UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

August 5, 2015

Mr. Dean Curtland
Site Vice President
Seabrook Nuclear Power Plant
NextEra Energy Seabrook, LLC
c/o Mr. Michael Ossing
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INTEGRATED INSPECTION REPORT 05000443/2015002

Dear Mr. Curtland:

On June 30, 2015, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. The enclosed inspection report documents the inspection results which were discussed on July 16, 2015, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The inspectors documented two findings of very low safety significance (Green) in this report, all of which involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the non-cited violations in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Seabrook Station. In addition, if you disagree with the cross-cutting aspect assigned to any finding, or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Seabrook Station.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRCs "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Glenn T. Dentel, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 50-443
License No: NPF-86

Enclosure:
Inspection Report No. 05000443/2015002
w/ Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRCs "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Glenn T. Dentel, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket No. 50-443
License No: NPF-86

Enclosure:
Inspection Report No. 05000443/2015002
w/ Attachment: Supplemental Information

Distribution: **(via e-mail)**
DDorman, RA
DLew, DRA
HNieh, DRP
MScott, DRP
RLorson, DRS
GSuber, DRS
GDentel, DRP
RBarkley, DRP
MDraxton, DRP
CHighley, DRP
PCataldo, DRP, SRI
CNewport, DRP, RI
ACass, DRP, Resident AA
KMorganButler, RI, OEDO
RidsNrrPMSeabrook Resource
RidsNrrDorlLpl1-2 Resource
ROPreports Resource

DOCUMENT NAME: G:\DRP\BRANCH3\INSPECTION\REPORTS\ISSUED\2015 (ROP 16)\SB IR 2015002 .DOCX
ADAMS Accession No.: **ML15217A256**

☑ SUNSI Review		☑ Non-Sensitive ☐ Sensitive		☑ Publicly Available ☐ Non-Publicly Available	
OFFICE	RI/DRP	RI/DRP	RI/DRP		
NAME	PCataldo/ RSB for concurred via phone	RBarkley/ RSB	GDentel/ GTD		
DATE	07/ 30 /15	08/03/15	08/05 /15		

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-443
License No.:	NPF-86
Report No.:	05000443/2015002
Licensee:	NextEra Energy Seabrook, LLC
Facility:	Seabrook Station, Unit No.1
Location:	Seabrook, New Hampshire 03874
Dates:	April 1, 2015 through June 30, 2015
Inspectors:	P. Cataldo, Senior Resident Inspector C. Newport, Resident Inspector W. Cook, Senior Reactor Analyst B. Dionne, Health Physicist N. Floyd, Reactor Inspector
Approved by:	Glenn T. Dentel, Chief Reactor Projects Branch 3 Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY

IR 05000443/2015002; April 1, 2015 - June 30, 2015; Seabrook Station, Unit No. 1; Operability Determinations and Functionality Assessments and Problem Identification and Resolution.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified two findings of very low safety significance (Green), which were classified as NCVs. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Barrier Integrity

- Green. The inspectors identified a Green NCV of 10 CFR, Appendix B, Criterion XVI, "Corrective Action," because NextEra did not ensure that degraded conditions were identified and entered into the corrective action process. Specifically, the inspectors identified multiple instances of material and equipment degradation resulting from deformation of the containment enclosure building (CEB). NextEra entered the condition into their corrective action program (CAP) (AR 02014325) and initiated a root cause evaluation to evaluate the aggregate cause of the non-conforming condition. Additionally, NextEra initiated immediate and prompt operability determinations (PODs), when appropriate, for each of the individually identified material and equipment degraded conditions.

  This performance deficiency was considered to be more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern if CEB deformation continued to affect plant safety-related structures, systems, and components (SSCs) without appropriate identification and evaluation by NextEra personnel. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Identification, because NextEra did not implement a CAP with a low threshold for identifying issues. Specifically, NextEra failed to identify multiple instances of material and equipment degradation that would have led to the identification of the CEB non-conforming condition [P.1]. (Section 4OA2.3.1)

- Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because NextEra did not perform an adequate POD of a safety-related plant structure. Specifically, NextEra did not appropriately categorize the operability of the CEB, a safety-related seismic Category I structure, in accordance with EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 19, after identification of a non-conforming condition affecting the structure. NextEra entered the condition into their CAP (AR 02053991), recharacterized the

operability of the CEB as “Operable but Degraded,” and established compensatory measures to monitor for additional structural deformation by performing routine seismic seal gap measurements.

This performance deficiency was considered to be more than minor because it affected the design control attribute of the Barrier Integrity cornerstone and its objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the inspectors determined that the operational capability of the CEB was affected in that compensatory measures were not identified and established to monitor for any further degradation of the non-conforming condition. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the affected structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Evaluation, because NextEra did not thoroughly evaluate an issue to ensure that resolutions address causes and extent of condition commensurate with their safety significance. Specifically, NextEra did not appropriately characterize the CEB non-conforming condition and establish compensatory measures that were commensurate with the safety significance of the condition [P.2]. (Section 4OA2.3.2)

REPORT DETAILS

Summary of Plant Status

Seabrook operated at full power for the quarter, with the exception of a down-power to 94 percent on April 17, 2015, for performance of main turbine control valve testing. Documents reviewed for each section of this inspection report are listed in the Attachment.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 3 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of NextEra's readiness for the onset of seasonal high temperatures. The review focused on the service water cooling tower, switchyard, termination yard, control building, and the general site yard. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications (TSs), the seasonal readiness memorandum, and the CAP to determine specific temperatures or other seasonal weather that could challenge these systems, and to ensure NextEra personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including NextEra's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions.

b. Findings

No findings were identified.

.2 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed NextEra's procedures affecting these areas and the communication protocols between the transmission system operator and NextEra. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether NextEra established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing condition reports (CRs) and open work orders (WOs), observing NextEra's inspection activities in the 345 kilovolt (kV) termination yard, and walking down portions of the offsite and AC power systems, including the 345kV termination yard, the 345kV switchyard, and the relay room.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed NextEra's preparations for the onset of solar magnetic disturbances (SMDs) that occurred on June 22 to 23, 2015. The inspectors reviewed the implementation of applicable procedures to address the impact of SMD on the generator step-up unit transformers before the onset of and during this adverse weather condition. The inspectors walked down the switchyard and verified that operator actions defined in NextEra's off-normal procedure for SMD events maintained the readiness of essential systems. The inspectors discussed readiness and staff availability for SMD events with operations, maintenance and work control personnel.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'B' containment building spray (CBS) return to service on May 31, 2015
- 'D' primary component cooling water (PCCW) pump during replacement of the 'B' PCCW pump motor on June 15, 2015
- 'A' emergency diesel generator (EDG) return to service on June 16, 2015
- 'A' emergency feedwater (EFW) pump return to service on June 24, 2015

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, WOs, CRs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether NextEra staff had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that NextEra controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Intake transition structure (IS-F-1-0) on April 6, 2015
- Discharge transition structure (DS-F-1-0) on April 13, 2015
- Service water pump house (SW-F-1E-Z) on May 1, 2015
- Primary auxiliary building (PAB-F-1C-A, PAB-F-1D-A, PAB-F-1E-A, PAB-F-1F-Z) on May 5, 2015
- 'B' EDG (DG-F-1B-A, DG-F-2B-A, DG-F-3F-A, DG-F-3D-A, DG-F-3B-Z) on May 31, 2015

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 2 samples)

.1 Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to assess susceptibilities involving internal flooding. The inspectors also reviewed the CAP to determine if NextEra identified and corrected flooding problems and whether operator actions for coping with flooding were adequate. The inspectors focused on the EFW pump house to verify the adequacy of equipment seals located below the flood line, flood and water penetration seals, common drain lines and sumps, sump pumps, level alarms, control circuits, and temporary or removable flood barriers.

b. Findings

No findings were identified.

