



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

December 15, 2014

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

**SUBJECT: SEABROOK STATION, UNIT NO. 1 – NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000443/2014009**

Dear Mr. Curtland:

On November 17, 2014, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your Seabrook Station, Unit No. 1 (Seabrook). The enclosed report documents the inspection results, which were initially discussed on October 24, 2014 with Mr. Al Dodds, Plant General Manager, and other members of your staff and on November 17, 2014, with yourself and other members of your staff.

This inspection examined activities conducted under your license as they relate to identification and resolution of problems and compliance with the Commission's rules and regulations and conditions of your license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the samples selected for review, the inspectors concluded that NextEra Energy Seabrook, LLC (NextEra) was generally effective in identifying, evaluating, and resolving problems. NextEra personnel identified problems and entered them into the corrective action program at a low threshold. NextEra prioritized and evaluated issues commensurate with the safety significance of the problems and corrective actions were generally implemented in a timely manner.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the

NRC's document system (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

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

Docket Nos.: 50-443

License Nos.: NPF-86

Enclosure: Inspection Report 05000443/2014009  
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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**U.S. NUCLEAR REGULATORY COMMISSION**

REGION I

Docket Nos.: 50-443

License Nos.: NPF-86

Report Nos.: 05000443/2014009

Licensee: NextEra Energy Seabrook, LLC (NextEra)

Facility: Seabrook Station, Unit No. 1 (Seabrook).

Location: Seabrook, NH

Dates: October 5, 2014 through November 17, 2014

Team Leader: Andrew Rosebrook, Senior Project Engineer

Inspectors: Aaron Dugandzic, Project Engineer  
Briana Bollinger, Project Engineer  
Christopher Newport, Resident Inspector

Approved by: Glenn T. Dentel Chief  
Reactor Projects Branch 3  
Division of Reactor Projects

## SUMMARY

IR 05000443/2014009; October 5, 2014 through October 24, 2014; Seabrook; Biennial Baseline Inspection of Problem Identification and Resolution.

This NRC team inspection was performed by three regional inspectors and one resident inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Problem Identification and Resolution

The inspectors concluded that NextEra was generally effective in identifying, evaluating, and resolving problems. NextEra personnel identified problems, entered them into the corrective action program at a low threshold, and prioritized issues commensurate with their safety significance. In most cases, NextEra appropriately screened issues for operability and reportability, and performed causal analyses that appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that NextEra typically implemented corrective actions to address the problems identified in the corrective action program in a timely manner.

The inspectors concluded that, in general, NextEra adequately identified, reviewed, and applied relevant industry operating experience to Seabrook operations. In addition, based on those items selected for review, the inspectors determined that NextEra's self-assessments and audits were thorough.

Based on the interviews the inspectors conducted over the course of the inspection, observations of plant activities, and reviews of individual corrective action program and employee concerns program issues, the inspectors did not identify any indications that site personnel were unwilling to raise safety issues nor did they identify any conditions that could have had a negative impact on the site's safety conscious work environment.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution (71152B)

This inspection constitutes one biennial sample of problem identification and resolution as defined by Inspection Procedure 71152. All documents reviewed during this inspection are listed in the Attachment to this report.

#### .1 Assessment of Corrective Action Program Effectiveness

##### a. Inspection Scope

The inspectors reviewed the procedures that described NextEra's corrective action program (CAP) at Seabrook. To assess the effectiveness of the CAP, the inspectors reviewed performance in four primary areas: problem identification, prioritization and evaluation of issues, corrective action implementation, and trending. The inspectors compared performance in these areas to the requirements and standards contained in 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," and NextEra procedure PI-AA-104-1000, "Corrective Actions," Revision 0. For each of these areas, the inspectors considered risk insights from the station's risk analysis and reviewed action requests/condition reports (CRs) selected across the seven cornerstones of safety in the NRCs Reactor Oversight Process. Additionally, the inspectors attended multiple Plan-of-the-Day, Management Review Committee, and Corrective Action Review Board meetings. The inspectors selected items from the following functional areas for review: engineering, operations, maintenance, emergency preparedness, radiation protection, chemistry, physical security, and oversight programs.

##### (1) Effectiveness of Problem Identification

In addition to the items described above, the inspectors reviewed system health reports, a sample of completed work orders, a sample of active clearances, and periodic trend reports. The inspectors also completed field walkdowns of various systems on site, such as the emergency feedwater system and the emergency diesel generators. Additionally, the inspectors reviewed a sample of CRs written to document issues identified through internal self-assessments, audits, emergency preparedness drills, and the operating experience program. The inspectors completed this review to verify that NextEra entered conditions adverse to quality into their corrective action program as appropriate.

