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

August 13, 2014

Mr. Dean Curtland
Site Vice President, North Region
Seabrook Nuclear Power Plant
NextEra Energy Seabrook, LLC
c/o Mr. Michael Ossing
626 Lafayette Rd.
Seabrook, NH 03874

SUBJECT: SEABROOK STATION - NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 05000443/2014007

Dear Mr. Curtland:

On July 10, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed a triennial fire protection inspection at the Seabrook Station, Unit 1. The enclosed inspection report documents the inspection results, which were discussed on July 10, 2014, with you and other members of your staff.

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

Based on the results of this inspection, two finding of very low safety significance (Green) were identified. These findings were also determined to be violations of NRC requirements. However, because of their very low safety significance, and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCV's) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a written 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 D.C. 20555-0001; with copies to the Regional Administrator, Region I; Director, Office of Enforcement; and the NRC Senior Resident Inspector at the Seabrook Station. In addition, if you disagree with the cross-cutting aspect assigned to 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 Resident Inspector at the Seabrook Station.

In accordance with Title 10 of the *Code of Federal Regulations* Part 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 Web Site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/ William A. Cook for

John F. Rogge, Chief
Engineering Branch 3
Division of Reactor Safety

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

Enclosure: Inspection Report No. 05000443/2014007
w/Attachment: Supplemental Information

cc: w/encl via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-443
License No.:	NPF-86
Report No.:	05000443/2014007
Licensee:	NextEra Energy Seabrook, LLC
Facility:	Seabrook Station, Unit 1
Location:	626 Lafayette Road Seabrook, NH 03874
Dates:	June 23 through July 10, 2014
Inspectors:	D. Orr, Senior Reactor Inspector (Team Leader) W. Cook, Senior Reactor Analyst R. Fuhrmeister, Senior Reactor Inspector J. Richmond, Senior Reactor Inspector J. Patel, Reactor Inspector
Approved by:	John F. Rogge, Chief Engineering Branch 3 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000443/2014007; 06/23/2014 - 07/10/2014; NextEra Energy Seabrook, LLC; Seabrook Station, Unit 1; Triennial Fire Protection Baseline Inspection.

The report covered a two-week triennial fire protection team inspection by specialist inspectors. Two findings of very low significance were identified. These findings were determined to be non-cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, “Significance Determination Process.” Cross-cutting aspects associated with findings are determined using IMC 0310, "Components Within The Cross-Cutting Areas." Findings for which the significance determination process (SDP) does not apply may be Green or be assigned a severity level after NRC management review. The NRC’s program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 4, dated December 2006.

Cornerstone: Mitigating Systems

- Green. The team identified a finding of very low safety significance, involving a non-cited violation of Seabrook Unit 1 Operating License Condition 2.F for failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, NextEra failed to ensure that intake air to the A and B remote shutdown panel areas was not contaminated from products of combustion resulting from a cable spreading room fire. NextEra promptly entered this issue into its corrective action program as condition reports AR 01977233 and AR 01982946. NextEra initiated compensatory measures in the form of four-hour roving fire watches. Long term corrective actions include determining options to eliminate the potential for smoke migration from a cable spreading room fire to the A and B essential switchgear rooms.

  This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix F, Fire Protection Significance Determination Process, Attachment 1, Step 1.6, a Senior Reactor Analyst examined NextEra’s probabilistic risk analysis based risk evaluation for the issue and determined this finding resulted in an increase in core damage frequency in the mid E-7 range (Green) or very low safety significance. This finding did not have a cross-cutting aspect because it was determined to be a legacy issue and was considered to be not indicative of current licensee performance. (Section 1R05.05.1)

- Green. The team identified a finding of very low safety significance, involving a non-cited violation of Seabrook Unit 1 Operating License Condition 2.F for failure to implement and maintain all aspects of the approved Fire Protection Program. Specifically, NextEra's alternative safe shutdown operating procedures did not adequately establish decay heat removal and could have challenged the performance goals of alternative shutdown, as required by NextEra's safe shutdown analysis and regulatory requirements.

NextEra promptly entered this issue into its corrective action program as condition report AR 01976944 and initiated an operating standing order as a compensatory measure.

This finding was more than minor because it was associated with the Protection Against External Factors (e.g., fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix F, Fire Protection Significance Determination Process, a Phase 1 evaluation screened this finding as very low safety significance (Green) because it was assigned a low degradation rating. The team determined this issue had a low degradation rating because the procedural deficiencies could be compensated by operator experience and system familiarity. This finding did not have a cross cutting aspect because it was determined to be a legacy issue and was considered to be not indicative of current licensee performance. (Section 1R05.05.2)

REPORT DETAILS

Background

This report presents the results of a triennial fire protection inspection conducted in accordance with NRC Inspection Procedure (IP) 71111.05T, "Fire Protection." The objective of the inspection was to assess whether NextEra has implemented an adequate fire protection program and that post-fire safe shutdown capabilities have been established and are being properly maintained at the Seabrook Station, Unit 1 (Seabrook) facility. The following fire areas and/or fire zones were selected for detailed review based on risk insights from the current probabilistic risk analysis for internal fire hazards at Seabrook.

- CB-F-1B-A, B Essential Switchgear Room;
- PAB-F-2C-Z, Primary Component Cooling Pump Area; and,
- TB-F-1A-Z, Southwest Ground Floor of the Turbine Building.

Inspection of these areas/zones fulfills the inspection procedure requirement to inspect a minimum of three samples.

The inspection team evaluated the licensee's fire protection program (FPP) against applicable requirements which included plant Technical Specifications, Operating License Condition 2.F., NRC Safety Evaluations, 10 CFR 50.48, and Appendix A to Branch Technical Position (BTP) APCSB 9.5-1. The team also reviewed related documents that included the Updated Final Safety Analysis Report (UFSAR), Section 9.5.1, the fire hazards analysis (FHA), and the post-fire safe shutdown analyses.

The team also evaluated two licensee mitigating strategies for addressing large fires and explosions as required by Operating License Condition 2.C.(4) and 10 CFR 50.54 (hh)(2). Inspection of these strategies fulfills the inspection procedure requirement to inspect a minimum of one sample.

