



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

February 12, 2016

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
05000443/2015004 AND INDEPENDENT SPENT FUEL STORAGE
INSTALLATION REPORT NO. 07200063/2015001**

Dear Mr. Curtland:

On December 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. The enclosed report documents the inspection results, which were discussed on January 21, 2016, with you and other members of your staff.

NRC Inspectors 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.

Based on the results of this inspection, no findings of significance were identified. However, a licensee-identified violation, which was determined to be of very low safety significance, is listed in Section 4OA7 of this report. If you contest the non-cited violations (NCVs) 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.

D. Curtland

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In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "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 and 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/

Fred L. Bower, III, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000443/2015004
and ISFSI Report 07200063/2015001
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-443

License No: NPF-86

Report No: 05000443/2015004

Licensee: NextEra Energy Seabrook, LLC

Facility: Seabrook Station, Unit No.1

Location: Seabrook, New Hampshire 03874

Dates: October 1, 2015 through December 31, 2015

Inspectors: P. Cataldo, Senior Resident Inspector
C. Newport, Resident Inspector
J. Vasquez, Project Engineer
D. Silk, Senior Operations Engineer
B. Dionne, Health Physicist
J. Nicholson, Senior Health Physicist
T. O'Hara, Reactor Inspector
B. Cook, Senior Reactor Analyst

Approved by: Fred L. Bower, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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SUMMARY

Inspection Report 05000443/2015004 and Independent Spent Fuel Storage Installation (ISFSI) Report 07200063/2015001; 10/01/2015 – 12/31/2015; Seabrook Station, Unit No. 1; Routine Integrated Inspection Report.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Other Findings

A violation of very low safety significance was identified by NextEra and reviewed by the inspectors. Corrective actions taken or planned by NextEra have been entered into the corrective action program (CAP). This violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Seabrook began the assessment period at less than 20 percent reactor power, continuing the coastdown for shutdown and entry into Refueling Outage No. 17 (OR17). Seabrook remained shutdown during performance of OR17, until reactor criticality was achieved on November 12, 2015. Subsequently, Seabrook synchronized to the grid on November 13, 2015, and achieved full power (100 percent) on November 17, 2015. Seabrook operated at full power for the remainder of the assessment period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors reviewed NextEra's readiness for the onset of seasonal cold temperatures. The review focused on the service water (SW) cooling tower (CT) and the supplemental emergency power system generators, as well as other areas of cold weather protection for various areas of interest onsite, such as weather enclosures for the condensate storage tank. The inspectors reviewed the updated final safety analysis report (UFSAR), technical specifications (TSs), control room logs, and the CAP to determine what temperatures or other seasonal weather 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 cold weather conditions. Documents reviewed for each section of this report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'A' SW return to service on October 29
- 'B' residual heat removal (RHR) return to service on November 17
- 'B' charging system during 'A' train maintenance on December 17

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, work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment to identify conditions that could have impacted the system's performance of its 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.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

During October and November 2015, the inspectors performed a complete system walkdown of accessible portions of the primary component cooling water system to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, surveillance tests, system diagrams, equipment line-up check-off lists, WOs, work requests, CRs, TSs, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and 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 appropriately evaluated and resolved any equipment issues and other performance deficiencies and entered them into their CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire ProtectionResident 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.

- Containment 0' (C-F-2-Z) on October 14
- Containment -26' (C-F-1-Z) on October 20
- Containment 25' (C-F-3-Z) on October 24
- Supplement emergency power system (SEPS-F-1-0) on December 3
- Essential switchgear 'A' (CB-F-1A-A) on December 17

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – 1 sample)a. Inspection Scope

The inspectors reviewed the 'B' emergency diesel generator (EDG) heat exchanger to determine its readiness and availability to perform its safety functions. The inspectors reviewed the design basis for the component and verified NextEra's commitments to NRC Generic Letter 89-13. The inspectors reviewed results of previous inspections of the 'B' EDG heat exchanger, reviewed performance data obtained during recent operation of the 'B' EDG heat exchanger, observed the most recent inspection results of the 'B' EDG heat exchanger, and discussed the results with NextEra staff. The inspectors also verified that NextEra initiated appropriate corrective actions for identified deficiencies.

b. Findings

No findings were identified.

1R08 Inservice Inspection (711111.08 – 1 sample)a. Inspection Scope

The inspectors conducted a review of NextEra's implementation of inservice inspection (ISI) program activities for monitoring degradation of the reactor coolant system (RCS) boundary, risk significant piping and components, and containment systems during the

Seabrook Unit 1, OR17. Inspection sample selection was based on the inspection procedure objectives and risk priority of those pressure retaining components in systems where degradation would result in a significant increase in risk. The inspectors observed in-process non-destructive examinations (NDE), reviewed documentation, and interviewed NextEra personnel to verify that the NDE examination activities performed as part of the Seabrook Unit 1 ISI program were being conducted during the Seabrook Interval 3, Period 2, 2nd Outage, ISI in accordance with the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, 2004 Edition, no Addenda.

Non-destructive Examination and Welding Activities (Inspection Manual Chapter (IMC) Section 02.01)

The inspectors performed direct observations of select NDE activities, and reviewed records of the NDEs listed below. The inspectors reviewed certifications of the NDE technicians performing the examinations. The inspectors verified that the examinations were performed in accordance with approved procedures and that the results were reviewed and evaluated by certified Level III NDE personnel.

ASME Code Required Examinations

- The inspectors observed the remote, bare-metal visual (VT-2) examination of the reactor vessel upper closure head and control rod drive mechanism (CRDM) nozzle penetrations.
- The inspectors reviewed the VT-3 direct visual examination data from NextEra's examination of the CRDM structural supports to determine whether all results were satisfactory.
- The inspectors reviewed the examination data sheets for the post mechanical stress improvement process phased array, outside diameter ultrasonic test inspections and the eddy current (EC), inside weld surface inspections of seven reactor vessel hot leg and cold leg nozzle dissimilar metal safe-end welds. The inspectors verified the examinations were completed in accordance with the applicable Seabrook TSs, ASME Boiler and Pressure Vessel Code, Section XI, 2004 Edition, Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(b)(2)(xiv, xv and xiv), Code Case N-770-1 and the Examination Program Plan (Scan Plan) WDI-PJF-1312142-EPP-001, Revision 0, as submitted to, and reviewed by, the NextEra staff. The inspectors determined whether the examination results were dispositioned in accordance with the applicable requirements for the weld records identified in the list of documents reviewed section of this report.
- The inspectors reviewed the data records from the visual examinations of the containment liner concrete pad and floor plugs. The inspectors determined whether NextEra personnel documented the conditions for investigation, repair, and monitoring in accordance with their program requirements.
- The inspectors observed the ultrasonic test examination of two ASME Class 2 feedwater nozzle-to-pipe welds (FW 4607-04-19 and FW 4607-04-20) to determine whether the examinations were performed to check for indications of thermal fatigue

in the welds and whether the results were properly dispositioned. No new indications were detected, and previously detected indications were confirmed to show that no changes had occurred.

- The inspectors reviewed the documentation for a containment liner anomaly on the inside surface of the containment dome. NextEra staff completed a VT-1 remote, visual examination on October 2, 2015. This indication, identified as IWE-15-159-176, was first documented in October 2009, and re-examined in October 2012 and April 2014. NextEra engineering staff evaluated the results and did not identify measureable changes in the length, width, contour or color of the anomaly from 2009 thru 2015. The inspectors noted that NextEra engineers were not able to accurately measure the height of the anomaly due to limitations of their imaging equipment. NextEra staff initiated plans to perform an examination during the next refueling outage. The inspectors determined NextEra staff tracked and dispositioned this indication in accordance with their program requirements.

Review of Originally Rejectable Indications Accepted by Evaluation

The inspectors determined there were no samples available for review during this inspection that involved examinations with recordable indications that had been accepted for continued service after evaluation.

Repair/Replacement Consisting of Welding Activities

The inspectors reviewed WO 4036801501, which provided direction to fabricate a diesel fuel system connection to implement design change EC282581. The inspectors reviewed the WO to determine whether welding was completed in accordance with ASME Code welding requirements. Specifically, the inspectors determined whether approved plant welding procedures and parameters were specified and that post-weld quality control examinations were identified. The inspectors verified that the WO contained completed weld traveler information, documentation of completed examinations, and appropriate documentation of the work steps completed by NextEra personnel.

