

# Seabrook 1

## 3Q/2015 Plant Inspection Findings

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### Initiating Events

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### Mitigating Systems

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### Barrier Integrity

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inadequate Identification of Structural Deformation and Impacts on Associated Equipment**

The inspectors identified a Green NCV of 10 CFR, Appendix B, Criterion XVI, “Corrective Action,” because NextEra did not ensure that degraded conditions were identified and entered into the corrective action process. Specifically, the inspectors identified multiple instances of material and equipment degradation resulting from deformation of the containment enclosure building (CEB). NextEra entered the condition into their corrective action program (CAP) (AR 02014325) and initiated a root cause evaluation to evaluate the aggregate cause of the non-conforming condition. Additionally, NextEra initiated immediate and prompt operability determinations (PODs), when appropriate, for each of the individually identified material and equipment degraded conditions.

This performance deficiency was considered to be more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern if CEB deformation continued to effect plant safety-related structure, system, and components (SSCs) without appropriate identification and evaluation by NextEra personnel. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Identification, because NextEra did not implement a CAP with a low threshold for identifying issues. Specifically, NextEra failed to identify multiple instances of material and equipment degradation that would have led to the identification of the CEB non-conforming condition [P.1].

Inspection Report# : [2015002](#) (*pdf*)

**Significance:**  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Inadequate Characterization of Prompt Operability Determination of the Containment Enclosure Building**

The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” because NextEra did not perform an adequate POD of a safety-related plant structure. Specifically,

NextEra did not appropriately categorize the operability of the CEB, a safety-related seismic Category I structure, in accordance with EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 19, after identification of a non-conforming condition affecting the structure. NextEra entered the condition into their CAP (AR 02053991), re-characterized the operability of the CEB as “Operable but Degraded,” and established compensatory measures to monitor for additional structural displacement by performing routine seismic seal gap measurements.

This performance deficiency was considered to be more than minor because it affected the design control attribute of the Barrier Integrity cornerstone and its objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the inspectors determined that the operational capability of the CEB was affected in that compensatory measures were not identified and established to monitor for any further degradation of the non-conforming condition. The finding was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” and determined to be of very low safety significance (Green) since it did not represent an actual open pathway in the physical integrity of reactor containment, containment isolation systems, or heat removal systems. In addition, the affected structures and components remained capable of performing their safety function. The finding is related to the cross-cutting area of Problem Identification and Resolution – Evaluation, because NextEra did not thoroughly evaluate an issue to ensure that resolutions address causes and extent of condition commensurate with their safety significance. Specifically, NextEra did not appropriately characterize the CEB non-conforming condition and establish compensatory measures that were commensurate with the safety significance of the condition [P.2].

Inspection Report# : [2015002](#) (*pdf*)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Identify Conditions Adverse to Quality in the Fuel Storage Building Structure**

The inspectors identified an NCV of 10 CFR 50 Appendix B Criterion XVI, Corrective Actions, of very low safety significance because NextEra staff did not promptly identify nine visual indications of structural problems representing conditions adverse to quality. These problems were observed by NextEra staff during a maintenance rule (MR) walkdown of the Fuel Storage Building (FSB) on November 20, 2014, and documented in walkdown notes as conditions warranting entry into the corrective action program (CAP). However these problems were not entered into the CAP to identify them as conditions adverse to quality until questioned by the inspectors. NextEra staff took corrective actions to enter the issues into their CAP in AR02016192, AR02016238, AR02016225 and AR02016863 and initiated AR02014116 for not promptly identifying these problems.