.2 Annual Review of Cables Located in Underground Bunkers/Manholes

a. Inspection Scope

The inspectors conducted an inspection of underground bunkers/manholes subject to flooding that contain cables whose failure could affect risk-significant equipment. The inspectors performed walkdowns of risk-significant areas, including manholes W11 and

W05 containing cables for service water pumps, on June 8 and June 19, respectively. The inspectors verified water level in the sump and calculations to ensure the cables were not submerged. The inspectors verified that the bunkers/manholes were dewatered in accordance with station procedures.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07T – 3 samples)

a. Inspection Scope

The inspectors reviewed program and system health reports, self-assessments, and NextEra's methods (inspection, cleaning, maintenance, and performance monitoring) used to ensure heat removal capabilities for the Seabrook Station safety-related heat exchangers and compared them to NextEra's commitments made in response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors verified that the methods and acceptance criteria were consistent with the accepted industry practices. The inspectors walked down and observed conditions of the associated system components, including piping, pumps, valves, and heat exchangers with the responsible system engineer.

Based on NextEra's risk ranking of safety-related components, past triennial heat sink inspections, recent operational experience, and resident inspector input, the inspectors selected the following heat exchangers for inspection:

- 'B' EDG jacket water heat exchanger
- 'A' PCCW heat exchanger
- 'B' CBS heat exchanger

'B' EDG Jacket Water Heat Exchanger

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'B' EDG jacket water heat exchanger [1-DG-E-42-B], which is directly cooled by service water. The normal service water system source is provided by the ocean, and the safety-related back-up source is provided by the cooling tower. The Seabrook Station includes two EDG units, each with a jacket water cooling system, for supplying back-up electrical power in the event of a loss of normal offsite power. The jacket water heat exchanger is monitored by means of performance testing and supplemented with periodic eddy current testing and visual inspection.

The inspectors reviewed the results from recent thermal performance tests and engineering calculations for the heat transfer capability based on allowable tube plugging limits. NextEra monitors the jacket water heat exchanger performance during these annual performance tests and trends the data (e.g. fouling factor and maximum outlet temperature) to detect long-term degradation. The inspectors verified that the acceptance criterion was met and consistent with the design basis values. The inspectors also reviewed the most recently completed eddy current testing of the tubes to verify structural integrity of the heat exchanger and that the number of plugged tubes was within the established limits based on the design heat transfer. The inspectors

discussed with NextEra staff the plans for future replacement of the heat exchanger tubes in order to gain increased margin of the tube plugging limits.

'A' PCCW Heat Exchanger

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'A' PCCW heat exchanger [1-CC-E-17-A], which is directly cooled by service water. The PCCW system at Seabrook Station supplies cooling water to safety-related components which are required for safe shutdown and/or to mitigate the consequences of an accident. The PCCW system consists of two redundant loops, each with its own heat exchanger, which also serves as an intermediate fluid barrier between the reactor coolant and the service water system. The PCCW heat exchanger is monitored by means of temperature ratio trending and supplemented with cleaning and visual inspection.

The inspectors reviewed the temperature ratio results from the last three years to verify that monitoring was being conducted in accordance with the procedure and that trends were being appropriately identified to detect any degradation. NextEra monitors the PCCW heat exchanger temperature ratio on a monthly basis, with increased frequency based on condenser performance due to the same tube material (i.e. titanium) and indication of fouling in the condenser. The inspectors also reviewed the most recently completed inspection and cleaning work order to verify that the as-found and as-left conditions of the heat exchanger were acceptable and operation was consistent with the design and applicable engineering analyses.

'B' CBS Heat Exchanger

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'B' CBS heat exchanger [1-CBS-E-16-A] which is directly cooled by PCCW. The CBS system is intended to be utilized during a postulated design basis accident to reduce containment pressure, where the CBS heat exchanger cools the reactor coolant prior to being sprayed inside of containment. The heat exchanger is not monitored by thermal performance testing or cleaning and inspection because it is part of a closed-cycle system (i.e. PCCW).

The inspectors reviewed the results from chemistry monitoring of the PCCW system to verify that programs for corrosion control were controlled, tested, and evaluated to prevent degradation of components cooled by PCCW. The inspectors verified that the normally closed heat exchanger isolation valves were periodically tested as part of in-service testing activities to ensure a flow path upon an accident signal. The inspectors also verified that flow was established through the CBS heat exchanger during valve testing and surveillance tests.

Review of Intake Structures

Based on the impact to the selected heat exchanger samples, the inspectors performed a walkdown of the intake structure, service water pump house, and cooling tower to look for indications of piping leakage and/or degradation. The inspectors verified that chemistry monitoring and treatments were conducted to prevent clogging and fouling in the service water system. The inspectors also reviewed the procedure for NextEra staff monitoring and control of cooling tower water temperature during cold weather to prevent the formation and impact of ice on this safety-related water source.

Problem Identification and Resolution

The inspectors reviewed a sample of Seabrook Station corrective action reports related to the heat sink and heat exchangers selected for this inspection. The inspectors verified that non-conforming conditions were properly identified, characterized, evaluated, and that corrective actions were identified and entered into the CAP for resolution.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on May 21, 2015, which included exercise of the Extended Loss of AC Power response scenario from Nuclear Energy Institute (NEI) 12-06, Diverse and Flexible Coping Strategies Implementation Guide. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed infrequently performed test or evolution briefings, pre-shift briefings, and reactivity control briefings to verify that these briefings met the criteria specified in NextEra's OP-AA-100-1000, "Conduct of Operations," Revision 14. In particular, the inspectors observed operator response to the loss of CP-295 RDMS, i.e., loss of radiation monitoring capability in the control room, on May 28, 2015; shift turnover activities and reactivity manipulations (dilution) on June 2, 2015; reactivity manipulations (dilution) on June 15, 2015; and a brief for PCCW pump 11B post-maintenance activities, which included plant condition review plus validation of prerequisites, on June 15, 2015. In addition to general control room activities on June 2, June 25, June 29 and June 30, 2015, inspectors also observed reactor operator turnover, multiple video alarm system response, and reviewed the Operations Department considerations established for a steam generator pressure analog channel test conducted on June 30, 2015. Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on SSC performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule (MR) basis documents to ensure that NextEra was identifying and properly evaluating performance problems within the scope of the MR. For each sample selected, the inspectors verified that the SSC was properly scoped into the MR in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by NextEra staff were reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that NextEra staff was identifying and addressing common cause failures that occurred within and across MR system boundaries.

- 'B' PCCW pump motor failure on June 13, 2015
- 'B' EDG maintenance outage on June 17, 2015

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 6 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that NextEra performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that NextEra personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When NextEra performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- 'B' station battery service test on April 28, 2015
- 'B' instrument air maintenance on May 29, 2015
- 'B' condensate pump electrical testing on June 2, 2015
- Switchyard activities, Safety Bus 6 electrical testing, and cooling tower basin inspections on June 9, 2015
- 'B' PCCW motor failure on June 15, 2015
- Reserve auxiliary transformer auto-close relay testing on June 26, 2015

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- 'A' EDG relay IDR2 missing mounting screw, identified on March 10, 2015
- SW-V-16 air leakage on May 4, 2015
- CEB seismic seal degradation on May 15, 2015
- 'B' EDG heat exchanger eddy current test results on June 1, 2015

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to NextEra's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by NextEra. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

One non-cited violation was identified in this area and is described later in the report under Section 4OA2.3.2.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- 'B' EDG woodward governor replacement on April 4, 2015
- 'A' ASDV positioner replacement on April 16, 2015
- 'B' charging pump speed increaser lube oil pump refurbishment on April 28, 2015
- EFW building exhaust damper actuator replacement on April 29, 2015

- Main steam loop 1 and 4 radiation monitor replacement on June 2, 2015
- 'B' PCCW pump motor replacement testing on June 15, 2015

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 7 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and NextEra procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- 'A' engineered safety features actuation system slave relay K615 quarterly test on April 13, 2015
- EFW instrument air supply check valve exercise on April 22, 2015
- Protection channel II reactor coolant flow loop operational test on May 4, 2015
- Reactor coolant system (RCS) steady state leak rate calculation on May 5, 2015 (RCS)
- Primary coolant system sample on May 7, 2015
- 'B' CBS pump 125VDC Agastat relay testing on May 26, 2015
- Containment online purge valve testing on June 24, 2015 (IST)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 2 samples)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine NextEra emergency drill on June 10, 2015 to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the applicable drill critiques to compare inspector observations with those identified by NextEra staff in order to evaluate NextEra's critique and to verify whether NextEra staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

.2 Emergency Preparedness Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for Unit 1 licensed operators on May 22, 2015, which required emergency plan implementation by an operations crew. NextEra planned for this evolution to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that NextEra evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05 – 1 sample)

a. Inspection Scope

During the period April 20 to 23, 2015, inspectors reviewed performance in assuring the accuracy and operability of radiation monitoring instruments used for effluent monitoring and analysis. The inspectors used the requirements in 10 CFR 20, 10 CFR 50, Appendix I; TSs; Offsite Dose Calculation Manual (ODCM); Regulatory Guides; applicable industry standards; and procedures required by TSs as criteria for determining compliance.

