UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

November 12, 2009

Mr. Gene St. Pierre
Vice President, North Region
NextEra Energy Seabrook
Seabrook Station
c/o Mr. Michael O'Keefe
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - NRC INTEGRATED INSPECTION REPORT 05000443/2009004

Dear Mr. St. Pierre:

On September 30, 2009, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at the Seabrook Nuclear Power Station. The enclosed report documents the inspection findings which were discussed on October 1, 2009, with Mr. G. St. Pierre and other members of your staff.

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

The report documents one NRC-identified finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. Additionally, one licensee-identified violation which was determined to be of very low safety significance is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy.

If you contest any NCV 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 the Seabrook Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at the Seabrook Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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 (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Arthur L. Burritt, Chief
Projects Branch 3
Division of Reactor Projects

Enclosure: Inspection Report No. 05000443/2009004
w/ Attachment: Supplemental Information

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Sincerely,

/RA/

Arthur L. Burritt, Chief
Projects Branch 3
Division of Reactor Projects

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-443
License No.:	NPF-86
Report No.:	05000443/2009004
Licensee:	NextEra Energy Seabrook, LLC
Facility:	Seabrook Station, Unit No.1
Location:	Seabrook, New Hampshire 03874
Dates:	July 1, 2009- September 30, 2009
Inspectors:	W. Raymond, Senior Resident Inspector J. Johnson, Resident Inspector T. Burns, Senior Reactor Inspector J. Richmond, Senior Reactor Inspector M. Balazik, Reactor Inspector T. Moslak, DRS Radiation Safety Inspector S. Barr, Senior Emergency Preparedness Inspector
Approved by:	Arthur L. Burritt, Chief Projects Branch 3 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000443/2009004; 7/1/2009-9/30/2009; Seabrook Station, Unit No. 1; Routine Integrated Report; Heat Sink.

The report covered a three-month period of inspection by resident and regional specialist inspectors. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspect of a finding is determined using the guidance in IMC 0305, "Operating Reactor Assessment Program." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Cornerstone: Mitigating Systems

- Green. The NRC identified a non-cited violation of 10 CFR 50 Appendix-B Criteria III, Design Control, for the failure to verify that service water (SW) isolation valve leakage was within design assumptions for ultimate heat sink (UHS) water inventory. Specifically, the NextEra had not verified by analysis or test that the American Society of Mechanical Engineers (ASME) Class 3 boundary isolation valves, for the safety-related SW piping, provided an adequate leak tight boundary to ensure that the design minimum volume of water would remain in the UHS at the end of a seven-day period with no make-up. Following the identification, NextEra placed the issue into the corrective action program and performed an assessment, which concluded there was reasonable assurance the UHS cooling tower could perform its safety function.

  The finding was more than minor because, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, during a loss of normal ocean water cooling, a leak on the non-safety SW piping could result in a significant loss of inventory from the UHS over a seven-day period. In addition, this finding adversely affected the reliability objective of the protection against external events attribute under the Mitigating Systems Cornerstone. The inspectors determined the finding was of very low safety significance because it was a design deficiency confirmed not to result in a loss of operability or functionality. This finding did not have a cross-cutting aspect because it was not representative of current licensee performance. When NextEra modified the valve seats in the early 1990's, they did not verify the modified design by either analysis or test. The valves in question have not been reworked or internally inspected since they were modified. Therefore, the inspectors concluded that this was not reflective of current performance.

Other Findings

- A violation of very low safety significance, which was identified by NextEra Energy, has been reviewed by the inspectors. Corrective actions taken or planned by NextEra have been entered into the corrective action program. The violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Seabrook operated at or near full power for the entire period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Preparation (71111.01 - 3 samples)

.1 Summer Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors completed one summer readiness of offsite and alternate AC power systems inspection sample. The inspectors' review of this area focused on NextEra procedure OS1246.02, "Degraded Vital AC Power." The inspectors verified that plant features were maintained and procedures for operation were adequate to ensure the continued availability of AC power systems. The inspectors verified that communication protocols with the transmission system operator were adequate to ensure that appropriate information was exchanged when issues arose that could impact the offsite power system. The inspectors also observed NextEra's implementation of OS1246.02 during periods that challenged grid conditions between August 12-19, 2009. The inspection included walkdowns of the onsite normal and emergency AC power systems and the inspectors reviewed deficiencies related to summer readiness of offsite and alternate AC power systems and verified these issues were entered into the corrective action program. The references used for this review are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

The inspectors completed one impending adverse weather condition inspection sample. The inspectors reviewed the NextEra readiness to protect risk significant systems from the effects of adverse weather on August 13-19, 2009 (high temperature), and on August 19-22 and August 29-30, 2009, when adverse weather (Hurricanes Bill and Danny) threatened to impact the site with high winds, rain and potential flooding. The inspectors verified that NextEra prepared and responded to the severe weather conditions in accordance with procedure OS1200.03, "Severe Weather Conditions." The inspectors also reviewed corrective actions for identified problems and examined Next Era's extent of condition reviews. The inspection included walkdowns of plant areas

including the AC distribution system and the screen wash, emergency feedwater and service water systems.

The inspectors reviewed Seabrook's updated final safety analysis report (UFSAR) regarding design features, and verified the adequacy of the station procedures for severe weather protection. The inspectors reviewed previously identified deficiencies related to extreme weather preparation and verified that the issues were appropriately dispositioned through the corrective action program. The documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.3 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors completed one external flooding inspection sample. The inspectors reviewed NextEra's readiness for providing protection for risk significant systems from external flooding during the period when Hurricane Bill was projected to potentially impact the site. The inspection included a review of the UFSAR and applicable flood analyses to identify those areas that can be affected by external flooding and the design flood levels for areas containing safety-related equipment. The inspectors toured the site to observe the status of the seawall and other flood protection features. The inspectors walked down plant areas containing risk significant structures, systems, and components (SSCs) that were potentially susceptible to flooding, including the service water (SW) building, and the emergency feedwater (EFW) building. The inspectors verified that the procedures for coping with flooding that credit operator actions could be implemented and evaluated implementation of flood protection preparation procedures and compensatory measures during impending conditions of flooding or heavy rains.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04 - 3 Samples)

.1 Partial Walkdown

a. Inspection Scope

The inspectors completed three partial system walkdown inspection samples for the plant systems listed below. The inspectors verified that valves, switches, and breakers were correctly aligned in accordance with Seabrook's procedures and that conditions that could affect system operability were appropriately addressed. The inspectors reviewed applicable piping and instrumentation drawings and system operational lineup procedures. Documents reviewed for this inspection are listed in the Attachment.

