



May 5, 2010

Docket 50-443
SBK-L-10066

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

Seabrook Station

10CFR50.59 Report, Revision 13 to the Seabrook Station Updated Final
Safety Analysis Report, Revision 10 to Appendix R, "Fire Protection Safe
Shutdown Capability," Revision 11 to Appendix A, "Evaluation and Comparison
to BTP APCS 9.5-1," and Revision 119 to the Technical Requirements Manual

NextEra Energy Seabrook, LLC (NextEra) encloses the 10CFR50.59 Report, Revision 13 to the Seabrook Station Updated Final Safety Analysis Report (UFSAR), Revision 10 to Appendix R, "Fire Protection Safe Shutdown Capability," Revision 11 to Appendix A, "Evaluation and Comparison to BTP APCS 9.5-1," and Revision 119 to the Technical Requirements Manual. The 10CFR50.59 Report and the UFSAR are submitted pursuant to the requirements of 10CFR50.59(d)(2) and 10CFR50.71(e). The 10CFR50.59 report and the UFSAR report cover the period from October 4, 2008 through April 1, 2010. UFSAR Revision 13 incorporates approved and implemented design changes and UFSAR changes identified through April 1, 2010. The incorporated changes to the UFSAR have been reviewed in accordance with 10CFR50.59. 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 12 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 provided on a separate CD-ROM. Appendix R, Appendix A and the Technical Requirements Manual are also provided on CD-ROM. Summaries of the 10CFR50.59 evaluations for the changes incorporated in Revision 13 of the UFSAR are attached as Enclosure 1. Enclosure 2 provides a summary of the 10CFR50.59 evaluations performed to support facility and procedure changes during the reporting period that were determined to be reportable pursuant to 10CFR50.59(d)(2), but did not require a change to the UFSAR. Enclosure 3 provides a summary for changes to the UFSAR incorporated using the guidance of NEI 98-03, "Guidelines for Updating Final Safety Analysis Reports."

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Enclosure 4 is a listing of UFSAR Change Requests (UFCRs) incorporated in UFSAR Revision 13 during the reporting period. The affected Sections, Tables and Figures are provided for each UFCR. Enclosure 5 contains UFCRs incorporated in Appendix R, Enclosure 6 provides the UFCRs incorporated in Appendix A and Enclosure 7 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. Michael O'Keefe, Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC



Paul Freeman
Site Vice President

cc: S. J. Collins, NRC Region I Administrator
G. E. Miller, NRC Project Manager, Project Directorate I-2
W. J. Raymond, NRC Senior Resident Inspector

Enclosed CD Listing:

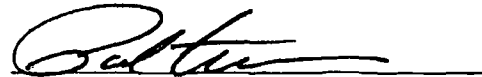
CD 1 of 3, 38 files, 525,633,536 bytes
CD 2 of 3, 19 files, 285,736,960 bytes
CD 3 of 3, 3 files, 48,275,466 bytes

OATH AND AFFIRMATION


I, Paul Freeman, Site Vice President of NextEra Energy Seabrook, LLC, hereby affirm that the information and statements contained within this submittal are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed
before me this

5th day of May, 2010



Paul Freeman
Site Vice President


Notary Public



Enclosure 1 to SBK-L-10066

**Summary Report of Facility Changes, Tests, and Experiments
Completed in Accordance with the Requirements of 10CFR50.59
for Revision 13 of the Updated Final Safety Analysis Report**

Design Change Records/Minor Modifications

Design changes documented in the following Design Change Records (DCR) and on their Design Change Notices (DCN) or Minor Modifications (MMOD) were installed during the period covered by the 10CFR50.59 Report. A 10CFR50.59 evaluation was performed for each MMOD, DCR or DCN. For each of the evaluations performed, there were no activities requiring prior NRC approval identified.

10CFR50.59 Evaluation 08-004

MMOD 08-518, Emergency Diesel Engine High Temperature Protection Circuit Modification (UFCR 08-029)

Summary Description and Purpose: The emergency diesel generator (EDG) control logic was designed to automatically bypass the protection devices that automatically shutdown the EDG on detection of high lube oil temperature, high jacket water coolant temperature, generator over current, and reverse power or loss of generator field when the EDGs receive a safety injection signal. MMOD 08-518 implemented a change to the EDG control logic to also bypass the high jacket coolant temperature and high lube oil temperature protection devices on manual emergency start, safety injection start and loss of offsite power (LOOP) start of the EDGs. The bypassing of these protection devices during the emergency manual and LOOP modes of EDG operation decrease the likelihood that a malfunction of a high temperature switch could result in a spurious diesel generator shutdown, thus improving EDG reliability and ensuring availability to provide emergency AC power when needed.

