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

May 12, 2011

Mr. Paul Freeman
Site Vice President
Seabrook Nuclear Power Plant
NextEra Energy Seabrook, LLC
c/o Mr. Michael O'Keefe
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT NO. 1 - NRC INTEGRATED INSPECTION REPORT 05000443/2011002

Dear Mr. Freeman:

On March 31, 2011, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at Seabrook Station, Unit No. 1. The enclosed report documents the inspection findings discussed on April 7, 2011, with you and other members of your staff.

These inspections 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 two NRC-identified violations that were determined to be of very low safety significance. However, because of the very low safety significance and because the issues were entered into your corrective action program, the NRC is treating the findings as non-cited violations (NCV) 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,

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

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

Enclosure: Inspection Report No. 05000443/2011002
w/ Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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

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

Enclosure: Inspection Report No. 05000443/2011002
w/ Attachment: Supplemental Information

Distribution w/encl: **(via e-mail)**
W. Dean, RA
D. Lew, DRA
D. Roberts, DRP
J. Clifford, DRP
C. Miller, DRS
P. Wilson, DRS
A. Burritt, DRP
L. Cline, DRP
A. Turilin, DRP
C. Douglas, DRP
W. Raymond, DRP, SRI
J. Johnson, DRP, RI
A. Cass, DRP, OA
S. Bush-Goddard, RI OEDO
M. Ashley, NRR
M. Clark, OGC
J. Bowen, NRR
A. DeFrancisco, ORA
R. Conte, DRS
RidsNrrPMSeabrook Resource
RidsNrrDorlLpl1-2Resource
ROPreportsResource

SUNSI Review Complete: ALB (Reviewer's Initials)

DOCUMENT NAME:G:\DRP\BRANCH3\INSPECTION\REPORTS\ISSUED\SEA 1102.DOCX

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure **"E"** = Copy with attachment/enclosure **"N"** = No copy

ML111330689

OFFICE	RI/DRP *lhp*		RI/DRP		RI/DRP	
NAME	WRaymond/alb for		LCline/ alb for		ABurritt/alb	
DATE	05/12/11		05/12/11		05/12/11	

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-443
License No.:	NPF-86
Report No.:	05000443/2011002
Licensee:	NextEra Energy Seabrook, LLC
Facility:	Seabrook Station, Unit No.1
Location:	Seabrook, New Hampshire 03874
Dates:	January 1, 2011, through March 31, 2011
Inspectors:	W. Raymond, Senior Resident Inspector J. Johnson, Resident Inspector A. Turilin, Project Engineer T. Moslak, Health Physicist L. Scholl, Senior Reactor Inspector J. DeBoer, Reactor Engineer
Approved by:	Arthur L. Burritt, Chief Projects Branch 3 Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY OF FINDINGS 3

REPORT DETAILS 5

1. REACTOR SAFETY 5

1R01 Adverse Weather Preparation 5
1R04 Equipment Alignment 5
1R05 Fire Protection 6
1R06 Flood Protection Measures 7
1R11 Licensed Operator Requalification Program 8
1R12 Maintenance Effectiveness 8
1R13 Maintenance Risk Assessments and Emergent Work Control 13
1R15 Operability Evaluations 14
1R18 Plant Modifications 14
1R19 Post-Maintenance Testing 15
1R22 Surveillance Testing 15

2. RADIATION SAFETY 16

2RS02 Occupational ALARA Planning and Controls 16
2RS03 In-Plant Airborne Radioactivity Control and Mitigation 17

4. OTHER ACTIVITIES 19

4OA1 Performance Indicator Verification 19
4OA2 Identification and Resolution of Problems 19
4OA3 Event Followup 20
4OA6 Meetings, Including Exit 21

ATTACHMENTS: SUPPLEMENTAL INFORMATION A-21

KEY POINTS OF CONTACT A-1

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED A-1

LIST OF DOCUMENTS REVIEWED A-2

LIST OF ACRONYMS A-7

SUMMARY OF FINDINGS

IR 05000443/2011002; 01/01/2011-03/31/2011; Seabrook Station, Unit No. 1; Maintenance Effectiveness.

The report covered a three-month period of inspection by resident and regional specialist inspectors. Two Green findings were 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 0310, "Components Within the Cross-Cutting Areas." 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. Inspectors identified a non-cited violation of 10 CFR 50.65(a)(1) because NextEra did not adequately monitor the condition of an in-scope structure under the Maintenance Rule (MR). Specifically, NextEra did not evaluate the results of their periodic inspections of the condition of the Control Building (CB) to determine the extent and rate of degradation to the structure. Further, in August 2010 after NextEra identified CB concrete strength degradation that called into question the effectiveness of that structures preventative maintenance program, NextEra did not classify the CB as MR (a)(1). NextEra entered the degraded structural concrete issue into its corrective action program to address the extent of condition and establish a mitigation strategy (ARs 574120 and 581434) for all in-scope structures. NextEra also initiated AR 1636419 to complete the evaluation for placing the CB into (a)(1) status.

- This performance deficiency is more than minor because if left uncorrected, the condition could have resulted in the loss of function for the CB structure due to degrading concrete material properties of structures and systems designed to mitigate design basis events. The finding had very low safety significance because despite degraded concrete conditions and loss of design margin, the CB structure remained operable. The inspectors performed a Phase 1 Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, and determined the issue was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of barrier function, and was not potentially risk significant for external events. This finding had a cross-cutting aspect in the area of problem identification and resolution, evaluation (P.1(c)) because NextEra did not ensure issues adverse to quality potentially impacting nuclear safety were promptly identified and evaluated. Specifically, NextEra did not thoroughly evaluate indications of concrete degradation for the CB to determine the extent and rate of degradation to the structure, and once concrete degradation due to alkali-silica-reaction (ASR) distress was identified, NextEra did not evaluate the issue within the context of the MR program to assure the condition of structures was controlled to maintain design margins. (Section 1R12)

- Green. Inspectors identified a non-cited violation of 10 CFR 50.65(b)(2) because NextEra did not include certain Seabrook buildings as in-scope structures under the MR program. Specifically, NextEra did not classify the intake transition structure (ITS) and the discharge transition structure (DTS) as in-scope structures in the MR database, and as a result did not include them in the periodic inspections completed under the structures monitoring program per PEG04 from 1995 to 2009. NextEra initiated a MR scoping screening worksheet per procedure NAP 415 and upon consideration of the design basis information concluded both transition structures should be in-scope per 10 CFR 50.65(a)(1). The NAP 415 scoping results were accepted by the MR Expert Panel on March 15, 2011. NextEra initiated CR 1629504 to enter the issue into the Corrective Action Program (CAP) and determine the extent of condition.