- Emergency diesel generators (EDG) on August 18-20, 2009, during the planned inoperability of the supplemental emergency power system (SEPS).
- Motor driven emergency feedwater (EFW) pump FW-P-37A on September 22-23, 2009
- Normal and backup power supplies to emergency Buses E5 and E6 on September 23-25, 2009, during the 345KV Line 369 outage and the testing of the offiste power protection system.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q- 5 Samples)

.1 Quarterly Review of Fire Areas:

a. Inspection Scope

The inspectors completed five quarterly fire protection inspection samples. The inspectors examined the areas of the plant listed below to assess: the control of transient combustibles and ignition sources; the operational status and material condition of the fire detection, fire suppression, and manual fire fighting equipment; the material condition of the passive fire protection features; and the compensatory measures for out-of-service or degraded fire protection equipment. The inspectors verified that the fire areas were maintained in accordance with applicable portions of Fire Protection Pre-Fire Strategies and Fire Hazard Analysis. Documents reviewed are listed in the Attachment.

- PAB-F-1D-A (Charging Pump 2B)
- ET-F-1AB-A (A Electric Tunnel)
- FSB-F-1-A (Fuel Storage Building, 21 foot elevation)
- RHR-F-1A-Z (RHR-A Vault)
- RHR-F-2A-Z (RHR-B Vault)

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (IP 71111.07T - 3 samples)

a. Inspection Scope

Based on a plant specific risk assessment, past inspection results, recent operational experience, and resident inspector input, the inspector selected the following heat sink samples:

- Review operation of the service water (SW) system and SW cooling tower system. The SW cooling tower system is the ultimate heat sink (UHS) under certain circumstances described below.
- Review performance testing of the SW and UHS systems.

- Perform a system walkdown on the SW and UHS systems.

The inspectors reviewed the SW system design to evaluate the adequacy of system monitoring and performance testing. The SW system was designed to supply cooling water from the ocean to various plant heat loads to ensure a continuous flow of cooling water to systems and components necessary for plant safety during both normal operation and abnormal or accident conditions. The intake and discharge tunnels, between the SW pumps and the ocean, are not safety-related or seismically qualified.

Therefore, during a postulated loss of service water or normal ocean water cooling, SW cooling tower pumps automatically start and supply cooling water to plant safety related heat loads. During cooling tower operation, the in-plant SW system is aligned to the tower, non-safety related heat loads are isolated (e.g., turbine building), and the SW intake structure is isolated.

The inspectors reviewed NextEra's test and inspection, maintenance, chemical control, and performance monitoring methods and frequency for the SW system and the UHS (i.e., SW cooling tower system), to determine whether potential deficiencies could mask degraded performance, and to assess the capability of the systems to perform their design functions. In addition, the inspectors evaluated whether any potential common cause heat sink performance problems could affect multiple heat exchangers or heat removal paths in mitigating systems or could result in an initiating event.

The inspectors reviewed system health reports, SW and UHS pipe inspection records, performance and surveillance test results, and design specifications and calculations. The inspectors compared as-found test and inspection results, and performance and surveillance test results to established acceptance criteria to determine whether the as-found conditions were acceptable and conformed to design basis assumptions for heat transfer capability. The inspectors evaluated performance trends to assess whether the inspection and test frequencies were adequate to identify degradation prior to loss of heat removal capabilities below their design requirements. In addition, the inspectors assessed NextEra's methods to monitor and control bio-fouling, corrosion, erosion, and silting to verify whether NextEra's methodology and acceptance criteria, as-implemented, were adequate.

The inspectors performed field walkdowns of selected portions of the SW and UHS system piping and the intake structure to independently assess the material condition of these systems and components. In addition, the inspectors viewed several SW buried piping inspection videos from the most recent plant outage, reviewed work order history, and discussed system health with the respective system and design engineers. Specific documents reviewed are listed in the Attachment.

The inspectors reviewed a sample of CRs related to the SW and UHS cooling tower systems to ensure that NextEra was appropriately identifying, characterizing, and correcting problems related to these systems and components, and that the planned or completed corrective actions for the issues were appropriate. Documents reviewed are listed in the Attachment.

b. Findings

.1 Ultimate Heat Sink Isolation Valve Leakage Not Verified

Introduction The inspectors identified a Green non-cited violation of 10 CFR 50 Appendix-B Criteria III, Design Control, for the failure to verify that service water isolation valve leakage was within design assumptions for ultimate heat sink (UHS) water inventory.

Description The SW system is comprised of a safety-related and a non-safety related portion. The SW system is normally supplied from safety-related SW pumps, located in the SW intake structure. Safety-related portions of the SW system are designed to ASME Class 3 standards and are seismically qualified. However, the ocean intake tunnel, from the ocean to the SW pump bays, is not seismically qualified. Therefore, the UHS is the SW cooling tower, which provides the required safety-related backup water source, should the SW pumps or intake structure become unavailable. The UHS cooling tower water basin is required to have a seven-day post-accident water inventory, without any basin make-up.

Six butterfly valves separate the SW safety-related Class 3 piping from the non-safety non-Class 3 piping. There are four 24 inch butterfly valves and two 12 inch valves. These boundary isolation valves have a safety function to automatically isolate the non-safety (e.g., non-seismic) SW piping from the safety-related portion whenever the SW system is aligned to the UHS cooling tower. In addition, each Class 3 to non-Class 3 boundary has a single butterfly isolation valve (e.g., single, not double, isolation valve protection). There are no routine valve preventative maintenance tasks or inspections on these isolation valves. The valves were modified in the early 1990's to replace the original valve seats with a more durable seat. The valves and seats had not been inspected since they were modified about 15 years ago.

Routine motor operated valve (MOV) diagnostics are performed every six years. The inspectors reviewed the most recent as-found or as-left MOV diagnostic test results for the six valves. The MOV test data showed that each valve was achieving adequate torque when the valve reached its closed position, which generally indicated that some portion of the valve disk was in contact with some portion of the valve seat.

The Inservice Test Program Basis document identified these valves as ASME Category B valves, for which seat leakage in the closed position was inconsequential for fulfillment of the required function. The inspectors determined that NextEra did not have a documented technical basis for the nominal or maximum leakage for these boundary isolation valves in order to conclude that seat leakage was inconsequential.

