



October 27, 2017

10 CFR 50.59(d)(2)
10 CFR 50.71(e)

Docket 50-443

SBK-L-17157

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Seabrook Station

10 CFR 50.59 Report, Revision 18 to the Seabrook Station Updated Final Safety Analysis Report, Revision 15 to Appendix R, "Fire Protection Safe Shutdown Capability," Revision 16 to Appendix A, "Evaluation and Comparison to BTP APCS 9.5-1," and Revision 153 to the Technical Requirements Manual

NextEra Energy Seabrook, LLC (NextEra) encloses the 10 CFR 50.59 Report, Revision 18 to the Seabrook Station Updated Final Safety Analysis Report (UFSAR), Revision 15 to Appendix R, "Fire Protection Safe Shutdown Capability," Revision 16 to Appendix A, "Evaluation and Comparison to BTP APCS 9.5-1," and Revision 153 to the Technical Requirements Manual. The 10 CFR 50.59 Report and the UFSAR are submitted pursuant to the requirements of 10 CFR 50.59(d)(2) and 10 CFR 50.71(e). The 10 CFR 50.59 report covers the period from February 15, 2016 through July 31, 2017. UFSAR Revision 18 incorporates approved and implemented design changes and UFSAR changes identified through July 31, 2017. The incorporated changes to the UFSAR have been reviewed in accordance with 10 CFR 50.59. The reviews determined that these changes did not require prior NRC approval.

The UFSAR is provided in its entirety on CD-ROM in Portable Document Format (PDF). Changes from Revision 17 are indicated by a change in revision number and a vertical line (revision bar) in the margin next to the change. The List of Effective Pages contained within the UFSAR provides a listing of each page and its revision number with a revision bar indicating which pages contain changes. The controlled drawings referenced in the UFSAR are not being provided as they have the potential to contain security-related information. The drawings are available on site for NRC review. Appendix R, Appendix A and the Technical Requirements Manual are also provided on CD-ROM.

IE47
AD06
NRR

The summaries of 10 CFR 50.59 evaluations for design changes incorporated in Revision 18 of the UFSAR are attached as Enclosure 1. No 10 CFR 50.59 evaluations were performed for other activities during the reporting period. Enclosure 2 provides a summary for changes to the UFSAR incorporated using the guidance of NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports."

Enclosure 3 is a listing of UFSAR Change Requests (UFCRs) incorporated in UFSAR Revision 18 during the reporting period. The affected Sections, Tables and Figures are provided for each UFCR. Enclosure 4 contains UFCRs incorporated in Appendix R, Enclosure 5 provides the UFCRs incorporated in Appendix A and Enclosure 6 contains UFCRs incorporated in the Technical Requirements Manual.

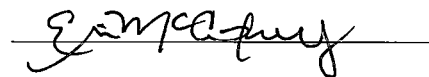
One copy of the UFSAR revision on CD-ROM is being submitted to the Document Control Desk, Washington, DC, along with a copy to the Region I Regional Office and a copy to the Resident Inspector at Seabrook Station.

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

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

Executed on October 27th, 2017

Sincerely,



Eric McCartney
Regional Vice President
NextEra Energy Seabrook, LLC

cc: NRC Region I Administrator
NRC Project Manager, Project Directorate I-2
NRC Senior Resident Inspector

Enclosed CD Listing:

CD 1, 39 files, 556,838,912 bytes
CD 2, 3 files, 50,049,024 bytes

Enclosure 1 to SBK-L-17157

Summary Report of Facility Changes, Tests, and Experiments
Completed in Accordance with the Requirements of 10CFR50.59
for Revision 18 of the Updated Final Safety Analysis Report

Design Change Evaluations

Design changes documented in the following Engineering Changes (EC) were installed during the period covered by the 10 CFR 50.59 Report. A 10 CFR 50.59 evaluation was performed for the ECs identified below. For each of the evaluations performed, there were no activities requiring prior NRC approval identified.

10CFR50.59 Evaluation 15-003

EC 282582, Fukushima Flex Portable Equipment Storage

Summary Description and Purpose: In accordance with Seabrook's response to NRC Order EA-12-049 involving the Fukushima event, EC 282582 provides the design changes necessary to permit storage of FLEX portable equipment within the existing safety related Service Water Pump House (SWPH). The FLEX portable equipment is stored primarily on the largely unused Unit 2 side of the SWPH.

Evaluation Summary: A 10 CFR 50.59 screening was performed and the following three (3) items screened in and required performance of a 50.59 evaluation:

1. A deviation in UFSAR-described methodology for the design of a new tornado missile barrier by Barrier 1 outside of the South wall of the Service Water Pump House (SWPH).
2. A partial impact to the UFSAR-described design function for the SWPH structure to provide tornado missile protection due to structural design changes made to the SWPH alcove per this EC.
3. UFSAR Section 3.5.2 describes the systems, structures and components (SSCs) to be protected from externally generated missiles and describes the Service Water Pump House as a missile-protected structure. The probabilistic method used demonstrates the likelihood a missile will penetrate the missile barrier is less probable than the acceptable level of 10^{-6} per year. However, the design function is adversely affected as it is theoretically possible for a missile to pass the barrier. Therefore, the design function, and the fact that the SWPH is not 100% protected from externally generated missiles is evaluated for adverse effects.