- The performance deficiency is more than minor because if left uncorrected, given the indications of ASR identified in these concrete structures, not monitoring the ITS and DTS structures for degradation could result in the loss of function of structures supporting systems used to mitigate design basis events, used in the emergency operating procedures, or whose loss could result in a reactor trip. The inspectors performed a Phase 1 Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, and determined the issue was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of barrier function, and was not potentially risk significant for external events. This finding did not have a cross cutting aspect because the most significant contributor to the performance deficiency was not reflective of current licensee performance. (Section 1R12)

REPORT DETAILS

Summary of Plant Status

Seabrook operated at full power for the entire period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Preparation (71111.01 – 1 sample)

a. Inspection Scope

The inspectors completed one impending weather condition inspection sample. The inspectors reviewed NextEra's readiness for the onset of severe winter weather conditions that impacted the site from January 10 to 13, 2011. The review included consideration of the A emergency diesel generator (EDG) outage in conjunction with a snow storm on January 12, 2011. The inspectors reviewed the Seabrook updated final safety analysis report (UFSAR) regarding design features, and verified the adequacy of procedures for adverse weather protection. The inspectors reviewed NextEra's actions per procedure OS1200.03 for severe weather. The inspectors also conducted walk downs of normal and backup electrical systems and the emergency feedwater and service water systems. The inspector reviewed NextEra's evaluation and contingency actions for potential orange risk conditions for the A EDG outage in conjunction with the winter storm. The inspectors reviewed previously identified deficiencies related to extreme weather preparation and verified that issues were appropriately dispositioned through the corrective action program. Documents reviewed for this inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04 - 4 samples; 71111.04S – 1 sample)

.1 Partial Walkdown

a. Inspection Scope

The inspectors completed four 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 NextEra'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. The documents reviewed are listed in the Attachment.

- The B EDG and associated support systems during a planned A EDG overhaul conducted between January 10, 2011 and January 14, 2011.

- The A and B emergency feedwater system following maintenance and testing on February 23, 2011.
- A EDG and support systems during a planned outage of the B EDG on January 27 through February 3, 2011.
- A emergency core cooling system components while residual heat removal pump RH-P-8B was inoperable due to maintenance on RH-FCV-611 on March 1, 2011.

b. Findings

No findings were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors performed one complete system walkdown inspection sample for the primary component cooling water (PCCW) system. The inspection verified the system was properly aligned and capable of performing its safety function. To ascertain the required system configuration, the inspectors reviewed plant procedures, system drawings, the UFSAR, and the technical specifications (TS). The inspectors walked down the accessible portions of the system to verify overall material condition; that valves were correctly positioned; electrical power was available; major system components were properly labeled; essential support systems were operational; and that ancillary equipment or debris did not interfere with system performance. The inspectors reviewed applicable piping and instrumentation drawings and system operational lineup procedures. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q - 5 samples, 71111.05A – 1 sample)

.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 firefighting 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 also verified that the fire areas were maintained in accordance with applicable portions of Fire Protection Pre-Fire Strategies and Fire Hazard Analysis. The documents reviewed are listed in the Attachment.

- Diesel Generator (DG) Rooms DG-F-1A-A, DG-F-2A-A, DG-F-3C-A, DG-F-1B-A, DG-F-2B-A, DG-F-3D-A.
- A Electrical tunnel (0 ft), ET-F-1A-A.

- Fuel Storage Building (64 ft), FSB-F-1-A.
- Primary Auxiliary Building (25 ft).
- Primary Auxiliary Building (7 ft).

b. Findings

No findings were identified.

.2 Annual Inspection

a. Inspection Scope

The inspectors completed one annual fire drill observation inspection sample. The inspectors observed an announced fire brigade drill on March 1, 2011, on the 64 foot elevation of the fuel storage building. The inspectors observed brigade performance during the drill to evaluate the following: donning and use of protective equipment; fire brigade leader command and control; fire brigade response time; radio communications; and the use of pre-fire plans. The inspectors attended the post-drill critique and reviewed the disposition of issues and deficiencies identified during the drill. The inspectors verified qualifications of the fire brigade members. The inspectors also verified that all firefighting equipment used during the drill was returned to a condition of readiness.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 - 1 sample)

a. Inspection Scope

The inspectors completed one flood protection measures inspection sample. The inspectors reviewed the flood protection measures designed to protect the primary auxiliary building 25 ft elevation and other safety-related equipment from the effects of internal flooding. The inspectors reviewed NextEra's flooding evaluation for the selected areas, and the design basis documents and flood response procedures. The inspectors performed walkdowns of the selected areas to verify that as-found equipment and conditions were consistent with the design basis documents. The inspectors reviewed the condition of seals, level alarms and other equipment credited in the flood analysis. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

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

Quarterly Resident Inspector Review

a. Inspection Scope

The inspectors completed one quarterly licensed operator requalification program inspection sample. The inspectors reviewed operator implementation of the abnormal and emergency operating procedures on January 19, 2011. The inspectors examined the operators capability 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. The inspectors reviewed the simulator's physical fidelity in order to verify similarities between the Seabrook control room and the simulator. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 samples)

a. Inspection Scope

The inspectors completed three maintenance effectiveness inspection samples. The inspectors reviewed performance-based problems and completed performance and condition history reviews for the selected in-scope structures, systems or components (SSCs) listed below 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. The documents reviewed are listed in the Attachment.

- Emergency Feedwater System (EFW) classified as MR (a)(2) with a focus on component performance impacting unavailability and reliability (AR 579871, 219494).
- The structures monitoring program per 10 CFR 50.65(a)(2) with a focus on the Control Building and the Service Water and Circulating Water Systems (ARs 574120, 581434, 1629504).
- Containment Building Spray (CBS) system classified as MR (a)(2) with a focus on component performance impacting unavailability and reliability (AR 1612480).

During the inspection of the structures monitoring program, the inspectors reviewed NextEra's evaluation and action plan for chronic wetted conditions on several plant structures. The inspectors also assessed NextEra's review of the effectiveness of the

preventative maintenance for affected structures based on the degradation caused by the chronic wetted conditions

NextEra identified visual indications of chronic groundwater infiltration in several plant buildings with the control building exhibiting the most extensive indications. The indications included mineral deposits, scaling, popouts and patterned cracking. Waterproof membranes had been attached to the exterior of below grade structures to control ground water infiltration at Seabrook, but based on the extensive indications of infiltration, the membranes appear to be damaged.