Pressurized Water Reactor Vessel Lower Head Penetration Inspection Activities (IMC Section 02.02)

The inspectors reviewed visual inspection records of the bare-metal visual examination (VT-2) of the exterior surface of the Unit 1 lower reactor vessel head surface and instrument penetrations for indications of boric acid leakage in order to confirm appropriate inspection coverage was achieved and to verify that no boric acid leakage or wastage had been observed. The inspectors further verified that NextEra staff took actions, tracked in their CAP, to ensure the lower head surface was sufficiently clean to accurately observe the annulus between the penetrations and the openings in the lower head. The inspectors reviewed the examination records to verify that there was no evidence of boric acid.

Steam Generator (SG) Tube Inspection Activities (IMC Section 02.04)

The inspectors reviewed the NextEra degradation assessment report for OR17, and reviewed records associated with a sample of SG tube examinations completed from all four SGs. The inspectors determined the following activities were planned:

1. Base scope of 100 percent full length bobbin coil examinations in all SGs to inspect general tube conditions;
2. Hot and cold leg tube support plate to tube intersections examinations in high stress tubes using a "+ Point probe" to interrogate the regions with the potential for outside diameter stress corrosion cracking due to tube bulges and tube expansion transitions near the top of the tube sheet;
3. Examinations of all SGs utilizing a "+ Point probe", which cannot be inspected with bobbin probes, such as small radius U-bends and local profile anomalies;
4. Inspection of the tube sheet region with "+Point probe" in each SG to detect tube cracking near the top of the tube sheet; and
5. Examination of large residual noise tube support plate locations on high-stress tubes (hot leg tube support plates only) using a "+ Point probe" in regions with the potential for outside diameter stress corrosion cracking and primary water stress corrosion cracking, as well as regions not inspectable with bobbin probes, such as small radius U-bends and local profile anomalies.

The inspectors reviewed the scope of the EC examinations to verify that known and potential areas of tube degradation were inspected. The inspectors also verified that examination scope expansion criteria were implemented based upon inspection results, as directed by the Electric Power Research Institute (EPRI) "Pressurized Water Reactor Steam Generator Examination Guidelines." The inspectors verified compliance of these examinations with the Seabrook TSs, the ASME Code, Section XI, and Nuclear Energy Institute (NEI) 97-06, "Steam Generator Program Guidelines." The inspectors verified tubes with identified wall wear of 40 percent or greater were plugged.

The inspectors reviewed EC examination records and determined NextEra staff identified a single axial indication in SG 'A', row 20, column 80 that was subsequently plugged in accordance with program requirements. NextEra staff review of EC examination results also identified a defect, due to anti-vibration bar wear in SG 'A', row 50, column 79, which was plugged during the refueling outage to remove it from service. EC examination results further showed a single axial indication in SG 'C', row 39, column 46, below the top of the tube sheet in the hot leg, which was plugged in accordance with program requirements. The inspectors determined NextEra staff developed and completed an expansion plan for all four SGs without discovery of further indications. The inspectors verified that NextEra staff completed condition monitoring evaluations for these indications to properly determine, in accordance with program requirements, that in-situ pressure testing was not required in these tubes.

Boric Acid Corrosion Control Inspection Activities (IMC Section 02.03)

The inspectors reviewed the boric acid corrosion control program to determine whether activities were completed in accordance with NextEra procedures. The inspectors discussed the program with the boric acid program owner, and sampled photographic examination records of boric acid found on safety significant piping and components inside the containment structure during Mode 3 walkdowns conducted by NextEra personnel and directly observed by the NRC Resident Inspectors on October 2, 2015. The inspectors reviewed records related to the identification and documentation of non-conforming conditions of boric acid leaks in the CAP with a focus on areas that could cause degradation of safety significant components.

The inspectors verified the adequacy of VT-2 visual examination results of the bare-metal examination of the Unit 1 reactor pressure vessel lower head penetration nozzle welds that was performed by NextEra personnel during OR17. The inspectors reviewed a sample of photographs and visual inspection documentation records to verify whether indications of boric acid leakage were identified.

The inspectors verified that potential deficiencies identified were entered into the CAP and reviewed evaluations of selected deficiencies documented in CRs to verify that the corrective actions were consistent with the requirements of the ASME Code and 10 CFR 50, Appendix B, Criterion XVI. The inspectors also reviewed a sample of engineering evaluations for the above CRs to verify that equipment or components that were wetted or impinged upon by boric acid solutions were properly analyzed for degradation that might impact their function.

Identification and Resolution of Problems (IMC Section 02.05)

The inspectors reviewed a sample of CRs since the previous refueling outage, and verified that non-conforming conditions associated with ISI and SG inspections were properly identified, evaluated, dispositioned, and appropriately entered into the CAP.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11Q – 2 samples; 71111.11B – 1 sample)

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors reviewed the implementation of “just-in-time” training for licensed operators on September 30 through October 1, 2015. This training included the verification of plant shutdown activities consistent with the training plan and associated objectives for the shutdown and entry into OR17.

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 the briefings met the criteria specified in NextEra's Administrative Procedure OP-AA-100-1000, "Conduct of Operations," Revision 16. In particular, the inspectors observed turbine overspeed testing, power reduction, reactivity management, and reactor shutdown and entry into OR17 on October 1, 2015. In addition, inspectors observed transition to shutdown cooling and implementation of alarm response procedures on October 1, 2015, and RCS drain-down to mid-loop activities on November 1, 2015. 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.

.3 Licensed Operator Requalification Biennial Review

a. Inspection Scope

The following inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, and Inspection Procedure Attachment 71111.11B, "Licensed Operator Requalification Program."

Examination Results

On December 29, 2015, the results of the annual operating tests were reviewed in-office to determine if pass/fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 10, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The review verified that the failure rates (individual or crew) did not exceed 20 percent.

- Five out of 52 operators failed at least one section of the annual exam. The overall individual failure rate was 9.6 percent.
- One out of 11 crews failed the simulator test. The crew failure rate was 9.1 percent.

Written Examination Quality

The inspectors reviewed two written examinations administered during the 2015 examination cycle for qualitative and quantitative attributes as specified in Appendix B of Attachment 71111.11B, "Licensed Operator Requalification Program."

Operating Test Quality

Ten job performance measures (JPMs) and four dynamic scenarios were reviewed for qualitative and quantitative attributes as specified in Appendix C of 71111.11B, "Licensed Operator Requalification Program."

Licensee Administration of Operating Tests

The dynamic simulator exams and JPMs administered during the week of November 30, 2015, were observed. These observations included facility evaluations of Shift Crew B and Staff Crew Four during two dynamic simulator exams and individual performance of five JPMs.

Examination Security

The inspectors assessed the facility staff's handling of exam material. The inspectors also checked JPMs, scenarios, and written examinations for excessive overlap of test items from week to week.

Remedial Training and Re-Examinations

The remediation plans for two individual JPM failures from the 2014 segment 14F annual requalification exam, and one biennial comprehensive written exam failure from November 2013, were reviewed to assess the effectiveness of the remedial training.

Conformance with Operator License Conditions

Medical records for ten license holders were reviewed to assess conformance with license conditions. Proficiency watch standing records were reviewed for the second and third quarters of 2015. The reactivation plans for license holders in 2015 were reviewed to assess the effectiveness of the reactivation process.

Simulator Performance

Simulator performance and fidelity was reviewed for conformance to the reference plant control room. A sample of simulator deficiency reports was also reviewed to ensure facility staff addressed identified modeling problems. Simulator test documentation was also reviewed.

Problem Identification and Resolution

A review was conducted of recent operating history documentation found in inspection reports, NextEra's CAP, and the most recent NRC plant issues matrix. The inspectors also reviewed specific events from NextEra's CAP which, indicated possible training deficiencies, to verify that they had been appropriately addressed. The NRC resident inspectors were also consulted for insights regarding licensed operators' performance.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (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.

- Radiation monitors
- Various safety-related snubber maintenance and leak resolutions
- SW CT fan electrical and mechanical maintenance activities

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 3 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.