Specific documents reviewed by the team are listed in the attachment to this report.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R05 Fire Protection (IP 71111.05T)

.01 Protection of Safe Shutdown Capabilities

a. Inspection Scope

The team reviewed the FHA, post-fire safe shutdown analyses, and supporting drawings and documents to verify whether the safe shutdown capabilities were properly protected from fire damage. The team evaluated equipment and cable separation to determine whether the applicable separation requirements of Appendix A to BTP APCSB 9.5-1 and

the Seabrook design and licensing bases were maintained for the credited safe shutdown equipment and their supporting power, control, and instrumentation cables. The team's review included an assessment of the adequacy of the selected systems for reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and associated support system functions.

b. Findings

No findings were identified.

.02 Passive Fire Protection

a. Inspection Scope

The team walked down accessible portions of the selected fire areas to evaluate whether the material conditions of the fire area boundaries were adequate for the fire hazards in the area. The team compared the fire area boundaries, including walls, ceilings, floors, fire doors, fire dampers, penetration seals, electrical raceway and conduit fire barriers, and redundant equipment fire barriers and radiant energy heat barriers to design and licensing basis requirements, industry standards, and the Seabrook FPP, as approved by the NRC, to identify any potential degradation or non-conformances.

The team reviewed selected engineering evaluations, installation work orders, and qualification records for a sample of penetration seals to determine whether the fill material was properly installed and whether the as-left configuration satisfied design requirements for the intended fire rating. The team also reviewed similar records for selected fire protection wraps to verify whether the material and configuration was appropriate for the required fire rating and conformed to the engineering design.

The team also reviewed recent inspection records for fire dampers, and the inspection records for penetration seals and fire barriers, to verify whether the inspection was adequately conducted, the acceptance criteria were met, and any potential performance degradation was identified.

b. Findings

No findings were identified.

.03 Active Fire Protection

a. Inspection Scope

The team evaluated manual and automatic fire suppression and detection systems in the selected fire areas to determine whether they were installed, tested, maintained, and operated in accordance with NRC requirements, National Fire Protection Association (NFPA) codes of record, and the Seabrook FPP, as approved by the NRC. The team

also assessed whether the suppression systems capabilities were adequate to control and/or extinguish fires associated with the hazards in the selected areas. The team reviewed the as-built capability of the fire water supply system to verify the design and licensing basis and NFPA code of record requirements were satisfied, and to assess whether those capabilities were adequate for the hazards involved. The team evaluated the fire pump performance tests to assess the adequacy of the test acceptance criteria for pump minimum discharge pressure at the required flow rate and to verify the criteria was adequate to ensure that the design basis and hydraulic analysis requirements were satisfied. The team also evaluated the underground fire loop flow tests to verify the tests adequately demonstrated that the flow distribution circuits were able to meet design basis requirements. In addition, the team reviewed recent pump and loop flow test results to verify the testing was adequately conducted, the acceptance criteria were met, and any potential performance degradation was identified.

The team walked down accessible portions of the detection and water suppression systems in the selected areas and major portions of the fire water supply system, including motor and diesel driven fire pumps and fire water storage tanks, interviewed system and program engineers, and reviewed selected condition reports (CRs) to independently assess the material condition of the systems and components. In addition, the team reviewed recent test results for the fire detection and suppression systems for the selected fire areas to verify the testing was adequately conducted, the acceptance criteria were met, and any performance degradation was identified.

The team assessed the fire brigade capabilities by reviewing training, qualification, and drill critique records. The team also reviewed Seabrook's firefighting strategies (i.e., pre-fire plans) and smoke removal plans for the selected fire areas to determine if appropriate information was provided to fire brigade members and plant operators to identify safe shutdown equipment and instrumentation, and to facilitate suppression of a fire that could impact post-fire safe shutdown capability. The team independently inspected the fire brigade equipment, including personnel protective gear (e.g., turnout gear) and smoke removal equipment, to determine operational readiness for firefighting. In addition, the team reviewed Seabrook’s fire brigade equipment inventory and inspection procedure and recent inspection and inventory results to verify adequate equipment was available, and any potential material deficiencies were identified.

b. Findings

No findings were identified.

.04 Protection from Damage from Fire Suppression Activities

a. Inspection Scope

The team performed document reviews and plant walkdowns to verify that redundant trains of systems required for hot shutdown, which are located in the same fire area, are not subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems.

Specifically, the team verified that:

- A fire in one of the selected fire areas would not indirectly, through production of smoke, heat or hot gases, cause activation of suppression systems that could potentially damage all redundant safe shutdown trains;
- A fire in one of the selected fire areas (or the inadvertent actuation or rupture of a fire suppression system) would not indirectly cause damage to all redundant trains (e.g. sprinkler caused flooding of other than the locally affected train); and,
- Adequate drainage is provided in areas protected by water suppression systems.

b. Findings

No findings were identified.

.05 Post-Fire Safe Shutdown Capability – Normal and Alternative

a. Inspection Scope

The team reviewed the safe shutdown analysis, operating procedures, piping and instrumentation drawings (P&IDs), electrical drawings, the UFSAR, and other supporting documents for the selected fire areas to verify whether NextEra had properly identified the systems and components necessary to achieve and maintain post-fire safe shutdown conditions. The team evaluated selected systems and components credited by the safe shutdown analysis for reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions to assess the adequacy of NextEra's alternative shutdown methodology. The team also assessed whether alternative post-fire shutdown could be performed both with and without the availability of off-site power. The team walked down selected plant configurations to verify whether they were consistent with the assumptions and descriptions in the safe shutdown and fire hazards analyses. In addition, the team evaluated whether the systems and components credited for use during post-fire safe shutdown would remain free from fire damage.

The team reviewed the training program for licensed and non-licensed operators to verify whether it included alternative shutdown capability. The team also verified whether personnel required for post-fire safe shutdown, using either the normal or alternative shutdown methods, were trained and available on-site at all times, exclusive of those assigned as fire brigade members.

The team reviewed the adequacy of procedures utilized for post-fire shutdown and performed an independent walk through of procedure steps (i.e., a procedure tabletop) to assess the adequacy of implementation and human factors within the procedures. The team also evaluated the time required to perform specific actions to verify whether operators could reasonably be expected to perform those actions within sufficient time to maintain plant parameters within specified limits.