The subject activities use newer and accepted nuclear industry codes and standards to qualify a new type (at Seabrook Station) of missile barrier. The changes in methodology used for the new barrier design are consistent with NEI 96-07 guidance and are thus not departures in methodology. The appropriate qualification of the missile barrier ensures its ability to perform its design function of protecting the CAT I Service Water Pump House, and safety related SSCs contained therein, from design basis tornado generated missiles, and the probabilistic risk evaluation performed demonstrates an acceptably (per the UFSAR established limit of 10^{-6}) low likelihood that a missile would pass the missile barrier at the Southeast corner of the SWPH. There is no potential to increase the probability or consequences of an accident or to impact the

ability to achieve or maintain the safe shutdown of the unit. The evaluation concluded that the modification did not require prior NRC approval.

10CFR50.59 Evaluation 16-002

**EC 287668, Temporary Jumper Across
1-EDE-B-1-A Cell #42**

Summary Description and Purpose: EC 287668 provided the details for the installation of a temporary jumper across a degraded cell (#43) and approves the operation of Vital Battery 1-EDE-B-1-A with only 58 connected cells.

Evaluation Summary: A 10 CFR 50.59 screening was performed and the following item screened in and required performance of a 50.59 evaluation:

1. The design function of the safety-related batteries is to provide the sources of power for direct current load groups, vital control and instrumentation systems, and control and operation of Class 1E and non-Class 1E electrical equipment. A reduction in battery capacity can adversely impact the capability of the battery to perform its intended design function. One impact of the battery capacity reduction from this change is the additional requirement for DC load shedding in order to maintain the capability of the battery in a crosstie configuration for the SBO 4-hour coping duration. Since UFSAR Section 8.3.2.1.d presently states that load shedding is not required to meet the four-hour Station Blackout duration, the proposed activity to revise procedures to include mandatory DC load shedding is considered to adversely affect the method of performing or controlling the battery design function.

The 10 CFR 50.59 evaluation concluded that all Technical Specification parameter values associated with battery 1-EDE-B-1-A are still conservatively bounding for the 58 cell configuration. The evaluation concluded that the modification did not require prior NRC approval.

10CFR50.59 Evaluation 16-004

**EC 287860, Change to OS1023.10, Service
Water Pumphouse Ventilation System
Operation, to Allow Manual Control of the
Pumphouse Ventilation System**

Summary Description and Purpose: OS1023.10, Service Water Pumphouse Ventilation System Operation was revised to include instructions for manual operation of the SWA fans/dampers to enhance ambient cooling of the service water pump motors as required. Operator actions during periods of manual control will ensure that the design basis environmental temperature requirements for the SW pumps are not exceeded.

Evaluation Summary: A 10 CFR 50.59 screening was performed and the following item screened in and required performance of a 50.59 evaluation:

1. The subject procedure revision allows manual operation of the SW pumphouse air handling system in place of automatic operation as required to enhance ambient cooling

of the service water pump motors and as such alters the method of controlling the SW pumphouse air handling system design function.

This change was a temporary substitution of manual action for automatic action to compensate for a degraded condition as discussed in NEI 96-07, Rev. 01. With the SWPH Ventilation system controlled within the normal environmental limits of the Service Environment Chart, there will be no impact on the operation of the service water system, or any other system. All systems, other than SWPH Ventilation will operate as designed and as assumed in the safety analyses. The evaluation concluded that the change did not require prior NRC approval.

Enclosure 2 to SBK-L-17157

Summary of Changes to the Updated Final Safety Analysis Report
Incorporated Using the Guidance of NEI 98-03,
“Guidelines for Updating Final Safety Analysis Reports

The following provides a summary of changes incorporated in Revision 18 of the Updated Final Safety Analysis Report using the guidance contained in NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports." The summaries provide the UFSAR Change Request (UFCR/UCR) number, affected Sections, Tables, or Figures and a description of the change.

**UFCR/UCR
Number** **Affected Sections, Tables, and Figures**

EC287657 **TR8-3.7.9.2**

Description of Change: The change to Section 13.1 is to reflect organizational structure. The change is to organizational titles and reporting relationships that do not change the meaning of or substance of the information presented in Section 13.1.

EC285749 **Table 15C-2 and 15C-2-1**

Description of Change: This change corrects a transcription error related to the units of activity for primary coolant source terms. The changes in this EC were previously approved in UCR 04-030 and under EC12491. EC 12491 was approved based on a license amendment (ML05140453).