- RCS drain-down to the reactor vessel flange on October 5
- 'A' SW system outage during core offload period (i.e., out-of-service) on October 8
- RCS decreased inventory and mid-loop operations on October 30

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 based on the risk significance of the associated components and systems:

- Feed regulating valve localized flow erosion on October 14
- Foreign material (i.e., ball bearings) identified in the reactor vessel and system piping from an ultrasonic inspection tool on October 23
- Containment liner leakage rate floor plugs and channel inspections on October 28
- Through wall leak on pipe threads of MS-V-413 drain line on December 21

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. The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 3 samples).1 Permanent Modificationsa. Inspection Scope

The inspectors reviewed the permanent modifications listed below. This included two modifications associated with NextEra's response to a Japan Lessons Learned Order. The inspection did not address whether the modification satisfactorily addressed the objectives of Order EA-12-049. The inspection scope for the modification was restricted to those elements necessary to satisfy the stated objectives of Inspection Procedure 71111.18, specifically: 1) to verify that the modifications have not affected the safety functions of important safety systems; 2) to verify that the design bases, licensing bases, and performance capability of risk significant SSCs have not been degraded through modifications; and, 3) to verify that modifications performed during increased risk-significant configurations did not place the plant in an unsafe condition. The inspectors reviewed modification documents that included applicable 10 CFR 50.59 documentation, post-modification testing, and design interface activities, such as procedure changes and applicable training activities.

- EC282453, replacement of MS-V-393
- EC282474, installation of reactor coolant pump low leakage shutdown seals
- EC282580, Fukushima FLEX strategy RCS makeup

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 5 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the test results were properly reviewed and accepted and problems were appropriately documented. The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold points were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

- Reactor trip breaker inspection and testing on October 1 and November 4
- 'B' RHR pump retest following outage maintenance activities on October 26
- Emergency feedwater pump P-37A retest following outage maintenance activities on November 12
- 10 CFR Part 21, primary/secondary trip latch replacement on ABB Model 7 K-Line breaker for CT fan, 2-SW-FN-51B, on December 1
- 'D' vital battery cell #18 replacement on December 30

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the maintenance and refueling outage (OR17), conducted October 1 through November 13. The inspectors reviewed NextEra's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed operator performance and other attributes associated with portions of the shutdown and cooldown processes, and compliance with cooldown rates associated with TS. Further, the inspectors reviewed multiple surveillance and other critical evolutions in the control room, and monitored controls associated with the following outage activities:

- Configuration, risk, and outage management, including monitoring of key shutdown safety functions, and compliance with the applicable TSs when taking equipment out of service;

- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing;
- Configuration and appropriate monitoring of reactor coolant level and temperature instruments, particularly during activities associated with the highest level of shutdown risk, which occurred during the RCS drain-down and reactor vessel head de-tensioning activities, as well as the drain-down to support RCS evacuation and fill;
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met; activities associated with the installation and testing of the new generator step-up transformers, including monitoring systems for combustible gas generation and induced currents from solar magnetic disturbances;
- Monitoring of decay heat removal operations, during initial onset into shutdown cooling, as well as activities associated with spent fuel pool cooling following full core offload;
- Observed various stages of NextEra's management and design implementation of post-Fukushima beyond design basis mitigating strategies and to verify no impacts on systems important to safety for both operating and shutdown conditions;
- Reactor water makeup and inventory controls, including appropriate flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss;
- Activities that could affect reactivity;
- Industrial safety activities, including equipment heavy lifts consistent with the Memorandum of Understanding with the Occupational Safety and Health Administration;
- Refueling activities, including fuel handling during core offload and reload inside containment, fuel handling in the spent fuel pool, as well as pre-outage fuel receipt inspections;
- Fatigue management that involved covered workers, and review of work hour controls and waivers;
- Prioritization and completion of mode hold condition reports and work orders, and review of operating mode transition checklists;
- Performed a final containment closeout/walk-down to verify that debris or equipment had not been left inside, particularly in areas that could impact operability of the containment recirculation sumps; additionally, performed condition assessment of debris interceptor screens, scuppers and doorways that contribute to overall operability of the containment sumps and emergency core cooling systems and component;
- Reactor start-up, plant heat-up, and power ascension activities; and
- Problem identification and resolution actions related to OR17 refueling outage activities.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 2 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:

- Refueling water storage tank to charging pump suction isolation valve, 1-CS-LCV-112E, inservice test surveillance on October 8 (inservice test)
- CBS-V-8 containment isolation valve equipment qualification and operability testing on October 11 (containment isolation valve test)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation (71114.02 – 1 sample)a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of the Seabrook Station Alert and Notification System (ANS). During this inspection, the inspectors conducted a review of the ANS testing and maintenance programs. The inspectors reviewed the associated ANS procedures and the Federal Emergency Management Agency approved ANS Design Report to ensure compliance with design report commitments for system maintenance and testing. The inspectors toured the facility used by, and interviewed, the dedicated Seabrook staff responsible for the maintenance and testing of the Seabrook ANS. Title 10 CFR 50.47(b)(5) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03 – 1 sample)a. Inspection Scope

The inspectors conducted a review of the Seabrook Station Emergency Response Organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO. The review was performed to verify the readiness of key

licensee staff to respond to an emergency event and to verify NextEra's ability to activate their emergency response facilities (ERFs) in a timely manner. The inspectors reviewed the Seabrook Station Emergency Plan for ERF activation and ERO staffing requirements, the ERO duty roster, applicable station procedures, augmentation test reports, the most recent drive-in drill report, and corrective action reports related to this inspection area. The inspectors also reviewed a sample of ERO responder training records to verify training and qualifications were up to date. Title 10 CFR 50.47(b)(2) and related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

NextEra implemented various changes to the Seabrook Emergency Action Levels (EALs), Emergency Plan, and Implementing Procedures. NextEra had determined that, in accordance with 10 CFR 50.54(q)(3), any change made to the EALs, emergency plan, and its lower-tier implementing procedures had not resulted in any reduction in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR Part 50 Appendix E.

The inspectors performed an in-office review of all EAL and emergency plan changes submitted by NextEra as required by 10 CFR 50.54(q)(5), including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential reductions in effectiveness of the emergency plan. This review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings were identified.

1EP5 Maintaining Emergency Preparedness (71114.05 – 1 sample)

a. Inspection Scope

The inspectors reviewed a number of activities to evaluate the efficacy of NextEra's efforts to maintain the Seabrook emergency preparedness (EP) program. The inspectors reviewed: Memorandums of Understanding with offsite agencies; the 10 CFR 50.54(q) emergency plan change process and practices; NextEra maintenance of equipment important to EP; records of evacuation time estimate population evaluation; and provisions for, and implementation of, primary, backup, and alternate emergency response facility maintenance. The inspectors also verified NextEra's compliance at Seabrook with new NRC EP regulations regarding: EALs for hostile action events; protective actions for on-site personnel during events; emergency declaration timeliness;

ERO augmentation and alternate facility capability; evacuation time estimate updates; on-shift ERO staffing analysis; and, ANS back-up means.

The inspectors further evaluated NextEra's ability to maintain their EP program through their identification and correction of EP weaknesses, by reviewing a sample of drill reports, actual event reports, self-assessments, 10 CFR 50.54(t) review reports, and EP-related CRs. The inspectors reviewed a sample of EP-related CRs initiated at Seabrook from July 2013 through December 2015. The inspection was conducted in accordance with NRC Inspection Procedure 71114.05. Title 10 CFR 50.47(b) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 – 1 sample)

a. Inspection Scope

The inspectors reviewed NextEra's performance in assessing and controlling radiological hazards in the workplace. The inspectors used the requirements contained in 10 CFR 20, TSs, applicable Regulatory Guides (RGs), and the procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed the performance indicators (PIs) for the occupational exposure cornerstone, radiation protection (RP) program audits, and reports of operational occurrences in occupational radiation safety since the last inspection.

Radiological Hazard Assessment

The inspectors reviewed recent plant radiation surveys and any changes to plant operations since the last inspection to identify any new radiological hazards for onsite workers or members of the public.