Specific procedures reviewed for normal and alternative post-fire shutdown included the following:

- OS1200.00, Response to Fire or Fire Alarm Actuation;
- OS1200.00A, Fire Hazards Analysis for Affected Area/Zone – Appendix A;
- OS1200.01, Safe Shutdown and Cooldown from the Main Control Room;
- OS1200.02, Safe Shutdown and Cooldown from the Remote Safe Shutdown Facilities;
- OS1200.02A, Remote Safe Shutdown Control – Train A; and;
- OS1200.02B, Remote Safe Shutdown Control – Train B

The team reviewed selected operator manual actions to verify whether they had been properly reviewed and approved and whether the actions could be implemented in accordance with plant procedures in the time necessary to support the safe shutdown method for each fire area. The team also reviewed the periodic testing of the alternative shutdown transfer and isolation capability, and instrumentation and control functions, to evaluate whether the tests were adequate to ensure the functionality of the alternative shutdown capability.

b. Findings

1. Alternate Safe Shutdown Areas Affected by Smoke from Cable Spreading Room Fire

Introduction: The team identified a finding of very low safety significance (Green) involving a non-cited violation of Seabrook Unit 1 Operating License Condition 2.F for failure to implement and maintain all aspects of the approved FPP. Specifically, NextEra failed to ensure that intake air to the A and B remote shutdown (RSD) panel areas was not contaminated from products of combustion resulting from a cable spreading room (CSR) fire.

Description: The team reviewed alternate safe shutdown procedure, OS1200.02A, Remote Safe Shutdown Control – Train A, Rev. 18, which provided procedure instructions to operate the A RSD panel in the event of a significant control room or CSR fire necessitating control room abandonment and establishment of remote shutdown. The team noted that initial procedure instructions required operators to check for smoke in the A essential switchgear room (ESWGR). The A ESWGR houses the A RSD panel. In 2004, Seabrook identified that smoke infiltration to the A ESWGR could occur from a CSR fire. The issue was documented in the corrective action program as AR 00064758 and dispositioned in CR 04-03177. The disposition concluded that a single train of equipment remained unaffected for remote shutdown, i.e. the B RSD panel was unaffected, and that smoke infiltration into the A ESWGR would not adversely affect the accomplishment of shutdown. Seabrook revisited the issue in 2007, AR 00020581 and CR 07-14078, and completed corrective actions to enhance procedure OS1200.02A. The enhancements included a procedure step to verify the A ESWGR habitable.

If the A ESWGR was inhabitable, additional procedure steps and operator manual actions (OMAs) were required to abate the smoke. Some OMAs required entry into smoke-filled areas and the use of self-contained breathing apparatus.

The smoke infiltration occurs from ventilation mixing in the A mechanical equipment room (MER). The A MER houses both the supply and return fans for the A ESWGR heating, ventilation, and air conditioning (HVAC) system and the supply and return fans for the CSR HVAC system. The CSR HVAC system is administratively not operated, i.e. fans turned off for other plant considerations, but a ventilation path from the CSR to the A MER is maintained through a vent duct perforated plate such that smoke from a CSR fire will exhaust to the A MER. If the A ESWGR HVAC system is recirculating air in the A MER instead of drawing outside air, such as during winter or cooler periods, smoke will be drawn into the A ESWGR HVAC system and enter the A ESWGR.

The team noted that although only one train of systems free of fire damage is necessary to achieve and maintain hot standby condition, one train of decay heat removal at the B RSD panel is not completely redundant of equipment powered in the A ESWGR room and locally operated at the A RSD panel. The team noted that the Seabrook safe shutdown methodology requires two of four steam generators be available for sufficient decay heat removal. Decay heat removal from the B and D steam generators is mostly established and controlled from the B RSD panel but feedwater header flow valves to each B and D steam generators are powered by A train essential switchgear and operated at the A RSD panel. A single spurious close operation of either valve combined with remote shutdown operations in the A ESWGR hindered by smoke would result in either the B or D steam generator unavailable for decay heat removal. The A and C steam generators would be unavailable due to a lack of local control at the A RSD panel. The inspectors judged smoke in the A ESWGR resulting from a CSR fire to adversely affect the ability to achieve and maintain shutdown in the event of a CSR fire.

The team also walked down the B ESWGR HVAC system to verify it was independent of the A ESWGR HVAC and isolated from the smoke effects of a CSR fire. The inspectors noted two B ESWGR HVAC return registers in a single duct common to the A ESWGR. The HVAC duct penetrated a wall and fire area boundary separating the A ESWGR and B ESWGR. The B ESWGR HVAC was not independent of the A ESWGR HVAC and was also subject to smoke infiltration from a CSR fire. NextEra promptly entered this smoke migration issue in their corrective action program as AR 01977233. Immediate corrective actions included the addition of four-hour roving fire watches in the CSR to inspect for smoke, fire, and the presence of unpermitted ignition sources and transient combustible materials. NextEra additionally initiated corrective actions in AR 01982946 to reconsider its earlier disposition of smoke infiltration into the A ESWGR and the acceptability of using operator manual actions for smoke abatement. Long term corrective actions included determining options for eliminating smoke migration into the A and B ESWGRs during a CSR fire. The team considered NextEra's immediate and long term corrective actions appropriate.

Analysis: The failure to assure the RSD panel locations were independent of the fire effects of a CSR fire is a performance deficiency (PD). This PD is more than minor because it is associated with the external events (fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter (IMC) 0609, Appendix F, Fire Protection Significance Determination Process, the Region I Senior Reactor Analyst (SRA) determined per Figure F.1, Phase 1 Flow Chart, and associated screening criteria that this finding was Green, or very low safety significance. In accordance with Appendix F, Attachment 1, Step 1.6, the SRA examined NextEra's probabilistic risk analysis based risk evaluation, completed by the site risk analysts (reference Seabrook Station Control Building SDP Evaluation, dated July 17, 2014) that determined this finding resulted in an increase in core damage frequency in the mid E-7 range (Green). The SRA concluded that this risk evaluation used reasonable and appropriately conservative assumptions to bound the worst case fire scenarios and associated operator actions for this PD and postulated fire conditions. The SRA independently approximated the increase in risk associated with this PD using SSPSS-2011, Seabrook Fire Hazards Analysis, Section 12, Internals Fire Analysis, and confirmed the licensee's risk estimate was sufficiently bounding to appropriately characterize the safety significance of this finding.

This finding did not have a cross-cutting aspect because it was determined to be a legacy issue and was considered to not be indicative of current licensee performance.