##### (2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors reviewed the evaluation and prioritization of a sample of CRs issued since the last NRC biennial Problem Identification and Resolution inspection completed in July 2012. The inspectors also reviewed CRs that were assigned lower levels of significance that did not include formal cause evaluations to ensure that they were properly classified. The inspectors' review included the appropriateness of the assigned significance, the scope and depth of the causal analysis, and the timeliness of resolution. The inspectors assessed whether the evaluations identified likely causes for the issues and developed appropriate corrective actions to address the identified causes. Further, the inspectors reviewed equipment operability evaluations, reportability

assessments, and extent-of-condition reviews for selected problems to verify these processes adequately addressed equipment operability, reporting of issues to the NRC, and the extent of the issues.

(3) Effectiveness of Corrective Actions

The inspectors reviewed NextEra's completed corrective actions through documentation review and, in some cases, field walkdowns to determine whether the actions addressed the identified causes of the problems. The inspectors also reviewed CRs for adverse trends and repetitive problems to determine whether corrective actions were effective in addressing the broader issues. The inspectors reviewed NextEra's timeliness in implementing corrective actions and effectiveness in precluding recurrence for significant conditions adverse to quality. The inspectors also reviewed a sample of CRs associated with selected non-cited violations, findings, and licensee-identified violations to verify that NextEra personnel properly evaluated and resolved these issues. In addition, the inspectors expanded the corrective action review to five years to evaluate NextEra's actions related to the service water system.

(4) Trending

The inspectors reviewed NextEra's processes for identifying and addressing emergent and existing adverse trends in equipment and human performance. The inspectors conducted interviews with plant staff who conducted the department trend reviews, reviewed department trend reports, site quarterly trend reports, maintenance rule performance monitoring reports, a(1) action plans and evaluations as required by 10 CFR 50.65. The inspectors also reviewed the minutes from System Health Committee meetings.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the selected samples, plant walkdowns, and interviews of site personnel in multiple functional areas, the inspectors determined that NextEra identified problems and entered them into the CAP at a low threshold. NextEra staff at Seabrook initiated approximately 24,000 CRs between June 2012 and September 2014. The inspectors observed supervisors at the Plan-of-the-Day, Management Review Committee, and Corrective Action Review Board meetings appropriately questioned and challenged CRs to ensure clarification of the issues. Based on the samples reviewed, the inspectors determined that in general, NextEra trended equipment and programmatic issues, and appropriately identified problems in CRs. The inspectors verified that conditions adverse to quality identified through this review were entered into the CAP as appropriate.

Additionally, inspectors concluded that personnel were identifying trends at low levels. In general, inspectors did not identify any issues or concerns that had not been appropriately entered into the CAP for evaluation and resolution. In response to several questions and minor equipment observations identified by the inspectors during plant walkdowns, NextEra personnel promptly initiated CRs and/or took immediate action to address the issues.

However, the inspectors identified one potential vulnerability in this area with respect to the identification of aggregate failures. Specifically, during Technical Specification Surveillance Requirement (TS SR) Testing of the Reactor Protection System's (RPS) Reactor Coolant Pump (RCP) Under Voltage (UV) Trip Channels, multiple channels were identified to have failed their as found test acceptance criteria indicating a failed TS SR and identifying the channels as inoperable. CRs were written to document the failure of each individual channel; however, when it was identified that four of four channels failed in 2008 and three of four channels failed in 2014, a condition which indicated that the RPS trip function was unable to perform its safety function, a separate CR was not documented for these conditions. The unexpected failure of multiple channels was a more significant condition which needs to be evaluated on its own merits. The 2014 failures were previously documented in NRC Inspection Report 50-443/2014-004 (ML14212A458) in section 4OA7 and Licensee Event Report 05000443/2014-002-00. NextEra self-identified, during RCA 1964167, that the trending program did not adequately capture and escalate a trend of RCP UV relays being found out of tolerance. The inspectors independently evaluated the issue for significance in accordance with the guidance in NRC Inspection manual Chapter (IMC) 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." Since NextEra evaluated the impact of the failures on the RPS trip function via their past operability process in both 2008 and 2014, the inspectors determined the failure to write an additional CR was a performance deficiency of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy. NextEra acknowledged the team's observation and wrote CR 2001797.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that, in general, NextEra appropriately prioritized and evaluated issues commensurate with the safety significance of the identified problem. NextEra screened CRs for operability and reportability, categorized the CRs by significance, and assigned actions to the appropriate department for evaluation and resolution. The CR screening process considered human performance issues, radiological safety concerns, repetitiveness, adverse trends, and potential impact on the safety conscious work environment.

Based on the sample of CRs reviewed, the inspectors noted that the guidance provided by NextEra corrective action program implementing procedures appeared sufficient to ensure consistency in categorization of issues. Operability and reportability determinations were generally performed when conditions warranted and in most cases, the evaluations supported the conclusion. Causal analyses appropriately considered the extent of condition or problem, generic issues, and previous occurrences of the issue. However, the inspectors noted some observations in NextEra's prioritization and evaluation of the following issues:

Evaluations which did not adequately support the conclusion:

The inspectors identified that in a few cases evaluations to determine the apparent cause, past operability, or root cause for issues did not contain sufficient documentation to support their final conclusions. Specific examples include:

- Apparent Cause Evaluation (ACE) 1977456 for NRC identified finding (FIN) for Residual Heat Removal Vault Concrete Cracking not being evaluated as required. The ACE concluded the apparent cause was inadequate procedural



guidance; however that conclusion was not supported by discussion in the ACE such that an independent reader could reach the same conclusion.