NextEra determined that if these six boundary isolation valves collectively leaked more than approximately 138gpm, then the UHS cooling tower water volume would decrease to less than design minimum volume before the end of a seven-day period. NextEra entered this issue into their corrective action program as condition report 201099, and performed an assessment which concluded there was reasonable assurance the UHS cooling tower could perform its safety function. NextEra's assessment was based on operating procedures which required early initiation of cooling tower make-up from a

mobile diesel driven make-up pump required to be operable by plant Technical Specifications, an informal inspection of a valve seat in a similarly modified butterfly valve, and an informal leakage quantification for actual seat leakage identified for the 12 inch isolation valves, which had been used as a maintenance block valves during the last refueling outage. The inspectors considered NextEra's assessment to be reasonable.

Analysis The inspectors determined that not ensuring design adequacy for a safety related function was a performance deficiency that was reasonably within NextEra's ability to foresee and prevent prior to July 2009. Specifically, NextEra had not verified by analysis or test that the ASME Class 3 boundary isolation valves, for the safety-related SW piping, provided an adequate leak tight boundary to ensure that the design minimum volume of water would remain in the UHS at the end of a seven-day period with no make-up.

This finding was more than minor because, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Specifically, during a loss of normal ocean water cooling, a leak on the non-safety SW piping could result in a significant loss of inventory from the UHS over a seven-day period. In addition, this finding adversely affected the reliability objective of the protection against external events attribute under the Mitigating Systems Cornerstone. The inspectors performed a Phase 1 Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance (Green) because it was a design deficiency confirmed not to result in a loss of operability or functionality.

This finding did not have a cross-cutting aspect because it was not representative of current licensee performance. When NextEra modified the valve seats in the early 1990's, they did not verify the modified design by either analysis or test. The valves in question have not been reworked or internally inspected since they were modified. Therefore, the inspectors concluded that this was not reflective of current performance.

Enforcement 10 CFR 50 Appendix-B Criteria III, Design Control, in part, required that measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Contrary to the above, from initial plant startup to July 10, 2009, NextEra did not verify or check the adequacy of the design for the safety related service water ASME Class 3 boundary isolation valve leakage such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of a suitable testing program. Specifically NextEra did not verify that safety related service water ASME Class 3 boundary isolation valve leakage was less than the amount required to ensure that the UHS had sufficient water inventory for seven days of operation without make-up, as required by design and licensing basis. Because this finding was of very low safety significance and was entered into the corrective action program as Condition Report 201099, this violation is being treated as a non-cited violation (NCV), consistent with section VI.A of the NRC Enforcement Policy. **(NCV 05000443/2009004-01, Failure to verify that ultimate heat sink isolation valves do not leak in excess of design assumptions).**

1R11 Licensed Operator Requalification Program (71111.11Q - 1 sample)

.1 Quarterly Resident Inspector Review

a. Inspection Scope

The inspectors completed one quarterly licensed operator requalification program inspection sample. Specifically, the inspectors observed simulator examination of licensed operators on September 3, 2009, for scenarios involving transients and design basis events. The inspectors reviewed operator actions to implement the abnormal and emergency operating procedures. The inspectors examined the operators' ability to perform actions associated with high-risk activities, the Emergency Plan, previous lessons learned items, and the correct use and implementation of procedures. The inspectors observed and reviewed the training evaluator's critique of operator performance and verified that deficiencies were adequately identified, discussed, and entered into the corrective action program, as appropriate. The inspectors reviewed the simulator's physical fidelity in order to verify similarities between the Seabrook control room and the simulator. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 2 Samples)

a. Inspection Scope

The inspectors completed two maintenance effectiveness inspection samples. The inspectors reviewed performance-based problems or completed performance and condition history reviews involving selected in-scope structures, systems or components (SSCs) to assess the effectiveness of the maintenance program. Reviews focused on: proper Maintenance Rule (MR) scoping in accordance with 10 CFR 50.65; characterization of reliability issues; tracking system and component unavailability; 10 CFR 50.65 (a)(1) and (a)(2) classifications; identifying and addressing common cause failures, trending key parameters, and the appropriateness of performance criteria for SSCs classified (a)(2) as well as the adequacy of goals and corrective actions for SSCs classified (a)(1). The inspectors reviewed system health reports, maintenance backlogs, and MR basis documents. Other documents reviewed for the inspection are listed in the Attachment. The following samples were reviewed:

- Component cooling water system maintenance rule (a)(2) classification, with focus on temperature control valve performance (AR201083)
- ED-480 VAC US system maintenance rule (a)(1) classification, with focus on breaker performance (AR201433, 00040896)

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 3 samples)

a. Inspection Scope

The inspectors reviewed the scheduling and control of planned and emergent work activities in order to evaluate the effect on plant risk. The inspectors conducted interviews with operators, risk analysts, maintenance technicians, and engineers to assess their knowledge of the risk associated with the work, and to ensure that other equipment was properly protected. The compensatory measures were evaluated against Seabrook procedures, Maintenance Manual 4.14, "Troubleshooting," Revision 0 and Work Management Manual 10.1, "On-Line Maintenance," Revision 3. Specific risk assessments were conducted using Seabrook's "Safety Monitor." Documents reviewed are listed in the Attachment. The inspectors reviewed the following items:

- Emergent work associated with the main steam valve (MS-V-92) performance, AR 202606, AR 202630
- Planned switchyard modification and gas insulated bus and breaker erection work per 09DCR001, WO 00628743
- 345KV Line 369 Outage and Relay Room Work per 09DCR001, WO 01195817

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 4 Samples)

a. Inspection Scope

The inspectors completed four operability evaluation inspection samples. The inspectors reviewed operability evaluations and condition reports to verify that identified conditions did not adversely affect safety system operability or overall plant safety. The evaluations were reviewed using criteria specified in NRC Regulatory Issue Summary 2005-20, "Revision to Guidance formerly contained in NRC Generic Letter 91-18, Information to Licensees Regarding two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability" and Inspection Manual Part 9900, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." In addition, where a component was determined to be inoperable, the inspectors verified that TS limiting condition for operation implications were properly addressed. Documents reviewed are listed in the Attachment. The inspectors also performed field walk downs and interviewed personnel involved in identifying, evaluating or correcting the identified conditions. The following items were reviewed:

- CR202055, core exit thermocouple cables not seismically supported per specifications, 7/27/09
- CR202606, main steam isolation valve close circuitry malfunction during testing, 7/30/09
- CR202762, lack of environmental qualification for main steam isolation valve MS-92, 7/30/09

- CR 201083, lack of qualified air regulators for component cooling water pressure control valve 1-CC-PCV-2271, 7/8/09