In August 2010, in support of license renewal per 10 CFR Part 54, NextEra expanded its investigation of the chronic groundwater infiltration. NextEra analyzed concrete core samples taken from the areas of the CB external walls that had the most extensive patterned cracking and identified changes in the concrete's material properties. The analysis results showed moderate to severe alkali-silica-reaction (ASR) with reductions in the concrete compressive strength and the modulus of elasticity that required further evaluation (ARs 574120 and 581434). NextEra completed an operability determination for the CB (reference NRC Inspection Report 05000443/2010-004) and concluded that the CB remained operable with a 50% reduction in design margin.

b. Findings

.1 Inadequate Monitoring of In-Scope Structures per 10 CFR 50.65(a)(1)

Introduction. An NRC-identified non-cited violation of 10 CFR 50.65(a)(1) was identified because NextEra did not adequately monitor the condition of an in-scope structure under the MR. Specifically, NextEra did not evaluate the results of their periodic inspections of the condition of the Control Building to determine the extent and rate of degradation to the structure. Further, in August 2010 after NextEra identified CB concrete strength degradation that called into question the effectiveness of that structures preventative maintenance program, NextEra did not classify the CB as MR (a)(1).

Description. 10 CFR 50.65(a)(1) requires that licensees monitor the performance or condition of structures, systems, or components in a manner sufficient to provide reasonable assurance that these structures, systems, and components are capable of fulfilling their intended functions. NextEra did not monitor the condition of the CB in a manner that provided reasonable assurance that the CB remained capable of fulfilling its intended function. Specifically, NextEra did not fully evaluate the acceptability of the degraded conditions identified during periodic inspections of the CB structure. As a result, ASR degradation of the CB concrete, which could reduce the concrete strength to less than its design basis requirements, was not identified or evaluated by NextEra until core bores were taken and analyzed in August 2010 as part of Seabrook license renewal initiatives.

Pursuant to 10 CFR 50.65, the MR, in 1995 NextEra implemented plant engineering guideline PEG04, Building/Structures Surveillance Inspections, to evaluate the condition of structures that were in-scope for the MR. PEG04 Section 4.1.1 stated that inspections are "intended *to preserve and protect structural integrity," "ensure deficiencies are corrected in a timely manner" and "be sensitive to degrading conditions such that corrective actions can be taken before loss of function occurs."* Since the inception of the PEG04 program in 1995, observed deficiencies were recorded and

tracked, but no evaluation was performed to determine whether a "major structural deficiency," as defined in Section 4.1.3, had occurred. NextEra evaluations prior to 2010 were inadequate because visual indications of concrete degradation were not investigated to fully assess the condition of the structure. Had methods available in industry standards been used, for example American Concrete Institute (ACI) Standard 349, the underlying mechanism causing the CB structural degradation could have been identified.

NextEra identified the need to improve the structures monitoring program in 2009. Based on industry initiatives in 2009 (AR 199563), NextEra replaced the structures monitoring program under PEG04 by Engineering Standard Procedure 36180 and implemented a baseline inspection of structures in September 2010, one month after the core bores were completed as part of license renewal. Procedure 36180 incorporated the enhanced (quantified) criteria described in American Concrete Institute Standard ACI 349.3R to evaluate degraded concrete conditions for acceptability. Procedure 36180 included the three-tiered evaluation criteria of ACI 349 Section 5.0 for investigating and assessing conditions found detrimental to the structure.

When the results of the August 2010 control building core bores identified ASR degradation, NextEra did not evaluate the structure within the context of the MR. The inspectors determined that, although in August 2010 NextEra had concluded that the ASR degradation in progress in the CB exterior concrete walls had not reduced CB strength and flexibility to less than its design requirements, NextEra was required to evaluate and classify the building as (a)(1) until they could demonstrate the condition of the structure was effectively controlled and monitored through preventive maintenance. Specifically, to perform this evaluation in the context of the MR, NextEra needed to determine the extent and rate of the ASR degradation in the control building concrete.

NextEra entered the degraded structural concrete issue into its corrective action program to address the extent of condition and establish a mitigation strategy (ARs 574120 and 581434) for all in-scope structures. NextEra also initiated AR 1636419 to complete the evaluation for placing the CB into (a)(1) status.

Analysis. The inspectors determined that not evaluating the results of the periodic inspections of the condition of the CB to determine the extent and rate of degradation to the structure, and once a time dependent degradation mechanism was identified not evaluating the structure for MR (a)(1) status was a performance deficiency. This performance deficiency is more than minor because if left uncorrected, the condition could have resulted in the loss of function for the CB structure due to degrading concrete material properties of structures and systems designed to mitigate design basis events. The finding had very low safety significance because despite degraded concrete conditions and loss of design margin, the CB structure remained operable. 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 issue was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of barrier function, and was not potentially risk significant for external events.

This finding had a cross-cutting aspect in the area of problem identification and resolution, evaluation (P.1(c)) because NextEra did not ensure issues adverse to quality

potentially impacting nuclear safety were promptly identified and evaluated. Specifically, NextEra did not thoroughly evaluate indications of concrete degradation for the CB to determine the extent and rate of degradation to the structure, and once concrete degradation due to ASR distress was identified, NextEra did not evaluate the issue within the context of the MR program to assure the condition of structures was controlled to maintain design margins.

Enforcement. 10 CFR 50.65(a)(1) requires that licensees monitor the performance or condition of structures, systems, or components in a manner sufficient to provide reasonable assurance that these structures, systems, and components are capable of fulfilling their intended functions. Although 10 CFR 50.65(a)(2) provides an exception to this rule, this exception applies only where the licensee has demonstrated that the performance or condition of a structure is being effectively controlled through performance of appropriate preventive maintenance. Contrary to section 50.65(a)(1), NextEra failed to monitor the condition of the CB in a manner sufficient to provide reasonable assurance that the CB remained capable of fulfilling its intended function. Section 50.65(a)(1) applies because NextEra had not demonstrated, under section 50.65(a)(2) that the condition of the CB was effectively controlled through appropriate preventive maintenance. Because this finding was of very low safety significance and was entered into the corrective action program as Condition Report 1636419, this violation is being treated as a non-cited violation (NCV), consistent with section VI.A of the NRC Enforcement Policy. **(NCV 05000443/2011002-01, Failure to monitor the condition of the Control Building per 10 CFR 50.65(a)(1)).**

.2 Failure to Scope Structures into MR per 10 CFR 50.65(b)(2)

Introduction. An NRC identified non-cited violation of 10 CFR 50.65(b)(2) was identified because NextEra did not include certain Seabrook buildings as in-scope structures under the MR program. Specifically, NextEra did not classify the intake transition structure (ITS) and the discharge transition structure (DTS) as in-scope structures in the Maintenance Rule (MR) database, and as a result did not include them in the periodic inspections completed under the structures monitoring program per PEG04 from 1995 to 2009.