Enforcement: Unit 1 License Condition 2.F, in part, requires NextEra to implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report. Section 9.5.1 of the Updated Final Safety Analysis Report lists the Fire Protection Evaluation and Comparison to BTP APCSB 9.5-1, Appendix A Report as a document of the FPP. Section F.3 of Fire Protection Evaluation and Comparison to BTP APCSB 9.5-1, Appendix A Report, Rev. 13A page 60 provides a response to APCSB 9.5-1, Appendix A, page 20, paragraph D.4(e), Fresh Air Supply Intakes. APCSB 9.5-1, Appendix A states, the fresh air supply intakes to areas containing safety related equipment or systems should be located remote from the exhaust air outlets and smoke vents of other fire areas to minimize the possibility of contaminating the intake air with the products of combustion. The licensee's Fire Protection Evaluation and Comparison to BTP APCSB 9.5-1, Appendix A Report states that all buildings satisfy the above requirements. Contrary to the above, since initial plant construction, the A ESWGR intake was common to the CSR exhaust air outlet and the B ESWGR return air was connected in a common duct with the A ESWGR return air. In immediate response to this issue, NextEra established a periodic roving fire watch in the CSR. Because this violation was of very low safety significance (Green) and was entered into NextEra's corrective action program (AR 01977233 and AR 01982946), this violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000443/2014007-01, Alternate Safe Shutdown Areas Affected by Smoke from Cable Spreading Room Fire)**

2. Inadequate Alternative Shutdown Procedures

Introduction: The team identified a finding of very low safety significance (Green) involving a non-cited violation of Seabrook Unit 1 Operating License Condition 2.F for failure to implement and maintain all aspects of the approved FPP. Specifically, NextEra's alternative safe shutdown operating procedures did not adequately establish decay heat removal and could have challenged the performance goals of alternative shutdown, as required by NextEra's safe shutdown analysis and regulatory requirements.

Description: In response to a significant fire in the main control room or cable spreading room, operators would implement OS1200.02. As a prompt action prior to evacuating the control room, OS1200.02 directed a control room reactor operator to relocate to the B RSD panel in the B ESWGR room and perform the initial steps of OS1200.02B. Following the OS1200.02 immediate control room actions (e.g., trip reactor, close main steam isolation valves, trip reactor coolant pumps, etc.), the remaining control room operators evacuate the control room to man additional remote safe shutdown panels. The second reactor operator was directed to implement OS1200.02A at the A RSD panel in the A ESWGR room and the Unit Supervisor would coordinate remote shutdown activities in the two ESWGR rooms.

Each emergency feedwater (EFW) line to each steam generator (SG) has two in-series flow control valves. The A valve on each line is controlled from the A RSD panel, while the B valve on each line is controlled from the B RSD panel. OS1200.02A and OS1200.02B each contained steps to operate the emergency transfer isolate switches for their respective EFW flow control valves to prevent spurious closure due to fire damage. OS1200.02A Step 19.e directed the A RSD operator to throttle the A EFW valves to the A and C SGs to maintain SG levels. OS1200.02B Step 20.e directed the B RSD operator to throttle the B EFW valves to the B and D SGs to maintain SG levels. However, OS1200.02B Step 20.f also directed the B RSD operator to close the B EFW valves to the A and C SGs, thereby isolating EFW flow to the A and C SGs. Because the B RSD operator was procedurally dispatched several minutes before the A RSD operator, the team concluded that the OS1200.02A instructions to maintain the A and C SG levels were inadequate.

The team identified that there could be a significant delay to initiate manual actions at the A RSD panel because, prior to step 1, OS1200.02A contained a note which stated "If the B train RSD facility is available, the time critical actions in OS1200.02B must be performed prior to implementing this procedure." Based on the procedurally directed delay to perform manual actions at the A RSD panel, operation of the emergency transfer isolate switches would also be delayed. As a result, the A EFW valves could remain susceptible to fire induced spurious closure for an extended period of time. In addition, OS1200.02A did not contain any steps to open or verify open the A EFW valves to the B or D SGs, and the B RSD panel did not have position indication or control of EFW valves powered from the A essential switchgear. NextEra determined that EFW flow to two SGs was required to satisfy the minimum decay heat removal function. Because OS1200.02B isolated EFW flow to the A and C SGs, and a delayed

implementation of OS1200.02A could result in a fire induced loss of EFW flow to either the B or D SG, the team concluded that the alternative shutdown procedures did not contain adequate instructions to ensure the minimum decay heat removal function was satisfied. NextEra determined (AR 01976944) that the step which isolated flow to the A and C SGs was added to OS1200.02B in 2008.

OS1200.02 Step 3 required operators to complete the remote safe shutdown control procedures OS1200.02A and OS1200.02B before proceeding to subsequent steps. As a result, operators would not transition back to OS1200.02 until each individual RSD procedure had been completed. Based on a tabletop procedure walk through, the team determined that without EFW flow, the time to complete the RSD procedures was potentially long enough for the A and C SGs to reach a hot dry condition. OS1200.02 Step 6 directed operators to verify flow to all 4 SGs, with the response not obtained action to open all EFW flow valves as necessary to obtain flow. The team identified that Step 6 did not contain any precautions or SG level checks prior to opening the EFW valves. As a result, a potential existed to initiate EFW flow to a hot dry steam generator without sufficient precautions to prevent thermal shock or a challenge to the integrity of the reactor coolant system (RCS) boundary. In immediate response to this issue, NextEra issued Standing Operating Order 14 004, Feeding a Hot Dry Steam Generator during Remote Safe Shutdown Operations, and initiated condition report AR 01976944. The team concluded that NextEra's immediate and long term corrective actions were reasonable and appropriate.

Analysis: Failure to ensure the integrity of the RCS boundary during post-fire safe shutdown activities is a PD. This PD is more than minor because it is associated with the external events (fire) attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).

The team performed a Phase 1 screening in accordance with IMC 0609, Appendix F, Fire Protection Significance Determination Process. This deficiency affected the post fire safe shutdown category because NextEra's fire response procedures were degraded. This finding was screened to very low safety significance (Green) because it was assigned a low degradation rating. The team determined this issue had a low degradation rating because the procedural deficiencies could be compensated by operator experience and system familiarity.

This finding did not have a cross-cutting aspect because it was determined to be a legacy issue and was considered to be not indicative of current licensee performance.

Enforcement: Seabrook Operating License Condition 2.F, in part, required NextEra to implement and maintain in effect all provisions of the approved FPP, as described in the Fire Protection of Safe Shutdown Capability Report, and as approved by the NRC.

Fire Protection of Safe Shutdown Capability Report, Rev. 12A, Section 3.1.2, "Safe Shutdown," in part, stated that the safe shutdown functions shall assure no rupture of any primary coolant boundary.