The ACE write up supported a Procedure Use and Adherence Conclusion; however, this was not identified as an apparent or contributing cause. However corrective actions completed addressed both Procedural Adequacy and Procedure Use and Adherence. The inspectors independently evaluated this issue for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined this issue was a performance deficiency of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy. This observation was entered into NextEra's CAP as CR 1997428.

- CR 08-06971 to evaluate design basis calculation SBC-128," Technical Specification - Setpoints and Allowable Values," to determine if additional margin existed after 4 channels failed their TS SR as found testing. The evaluation determined that it was acceptable to remove 40 milliseconds of margin from the RCP Bus Voltage Decay Time. The calculation states the margin was added to account for variations in electrical system response to a loss of normal supply voltage and uncertainty in the development of the bus decay time. There was no evaluation to justify why it was acceptable to remove this margin and how the above factors were accounted for. This CR was specifically reviewed as part of the 2014 Root Cause Analysis (RCA) 1964167. The team determined that while CR 08-06971's conclusion was not adequately supported, it remained valid and the underlying cause of this issue was identified and corrected in 2014. The inspectors independently evaluated this issue for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined this issue was a performance deficiency of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy. This observation was entered into NextEra's CAP as CR 2005922.

#### Treatment of Issues Discovered When Equipment Was Not Currently Required to Be Operable.

The team discovered a small number of issues where conditions were not classified as a Condition Adverse to Quality (CAQ) or a Significant Conditions Adverse to Quality (SCAQ) in a timely manner as required by procedure PI-AA-104-1000, "Corrective Actions," Revision 0. Specifically, when a TS SR is discovered not to be met "as found" testing and current operability was not impacted due to the equipment not being required to be operable in the current plant operating mode, this condition often is not evaluated and classified until a past operability review was completed. Since a past operability review is permitted to take 60 days from time of discovery, this can result in an issue not being classified appropriately until 60 days following identification of the condition. PI-AA-104-1000 does not address this practice. PI-AA-104-1000 requires issues to be entered into the CAP and classified within three days of discovery and evaluation of the issue to be completed within 60 days. This practice results in the evaluation of the condition not meeting the timeliness guidelines of PI-AA-104-1000. No violation of NRC requirements was identified since the corrective actions were timely commensurate with the safety significance of the underlying issue. This observation was entered into NextEra's CAP as CR 2001797.

### (3) Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented. For significant conditions adverse to quality, NextEra identified actions to prevent recurrence. The inspectors concluded that corrective actions to address the sample of NRC non-cited violations and findings since the last problem identification and resolution inspection were timely and effective. The inspectors had some observations related to NextEra's resolution of degraded conditions. For example:

#### Inadequate assessment of risk due to deferring corrective actions.

During RCA 1964167 for RCP UV Relays and associated RPS trip function discovered inoperable, it was identified by the root cause team that an improper calibration procedure was the root cause of the relays being found out of tolerance. The team also recognized that the relays currently in place were calibrated using this improper procedure, brought this to management's attention and a current operability determination (OD) was conducted. This OD concluded that the RPS RCP UV Trip Channels relays were operable. However, further tests conducted during the root cause evaluation, challenged some of the assumptions the current OD was based upon. As a result, an interim/compensatory corrective action was assigned to conduct testing of the relays at power to validate the assumptions of the OD and confirm operability. This corrective action was originally assigned for July 2014 but was deferred on multiple occasions until November 2014. While there was appropriate justification for short term deferral for the initial deferral (spare relays were not available on site), subsequent deferrals were not appropriately justified. The online testing of the relays was completed after the team completed their onsite inspections and all RPS trip channels were determined to be operable. The inspectors independently evaluated the issue for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined the inadequate risk assessments to support deferral of the compensatory actions were deficiencies of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy, because, the testing was completed satisfactory. The licensee captured this observation in their CAP as CR 1997881.

### (4) Trending

The inspectors reviewed NextEra's processes for identifying and addressing emergent and existing adverse trends in equipment and human performance. NextEra was generally able to identify trends at a low level using their department trending process. These trends were rolled up to station level on a quarterly basis and action and monitoring plans were developed as appropriate. Additionally, the station's maintenance rule performance monitoring program was effective in evaluating system performance and identifying trends.

#### c. Findings

No findings were identified.