Calibration and Testing Program

The inspectors selected five effluent monitor instruments and evaluated whether channel calibration and functional tests were performed consistent with NextEra's TSs/ODCM. The inspectors assessed whether: (a) NextEra calibrated its monitors with National Institute of Standards and Technology traceable sources; (b) the primary calibrations adequately represented the plant radionuclide mix; (c) when using secondary calibration sources, primary calibration source comparisons were performed; and (d) NextEra channel calibrations encompassed the instrument's alarm set-point range. The inspectors assessed whether the effluent monitor alarm set-points were established as provided in the NextEra ODCM and station procedures. For changes to effluent monitor set-points, the inspectors evaluated the basis for changes to ensure that an adequate justification exists.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06 – 1 sample)

a. Inspection Scope

The inspectors reviewed the treatment, monitoring, and control of radioactive gaseous and liquid effluents. The inspectors used the requirements in 10 CFR 20, 10 CFR 50, Appendix I; TSs; ODCM; applicable industry standards; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted in-office review of NextEra's 2013 and 2014 annual radioactive effluent and environmental reports, radioactive effluent program documents, UFSAR, ODCM, and applicable event reports.

Walk-downs and Observations

The inspectors walked down the gaseous and liquid radioactive effluent monitoring systems to assess the material condition and verify proper alignment according to plant design. The inspectors also observed potential unmonitored release points and reviewed radiation monitoring system surveillance records and the routine processing and discharge of gaseous and liquid radioactive wastes.

Sampling and Analyses

The inspectors reviewed: radioactive effluent sampling activities, representative sampling requirements; compensatory measures taken during effluent discharges with inoperable effluent radiation monitoring instrumentation; the use of compensatory radioactive effluent sampling; and the results of the inter-laboratory and intra-laboratory comparison program including scaling of hard-to-detect isotopes.

Effluent Flow Measuring Instruments

The inspectors reviewed the methodology used to determine the radioactive effluent stack and vent flow rates to verify that the flow rates were consistent with TS/ODCM and UFSAR values.

Air Cleaning Systems

The inspectors reviewed radioactive effluent discharge system surveillance test results based on technical specification acceptance criteria.

Dose Calculations

The inspectors reviewed: changes in reported dose values from the previous annual radioactive effluent release reports; several liquid and gaseous radioactive waste discharge permits; the scaling method for hard-to-detect radionuclides; ODCM changes; land use census changes; public dose calculations (monthly, quarterly, annual); and records of abnormal gaseous or liquid radioactive releases.

Groundwater Protection Initiative (GPI) Implementation

The inspectors reviewed: groundwater monitoring results; changes to the GPI program since the last inspection; anomalous results or missed groundwater samples; leakage or spill events including entries made into the decommissioning files (10 CFR50.75(g)); and NextEra's evaluation of any positive groundwater sample results including appropriate stakeholder notifications and effluent reporting requirements.

Problem Identification and Resolution

The inspectors evaluated whether problems associated with the radioactive effluent monitoring and control program were identified at an appropriate threshold and properly addressed in NextEra's CAP. Section 4OA2 contains a follow-up evaluation of a Problem Identification and Resolution for the GPI.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

RCS Specific Activity and RCS Leak Rate (2 samples)

a. Inspection Scope

The inspectors reviewed NextEra's submittal for the RCS specific activity and RCS leak rate performance indicators for the period of April 1, 2014 to March 31, 2015. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed RCS sample analysis and logs of daily measurements of RCS leakage and activity, and compared that information to the data reported by the performance indicator.

b. Inspection Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that NextEra entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive

equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely-related issues that may have been documented by NextEra outside of the CAP, such as trend reports, performance indicators, major equipment problem lists, system health reports, MR assessments, and maintenance or CAP backlogs. The inspectors also reviewed NextEra's CAP database for the first and second quarters of 2015, to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily CR review (Section 4OA2.1). The inspectors reviewed Seabrook Station's Self-Evaluation and Trending Analysis Report for first quarter of 2015, conducted under PI-AA-207-1000, Station Self-Evaluation and Trending Analysis, Revision 3, to verify that NextEra personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of departments that are required to provide input into the quarterly trend reports, which included the engineering and maintenance departments. This review included a sample of issues and events that occurred over the course of the past two quarters to objectively determine whether issues were appropriately considered or ruled as emerging or adverse trends, and in some cases, verified the appropriate disposition of resolved trends. The inspectors verified that these issues were addressed within the scope of the CAP, or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors noted that on occasion, potential adverse trends were identified through (1) the use of statistical tools available to staff and utilized throughout the quarter to identify statistically significant issues that reach a predetermined threshold or (2) cognitive trends by staff or collectively during review by the Management Review Committee (MRC) while screening ARs.

In general, the inspectors noted that new and existing adverse trends, as well as management awareness areas, were consistent with those identified by the NRC through daily CR reviews, including those trends identified as cognitive trends during MRC reviews. Additionally, the inspectors had identified several issues associated with Agastat relays, and noted that AR 02055723 was generated independently by Maintenance personnel primarily to evaluate the maintenance work practices and testing methodology to discern whether testing was being performed appropriate for the circumstances.

The inspectors were initially concerned the statistical tool utilized by the responsible department corrective action program coordinators was either being under-utilized, or more importantly, did not capture this potential trend regarding issues associated with Agastat relays. However, further review of this trend regarding Agastat relays revealed a station trending process that appropriately identified the cognitive trend during a MRC meeting (although not identified as such by the initiating organization) and component identification codes associated within the CAP. The inspectors noted that cause/process codes or applicable keywords were not utilized consistent with the trending program requirements that would have allowed the statistical tool or department cognitive trend processes to identify any potential trends specific to the failure, assuming a commonality existed among the various styles and types of Agastat relays that exist at NextEra Seabrook.

.3 Annual Sample: Review of Corrective Actions for Alkali-Silica Reaction Affected Structures

a. Inspection Scope

The purpose of periodic site visits to Seabrook Station over the past few years has been to review the adequacy of NextEra's monitoring of alkali-silica reaction (ASR) on affected reinforced concrete structures, per their MR Structures Monitoring Program. In addition, periodic visits to the University of Texas – Austin, Ferguson Structural Engineering Laboratory (FSEL) are conducted to oversee the progress and implementation of the ASR large specimen testing program. The region-based inspectors and Office of Nuclear Reactor Regulations (NRR) technical reviewers involved with periodic inspections and visits verify NextEra and responsible contractors are appropriately implementing station programs and procedures, as well as, adhering to the self-imposed 10 CFR Part 50 Appendix B, Quality Assurance Program associated with the voluntary large-scale testing program. The testing program was developed to better understand the impact of ASR on reinforced concrete specimens that were designed to closely replicate the ASR-affected structural walls at Seabrook. In addition to region-based inspectors' activities, the resident inspectors conduct routine walkdowns of the site to identify any degraded plant conditions and structural impacts attributable to ASR.

b. Observations

During this inspection period, region-based inspectors and NRR reviewers visited Seabrook Station the weeks of April 20 and May 11 to examine the preliminary results of a root cause evaluation being conducted by NextEra to assess observed differential movement between the CEB and adjacent structures, a condition that was initially identified by the NRC resident inspectors. The inspectors and reviewers toured the station with the resident inspectors and NextEra staff to examine the effect of bulk ASR expansion on structures and attached components and systems. The NRC staff received a presentation by the NextEra engineering staff and contractors regarding the ongoing evaluations and associated finite element analysis (FEA) of the CEB and recent examination of observed ASR-related wall cracks in the residual heat removal (RHR) vault. Field measurements and preliminary FEA results indicate that, where the CEB interfaces with the containment ventilation area (CEVA) and West Mechanical Penetration structures, CEB deformation of between 1 to 3 inches has occurred due to bulk ASR expansion and creep (a dimensional change caused by time-dependent "dead weight" loading of reinforced concrete structures). The combination of these two

mechanisms has resulted in degradation of some attached systems and components, and needed repairs to building seismic interface joints and fire barrier seals (see NCV 2015002-01 below).