Description. 10 CFR 50.65(b)(2) requires that the scope of the monitoring program specified in 10 CFR 50.65(a)(1) shall include safety related and non-safety related structures, systems, and components that are (i) relied upon to mitigate accidents or transients or are used in plant emergency operating procedures (EOPs); or (ii) whose failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function; or (iii) whose failure could cause a reactor scram or actuation of a safety-related system.

The NRC inspectors noted that the ITS and DTS were not considered in-scope in the MR as shown in the MR program and database. The ITS provides a surge volume for the flow path that delivers ocean water to the service water (SW) system and the circulating water (CW) system. The DTS provides a surge volume for the flow path that discharges ocean water from the SW and CW systems. The inspectors determined that both the SW system (MR functions SW-01, SW-02, SW-03, SW-04, SWB-01) and CW system (MR functions CW-01, CW-02, CW-03, CWB-01) as well as the associated structures (wholly or in part) were in-scope per 10 CFR 50.65(a)(1). The transition structures provide ocean water to the SW system which in turn provides cooling water to

remove reactor decay heat and cool systems used in the emergency operating procedures to mitigate design basis events. Further, the transition structures provide ocean water to the CW system, whose failure could cause a plant trip.

NRC inspector walk downs of the transition structures noted degraded conditions in the structural concrete (chronic wetting, patterned cracking) similar to conditions identified in the CB. These conditions were determined to be indicative of concrete experiencing ASR. As part of the extent of condition evaluation for the degraded concrete conditions identified in the CB, NextEra scheduled concrete core testing for the ITS and DTS in the Summer of 2011. NextEra's operability evaluation for the CB degraded conditions concluded that that structure remained operable. The identified concrete conditions in the CB were worse than the conditions seen in other ground water impacted structures at the site, including the transition structures. NextEra determined the transition structures remained operable based on information presently available. NRC continues to review NextEra actions to evaluate the impact of ASR on Seabrook concrete structures.

NextEra did not identify a basis for why the ITS/DTS was excluded from the MR structures monitoring program when the scoping evaluations were completed in mid-1995. In 2011, based on inspector observations, NextEra initiated a MR scoping screening worksheet per procedure NAP 415 and upon consideration of the design basis information concluded both transition structures should be in-scope per 10 CFR 50.65(a)(1). The NAP 415 scoping results were accepted by the MR Expert Panel on March 15, 2011. NextEra initiated CR 1629504 to enter the issue into the CAP and determine the extent of condition.

Analysis. The inspectors determined that not classifying the ITS and DTS as in-scope when the MR program was initiated in 1995 was a performance deficiency. With these structures not in-scope or included in the periodic inspections of the structures monitoring program, NextEra did not monitor the condition of the structures to determine the extent and rate of identified degradation. The performance deficiency is more than minor because if left uncorrected, given the indications of ASR identified in these concrete structures, not monitoring the ITS and DTS structures for degradation could result in the loss of function of structures supporting systems used to mitigate design basis events, used in the emergency operating procedures, or whose loss could result in a reactor trip.

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 issue was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of barrier function, and was not potentially risk significant for external events.

This finding did not have a cross cutting aspect because the most significant contributor to the performance deficiency was not reflective of current licensee performance.

Enforcement. 10 CFR 50.65(b)(2) requires that the scope of the monitoring program specified in 10 CFR 50.65(a)(1) shall include safety related and non-safety relates structures, systems, and components that are (i) relied upon to mitigate accidents or transients or are used in plant emergency operating procedures (EOPs); or (ii) whose

failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function; or (iii) whose failure could cause a reactor scram or actuation of a safety-related system. Contrary to section 50.65(b)(2), NextEra did not classify the ITS and DTS as in-scope per 10 CFR 50.65(a)(1) and did not monitor the condition of the structures in a manner sufficient to provide reasonable assurance that the structures remained capable of fulfilling its intended function. Because this finding was of very low safety significance and was entered into the corrective action program as Condition Report 1636419, this violation is being treated as a non-cited violation (NCV), consistent with section VI.A of the NRC Enforcement Policy. **(NCV 05000443/2011002-02, Failure to classify and monitor the service water and circulating water transition structures as in-scope per 10 CFR 50.65(b)(2)).**

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)

a. Inspection Scope

The inspectors completed five maintenance risk assessment and emergent work control inspection samples. 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 inspectors reviewed the availability of opposite train guarded and protected equipment. 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", as applicable. The inspectors reviewed the maintenance items listed below. The documents reviewed are listed in the Attachment.

- Planned work associated with the A EDG overhaul between January 10, 2011 and January 14, 2011 (WO 1202426).
- Emergent work associated with the B EDG due to a glycol leak on the DG-P-231B suction combined with pending severe weather on February 1, 2011 (WO 40066771).
- Planned work associated with flow control valve, RH-FCV-611, which rendered the B train residual heat removal pump (RH-P-8-B) inoperable, combined with switchyard high pot testing on March 1, 2011 (WO 1186748).
- Planned work associated with 345 kV Switchyard Project 52, which rendered Bus 2 out of service, on March 14-30, 2011 (WO4040244).
- Planned work that used the turbine building crane to mobilize equipment and which increased the risk of a plant transient on March 7, 2011 (WO 01197072).

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 – 6 samples)

a. Inspection Scope

The inspectors completed six 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. The 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:

- Past operability of the A EDG after an over current trip of the diesel room supply fan DAH-FN-25B supply breaker, January 3-7, 2011 (CR 1604014).
- Operability of the A EDG with an indicated generator over voltage condition during a load rejection test on January 16, 2011 (CR1609346).
- Operability of the A shutdown bank position indication per technical specification limiting condition for operation (LCO) 3.1.3.2 when the group 1 demand indicator failed during rod operability testing on February 11, 2011 (CR 1619182).
- Operability of the service water system based on identified degradation in the A train discharge piping downstream of valve SW-V20 on March 23-29, 2011 (CR 1632409, 1633034).
- Operability of the service water system and cooling tower train due to thru wall leak valve SW-V20, January 26, 2011 (AR1612061).
- Past operability of the control room enclosure air handling system due to incomplete testing as identified on February 9, 2011 (AR1617755).