## .2 Assessment of the Use of Operating Experience

### a. Inspection Scope

The inspectors reviewed a sample of CRs associated with review of industry operating experience (OE) to determine whether NextEra appropriately evaluated the OE information for applicability to Seabrook and had taken appropriate actions, when warranted. The inspectors also reviewed evaluations of OE documents associated with a sample of NRC generic communications to ensure that NextEra adequately considered the underlying problems associated with the issues for resolution via their corrective action program. In addition, the inspectors observed various plant activities to determine if the station considered industry OE during the performance of routine and infrequently performed activities.

### b. Assessment

The inspectors determined that NextEra appropriately considered industry OE information for applicability, and used the information for corrective and preventive actions to identify and prevent similar issues when appropriate. The inspectors determined that OE was appropriately applied and lessons learned were communicated and incorporated into plant operations and procedures when applicable. The inspectors also observed that industry OE was routinely discussed and considered during the conduct of Plan-of-the-Day meetings and pre-job briefs.

### c. Findings

No findings were identified.

## .3 Assessment of Self-Assessments and Audits

### a. Inspection Scope

The inspectors reviewed a sample of audits, including the most recent audit of the corrective action program, departmental self-assessments, Quality Assurance/Quality Control audits and assessments performed by the sites Nuclear Oversight Group, and assessments performed by independent organizations. Inspectors performed these reviews to determine if NextEra entered problems identified through these assessments into the corrective action program, when appropriate, and whether NextEra initiated corrective actions to address identified deficiencies. The inspectors evaluated the effectiveness of the audits and assessments by comparing audit and assessment results against self-revealing and NRC-identified observations made during the inspection.

### b. Assessment

The inspectors concluded that self-assessments, audits, and other internal NextEra assessments were generally critical, thorough, and effective in identifying issues. The inspectors observed that NextEra personnel knowledgeable in the subject completed these audits and self-assessments in a methodical manner. NextEra completed these audits and self-assessments to a sufficient depth to identify issues which were then entered into the corrective action program for evaluation. In general, the station implemented corrective actions associated with the identified issues commensurate with their safety significance.

Nuclear Oversight audits were effective in identifying issues, issuing findings and escalating issues when appropriate. When issues were escalated by Nuclear Oversight, plant management demonstrated strong support to ensure these issues were addressed in a prompt and thorough fashion.

c. Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

During interviews with station personnel, the inspectors assessed the safety conscious work environment at Seabrook. Specifically, the inspectors interviewed personnel to determine whether they were hesitant to raise safety concerns to their management and/or the NRC. The inspectors also interviewed the station Employee Concerns Program coordinator to determine what actions are implemented to ensure employees were aware of the program and its availability with regards to raising safety concerns. The inspectors reviewed the Employee Concerns Program files to ensure that NextEra entered issues into the corrective action program when appropriate.

b. Assessment

During interviews, Seabrook staff expressed a willingness to use the CAP to identify plant issues and deficiencies and stated that they were willing to raise safety issues. The inspectors noted that no one interviewed stated that they personally experienced or were aware of a situation in which an individual had been retaliated against for raising a safety issue. All persons interviewed demonstrated an adequate knowledge of the corrective action program and the Employee Concerns Program. Based on these limited interviews, the inspectors concluded that there was no evidence of an unacceptable safety conscious work environment and no significant challenges to the free flow of information.

c. Findings

No findings were identified.

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

(Closed) Licensee Event Report (LER) 05000443/2014-002-01: Reactor Coolant Pump Undervoltage Time Delay Relays Exceed Acceptance Criteria

On April 6, 2014, during a refueling outage, routine reactor protection system surveillance testing identified that three of four RCP UV reactor trip channels exceeded the TS channel response time acceptance criteria of 1.5 seconds for the RCP UV reactor trip function. NextEra determined that since this condition involved multiple similar components, there is evidence indicating that this condition may have arisen over time and three channels of RCP UV were concurrently inoperable. This resulted in the plant operating in a condition prohibited by TSs for approximately 17 months. NextEra personnel initiated a root cause evaluation to determine the cause of the violation and

determine appropriate corrective actions, replaced one relay, and adjusted the remaining relays to acceptable response times.

The root cause was determined to be that the revisions of the Design Control Manual from 1991 and earlier did not require a failure modes and effects analysis as part of the design change packages that installed the relays. The RCP UV time delay setting was not identified as a critical attribute and the manufacturer's recommendations for applications requiring very precise time delay settings were not incorporated into station procedures. Additional corrective actions after identification of the root cause include: revision of procedures to energize the RCP UV relays for at least 3 hours before performing testing, performing of rechecks at 72 hours after testing, and performing additional rechecks if any adjustments are made to the relays.

The inspectors reviewed Revision 0 to the LER in IR 05000443/2014003 (ML14212A458) and identified a Green licensee-identified violation for operating in a condition prohibited by TSs. NextEra supplemented the LER because the final causal analysis of the event was not complete at the time of the original LER submittal. The supplement to the original LER provided information regarding the causes and completed actions. The inspectors reviewed this revision to the LER and the associated RCA report. No additional violations of NRC regulatory requirements were identified. This LER is closed.