Evaluation Summary: The 10 CFR 50.59 evaluation performed for this change concluded that no new EDG failure modes or time critical operator actions were introduced as a result of the change. The control room operators will continue to be notified of high temperature conditions on the Main Control Board video alarm system (VAS), operator actions are similar to actions prescribed for other EDG alarms conditions that ensure long term viability of the EDGs and the change does not hinder or delay operation of Appendix A equipment such that there is an adverse affect on the ability to achieve or maintain safe shutdown in the event of a fire. The evaluation determined that prior NRC approval is not required.

10CFR50.59 Evaluation 08-005

DCR 07-005, Digital Turbine Control System Replacement (DEHC) (UFCR 08-039)

Summary Description and Purpose: DCR 07-005 replaced the turbine generator's General Electric (GE) Mark II Electro-Hydraulic Control (EHC) system controls with a GE Mark VIe Digital Electro-Hydraulic Control (DEHC) system utilizing triple modular redundant (TMR) digital configuration of computers, input sensors and output commands where appropriate to control and protect the turbine. Included in the controls and electro-hydraulic interface is a dual TMR trip module that hydraulically trips the turbine on overspeed conditions sensed by either the turbine controller or the independent backup emergency overspeed TMR system. Both systems rely on independent triple speed sensing including sensor monitoring and both will trip the

turbine on loss of or diverging speed signals in their inputs. The design of the new controls provides the plant operators with a graphical interface on a common set of monitors and controls using keyboard and pointing rather than discrete switches and indication. The modification also upgraded the existing digital control system (DCS) used to control the hot well, feed water heater level control and the Condensate Polisher System with new hardware and added software for human-machine interface (HMI) and electronic interfaces. This upgrade added the HMI for the DEHC turbine controls, monitoring of the new turbine vibration system and the existing generator exciter control system to the digital control system. The replacement of the turbine control system improves station reliability by removing numerous single point vulnerabilities and replaced an aging system no longer supported by the original equipment manufacturer.

Evaluation Summary: The 10 CFR 50.59 evaluation performed for the modification determined there is no increase the frequency of occurrence or likelihood of an accident or malfunction nor an increase in the consequences of an accident or malfunction addressed in the UFSAR. All initiators of accidents or events start with valve closure completion. The modification does not alter the operation or timing of the turbine's stop and control valve closure. As the initiators of an accident are not altered, no new or different accidents or malfunctions were identified. Any turbine response to or initiation of changes in steam flow are enveloped by and protected by the reactor controls independent of the turbine actions. No primary fission boundary structures, systems or components (SSCs) were altered by this modification and there is no method of evaluation or parameter used to determine design bases or safety analyses affected by the modification. The evaluation concluded that prior NRC approval is not required.

Miscellaneous Evaluations

The following 10CFR50.59 evaluation was associated with a plant activity conducted during the reporting period covered by this 10CFR50.59 Report. The evaluation concluded that the activity did not require prior NRC approval.

10CFR50.59 Evaluation 09-001 Risk Informed ISI of Class 2 Main Steam and Feedwater Break Exclusion Region (UFCR 07-060)

Summary Description and Purpose: UFCR 07-060 revised UFSAR Section 6.6.8, Augmented In-Service Inspection to Protect Against Postulated Piping Failures, to allow the use of risk informed technology in determining the number of augmented piping inspections in the break exclusion region (BRE) using the methodology of Electric Power Research Institute (EPRI) Technical Report 1006937.

Evaluation Summary: A 10 CFR 50.59 Evaluation was performed to address a change in methodology used to determine the number of augmented piping inspections required to be performed. The evaluation concluded that the activity implements an NRC approved alternative methodology. The methodology of EPRI Technical Report 1006937 was applied within the limitations of the NRC safety evaluation incorporated into the report, therefore prior NRC approval is not required.