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 - 1 sample)

.1 Permanent Modification – EC 156655: EDG Temperature Switch Upgrade

a. Inspection Scope

The inspectors completed one permanent modification inspection sample. The inspectors reviewed modification package EC 156655 that replaced the temperature switches on the B EDG. The review was completed to confirm that the design bases and performance capability of the system were not degraded. The inspectors verified the new configuration was accurately reflected in the design documentation, and that the post-modification testing was adequate to ensure that affected SSCs would function

properly. The inspectors also interviewed plant staff, and reviewed issues entered into the corrective action program to verify that NextEra was effective at identifying and resolving problems associated with temporary modifications. The documents reviewed are listed in the Attachment.

b. Findings

No findings 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 test adequacy by comparing test methodology to the scope of the maintenance work performed. The inspectors evaluated the test acceptance criteria to verify that the test procedure ensured that the affected systems and components satisfied applicable design, licensing bases and TS requirements. The inspectors also reviewed recorded test data to confirm all acceptance criteria were satisfied during testing. The documents reviewed are listed in the Attachment. The activities reviewed are listed below:

- Retest of A EDG on January 14, 2011, following replacement of the electronic governor per WO 1186827.
- Retest of A EDG on January 16-17, 2011, following replacement of the air start solenoid valve per WO 1172721.
- Retest of reactor coolant temperature controller RC-T-411A on February 14, 2011, following replacement of the 7300 system card per WO 40065448.
- Retest of B EDG on February 2, 2011, following repair of a glycol leak discovered on the suction to DG-P-121/231-B during a maintenance run per WO 1186715.
- Retest of vital battery charger 1-EDE-BC-1-C on February 18, 2011, following maintenance per WO 1211468.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 4 samples)

a. Inspection Scope

The inspectors completed four surveillance testing inspection samples. The inspectors observed portions of surveillance testing activities for 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 TS and surveillance procedures. The inspectors attended selected pre-evolution briefings, performed system and control room walk downs, 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 TS requirements, and to prior tests to identify adverse trends. The documents reviewed are listed in the Attachment. The following surveillance activities were reviewed:

- EX1808.013, Control Room Emergency Makeup Air and Filtration Subsystem 18 Month Surveillance, Revision 12, October 19, 2010 (WO 01210620).
- OX1436.03, Electric EFW Pump Quarterly Operability Surveillance (IST), Revision 15, February 21, 2011 (WO 40038512).
- OX1456.41, Train A ESFAS Slave Relay K740 K741 Quarterly Go Test, Revision 12, January 10, 2011 (WO 01384264).
- OX 1405.07, Safety Injection Quarterly and 18 Month Pump Flow and Valve Test on February 10, 2010 (WO 40036953).

The inspectors also reviewed deficiencies related to surveillance testing and verified that the issues were entered into the corrective action program. The documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2RS02 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

During the period January 24-27, 2011, the inspector conducted the following activities to verify that NextEra was properly implementing operational, engineering, and administrative controls to maintain personnel exposure as low as is reasonably achievable (ALARA) in making preparations for the spring refueling outage (OR-14).

Implementation of this program was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and NextEra's procedures.

Radiological Work Planning
The inspector reviewed the preparations for radiologically significant tasks during the spring 2011 refueling outage (OR 14). Included in this review was the ALARA reviews (AR) for all jobs with a dose estimate greater than 5 person-rem. These jobs included reactor vessel disassembly/re-assembly (AR 11-01), steam generator (S/G) eddy current testing/tube plugging (AR 11-02), S/G secondary side maintenance (AR 11-03), and reactor vessel nozzle inspections (AR 11-13).

In performing this review, the inspector evaluated contamination control measures, use of portable ventilation systems, use of temporary shielding, and the control of system drain-downs. Additionally, the inspector evaluated the departmental interfaces between radiation protection, operations, maintenance crafts, and engineering to identify missing ALARA program elements and potential interface problems. The evaluation was

accomplished by reviewing recent radiation safety committee meeting minutes, nuclear oversight reports, and interviewing the site radiation protection Manager and the ALARA supervisor regarding the OR 14 preparations.

b. Findings

No findings were identified.

2RS03 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

a. Inspection Scope

During the period January 24-27, 2011, the inspector conducted the following activities to verify that in-plant airborne concentrations of radioactive materials were controlled and monitored, and to verify that the practices and use of respiratory protection devices were proper.

Implementation of these programs was evaluated against the criteria contained in 10 CFR 20, applicable industry standards, and NextEra's procedures.

Engineering Controls
The inspector verified that NextEra used installed ventilation systems as part of its engineering controls (in lieu of respiratory protection devices) to control airborne radioactivity. The inspector reviewed procedural guidance for use of the control room air handling system (CRA) and determined that the system was operable. The inspector reviewed surveillance testing procedures and related data to confirm that the CRA airflow capacity, flow path, and charcoal/HEPA filter efficiencies met regulatory criteria and were consistent with maintaining concentrations of airborne radioactivity as low as practicable. The inspector verified the system configuration by walking down components with the cognizant system engineer and the NSSS supervisor.

The inspector evaluated the use of in-plant continuous air monitors to determine if the monitors were appropriately located in areas where airborne radioactivity could potentially result from normal plant operations and that the systems were operable. With the assistance of a senior radiation technician the inspector observed weekly source checks of monitors (particulate and noble gas detectors) located in the primary auxiliary building, waste processing building, spent fuel storage building, and control room, and determined that the alarm set points were appropriately established.

Through review of relevant procedures and analytical data, the inspector determined that NextEra had established an alpha and transuranic radiation monitoring program. Included in this program were trigger points for conducting additional measurements to assure that the airborne concentrations were properly characterized and that bioassay measurements were taken, should the need arise.

Use of Respiratory Protection Devices
The inspector observed the respirator fit testing of one individual to determine if the testing was appropriately conducted per the procedural guidance. Additionally, the inspector confirmed that the individual tested had completed the requisite training and was medically qualified to wear a respirator.

The inspector examined various negative pressure, self-contained and supplied air respiratory protection devices and determined that these devices were certified for use by the National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA).

The inspector reviewed the records of air testing for supplied service air devices and self-contained breathing apparatus (SCBA). The air used in these devices appropriately exceeded the quality requirements for Grade D quality.