Based upon the ongoing root cause evaluation and preliminary results, NextEra initiated a POD to address the impact of the deformation on the CEB and associated seismic gap between the CEB and adjacent safety-related buildings. The NRC staff agreed with the NextEra determination that the CEB remains operable based upon sufficient seismic gap design margin being maintained, and no current evidence of associated ASR concrete degradation that would indicate CEB structural integrity is compromised. However, the NRC staff disagreed with the initial NextEra conclusion that the CEB was operable and "fully qualified with reduced margin" (see NCV 2015002-02, below). Rather, the NRC staff concluded the CEB was operable, but degraded and non-conforming, requiring continued monitoring and periodic evaluations to ensure continued operability. Further, the NRC concluded that the observed deformation far exceeds any previously anticipated creep values for reinforced concrete structures and therefore is non-conforming with the original design and construction code (ACI 318 – 1971). Upon completion of NextEra's CEB root cause evaluation and RHR vault apparent cause evaluation, the NRC staff will review the results and NextEra's planned corrective and/or compensatory actions.

The NRC staff considers the identification of bulk ASR expansion and structure deformation as an aspect of the non-conforming ASR condition that potentially warrants resolution per the 10 CFR 50.59 and 50.90 processes.

c. Findings

.1 Inadequate Identification of Structural Deformation and Impacts on Associated Equipment

Introduction. The inspectors identified a Green NCV of 10 CFR, Appendix B, Criterion XVI, "Corrective Action," because NextEra did not ensure that degraded conditions were identified and entered into the corrective action process. Specifically, the inspectors identified multiple instances of material and equipment degradation resulting from deformation of the CEB.

Description. 10CFR 50, Appendix B, Criterion XVI, requires that measures shall be established to assure that conditions adverse to quality, such as deficiencies, deviations, defective materials, and non-conformances are promptly identified and corrected. While performing routine plant walk downs, the inspectors identified degraded seismic and fire seals that appeared to have been caused by differential movement between the CEB and the adjoining concrete walls that form the boundaries of the CEVA (AR 02004748). The CEB is a safety-related seismic Category I structure that completely encloses the containment, forming a second barrier to the uncontrolled escape of radioactive nuclides in the event of an accident. Walkdowns conducted by NextEra as a result of the NRC-identified conditions led to the discovery of additional examples of equipment deficiencies that were caused by CEB deformation. These examples include: deformed flexible conduit couplings in the Main Steam west pipe chase (ARs 0213417, 2013442, 2013457, 2013474, 2013502, and 2013521) and interference between the SB-V-9 valve operator and CEB wall surface (AR 2014037).

As a result of these identified degraded conditions, NextEra initiated a root cause evaluation to further evaluate the cause of the differential movement between the CEB and adjacent structures (AR 02014325). NextEra's aggregate evaluation of the degraded conditions confirmed that the identified deformation and impacted SSCs can be attributed to bulk expansion of the CEB reinforced concrete due to ASR and strain associated with "dead weight" creep. The bulk expansion due to ASR results in the deformation (circumferential bulging and dimpling) of the free-standing cylindrical CEB at the interface of the CEVA and West Mechanical Penetration buildings. Based upon walkdowns and field measurements, no other areas of the CEB appear to be impacted. Preliminary engineering review, supported by field measurements and a FEA of the CEB, indicates that the deformation of the CEB in these areas is due to the asymmetry of the CEB structural design and associated steel reinforcement due to the interface/opening communicating between the CEB, CEVA and West Mechanical Penetration buildings. The deformation of the CEB in the area of the CEVA and West Mechanical Penetration buildings represents a non-conforming condition, in that the Seabrook UFSAR, Section 3.8.4.5.c states, in reference to seismic Category I structures, that '…no gross deformations will occur that will cause significant contact with other structures or pieces of equipment.'

Subsequent to the initiation of the root cause evaluation, the NRC inspectors identified additional examples of SSCs affected by the CEB deformation. These degraded conditions include:

- Deformed flexible conduit couplings in the EFW pump house (AR 02018292)
- Deformed emergency air handling exhaust pipe expansion joint (AR 02040564)
- Deformed containment air ventilation pipe flexible coupling (AR 02042676)

Additionally, enhanced licensee inspections identified the following:

- Concrete cracking and expansion of the main steam and feedwater stairwell south wall (AR 02033147)
- Crimped steam generator blowdown valve instrument air lines (AR 02030590)
- Degraded seismic isolation gaps between structures (AR 02044627)

The inspectors consulted with regional specialists and NRR structural engineers and reviewed licensee operability evaluations for each of the identified individual degraded conditions, where applicable, and concluded that the affected SSCs remained operable. However, additional NRC review is planned to more clearly understand this observed ASR effect and the overall impact on the CEB and adjacent buildings' structural performance. Preliminarily, the NRC staff has concluded that this bulk expansion effect warrants inclusion into the current Structures Monitoring Program and proposed Aging Management Program, under the pending license renewal application.

Analysis. The inspectors determined that failing to identify this non-conforming condition in a timely manner was a performance deficiency within NextEra's ability to foresee and correct. This performance deficiency was considered to be more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern if CEB deformation continued to effect plant safety-related SSCs without appropriate identification and evaluation by NextEra personnel. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical

integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Identification, because NextEra did not implement a CAP with a low threshold for identifying issues. Specifically, NextEra failed to identify multiple instances of material and equipment degradation that would have led to the identification of the CEB non-conforming condition (P.1).

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective materials and equipment, and non-conformances are promptly identified and corrected. Contrary to the above, prior to November 4, 2014, NextEra failed to identify multiple instances of equipment and material degraded conditions that would have led to the identification of the CEB non-conforming condition. After the issue was identified by the inspectors, NextEra entered the condition into their CAP (AR 02014325) and initiated a root cause evaluation to evaluate the aggregate cause of the non-conforming condition. Additionally, NextEra initiated immediate and prompt operability determinations, when appropriate, for each of the individually identified material and equipment degraded conditions. Because this violation is of very low safety significance (Green) and NextEra entered this into their CAP (AR 02014325), this violation is being treated as a NCV consistent with the NRC Enforcement Policy. **(NCV 05000443/2015002-01: Inadequate Identification of Structural Deformation and Impacts on Associated Equipment)**

.2 Inadequate Characterization of Prompt Operability Determination of the Containment Enclosure Building

Introduction. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because NextEra did not perform an adequate POD of a safety-related plant structure. Specifically, NextEra did not appropriately categorize the operability of the CEB, a safety-related seismic Category I structure, in accordance with EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 19, after identification of a non-conforming condition affecting the structure.

Description. NextEra procedure EN-AA-203-1001, Operability Determinations/ Functionality Assessments, provides guidance for the preparation and approval of PODs required for establishing the acceptability of continued operation of a safety-related SSC that is suspected to be degraded, non-conforming, or in an unanalyzed condition. On April 30, 2015, NextEra initiated AR 02044627 identifying a reduction of seismic gap seal thickness between the CEB and adjoining safety-related seismic Category I concrete structures due to previously-identified deformation of the CEB. The deformation of the CEB has been attributed to bulk structural expansion caused by ASR and strain in the concrete due to creep. NextEra had initiated a root cause evaluation to further understand the causes and effects of the condition.

