UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

January 30, 2014

Mr. Kevin Walsh
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 - NRC INTEGRATED INSPECTION REPORT 05000443/2013005

Dear Mr. Walsh:

On December 31, 2013, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. The enclosed inspection report documents the inspection results, which were discussed on January 17, 2014, with you and other members of your staff.

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

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 40A7 of this report. If you contest this non-cited violation, 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.

As a result of the Safety Culture Common Language Initiative, the terminology and coding of cross-cutting aspects were revised beginning in calendar year (CY) 2014. New cross-cutting aspects identified in CY 2014 will be coded under the latest revision to IMC 0310. Cross-cutting aspects identified in the last six months of 2013 using the previous terminology will be converted to the latest revision in accordance with the cross-reference in IMC 0310. The revised cross-cutting aspects will be evaluated for cross-cutting themes and potential substantive cross-cutting issues in accordance with IMC 0305 starting with the CY 2014 mid-cycle assessment review.

In accordance with 10 Code of Federal Regulations (CFR) 2.390, “Public Inspections, Exemptions, Requests for Withholding,” 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 Public Document Room or from the Publicly Available Records System (PARS) component of 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/

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

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

Enclosure: Inspection Report No. 05000443/2013005
w/ Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-443
License No.:	NPF-86
Report No.:	05000443/2013005
Licensee:	NextEra Energy Seabrook, LLC
Facility:	Seabrook Station, Unit No.1
Location:	Seabrook, New Hampshire 03874
Dates:	October 1, 2013 through December 31, 2013
Inspectors:	P. Cataldo, Senior Resident Inspector C. Newport, Resident Inspector W. Cook, Senior Reactor Analyst B. Dionne, Senior Health Physicist J. Gilliam, Acting Resident Inspector D. Silk, Senior Operations Engineer
Approved by:	Glenn T. Dentel, Chief Reactor Projects Branch 3 Division of Reactor Projects

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SUMMARY

IR 05000443/2013005; 10/01/2013-12/31/2013; 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 4.

No findings were identified.

Other Findings

A violation of very low safety significance that was identified by NextEra was reviewed by the inspectors. Corrective actions taken or planned by NextEra have been entered into NextEra's 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 operated at full power for the entire assessment period, with the exception of minor down powers to perform scheduled turbine valve testing. Documents reviewed for each section of this inspection report are listed in the Attachment.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 3 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of NextEra's readiness for the onset of seasonal cold temperatures on November 18, 2013. The review focused on the emergency feedwater pump house, turbine building, and the service water (SW) cooling tower. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications (TSs), the seasonal readiness memorandum, and the corrective action program (CAP) to determine specific temperatures or other seasonal weather that could challenge these systems, and to ensure NextEra personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including NextEra's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during cold weather conditions.

b. Findings

No findings were identified.

.2 External Flooding

a. Inspection Scope

During the week of December 16, 2013, the inspectors performed an inspection of selected external flood protection measures for Seabrook Station. The inspectors reviewed TSs, procedures, design documents, and the UFSAR, which depicted the design flood levels and protection areas containing safety-related equipment to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of external areas of the plant, including the diesel generator building, turbine building, and primary auxiliary building, to ensure that NextEra's flood protection measures were in accordance with design specifications. The inspectors also reviewed operating procedures for mitigating external flooding during severe weather to determine if NextEra had established adequate measures to protect against external flooding events.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors reviewed NextEra's preparations for the onset of cold weather and high winds on November 26, 2013. The inspectors reviewed the implementation of adverse weather preparation procedures before the onset of and during this adverse weather condition. The inspectors walked down the emergency feedwater pump house and the SW cooling tower to ensure system availability. The inspectors verified that operator actions defined in NextEra's adverse weather procedure maintained the readiness of essential systems. The inspectors discussed readiness and staff availability for adverse weather response with operations and work control personnel.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Equipment alignment of Vital Bus 11A while 11B was cross-tied to battery 'D' and battery 'B' was out of service on October 2, 2013
- 'B' residual heat removal (RHR) return to service (RTS) on November 27, 2013
- 'A' emergency diesel generator (EDG) jacket water heat exchanger SW outlet valve RTS on December 11, 2013
- 'A' SW during replacement of the 'C' SW pump motor on December 13, 2013

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 in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether NextEra staff had properly identified equipment issues and entered them into the corrective action program for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 2 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.

- 'A' EDG DG-F-1A-A, DG-F-2A-A, DG-F-3E-A, DG-F-3C-A, DG-F-3A-Z on November 14, 2013
- Primary Auxiliary Building (PAB) F-1A-Z 7'/-6'/-26' on November 20, 2013

1R06 Flood Protection Measures (71111.06 – 1 sample)

Internal Flooding Review

a. Inspection Scope

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

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the ‘A’ EDG jacket water 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 observed actual performance tests for the heat exchangers and/or reviewed the results of previous inspections of the ‘A’ EDG jacket water and similar heat exchangers. The inspectors discussed the results of the most recent

inspection with engineering staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that NextEra initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11 – 3 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on October 23, 2013, which included simulated degraded equipment and subsequent equipment failures that resulted in escalating degraded plant conditions that ensured implementation of emergency operating procedures by the operating crew, as well as implementation of the emergency plan. This emergency plan implementation included classification of specific events that warranted an Alert Event Declaration. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the technical specification action statements entered by the control room supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed general control room activities, including alarm response and control room shift turnovers, conducted on November 9, 2013 and December 23, 2013. Additionally, the inspectors observed monthly surveillance testing of the ‘B’ EDG conducted on November 12, 2013 and December 23, 2013. 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 9, Supplement 1, and Inspection Procedure Attachment 71111.11B, “Licensed Operator Requalification Program.”