#### 40A5 Other Activities

##### .1 Followup Inspection for a Severity Level (SL) IV Traditional Enforcement Violation Involving Deliberate Misconduct (92702)

##### a. Inspection Scope

The inspectors performed a follow-up inspection for the SL IV Traditional Enforcement violation (EA-14-034) discussed in letter dated July 1, 2014 (ML14181B143). The issue was documented as SLIV NOV 05000443/2014-008-01. In accordance with NRC Inspection Procedure 92702, "Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders," follow up inspection was conducted on all traditional enforcement and willful violations.

The objectives of the inspection were to determine whether NextEra staff:

- Implemented adequate corrective actions
- Identified the root cause(s) of the Traditional Enforcement violation
- Addressed any generic implications
- Appropriately enhanced the station's programs and practices to prevent recurrence

The inspectors reviewed NextEra's evaluation and actions taken as a result of the violation. Additionally, the inspectors interviewed management and staff personnel who were familiar with the violation and participated in the evaluation or corrective actions.

b. Findings and Observations

No findings were identified.

The inspectors concluded that NextEra's staff completed a timely and adequate evaluation of the issue that used a systematic method to identify the causes of the Traditional Enforcement violation. NextEra personnel conducted an investigation into the cause of the violation and conducted interviews with relevant station personnel and contractors.

The inspectors determined that the station adequately assessed the extent of condition and extent of cause of the violations. The inspectors concluded that NextEra's actions were sufficient to address the identified cause and that the completed and planned corrective actions addressed the causes described in the evaluation.

4OA6 Meetings, Including Exit

On October 23, 2014, the inspectors presented the inspection results to Mr. Al Dodds, Plant General Manager, and other members of the Seabrook staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

On November 17, 2014, the inspectors presented updated inspection results after NRC management review to Mr. Dean Curtland, Site Vice President, and other members of the Seabrook staff.

ATTACHMENT: SUPPLEMENTARY INFORMATION

## SUPPLEMENTARY INFORMATION

### KEY POINTS OF CONTACT

#### Licensee Personnel

D. Alexander, Engineer Rapid Response  
B. Bradbury, Assistant Operations Manager for Training  
B. Brennan, Senior Mechanic  
V. Brown, Senior Licensing Analyst  
K. Browne, Training Manager  
B. Bryant, Assistant Operation Manager-Work Control  
B. Castiglia, Fleet Performance Improvement  
A. Chesno, Performance Improvement Manager  
M. Collins, Engineering Director  
D. Currier, Emergency Preparedness Manager  
D. Curtland, Site Vice President  
A. Dodds, Plant General Manager  
J. Dolan, Maintenance  
K. Douglas, Maintenance Director  
B. Fielding, Security  
R. Fowler, Shift Fire Brigade Leader  
P. Gaspar, Engineer  
T. Glowacky, Design Engineering Electrical  
R. Guthrie, Systems Engineering  
J. Klempa, Emergency Diesel Generator System Engineer  
E. Kotkowski Sr, Fix-It-Now Team Supervisor  
B. McAllister, Service Water System Engineer  
S. McCarty, Operations  
C. Moynihan, Performance Improvement  
J. Normandin, Security  
M. Ossing, Licensing Manger  
R. Parry, Engineer Program Manager  
V. Pascucci, Nuclear Oversight- Quality Assurance Manager  
T. Pepin, Employee Concerns Program Manager  
D. Perkins, Health Physics  
M. Peters, Engineering  
D. Robinson, Chemistry Department Manager  
R. Schlack, Supplemental Emergency Power System Engineer  
J. Soucie, Nuclear Systems Operator  
G. Spaide, Emergency Preparedness  
J. Watt, Quality Control Project Manager  
I. Watters, Heat Exchanger Performance Engineer  
B. Woodland, Design Engineering

#### NRC Personnel

D. Caron, Senior Physical Security Inspector.  
D. Schroeder, Branch Chief  
E. Andrews, Project Engineer  
G. Dentel, Branch Chief  
H. Nieh, Director Division of Reactor Projects  
J. DeBoer, Project Engineer

J. Greives, Senior Resident Inspector, Susquehanna  
 K. Kolaczyk, Senior Resident Inspector, Nine Mile Point  
 N. Day, Project Engineer  
 N. Perry, Senior Resident Inspector, Ginna  
 P. Cataldo, Senior Resident Inspector, Seabrook  
 R. Powell, Branch Chief  
 T. Setzer, Senior Project Engineer  
 W. Cook, Senior Reactor Analyst  
 W. Schmidt, Senior Reactor Analyst

### **LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**

#### Opened and Closed

None

#### Closed:

05000443/2014008-01	NOV	Security Related Violation (4OA5)
05000443/2014-002-01	LER	Reactor Coolant Pump Undervoltage Time Delay Relays Exceed Acceptance Criteria (4OA3)