On May 5, 2015, in accordance with EN-AA-203-1001, NextEra personnel completed a POD that documented NextEra's evaluation of the condition and confirmed the initial characterization of CEB operability. The POD concluded that the CEB was "Operable and Fully Qualified with Reduced Design Margin," which is defined by the procedure as "meets all current licensing basis and qualification requirements, but with reduced margin below some established design value in a design document." EN-AA-203-1001 states that the current licensing basis includes "plant-specific design basis information

defined in 10 CFR 50.2 and documented in the most recent UFSAR." Seabrook's UFSAR, Section 3.8.4.5.c, Revision 16, in reference to the design of safety related seismic Category I structures, states that "since each of the structures was designed to be in the small deformation, elastic range, no gross deformations will occur that will cause significant contact with other structures or pieces of equipment." EN-AA-203-1001 defines "Operable but Degraded" as "does not meet all current licensing basis requirements but is capable of performing specified functions/mission times" and directs that consideration be given to the establishment of compensatory measures to maintain an operable but degraded SSC's specified safety or current licensing basis functions to compensate for the degraded or non-conforming condition.

After review of the POD and EN-AA-203-1001, the inspectors questioned whether NextEra personnel should have characterized the CEB non-conforming condition as "Operable but Degraded" due to the observed deformation of the CEB and associated equipment impacts exceeding the UFSAR design basis of "no gross deformation will occur that will cause significant impact with other structures or pieces of equipment." The inspectors also questioned whether NextEra personnel should have established compensatory measures to maintain the safety function of the CEB, given the potentially active nature of the non-conforming condition affecting the structure. On June 11, 2015, after additional review of the inspector's comments and applicable procedural requirements, NextEra personnel changed the POD characterization of the CEB from "Operable and Fully Qualified with Reduced Design Margin" to "Operable but Degraded," but did not establish compensatory measures to compensate for the non-conforming condition. On June 13, 2015, after additional questioning by the NRC inspectors, NextEra initiated AR 02053991 documenting that compensatory measures had not been established. On July 2, 2015, NextEra further revised their POD to establish compensatory measures for the non-conforming condition. The compensatory measures consist of monitoring for additional structural deformation by performing routine seismic seal gap measurements.

Analysis. The inspectors determined that NextEra's inadequate characterization of the CEB non-conforming condition was a performance deficiency within NextEra's ability to foresee and correct. This performance deficiency was considered to be more than minor because it affected the design control attribute of the Barrier Integrity cornerstone and its objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the inspectors determined that the operational capability of the CEB was affected in that compensatory measures were not identified and established to monitor for any further degradation of the non-conforming condition. The finding was evaluated in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the affected structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Evaluation, because NextEra did not thoroughly evaluate an issue to ensure that resolutions address causes and extent of condition commensurate with their safety significance. Specifically, NextEra did not appropriately characterize the CEB non-conforming condition and establish compensatory measures that were commensurate with the safety significance of the condition (P.2).

Enforcement. 10 CFR 50, Appendix B, Criterion V, requires that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures. Additionally, Criterion V requires that procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. NextEra procedure EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 19, provides guidance for the preparation and approval of PODs required for establishing the acceptability of continued operation of a plant safety-related SSC that is suspected to be degraded, non-conforming, or in an analyzed condition. Contrary to the above, on May 5, 2015, NextEra failed to properly characterize the operability of the CEB, a safety-related seismic Category I structure, during the preparation and approval of the POD addressing reduction in seismic gap width due to the deformation of the CEB, a non-conforming condition. After the issue was identified by the inspectors, NextEra entered the condition into their CAP (AR 02053991), re-characterized the operability of the CEB as "Operable but Degraded," and established compensatory measures to monitor for additional structural displacement by performing routine seismic seal gap measurements. Because this violation is of very low safety significance (Green) and NextEra entered this into their CAP, this violation is being treated as a NCV consistent with the NRC Enforcement Policy. **(NCV 05000443/2015002-02: Inadequate Characterization of Prompt Operability Determination of the Containment Enclosure Building)**

.4 Problem Identification and Resolution Follow-up Review: Groundwater Protection Initiative (See 2RS6)

a. Inspection Scope

During the period April 20 to April 23, 2015, the inspectors performed a review of the effectiveness of NextEra's CAP in response to the past tritium leak into on-site ground water through the wall liner of the cask loading pool/transfer canal in the Fuel Storage Building. This problem was identified by NextEra in AR 01902166 for Spent Fuel Pool Zone 6 Fuel Building Transfer Canal Elevated Tritium and Leakage on September 6, 2013. Recently, this problem recurred and AR 02038368 was written documenting elevated tritium in the EFW french drain and CEVA dewatering well samples on April 6, 2015. Specifically, the inspectors reviewed CRs concerning the tritium leak to evaluate if the issue was completely and accurately identified, the causes were correctly identified, and timely corrective actions were performed commensurate with the safety significance of the issue.

b. Findings and Observations

No findings were identified.

In September 1999, elevated tritium concentrations were identified in ground water that was seeping into the containment annulus. Subsequently, NextEra determined that the cask loading area/transfer canal, adjacent to the Spent Fuel Pool (SFP), was leaking into the SFP tell-tale drain collection lines and down into the SFP sump. This water leakage contaminated the surrounding concrete, which resulted in leakage of water containing tritium into ground water beneath and adjacent to the Fuel Storage Building (FSB). To mitigate this leak, the tell-tale drains on the pool walls were flushed. In addition, a coating was applied to the cask loading pool and transfer canal surfaces during the 2014 refueling outage. A previous coating was applied to the cask loading pool and transfer canal surfaces during the 2010 refueling outage. While this corrective action reduced

the tritium leakage, a small amount of tritium was identified leaking from the catch basin surrounding the skimmer housing for the cask loading pool.

In addition to the pool and canal liner repair activities, NextEra implemented a building dewatering and remediation program by periodically withdrawing ground water in the areas inside and surrounding the FSB, primary auxiliary building, and containment. Tritiated water continues to migrate into the basements of some buildings and subsurface regions adjacent to some building foundations. Five dewatering pump locations were established in the following area/buildings: 1) containment enclosure area, 2) primary auxiliary building, 3) emergency feed water french drain, 4) 'B' RHR equipment vault, and 5) 'B' electrical tunnel. Through controlled dewatering at these five dewatering/remediation wells, NextEra systematically remediated and monitored tritium contaminated ground water. By measuring tritium concentrations and the quantities of the water that are discharged to the storm drain system, NextEra established a controlled, monitored discharge through the normal liquid effluent discharge path.

A ground water monitoring network of 27 monitoring wells has been established to track and trend the concentrations and migration of groundwater. The samples from most monitoring wells are collected annually, then analyzed for tritium and gamma emitting radionuclides. The three tritium plume indicator wells (SW-1, SD-1 and BD-2) are sampled and analyzed quarterly. Tritium is the only radioisotope identified in water samples taken from these monitoring wells. Currently, only one well (SW-1) located near the FSB is consistently showing a positive concentration slightly above 2000 pCi/l. All other wells (except SD-1 and BD-2) are showing less than minimum detectable (about 600 pCi/l). Since June 2009, results of two monitoring wells (SD-1 and BD-2) intermittently indicated values above the tritium detection limit of 600 pCi/L. These wells are southwest of SW-1 up-gradient of the seawall inside the Protected Area (PA) fence. Tritium migration to SD-1 and BD-2 is consistent with site hydrology, the site geological features and dewatering influence. All monitoring well tritium results were below the ODCM reporting level of 30,000 pCi/l and the Environmental Protection Agency's Drinking Water Standard of 20,000 pCi/l. This EPA standard is given for relative comparison only as this is not a drinking water source.