Instructions to Workers

The inspectors observed several containers of radioactive materials and assessed whether the containers were labeled and controlled in accordance with requirements.

The inspectors reviewed several occurrences where a worker's electronic personal dosimeter alarmed. The inspectors reviewed NextEra's evaluation of the incidents, documentation in the CAP, and whether compensatory dose evaluations were conducted when appropriate.

Contamination and Radioactive Material Control

The inspectors observed the monitoring of potentially contaminated material leaving the radiological control area and inspected the methods and radiation monitoring instrumentation used for control, survey, and release of that material. The inspectors selected several sealed sources from inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination. The inspectors evaluated whether any recent transactions involving nationally tracked sources were reported in accordance with requirements.

Radiological Hazards Control and Work Coverage

The inspectors assessed whether posted surveys, radiation work permits, worker radiological briefings, the use of continuous air monitoring, and dosimetry monitoring were consistent with the present plant conditions. The inspectors examined the control of highly activated or contaminated materials stored within the spent fuel pool and the posting and physical controls for selected high radiation areas, locked high radiation areas, and very high radiation areas to verify conformance with the occupational PI.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements in 10 CFR Part 20, RG 8.8, RG 8.10, TSs, and NextEra's procedures required by TSs as criteria for determining compliance.

Radiological Work Planning

The inspectors compared the results achieved (dose rate reductions, actual dose) with the intended dose established in NextEra's ALARA planning for selected high-dose work activities. The inspectors compared the person-hour estimates provided by maintenance planning and other groups to the RP group actual person-hours for the work activity, and evaluated the accuracy of these time estimates. The inspectors assessed the reasons for any inconsistencies between intended and actual work activity doses.

The inspectors determined whether post-job reviews were conducted to identify lessons learned. If problems were identified, the inspectors verified that worker suggestions for improving dose and contamination reduction techniques were entered into NextEra's CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (3 samples)

a. Inspection Scope

The inspectors reviewed NextEra's submittal of the Mitigating Systems Performance Index for the following systems for the period of October 1, 2014, through September 30, 2015:

- Safety System Functional Failures (MS05)
- RHR System (MS09)
- Cooling Water System (MS10)

To determine the accuracy of the PI 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 NextEra's operator narrative logs, mitigating systems performance index derivation reports and basis documents, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness (1 sample)

a. Inspection Scope

The inspectors reviewed NextEra submittals for the occupational radiological occurrences PI for the fourth quarter 2014 through the third quarter 2015. The inspectors used PI definitions and guidance contained in NEI Document 99-02, Revision 7, to determine the accuracy of the PI data reported. The inspectors reviewed NextEra's electronic personal dosimetry accumulated dose alarms, dose reports, and dose assignments for any intakes that occurred during the time period reviewed, to determine if there were potentially unrecognized PI occurrences. The inspectors conducted walkdowns of various locked high radiation area entrances to determine the adequacy of the controls in place for these areas.

b. Findings

No findings were identified.

.3 Radiological Effluent TS/Offsite Dose Calculation Manual Radiological Effluent Occurrences (1 sample)

a. Inspection Scope

The inspectors reviewed licensee submittals for the radiological effluent TS/Offsite Dose Calculation Manual radiological effluent occurrences PI for the fourth quarter 2014 through the third quarter 2015. The inspectors used PI definitions and guidance contained in NEI Document 99-02, Revision 7, to determine if the PI data was reported properly. The inspectors reviewed NextEra's public dose assessments for the PI for public radiation safety to determine if related data was accurately calculated and reported.

The inspectors reviewed the CAP database to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous and liquid effluent summary data and the results of associated offsite dose calculations to determine if indicator results were accurately reported.

b. Findings

No findings were identified.

.4 Emergency Preparedness Performance Indicators (3 samples)

a. Inspection Scope

The inspectors reviewed data for the following three EP PIs: (1) Drill and Exercise Performance; (2) ERO Drill Participation; and, (3) ANS Reliability. The last NRC EP inspection at Seabrook was conducted in the second calendar quarter of 2012. Therefore, the inspectors reviewed supporting documentation from EP drills and equipment tests from the fourth calendar quarter of 2014 through the third calendar quarter of 2015 to verify the accuracy of the reported PI data. The review of the PIs was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 7, was used as reference criteria.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 4 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 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. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, NextEra performed an evaluation in accordance with 10 CFR Part 21.

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, PIs, major equipment problem lists, system health reports, MR assessments, and maintenance or CAP backlogs. The inspectors also reviewed NextEra's CAP database for the third and fourth 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 NRC's daily CR review (Section 4OA2.1). The inspectors reviewed Seabrook Station's Self-Evaluation and Trending Analysis report for the second quarter of 2015, conducted under PI-AA-207-1000, "Station Self-Evaluation and Trending Analysis," Revision 5, to verify that NextEra personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

The inspectors evaluated a sample of departments that are required to provide input into the quarterly trend reports, which included the operations 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 determined to be 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.

b. Findings and Observations

No findings were identified.

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 action requests (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. For example, the

inspectors had identified several issues associated with Maintenance Department rework, and noted that two “quick hit” self-assessments were independently initiated by maintenance personnel to evaluate potential causes of the rework.

.3 Annual Sample: Transmitter Failures

a. Inspection Scope

The inspectors performed an in-depth review of NextEra’s evaluations and corrective actions associated with multiple transmitter spurious indications and failures occurring on site. The inspectors assessed NextEra’s problem identification threshold, problem analysis, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether NextEra was appropriately identifying, characterizing, and correcting problems associated with these transmitter issues and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of NextEra’s CAP, licensing basis, and other requirements. The inspectors interviewed engineering and operations personnel to assess the effectiveness of the implemented corrective actions, reasonableness of the planned corrective actions, and to evaluate the extent of any on-going problems.

The inspectors evaluated seven ARs (see below) documenting various transmitter malfunctions and failures. The transmitter issues spanned multiple systems and occurred over a timeframe of approximately 18 months. The review focused on various aspects of the corrective actions and operability process to assess the effectiveness and scope of corrective actions, including trending, and the bases and supporting information for immediate operability evaluations, as applicable. Associated documentation and bases, as well as the MRCs review of operability statements and actions to address weaknesses were assessed as well. The ARs that were reviewed included:

- Volume control tank level transmitter spurious indication (AR 01972065)
- Containment building sump level transmitter spiking (AR 01999679)
- ‘B’ EDG SW jacket water cooling flow transmitter out of tolerance low (AR 01995588)
- Thermal barrier heat exchanger head pipe level transmitter erratic (AR 02002668)
- ‘A’ EDG SW jacket water cooling flow transmitter discolored water during calibration (AR 02013241)
- Volume control tank level deviations (AR 01991967)
- ‘B’ reactor coolant pump hi-range leakage flow transmitter noisy condition (AR 02011136)

b. Findings and Observations

No findings were identified.

Based on the documents reviewed and discussions with NextEra personnel, the inspectors determined that NextEra’s responses to the identified transmitter issues were commensurate with their safety significance, and that the actions completed and planned were reasonable to address the issues identified.

.4 Annual Sample: Motor Control Center Breaker Failure to Trip

a. Inspection Scope

The inspectors performed an in-depth review of NextEra's corrective actions associated with CR 1998220, "Breaker at 1-EDE-MCC-512 for 1-AS-V-175 Would Not Close." Specifically, a breaker failed to reset several times following manual trip actions during the performance of breaker preventive maintenance.

The inspectors assessed NextEra's problem identification threshold, and applicable cause analyses, extent of condition reviews, and compensatory actions, as well as the prioritization and timeliness of corrective actions to determine whether NextEra was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of NextEra's CAP and 10 CFR 50, Appendix B. In addition, the inspectors performed field walkdowns and interviewed appropriate personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

No findings were identified.

NextEra originally suspected a well-known industry phenomenon of hardened grease as the cause of the breaker to not operate as expected during implementation of breaker preventive maintenance in October 2014, under WO 40274287. The inspectors noted that the preventive maintenance included an activity to assess the quality of the grease consistent with the grade characteristics of the National Lubricating Grease Institute, and LS 0569.20, "Lubrication PM and Starter Inspection for Motor Operated Valve Actuators," Revision 10. The as-found grease condition of Grade 2 was consistent with grease that is new, and therefore, was not the probable cause of the breaker failure to operate. Subsequent inspections resulted in the replacement of a unitized starter associated with the breaker circuitry. Following successful replacement of the starter, the post-maintenance testing was performed and the breaker operated as designed.