Examination Results

The operating tests for the weeks of October 21, 2013 and October 28, 2013 were reviewed for quality and performance.

On December 6, 2013 the results of the annual operating tests were reviewed to determine if pass fail rates were consistent with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, “Operator Requalification Human Performance Significance Determination Process.” The review verified that the failure rate (individual or crew) did not exceed 20%.

- 1 out of 53 operators failed at least one section of the Annual Examination. The overall individual failure rate was 1.9%.
- 0 out of 9 crews failed the simulator test. The crew failure rate was 0.0%.

Written Examination Quality

The inspectors reviewed two written examinations that were administered during the weeks of October 21 and 28, 2013, for qualitative and quantitative attributes as specified in Appendix B of Attachment 71111.11B, Licensed Operator Requalification.

Operating Test Quality

Twenty-two job performance measures (JPMs) and six 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 examinations and JPMs administered during the week of October 28, 2013, were observed. These observations included facility evaluations of Shift Crew A and Staff Crew 1 during three dynamic simulator examinations and individual performance of five JPMs.

Examination Security

The inspector assessed whether facility staff properly safeguarded examination material. JPMs, scenarios, and written examinations were checked for excessive overlap of test items.

Remedial Training and Re-Examinations

The remediation plans for one crew failure and one individual JPM failure from the 2011 requalification examination 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 third quarter of 2013.

The reactivation plans for five senior reactor operator license holders and three reactor operator license holders 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 simulator deficiency report 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 the CAP which indicated possible training deficiencies, to verify that they had been appropriately addressed. The senior resident inspector was consulted for insights regarding licensed operators' performance.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12 – 3 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, or 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 was 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.

- Chemical and volume control system
- Evaluation of stroke time changes on EDG SW heat exchanger outlet isolation valve, SW-V-16
- Evaluation of EDG entry fire door latch failures

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 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.

- Battery cross-tie on October 7, 2013
- 'B' RHR pump slave relay testing on November 26, 2013
- Chemical volume and control system surveillance testing and SW system maintenance on December 10, 2013
- Safety Bus 5 degraded voltage relay testing and charging system maintenance on December 13, 2013

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:

- Operability of 1B 125 VDC battery on October 3, 2012
- Cooling tower SW pump P-110A oil fill cap found ajar on October 22, 2013
- Refueling water storage tank aligned to a not fully qualified seismic pipe on November 8, 2013
- SW-P-41A in-service test flow band incorrect on November 13, 2013

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 4 samples)

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary modifications listed below to determine whether the modifications affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, as applicable, and conducted field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

- 1-RC-TB-451 temporary setpoint change for a pressurizer low temperature alarm
- Engineering change (EC) 278785, SW pipe support modification in support of OR16

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors evaluated the permanent modifications listed below, and verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modifications. In addition, the inspectors reviewed applicable modification documents, including associated engineering changes, correspondence with the vendor, industry operating experience, environmental and seismic qualifications, as well as the 10 CFR 50.59 documentation and post-modification testing results, as applicable.

- EC 274301, Emergency Power System power supply overvoltage protection
- EC 271074, replacement of GE synchronization check relay

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

- 1-RH-FCV-618 positioner replacement on October 16, 2013
- Loop 'B' SW basin level indicator calibration on October 31, 2013
- 1C battery charger maintenance and RTS on November 22, 2013
- 'A' EDG SW heat exchanger isolation valve maintenance on November 22, 2013
- Primary air handler damper actuator rebuild on November 26, 2013

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:

- 'A' SW discharge valve quarterly in-service surveillance test (IST) on October 17, 2013 (IST)
- Reactor coolant system (RCS) leak rate surveillance test on October 24, 2013 (RCS leak rate)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 sample)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine NextEra emergency drill on October 9, 2013 to identify any weaknesses and deficiencies in the classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by NextEra staff in order to evaluate NextEra's critique and to verify whether NextEra staff was properly identifying weaknesses and entering them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

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

a. Inspection Scope

During the period December 2 to December 5, 2013, the inspectors verified that gaseous and liquid effluent processing systems are maintained so radioactive discharges are properly reduced, monitored, and released. The inspectors also verified the accuracy of the calculations for effluent releases and public doses.

The inspectors used the requirements in 10 CFR Part 20; 10 CFR 50.35(a) TSs; 10 CFR Part 50 Appendix A - Criterion 60 Control of Release of Radioactivity to the Environment and Criterion 64 Monitoring Radioactive Releases; 10 CFR 50 Appendix I Numerical Guides for Design Objectives and Limiting Conditions for Operations to Meet the Criterion "As Low as is Reasonably Achievable" (ALARA) for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents; 10 CFR 50.75(g) Reporting and Recordkeeping for Decommissioning Planning; 40 CFR Part 141 Maximum Contaminant Levels for Radionuclides; 40 CFR Part 190 Environmental Radiation Protection Standards for Nuclear Power Operations; RG 1.109 Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents; RG 1.21 Measuring, Evaluating, Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste; RG 4.1 Radiological Environmental Monitoring for Nuclear Power Plants; RG 4.15 Quality Assurance for Radiological Monitoring Programs; NUREG 1301 Offsite Dose Calculation

Manual (ODCM) Guidance: Standard Radiological Effluent Controls; applicable Industry standards; and licensee procedures required by TSs/ODCM as criteria for determining compliance.