### **LIST OF DOCUMENTS REVIEWED**

#### **Section 4OA2: Problem Identification and Resolution**

##### Audits and Self-Assessments

AR-0163792, Maintenance Audit, 7/01/2014  
 Conduct of Operations Focused Self-Assessment (1723280)  
 Operations 2014 2<sup>nd</sup> Quarter Trend Report (1975655)  
 Quick Hit Assessment Report, Outage Valve Repack, 5/11/2012  
 Quick Hit Assessment Report, Sample S/L 3 CA Closures Verification Assessment, 7/01/12 – 12/31/12  
 SBK 12-008, Maintenance – Corrective and Preventative  
 SBK 14-005, Seabrook Nuclear Oversight Audit Report – Operations  
 SBK 14-007, Maintenance  
 Self-Assessment Quick Hit Operating Experience Assignments (1862329)



Condition Reports (\* indicates that condition report was generated as a result of this inspection)

*01996823	01636130	01785134
*01996824	01636533	01785735
*01997167	01637596	01785765
*01997258	01637607	01786255
*01997428	01637922	01786325
*01997477	01637922	01786719
*01997881	01638000	01786878
*02000564	01638518	01786907
*02000752	01638996	01787142
*02000873	01640697	01787719
*02000876	01642684	01787918
*02001181	01659957	01788743
*02001797	01664399	01789298
*02005922	01667857	01790885
00-12059	01686357	01792226
04-12367	01688250	01792295
05-01987	01688487	01794420
08-04854	01688626	01795013
08-05105	01691351	01799117
08-05129	01695274	01803056
08-05193	01695887	01803137
08-06971	01700862	01803216
09-00879	01704702	01803317
00000690	01713087	01803586
00011201	01720010	01803586
00013233	01723113	01804255
00163792	01723280	01805832
00207076	01730493	01806037
00207110	01732560	01807221
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00207755	01749150	01811978
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00220612	01761442	01815351
00220912	01768336	01816734
00391899	01768336	01823481
00566833	01769436	01824363
00568712	01769473	01829412
00579532	01769670	01830734
00579871	01775909	01830734
00581434	01778996	01833588
00583804	01781724	01837273
00585696	01781810	01841980
00595469	01782437	01841980
01601758	01782510	01842110
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01633034	01783290	01845695
01633080	01783299	01845922
01635972	01784799	01847495

01847661	01907890	01953543
01847882	01910265	01954141
01848335	01910483	01954521
01848584	01911075	01954777
01849544	01913835	01955364
01850101	01915087	01955535
01851095	01916618	01956322
01851684	01918061	01956944
01852088	01919736	01957041
01854598	01920354	01957744
01855652	01928938	01960554
01856010	01929460	01960797
01856281	01930049	01964167
01856820	01932000	01964167
01857228	01932061	01964952
01857345	01932657	01969915
01857427	01932834	01971779
01857532	01933827	01973268
01859168	01933872	01973578
01861285	01936417	01974676
01861902	01936419	01975655
01862201	01936420	01975679
01862329	01936421	01976944
01862758	01936449	01977233
01863425	01937133	01977456
01863954	01937605	01979405
01872999	01937607	01980097
01874476	01937610	01980960
01875006	01938895	01981659
01875196	01939586	01981796
01877159	01940307	01986236
01879841	01940422	01986793
01883432	01940980	01988737
01885247	01941232	01988938
01889089	01941952	01989948
01891778	01942085	01990051
01891964	01944373	01990076
01893356	01944758	01990082
01895334	01945403	01990083
01896701	01947041	01990089
01896874	01947827	01990091
01897489	01948078	01990094
01897867	01948511	01993535
01900249	01950791	01994888
01900456	01951264	01995578
01902051	01952361	01998684
01905765	01952362	01999416
01905816	01953467	02000487

Drawings

1-SW-B20792, Service Water System Nuclear Overview, Revision 6  
1-SW-B20794, Service Water System Nuclear Detail, Revision 35  
1-SW-B20795, Service Water System Nuclear Detail, Revision 40  
1-SW-B20796, Service Water System Nuclear Detail, Revision 5  
Drawing 101510, RHR Vault, Revision 18  
Drawing 101518, RHR Vault, Revision 10  
Drawing 101842, RHR Vault, Revision 14