.5 Annual Sample: Review of Corrective Actions for Alkali-Silica Reaction (ASR) Affected Structures

a. Inspection Scope

During this inspection period, a region-based inspector accompanied Office of Nuclear Reactor Regulation, Division of Engineering and Division of License Renewal staff members on an audit of NextEra's large scale test activities at the University of Texas – Austin, Ferguson Structural Engineering Laboratory (FSEL). The audit was conducted to support the NRC staff's ongoing review of the Seabrook license renewal application. The audit team observed the progress and implementation of NextEra's large specimen testing program.

The inspectors also conducted an in-office review of NextEra's root cause evaluation (RCE) and corrective actions related to the identification of differential movement, or deformation, of the containment enclosure building (CEB). This condition is described in

an NRC inspection report, dated August 25, 2015 (Agencywide Documents Access and Management System (ADAMS) Ascension No. ML15217A256). In addition, inspectors reviewed evaluations related to discrete cracks identified in below grade, internal walls in the RHR and containment spray (CS) equipment vault structure. This condition was previously described in an NRC inspection report dated August 5, 2014 (ADAMS Accession No. ML14212A458).

The inspectors assessed the problem identification threshold, operability and functionality assessments, extent of condition reviews, and the prioritization and timeliness of corrective actions to determine whether NextEra personnel were appropriately identifying, characterizing, and correcting problems associated with the ASR-affected CEB and RHR vault. The inspectors evaluated NextEra's actions to verify compliance with the CAP procedure and 10 CFR 50, Appendix B requirements.

The resident inspectors continued to conduct routine walk downs of Seabrook Station ASR-affected structures, focusing on the identification of any changes that have the potential for further degrading the functional performance of these structures or associated systems and components.

b. Findings and Observations

During the week of October 26, 2015, the NRC audit team observed the last planned large-scale specimen testing at FSEL, reviewed test program results and analyses completed, to date, and interviewed NextEra staff and their consultants. Audit team activities and conclusions are documented in an NRC audit report (ADAMS Accession No. ML15307A019) dated December 17, 2015. No significant observations or concerns were identified related to the conduct of testing to appropriate quality assurance criteria. NextEra staff planned to have the test data analyses completed by the end of 2015, in support of submitting to the NRC a license amendment request in 2016, to address an ASR-related non-conforming condition with the current licensing basis.

NRC inspectors conducted in-office reviews of the root cause evaluation for the "Containment Enclosure Building Local Deformation, Event Dated December 19, 2014," completed per AR 02014325, and the "Condition Assessment of Cracking in RHR and CS Equipment Vault," documented in Foreign Print (FP) 100903, dated March 17, 2015. NextEra's CEB RCE described two root causes. First, regarding the physical causes of CEB deformation, NextEra staff concluded that internal expansion (strain) produced by ASR in the CEB concrete (in-plane direction of the CEB shell) and ASR expansion in the backfill concrete, coincident with a unique building configuration, resulted in CEB deformation. Second, regarding NRC identification of this issue, NextEra concluded this was not identified by plant staff due to an organizational mindset that viewed conditions such as concrete cracks, water infiltration, and misalignment issues as acceptable and inconsequential. Additionally, the RCE identified that NextEra staff did not perform and document comprehensive evaluations of building conditions that could have potentially revealed more significant underlying conditions, such as localized deformation of the CEB. These NRC-identified performance deficiencies were previously dispositioned as non-cited violation (NCV) 2015002-01 and NCV 2015002-02 in NRC inspection report 05000443/2015002 (ADAMS Accession No. ML15217A256).

The inspectors determined NextEra corrective actions to address these problems included: 1) a revision to their design control procedures to require pozzolanic materials like fly ash or slag cement to be added to concrete mixes to prevent ASR in any new concrete structures; and, 2) the implementation of multiple training and program changes to correct the organizational mindset issues and strengthen individual responsibilities and accountability for implementation of the Seabrook Structures Monitoring Program. The inspectors concluded the RCE was reasonably thorough and utilized a cause and effect methodology that was appropriate to the problem statement. However, NextEra's RCE, dated December 19, 2014, concluded that the reason that NRC inspectors, and not plant staff, identified the presence of localized ASR-induced deformation in Seabrook's concrete structures was due to an organizational mindset that viewed conditions such as concrete cracks, water infiltration, and misalignment issues as acceptable and inconsequential. The inspectors concluded the RCE was reasonably thorough and utilized a cause and effect methodology that was appropriate to the problem statement. The planned and in-process organizational and program related corrective actions appeared appropriately focused on the identified causes of the problem. However, the inspectors concluded that the corrective actions, taken to date, to implement multiple training, program and oversight changes to correct the organizational mindset issues and strengthen individual responsibilities and accountability for implementation of the Seabrook Structures Monitoring Program have either not been implemented or are not yet effective and thus require additional management attention near-term.

The inspectors noted that the CEB RCE referenced the results of a Finite Element Analysis (FEA) model of the CEB. The FEA and results were documented in FP 100985. The inspectors' review of FP 100985 identified that the FEA model simulated ASR expansion to assess the impact of expansion induced deformation on the structural performance of the CEB. The FEA evaluated CEB design capacity against assumed loading, based on ACI 318-71 criteria, including simulated loads associated with the as-deformed condition. As documented in FP 100985, the FEA model also simulated the impact of the external structural loading due to ASR expansion of the backfill concrete.

Based upon the review of the CEB structural assessment described in FP 100985 and the limited structural analysis of the RHR/CS vault documented in FP100903, the inspectors had multiple follow-up questions regarding the CEB and RHR/CS vault structural assessments and the potential impact of these evaluation results on NextEra's open Immediate Operability Determinations and Prompt Operability Determinations (PODs) for these ASR-affected structures (reference AR 01664399, AR 01929460, AR 01977456, AR 02004749, and AR 02044627). The follow-up questions were developed via a collegial review by the Region 1 Senior Reactor Analyst and structural engineers from NRC Offices of Nuclear Reactor Regulation and Region 2, under the auspices of the Seabrook ASR Technical Team (ADAMS Accession No. ML14014A378). The questions were documented and shared with the NextEra staff on December 23, 2015 (ADAMS Accession No. ML15357A326). NextEra's responses and the inspector's review are planned for the first quarter of 2016 and will be documented in an NRC inspection report.

Following the guidance of IMC 0612, "Power Reactor Inspection Reports," the inspectors identified an issue of concern regarding NextEra's implementation of their Seabrook Structures Monitoring Program. Specifically, the structural evaluations, performed by contractors and accepted by NextEra staff via the FP process, included discussions that

identified the potential to exceed limits in the applicable design code (ACI 318-71) for specific locations in the CEB and RHR/CS vault walls. The evaluations further recommended actions to determine whether this was the case. The inspectors noted that the Seabrook staff screened or reviewed these evaluations without documenting a justification in a revision or update to the open PODs for these structures. The additional information requested on December 23, 2015 is required for the inspectors to determine whether this issue involves a performance deficiency. As a result, the NRC opened an unresolved item (URI).

Introduction. The inspectors identified an issue of concern regarding NextEra's implementation of the Seabrook structures monitoring program and acceptance of evaluations via the FP and CAP.

Description. Additional inspection is warranted to determine whether a performance deficiency exists related to NextEra's disposition of FP 100985 for the CEB condition and FP 100903 for the RHR/CS vault condition. Specifically, further inspection is warranted to determine whether NextEra staff properly implemented the Seabrook structures monitoring program for the acceptance and review of structural evaluations potentially impacting the functionality of the CEB and RHR/CS vault, as currently documented in open PODs. **(URI 05000443/2015-01, Issue of Concern Regarding Implementation of the Seabrook Structures Monitoring Program and Structural Evaluations of the CEB and RHR/CS Vault)**

40A5 Other Activities

Operation of an ISFSI at Operating Plants (60855 & 60855.01)

a. Inspection Scope

The inspectors evaluated Seabrook's activities related to long-term operation and monitoring of their ISFSI, and verified that activities were being performed in accordance with the Certificate of Compliance (CoC), TSs, regulations, and site procedures.