The inspectors observed the collection and preparation of one environmental sample from an on-site groundwater monitoring well. The inspectors selected two SSCs (storm drains and spent fuel leak detection system) that could interface with ground water. The inspectors assessed whether NextEra has implemented a sampling and monitoring program sufficient to provide early detection of leakage from these SSCs to ground water.

The inspectors reviewed any significant changes made by NextEra to the ODCM as the result of changes to the land census, long-term meteorological conditions (three year average), or modifications to the sampler stations since the last inspection. The inspectors reviewed technical justifications for any changed sampling locations to verify that NextEra performed the required reviews.

The inspectors reviewed the results of the NextEra Analytical Laboratory vendor's inter-laboratory and intra-laboratory comparison program to verify the adequacy of environmental sample analyses performed by the vendor laboratory. The inspectors assessed whether the results included the media/radionuclide mix were appropriate for the facility.

Problem Identification and Resolution

Inspectors assessed whether problems associated with the effluent monitoring and control program are being identified by NextEra at an appropriate threshold and are properly addressed for resolution in the CAP. In addition, the inspectors evaluated the appropriateness of the corrective actions for a selected sample of problems documented. One corrective action involving the Groundwater Protection Program (GWPP) was not completed in a timely manner and is described in Section 4OA5 of this report.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07 – 1 sample)

a. Inspection Scope

During the period December 2 to December 5, 2013, the inspectors verified that the radiological environmental monitoring program (REMP) quantifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program.

The inspectors used the requirements in 10 CFR Part 20; 10 CFR Part 50 Appendix A Criterion 60 - Control of Release of Radioactivity to the Environment; 10 CFR 50 Appendix I Numerical Guides for Design Objectives and Limiting Conditions for Operations to Meet the Criterion ALARA for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents; 40 CFR Part 190 Environmental Radiation Protection

Standards for Nuclear Power Operations; 40 CFR Part 141 Maximum Contaminant Levels for Radionuclides; the guidance in RGs 1.23 Meteorological Measurements Program for Nuclear Power Plants, RG 4.1 Radiological Environmental Monitoring Programs for Nuclear Power Plants; RG 4.15 Quality Assurance for Radiological Monitoring Programs; NUREG 1301 ODCM Guidance: Standard Radiological Effluent Controls; applicable industry standards; and licensee procedures as criteria for determining compliance.

The inspectors determined if NextEra has made significant changes to their effluent release points.

Records of any abnormal gaseous or liquid tank discharges were reviewed to ensure the abnormal discharges were monitored by the discharge point effluent monitor. When discharges were made with inoperable effluent radiation monitors, or if unmonitored leakage occurred, the inspectors ensured that an evaluation was performed, as required.

For unmonitored spills, leaks, or unexpected liquid or gaseous discharges, the inspectors ensured that an evaluation was performed to determine the type and amount of radioactive material that was discharged. The inspectors verified that surveys were performed to include consideration of hard-to-detect radionuclides. The inspectors determined whether or not NextEra had completed offsite notifications (State, local, and if appropriate, the NRC), as provided in the Groundwater Protection Initiative's implementing procedures.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures (1 sample)

a. Inspection Scope

The inspectors sampled NextEra's submittals for the Safety System Functional Failures performance indicator (PI) for the period of October 1, 2012 to September 30, 2013. To determine the accuracy of the PI data reported during those periods, inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed NextEra's MR records, maintenance WOs, CRs, event reports and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index (2 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, 2012 to September 30, 2013:

- Residual heat removal system (MS09)
- MSPI 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 condition reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.3 Occupational Exposure Control Effectiveness (1 sample)

a. Inspection Scope

During the period of December 2 to December 5, 2013, the inspectors sampled NextEra's submittals for the occupational exposure control effectiveness PI for the period of the fourth quarter 2012 through the third quarter 2013. The inspectors used PI definitions and guidance contained in the Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the PI data reported.

To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed condition reports, electronic personal dosimetry 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.

b. Findings

No findings were identified.

.4 Radiological Effluent Occurrences (1 sample)

Inspection Scope

During the period of December 2 to December 5, 2013, the inspectors sampled NextEra's submittals for the radiological effluent TS/ODCM radiological effluent occurrences PI for the period from the fourth quarter 2012 through the third quarter 2013. The inspectors used PI definitions and guidance contained in the Nuclear Energy

Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, to determine the accuracy of the PI data reported.

The inspectors reviewed NextEra's corrective action report database and selected individual reports generated since this indicator was last reviewed, to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors also reviewed NextEra's methods for quantifying gaseous and liquid effluents and determining effluent dose.

Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 3 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that NextEra entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended condition report screening meetings.

b. Findings

No findings were identified.