Enclosure 2 to SBK-L-10066

Summary Report of Facility Changes, Tests, and Experiments
Completed in Accordance with the Requirements of 10CFR50.59
for Design Changes, Temporary Modifications, Temporary Setpoint Requests,
Procedure Changes, Commitment Changes, and Miscellaneous Changes

There were no facility changes, tests, and experiments completed in accordance with the requirements of 10CFR50.59 for design changes, temporary modifications, temporary setpoint requests, procedure changes and miscellaneous changes that required performance of a 10CFR50.59 evaluation during the reporting period.

The following pages contain a brief description of commitment changes approved during the reporting period.

**Commitment Change Request 2009-1 Change to Commitment Detailed in
Response to NRC Generic Request for
Additional Information Relating to
NUREG-0612 "Control of Heavy Loads"
October 1985**

Summary Description and Purpose: This commitment change request (CCR) revised a commitment made in response to NRC Generic Request for Additional Information Relating to NUREG-0612, Control of Heavy Loads. The CCR removed the word "surface" after non-destructive. The new wording reads "...periodic non-destructive examination." In addition, the word "surface" was also removed from page 21, item 2. The new wording reads "...welds for examination...." The change allows the application of advanced non-destructive examination (NDE) technology for inspection of the reactor head and internals lift rigs with Acoustic Emission Testing. The acoustic emission non-destructive examination method is superior to non-destructive examination since it employs a single examination to obtain 100% inspection of the entire internals and head lift rigs components including critical parts and welds. Acoustic emission technology is recognized by EPRI and the NRC as an acceptable alternative to surface examination.

Evaluation Summary: A 10CFR50.59 evaluation was not required to be performed for this Commitment Change. The original commitment was for non-destructive surface examination to ensure the integrity of the reactor vessel internals lift rig and reactor vessel head lift rig. The change is due to technological advances in non-destructive examination superior to surface examination, i.e., acoustic emission non-destructive, which fulfills the requirement to ensure the integrity of the reactor vessel internals lift rig and reactor vessel head lift rig. The change to allow a superior method of examination fully meets the intent of the original commitment to perform examination to ensure the integrity of the lift rigs.

**Commitment Change Request 2010-01 Change to Commitment Detailed in
Letter NYN-90010, Information
Regarding Incore Instrumentation
Thimble Thinning, dated January 11,
1990**

Summary Description and Purpose: Commitment change 2010-01 eliminated the inspection program for monitoring thimble tube performance established in response to Bulletin 88-09 based on the unique design of the thimble tubes at Seabrook Station. The thimble tube design that was the subject of the bulletin was the standard Westinghouse designed moveable incore system with single wall tubes. However, the Seabrook thimbles are a non-standard design for Westinghouse plants. The Seabrook thimble tubes consist of a double-concentric tube design. The inner tube, which is the reactor coolant pressure boundary, is not in direct contact with the reactor vessel components that cause wear in the Westinghouse standard single wall design. A failure of both the outer tube and the inner tube would be required before reactor coolant would enter the thimble tube. In addition, the Seabrook thimble tubes are fabricated from seamless Inconel 600, which is harder and more resistant to wear from abrasion than stainless steel. The Seabrook design also has a tighter clearance between the thimble tube and the instrument support column compared to the standard Westinghouse design, and operating data indicates that reduced clearances result in reduced thimble wear. Based on the unique design features and the results of two inspections that found no degradation of tube integrity, a thimble tube inspection program is not required to ensure that tube integrity is maintained.

Evaluation Summary: A 10CFR50.59 evaluation was not required to be performed for this Commitment Change. The original commitment was to establish an inspection program to monitor thimble tube performance. Based on the unique design features and the results of two inspections that found no degradation of tube integrity, a thimble tube inspection program is not required to ensure that tube integrity is maintained.

Enclosure 3 to SBK-L-10066

**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 pages provide a summary of changes incorporated in Revision 12 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) number, affected UFSAR, Sections, Tables, or Figures and a description of the change.

UFCR Number	Affected Sections, Tables, and Figures
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08-034	9.5.8.2
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Description of Change: This UFCR provided clarification to resolve an inconsistency between sections. §9.5.8.2 reflected the Diesel manufacturer's requirements for low-load operation and was revised to reflect the more stringent restriction on diesel low-load operation reflected in §8.3.1.1.