Operating Experience

Bulletin 2012-01, Design Vulnerability in Electric Power System  
IN 2006-22, New Ultra-Low-Sulfur Diesel Fuel Oil Could Adversely Impact Diesel Engine Performance  
IN 2007-28, Potential Common Cause Vulnerabilities in Essential Service Water Systems Due to Inadequate Chemistry Controls  
IN 2007-29, Temporary Scaffolding Affects Operability of Safety-Related Equipment  
IN 2008-09, Turbine-Driven Auxiliary Feedwater Pump Bearing Issues  
IN 2008-11, Service Water System Degradation at Brunswick Steam Electric Plant Unit 1  
IN 2009-02, Biodiesel in Fuel Oil Could Adversely Impact Diesel Engine Performance  
IN 2009-04, Age-Related Constant Support Degradation  
IN 2012-07, Tube-to-Tube Contact Resulting in Wear In Once-Through Steam Generators  
IN 2012-14, Motor-Operated Valve Inoperable Due to Stem-Disc Separation  
IN-2012-22, Counterfeit, Fraudulent, Suspect item (CFSI) Training Offerings  
IN-2013-20, Steam Generator Channel Head and Tubesheet Degradation  
List of CRs for Operating Experience Reviews since June 2012  
Operating Experience Summary, Reactor Coolant Pump Undervoltage Time Delay Relay Test Failure Seabrook Station April 2, 2014 dated 8/27/14  
RIS 08-14, Use of Tormis Computer Code for Assessment of Tornado Missile Protection

Non-Cited Violations and Findings

05000443/2012004-01, Scaffold Installed with Insufficient Separation to Safety Related Equipment  
05000443/2012004-02, Inadequate Process Necessary for Notification of OROs during an Emergency Declaration  
05000443/2012004-03, Inadequate Calibration of Respirator Fit Test Equipment  
05000443/2012005-01, Failure to Correct a Condition Adverse to Quality for the L-5 FICI Connection  
05000443/2012005-02, Failure to Adequately Implement Procedure Led to Reactor Coolant System Leakage from Pressurizer Safety Valve Flange  
05000443/2013002-01, Loss of DC Control Power to Switchyard #2  
05000443/2013002-01, Scaffolding Installed with Insufficient Separation to Safety Related Equipment  
05000443/2013002-02, Failure to Evaluate Service Water Cooling Tower Level  
05000443/2013004-01, Inadequate Operability Determination Regarding Service Water Leakage and Associated TS Violation  
05000443/2013008-01, Failure to Verify Adequate Fault Protection for Safety Related Equipment from Non-Safety Related Load Fault  
05000443/2013008-02, Condensate Storage Tank Water Level above Limits of Seismic Qualification

05000443/2013008-03, Failure to Perform Preventive Maintenance on the Supplemental  
Emergency Power System  
05000443/2013008-04, Primary Component Cooling Water System Unavailable Following a  
Seismic Event  
05000443/2014003-01, Inadequate Technical Evaluation of Safety-Related Structures  
05000443/2014003-02, Unexpected Main Generator Breaker Pole Closure Results in Reactor  
Trip  
05000443/2014007-01, Alternate Safe Shutdown Areas Affected by Smoke from Cable  
Spreading Room Fire  
05000443/2014007-02, Inadequate Alternative Shutdown Procedures  
05000443/2014008-01, Security Related Violation

### Procedures

EN-AA-203-1001, Operability Determination / Functionality Assessment, Revision 18  
EN-AA-203-1001, Operability Determination/Functionality Assessments, Revision 17  
EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 16  
ER-AA-101, Equipment Reliability, Revision 2  
ER-AA-204-2005, Critical Equipment Failure Evaluation, Revision 5  
ER-AA-204-2006, Management of Critical Components and Single point Vulnerabilities,  
Revision 2  
EX 1806.001, RPS and ESFAS Time Response Summation Procedure, Revisions 4 and 8  
LI-AA-102-1001, Regulatory Reporting, Revision 3  
LS0563.12, Testing of Agastat 125VDC (7000 Series) TDDO Timing Relays, Revision 11  
LX0563.02, RCP UV Channel Calibration and Relay PM, Revision 8  
LX0563.04, RCP UF Channel Calibration and Relay PM, Revision 8  
MA 10.2, Online Repairs of Non-Isolable Leaks, Revision 1  
MA9.1, Preventative Maintenance Program, Revision 7  
MA-AA-210-1000, Rework Procedure, Revision 1  
MS0517.10, Insulation Removal, Installation and Repair, Revision 6  
MS0519.17, Crosby Pressurizer Mechanical Safety valve Removal and Installation, Revision 16  
NextEra Energy Structural Engineering Standard Technical Procedure 36180-Structural  
Monitoring Program, Revision 4  
OE 3.6 Condition Reports, Revision 13  
ON1046.12, Operation of the Main Generator Breaker, Revision 22  
OP-AA-100-1000, Conduct of Operations, Revision 14  
OP-AA-102-1003, Guarded Equipment, Revision 5  
OS1000.10, Operations at Power, Revision 27  
OS1008.01, Chemical & Volume Control System Makeup Operations, Revision 29  
OS1026.01, Operation of DG 1A, Revision 23  
OS1201.02, RCS Leak, Revision 17  
OX1416.04, Service Water Quarterly Pump and Discharge Valve Test and Comprehensive  
Pump Test, Revision 19  
OX1426.32, Diesel Generator 1B 18 Month Operability Surveillance, Revision 12  
PEG-93, Equipment Reliability Strategies for Plant Sub-Components, Revision 2  
PEG-94, Service Water Inspection and Repair Trending, Revision 9  
PI-AA-100-1002, Failure Investigation Process, Revision 10  
PI-AA-100-1005, Root Cause Evaluation, Revision 10  
PI-AA-100-1005-F02, Root Cause Evaluation Grading Guide Form, Revision 3  
PI-AA-100-1007, Apparent Cause Evaluation, Revision 8  
PI-AA-100-1007-F02, Apparent Cause Evaluation Grading Guide, Revision 3  
PI-AA-102, Operating Experience Program, Revision 7