Contrary to the above, from 2008 until present, NextEra had not implemented an adequate alternative shutdown procedure. Specifically, OS1200.02 did not contain adequate instructions to ensure that EFW was not restored to a hot dry SG. As a consequence, a potential existed to initiate EFW flow to a hot dry steam generator without sufficient precautions to prevent thermal shock or a challenge to the integrity of the RCS boundary. In immediate response to this issue, NextEra issued Standing Operating Order 14-004, Feeding a Hot Dry Steam Generator during Remote Safe Shutdown Operations. Because this violation was of very low safety significance (Green) and was entered into NextEra's corrective action program (AR 01976944), this violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000443/2014007-02, Inadequate Alternative Shutdown Procedures)**

.06 Circuit Analysis

a. Inspection Scope

The team verified that the licensee performed a post-fire safe shutdown analysis for the selected fire areas and the analysis appropriately identified the structures, systems, and components important to achieving and maintaining safe shutdown. Additionally, the team verified that the licensee's analysis ensured that necessary electrical circuits were properly protected and that circuits that could adversely impact safe shutdown due to hot shorts or shorts to ground were identified, evaluated, and dispositioned to ensure spurious actuations would not prevent safe shutdown.

The team's review considered fire and cable attributes, cable routing, potential undesirable consequences and common power supply/bus concerns. Specific items included the credibility of the fire threat, cable insulation attributes, cable failure modes, and actuations resulting in flow diversion or loss of coolant events.

The team also reviewed cable raceway drawings and/or cable routing databases for a sample of components required for post-fire safe shutdown to verify that cables were routed as described in the safe-shutdown analysis. The team also reviewed equipment important to safe shutdown, but not part of the success path, to verify that the licensee had taken appropriate actions in accordance with the design and licensing basis and NRC Regulatory Guide 1.189, Revision 2.

Circuit analysis was performed for the following components:

- FW-FV-4224B, Emergency Feedwater Header Flow Valve;
- LI-4320, B Steam Generator Wide Range Level Indicator;
- MS-PV-3002, Main Steam Header Atmospheric Relief Valve; and,
- SW-P-41A, Service Water Pump

The team reviewed a sample of circuit breaker coordination studies to ensure equipment needed to conduct post-fire safe shutdown activities would not be impacted due to a lack of coordination that could result in a common power supply or common bus concern.

The team verified that the transfer of control from the control room to the alternative shutdown location(s) would not be affected by fire-induced circuit faults (e.g., by the provision of separate fuses and power supplies for alternative shutdown control circuits).

b. Findings

No findings were identified.

.07 Communications

a. Inspection Scope

The team reviewed safe shutdown procedures, the safe shutdown analysis, and associated documents to verify an adequate method of communications would be available to plant operators following a fire. During this review the team considered the effects of ambient noise levels, clarity of reception, reliability, and coverage patterns. The team also inspected the designated emergency storage lockers to verify the availability of portable radios for the fire brigade. The team also verified that communications equipment such as repeaters and transmitters would not be affected by a fire.

b. Findings

No findings were identified.

.08 Emergency Lighting

a. Inspection Scope

The team observed the placement and coverage area of eight-hour emergency lights throughout the selected fire areas to evaluate their adequacy for illuminating access and egress pathways and any equipment requiring local operation or instrumentation monitoring for post-fire safe shutdown. The team also verified that the battery power supplies were rated for at least an eight-hour capacity. Preventive maintenance procedures, the vendor manual, completed surveillance tests, and battery replacement practices were also reviewed to verify that the emergency lighting was being maintained consistent with the manufacturer's recommendations and in a manner that would ensure reliable operation.

a. Findings

No findings were identified.

.09 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed NextEra's dedicated repair procedures, for components which might be damaged by fire and were required to achieve post-fire cold shutdown. The team evaluated selected cold shutdown repairs to determine whether they could be achieved within the time frames assumed in the design and licensing bases. In addition, the team verified whether the necessary repair equipment, tools, and materials (e.g., pre-cut cables with prepared attachment lugs) were available and accessible on site.

b. Findings

No findings were identified.

.10 Compensatory Measures

a. Inspection Scope

The team verified that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown equipment, systems, or features (e.g. detection and suppression systems and equipment, passive fire barriers, or pumps, valves or electrical devices providing safe shutdown functions or capabilities). The team also verified that the short term compensatory measures compensated for the degraded function or feature until appropriate corrective action could be taken and that the licensee was effective in returning the equipment to service in a reasonable period of time.

The team noted that for the selected fire areas which were designated as 10 CFR 50 Appendix R, Section III.G.2 areas, there were no compensatory measures in the form of operator manual actions.

b. Findings

No findings were identified.

.11 Fire Protection Program Changes

a. Inspection Scope

The team reviewed recent changes to the approved fire protection program to verify that the changes did not constitute an adverse effect on the ability to safely shutdown.

b. Findings

No findings were identified.

.12 Control of Transient Combustibles and Ignition Sources

a. Inspection Scope

The team reviewed the licensee's procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the FHA. A sample of hot work and transient combustible control permits were also reviewed. The team performed plant walkdowns to verify that transient combustibles and ignition sources were being implemented in accordance with the administrative controls.

b. Findings

No findings were identified.

.13 Large Fires and Explosions Mitigation Strategies

a. Inspection Scope

The team reviewed the licensee's preparedness to handle large fires or explosions by reviewing two mitigating strategies to verify they continue to meet operating license condition 2.C(4) by determining that:

- Procedures are being maintained and adequate;
- Equipment is properly staged and is being maintained and tested; and,
- Station personnel are knowledgeable and can implement the procedures.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems

.01 Corrective Actions for Fire Protection Deficiencies

a. Inspection Scope

The team reviewed a sample of condition reports associated with the fire protection program, post-fire safe shutdown issues, and mitigation strategy issues to determine whether NextEra was appropriately identifying, characterizing, and correcting problems associated with these areas and whether the planned or completed corrective actions were appropriate. The condition reports reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The team presented their preliminary inspection results to Mr. Dean Curtland, Site Vice President, and other members of the site staff at an exit meeting on July 10, 2014. No proprietary information was included in this inspection report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Curtland, Site Vice President
V. Brown, Licensing Engineer
M. Hansen, Assistant Operations Manager
S. Kessinger, Senior Reactor Operator
R. Law, Fire Protection Coordinator
M. Lee, Thermal Hydraulic Engineer
B. Matte, Safe Shutdown Engineer
M. Woods, Fire Protection Engineer

NRC

J. Rogge, Chief, Engineering Branch 3, Division of Reactor Safety
W. Cook, Senior Reactor Analyst, Division of Reactor Safety
P. Cataldo, Senior Resident Inspector, Seabrook Station
C. Newport, Resident Inspector, Seabrook Station

