



10 CFR 50.90

SBK-L-18013

March 16, 2018

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Seabrook Station
Docket No. 50-443

Subject: License Amendment Request 18-01, Application to Revise Frequencies in the
Control Room Habitability Program

Pursuant to 10 CFR 50.90, NextEra Energy Seabrook, LLC (NextEra) is submitting License Amendment Request (LAR) 18-01 to revise the Seabrook Station Technical Specifications (TS). The proposed change revises the frequencies for performing the relative pressure measurement and the assessment of the control room envelope boundary required by TS 6.7.6.l, Control Room Envelope Habitability Program.

The enclosure to this letter provides NextEra's evaluation of the proposed change. The attachment to the enclosure provides a markup of the TS showing the proposed change. The retyped TS page containing the proposed change will be provided when requested by the NRC Project Manager.

As discussed in the evaluation, the proposed change does not involve a significant hazards consideration pursuant to 10 CFR 50.92, and there are no significant environmental impacts associated with the change.

The Station Operation Review Committee has reviewed the proposed license amendment. In accordance with 10 CFR 50.91(b) (1), a copy of this letter is being forwarded to the designee of the State of New Hampshire.

There are no new or revised commitments made in this submittal.

NextEra requests NRC review and approval of this license amendment request by March 1, 2019 and implementation within 90 days.

Should you have any questions regarding this letter, please contact Mr. Ken Browne, Licensing Manager, at (603) 773-7932.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on March 16, 2018

Sincerely,



Christopher Domingos
Site Director
NextEra Energy Seabrook, LLC

Enclosure: Evaluation of the Proposed Change

cc: NRC Region I Administrator
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Enclosure

NextEra Energy Seabrook's Evaluation of the Proposed Change

Subject: License Amendment Request 18-01, Application to Revise Frequencies in the Control Room
Habitability Program

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Attachment – Markup of the Technical Specifications

Evaluation of the Proposed Change

1.0 SUMMARY DESCRIPTION

NextEra Energy Seabrook, LLC (NextEra) is submitting License Amendment Request (LAR) 18-01 to revise the Seabrook Station Technical Specification (TS). The proposed change revises the frequencies for performing the relative pressure measurement and the assessment of the control room envelope (CRE) boundary required by TS 6.7.6.1, Control Room Envelope Habitability Program.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

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 Current TS Requirements

TS 3.7.6.1, Control Room Subsystem Emergency Makeup Air and Filtration, specifies the operability requirements for the control room emergency makeup air and filtration system (CREMAFS). Surveillance requirement 4.7.6.1.g requires performing control room envelope unfiltered in-leakage testing in accordance with the Control Room Envelope Habitability Program.

Administrative TS 6.7.6.l establishes the requirements for the Control Room Envelope (CRE) 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" [Reference 1].

Element d of the program requires:

- 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 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 18 month assessment of the CRE boundary

2.3 Reason for the Proposed Change

The Seabrook CRE Habitability Program currently requires performing the relative pressure test of the CRE boundary more frequently than required by NUREG-1431, Standard Technical Specifications for Westinghouse Plants [Reference 2]; and Technical Specifications Task Force (TSTF) Traveler 448, Control Room Habitability [Reference 3]. TSTF-448 specified frequencies for the control room boundary relative pressure measurement and for the periodic assessment of the CRE at [18] months on a staggered test basis. (The brackets indicate the value is plant-specific.) The definition of staggered test basis in NUREG-1431, on which TSTF-448 was based, requires performing the control room boundary relative pressure measurement using one train of the control room emergency filtration system every 18 months. However, the definition of staggered test basis in Seabrook TS 1.37 is different from that in NUREG-1431. As a result, a frequency of 18 months on a staggered test basis for Seabrook requires performing the relative pressure measurement using one train of the control room emergency filtration system every nine months. The proposed change will establish a test frequency consistent with TSTF-448 and NUREG-1431.

2.4 Description of the Proposed Change

The proposed change revises item d in TS 6.7.6.l, Control Room Envelope Habitability Program, as show below.

- 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.

3.0 TECHNICAL EVALUATION

Background

TSTF-448, Control Room Habitability, approved in January 2007, revised the Improved Standard Technical Specifications (NUREGs 1430 through 1434) to address inadequacies in the TS surveillance requirements for the control room emergency filtration system. Among other changes, TSTF-448 added to the administrative section of the TS the CRE Habitability Program to ensure control room habitability is maintained.

TSTF-448 discusses that item d in the CRE Habitability Program requires measurement of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation of one train of the control room emergency filtration system at a frequency of 18 months on a staggered test basis. The test data is to be trended and used as part of the assessment of the CRE boundary. The measurement of the differential pressure between the CRE and adjacent areas provides a gross indication of barrier integrity and is useful in monitoring the health of the CRE barrier between performances of in-leakage testing. The usefulness of differential pressure measurements is very limited and the importance of data from these measurements should not be overemphasized. Therefore, the CRE Habitability Program requires measuring differential pressure every 18 months on a staggered test basis, and the results will be trended and compared to positive pressure measurements taken during CRE in-leakage testing. These evaluations will be used as part of an assessment of CRE boundary integrity between CRE boundary in-leakage tests.