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

a. Inspection Scope

Between November 12 to November 14, 2013, NRC inspectors from Region I and a reactor engineer from the Division of License Renewal, NRR, witnessed testing conducted at the Ferguson Structural Engineering Laboratory (FSEL) at the University of Texas - Austin in support of the Seabrook Alkali-Silica Reaction (ASR) Project Corrective Action Plan. Specifically, the inspectors witnessed strength testing of anchor bolts in a large-scale ASR-affected concrete specimen performed in accordance with MPR Anchor Testing Procedure 09, "Conduct Unconfined Tension Test on Expansion Anchors." The inspectors also observed installation of a number of anchor bolts conducted in accordance with MPR Anchor Testing Procedure 03, "Install Hilti Kwik Bolt Expansion Anchors," and Procedure 12, "Install Drillco Maxi-Bolt Undercut Anchors." Following the completion of anchor bolt testing, the inspectors witnessed the cutting of large-scale anchor test specimen AN-02 into four sections to investigate the depth/progression of observed bifurcation cracking induced by ASR expansion.

During the week of November 18, 2013, inspectors were on-site to review the results of the June 2013 Combined Crack Indexing (CCI) measurements. Inspectors reviewed and discussed with the responsible Seabrook engineers the collected data and engineering evaluations associated with the June 2012 six-month interval monitoring results. Data sheets and associated records are attachments to internal Seabrook document Foreign Print (FP) 100831, Revision 0, "ASR Expansion Measurements."

b. Findings and Observations

No findings were identified.

The inspectors observed proper procedural adherence and appropriate quality assurance oversight of testing conducted at the FSEL facility. Testing was performed by graduate students and supervised by a UT-Austin research assistant. Quality control engineering oversight was performed by an MPR project engineer responsible for 10 CFR 50, Appendix B, implementation and periodic audits and assessments of testing activities. The inspectors witnessed formal communications and independent reader/verifier and performer coordination by testing personnel. All test results were electronically recorded and overseen by FSEL and MPR supervisory personnel.

The preliminary results of this first stage of ASR-affected specimen anchor testing (ASR-affected specimens fabricated on May 24, 2012 and displaying CCIs values of between 1.0 and 1.31 mm/m) identified no significant degradation from the control anchor test results taken in November 2012, on specimen AN-07. Segmentation of anchor test specimen AN-02, which was performed to investigate the depth of the bifurcation cracking, identified that the surface cracks terminated approximately 8-9 inches into the specimen. In discussions with NextEra staff, inspectors determined that the bifurcation cracking was not unanticipated, based upon the specimen design (absence of through-wall steel bar reinforcements/stirrups). However, inspectors determined that the growth and depth of these types of surface cracks will continue to be monitored by NextEra for both impact on test specimen performance and possible implications for Seabrook Station ASR-affected structures.

The June 2013 CCI data analysis and conclusions are summarized in FP 100831 and below:

- 416 of 445 measurement lines (93%) show crack length changes of 0.002 inch or less compared to baseline measurements.
- 17 (3%) show length changes of 0.003 inch (5 vertical and 4 horizontal on exterior surfaces, 8 vertical on interior wall locations.
- 9 (1.6%) measurements show length changes of 0.004 inch or greater (3 vertical and 1 horizontal exterior and 4 vertical on interior walls.
- The average maximum expansion of 0.02% or less (from the baseline measurement, using the combined crack index) represents $1/10^{th}$ of 0.20% strain value associated with published expansion strain limits for a typical concrete structures.
- 3 measurement lines show length changes of contraction between 0.007 and 0.008 inch compared to the baseline. The negative change measurements appear to be the result of gage pin displacement.

Based upon the above data analysis, NextEra staff concluded: 1) no significant changes have occurred in the 26 monitored locations after 18 months of data collection; 2) the type of structure on site does not significantly impact the observed variations in measured expansion; 3) thermal effects on seasonal measurements are noticeable; and 4) continued monitoring is warranted to assess trends.

Inspector review of the data identified no additional issues or concerns. As noted in FP100831, based upon examination of eight new locations under the Phase 3 ASR walkdowns, four new locations were added to the six-month CCI monitoring program due to CCI values exceeding the 1.0 mm/m threshold. In accordance with the Structures Monitoring Program, EDS 36180, Revision 4, these four locations will require a structural evaluation to assess available margin.

.3 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 2013 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily condition report review (Section 4OA2.1). The inspectors reviewed NextEra's quarterly trend report for the third quarter of 2013, and selected departmental reports conducted under procedure PI-AA-207-1000, "Station Self-Evaluation and Trending Analysis," Revision 0, to verify that NextEra personnel were appropriately evaluating and trending adverse conditions in accordance with this and other applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of departments that provide input into the quarterly trend reports, which included maintenance and engineering 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 determined to be newly identified as open or continued to be tracked as open adverse trends, potential adverse trends, or management awareness areas. The inspectors verified that these issues were addressed within the scope of the CAP, or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors noted that consistent with the occurrence of a significant service water leak in the third quarter associated with Strainer No. 11, NextEra had appropriately identified this issue under the "degraded component" section of the trend report based on exceeding a statistical control threshold. However, the inspectors noted that other NextEra processes had captured the underlying issues related to service water system challenges including associated corrective actions, and was therefore consistent with the trend report not warranting additional evaluation.

Additionally, based on previous issues that had been identified and tracked in the corrective action database, the inspectors noted an apparent trend in procedure use and adherence. More importantly, NextEra had appropriately captured the increase in human performance issues associated with procedure use and adherence as a potential adverse trend in their trending analysis report for increased attention.

.4 Annual Sample: Follow-up of Corrective Actions for the Loss of Bus 5 during OR15

a. Inspection Scope

The inspectors performed an in-depth review of NextEra's root cause analysis and corrective actions associated with condition report AR 1808492, loss of Bus 5 during clearance, which occurred during refueling outage OR15, in October 2012.