Independent hydrologists were retained by NextEra to provide in-depth evaluations of site characteristics through expansion of the ground water and dewatering well monitoring program and development of a hydrological site conceptual model. Recently, a computerized fate and transport model has been developed and calibrated to predict tritium groundwater concentrations over space and time. Using this model, no detectable tritium has been estimated to migrate offsite. This has been verified by groundwater sample results recently obtained from monitoring wells located just outside the restricted area. These groundwater sample results have confirmed no detectable levels for tritium in the unrestricted area and no safety impact to the public.

The inspectors determined that NextEra's overall response to identifying the on-site groundwater tritium condition, determining the causes of the condition, and initiating corrective actions met the standards of NextEra's CAP. The prioritization and timing of the corrective actions was determined to be commensurate with the safety significance of the problem. Currently, the selection and implementation of the most effective option for isolating the tritium leak in the skimmer housing for the cask loading pool is awaiting management decision.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 - 1 sample)

Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in IMC 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that NextEra made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed NextEra's follow-up actions related to the events to assure that NextEra implemented appropriate corrective actions commensurate with their safety significance.

- Steam generator and 'A' main condenser sodium and chloride excursions on May 30 and June 6, 2015

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 16, 2015, the inspectors presented the inspection results to Mr. Dean Curtland, Site Vice President, and other members of the Seabrook Station staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
D. Curtland, Site Vice President
R. Dodds, Plant General Manager
V. Brown, Senior Licensing Engineer
M. Darois, Hydrologist, Contractor from RSCS
K. Douglas, Maintenance Director
D. Drolette, System Engineer
P. Dullea, Principal Chemist Specialist
D. Flahardy, Radiation Protection Manager
A. Guitas, Chemistry Specialist
K. Harper, Fuel Building System Engineer
S. LaVoie, Maintenance Mechanic
E. Matthews, PCCW/CBS System Engineer
B. McAllister, SW System Engineer
M. Ossing, Licensing Manager
A. Pomeroleais, Chemistry Technician
D. Ritter, Operations Director
D. Robinson, Chemistry Manager
I. Watters, Heat Exchanger Program Owner

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000443/2015002-01	NCV	Inadequate Identification of Structural Deformation and Impacts on Associated Equipment (Section 4OA2.3.1)
05000443/2015002-02	NCV	Inadequate Characterization of Prompt Operability Determination of the Containment Enclosure Building (Section 4OA2.3.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
LN0556.35, 1-SY-B-3 Switchyard Quarterly Non-Technical Specification Battery Surveillance, Revision 6
ON1090.13, Response to Natural Phenomena Affecting Plant Operations, Revision 5
ON1246.03, GSU Trouble, Revision 7
OP-AA-102-1002, Seasonal Readiness, Revision 7

Condition Reports
01986003 01986008 01986009 02004595 02045704 02047074
02048771 02052635 02055896

Maintenance Orders/Work Orders
40324583 94102370 94102372 94102373

Miscellaneous
ISO New England Operating Procedure No. 4, Action during a Capacity Deficiency, Revision 12
Master/Local Control center Procedure No. 1, Nuclear Plant Transmission Operations, Revision 13
Master/Local Control center Procedure No. 2, Abnormal Conditions Alert, Revision 17
Seabrook UFSAR, Revision 16
Seasonal Readiness Memo to Peter Sena, dated May 24, 2015

Section 1R04: Equipment Alignment

Procedures
MS0523.26, Horizontal Shaft Alignment, Revision 28
OS1006.04, Operation of the Containment Spray System, Revision 23
OX1426.18, Aligning DG 1A Controls for Auto Start, Revision 5
OX1436.02, Turbine Driven Emergency Feedwater Pump Quarterly and Monthly Valve Alignment, Revision 22

Condition Reports
02054284

Maintenance Orders/Work Orders
40333188 40333249 40395367

Drawings
1-CC-B20211, Primary Component Cooling Loop 'B' Detail, Revision 21

Section 1R05: Fire Protection

Condition Reports
02030144

Maintenance Orders/Work Orders
40375960

Miscellaneous
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, DG-F-1B-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, DG-F-2B-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, DG-F-3F-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, DG-F-3D-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, DG-F-3B-Z
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB-F-1C-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB-F-1D-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB-F-1E-A
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB-F-1F-Z
Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, SW-F-1E-Z

Seabrook Station Fire Protection Pre-Fire Strategies, Volume II, DS-F-1-0
Seabrook Station Fire Protection Pre-Fire Strategies, Volume II, IS-F-1-0

Drawings
1-SW-B20794, Service Water System, Revision 36

Section 1R06: Flood Protection Measures

Procedures
MS0599.47, Erection of Scaffolding, Revision 2
SA-AA-100-1006, Confined Space Entry, Revision 4

Condition Reports
00583618 02039955 02042263 02056921

Maintenance Orders/Work Orders
40149135 40209732 40236831 40308818 40328092 94121031

Miscellaneous
Confined Space Entry Permit CSP-15-4369
Drawing 9763-F-310256, Underground Duct Manhole W11 & W12, Revision 7
Preventive Maintenance Activity PMID-15630 (W11), Low Voltage Electrical Manhole and Vault Inspections
Preventive Maintenance Activity PMID-54830 (W05), Medium Voltage Electrical Manhole and Vault Inspections
Report TP-7, Seabrook Station Moderate Energy Line Break Study, Revision 5
Seabrook Station UFSAR, Revision 16
Scaffold Tag No. 13-0096

Section 1R07: Heat Sink Performance

Procedures
CP 3.3, Miscellaneous Systems/Closed Cooling Water Systems Chemistry Control Program, Revision 28
CP 4.2, Chlorine Management Program, Revision 13
ER1850.017, SW Heat Exchanger Program, Revision 1
ER-AA-123, NRC Generic Letter 89-13 Service Water Program, Revision 1
MS0515.19, PCCW Heat Exchanger Channel Head & Cover and Lower Head Removal/Installation, Revision 04
OS1216.01, Degraded Ultimate Heat Sink, Revision 23
OX1412.02, PCCW Train B Quarterly Operability, 18 Month Position Indication, and Comprehensive Pump Testing, Revision 20
OX1416.08, Cooling Tower Basin Temperature Weekly Surveillance, Revision 7
PEG-268, Plant Engineering Guidelines Heat Exchanger and NRC GL 89-13 Program, Revision 0

Condition Reports
01673445 02037044 02037230 02050993 02051912* 02051914*
02052127*

Maintenance Orders/Work Orders
40085036 40247852 40294121 40327979 40340663

Miscellaneous
C-S-1-25115, DG Heat Exchanger (DG-E-42A/B) Performance after Tube Plugging, Revision 0
DBD-CC-01, Design Basis Document Primary Component Cooling Water System, Revision 5
DBD-DG-01, Design Basis Document Emergency Diesel Generator, Revision 4
FP 23830, Diesel Generator Vendor Manual
Heat Exchanger Program Health Report, April to June 2015
Heat Exchanger Program Health Report, October to December 2014
NYN-90037, Response to Generic Letter 89-13, dated February 9, 1990
NYN-90176, Supplemental Response to Generic Letter 89-13, dated September 24, 1990
Quick Hit Self-Assessment: 2015 NRC Triennial Heat Sink Inspection, dated April 21, 2015
SBK-L-15073, Enclosure 5, License Renewal Commitment List, dated May 26, 2015
Seabrook Station Updated Final Safety Analysis Report, Revision 11
Thermal Performance Test of 1-DG-E-42B, dated April 5, 2015
Thermal Performance Test of 1-DG-E-42B, dated November 2, 2014
Thermal Performance Test of 1-DG-E-42B, dated November 29, 2012
Thermal Performance Test of CC-E-17-A, dated March 28, 1999
TM-1682, Thermal-Hydraulic Analysis PCCW Heat Exchangers for Seabrook Nuclear Station, Revision 1

Drawings
1-NHY-202479, Services & Circ. Water Intake & Discharge Transition Structures Plan - General Arrangement, Revision 3
1-NHY-202480, Services & Circ. Water Intake & Discharge Transition Structures Plan - General Arrangement, Revision 3