Self-Contained Breathing Apparatus for Emergency Use
The inspector evaluated the adequacy of the respiratory protection program regarding the maintenance and issuance of SCBAs to emergency response personnel. Training and qualification records were reviewed for at least three licensed operators from each of the operating shifts, and for selected radiation protection personnel who would wear SCBAs in the event of an emergency.

The inspector observed technicians perform functional inspections on three SCBAs staged in the Control Room and two SCBAs staged on the turbine deck. Maintenance, hydrostatic test records, and flow test records for selected SCBAs, staged in other plant areas, were reviewed. The method of refilling SCBA cylinders was evaluated and the compressor air sample results were reviewed to confirm that air quality met CGA G-7.1, Grade E (2004) standards.

The inspector observed a technician perform functional testing of two SCBA regulators to confirm that flow rates and alarm set points were properly set. The inspector verified that technicians performing maintenance on SCBAs were trained and certified by the vendor to conduct the activities.

Through review of training lesson plans and interviews, the inspector confirmed that individuals qualified to wear SCBAs were also trained to replace spent air cylinders.

Problem Identification and Resolution
Through review of condition reports and nuclear oversight daily quality summaries and audits, the inspector verified that problems associated with the control and mitigation of in-plant airborne radioactivity were identified at an appropriate threshold and properly addressed for resolution in the corrective action program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 3 samples)

Initiating Events Cornerstone

a. Inspection Scope

The inspectors sampled NextEra submittals for the Initiating Events cornerstone performance indicators (PIs) listed below for the period from January 2010 through December 2010. To verify the accuracy of the PI data reported during that period, the inspectors used the PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 6.

- Unplanned Scrams per 7,000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Power Changes per 7,000 Critical Hours

The inspectors reviewed licensee event reports (LERs), operating logs, procedures, and interviewed applicable personnel to verify the accuracy and completeness of the data. The inspectors also reviewed the accuracy of the number of critical hours reported.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152 – 1 sample)

.1 Review of Items Entered into the Corrective Action Program

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 all items entered into NextEra's CAP. This was accomplished by reviewing the description of each new condition reports and attending daily management review committee meetings. Documents reviewed are listed in the Attachment.

.2 Annual Sample: Submerged Electrical Cables

a. Inspection Scope

The inspectors performed a focused inspection to review NextEra's actions to evaluate and correct conditions under which safety-related electrical cables were not being operated in an environment for which they were designed. Specifically, numerous cables were found to have been operating while submerged in water. This issue was documented as a licensee identified violation in NRC Inspection Report 05000443/2009005 and was entered into the corrective action program as condition report 211808.

The inspectors interviewed the responsible plant engineering staff to understand NextEra's actions taken as well additional planned actions for resolving the issue. The inspectors reviewed work orders associated with safety-related cable vault inspections and corrective actions taken to resolve issues documented in condition reports initiated as a result of the inspections. The inspectors also reviewed engineering evaluations involving submerged cable issues as well as fleet and station cable condition monitoring program procedures. The documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified.

The inspectors found that NextEra completed appropriate actions to resolve the issue with safety-related cable operation in a submerged environment. Actions have been taken to monitor and dewater cable vaults on a frequency that will maintain water level in the cable vaults below that of the lowest safety-related cable passing through the vaults. The inspection frequency for each vault was determined based on the initial vault inspection results. The inspectors confirmed that repetitive preventive maintenance tasks were established to implement the inspection program. The inspectors also noted that instructions to maintain the cables in a dry environment have been included in PEG-265, Plant Engineering Guideline – Cable Condition Monitoring Program, Rev. 0.

The inspectors determined that the evaluations of the submerged cable conditions were thorough and included appropriate considerations for extent of condition. The inspectors reviewed NextEra's corrective actions and determined that they were appropriate, adequately addressed the identified deficiencies and were accomplished in a timely manner.

4OA3 Event Followup (71153 - 1 sample)

Response to Notification of Unusual Event (NOUE) Declaration

a. Inspection Scope

The NRC inspectors responded to the declaration of a fire emergency inside the protected area on March 28, 2011. At 11:43 a.m., Seabrook Station declared an NOUE for a fire in the protected area that was not extinguished within 15 minutes, under emergency action level category HU 2. The fire had no visible flames (smoke only). The source of smoke was an equipment elevator power supply located in the Emergency Core Cooling System (ECCS) equipment vault located in a stair tower leading to the B train equipment room. The non-safety related elevator is for equipment transfer between elevations in the equipment vault. The event was terminated at 12:43 p.m., and subsequent investigation revealed no plant equipment damage beyond a power transformer that supplies the affected elevator. No fire extinguishing agent was applied, no outside fire assistance was required and no personal injuries were reported. NextEra determined that there was no evidence of tampering. The inspectors conducted walk downs of plant equipment to confirm the adequacy of NextEra's response and the condition of nearby safety-related equipment. The inspectors also reviewed the adequacy of NextEra's emergency and fire response actions. NextEra entered the issue into its corrective action program for evaluation and corrective actions (CR1634521).

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On April 7, 2011, the resident inspectors presented the results of the fourth quarter routine integrated inspection to Mr. Paul Freeman and other Seabrook Station staff. The inspectors also confirmed with NextEra that no proprietary information was reviewed by inspectors during the course of the inspection.

ATTACHMENTS: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Ball, Maintenance Rule Coordinator
B. Brown, Supervisor, Civil Engineering
V. Brown, Senior Licensing Analyst
M. Collins, Manager, Design Engineering
W. Cox, Radiological Engineer
R. Gutherie, Plant System Engineer
F. Haniffy, Senior Radiation Protection Analyst
L. Hansen, Plant Engineering
N. Levesque, Plant Engineering
E. Metcalf, Plant General Manager
W. Meyer, Radiation Protection Manager
M. O'Keefe, Licensing Manager
M. Nadeau, System Engineer, Control Building Air Handling
D. Perkins, Supervisor, Radiation Protection Technical Services
T. Vassallo, Principal Engineer - Nuclear
J. Walsh, Nuclear Steam Supply System, Supervisor

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened
None

Opened and Closed:

05000443/2011002-01	NCV	Failure to Monitor Condition of Control Building per 10CFR50.65(a)(1)
05000443/2011002-02	NCV	Failure to Classify and Monitor the Ocean Transition Structures as In-Scope per 10CFR50.65(b)(2)

Closed:
None

Discussed
None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection
OS1200.03, Sever Weather Conditions, Revision 18
Daily Status Reports
Station Operating Logs - various