Change to Test Frequency

NUREG-1431 defines staggered test basis as "...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." Based on this definition, the CRE Habitability Program would require a relative pressure test every 18 months using one train of the control room emergency filtration system, with the test completed for both trains every 36 months.

Different from NUREG-1431, a staggered test basis for Seabrook consists of:

- 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.

This definition compels more frequent testing by requiring a relative pressure test every nine months using one train of the control room emergency filtration system with the test completed for both trains every 18 months.

The proposed change aligns the frequency of the CRE relative pressure test with NUREG-1431 and TSTF-448 and eliminates unnecessary testing.

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.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

- 10 CFR 50.36, Technical specifications, requires that the TS include administrative control, which are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner.
- 10 CFR 50 Appendix A, General Design Criterion (GDC) 19 requires 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. 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.
- Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," provides guidance on methods acceptable to the staff for determining CRE integrity for the purpose of confirming that the reactor meets GDC-19.

The proposed change is consistent with the above regulatory requirements.

4.2 Precedent

The NRC issued Amendments 205 and 153 to adopt TSTF-448 at St. Lucie in September 2008 [Reference 4], which included the addition of a CRE Habitability Program to the TS. Element d of the St. Lucie CRE Habitability Program requires a CRE relative pressure test at a frequency of 36 months and use of the results of the test in the 36-month assessment of the control room boundary, which is the same as the frequency proposed in this request. In a request for additional information regarding the St. Lucie application, the NRC staff asked for the basis for deviating from the 18-month test frequency found in TSTF-448 for element d in the CRE Habitability Program. The response [Reference 5] explained that the St. Lucie definition of staggered test basis is different from the definition used in the standard TS and TSTF-448; and consequently, for a two-train system, the specified test interval is 36-months, which is equivalent to the frequency invoked in TSTF-448.

Similar to St. Lucie, the proposed change to the Seabrook TS is justified based on the different definitions for staggered test basis in the Seabrook and the standard TS.

4.3 No Significant Hazards Consideration

The proposed change revises the frequencies for performing the relative pressure measurement and the assessment of the control room envelope (CRE) boundary required by Technical Specification (TS) 6.7.6.l, Control Room Envelope Habitability Program.

NextEra has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The TS administrative controls associated with the proposed change to the TS are not initiators of any accidents previously evaluated, so the probability of accidents previously evaluated is unaffected by the proposed changes. The proposed change does not alter the design, function, or operation of any plant structure, system, or component (SSC). The capability of any operable TS-required SSC to perform its specified safety function is not impacted by the proposed change. As a result, the outcomes of accidents previously evaluated are unaffected. Therefore, the proposed changes do not result in a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any previously evaluated?

Response: No

The proposed change does not challenge the integrity or performance of any safety-related systems. No plant equipment is installed or removed, and the changes do not alter the design, physical configuration, or method of operation of any plant SSC. No physical changes are made to the plant, so no new causal mechanisms are introduced. Therefore, the proposed changes to the TS do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in the margin of safety?

Response: No.

The ability of any operable SSC to perform its designated safety function is unaffected by the proposed changes. The proposed changes do not alter any safety analyses assumptions, safety limits, limiting safety system settings, or method of operating the plant. The changes do not adversely affect plant operating margins or the reliability of equipment credited in the safety analyses. With the proposed change, the control room envelope remains capable of performing its safety function. Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Based on the above, NextEra concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly, a finding of “no significant hazards consideration” is justified.

4.4 Conclusion

In conclusion, based on the considerations above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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 general public.

5.0 ENVIRONMENTAL CONSIDERATION

NextEra has evaluated the proposed amendment for environmental considerations. The review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. Regulatory Guide 1.197, “Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors,” May 2003.
2. NUREG-1431, Standard Technical Specifications Westinghouse Plants, Revision 4.0, April 2012.
3. Technical Specifications Task Force Traveler TSTF-448-A, “Control Room Habitability,” Revision 3, January 17, 2017.
4. NRC letter “St. Lucie Plant, Units 1 and 2 – Issuance of Amendments Regarding the Incorporation of Technical Specification Task Force Standard Technical Specification Change Traveler TSTF-448, Revision 3, “Control Room Habitability,” (TAC Nos. MD6174 and MD 6175),” September 30, 2008 (ML082630416).
5. Florida Power & Light Company letter L-2008-108 “Request for Additional Information Response Control Room Habitability TSTF-448 (TAC Nos. MD6174 and MD 6175),” May 20, 2008 (ML0841440106).

Attachment

Markup of the Technical Specifications

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS

6.7.6 (Continued)

I. 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 ~~18~~ months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the ~~18~~ month assessment of the CRE boundary.