

# Seabrook 1

## 2Q/2010 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

**Significance:**  May 20, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Test ECCS (RHR-SI) Valve Interlocks**

Green. The team identified a finding of very low safety significance involving a non-cited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," in that, NextEra did not assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service were identified and performed in accordance with written test procedures. Specifically, the team determined that interlocks between emergency core cooling system valves were not properly tested to demonstrate that the associated valves will perform satisfactorily in service. In response, NextEra entered the issue into the corrective action program and implemented acceptable interim actions to ensure operability.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding did not have a cross-cutting aspect because the most significant contributor of the performance deficiency was not reflective of current licensee performance.

Inspection Report# : [2010006](#) (*pdf*)

**Significance:**  May 20, 2010

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Take Timely Corrective Action for Battery Sizing Calculations for SBO Loads**

•Green. The team identified a finding of very low safety significance for NextEra's failure to take effective or timely corrective actions regarding the battery sizing calculation for safety related battery loading under station blackout (SBO) conditions. Specifically, although NextEra identified that the SBO battery sizing calculation had significant errors, no action was taken to either formally revise the calculation or ensure it was not used. The team also identified additional errors in the existing calculation. In response, NextEra entered the issue into the corrective action program, performed analysis, and confirmed there were no existing operability issues.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team determined the finding was of very low safety significance (Green) because it was not a design or qualification deficiency, did not represent a loss of system safety function, and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event.

Enforcement action did not apply because the performance deficiency did not involve a violation of regulatory requirements. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program Component, because NextEra did not take appropriate corrective actions to address safety issues in a timely manner. Specifically, NextEra did not take action to either formally revise the SBO battery sizing calculation

or to ensure that it was not used since identifying deficiencies approximately four years ago. (IMC 0310, Aspect P.1 (d))

Inspection Report# : [2010006](#) (pdf)

**Significance:**  Apr 15, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Inadequate instructions to install test equipment caused the A EDG to be inoperable**

A self-revealing non-cited violation of Technical Specification 6.7.1, Procedures and Programs, was identified related to the failure of the A EDG during a maintenance run per EC145293 on April 15, 2010. Specifically, NextEra did not provide adequate work instructions to control temporary test equipment attached to the EDG. This led to the failure of the jacket water cooling system that required operators to shutdown the engine, resulting in unplanned unavailability for the A EDG. The leak was promptly repaired and the EDG restored to a functional status on April 17, 2010. The issue was entered into the corrective action program as condition report 221321.

The finding is more than minor because it is associated with the work control attribute of the Mitigating Systems cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the inadequate work instructions intended to flow balance the A EDG coolant system during an instrumented run, resulted in unplanned extended unavailability of the A EDG. The inspectors performed a Phase 1 Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, and determined the issue was of very low safety significance because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, and was not potentially risk significant for external events. The finding had a cross-cutting aspect in the area of human performance - resources [H.2.c] because the work instructions were not adequate to assure temporary test equipment was properly installed.

Inspection Report# : [2010003](#) (pdf)

**Significance:**  Sep 30, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

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

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

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

Inspection Report# : [2009004](#) (pdf)

**Significance:** **W** Aug 28, 2009

Identified By: NRC

Item Type: VIO Violation

**White Finding-The failure to establish adequate design control measures to modify a cooling water flange on the B emergency diesel generator (EDG)**

A self-revealing apparent violation of 10 CFR 50, Appendix B, Criterion III, Design Control was identified following a review of the identified causes for the failure of the B EDG jacket water cooling system on February 25, 2009. Specifically, NextEra's failure to adequately control design changes implemented on the B EDG jacket water cooling system in January 2009 led to the failure of the gasket on flange JTR005 in the B EDG jacket water cooling system on February 25.

The inspectors determined that this finding is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, design modification 08MSE11, intended to address flange JTR005 alignment and change the flange gasket design was inadequate and resulted in inoperability of the B EDG. In accordance with IMC 0609, "Significance Determination Process," a Phase 3 risk analysis was performed and determined that the calculated delta CDF for the finding was 2.27E-6, which represents a low to moderate safety significance or White finding. The cause of the finding is related to the corrective action component of the cross-cutting area of problem identification and resolution because NextEra did not thoroughly evaluate problems in a timely manner such that resolutions address causes (P.1(c)). Specifically, NextEra did not adequately evaluate deficient conditions when addressing B EDG cooling water flange leaks, failed to adequately use readily available internal operating experience, and failed to adequately evaluate and correct the impact of engine vibrations on flange JTR005 integrity, contributing to a subsequent failure of the flange. (1R18)

Inspection Report# : [2009007](#) (*pdf*)

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## **Barrier Integrity**

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

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## **Public Radiation Safety**

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## **Physical Protection**

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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# Miscellaneous

Last modified : September 02, 2010