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - 5 Samples)

a. Inspection Scope

The inspectors completed five post-maintenance testing (PMT) inspection samples. The inspectors observed portions of PMT activities in the field to verify the tests were performed in accordance with the approved procedures. The inspectors assessed the test adequacy by comparing the test methodology to the scope of maintenance work performed. The inspectors evaluated established test acceptance criteria to verify that the reviewed test procedures ensured that systems and components satisfied applicable design, licensing bases and technical specification (TS) requirements. The inspectors also reviewed the recorded data to confirm applicable acceptance criteria were satisfied during testing. Documents reviewed are listed in the Attachment. The activities reviewed included:

- Retest following the failure of the Group A pressurizer heater power supply breaker completed on 07/11/09, WO 01192472
- Retest of the supplemental electrical power system following inspections and maintenance on 8/19/09, WO 01173478
- Retest of the C steam generator steam flow channel following the channel indication failure on 8/17/09, WO 01194033
- Service water spool replacement, SW-1801-19-154-1 ½" piping and fittings on 09/24/09, WO 1189758
- Restoration and retest of the Technical Support Center equipment following renovations on 07/30/09, WO 01190893

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 – 6 Samples)

a. Inspection Scope

The inspectors observed portions of surveillance testing activities of safety-related systems to verify that the system and components were capable of performing their intended safety function, to verify operational readiness, and to ensure compliance with required Technical Specifications and surveillance procedures. The inspectors attended selected pre-evolution briefings, performed system and control room walkdowns, observed operators and technicians perform test evolutions, reviewed system parameters, and interviewed the system engineers and field operators. The test data recorded was compared to procedural and technical specification requirements, and to

prior tests to identify any adverse trends. Documents reviewed are listed in the Attachment. The inspection included the following six surveillance samples:

- OX1456.01, Charging Pump A & B Quarterly Flow and Valve Stroke Test and 18 Month Remote Position Indication Verification on July 28, 2009,
- OX1430.02, Main Steam Isolation Valve Quarterly Test on July 30, 2009,
- OX1405.07, Safety Injection Quarterly And 18 Month Pump Flow And Valve Test on August 6, 2009
- ES09-01-78, Control Room Envelope In-Leakage Testing on August 31 to September 3, 2009,
- IX1656.926, Power Range NI Calibration on August 12, 2009
- OX1461.04, Supplemental Emergency Power System Monthly Availability Surveillance on August 19, 2009,

b. Findings

No findings of significance were identified.

1EP2 Alert and Notification System (ANS) Evaluation

a. Inspection Scope (71114.02 - 1 Sample)

A review of the Seabrook ANS was conducted to assess the maintenance and testing of the system. During this inspection, the inspector interviewed EP staff responsible for implementation of the ANS testing and maintenance. Condition Reports (CRs) pertaining to the ANS were reviewed for causes, trends, and corrective actions. The inspector further discussed with NextEra the ANS siren system and its performance from January 2008 through July 2009. The inspector reviewed the ANS design report and Seabrook procedures to ensure NextEra's programs complied with design report commitments for system maintenance and testing. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 2. Planning standard, 10 CFR 50.47(b)(5) and the related requirements of 10 CFR 50, Appendix E were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Staffing and Augmentation System

a. Inspection Scope (71114.03 - 1 Sample)

The inspector conducted a review of the Seabrook ERO augmentation staffing requirements and of the processes for notifying the ERO if an event were to be declared at the station. The inspector reviewed procedures and CRs associated with the ERO notification system and drills, and reviewed records from call-in drills. The inspector interviewed personnel responsible for testing the ERO augmentation process, and reviewed the training records for a sampling of the ERO to ensure training and qualifications were up to date. The inspector reviewed procedures for ERO administration and training. The inspection was conducted in accordance with NRC

Inspection Procedure 71114, Attachment 3. Planning standard, 10 CFR 50.47(b)(2) and related requirements of 10 CFR 50 Appendix E were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope (71114.04 - 1 Sample)

Since the last NRC inspection of this program area in November 2008, NextEra had implemented various changes to different sections of the Seabrook Station Radiological Emergency Plan. NextEra had determined that, in accordance with 10 CFR 50.54(q), any change made to the Plan, and its lower-tier implementing procedure, had not resulted in any decrease in effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR 50. The inspector reviewed all EAL changes and a sampling of Emergency Plan changes, including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential decreases in effectiveness of the Emergency Plan. However, this review was not documented in a 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 inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4. The requirements in 10 CFR 50.54 (q) were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses

a. Inspection Scope (71114.05 - 1 Sample)

The inspector reviewed a sampling of self-assessment procedures and reports to assess NextEra's ability to evaluate their Seabrook EP performance and programs. The inspector reviewed a sampling of CRs from January 2008 through July 2009, initiated by NextEra at Seabrook from drills, self-assessments, and audits. Additionally, the inspectors reviewed Quality Assurance audits, including two 10 CFR 50.54(t) audits conducted in 2008 and 2009, and several self-assessment reports. Other drill reports reviewed included medical and call-in drill reports. This inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 5. Planning standard, 10 CFR 50.47(b) (14) and the related requirements of 10 CFR 50 Appendix E were used as reference criteria.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program (71122.03)

a. Inspection Scope (10 Samples)

During the period September 21 - 24, 2009, the inspector conducted the following activities to verify that NextEra implemented the radiological environmental monitoring program (REMP) consistent with the Site Technical Specifications and the Off-Site Dose Calculation Manual (ODCM), to validate that radioactive effluent releases met the design objectives of Appendix I to 10 CFR 50.

Additionally, the inspector verified that radiological surveys and controls were adequate to prevent the inadvertent release of radioactive material into the public domain. Implementation of these controls was reviewed against the criteria contained in 10 CFR 20 & 50, relevant Technical Specifications, and the licensee's procedures.

This inspection activity represents completion of ten samples relative to this inspection area.