Section 1R11: Licensed Operator Requalification Program

Miscellaneous
Simulator Exercise Guide, Lesson Plan: SBK LOP L3581C, Revision 0

Section 1R12: Maintenance Effectiveness

Procedures
ER-AA-100-2002, Maintenance Rule Program Administration, Revision 2PEG-24, Maintenance Rule Goal Setting and Monitoring, Revision 8
PEG-45, Maintenance Rule Program Monitoring Activities, Revision 17

Condition Reports
02039481 02053980

Miscellaneous
'B' EDG System Health Report
EE-10-010, Maintenance Rule PRA Basis Document PRA Risk Ranking and Performance Criteria Based on SSPSS-2009, dated March 2011
Maintenance Rule Functional Failure Evaluation for 1-CC-P-11-B Motor Grounded, dated June 22, 2015
NUMARC 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2
PCCW System Health Report, 4/1/15 to 6/30/15

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
OP-AA-102-1003, Guarded Equipment, Revision 6
OS1012.04, Primary Component Cooling Water Loop B Operation, Revision 26
WM-AA-100-1000, Work Activity Risk Management, Revision 3

Condition Reports
02043905 02050598

Maintenance Orders/Work Orders
40317728 40317729 94119502

Miscellaneous
Maintenance Rule (a)(4) Risk Profile for Work Week 1522
Maintenance Rule (a)(4) Risk Profile for Work Week 1523-02
Maintenance Rule (a)(4) Risk Profile for Work Week 1525-04
Work Activity Risk Plan

Section 1R15: Operability Determinations and Functionality Assessments

Procedures
EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 17
EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revisions 19 & 20
OX1456.81, Operability Testing of IST Valves, Revision 22

Condition Reports
01929460 01957744 02004748 02014325 02031118 02031730
02036697 02036700 02037230 02037310 02038232 02038458
02038787 02039190 02039741 02044627 02050993 02052939
02053991 02056483

Maintenance Orders/Work Orders
40200892 40284268 40303901-02 40379153

Miscellaneous
2004 ASME Code for Operation and Maintenance of Nuclear Power Plants
SW-V-16 IST Power Operated Valve Stroke Time Data Sheet
Calculation C-S-1-25115, DG Heat Exchanger (DG-E-42A/B) Performance after Tube Plugging, Revision 0
Colt-Pielstick Diesel Engine Vendor Manual
Fairbanks Morse Marketing Information Letter #33
Mistras Preliminary Eddy Current Report dated April 1, 2015
Report ESI-SR-15-063, Customer Specific Seismic Test Report of SG Type Relay, Westinghouse (ABB) Model #: 293B254A20, dated 4/23/15
Seabrook Station UFSAR, Revision 16

Drawings
1-NHY-250000, Data Sheets for Motor and Air Operated Valves and Dampers, Revision 80

Section 1R19: Post-Maintenance Testing

Procedures
IS0609.900, Rebuilding Bettis Nuclear Series Actuators, Revision 5
IS1660.310, RDMS Geiger-Mueller Detector Tube Primary Calibration, Revision 7
IX1660.801, RM-R-6481 or RM-R-6482 Main Steam Line Radiation Monitor Calibration, Revision 7
MS0523.29, Inspection and Repair of Lube Oil Pump Coupling (Pacific Charging/Safety Injection Pump, Gear Reducers, 1-CS-P-2A & B Skids), Revision 3
MX0539.66, B-EDG Mechanical Governor Venting/Setup and Testing After Replacement, Revision 1
OS1026.09, Operation of DG 1B, Revision 25

Condition Reports
02003768 02036004 02039132 02041259 02044073

Maintenance Orders/Work Orders
40236783 40305018 40321878 40321895 40323879 40323908 40323912

Miscellaneous
PM Activity 11214, 1-RM-R-6481-MAN-2, Main Steam Line Loops 1 and 4 Rad Monitor Detector Replacement, Revision 0
Specification 9763-006-225-2, Specification for Tornado Check Dampers, Revision 8

Section 1R22: Surveillance Testing

Procedures
CS0910.01, Primary System Sampling at SS-CP-166A, Revision 20
CX0901.02, Determination of Dose Equivalent I-131, Revision 12
EX1803.003, Reactor Containment Type B and C Leakage Rate Tests, Revision 13
IX1662.152, Protection Channel II Reactor Coolant Flow Loops Operational Test, Revision 7
LS0550.09, Timing Relay Acceptance Testing and maintenance Program, Revision 17
LS0563.11, Testing of Agastat 125VDC (7000 Series) TDPU Timing Relays, Revision 9
OX1401.02, RCS Steady State Leak Rate Calculation, Revision 9
OX1423.26, Quarterly Containment Ventilation Valve Testing, Revision 8
OX1436.02, Turbine Driven Emergency Feedwater Pump Quarterly and Monthly Valve Alignment, Revision 21
OX1456.27, Train A ESFAS Slave Relay K615 Quarterly Go Test, Revision 11
OX1456.81, Operability Testing of IST Valves, Revision 22

Condition Reports
02042496* 02042728 02050327 02050336

Maintenance Orders/Work Orders
40316034 40322927 40324625 40328568

Section 1EP6: Drill Evaluation

Procedures
EP-AA 101-1000, Nuclear Division Drill and Exercise Procedure, Revision 12
EPDP-03A, EP Cornerstone Reporting and Information Form, Revision 25, dated May 22, 2015
ER 1.1, Classification of Emergencies, Revision 52
ER 1.2, Emergency Action Plan Activation, Revision 61
ER 1.2B, Alert Checklist, Short Term Emergency Director, Revision 59
ER 2.0B, Seabrook Station State Notification Fact Sheet, Revision 31, Alert-HA1, dated June 10, 2015
ER 2.0B, Seabrook Station State Notification Fact Sheet, Revision 31, SAE-SS1, dated June 10, 2015
ER 2.0B, Seabrook Station State Notification Fact Sheet, Revision 31, Unusual Event-SU5, dated May 22, 2015
ER 2.0B, Seabrook Station State Notification Fact Sheet, Revision 31, Alert-FA1, dated May 22, 2015
ER 3.1, Technical Support Center Operations, Revision 53

Condition Reports
02054755

Miscellaneous
Simulator Exercise Guide, Lesson Plan: Demonstrative Examination No. 16
Crew and Simulator Examination Forms, Segment 15.3, Week 4, Crew D, dated May 22, 2015

Section 2RS5: Radiation Monitoring Instrumentation

Procedures
CS0908.02, RDMS Setpoints, Revision 10
CX0917.01, Liquid Effluent Release Setpoints, Revision 20
HX0955.32, RDMS Setpoint Determination Rad Monitors, Revision 29
IN1660.992, RM-R-6454 Storm Drain Effluent Monitor Calibration, Revision 5
IX1660.816, RM-R-6509 WLTT Discharge Rad Mont Calibration, Revision 9
IX1660.823, RM-R-6515 6516 Loop A B PCCW Rad Mont Calibration, Revision 6
IX1660.824, RM-R-6519 SGBD Flash Tank Discharge Rad Mont Calibration, Revision 9
IX1660.826, RM-R-6521 Turbine Building Sump Rad Mont Calibration, Revision 6
IX1660.872, RM-R-6516 Loop A PCCW Operation Test, Revision 8
IX1660.873, RM-R-6515 Loop B PCCW Operation Test, Revision 8
IX1660.874, RM-R-6519 SB Flash Tank Discharge Operation Test, Revision 7
IX1660.876, RM-R-6521 Turbine Building Sump Pump Discharge Operation Test, Revision 6
IX1660.816, RM-6509 Waste Liquid Test Tanks Discharge Radiation Monitor Calibration, Revision 7
IX1688.110, WL-F-1458-1 Waste Test Tank Discharge Flow Calibration, Revision 4

Audits, Self-Assessments, and Surveillances
SBK 14-013, RETS Chemistry, December 2014
SAQH 2033458, NRC IP 71124.06 Self-Assessment, March 2015
Daily Quality Summary WS SAT Turbine Gland Seal Steam Comp Actions 2015
Daily Quality Summary Chemistry 2012 - 2015 for RETS

