10-hour heater operational requirement is unnecessary. The NRC staff found that reducing the required minimum system operation time to 15 minutes with heaters operating, consistent with RG 1.52, Revision 3, in conjunction with the existing SRs, is sufficient to justify operability of the system and all its components. The NRC staff found that the proposed SRs meet the regulatory requirements of 10 CFR 50.36 because they provide assurance that the necessary quality of ventilation systems and components will be maintained and that the LCOs will be met. Therefore, the NRC staff finds the proposed change acceptable.

The regulation at 10 CFR 50.36(a)(1) states, in part, "A summary statement of the bases or reasons for such specifications ... shall also be included in the application, but shall not become part of the technical specifications." The licensee may make changes to the TS Bases without prior NRC staff review and approval in accordance with the TS Bases Control Program 6.7.6.j. Accordingly, along with the proposed TS changes, the licensee also submitted TS Bases changes corresponding to the proposed TS changes. The NRC staff determined that the TS Bases changes are consistent with the proposed TS changes and provide the purpose for each requirement in the specification consistent with the Commission's Final Policy Statement on TS Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132).

## 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the NRC staff notified officials from the States of New Hampshire and Florida and the Commonwealth of Massachusetts on August 14, 2017, of the proposed issuance of the amendments. Each official had no comments.

## 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change inspections or SRs. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on May 23, 2017 (82 FR 23627). Accordingly, the amendments meet 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 amendments.

## 6.0 CONCLUSION

Based on the aforementioned considerations, the NRC staff concluded 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Sweat

Date: September 11, 2017

SUBJECT: SEABROOK STATION, UNIT NO. 1, AND ST. LUCIE PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENTS REGARDING ADOPTION OF TECHNICAL SPECIFICATIONS TASK FORCE (TSTF) TRAVELER TSTF-522 (CAC NOS. MF9541, MF9542, AND MF9543) DATED SEPTEMBER 11, 2017

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