REMP Inspections:

- The inspector reviewed the 2008 Annual Radiological Environmental Operating Report and the 2008 Land Use Census Report to verify that the environmental monitoring programs were implemented as required by the ODCM (Revision 32);
- The inspector walked down eight (of 8) air particulate/iodine sampling stations (Nos. 01, 02, 03, 04, 05, 07, 08, 09), three (of 3) broad leaf vegetation samples (Nos. 08, 09, 10), 2 (of 2) milk sampling stations (Nos.15, 20), one (of 2) seawater samples (No. 51), two (of 2) off-site shallow well water sampling stations (Nos. 13, 14), and fourteen (of 47) thermoluminescent (TLD) monitoring stations (Nos. 2, 3, 5, 7, 15, 16, 20, 21, 23, 31, 33, 35, 36, 46). The inspector determined if sampling locations were as described in the ODCM, and evaluated the sampling equipment material condition. Additionally, the inspector confirmed, with the assistance of contractor technicians, the sampling locations for various oceanic samples including mussels, lobsters, finfish, chondrus, and sediment;
- As part of the walk down, the inspector observed the technician collect and prepare for analysis milk samples, broad leaf vegetation samples, water and air samples, and verified that sampling techniques were performed in accordance with procedures;
- Based on direct observation and review of records, the inspector verified that the meteorological instrumentation was functional, calibrated, and maintained in accordance with the guidance contained in the FSAR, NRC Safety Guide 23, and the licensee/vendor procedures. The inspector verified that the meteorological data readout and recording instruments in the control room and at the primary and backup towers were operable for wind direction, wind speed, temperature, and delta temperature. The inspector confirmed that redundant instrumentation was operable and that the annualized recovery rate for meteorological data was greater that 90%;

- During walk-downs, the inspector had technicians demonstrate the air sampling equipment was properly operating. The inspector reviewed calibration/ maintenance records and operating parameter trending records for air samplers;
- The inspector reviewed Condition Reports, Nuclear Oversight Daily Quality Summary Reports, management evaluations of sample collection, and apparent cause evaluations, relevant to the ODCM requirements, to evaluate the threshold for which issues are entered into the corrective action program, the adequacy of subsequent evaluations, and the effectiveness of the resolution;
- The inspector reviewed the results of the NextEra's semi-annual laboratory cross-check program to verify the accuracy of NextEra's environmental air filter, charcoal cartridge, water, biota, and milk sample analyses. The inspector also reviewed the quality control records for the on-site laboratory instruments (gamma spectroscopy detectors Nos. 2, 3, 5, 7, 8, 9 and scintillation counter) used for the analysis of environmental samples;
- The inspector reviewed any significant changes made by the licensee to the ODCM as a result of changes to the land use census or sampler station modifications since the last inspection. The inspector also reviewed technical justifications for any change in sampling location (or frequency) and verified the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the radiological condition of the environment.

Unrestricted Release of Material from the Radiologically Controlled Area (RCA):

- The inspector reviewed the contamination control procedures and guidance provided to personnel for monitoring potentially contaminated material leaving the RCA for unrestricted use. During the inspection, the inspector determined that contamination monitoring was performed at appropriate locations within the facility to preclude release of material into the public domain;
- The inspector verified that the contamination monitoring instrumentation (SAM-9, SAM-11, SAM-12) was appropriate for the radiation types potentially present and was calibrated with appropriate radiation sources. The inspector reviewed the NextEra's criteria for the survey and release of potentially contaminated material; verified that there was guidance on how to respond to an alarm which indicates the presence of contamination; and reviewed instrument alarm set points to ensure that radiation detection sensitivities are consistent with the NRC guidance contained in IE Circular 81-07 and IE Information Notice 85-92 for surface contamination and HPPOS-221 for volumetrically contaminated material. The inspector also reviewed the NextEra's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters, and verified that the licensee has not established a release limit by altering the instruments sensitivity through such methods as raising the energy discrimination level or locating the instrument in a high radiation background area.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151- 3 Samples)

a. Inspection Scope

The inspectors reviewed raw data for the Seabrook EP PIs which are: (1) Drill and Exercise Performance (DEP); (2) ERO Drill Participation; and (3) ANS Reliability. The inspectors reviewed supporting documentation from drills and tests from October 2008 through July 2009, to verify the accuracy of the reported data. The review of these PIs was conducted in accordance with NRC Inspection Procedure 71151 using the acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 5.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (IP 71152)

.1 Routine Condition Report Screening

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems", and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the Seabrook's corrective action program. This review was accomplished by reviewing the Daily Plant Status Reports, attendance at management review committee meetings, and accessing Seabrook's computerized database.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with NextEra security procedures and regulatory requirements related to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These observations did not constitute an additional inspection sample. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

.2 World Association of Nuclear Operations (WANO) Plant Assessment Report Review

a. Inspection Scope

The inspectors reviewed the final report for the WANO plant assessment of Seabrook Station conducted in April 2009. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant issues were identified that required further NRC follow-up.

b. Findings

No findings of significance were identified.

.3 TI 2515/173, Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative

a. Inspection Scope (1Sample)

An NRC assessment was performed the week of September 20, 2009 of the licensee's implementation of the Nuclear Energy Institute – Voluntary Ground Water Protection Initiative (NEI 07-07 dated August 2007, ML072610036). The inspector verified that the licensee had evaluated work practices that could lead to leaks and spills, and has performed an evaluation of systems, structures, and components that contain licensed radioactive material to determine potential leak or spill mechanisms.

The licensee has completed a site characterization of geology and hydrology to determine the predominant ground water gradients and potential pathways for ground water migration from on-site locations to off-site locations. Monitoring wells have been installed at the appropriate locations and an on-site ground water sampling program has been implemented to monitor for potential licensed radioactive leakage into groundwater. The ground water monitoring results were being reported in the annual radiological environmental operating report.

The licensee has prepared procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long term decommissioning impacts. Records of leaks and spills are being recorded in the licensee's decommissioning files in accordance with 10 CFR 50.75(g).

The licensee has identified the appropriate local and state officials and has conducted briefings on the licensee's ground water protection initiative. Protocols have been established for notification to these local and state officials regarding detection of leaks and spills.

b. Findings and Observations

No findings of significance were identified.

40A6 Meetings, including Exit

On October 1, 2009, the inspectors conducted an exit meeting and presented the preliminary inspection results to Mr. G. St. Pierre, Seabrook Station Vice President. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

40A7 Licensee-Identified Violations

.1 The following violation of very low safety significance (Severity Level IV) was identified by NextEra and was a violation of NRC requirements that meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an non cited violation.

Technical Specification 6.7.1 and Regulatory Guide 1.33 requires that maintenance activities be implemented in accordance with written procedures. The Seabrook work control procedures MA 4.5 (Configuration Control) and MA 4.3 (Temporary Modifications and Temporary Alterations) were written per the above. MA 4.5 allows changes to an electrical circuit during maintenance troubleshooting activities, but requires implementation of the modification process per MA 4.3 once troubleshooting is complete.