The inspectors assessed NextEra's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of corrective actions to determine whether NextEra personnel were 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 PI-AA-205, Condition Evaluation and Corrective Action and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified.

The inspectors reviewed selected CAP records and did not identify any additional issues. The inspectors determined NextEra's overall response to the issue was commensurate with the safety significance, was generally timely, and included appropriate compensatory actions. The inspectors determined that the actions taken were reasonable to resolve both the initial clearance deficiencies and subsequent loss of emergency response communication data due to other unrelated failures that occurred due to the loss of safety Bus 5.

Additionally, the inspectors noted that NextEra's quarterly trend reports have captured adverse trending related to clearance requests. This identification, as evidenced by exceeding a statistical threshold of condition reports associated with clearance requests throughout 2013, resulted in additional assessment within the CAP and the station trending program. The inspectors verified the additional corrective action reviews were appropriate for the circumstances to address the specific adverse conditions associated with the tagging and clearance deficiencies identified by NextEra personnel. The inspectors verified that the issues that caused the identification of the adverse trend associated with clearance requests, were not related to the original cause of the loss of safety Bus 5, and did not invalidate the corrective actions implemented to prevent recurrence.

4OA5 Other Activities

.1 Operational Safety Review Team (OSART) Report Review

a. Inspection Scope

The inspectors reviewed the final report of the International Atomic Energy Agency's OSART follow-up visit to Seabrook Station that occurred on June 3 to June 7, 2013. The June 2013 visit was the follow-up assessment from the original review of Seabrook that was conducted in June 2011. The inspectors reviewed this report to ensure that any issues identified were consistent with NRC perspectives of NextEra performance and to determine if the OSART team identified any significant safety issues that required further NRC follow-up under the Reactor Oversight Process.

b. Findings

No findings were identified.

.2 Groundwater Protection Initiative (GPI)

a. Inspection Scope

The inspectors reviewed reported groundwater monitoring results and changes to NextEra's written program for identifying and controlling contaminated spills/leaks to groundwater to determine if NextEra has implemented the GPI as intended.

b. Findings and Observations

No Findings were identified.

One observation was identified concerning compliance with the voluntary Nuclear Energy Institute GPI.

NEI 07-07 Industry Initiative Groundwater Protection Program dated August 2007 contains an acceptance criteria 1.1.e which states "UFSAR to be updated with information from Hydrological Investigation Report." NextEra's Fleet procedure EV-AA-100-1001 step 4.2 2.B c requires that "Each site shall ensure that the Updated Safety Analysis Report is in agreement with the characteristics of the site hydrology and geology. (NEI 07-07 1.1 e)." NextEra updated the Seabrook Station Groundwater Completion Report on August 22, 2012. A subsequent review was performed of the Hydrological Investigation Report and it was determined by the licensee that an update to UFSAR was needed. No update to the UFSAR has been performed (AR 01924442). This issue is considered minor as it does not affect safety-related SSCs nor impact any radiological monitoring requirements.

4OA6 Meetings, Including Exit

On January 17, 2014, the inspectors presented the inspection results to Mr. Kevin Walsh, 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.

4OA7 Licensee-Identified Violation

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

- 10 CFR Part 50.65, paragraph a(4), “Requirement for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants’, states, in part, that the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities. NextEra procedure WM 10.1. “On-Line Maintenance”, Section 3.3.1, requires that an evaluation of the risk impact of planned maintenance tasks be performed. Contrary to the above, on September 24, 2012, NextEra failed to adequately assess and manage the impact to plant risk during a planned maintenance activity. Specifically, NextEra identified during internal reviews that they had failed to recognize an elevated online maintenance risk level (Yellow) during the performance of the 1-EDE-B-1-B Battery Service Test due to incorrect coding in NextEra’s PRAX risk model program. The inspectors determined NextEra’s failure to assess and manage risk during the period when the Battery Service Test was reasonably within NextEra’s ability to foresee and correct, and was identified as a performance deficiency. This performance deficiency is more than minor, and considered a finding, because it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Because this finding represents a violation of 10 CFR Part 50.65 “Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”, Section a(4), the inspectors used IMC 0609, Appendix K, Flowchart 1 “Assessment of Risk Deficit,” to analyze the finding. The regional Senior Reactor Analyst determined the incremental core damage probability (ICDP) for the surveillance period (~5-10 minutes) to be several orders of magnitude below the 1E-6 threshold due to the short duration of the systems’ unavailability. As this finding is not related to Risk Management Actions only, and the ICDP Risk Deficit is not >1E-6, the inspectors determined that the finding is of very low safety significance (Green). The issue was entered into NextEra’s CAP as AR 1906782.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
K. Walsh, Site Vice President
T. Vehec, Plant General Manager
V. Brown, Senior Licensing Engineer
M. Chevalier, Radiation Protection Supervisor
J. Connolly, Site Engineering Director
K. Douglas, Maintenance Director
P. Dullea, Principal Chemist Specialist
D. Flahardy, Radiation Protection Manager
A. Giotas, Chemistry Specialist
M. Lake, Chemistry Technician
M. Leone, Operations Training Supervisor - Continuing
M. Ossing, Licensing Manager
V. Pascucci, Nuclear Oversight Manager
D. Robinson, Chemistry Manager
D. Strands, Chemistry Supervisor
M. Strum, Principal Radiological Engineer, AREVA
S. Wellhoffer, Nurse Manager RN