The inspectors reviewed any changes to the 10 CFR Part 72.212 evaluation as well as associated Part 72.48 and 50.59 screenings related to dry cask storage.

The inspectors performed tours of the ISFSI pad to assess the material condition of the pad. The inspectors also verified that transient combustibles were not being stored on the ISFSI pad or in the vicinity of the HI-STORMS. The inspectors verified that Seabrook was performing daily HI-STORM surveillances in accordance with TS requirements, in addition to the periodic monitoring of the condition of the pad HI-STORM exterior surfaces.

The inspectors interviewed spent fuel group personnel and reviewed Seabrook's program associated with fuel characterization and selection for storage from the last ISFSI loading campaign in 2013. The inspectors verified that the criteria meets the conditions for cask and canister use as specified in the CoC. The inspectors also confirmed that physical inventories were conducted annually and were maintained as required by the regulations.

The inspectors reviewed radiological records from the last ISFSI loading campaign to confirm that radiation and contamination levels measured on the casks were within limits specified by the TS and consistent with values specified in the final safety analysis report. The inspectors reviewed RP procedures associated with ISFSI operations. The inspectors also reviewed annual environmental reports to verify that areas around the ISFSI pad and the ISFSI site boundary were within limits specified in 10 CFR Part 20 and 10 CFR Part 72.104. The inspectors verified that radiation surveys of the ISFSI pad were performed in accordance with site procedures.

The inspectors reviewed CAP ARs, and the associated follow-up actions associated with ISFSI operations to ensure that issues were entered into the CAP, prioritized, and evaluated commensurate with their safety significance.

b. Findings

No findings were identified.

40A6 Meetings, Including Exit

On January 21, 2016, 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.

40A7 Licensee-Identified Violation

The following violation of very low safety significance (Green) was identified by NextEra and is a violation of NRC requirements. The violation meets the requirements of the NRC Enforcement Policy for being dispositioned as an NCV.

- Title 10 CFR 50.55a (g)(4), "Inservice Inspection Requirements," requires, in part, that throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) that are classified as ASME Code Class 1, must meet the requirements set forth in Section XI of editions and addenda of the ASME Boiler Pressure and Vessel Code. Section XI of the ASME Boiler Pressure and Vessel Code, 2001 Edition with 2003 Addenda, Table IWF-2500-1, Examination Category F-A Supports, requires VT-3 examination of 100 percent of the ASME Class 1 supports, other than piping supports, every ISI Interval (examination item F1.40). Contrary to this requirement, from initial commercial operation until October 14, 2015, (when NextEra staff completed the initial required VT-3 examinations) NextEra did not perform the required ASME Section XI VT-3 examination of ASME Class 1 supports (i.e. seismic support plates and associated load path components) on the CRDM assemblies of Seabrook Unit 1. NextEra staff entered the issue into their CAP as AR 01991880 and completed the VT-3

examinations during the October 2015 refueling outage. The finding is more than minor because it was associated with the protection against external factors attribute of the Mitigating Systems cornerstone and adversely affected the objective to ensure reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this finding is of very low safety significance (Green) in accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems," because the finding did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic initiating event. NextEra completed the required examinations on October 14, 2015.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Curtland, Site Vice President
 R. Dodds, Plant General Manager
 C. Adams, Operations Training Manager (Acting)
 K. Boehl, Senior Rad Protection Analyst
 V. Brown, Senior Licensing Engineer
 D. Currier, Emergency Planning Manager
 K. Douglas, Maintenance Director
 D. Flahardy, Radiation Protection Manager
 A. Giotas, Chemistry Analyst
 S. Hamel, NDE Level III
 D. Hickey, Radiation Protection Supervisor
 J. Kennish, Instructor
 D. Loch, Reactor Vessel Upper Head Inspection Lead
 R. Mauer, SG Data Analyst
 G. Mikos, Project Manager
 D. Merrill, Simulator Support Supervisor
 M. Nadeau, RP Analyst
 W. Neal, ANII
 M. Ossing, Licensing Manager
 J. Packer, MSIP Project Manager
 K. Randall, Reactor Engineering
 D. Ritter, Site Operations Director
 D. Robinson, Chemistry Manager
 D. Slavon, ISI Program Manager
 T. Smith, Radiation Protection Supervisor
 D. Strand, RP Manager
 C. Thomas, Licensing Engineer
 K. Thompson, SG Engineer
 T. Vassalo, MPR staff
 S. Wellhoffer, Nurse Manager RN

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened

05000443/2015004-01	URI	Issue of Concern Regarding Implementation of the Seabrook Structures Monitoring Program and structural evaluations of the CEB and RHR/CS Vault (Section 4OA2.5)
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LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection**Procedures

OP-AA-102-1002, Seasonal Readiness, Revision 9

OP-AA-102-1002-F01, Cold Weather Data Sheets, Revision 0

OS1023.75, Operation of Feedwater Isolation Valves' Temporary Heating, Revision 04

Condition Reports

02071737 02075786 02093279 02096190 02098538 02099933

Maintenance Orders/Work Orders

40266470 40334413 40334716 40353490 40410503

Miscellaneous

BM-Winter-Ready, Cold Weather Preventive Maintenance Activity

Memo to Chief Operating Officer, Seasonal Readiness – Winter 2015, September 24, 2015

Section 1R04: Equipment AlignmentProcedures

OS1002.02, Operation of Letdown, Charging, and Seal Injection, Revision 48

OS1012.03, Primary Component Cooling Water Loop A Operation, Revision 23

OS1012.04, Primary Component Cooling Water Loop B Operation, Revision 26

OS1013.04, Residual Heat Removal Train B Startup and Operation, Revision 28

OS1016.01, Service Water System Fill and Vent, Revision 18

OS1212.01, PCCW System Malfunction, Revision 13

Condition Reports

01943964 01955559 01961777 02038084 02038084 02043141

02055074 02079841 02083248 02083834 02088009 02092165

02092171

Maintenance Orders/Work Orders

40311084 40418154 40419867

Maintenance Requests/Work Requests

94096827 94117626 94117629 94127549

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Section 1R05: Fire ProtectionProcedures

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PEG-268, Heat Exchanger and NRC GL 89-13 Program, Revision 0

Condition Reports

01957744	02037230	02050993	02075755	02080499	02081299
02083447	02094198				

Miscellaneous

Evaluation of DG-E-42B Tube Plugging

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ES15-01-03, Seabrook Unit 1 Reactor Vessel Nozzle MSIP Dissimilar Metal Weld Centerline Locating and Marking Field Services Procedure, Revision 0, 7/31/2017
 Seabrook Station Engineering Procedure ES15-01-04, Revision 0, 7/24/2017; Title: Seabrook Unit 1 Reactor Vessel Nozzle Mechanical Stress Improvement Process Field Service Procedure, July 24, 2017
 Seabrook Station Engineering Procedure ES10-01-32, Revision 2, 7/24/2017; Title: Remote Inservice Examination of Reactor Vessel Nozzle to Safe End, Nozzle to Pipe and Safety End to Pipe Welds Using the Nozzle Scanner, June 30, 2017
 Seabrook Unit 1 Reactor Vessel Nozzle Mechanical Stress Improvement Process Field Service Procedure, July 24, 2017
 Seabrook Station Engineering Procedure ES1807.050, Revision 1, Visual Examination (VE) For CRDM Inspections, ASME Code Case N-729-1
 Seabrook Station Engineering Procedure ES10-01-32, Revision 2, Remote Inservice Examination of Reactor Vessel Nozzle to Safe End, Nozzle to Pipe and Safe End to Pipe Welds Using the Nozzle Scanner, June 30, 2017
 Seabrook Station Engineering Procedure ES10-01-31, Revision 3, ET Examination of Reactor Vessel Pipe Welds Inside Surface, August 31, 2017
 Seabrook Station Engineering Procedure ES1807.050, Revision 1A; Visual Examination (VE) Procedure for Reactor Vessel Upper Head (RVUH) Penetration Inspections (N-729-1)
 Seabrook Station Administrative Procedure MA 10.3, Revision 15, Boric Acid Corrosion Control Program
 Seabrook Engineering Department Instructions (EDI) BORIC ACID EVALUATIONS, EDI No. 30560, Revision 0
 Seabrook Chemistry Procedure CS0905.08, Revision 8; Response To A Primary-to-Secondary Leak
 Seabrook Station Engineering Department Procedure ES1807.050, Revision 1; Visual Examination (VE) Procedure for CRDM Inspections (N-729-1)