Section 1R04: Equipment Alignment
OX1426.19, Aligning DG 1B Controls For Auto Start, Revision 3
OS1026.13, Operating The DG 1B Fuel Oil System, Revision 10
OS1026.10, Operating The DG 1B Lube Oil System, Revision 11
OS1026.12, Operating The DG 1B Starting Air System, Revision 11
OS1026.11, Operating The DG 1B Jacket Cooling Water System, Revision 08
OX1436.03, Electric Driven EFW Pump Valve Alignment, Revision 14
OX1439.02, Turbine Driven Emergency Feedwater Pump Quarterly and Monthly Valve Alignment, Revision 16
Plant Engineering Action Plan Register
Clearance 1-RH-FCV-611-1109-01
TS 3.8.1.1 Electrical Power Systems
Drawings B20685 and B20688
Work Order 40038552, 1186748, 1186748
UFSAR Section 6.8
Station Operating Logs - various

Section 1R05: Fire Protection
Fire Protection Pre Fire Strategies
Fire Impairment List
MX0599.06, 6-Month Surveillance And Post-Maintenance Inspection Of Technical Requirements Fire-Rated Doors, Revision 04
TR11-3.7.9.5, Fire Rated Assemblies
UFSAR Section 9.5.1 Fire Protection Systems
UFSAR Section 13.2.2.9 Fire Protection Personnel
Technical Requirement 11, Fire Rated Assemblies
Fire Protection Pre-fire Strategies
DBD-FP-06, Fire Rated Doors, Dampers, Conduit Wrap, & Heat Shields, Revision 2
OS1200.00A, Fire Hazards Analysis for Affected Area / Zone – Appendix A
OS1200.00, Response to Fire or Fire Alarm Actuation, Revision 15
WO 40072651
FPI.43 Management Expectations For Fire Drill Performance, Revision 2
FP 4.1 Fire Protection Program Training and Qualifications, Revision 7
FP 5.1 Fire Brigade Response, Revision 6
Training Review Committee minutes dated February 2011
Fire Drill Evaluations for 2010
Fire Drill Evaluation dated March 1, 2011
Station Operating Logs - various

Section 1R06: Flood Protection
UFSAR Section 9.3.3.3 and Section 3.4
DBD-PB-1, "Design Bases Document Plant Barriers"
Report No. TP-7, Seabrook Station moderate energy Line Break Study
Drawing 9763-F-805370, 9763-F-101511, 9763-F-102214

PID-1-WLD-B20221, D20223
PAB Flooding Study Figures 4.1 and 4.2
MA 5.7, "Station Barriers, Penetration Seals, and Fire Barrier Wrap," Revision x
Report TP-7, Seabrook Station Moderate Energy Line Break Study, Revision 5
PAB Floor Plan El. 25' 0", Drawing PAB 201
PAB Floor Plan El. -26' 0", Drawing PAB 202

Section 1R11: Licensed Operator Requalification Program
OS1290.03, Response to a Security Event, Revision 10
Licensed Operator Requalification Training Guide L3542C
Emergency Operating Procedures E-0, ECA-0.0
Form ER 2.0B, Seabrook Station State Notification Fact Sheet
Form EPDP-03A, EP Cornerstone Reporting and Information Form

Section 1R12: Maintenance Rule Implementation
System Health Reports – EFW and SW Systems
Maintenance Rule Performance and Scope Report
Maintenance Rule EFW-05 Unavailability
Plant Engineering Action Register
Condition Reports 16239504, 584768, 585586, 219494, 597871,
Condition Reports 2010-2011
System Health Report – CBS system
Maintenance Rule Performance and Scope Report
AR: 221050, 222004, 391105, 588817, 214447, 586924, 575036, 574111, 1611682, 0706449, 1611805
Calculation: C-S-1-84104, 57057, 57041, 23903, 83806
PID-1-CBS-D202331
UFSAR Section 6.2, Containment Systems
Work Requests 2010-2011
Station Operating Logs - various

Section 1R13: Maintenance Risk and Emergent Work
M-Rule a(4) Risk Assessment Reports
SM 7.10, Maintenance Rule Program, Revision 1
WM 10.1, On-Line Maintenance, Revision 8
WM-AA-1000, Work Activity Risk Management Process
NAWM, Work Management Manual, Revision 56
Work Order 1202426, 40040244
Station Operating Logs – various
Condition Report 1626965

Section 1R15: Operability Evaluations
MA 4.14A, Troubleshooting Cause and Effect Diagram
OS1023.74, Maintenance of Safety Related HVAC Systems – Compensatory Ventilation Procedure, Revision 10
LS0562.27, Diesel Generator Voltage Indicating Loop Calibration, Revision 1
Drawing ILD-1-EDE-V-9700, Diesel Generator 1A Voltage, Revision 14
IS1638.913, V-9700 Diesel Generator-1A Voltage Indicating and Recording Calibration, Revision 6
Engineering Evaluation - Load rejection test data during performance of Work Order 1186827

Plant Computer Displays for Meteorological Data from December 26-31, 2010
Prompt Operability Determinations for CRs 1612061, 1632409, 1633034
Calculation C-S-1-45855, Revision 1 and Revision 2, Code Case N-513-3 Pipe Wall Flaw Evaluation for SW-1814-001 piping
Work Order 4003698701, 40064596
ODM, Operational Decision Making for Service Water Piping Leak (AR 1633034)
POD, Prompt Operability Determination for CR 1612061
Ultrasonic Thickness Examination Report 1-SW-1814-01-156-24
SBK 10-009, Control Room Habitability Program
LAR 07-02, License Amendment Request
TS 3.7.6 Control Room Subsystem Emergency Makeup Air and Filtration
TS 6.7.6 Procedures and Programs, Control Room Envelope Habitability Program
EC: 145189
Calculation No: 200917-S-017, Revision 0
Station Operating Logs - various

Section 1R18: Plant Modifications
EC156655, 144992
01MMOD565
Foreign Print 20590, 20594
PID-1-DG-B-20466, 20465, 20463
WO: 1210521, 1210516
AR: 1616032, 1614198, 1613934, 1614163, 1613961, 1613769, 1614434, 1614741, 1614908
1-NHY-508135 Configuration Setting Document
1-NHY-506402 Diesel Generator 1B Lube Oil Control System Control Loop Diagram
1-NHY-506406 Diesel Generator Jacket Cooling Water Control Loop Diagram
LTR 0326-0052-02 Independent Third Party Review of Seabrook Station EDG Temperature Switch Upgrade
LAR Panel-DG-CP-76, UA-9568, Local Alarm Response, Revision 54
DBD-DG-01 Design Basis Document – Diesel Generator, Revision 4