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures
ON1490.06 Winter Readiness Surveillance, Revision 12
ON1090.13, Response to Natural Phenomena Affecting Plant Operations, Revision 1
OP-AA-102-1002, Seasonal Readiness, Revision 1
OS1200.03, Severe Weather Conditions, Revision 20
OS1090.09, Station Cold Weather Operations, Revision 2

Condition Reports
01879206 01904449 1918322 1888495 1634911

Maintenance Orders/Work Orders
40197808

Miscellaneous
Evaluation of Beyond-Design-Basis External Flooding at Protective Features Identified as Having Small Available Physical Margin, Revision 1
Seasonal Readiness Memo to Mano Nazar dated 9/24/13

Section 1R04: Equipment Alignment

Procedures

OS1048.13, Vital Bus 11A Operation, Revision 8
OX1413.03, B Train RHR, Revision 10
OX1416.04A, Service Water Quarterly Pump and Discharge Valve Test and Comprehensive Pump Test, Revision 18

Condition Reports

01793891 01923437

Maintenance Orders/Work Orders

40227849 40284358

Drawings

1-NHY-310042
PID-1-SW-B20795, Service Water System Nuclear Detail, Revision 40
PID-1-SW-D20795, Service Water System Nuclear Detail, Revision 42

Section 1R05: Fire Protection

Miscellaneous

Seabrook Station Fire Protection Pre-Fire Strategies, Volume I, PAB F-1A-Z 7'/-6'/-26'
Unit No. 1 Diesel Generator Building Pre-Fire Strategies DG-F-1A-A, DG-F-2A-A, DG-F-3E-A, DG-F-3C-A, and DG-F-3A-Z, Revision 2

Section 1R06: Flood Protection Measures

Miscellaneous

BTP MEB 3.1 Determination of Rupture Locations and Dynamic Effects Associated With the Postulated Rupture of Piping
Calculation 9763-F-FS-01, Flooding Study for Primary Auxiliary Building – Moderate Energy Lines
Seabrook Station Moderate Energy Line Break Study

Drawings

1-WLD-D20216 1-WLD-D20226 1-WLD-D20229 9763-F-805669
9763-F-805793

Section 1R07: Heat Sink Performance

Procedures

ES1850.017, SW Heat Exchanger Program, Revision 1
PEG-268, Heat Exchanger and NRC GL 89-13 Program, Revision 0

Maintenance Orders/Work Orders

40103638 40235240

Section 1R11: Licensed Operator Requalification Program

Procedures

NT 5702, Administration of Requal Program Annual Exams, Revision 23
OX1426.05, DG 1B Monthly Operability Surveillance, Revision 28
TR-AA-104, NEXTERA Energy Fleet Licensed Operator Continuing Training Program, Revision 4
TR-AA-230-1007, Conduct of Simulator Training and Evaluation, Revision 1
Training Group LORT Training Program Description, December 2012

Condition Reports
1699285 1702114 1714783 1752327 1830734 1833538
1841980 1879841 1889829 1915426

Miscellaneous
E-0, Reactor Trip or Safety Injection, Revision 50
Requalification Training Program Annual Examination Sample Plan 2012-2013
Simulator Examination, Demonstrative Examination on October 23, 2013, Revision 14

Simulator Action Request:
TWR01818481

Simulator-Related Test Documents:
'C' Feed Reg Valve Failed Closed Plant Trip, 11/28/12
Closure of All MSIVs, 8/22/13
Main Turbine Trip below P-9, 8/22/13
Manual Rx Trip, 8/22/13
Simultaneous Trip of All RCPs, 8/22/13
Steady State Operability Testing, 11/19/12
Trip of a single RCP, 8/22/13
Trip of All FW Pumps, 8/22/13

Section 1R12: Maintenance Effectiveness
Procedures
MS0519.129, Bettis Air Actuator Maintenance for 1-SW-V-16 and 1-SW-V-18, Revision 0
PEG-40, Scoping Changes and Program Interfaces, Revision 5
PEG-45, Maintenance Rule Program Monitoring Activities, Revision 17

Condition Reports
1921691 1927198 1927831 1904565 1926696 1902366

Maintenance Orders/Work Orders
40200892 94082141

Miscellaneous
Chemical and Volume Control System Health Report
ER-AA-100-2002 Form F01, Revision 1, Maintenance Rule Functional Failure
Form 36180, Structural Monitoring Program Form 2, Revision 1
NEI-99-02, Revision 7
System Health Report (10/1-2013 – 12/31/2013) for the Fire Protection System
System Health Report (10/1-2013 – 12/31/2013) for Service Water System

Section 1R13: Maintenance Risk Assessments and Emergent Work Control
Procedures
PRA-301, MR (a)(4) Process for On-Line Maintenance Group Instruction, Revision 0
WM-AA-100-1000, Work Activity Risk Management, Revision 0

Maintenance Orders/Work Orders
40227849 40227820 40281251

Miscellaneous
Engineering Evaluation EE-13-007, Maintenance Rule (a)(4) Fire Implementation, Revision 0
Maintenance Rule a(4) Assessment Report for Work Week 1347
Maintenance Rule a(4) Assessment Report for Work Week 1349