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 Visual Examination (VE) Procedure for BMI Inspection (N-722-1)
 Seabrook Station Engineering Department Instruction CDI-018, Revision 4; Primary-To-
 Secondary Leak Rate Monitoring Below 1 GPD
 Seabrook Station Engineering Procedure ES10-01-31, Revision 3; ET Examination of Reactor
 Vessel Pipe Welds Inside Surface, August 31, 2017

Condition Reports

00207921	01934094	01954739	01956858	01956974	01958294
01958658	01959231	01960060	01960192	01960662	01962130
01967763	01968281	01977393	01979332	01980333	01981302
01981663	01985049	01985507	01995292	02005943	02010624
02013631	02017775	02020023	02023008	02025166	02030144
02032984	02038340	02038887	02039668	02042461	02044332
02044452	02044899	02045365	02049171	02051868	02058610
02059112	02065121	02065815	02069165	02070738	02072120
02073698	02073706	02073711	02073712	02073714	02073720
02073720	02073740	02079633	02079633	02079633	02079633
02079690	02081530	02081530	20133359		

Documented Boric Acid Leaks and Evaluations

01751940	01751948	01954739	01954894	01956887	01958294
01958658	01960060	01960192	01967763	01968281	01969662
01979332	01981302	01981663	01985507	02005943	02013359
02013631	02017775	02020023	02023008	02025166	02039668
02043261	02043789	02044332	02044452	02044772	02044772
02044899	02045365	02073706	02073711	02073712	02073714
02073720	02073720	02078055	02078097	02078112	02078117
02078120	02078121	02078124	02078128	02078130	02078133
02078134	02078135	02078139	02078140	02078143	02078145
02078146	02078268	02078274	02078472	02078700	02078839
02079208	02079236	02079241	02079247	02079278	02079287
02079290	02079294	02079297	02079303	02079318	02079325
02079330	02079333	02079336	02079341	02079342	02079343
02079349	02079353	02079360	02079361	02079363	02079366
02079367	02079372	02079375	02079377	02079380	02079381
02079385	02079389	02079393	02079394	02079398	
20278063					

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 Assessment; 7/30/15
 Focused Self-Assessment AR 1773622; Chemistry Sampling and Analysis Program, 8/15/12
 Focused Self-Assessment AR 02050220; Maintenance Implementation of Welding Program,
 9/15/15
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 OR16 Inservice Inspection (ISI) NRC Inspection, 3/24/14
 Quick Hit Assessment Report, AR 01725016, Seabrook Engineering Programs – Materials,
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 ACR # 96-1258; Adverse Condition Report, 69034975, Cause Determination and corrective actions for 1996 leaks from SG B and SG C, 11/25/96
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 Data Sheet 15-UT-001(5 pages), FW Elbow to pipe, Class 2, Thermal Fatigue Exam
 Data Sheet 15-UT-002(5 pages), FW Elbow to pipe, Class 2, Thermal Fatigue Exam
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 IWE VT-1 Re-Examination of a previously identified Containment Dome Anomaly/Indication Seabrook Nuclear Power Plant Unit 1
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 NRC Bulletin 2003-02: Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity, August 21, 2003

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 EPRI Technical Report 2011, Steam Generator Management Program: Primary-to-Secondary Leak Guidelines, Revision 4
 Seabrook Station Reference Manual; Steam Generator Maintenance Reference, SGRE Revision 20, 3/10/14
 Seabrook Station, Steam Generator Eddy Current Data Analysis Guideline Manual, Revision 7, 4/4/2014
 NextEra Energy Program Description, ER-AP-121, Revision 2; Steam Generator Integrity, 9/2/15
 Apparent Cause Evaluation for AR 00207921

Section 1R11: Licensed Operator Regualification Program

Procedures

TR-AA-104, NEXTERA Energy Fleet Licensed Operator Continuing Training Program, Revision 7
 TR-AA-220-1004, Licensed Operator Continuing Training Annual Operating and Biennial Written Exams, Revision 1
 TR-AA-230-1004, SAT Implementation, Revision 5
 TR-AA-230-1005, SAT Evaluation, Revision 2
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Condition Reports

01917736	01923551	01954983	01966222	01987175	01988101
01994628	02012298	02014014	02015273	02022491	02022755
02024157	02027235	02038184	02040722	02042410	02046889
02050058	02054056				

Miscellaneous

ACAD 10-001, February 2010, Revision 0
 ANS 3.4-1983
 Focused Area Self-Assessment Report 2058898
 LORT Training Program Description, December 2012
 NT 3744, Simulator Transient Tests, Revision 17
 NRC Information Notice IN 2004-20
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 Regualification Training Program Annual Examination Sample Plan 2015
 Seabrook Transient Tests 1 through 11

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ES1807.025, Inservice Inspection (ISI) Visual Examination Procedure, Revision 6
 EX1805.03, Snubber Functional Test, Revision 12
 LS0557.19, 480 Vac K600 Electrically Operated Breaker Refurbishment, Revision 15
 MS0515.08, Paul-Munroe 2300, 2400 and 2500 Hydraulic Snubber Maintenance, Revision 4
 MS0515.12, Cooling Tower Primary Fan and Gear Reducer Maintenance, Revision 5
 MS0517.05, Installation of Pipe Supports, Revision 3
 PEG-24, Maintenance Rule Goal Setting and Monitoring, Revision 8
 PEG-45, Maintenance Rule Program Monitoring Activities, Revision 17

Condition Reports

02065121 02071704 02081775 02083296 02093663 02094577
 02099774

Maintenance Orders/Work Orders

40289589 40353703 40379186 40410443 40418627

Miscellaneous

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 Criteria Based on SSPSS-2009, dated March 2011
 Maintenance Rule Functional Failure Evaluation, 'A' main Steam Line (RM-6481-1) in High
 Alarm – Not Valid
 NUMARC 93-01, Industry Guidelines for monitoring the Effectiveness of Maintenance at
 Nuclear Power Plants, Revision 2
 Radiation Monitoring System Health Report
 SBK-L-15183, Seabrook Station Technical Specification Special Report – Radiation Monitor
 Inoperable Greater Than 7 Days

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

ODI101, Guarded Equipment Recommendations for Refueling Outages, Revision 16
 OP-AA-102-1003, Guarded Equipment, Revision 9

Condition Reports

02079027 02087297 02087302

Miscellaneous

LCOTR Log on October 8, 2015
 Seabrook Station Shutdown Condition Status Report for 10/8/15 OCC Turnover at 0500

Section 1R15: Operability Determinations and Functionality AssessmentsProcedures

PI-AA-104-1000, Corrective Action, Revision 3

Condition Reports

02044332	02080495	02080584	02081530	02082377	02082510
02083255	02083422	02084748	02084825	02085161	02085433
02098607					

Maintenance Orders/Work Orders

94131854

Miscellaneous

2004 ASME Boiler and Pressure Vessel Code, Section XVI

Engineering Evaluation Documenting Integrity of the Containment Liner Plate dated
October 28, 2015NRC Information Notice 2014-07: Degradation of Leak-Chase Channel Systems for Floor Welds
of Metal Containment Shell and Concrete Containment Metallic Liner

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Loose Parts at Seabrook Unit 1Drawings

1-MS-B20582, Main Steam System Emergency Feedwater Pump Supply Detail, Revision 21

9763-F-805139, Containment Liner Floor Leak Chase System Piping Arrangement, Revision 10

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EN-AA-205-1100, Design Change Package, Revision 13

EN-AA-203-1201, 10 CFR Applicability of 10 CFR 50.59 Screening Reviews, Revision 4

ES1807.025, Form B, VT-2 Visual Examination Form, Revision 6

ES1850.012, Air Operated Valve Program Procedure, Revision 4

ES1810.206, Charging System – Charging Pump Discharge Pipe ISI System Leakage Test,
Revision 2