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Opened and Closed

05000443/2014007-01	NCV	Alternate Safe Shutdown Areas Affected by Smoke from Cable Spreading Room Fire (Section 1R05.05.1)
05000443/2014007-02	NCV	Inadequate Alternative Shutdown Procedures (Section 1R05.05.2)

Closed

NONE

Discussed

NONE

LIST OF DOCUMENTS REVIEWED

Fire Protection Licensing Documents

Fire Protection Evaluation and Comparison to BTP APCSB 9.5-1, Appendix A Report, Rev. 13A
Fire Protection of Safe Shutdown Capability (10CFR50, Appendix R), Rev. 12A

Design Basis Documents

DBD FP-01, Appendix R Emergency Lighting, Rev. 02
DBD FP-02, Fire Detection Systems, Rev. 0
DBD FP-03, Fire Suppression Systems, Rev. 0
DBD FP-04, Fire Rated Walls, Floors, And Ceiling Assemblies, Rev. 01
DBD FP-05, Fire Hydrants, Hose Stations & Miscellaneous, Rev. 01
DBD FP-07, Fire rated Penetration Seals, Rev. 02
DBD PB-01, Plant Barriers, Rev. 03
FP18382, ASTM E119-83 Methods of Fire Tests of Building Construction and Materials of Metal Siding Partition Wall Assembly, April 1986

Calculations/Engineering Evaluation Reports

06MSE063, Modification to Penetration Seals in Control Building, Rev. 00
9763-3-ED-00-44-F, 120V DC Breaker Coordination, Rev. 3
9763-3-ED-00-70-F, Appendix R – Fuse Coordination, Rev. 3
CR-98-10790, CR Evaluation
EC 279387 Applicability Determination Form
EC 279387 Fire Protection Screening Checklist
EC 280451 Applicability Determination Form
EC 280451 Fire Protection Screening Checklist
EC 281627 Fire Protection Change Regulatory Review
EC 281627 Fire Protection Program Impact Screen

Procedures

FP 2.1, Control of Ignition Sources, Rev. 10
FP 2.2, Control of Combustible Materials, Rev. 16
FP 2.3, Fire Protection Equipment Operation and Disablement, Rev. 06
FP 2.4, Fire Watches and Fire Patrols, Rev. 05
FP 2.7, Breaching of Hydrogenated Systems, Rev. 02, Chg. 02
FP 3.1, Fire Protection Maintenance and Surveillance Testing, Rev. 05
FP 4.1, Fire Protection Program Training and Qualification, Rev. 09
FP 5.1, Fire Brigade Response, Rev. 06, Chg. 02
FP 5.2, Ready Areas and Pre-Fire Strategies, Rev. 03, Chg. 01
FP 5.3, Fire Investigations and Reports, Rev. 03, Chg. 01
FP 6.1, Fire Protection Inspections and Logs, Rev. 04, Chg. 04
FP-ON-399, Weekly Check of B.5.b Pump and Trailers
LS0565.30, 8 Hour Emergency Light Inspections for Diesel Building Engine Rooms, Rev. 04
LS0565.31, 8 Hour Emergency Light Inspections, Rev. 09
MX0599.01, 18-Month Surveillance of Technical Requirements Fire-Rated Assembly Exposed Surfaces (Barrier Walls/Floors/Penetrations), Rev. 04 Chg. 04

MX0599.03, 18 Month Inspection of Technical Requirement Fire Rated Assembly Exposed Surfaces (Fire Rated Conduit Wrap), Rev. 02
ON 0443.112, Portable Diesel Driven Pump Quarterly Diesel Run, Rev. 5
ON 0443.113, Portable Diesel Driven Pump Annual Functional Test, Rev. 6
ON 0443.114, 18 Month B.5.b Equipment Inventory Surveillance, Rev. 10
ON 0443.115, Annual B.5.b Hose Inspection Surveillance, Rev. 4
ON0443.35, Fire Brigade Ready Area Inventory, Rev. 09
OS1023.57, Cable Spreading Area, Essential Switchgear Area and Electrical Tunnel Area Ventilation System Operation, Rev. 12
OS1200.00, Response to Fire or Fire Alarm Actuation, Rev. 21
OS1200.00A, Fire Hazards Analysis for Affected Area/Zone - Appendix A, Rev. 19
OS1200.01, Safe Shutdown and Cooldown from Main Control Room, Rev. 19
OS1200.02, Safe Shutdown and Cooldown from Remote Safe Shutdown Facilities, Rev. 18
OS1200.02A, Remote Safe Shutdown Control - Train A, Rev. 18
OS1200.02B, Remote Safe Shutdown Control - Train B, Rev. 18
OX0443.01, Diesel Fire Pump Weekly Test, Rev. 12
OX0443.02, Electric Fire Pump Monthly Test, Rev. 11
OX0443.08, Fire Hose Stations Three Year Valve Functional Flow Check, Rev. 06, Chg. 05
OX0443.10, Fire Pumps' Semi-Annual Flow Capacity Test, Rev. 08
OX0443.11, Fire Protection Water System Three Year Flow Test, Rev. 06
OX1200.00, Response to Fire or Fire Alarm Actuation, Rev. 21
OX1400.02, Remote Safe Shutdown System 18 Months Operability Check, Rev. 10

Large Fires and Explosions Mitigation Strategies Documents
EDMG-1, Response to Large Area Fire or Explosions, Rev. 3
EDMG-2, Major Loss of Plant Control Systems, Rev. 13
SAG-1, Inject into the Steam Generators, Rev. 10

Completed Tests/Surveillances
40204707-01, 18 Months Remote Safe Shutdown Sys Operability Surveillance, completed April 20, 2014
40204708-01, 18 Months Remote Safe Shutdown Sys Operability Surveillance, completed April 20, 2014
LS0565.30, 8 Hour Emergency Light Inspection, Form B, completed September 6, 2013
LS0565.30, 8Hour Emergency Light Inspection, Form A, completed August 19, 2013
MX0599.01, 18 Month Inspection of Technical Requirements Fire Barriers, completed September 29, 2011
MX0599.01, 18 Month Inspection of Technical Requirements Fire Barriers, completed April 10, 2013
MX0599.03, 1-BMFW 18 Month Inspection of Fire Rated Conduit Wrap Outside Containment, completed December 22, 2011
MX0599.03, 1-BMFW 18 Month Inspection of Fire Rated Conduit Wrap Outside Containment, completed June 14, 2014