Section 1R15: Operability Determinations and Functionality Assessments

Procedures
EN-AA-203-1001, Operability Determinations / Functionality Assessments, Revisions 12 & 13
OS1006.05, RWST and SFP Silica/Activity Clean Up Operations, Revision 6
OX1416.04 Service Water Quarterly Pump and Discharge Valve Test and Comprehensive Test, Revision 18

Condition Reports
1755671 1909051 1918208 1918332 1919255 1920352
1920353 1920354 1914280

Maintenance Orders/Work Orders
40222427

Miscellaneous
SW-P-41A IST Pump Data Log

Section 1R18: Plant Modifications

Procedures
EN-AA-100, Design Change Program, Revision 1
EN-AA-100-1003, Control of Design Interfaces, Revision 1
EN-AA-205-1100, Design Change Packages, Revision 9
ES0815.004, Welding of Carbon Steel Materials (P-1 to P-1), Revision 1
LS0563.141, SWG-5 25R Synchronization Check Relay Inspection, Testing and PM, Revision 0
LS0568.21, Wiring Verification and Functional Checks, Revision 4
OS1000.01, Heatup from Hot Standby to Cold Shutdown, Revision 39
OX1426.03, Emergency Power Sequencer 18 Month Operability Test, Revision 7
OX1446.02, Bus E5 and E6 18 Month Offsite Power Supply Transfer Operability Test, Revision 7

Condition Reports
01669517 1692863

Maintenance Orders/Work Orders
40233633 40233635 40040243 40090976

Miscellaneous
Calculation C-S-1-45886, Service Water Return Piping from CC-E-17-A&B Qualification, Revision 2
Calculation 9763-3-ED-00-23-F, Medium Voltage Protection Relay Coordination, Revision 0
EC 274301, EPS Power Supply Overvoltage Protection
EC 279413, Modifications in Support of OR16 32" SW Tee Replacement, Revision 1
EC 278785, SW Pipe Support Modifications in Support of OR16, Revision 2
Engineering Change (EC) 272542, 1-RC-TB-451 Temporary Setpoint Change

FP 36550, Environmental and Seismic Qualification Dedication Test Procedure and Test Report for GE Relay P/N 12SLJ21A1A, Revision 0
UFSAR 8.3.1.1.e.b
Westinghouse Comparator Calculations

Drawings
310108
801815S, Sheet 1 of 2, Support No. 1815-SG-51, Revision 1
1-NHY-310102, Sheet A52, Control Wiring Diagram 4160V Bus 1-E5 RAT Incoming Line, Revision 3
1-NHY-310102, Sheet A53a, 4160V Bus 1-E5 PT's Three Line Diagram, Revision 14
1-NHY-310231, Sheet 11c, Miscellaneous Relays 4.16kV Switchgear Bus 1-EDE-SWG-5, Revision 7
SK-274863-2001

Section 1R19: Post-Maintenance Testing

Procedures
IS1672.211, 1-SW-L-6139 Service Water Cooling Tower Basin Water Level Loop B Calibration, Revision 9
OX1413.01, A Train RHR Quarterly Flow and Valve Stroke Test and 18 Month Valve Stroke Observation, Revision 18
OX1456.81, Operability Testing of IST Valves, Revision 18

Condition Reports

1915871	1897370	1916203	1916204	1908426	1926696
1927845	1921678	1921938			

Maintenance Orders/Work Orders

40177013	40177017	40270845	40037987	40267058	40273297
40221056	40200892	40284268	40238117		

Drawings
1-NHY-310107, Sheet D88a, 125 VDC Bus 11C 1-SWG-11C Three Line Diagram, Revision 11
1-NHY-310107, Sheet D88b, 1-SWG-11C Battery Charger Supply 1-BC-1C Schematic Diagram, Revision 2
1-NHY-503956, SW to DG WTR Jacket Hx Logic Diagram, Revision 6
Foreign Print (FP) 92380, Fisher Butterfly Valve
G25163, 16" Type 7620 Valve Bettis T-316-SR2 Rotary Actuator, Revision H

Section 1R22: Surveillance Testing

Procedures
OX1416.06 Service Water Discharge Valves Quarterly Test and 18 Month Position Verification, Revision 9

Condition Reports

01913220	01916357	1914416

Maintenance Orders/Work Orders
40222447

Miscellaneous
Containment Sump 'A' and 'B' level trends
Unidentified Leak Rate trends

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

CD0904.11, Split and Cross Check Analysis, Revision 5
CDI-015, Sampling of Groundwater Monitoring Wells, Revision 3
CP 8.1, Verification of Analytical Systems Performance, Revision 23
CS0908.01, Off-site Dose Assessment, Revision 15
CS0910.11, Wide Range Gas Monitor Sampling, Revision 1
CS0917.02, Gaseous Effluent Releases, Revision 13
CS0917.03, Unmonitored Plant Releases, Revision 10
CS0917.04, Monitoring Plant Systems for Radioactivity, Revision 1
CX0917.01, Liquid Effluent Releases, Revision 20