OX1408.06, Controlled Leakage Monthly Surveillance, Revision 7

OX1456.01, Charging Pump A & B Quarterly Flow and Valve Stroke Test And 18 Month
Remote Position Indication Verification, Revision 21

SM7.20, Control of Time Critical Actions and operator Response Times, Revision 8

Condition Reports

01973578	02041778	02041838	02042131	02079830	02087598
02090399					

Maintenance Orders/Work Orders

40339187 40367789

Miscellaneous

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EC282474, Revision 1

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 MISTRAS Radiographic Inspection Report, 3INCH-SCH160-10132015, dated 10/14/15
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 Properties for Seabrook Station, dated October 13, 2014
 Westinghouse LTR-RES-14-126, Impact on the Seismic Evaluation by Installing the SHIELD at
 Seabrook Station, dated November 13, 2014
 Westinghouse LTR-SEE-I-14-61, Downstream Effects Evaluation of an Inadvertent Actuation of
 the RCP Shutdown Seal at Seabrook Unit 1, dated December 4, 2014

Drawings

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Section 1R19: Post-Maintenance Testing

Procedures

LS0557.19, 480 VAC K-600 Electrically Operated Breaker Refurbishment, Revision 15
 LX0556.113, 1-EDE-B-1-D 18-Month Technical Specification Battery Surveillance, Revision 3
 OX1410.04, Post Refueling Pre-Startup Rx Trip Breaker Surveillance, Revision 10
 OX1413.03, B Train RHR Quarterly Flow and Valve Stroke Test, and 18 Month Valve Stroke
 Observation, Revision 13
 OX1413.05, RHR Cold Shutdown Valve Testing, Revision 7
 OX1413.08, RH-P-8B Comprehensive Pump Test, Revision 10A
 OX1416.03, Monthly Cooling Tower Fan Operability Test, Revision 10
 OX1436.13, Turbine Driven Emergency Feedwater Pump Post Cold Shutdown or Post
 Maintenance Surveillance and Comprehensive Pump Test, Revision 29

Condition Reports

01647943	01837698	02069435	02071668	02083213	02083832
02085868	02085922	02090725	02091049		

Maintenance Orders/Work Orders

40103650	40289589	40310982	40310991	40310993	40311461
40311466	40315437	40369086	40421948	40436813	40436853

Miscellaneous

1-NHY-31017, Sheet EG2a, 125VDC Bus 1-SWG-11D Distr Pnl 1-PP-111D Schedule,
 Revision 8
 1-NHY-310042, Sheet 2, 125VDC Vital Distribution System One Line Diagram, Revision 4
 1-NHY-310942, Sheet E04/10, Process Protection Cabinet Power Supply MM-CP-4 Cable
 Schematic, Revision 0
 1-NHY-310949, Sheet E01/2a, Solid State Protection System Cabinet MM-CP-12 Schematic
 Diagram, Revision 5
 1-NHY-310949, Sheet E02/4a, Solid State Protection System Cabinet MM-CP-13 Schematic
 Diagram, Revision 5

Section 1R20: Refueling and Other Outage ActivitiesProcedures

AD-AA-101-1004, Work Hour Controls, Revision 16
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 ODI-101, Attachment D, Outage Status Sheet, Revision 16
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 OP-AA-102-1003, Guarded Equipment, Revision 9
 OS1000.02, Plant Startup From Hot Standby to Minimum Load, Revision 31
 OS1000.04, Plant Cooldown From Hot Standby to Cold Shutdown, Revision 51
 OS1000.07, Approach to Criticality, Revision 13
 OS1000.09, Refueling Operation, Revision 30
 OS1000.10, Operation at Power, Revision 31
 OS1000.14, Reactor Coolant System Evacuation and Fill, Revision 22
 OS1000.14, Reactor Coolant System Evacuation and Fill, Revision 23
 OS1001.02, Draining the Reactor Coolant System for Vessel Head Removal, Revision 19
 OS1013.03, Residual Heat Removal Train A Startup and Operation, Revision 31
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 OS1015.18, Setting Containment Integrity for Mode IV Entry, Revision 10
 OX1406.12, 18 Month Containment and Containment Spray Recirculation Sump Surveillance,
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Condition Reports

02005438	02074905	02080584	02080921	02080921	02082510
02084164	02088138	02097832			

Maintenance Orders/Work Orders

40273392	40312116	40339169	40339170	40367789	40416945
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Miscellaneous

Cycle 18 Core Map, dated 10/17/15
 Drawing 9763-F-805139, Containment Liner Floor Leak Chase System Piping Arrangement,
 Revision 10
 Engineering Change 281724, Revision 0
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 LTR-PAFM-15-104, Seabrook SG & RCP Support Shim Gap Measurement Process Flowchart
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 PRA Evaluation PRAE-15-011, AR 2057299, OR17 Outage Schedule Shutdown Risk Review
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 Report SBK 15-013, Seabrook Nuclear Oversight Report, dated 11/19/15
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 Adjustments Post MSIP, dated October 20, 2015
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Section 1R22: Surveillance Testing

Procedures

ES1850.003, Motor Operated Valve Performance Monitoring, Revision 10
LS0569.16, Diagnostic Testing of Rising Stem MOVs, Revision 23
LS0569.17, Diagnostic Testing of Rising Stem MOVs Using the Torque Thrust Cell, Revision 17
OX1402, CVCS Cold Shutdown and Refueling Interval Valve Test, Revision 13
OX1456.81, Operability Testing of IST Valves, Revision 23

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02004690 02083866

Maintenance Orders/Work Orders

40312073 40312078 40321086 40414003 40414014

Section 1EP2: Alert and Notification System Evaluation

Procedures

EP-AA-101-1000, Nuclear Division Drill and Exercise Procedure, Revision 13
EP-AA-102, NextEra Energy Alert and Notification System, Revision 0
SIR10, WPS-3000 and WPS-4008 Siren Bi-Weekly Functional Test, Revision 4
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SIR45, State Siren Activation Control System Annual Maintenance and Testing, Revision 4
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Revision 4

Miscellaneous

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Seabrook Station Nuclear Power Plant Alert and Notification System Design Report,
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Seabrook Station Radiological Emergency Plan, Revision 69

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

Procedures

NM11700, Emergency Preparedness Responsibilities of Primary, Subject-to-call, and
Secondary, Emergency Response Organization members, Revision 35

Miscellaneous

2014 3rd Quarter Emergency Response Organization Notification Test Results
2014 4th Quarter Emergency Response Organization Notification Test Results
2015 3rd Quarter Emergency Response Organization Notification Test Results
2015 4th Quarter Emergency Response Organization Notification Test Results
E-Plan Personnel Expiration Report – 14 day look ahead dated December 4, 2015
ERO Staffing Succession Planning dated December 8, 2015
Radiological Emergency Preparedness Drill and Exercise Manual, Revision 41
Seabrook Station Emergency Response Manual, Revision 122
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LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
ANS	Alert and Notification System
AR	action request
ASME	American Society of Mechanical Engineers
ASR	alkali-silica reaction
CAP	corrective action program
CEB	containment enclosure building
CFR	<i>Code of Federal Regulations</i>
CoC	Certificate of Compliance
CR	condition report
CRDM	control rod drive mechanism
CS	containment spray
CT	cooling tower
EAL	emergency action level
EC	eddy current
EDG	emergency diesel generator
EP	emergency preparedness
ERF	Emergency Response Facility
ERO	Emergency Response Organization
FEA	finite element analysis
FP	Foreign Print
FSEL	Ferguson Structural Engineering Laboratory
IMC	Inspection Manual Chapter
ISFSI	independent spent fuel storage installation
ISI	inservice inspection
JPM	job performance measure
MR	maintenance rule
MRC	Management Review Committee
NCV	non-cited violation
NDE	non-destructive examination
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OR	refueling outage
PI	performance indicator
POD	Prompt Operability Determination
RCE	root cause evaluation
RCS	reactor coolant system
RG	Regulatory Guide
RHR	residual heat removal
RP	radiation protection
SG	steam generator
SSC	structure, system, and component
SW	service water
TS	technical specification
URI	unresolved item
VCT	volume control tank
WO	work order