This performance deficiency was considered to be more than minor because it is associated with the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events, and affected the attribute of design control – structural integrity. Specifically, the inspectors determined the finding was more than minor because four of the conditions exceeded American Concrete Institute (ACI) 349.3R-96 “Tier II structural criteria,” which indicated they require further technical evaluation and analysis to validate the existing conditions or repair to preserve structural function. This issue was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” Exhibit 3, “Barrier Integrity Screening Questions,” and screened as very low safety significance (Green) because the observed FSB degradation did not adversely impact structural or radiological barrier functions of the building. This finding is related to the cross-cutting area of Human Performance - Procedure Adherence because individuals did not follow CAP process, procedures, and work instructions

Inspection Report# : [2014005](#) (*pdf*)

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Identify and Evaluate FSB Settlement Data and the Design Basis**

The inspectors identified a violation of 10 CFR 50 Appendix B Criterion XVI, Corrective Actions, of very low safety significance because NextEra did not promptly identify a condition adverse to quality in December 2013 that involved a deviation from expected settling assumptions in the Seabrook Station design basis for the FSB. FSB elevation measurements were received by NextEra staff in December 2010 and in December 2013 indicating that settling at some locations of the FSB was occurring. NextEra staff did not enter this condition, a condition adverse to quality, into their CAP until December 8, 2014, in response to questions from the inspectors. NextEra initiated AR02011698 to enter this issue in the CAP and AR02014116 to address their staff not entering this issue previously into the CAP.

This performance deficiency was considered to be more than minor because it is associated with the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events, and adversely affected the attribute of design control – structural integrity. Specifically, the inspectors concluded that the structural integrity of the FSB was potentially adversely affected because measured settling of the structure deviated from assumed design basis values. Also, this condition exceeded the ACI 349.3R-96 “Tier II structural criteria” of the Structures Monitoring Program and requires a structural evaluation. This issue was evaluated in accordance with IMC 0609, Appendix A, “The Significance Determination Process for Findings At-Power,” Exhibit 3, “Barrier Integrity Screening Questions,” and screened as very low safety significance (Green) because the observed degradation does not adversely impact structural or radiological barrier functions for the FSB. This finding is related to the cross-cutting area of Human Performance - Design Margins. The organization did not maintain the FSB within design margins and did not utilize the systematic and rigorous corrective action process. Inspection Report# : [2014005](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

**Significance:**  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Periodically Calibrate REM-500 Neutron Survey Instruments**

The inspectors identified a Green NCV of TS 6.7.1.a, “Procedures and Programs,” because NextEra failed to conduct appropriate periodic calibration of neutron survey instruments. Specifically, since 1996, NextEra assumed that an operability check of certain neutron survey instruments using an internal alpha check source would provide a calibration equivalent to that performed to a traceable neutron source of a known neutron flux, contrary to the periodic calibration frequency requirements specified in the Seabrook Station Radiation Protection Manual. NextEra’s immediate corrective actions included capturing this issue in its CAP (AR 01969397), calibrating all of the neutron survey instruments in question, and revising the neutron survey instrument operating procedure to require annual calibrations.

This performance deficiency was determined to be more than minor because it adversely affected the Occupational Radiation Safety Cornerstone to ensure the adequate protection of the worker from radiation exposure. Additionally, it was similar to example 6.b in IMC 0612, Appendix E, “Examples of Minor Issues,” which states that the performance deficiency is more than minor if a radiation protection instrument was not calibrated properly, and when recalibrated

the as-found condition of the instrument was not within acceptance criteria for calibration and the accuracy was non-conservative. The issue was evaluated in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and determined to be of very low safety significance (Green) since it was not as low as is reasonably achievable (ALARA) issue and did not involve an overexposure or a potential overexposure and it did not affect any significant neutron exposures of plant personnel. The inspectors determined there was no cross-cutting aspect associated with this finding since it was not representative of current NextEra performance. Specifically, in accordance with IMC 0612, the causal factors associated with this finding occurred outside the nominal three-year period of consideration and were not considered representative of present performance.

Inspection Report# : [2014005](#) (*pdf*)

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## Public Radiation Safety

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### Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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### Miscellaneous

**Significance:** N/A Nov 17, 2014

Identified By: NRC

Item Type: FIN Finding

#### **Biennial PI&R Overall Assessment**

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.

Inspection Report# : [2014009](#) (*pdf*)

Last modified : December 15, 2015