On August 3, 2009, the licensee identified that the environmental qualification (EQ) configuration of the D MSIV control circuits had been degraded on July 30, 2009 while recovering from a faulty test circuit discovered during the quarterly MSIV stroke test in which the valve became partially closed. While troubleshooting the MSIV test circuit, the configuration was changed by disconnecting the connector as allowed under MA 4.5. However, plant workers did not implement a temporary modification per MA4.3 as required after completing the troubleshooting. Had the modification process been entered, the impact of the change on environmental qualification would have been addressed. By not following MA 4.5 / 4.3, the licensee failed to maintain an electrical circuit configuration that preserved environmental qualification. Upon discovery, the licensee declared the MSIV inoperable and entered TS 3.7.1.5. The connector was re-attached restoring the EQ qualification of the electrical circuit, and a slide link was opened to maintain the slow close valve in the retract position. The impact of the circuit modification was acceptably addressed in engineering assessment TAR for AR 202762 and modification EC145071.

The finding had very low safety significance because it did not involve a loss of safety function or impact the safety function for a time greater than the allowed outage time in the technical specifications. An engineering assessment determined that the MSIV remained operable but degraded from July 30 to August 3 despite the loss of environmental qualification. The violation was licensee identified and entered into the corrective action program as AR 202762.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

NextEra Personnel
R. Arns, EDG System Engineer
B. Brown, Plant Engineer
R. Campo, Plant Engineer
P. Casey, Emergency Preparedness
D. Robinson, Chemistry Manager
J. Finnigan, Procedures
M. Forrest, Shift Manager
P. Freeman, Plant General Manager
M. Hansen, Shift Manager
R. Jamison, Design Engineer Electrical
G. Kim, Risk Analyst
E. Metcalf, Operations Manager
D. Master, Plant Engineer
B. McAllister, SW System Engineer
W. Meyer, Radiation Protection Manager
M. O'Keefe, Licensing Manager
M. Ossing, Engineering Support Manager
R. Plante, Maintenance Supervisor
G. Sessler, EDG System Engineer
G. St. Pierre, Site Vice President
J. Walsh, CVCS System Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened
None

Opened and Closed

05000443/200900401	NCV	Failure to verify that ultimate heat sink isolation valves do not leak in excess of design basis assumptions. (Section 1R07)

Discussed
None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection
NM 11800, Hazardous Condition Response and Recovery Plan, Revision 22
UFSAR Section 9.4, Air Conditioning, Heating, Cooling And Ventilation Systems
UFSAR Section 9.2.2, Cooling Systems for Reactor Auxiliaries, Revision 12
Alarm Response Procedures for Degraded Power
ON1046.70, Generator Step Up Transformer Auxiliaries Operation, Revision 2
OS1200.03, Severe Weather Conditions, Revision 15
OS1246.02, Degraded vital AC Power (Plant Operating), Revision 6
Alarm Response Procedure for D6667, 345KV System Trouble
Alarm Response Procedure for B8470, 345KV Line 394 Voltage Low
Alarm Response Procedure for D6670, 345KV Line Loss of Voltage
Condition Reports 203321, 203464, 203433, 203438, 203988

Section 1R04: Equipment Alignment
OX1426.19, Aligning the DG 1B for Auto Start, Revision 3
OX1426.18, Aligning the DG 1A for Auto Start, Revision 3

Section 1R05: Fire Protection
UFSAR Section 9.5.1 Fire Protection Systems
Fire Protection Pre-fire Strategies
Fire Drill Evaluation / Scenario for May 12, 2009 Announced Fire Drill
WO 1189803 Fire Brigade Ready Area Monthly Inventory (pre drill)
WO 1190769 Fire Brigade Ready Area Monthly Inventory (post drill)
ON0443.35 R5 Fire Brigade Ready Area Inventory
Qualification Records for Fire Brigade Member / Leader
OS1200.00Ar12, Fire Hazards Analysis for Affected Area / Zone – Appendix A
OS1200.00r12 Response to Fire or Fire Alarm Actuation
ER 1.1 r46 Classification of Emergencies
AR 197301, 197031

Section 1R06: Flood Protection Measures
UFSAR Section 3.4, Water Level (Flood) Design, Revision 12
UFSAR Section 9.3.3, Equipment and Floor Drainage System, Revision 12
Seabrook Station Probabilistic Safety Study, Section 12, 2006 Update
Alarm Response Procedure D5487 East MS/FW Sump High
Alarm Response Procedure D5488 West MS/FW Sump High
DBD-PB-01, Plant Barriers, Revision 2
Drawing 1-NHY-BD-2033, Main steam Feedwater Pipe Enclosure, Revision 5
PM 1-DF-L-5958-CAL-1-010
WO 0732801
Action Requests 0196356, 0195980, 0195982
Wiring Diagram 1-NHY-310236,310903

Section 1R07: Heat Sink Performance
ES 1850.017, Service Water Heat Exchanger Program, Revision 0
Calculation 4.3.08.78F, Diesel Generator HX Flow Rate

PEG-208, Service Water System Performance Monitoring, Revision 3
WO 0815735
SW-E-42A Temperature and Thermal Performance Monitoring Data
CP4.2, Chlorine Management Program, Revision 13
SW-E-42A Performance Monitoring Trend Data
WO 0810400
DG-E-42-A temperature 9/24/08

Section 1R07: Triennial Heat Sink Performance Plant Procedures and Specifications

Alarm Response, Service Water Train A Pressure Low, Rev. 5
Alarm Response, Tower Actuation Train A, Rev. 5
CP 3.3, Misc. Systems & Closed Cooling Water Systems Chemistry Control Program, Rev. 17
CP 4.2, Chlorine Management Program, Rev. 13
CP 9.1, NPDES Monitoring, Rev. 17
ES07-01-04, Performance Testing of SW-P-329, Rev. 0
ES1807.021, Level I Vibration Trending and Analysis, Rev. 0
ES1807.022, Level II Analysis, Rev. 0
ES1850.002, Vibration Program, Rev. 2
ES1850.017, SW Heat Exchanger Program, Rev. 0
EX1810.302, SW Train B ISI System Leakage Test, Rev. 5
OS1016.03, Service Water Train a Operation, Rev. 8
OS1216.01, Degraded Ultimate Heat Sink, Rev. 13
OX1456.81, Operability Testing of IST Valves, Rev. 7
OX1456.86, Operability Testing of IST Pumps, Rev. 1
PEG-208, Service Water System Performance Monitoring, Rev. 3