EC286100 **Appendix R, MCR 3.1.3.1, 3.1.3.2, 3.1.3.6 and 3.1.3.7**

Description of Change: This EC-UCR corrects cable number editorial errors in the Appendix R report Appendix III Tables. Correction of these errors does not change the meaning or substance of the information presented in the Appendix R Report.

EC288674 **Section 13.1**

Description of Change: The change to Section 13.1 is to reflect organizational structure. The change is to organizational titles and reporting relationships that do not change the meaning of or substance of the information presented in Section 13.1.

EC289033 **Section 9.1**

Description of Change: The change is administrative and replaces a superseded site manual (NALS) with its replacement procedure (MS0534.38).

EC289459 **Section 7.2 and 7.3, Table 1.6-1**

Description of Change: This EC-UCR enhances UFSAR Section 7.2 and 7.3 by adding a reference to Westinghouse WCAP-17867-P-A, "Westinghouse SSPS Board Replacement Licensing Summary Report". This change is editorial.

UFCR/UCR Number	Affected Sections, Tables, and Figures
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<u>EC289480</u>	<u>TR20-3.3.3.2</u>
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Description of Change: This EC-UCR makes an editorial correction to TR20-3.3.3.2 to remove the reference to a movable detector system and restore this TR to what was previously intended by UFCR 13-018.

<u>EC289495</u>	<u>TR22</u>
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Description of Change: This change eliminates references to a 1986 YAEC Memorandum based on obsolete Technical Specification 4.3.3.4. This document is not currently available in the Control Room and is not a controlled document. This memorandum refers to equipment no longer in place and the Technical Requirement was previously enhanced to provide examples of appropriate Channel Check methodology for selected operational situations. This change does not modify the scope of meaning of the existing Technical Requirement.

Enclosure 3 to SBK-L-17157

Listing of UFSAR Change Requests (UFCRs/UCRs) Incorporated in
Updated Final Safety Analysis Report, Revision 18

<u>UFCR/UCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
EC145232	1.2.7,8.1.2,8.3		
EC145363	8.2.1.3.a.2.c		8.3.1
EC282184	3.7(B)	3.10B-1	
EC282186	8.3		
EC282193	8.2		8.2-5, 8.2-10
EC282459	8.3	8.3-1, 8.3-2, 8-3.5	
EC282582	3.5	2.5-20, 3.5-12	
EC282848		8.3-5	
EC284247		6.4-1	
EC285749		15C-2, 15C-2-1	
EC286493	3.8.4.5C		
EC286636	4.2		4.2-14, 4.2-14A, 4.2-14B
EC286975	9.4.13.2		
EC287093		8.3-1, 8.3-2	
EC287937	5.2, 5.3	5.3-3	
EC288194	8.3.1.4a		
EC288380	8.2		
EC288674	13.1		
EC289033	9.1		
EC289071		3.9(B)-27	
EC289099	3.5.1.3.d.1, 3.5.4	3.5-9, 3.5-10	
EC289197		3.9(B)-27, 3.9(B)-28	

<u>UFCR/UCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
EC289290	9.2		
EC289459	7.2, 7.3	1.6-1	

Enclosure 4 to SBK-L-17157

Listing of UFSAR Change Requests (UFCRs) Incorporated in
Appendix R, Fire Protection Safe Shutdown Capability, Revision 15

<u>UFCR/UCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables/ Tabulations</u>	<u>Affected Figures</u>
EC282184	3.2		
EC282459		MCR3.1.3.17	
EC285603	3.2		
EC285692		3.1.3.4	
EC286100		MCR3.1.3.1-19, MCR3.1.3.2-18, MCR3.1.3.2-19, MCR3.1.3.6-9, MCR3.1.3.7-15	
EC287895	3.2, 3.3		
EC289199	3.2		

Enclosure 5 to SBK-L-17157

Listing of UFSAR Change Requests (UFCRs) Incorporated in
Appendix A, Evaluation and Comparison to BTP APCS 9.5-1, Revision 16

Seabrook Station 10CFR50.59 Report, Enclosure 5

<u>UFCR/UCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
EC282184	F.2, Tab 8		
EC282582	F.2, Tab 11		
EC285367	F.2, Tab 8		
EC285407	F.2, Tab 15		
EC285561	F.2, Tab 7		
EC285603	F.2 Tab 5, 8, 10, 12, 17		
EC285783	F.2, Tab 5, 7		

Enclosure 6 to SBK-L-17157

Listing of UFSAR Change Requests (UFCRs) Incorporated in
Revisions 147 through 153 of the Technical Requirements Manual

<u>UFCR/UCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
EC284920	TR13 and 14		
EC286636	COLR		
EC286651	TR23		
EC286697	TR7		
EC287657	TR8		
EC288553	TR24		
EC288950	TR24		
EC288951	TR14		
EC289480	TR20		
EC289495	TR22		

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