Section 1R19: Post Maintenance Testing
IS1630.902, Diesel Generator 1A Governor Tuning, Revision 04
Work Orders 1172721, 1186827
IS1630.902, Diesel Generator 1A Governor Tuning, Revision 05
Condition Report 1609346
IX1662.410 RC-T-411A, Loops 1 Delta T/Tavg Protection, Revision 11
WO 40066771, 1208338, 40036969, 1207287
AR 1613834, 1613900, 1614886, 1615550, 1619851, 1619852, 1612230, 1610521, 1610758, 1605742, 1610340
Technical Specification - various
DRR 94-064 DG Cooling Water System Gasket Replacement, Revision 1
Plant Engineering Action Plan Register – diesel generator,
Station Operating Logs - various

Section 1R22: Surveillance Testing
Technical Specification 6.7.6.d
Technical Specification 3.7.1.2
Technical Requirement 28
Work Orders 01210620, 40038552, 40038512, 40038477, 40038479, 40036959, 40037328

Station Operating Logs - various
C-S-1-50013 SI Pump (SI-P-6A/B) IST Uncertainties
C-S-1-57054 Safety Injection Pumps, SI-F-918, 922 IST Uncertainties

Section 2RS02: Occupational ALARA Planning and Controls and
Section 2RS03: In-Plant Airborne Radioactivity Control and Mitigation

Procedures:
HN0955.08, Operation of the RDMS Portable Particulate & Gas Continuous Air Monitor, Rev 9
HD0955.53, Use of AMS-4, Rev 1
HD0963.45, Calibration and Minor Repair of AMS-4, Rev 0
HD0965.01, Respiratory Protection Quality Assurance and Maintenance Program, Rev 15
HD0965.08, Breathing Air Certification, Rev 12
HD0965.10, Respirator Fit Testing Using the TSI Portacount Plus, Rev 13
HD0965.12, Respiratory Equipment Issue and Use, Rev 29
HN0958.13, Generation and Control of Radiation Work Permits, Rev 31
HD0965.14, Use of the PosiCheck 3, Rev 5
HD0965.02, Repair, Inspection, Inventory, and Maintenance of Respiratory Equipment, Rev 20
IX1660.710, Control Room Air Intake Train A or B Radiation Monitor Calibration, Rev 08
HX0955.32, RDMS Set-point Determination for RP Monitors, Rev 26
OX1423.27, Control Room Area Ventilation System Surveillance, Rev 4
OX1423.29, Train A CBA East Air Intake Radiation Monitor Go Test, Rev 1
OX1423.30, Train A CBA West Air Intake Radiation Monitor Go Test, Rev 1
OX1423.31, Train B CBA East Air Intake Radiation Monitor Go Test, Rev 0
OX1423.32, Train B CBA West Air Intake Radiation Monitor Go Test, Rev 0
MX0516.07, Control Room Area Ventilation Filter Testing, Rev 1
IN1660.99, Portable Continuous Atmosphere Radiation Monitor Calibration, Rev 6

Condition Reports: 00394673, 01612431, 01612430, 01613213, 01612430, 01612431, 00394673, 00394421

Nuclear Oversight Daily Quality Summary Reports/Audits:
Daily Quality Summary Report for the period 1/1/2010 through 1/21/2011
SBK-10-012, Radiation Protection Program Audit
SBK-10-045, Radiation Protection Instrumentation Audit

Calibration Records Reviewed: AMS-4: Serial Nos. 990, 741, 979, 742

SCBA Packs Inspected (Regulator No./Cylinder No.)
Control Room: MW128061/10660, MV197032/6229, MW133330/3945
Turbine Bldg: APAB27641/6344, ANAD063769/6202

SCBA Personnel Qualification Reports:
Operations Department
Radiation Protection Department

Miscellaneous Documents:
Job Performance Measure GT1074j, MMR Firehawk SCBA or MMR Firehawk M7 SCBA
HPSTID 09-008, Use of the Mururoa BP Type V4 FV Delta Suit
Health Physics Review of Isotopic Mixture 10-01
SCBA Hydrostatic Test Records
Compressor Air Quality Records
Training Certifications for SCBA Technicians

OR14 ALARA Plans (AP):
AR 11-01, Reactor vessel disassembly/re-assembly
AR 11-02, Steam generator (S/G) eddy current testing/tube plugging
AR 11-03, S/G secondary side maintenance
AR 11-13, Reactor vessel nozzle inspections

Section 40A2: Identification and Resolution of Problems

Procedures:
ER-AA-106, NextEra Nuclear Fleet Cable Condition Monitoring Program, Rev. 1
LS0564.36, Very Low Frequency (VLF) Hi-Pot Insulation Resistance Testing and Tan-Delta, Rev. 0
PEG-265, Plant Engineering Guideline – Cable Condition Monitoring Program, Rev. 0

Condition Reports: 001551, 211357, 211808, 213341, 213720, 214212, 215431, 217395, 217408, 217942, 220250, 220428, 223283, 393774, 395483, 395491

Work Orders: 40039687, 40043256, 40043257

Miscellaneous Documents
BM-ELEC-MV-MNHLE, Work Instruction – Medium Voltage Electrical Manhole and Vault Inspections
Cable Program Health Report, 4th Quarter 2010
Engineering Evaluation 94-41, Submerged Electrical Cables and Supports, January 1, 1995
L-2007-067, Response to NRC Generic Letter 2007-01, May 06, 2007

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ALARA	As Low As is Reasonably Achievable
AR	Action Request
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CB	Control Building
CBS	Containment Building Spray
CC	(ASME) Code Case
CR	Condition Report
CRA	Control Room Air Handling System
CW	Circulating Water
DG	Diesel Generator
DTS	Discharge Transition Structure
EC	Engineering Change
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFW	Emergency Feedwater
EOP	Emergency Operating Procedure
IMC	Inspection Manual Chapter
IP	Inspection Procedure
ITS	Intake Transitions Structure
LER	Licensee Event Report
MR	Maintenance Rule
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NOUE	Notice of Unusual Event
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
PCCW	Primary Component Cooling Water
PI	Performance Indicator
PMT	Post-maintenance Testing
SCBA	Self Contained Breathing Apparatus
SDP	Significance Determination Process
S/G	Steam Generator
SSC	Structures, Systems or Components
SW	Service Water
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
WO	Work Order