Corrective Actions
01884881 01901568

Miscellaneous
WO 4023552601, R-6509 Waste Liquid Test Tanks Discharge Radiation Monitor Calibration, 12-10-13
WO 4029393401, WL-F-1458 Waste Test Tank Flow Calibration, 08-08-14
WO 4027990801, R-6519 Flash Tank Discharge Rad Mont Calibration, 09-24-14
WO 4029718101, R-6519 Flash Tank Discharge Rad Mont Operational Test, 12-23-14
WO 4028196601, R-6519 Flash Tank Discharge Rad Mont Operational Test, 09-26-14
WO 4026363701, R-6521 Turbine Building Sump Pump Discharge Rad Monitor Calibration, 05-20-14
WO 4030015301, R-6521 Turbine Building Sump Pump Discharge Rad Monitor Operability Test, 01-05-15
WO 4028451001, R-6521 Turbine Building Sump Pump Discharge Rad Monitor Operability Test, 10-08-14
WO 4030883001, F-6577 Plant Vent Stack Flow Trans Op Test, 02-17-15
WO 4030884601, R-6506 Cond Air Evacuator Disc Rad Monitor Calibration, 2-17-15
WO 4029128601, R-6506 Cond Air Evacuator Disc Rad Monitor Operability Test, 11-17-14
WO 4027990701, R-6506 Cond Air Evacuator Disc Rad Monitor Calibration, 09-16-14

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures
CD 0904.11, Split and Cross Check Analysis, Revision 6
CD 0917.04, Monitoring of Plant Systems for Radioactivity, Revision 3
CDI-015, Sampling of Groundwater Monitoring Wells, Revision 4
CP 3.1, Primary Chemistry Control, Revision 41
CP 3.2, Secondary Chemistry Controls Program, Revision 40
CP 3.3, Miscellaneous System Closed Cooling Water Surveillances, Revision 28
CP 4.1, Effluent Surveillance Program, Revision 29
CP 8.1, Verification of Analytical Systems Performance, Revision 23
CS0908.01, Off-site Dose Assessment, Revision 16
CS0908.02, RDMS Setpoints, Revision 10
CS0910.08, Miscellaneous Primary Side Sampling, Revision 16
CS0911.06, Miscellaneous Secondary System Sampling, Revision 12
CS0917.03, Unmonitored Plant Releases, Revision 10
CS0917.04, Monitoring Plant Systems for Radioactivity, Revision 3
CS0920.07, Tritium Analysis by Liquid Scintillation, Revision 15
CX0917.01, Liquid Effluent Release Setpoints, Revision 20
CX0901.37, Regulatory Guide 1.21 Report, Revision 7
EV-AA-100, Fleet Groundwater Protection Program, Revision 2
EV-AA-100-1000, Groundwater Protection Program Communications/Notification Plan, Revision 5
EV-AA-100-1001, Fleet Groundwater Protection Program Implementing Guidelines, Revision 2
NARC 3-1.1, Periodic and Special Regulatory Reports, Revision 148
ON1244.01, Spill Response, Revision 30

Audits, Self-Assessments, and Surveillances
SAQH 2033458 NRC IP 71124.06 Self-Assessment March 2015
SBK 14-013 RETS Chemistry December 2014
Daily Quality Summary WS SAT Turbine Gland Seal Steam Comp Actions 2015
Daily Quality Summary Chemistry 2012 - 2015 for RETS

Corrective Actions

018l85759	01884137	01884906	01891011	01901555	01901561
01902166	01912777	02038368	02038715		

Miscellaneous
2013 SB Radioactive Effluent Release Report, April 28, 2014
2014 SB Radioactive Effluent Release Report and addendum issue April 29, 2015
AREVA Submittal SBC-1132: 2014 SB Land Use Census Analysis (AREVA Document No. 32-9228760-000) Sept 30, 2014
AREVA Submittal SBC-1136: Estimated Public Doses from Seabrook Station Effluents in 2014 (AREVA Document No.32-9237709-000), April 21, 2015
AREVA Submittal SBC-1136: Seabrook Station Radiological Effluent Impact Assessment for 2014 (AREVA Document No. 47-9237710-000), April 21, 2015
CP 4.1B GEW Sample Collection Data Permit No. 15-58, 'A' Plant Vent, 02-10-15
CS0917.02 Form C: GEW Containment Purge Release Permit, Permit No. 15-01, 01-02-15
CX0917.01 Form C: LEW Release Data Permit No 15-101, ASDA, 02-01-15
CX0917.01 Form C: LEW Release Data Permit No 15-088, Turbine Building Sump, 02-25-15
CX0917.01 Form C: LEW Release Data Permit No 15-076, Waste Test Tank B, 02-25-15
Seabrook Station Updated Final Safety Analysis Report
SB System Health Report: Radiation Monitoring System for 4th Quarter 2014
SB System Health Report: Radiation Monitoring System for 1st Quarter 2015
SB Inter and Intra Laboratory Radiochemistry QC Report 2014
WO 4014773801 18 Month Surveillance on 1-PAH-F-16 including HEPA DOP Test, August 27, 2012
WO 40213694 1-EAH-F-9 Charcoal Sampling and Testing, 09-20-13
WO 40220785 1-FAH-F-74 Charcoal Sampling and Testing, 9-30-13

Section 4OA1: Performance Indicator Verification

Procedures
CS0910.01, Primary Systems Sampling at SS-CP-166A, Revision 20
CX0901.02, Determination of Dose Equivalent I-131, Revision 12
NAP-206, NRC Performance Indicators, Revision 6
OX1401.02, RCS Steady State Leak Rate Calculation, Revision 9

Condition Reports
02049206

Miscellaneous
LIC-14031, Documentation Supporting the Seabrook Station NRC 2nd Quarter 2014 Performance Indicator Submittal
LIC-14039, Documentation Supporting the Seabrook Station NRC 3rd Quarter 2014 Performance Indicator Submittal
LIC-15004, Documentation Supporting the Seabrook Station NRC 4th Quarter 2014 Performance Indicator Submittal

LIC-15015, Documentation Supporting the Seabrook Station NRC 1st Quarter 2015 Performance Indicator Submittal

Section 4OA2: Problem Identification and Resolution

Procedures
PI-AA-207, Trend Coding and Analysis, Revision 9
PI-AA-207-1003, Control and Application of Trend Codes and Keywords, Revision 4
PI-AA-207-1003-10000, PI Trend Codes and Keywords, Revision 3

Condition Reports
02018619 02028503 02050327 02055086 02055723

Miscellaneous
Seabrook Engineering Self-Evaluation and Trending Analysis Report for 1st Quarter 2015
Seabrook Maintenance Self-Evaluation and Trending Analysis Report for 1st Quarter 2015
Seabrook Station Station Self-Evaluation and Trending Analysis Report for 1st Quarter 2015

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures
CD0905.07, Seawater In-Leakage, Revision 10
OS1234.02, Condenser Tube or Tube Sheet Leak, Revision 17

Condition Reports
02051143 02051889 02056851

*NRC identified

LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Document Access and Management System
AR	action request
ASR	alkali-silica reaction
CAP	corrective action program
CBS	containment building spray
CEB	containment enclosure building
CEVA	containment ventilation area
CFR	*Code of Federal Regulations*
CR	condition report
DG	diesel generator
EDG	emergency diesel generator
EFW	emergency feedwater
ESFAS	engineered safety features actuation system
FEA	finite element analysis
FSB	fuel storage building
FSEL	Ferguson Structural Engineering Laboratory
GPI	groundwater protection initiative
IMC	Inspection Manual chapter
kV	kilovolt
MR	maintenance rule
MRC	Management Review Committee
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulations
ODCM	offsite dose calculation manual
PCCW	primary component cooling water
POD	prompt operability determination
RHR	residual heat removal
SFP	spent fuel pool
SMD	solar magnetic disturbance
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order