08-040	Table 9.2-6
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Description of Change: This UFCR corrected minor administrative changes to Table 9.2-6 that were missed during the UFSAR update for Power Uprate (DCR 03-012).

09-003	9.5.4.a
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Description of Change: This UFCR provides clarification that the VHF radio system is used for onsite purposes.

09-008	Table 13.5-2
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Description of Change: This UFCR removed reference to UFSAR subsections 13.5.2.3a.1 through 13.5.2.3a.4 from Table 13.5-2. Section 13.5 was previously revised to reflect that the information contained in the section had been relocated to the Quality Assurance Topical Report (QATR). The subsections referenced in the table no longer exist and the removal of the references did not change the contents of the table.

09-017	16.3, Technical Requirement 24
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Description of Change: This UFCR deleted the reference to procedure OE 4.5, which has been superseded by EN-AA-203-1001, Operability Determinations/Functionality Assessments.

09-018	Table 3.9(B)-27 and Table 3.9(N)-11
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Description of Change: This UFCR removed excessive detail from Tables 3.9(B)-27 and 3.9(N)-11 by removing active valve "normal" position information from the UFSAR Tables. As there may be more than one "normal" position for each active valve and inclusion of this position information is not required for the identification of the active valves, the normal position information was removed.

UFCR Number	Affected Sections, Tables, and Figures
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09-020	5.4.12.2
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Description of Change: This change deleted the extraneous sentence "These changes in packing configuration have been approved for use at Seabrook Station." During an NRC inspection, an inspector stated that this sentence could be construed as the packing had been approved by the NRC. The deletion of the sentence did not change the intent of the section as the following sentence state "Accordingly, either packing design configuration is acceptable use at Seabrook." The deleted sentence was descriptive text not important to the understanding of the section.

09-025	9.3.4.3.a
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Description of Change: This UFCR corrected inconsistencies between UFSAR sections regarding the required shutdown configuration of only one charging pump allowed. Section 9.3.4.3.a statements concerning redundancy and single failure impact on the ability to borate the reactor coolant system are not correct during shutdown modes with only one charging pump allowed to be operable. The requirement to disable all but one charging pump is part of cold overpressure protection as discussed in section 5.2.2.11. This UFCR corrects Section 9.3.4.2.a to be consistent with section 5.2.2.11 regarding the required shutdown configuration of only one charging pump allowed and provides clarification to improve reader understanding.

09-026	Table 6.2-75
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Description of Change: This UFCR corrected a discrepancy between Table 6.2-75 and Section 6.2.2.2.b.1 for the minimum operating flow for the CBS pumps. Table 6.2-75 lists the minimum flow as 2802 gpm whereas Section 6.2.2.2.b.1 states the minimum flow is 2808 gpm. A review of design and licensing basis documents indicated that the 2802 gpm value in Table 6.2-75 was a typographical error and should be 2808 gpm.

09-032	1.8, 13.1
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Description of Change: UFCR 09-032 removed a reference to deleted Regulatory Guide 1.58 in Section 1.8 and revised reporting relationships in Section 13.1 as a result of changes to the Seabrook organization. The referenced document could be removed as it was no longer listed in the UFSAR. The organizational changes were changes in reporting relationships and did not change required functions performed by station staff.

10-002	Table 3.2-2
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Description of Change: This UFCR changed the nomenclature on page 6 of Table 3.2-2 to read "Safety Injection Pump" to be consistent with the terminology used in Section 6.3 of the UFSAR. This change provided clarity to improve reader understanding.

10-006

16.2, Technical Requirements Manual, Section 1.0

Description of Change: This change replaced the reference to deleted procedure OE 3.6, Condition Reports, with a reference to procedure PI-AA-205, Condition Evaluation and Corrective Action.