Drawings

42APK86X1, SW Ocean Pumps General Arrangement, Rev. B
29LKX86X1, SW Cooling Tower Pumps General Arrangement, Rev. B
29LKX500X1, SW Cooling Tower Pumps Sectional Assembly, Rev. D
42APK500X1, Service Water Ocean Pumps Sectional Assembly, Rev. B
SW-B20792, SW P&ID, Rev. 6
SW-B20794, SW P&ID, Rev. 33
SW-B20795, SW P&ID, Rev. 37
SW-B20796, SW P&ID, Rev. 5
SW-D20794, SW P&ID, Rev. 34
SW-D20795, SW P&ID, Rev. 38
SW-D20796, SW P&ID, Rev. 5
SW-F20794, SW Functional Test limits, Rev. 14
SW-F20795, SW Functional Test limits, Rev. 15

Design & Licensing Basis, Calculations, and Analyses

UFSAR Section 9.2.1, Station Service Water
UFSAR Section 9.2.5, Ultimate Heat Sink
07MSE175, SW Piping Repair Line 1801-04-153-24, Rev. 0

Section 1R11: Licensed Operator Requalification Program

Emergency Operating Procedures E-0, ES-0.1, ES-0.2, E-3
Operating Procedure OS1227.02, OS1231.04
Simulator Demonstrative Exam #18
NT-5701-5, Completed Crew Simulator Evaluations for 9/03/09

Section 1R12: Maintenance Effectiveness

Plant Engineering Guidelines, Maintenance Rule Program Monitoring Activities
Plant Engineering Action Plan Register
Maintenance Rule Failures Evaluated in the Condition Report System
Drawing 1-CC-B20205
System Health Reports – CCW & 480 VAC Systems
Seabrook System and Performance Reports
NAP-415, Maintenance Rule Scoping Document for ED-07A
Maintenance Preventable Functional Failures Evaluated the Condition Report System
Work Orders for 2008-2009
Condition Reports and Action Requests for 2008-2009
Condition Report 200715319
Action Request 193263, 193524, 201285, 201083, 200892, 201103, 201222, 201433, 201434, 201808,
0040896, Maintenance Rule (a)(1) Improvement Plan for 480 VAC Unit Substation K Line Breaker
Failures CR 0808300

Section 1R13: Maintenance Risk and Emergent Work

Operations Logs - various
Standing Order 09-009, "D" Main Steam Isolation Valve (MS-V-92) Operation
Operator Aid 96-004, MS-V-92 (MSIV D)
Engineering Change EC 145071
PID: B20583
Locked Valve Deviation Record
Plant Engineering Action Plan Register
UFSAR Section 10.3, Main Steam Supply System
WO 0414124, 1193440
AR 202630, 202683, 202606, 202762
WM-AA-1000, Work Activity Risk Management Process

Section 1R15: Operability Evaluations

Operator Logs Technical Assessment Report for CR2092762
Drawing 9763-F-310681, Flux Mapping Area Seal Table Cables and Connections Support Assembly
Prompt Operability Determination for CR202055
Work Orders 94001555, 1192948
Technical Report for CR202606
Foreign Print 73428 – S6N372, Schematic Relay Driver module
Foreign Print 73428 – KGE8909-1, System Block Diagram MSIV Train A
Foreign Print 73428 – KGD8909, Logic Diagram Train A & B MSIV
Foreign Print 72462 – S6N372, Schematic Valve control Module

Section 1R19: Post Maintenance Testing

Work Order 01192472, Tasks 01, 02, 03
OS1235.04, SG Feed Flow-Steam Flow or Pressure Instrument Failure, Revision 3
WO 01173478 Task 01 for SEPS-2A and SEPS-2B
WOs 00627585, 01191139, 01174585
LX0557.02, 60 Month PM of 480V US Breakers
Work Request 94001751
Drawing 1-NHY-509015

Drawing 2448032, 2448037
Condition Report 203520

Section 1R22: Surveillance Testing

WO 0326003, 1172894, 1193432, 1188056, 1188216, 1187911
OS1023.51, Control Room Ventilation and Air Conditioning System Operation
OX1413.02r9, Main Steam Isolation Valve Quarterly Test
OX1405.07r9, Safety Injection Quarterly And 18 Month Pump Flow and Valve Test
OX1456.48r7, Train B ESFAS Slave Relay K610 Quarterly Go Test
OX1456.02r10, ECCS Monthly System Verification
OX1456.50r7, Train B ESFAS Slave Relay K616 Quarterly Block / Go Test
OX1456.01r10, Charging Pump A & B Quarterly Flow and Valve Stroke Test and 18 Month Remote Position Indication Verification
OX1456.81r7, Operability Testing of IST valves
SM 7.23r0, Control Room Envelope Habitability Program (T/S 3.7.7.L)
PID: 1-CS-B20725, 1-MS-B20583, 1-SI-B20466
Control Loop Diagram: 1-NHY-506799, 506798, 503900,
Foreign Print: 271C339
SITRr21, Figure F4 Cold Shutdown and Refueling Justifications
Engineering Evaluation EE 07-021, Engineering Input for LAR 07-02 on Control Room Habitability
Engineering Evaluation 94-031, Potential Radioactive Leakage to Tank Vented to Atmosphere
UFSAR Section 9.3, Chemical and Volume Control System
UFSAR Section 10.3, Main Steam Supply System
UFSAR Section 6.3, Emergency Core Cooling System
Test Performance Curves 37735 A and B1
Operation Logs – various

Section 1EP2: Alert and Notification System (ANS) Evaluation

Seabrook Station Public Alert and Notification System, FEMA-REP-10 Design Report, Addendum 6 (dated December 2003)
FPL Energy Letter to FEMA Region 1, re Seabrook Siren Upgrade Project (dated July 25, 2007)
Seabrook Station Radiological Emergency Plan, Appendix E, Seabrook Station Alert and Notification System (Revision 56)
Seabrook Station Siren/Radio Instruction SIR.10, WS-3000 and WPS-4000 Siren Bi Weekly
Functional Test (Revision 00)
Seabrook Station Siren/Radio Instruction SIR.11, WS-3000 and WPS-4000 Siren Front Panel
Upgrade Annual Maintenance (Revision 00)
Seabrook Station Siren/Radio Instruction SIR.45, State Siren Activation Control System Annual
Maintenance and Testing (Revision 00)
Results of October 25, 2008, Demonstration of the Seabrook Station Public Alert and Notification System
Seabrook Station Siren Operability Test Results, January 2007- July 2009
Seabrook Station Siren Maintenance Work Orders for January 2008- July 2009

Section 1EP3: Emergency Response Organization (ERO) Staffing and Augmentation System