ON0443.35, Fire Brigade Ready Area Monthly Inventory, Form A, completed March 6, 2014
ON0443.35, Fire Brigade Ready Area Monthly Inventory, Form A, completed April 11, 2014
ON0443.35, Fire Brigade Ready Area Monthly Inventory, Form B completed April 15, 2014
ON0443.35, Fire Brigade Ready Area Monthly Inventory, Form B, completed March 11, 2014
ON0443.47, 8 Hour Emergency Lighting Units Monthly Functional Test, Form B, completed April 22, 2014
ON0443.47, 8 Hour Emergency Lighting Units Monthly Functional Test, Form A, completed April 28, 2014
OS0443.39, Wet Sprinkler System 18 Month Flow Test, Form A, completed January 4, 2012
OS0443.74, Annual Fire Pump Flow test to 150% of Rated Capacity, completed March 15, 2012
OS0443.74, Annual Fire Pump Flow Test to 150% of Rated Capacity, completed March 6, 2013
OX0443.02, Electric Fire Pump Monthly Test, completed April 9, 2014
OX0443.02, Electric Fire Pump Monthly Test, completed March 5, 2014
OX0443.04, Fire Protection System Annual Flush, Form A, completed June 9, 2013
OX0443.04, Fire Protection System Annual Flush, Form B, completed June 10, 2013
OX0443.04, Fire Protection System Annual Flush, Form C, completed July 18, 2013
OX0443.04, Fire Protection System Annual Flush, Form D, completed June 22, 2013
OX0443.04, Fire protection System Annual Flush, Form E, completed June 29, 2013
OX0443.06, Deluge and Preaction Sprinkler Valve 18 Month Actuation Test, Form A, completed October 7, 2011
OX0443.06, Deluge and Preaction Sprinkler Valve 18 Month Actuation Test, Form B, completed March 27, 2014
OX0443.10, Fire Pumps Annual Flow Capacity Check, completed August 27, 2013
OX0443.11, Three Year Fire System Flow Test, completed June 16, 2013
OX0443.90, Control Building Fire Detection Trip Actuating Device Operational Test, completed May 21, 2011
OX0443.92, Control Building Fire Detection Trip Actuating Device Functional Test, completed March 24, 2014
OX0443.92, Primary Auxiliary Building Fire Detection Trip Actuating Device Operational Test, completed October 15, 2011
OX0443.92, Primary Auxiliary Building Fire Detection Trip Actuating Device Operational Test, Form A, completed November 30, 2012

<u>System Health Reports</u>
4Q2013 FP System Health Report
1Q2014 FP System Health Report
2Q2014 FP System Health Report
4Q2013 FP Program Health Report
1Q2014 FP Program Health Report
2Q2014 FP Program Health Report

Drawings and Wiring Diagrams

1-NHY-301107, Sht. AQ3b, Service Water Pump 1-P-41A Close Schematic, Rev. 12
1-NHY-301107, Sht. AQ3c, Service Water Pump 1-P-41A Trip Schematic, Rev. 8
1-NHY-301107, Sht. AQ3d, Service Water Pump 1-P-41A Protective Schematic, Rev. 3
1-NHY-301107, Sht. AQ3f, Service Water Pump 1-P-41A Legend & SW Development, Rev. 10
1-NHY-301107, Sht. AQ3g, Service Water Pump 1-P-41A Legend & SW Development, Rev. 9
1-NHY-301107, Sht. AQ3h, Service Water Pump 1-P-41A Cable Schematic, Rev. 4
1-NHY-301107, Sht. AR4b, Service Water Pump 1-P-41D Close Schematic, Rev. 12
1-NHY-301107, Sht. E87/4a, Service Water A Train LOOP A CLG. TWR Actuation Sig., Rev. 9
1-NHY-301107, Sht. E87/4b, Service Water A Train LOOP A CLG. TWR Actuation Sig., Rev. 5
1-NHY-301107, Sht. E87/4g, Service Water A Train LOOP A CLG. TWR Actuation Sig., Rev. 5
1-NHY-301107, Sht. E87/4j, Control Wiring Diagram Service Water A Train Loop A CLG TWR Actuation Signal, Rev. 0
1-NHY-301107, Sht. EH9/10a, Service Water A Train Auxiliary Control (AC) Schematic Diagram, Rev. 3
1-NHY-301107, Sht. EH9/10c, Service Water A Train Auxiliary Control (AC) Cable Table, Rev. 3
1-NHY-301107, Sht. EH9/10d, Service Water A Train Auxiliary Control (AC) Control Wiring Diagram, Rev. 0
1-NHY-310002, Unit Electrical Distribution One Line Diagram, Rev. 42
1-NHY-310007, 4160V Switchgear Bus 1-E5 One Line Diagram, Rev. 20
1-NHY-310008, 4160V Switchgear Bus 1-E6 One Line Diagram, Rev. 18
1-NHY-310042, Sht. 1, 125VDC Vital Distribution System One Line Diagram, Rev. 16
1-NHY-310042, Sht. 2, 125VDC Vital Distribution System One Line Diagram, Rev. 16
1-NHY-310107, Sht. E2Ta, 125V DC Bus 1-SWG-11A Distr Pnl 1-PP-113A, Rev. 12
1-NHY-310107, Sht. E2Ua, 125V DC Bus 1-SWG-11B Distr Pnl 1-PP-113B, Rev. 11
1-NHY-310841, Sht. E2T/15, MS Atmos Relief Valve 1-PV-3002 Schematic Diagram, Rev. 8
1-NHY-310841, Sht. E2T/15a, MS Atmos Relief Valve 1-PV-3002, Rev. 1
1-NHY-310841, Sht. E2U/8a, MS Atmos Relief Valve 1-PV-3002 Schematic Diagram, Rev. 5
1-NHY-310841, Sht. E2U/8c, MS Atmos Relief Valve 1-PV-3002 Legend & SW Development, Rev. 9
1-NHY-310841, Sht. E2U/8d, MS Atmos Relief Valve 1-PV-3002 Switch Development, Rev. 9
1-NHY-310841, Sht. E2U/8e, MS Atmos Relief Valve 1-PV-3002 Cable Schematic, Rev. 9
1-NHY-310841, Sht. E2U/8f, MS Atmos Relief Valve 1-PV-3002 Cable Table, Rev. 9
1-NHY-310841, Sht. E2U/8g, MS Atmos Relief Valve 1-PV-3002, Rev. 1
1-NHY-310841, Sht. E2U/8h, MS Atmos Relief Valve 1-PV-3002, Rev. 1
1-NHY-310841, Sht. E2U/8j, MS Atmos Relief Valve 1-PV-3002, Rev. 0
1-NHY-310844, Sht. B4Aa, Emergency FW Valve 1-FV-4224-B Schematic Diagram, Rev. 9
1-NHY-310844, Sht. B4Ab, Emergency FW Valve 1-FV-4224-B Legend SW Development, Rev. 8
1-NHY-310844, Sht. B4Ac, Emergency FW Valve 1-FV-4224-B Switch Development, Rev. 5
1-NHY-310844, Sht. B4Ad, Emergency FW Valve 1-FV-4224-B Cable Schematic, Rev. 5
1-NHY-310844, Sht. B4Ae, Emergency FW Valve 1-FV-4224-B Cable Table, Rev. 9
1-NHY-310844, Sht. B4Af, Emergency FW Valve 1-FV-4224-B, Rev. 2
1-NHY-310844, Sht. B4Ag, Emergency FW Valve 1-FV-4224-B, Rev. 0
1-NHY-310952, Sht. EH0/2, Remote Safe Shutdown Panel Power Supply, Rev. 6
1-NHY-310952, Sht. EH0/2a, Remote Safe Shutdown Panel Power Supply, Rev. 1
1-NHY-310952, Sht. EH0/2b, Remote Safe Shutdown Panel Power Supply, Rev. 0