Enclosure 4 to SBK-L-10066

**Listing of UFSAR Change Requests (UFCRs) Incorporated in
Updated Final Safety Analysis Report, Revision 13**

<u>UFCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
02-030		6.2-83	6.2-91, 10.3-3
07-044	11.4		
07-056	9.1.3.2.b		
07-057	8.3.1.4		
07-060	6.6.8		
07-061	9.1.4.2	9.4-17	
08-001	9.1.4.2.c.4	6.2-87	
08-006	5.4.10, 7.7.1, 7.7.2, 10.2, 10.2.1, 15.0.1		
08-008	9.3.5, 11.2.2, 11.5.2, 12.3.4	11.5-1, 11.5-2, 12.3-15	11.5-1, 12.3-20
08-025			6.2-91
08-029	8.3.1.1.e.4, 9.5.5.5, 9.5.7.5	8.3-8	
08-030		12.3-15	12.3-20
08-030 Rev 1	12.3.4.2		
08-034	9.5.8.2		
08-035	12.3.4	12.3-14	12.3-19
08-036	9.1.5	9.1-7	
08-038	1.8, 2.2, 6.4, 6.5.1, 9.4.1	2.2-1, 2.2-2	2.2-1
08-039	8.2.1.3, 8.3.1.1, 10.2.1, 10.2.2.1, 10.2.2.4, 10.2.3.6, 10.2.4		7.2-15, 8.3-2
08-039 Rev 1	8.2.13, 10.2.2.1, 10.2.2.4, 10.2.3.6		
08-040		9.2-6	

<u>UFCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
09-002	8.2	9.5-2	2.1-4, 2.1-5, 8.2-6, 8.2-7, 8.2-8, 8.2-9
09-003	9.5.4.a		
09-004	9.4.5.2, 12.2.2.4	9.4-8, 12.2-36	
09-005	8.3.1.4f		
09-007	1.2.3.4, 3.9(N).1.3e, 3.9(N).5.1c, 4.2.2.2c, 4.4.2.10, 4.4.6.1, 5.1, 5.4.3.2, 7.7.1.9, 7.7.3	3.2-1, 3.2-2, 3.10(B)-1	4.4-7, 7.7-9
09-008		13.5-2	
09-011	8.2.1.4.b.1, 8.3.1.4.e, 8.3.1.4.i		
09-012	9.1.3	9.1-2	
09-013	8.2.1.3, 8.2.1.4, 8.2.2.1, 8.2.3, 8.2.4		8.2-5, 8.2-10
09-014	9.4	6.5-3, 9.4-8, 9.4-22	
09-015	4.6.4, 9.3.4.3.a, 9.3.4.4		
09-018		3.9(B)-27, 3.9(N)-11	
09-020	5.4.12.2		
09-022		9.4-3, 9.4-5	
09-024			6.2-91
09-025	9.3.4.3.a		
09-026		6.2-75	
09-027	9.1.4.3		
09-032	1.8, 13.1		
10-002		3.2-2	

Enclosure 5 to SBK-L-10066

Listing of UFSAR Change Requests (UFCRs) Incorporated in
Appendix R, Fire Protection Safe Shutdown Capability, Revision 10

<u>UFCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables/ Tabulations</u>	<u>Affected Figures</u>
08-014		MCR 3.1.3.14-1 MCR 3.1.3.14-2 RSS 3.1.3.14-1	
08-029		MCR 3.1.3.18-2 MCR 3.1.3.18-6 MCR 3.1.3.18-7 MCR 3.1.3.18-16 MCR 3.1.18-17 RSS 3.1.3.18-2 RSS 3.1.3.18-10	
08-041		RSS 3.1.3.2-4 RSS 3.1.3.2-9 RSS 3.1.3.19-1	
09-029	3.1.12, 3.2.4	Tabulation 3.2.7.1 Tabulation 3.2.7.2 Tabulation 3.2.7.3 MCR 3.1.3.16	

Enclosure 6 to SBK-L-10066

Listing of UFSAR Change Requests (UFCRs) Incorporated in
Appendix A, Evaluation and Comparison to BTP APCSB 9.5-1, Revision 11

<u>UFCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
07-044	Section F.2, Tab 10	Section B, Table 1	
07-048	Section F.2, Tab 13		
09-002	Section F.3, Page 47		
09-006	Section F.2, Tab 5		
09-009	Section F.2, Tab 11		
09-013	Section F.3, Page 50		

Enclosure 7 to SBK-L-10066

**Listing of UFSAR Change Requests (UFCRs) Incorporated in
Revisions 113 through 119 of the Technical Requirements Manual**

<u>UFCR Number</u>	<u>Affected Sections</u>	<u>Affected Tables</u>	<u>Affected Figures</u>
08-031	TR 21		
08-039	TR 23		
09-015	TR 29-3.1.2.2		
09-017	TR 24		
09-023	Chapter 6, COLR		
09-028	TR 14		
10-006	Section 1.0		