Condition Reports

01634121	01876200	01876873	01876972	01876868	01898430
01891531	01924442	01924764			

Miscellaneous

GEW Permit 13-150 Containment Purge, 4/4/13
GEW Permit 13-165 Continuous Plant Vent Releases, 4/9/13
HPOG 38 Dry Fuel Storage - Monitoring Plan for Kr-85 Release, August 14, 2013
HPSTID Number 13-005, Calculated Radiological Conditions Caused by the Release of Kr-85 during Dry Fuel Storage Campaign, August 14, 2013
LEW Permit 13-198 ASDA, 4/25/13
LEW Permit 13-149 Waste Test Tank B, 4/2/13
LEW Permit 13-194 Steam Generator Blowdown Flash Tank 4/10/13
LEW Permit 13-181 Turbine Building Sump, 4/3/13
SB Inter Laboratory Radiochemistry QC Report 2012
Seabrook 1 Updated Final Safety Analysis Report
Teledyne Brown Engineering Laboratory, CARR No. 120306-667, March 6, 2013
Teledyne Brown Engineering Laboratory, CARR No. 120831-715, August 31, 2012
Teledyne Brown Engineering Laboratory, CARR No. 120726-698, July 26, 2012
Teledyne Brown Engineering Laboratory, CARR No. 121127-742, November 27, 2012
Teledyne Brown Engineering Laboratory, CARR No.121109-744, November 9, 2012

Section 2RS7: Radiological Environmental Monitoring Program

Procedures

CD05-01-01, YSI 556 MPS Operations Manual, Revision 3
CDI-015, Sampling Groundwater Monitoring Wells, Revision 3
EV-AA-100-1000, Groundwater Protection Program Communications/Notification Plan, Revision 4
EV-AA-100-1001, Fleet Groundwater Protection Program Implementing Guideline, Revision 2
LI-AA-102-1001, Regulatory Reporting, Revision 0
NARC 3-1.1, Periodic and Special Regulatory Reports, Revision 148
ON1244.01, Spill Response, Revision 24
OP 4.1, Effluent Surveillance Program, Revision 24

Condition Reports
01891529 01891530 01891531 01891515

Miscellaneous
Seabrook 1 Updated Final Safety Analysis Report

Section 4OA1: Performance Indicator Verification
Procedures
CS0917.02, Gaseous Effluent Releases, Revision 14
CX0917.01, Liquid Effluent Releases, Revision 20
HD0958.33, Performance of Radiation Protection Supervisory Plant Walkdowns, Revision 6
JD0999.910, Reporting Key Performance Indicators per NEI 99-02, Revision 6
NAP-206, NRC Performance Indicators, Revision 6

Audits, Self-Assessments, and Surveillances
Quick Hit Assessment Report 1914767, HP Performance Indicator Verification, November 1, 2013

Condition Reports
01856230

Miscellaneous
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, November 14, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, October 2, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, September 4, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, August 12, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, July 3, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, June 6, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, May 7, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, April 5, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, March 8, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, February 7, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, January 14, 2013
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, December 5, 2012
CHL-219 Reactor Coolant Specific Activity and RETS/ODCM Radiological Effluent Occurrence KPIs, November 13, 2012
CS0908.01 Form A, Dose Calculation for Liquid Effluent Release, Permit Number 13-395
CS0908.01 Form A, Dose Calculation for Liquid Effluent Release, Permit Number 13-106

CS0908.01 Form A, Dose Calculation for Liquid Effluent Release, Permit Number 13-096
CS0908.01 Form F, Radioactive Effluent Dose Assessment Report, November 14, 2013
JD0999.910, Figure 1, Occupational Exposure Occurrence, October 10, 2013
JD0999.910, Figure 1, Occupational Exposure Occurrence, July 10, 2013
JD0999.910, Figure 1, Occupational Exposure Occurrence, April 4, 2013
LIC-13037, Documentation Supporting the Seabrook Station NRC 3rd Quarter 2013 Performance Indicator Submittal
LIC-13036, Documentation Supporting the Seabrook Station NRC 2nd Quarter 2013 Performance Indicator Submittal
LIC-13017, Documentation Supporting the Seabrook Station NRC 1st Quarter 2013 Performance Indicator Submittal
LIC-13003, Documentation Supporting the Seabrook Station NRC 4th Quarter 2012 Performance Indicator Submittal
MSPI Derivation Reports

Section 4OA2: Problem Identification and Resolution

Procedures

OP-AA-101-1000, Clearance and Tagging, Revision 9
PI-AA-204, Condition Evaluation and Corrective Action, Revision 23

Miscellaneous

Engineering Department Trend Report Input
Maintenance Department Trend Report Input
Operations Department Trend Report Input
Performance Improvement Weekly Updates (various)
Seabrook Station Self-Evaluation and Trending Analysis Report for 3rd Quarter 2013
System Health Report, EDE 4.16kV (10/1/13 – 12/31/13)

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	as low as is reasonably achievable
AR	action request
ASR	Alkali-Silica Reaction
CAP	corrective action program
CCI	Combined Crack Indexing
CFR	Code of Federal Regulations
CR	condition report
CY	CY calendar year
EC	engineering change
EDG	emergency diesel generator
FP	Foreign Print
FSEL	Ferguson Structural Engineering Laboratory
GPI	groundwater protection initiative
GW	groundwater
GWPP	groundwater protection program
IMC	Inspection Manual Chapter
JPM	job performance measures
LER	licensee event report
MR	Maintenance Rule
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
PAB	Primary Auxiliary Building
PARS	Publicly Available Records
PI	performance indicator
RCS	reactor coolant system
REMP	Radiological Environmental Monitoring Program
RG	Regulatory Guide
RHR	residual heat removal
SDP	significance determination process
SSC	structure, system, or component
SW	service water
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	unresolved item
WO	work order