1-NHY-310952, Sht. EH9/2, Remote Safe Shutdown Panel Power Supply, Rev. 6
1-NHY-310952, Sht. EH9/2a, Remote Safe Shutdown Panel Power Supply, Rev. 1
1-NHY-310952, Sht. EH9/2b, Remote Safe Shutdown Panel Power Supply, Rev. 0
1-NHY-503670, MS-ATM Dump Valves Train A&B Logic Diagram, Rev. 11
1-NHY-503671, MS-ATM Dump Valves Train A&B Logic Diagram, Rev. 3
1-NHY-506552, MS Loop 2 Control Loop Diagram, Rev. 11
1-NHY-506586, MS-PV-3002 Control Loop Diagram, Rev. 6
ILD-1-FW-L04320, Sht. 1, Instrument Loop Diagram Steam Generator RC-E-11B Wide Range Level (Loop 2) 1-FW-L-4320, Rev. 12
ILD-1-MS-P03002, Sht. 1, Instrument Loop Diagram Steam Generator RC-E-11B Outlet Header Pressure, Rev. 1
ILD-1-MS-P03002, Sht. 2, Instrument Loop Diagram Steam Generator RC-E-11B Outlet Header Pressure, Rev. 0
ILD-1-MS-P03002, Sht. 3, Instrument Loop Diagram Steam Generator RC-E-11B Outlet Header Pressure, Rev. 0
ILD-1-SW-P08272, Sht. 1, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 1
ILD-1-SW-P08272, Sht. 2, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 0
ILD-1-SW-P08273, Sht. 1, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 1
ILD-1-SW-P08273, Sht. 2, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 0
ILD-1-SW-P08274, Sht. 1, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 1
ILD-1-SW-P08274, Sht. 2, Instrument Loop Diagram SW-P-41A/C Service Water Pump Discharge Header Pressure, Rev. 0

Piping and Instrumentation Diagrams
1-CBA-B20302, Control Building Air Handling Emergency Switchgear Area Detail, Rev. 13
1-CBA-B20303, Control Building Air Handling, Rev. 12
1-MS-B20581, Main Steam Headers Detail, Rev. 12

Vendor Manuals
FP34840, Holophane 12 Volt Emergency Lighting

Fire Drills and Critiques
Crew A, Unannounced Backshift, March 23, 2014
Crew B, Announced Backshift, December 11, 2013
Crew B, Announced Backshift, March 4, 2014
Crew C, Unannounced Backshift, April 12, 2013
Crew E, Unannounced Backshift, May 8, 2014
Crew F, Announced Backshift with Offsite Participation, October 15, 2013
Crew F, Announced Dayshift, May 19, 2014
Crew F, Live Fire Training, May 19, 2014

Hot Work and Ignition Source Permits
ISP-14-3282
ISP-14-3283
ISP-14-3284
ISP-14-3285
ISP-14-3287

Transient Combustible Evaluations
CMP-14-3561
CMP-14-3562
CMP-14-3563
CMP-14-3564
CMP-14-3565

Miscellaneous Documents
C-S-1-86211, Fire Induced Multiple Spurious Operations (MSO) Expert Panel Review Meeting Notes, October 27, 2012
Qualification Test of a Protective Envelope System, June 1984

Condition Reports

AR00005697	AR01833448	AR01874476
AR00020581	AR01854249	AR01911075
AR00021214	AR01858715	AR01934008
AR00064758	AR01860424	AR01969045
AR00184487	AR01865578	AR01974791*
AR00192356	AR01865579	AR01976814*
AR00214958	AR01866302	AR01976898*
AR01638123	AR01874106	AR01976944*
AR01676327	AR01643383	AR01977233*
AR01699636	AR01699636	AR01982946*
AR01745107	AR01749774	
AR01809810	AR01756219	

* NRC identified during this inspection

Work Orders

WO01380744	WO40197339	WO40233786
WO40053184	WO40197474	WO40233788
WO40070284	WO40197584	WO40233789
WO40088259	WO40198805	WO40246693
WO40103920	WO40200958	WO40251789
WO40116764	WO40201248	WO40252933
WO40120680	WO40202775	WO40256201
WO40132801	WO40205869	WO40256202
WO40157699	WO40206017	WO40259353
WO40172194	WO40206457	WO40275810
WO40180333	WO40206458	
WO40191165	WO40209600	

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AR	Action Report
BTP	Branch Technical Position
CFR	Code of Federal Regulations
CR	Condition Report
CSR	Cable Spreading Room
DRS	Division of Reactor Safety
EFW	Emergency Feedwater
ESWGR	Essential Switchgear Room
FHA	Fire Hazards Analysis
FPP	Fire Protection Program
HVAC	Heating Ventilation and Air Conditioning
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
MER	Mechanical Equipment Room
NCV	Non-Cited Violation
NextEra	NextEra Energy Seabrook, LLC
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
OMA	Operator Manual Action
PAR	Publicly Available Records
PD	Performance Deficiency
RCS	Reactor Coolant System
RSD	Remote Shutdown Panel
SDP	Significance Determination Process
SG	Steam Generator
SRA	Senior Reactor Analyst
UFSAR	Updated Final Safety Analysis Report