PI-AA-102-1000, Significant OE Report (SOER) and INPO Event Report (IER) Process Implementation, Revision 9  
 PI-AA-102-1001, Operating Experience Program Screening and Responding to Incoming Operating Experience, Revision 12  
 PI-AA-102-1002, Internal Operating Experience, Revision 7  
 PI-AA-102-1003, Sharing Operating Experience With Nuclear Industry, Revision 6  
 PI-AA-104-1000, Corrective Action, Revision 0  
 PI-AA-204, Condition Identification and Screening Process, Revisions 18, 19, 23 SM 7.17, Event Response, Revision 5  
 WM-AA-200, Work Management Process Overview, Revision 9  
 WM-AA-201, Work Identification Screening and Validation Process, Revision 17  
 WM-AA-203, On-Line Scheduling Process, Revision 11

Work Orders

40089172	40089172	40139421	40139421	40150192	40150192
40204488	40204488	40235395			

Work Requests:

94103344	94103351	94103353	94103354	94103355	94103356
94103357					

Miscellaneous

Apparent Cause Evaluation Grading Guide for CR 1977456  
 AT-01.12 MRC Screening Report  
 AT-B-04-PCRs/PMCRs for MRC  
 C-S-1-25115, DG Heat Exchanger Performance after tube plugging, Revision 0  
 Design Basis Calculation SBC-128, "Technical Specifications- Setpoints and Allowable Values," Revisions 12, 13, 14, and 15  
 Detailed Systems Text 125 VDC Distribution System, Revision 7  
 Emergency Diesel Health Report  
 Engineering Change Package EC 28376  
 Engineering Change Package EC-280058, Revisions 0 and 1  
 Fleet Employee Concerns Program Information Flyer and Contact Information  
 Licensee Event Report 2012-005  
 Licensee Event Report 2013-001  
 Licensee Event Report 2014-001  
 Licensee Event Report 2014-002  
 Management Corrective Action Review Board (CARB) Agenda, October 7 and 21, 2014  
 Management Review Committee (MRC) Agenda, 10/20/2014  
 Management Review Committee (MRC) Agenda, October 9, 2014  
 NextEra Energy Reply to Notice of Violation: EA-14-034  
 NFPA 80, Standard for Fire Doors and Other Opening Devices, 2013 Edition  
 NRC Inspection Manual Chapter 0326, Operability Determinations & Functionality Assessments For Conditions Adverse To Quality Or Safety  
 NRC Regulatory Issue Summary 2005-20, Revision to NRC Inspection Manual Part 9900, Revision 1  
 Plant Engineering Guidelines, Service Water System Performance Monitoring (PEG-208), Revision 7  
 Root Cause Evaluation Grading Guide and Form for CR 1964167  
 Seabrook List of Risk Important Systems  
 Seabrook Nuclear oversight Summary of Quality Performance February 2014- September 2014

Seabrook Specific System Significance-Corrective Action Risk Ranking table dated 8/05/13  
 Seabrook Station UFSAR Auxiliary Systems Water Systems Section 9.2, Revision 15  
 Seabrook-Key PRA Results Table.  
 Service Water System Health Report  
 Standing Order 14-004  
 Standing Order 14-005  
 Supplemental Emergency Power System Health Report

### LIST OF ACRONYMS

ACE	Apparent Cause Evaluation
ADAMS	Agency-wide Documents Access and Management System
CAP	Corrective Action Program
CAQ	Condition Adverse To Quality
CFR	Code of Federal Regulations
CR	Action Request/ Condition report
FFD	Fitness for Duty
FIN	Finding
IMC	NRC Inspection Manual Chapter
NCV	Non Cited Violation
NextEra	NextEra Energy Seabrook, LLC
NRC	Nuclear Regulatory Commission
OD	Operability Determination
OE	Operating Experience
PARS	Publicly Available Records System
RCA	Root Cause Analysis
RCP	Reactor Coolant Pump
RPS	Reactor Protection System
SCAQ	Significant Condition Adverse to Quality
SDP	Significance Determination Process
Seabrook	Seabrook Station Unit No. 1
SL	Severity Level
TS SR	Technical Specification Surveillance Requirement
TS	Technical Specification
UV	Undervoltage