Seabrook Station Radiological Emergency Plan, Section 8.0, Organization (Revision 56)
Seabrook Station Radiological Emergency Plan, Section 9.0, Emergency Response (Revision 56)
Seabrook Station Radiological Emergency Plan, Section 12.0, Maintaining Emergency Preparedness (Revision 56)
Seabrook Station Radiological Emergency Plan, Appendix A, Emergency Response Organization Position Definitions (Revision 56)
Seabrook Emergency Preparedness Department Procedure EPDP-11, Emergency Response
Organization (ERO) Maintenance Program (Revision 11)
Seabrook Station Administrative Procedure ER 1.2, Emergency Plan Activation (Revision 52)
Seabrook Station Administrative Procedure ER 3.1, Technical Support Center Operations (Revision 47)
Seabrook Station Administrative Procedure ER 3.2, Operational Support Center Operations (Revision 43)
Seabrook Station Administrative Procedure ER 3.3, Emergency Operations Facility Operations (Revision 44)
Seabrook Station Administrative Procedure NM-11700, Emergency Preparedness Responsibilities of Primary, Subject-to-Call, and Secondary Emergency Response Organization Members (Revision 28)
Training Group, Emergency Response Organization (ERO) Emergency Preparedness\ Training
Program Description (dated January 28, 2009)
Seabrook Emergency Response Organization Phone List by Facility and Position (dated June 22, 2009)

Section 1EP4: Emergency Action Level (EAL) and Emergency Plan Changes

Seabrook Station Radiological Emergency Plan (Revision 57)
Seabrook Station Emergency Response Manual (Revision 116)
Seabrook Emergency Preparedness Department Procedure EPDP-02, Control of Emergency
Preparedness Program Changes (Revision 19) Seabrook Station 10CFR50.59 Resource Manual (Revision 13)
All 10CFR50.54(q) screenings performed between November 2008-July 2009
Change Review Committee Change Package Nos. 1982, 1992, 1994, 1995, 1996, 1997, 2000, 2003, 2004, 2005, 2006, and 2009

Section 1EP5: Correction of Emergency Preparedness Weaknesses

Emergency Preparedness Functional Area Audit, SBK-07-06 (August 27, 2007 September 21, 2007)
Emergency Preparedness – Accident Instrumentation Audit, SBK-08-05 (July 21, 2008 – August 7, 2008)
Emergency Preparedness Interface, Communications, Training and Qualification Audit, SBK-08-07 (July 28, 2008 – August 14, 2008)
Emergency Preparedness Program, Drills and Performance Audit, SBK-08-12 (August 25, 2008 – September 12, 2008)
Emergency Preparedness Program Audit, SBK-09-039 (July 6, 2009 – July 17, 2009)

All Emergency Preparedness Quarterly Drill Reports, January 2008 – July 2009
All Emergency Preparedness-related Condition Reports, January 2008- July 2009

Section 2PS3: Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

Procedures

Off-Site Dose Calculation Manual, Rev Nos. 31, 32
HD0955.42 Operation of the Nuclear Enterprises Small Articles Monitor
HD0958.32 Release of Materials from Radiological Controls
HX0956.01 Radiological Environmental Sampling of Air Particulates and Radioiodine
HD0957.04 Environmental Air Sampler Maintenance
HD0957.01 Calibration of Environmental Air Samplers
IX0654.50 MET System Calibration
HD0956.03 Radiological Environmental Sampling of Ground Water
EV-AA-01 Fleet Groundwater Protection Program
HX0956.02 Environmental Monitoring of Direct Radiation
HX0956.04 Radiological Environmental Sampling of Food Crops and Vegetation
HX0956.05 Radiological Environmental Sampling of Milk
JS0999.001 Radiochemistry Control Charts
CP 4.1 Effluent Surveillance Program
Seabrook Environmental Studies Quality Program and Standard Operating Procedures (Normandeau Associates Inc.)

Condition Reports

00200578, 00195238, 00196454, 00194663, 07-09580, 08-00766, 08-09352, 08-09323, 08-09377,
08-09924, 08-0070, 08-12925, 00205717, 00195017, 00195016, 00203228, 00202457, 00197530,
00195977, 09-01070, 00200522, 00202441, 00202442, 00203228, 00204909,

Calibration Records

Small Article Monitor Nos. 25, 48, 198, 199
Dry Gas Meter/Air Sampling Pump Nos. :
14779958/6576, 8205052/6528, 8205053/6574, 13014901/6449, 13528043/6448, 13014902/6530, 13181304/6527, 8205055/6575

Miscellaneous Reports

TSD-09-039, Tritium Distribution and Ground Water Flow at Seabrook Station
HPSTID 09-009, SAM 12 Initial Setup and Calibration
Isotopic Mixture 08-01, Part 61 Analysis and Interpretation
AREVA Analytical Service Quality Assurance Status Reports from March 2008 through March 2009 Nuclear Oversight Daily Quality Summary Reports

Section 4OA1: Performance Indicator (PI) Verification

Seabrook Emergency Preparedness Department Procedure EPDP-03, Emergency Preparedness Performance Indicators (Revision 23)
Emergency Response Organization Drill Participation PI data, October 2008 – June 2009
Alert and Notification System Reliability PI data, October 2008 – June 2009
ERO Drill/Exercise Performance PI data, October 2008 – June 2009

Section 40A2: Identification and Resolution of Problems

Condition Report 201404, 202326, 203938, 204001, 204003,
Adverse condition Monitoring Plan for CR210404 and 202326

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ANS	Alert and Notification System
CFR	Code of Federal Regulations
CR	Condition Report
EDG	Emergency Diesel Generator
DEP	Drill and Exercise Performance
EAL	Emergency Action Level
EP	Emergency Preparedness
EQ	Environmental Qualification
ERO	Emergency Response Organization
ESFAS	Engineered Safety Feature Actuation System
GPP	Groundwater Protection Program
HPSTID	Health Physics Study/Technical Information Document
IMC	Inspection Manual Chapter
LERs	Licensee Event Reports
MPCS	Main Plant Computer System
MS	Main Steam
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
ODCM	Off-Site Dose Calculation Manual
PAB	Primary Auxiliary Building
PARS	Publicly Available Records
PI	Performance Indicator
PMT	Post-Maintenance Testing
PWR	Pressurized Water Reactor
RCS	Reactor Coolant System
REMP	Radiological Environmental Monitoring Program
RV	Reactor Vessel
SAM	Small Article Monitor
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SG	Steam Generator
SSC	Structures Systems and Components
SW	Service Water
TI	Temporary Instruction
TS	Technical Specifications
TSD	Technical Support Document
UFSAR	Updated Final Safety Analysis Report
UHS	Ultimate Heat Sink
WO	Work Order