

Seabrook 1

4Q/2011 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Reactor Trip Caused by Inadequate Condensate Pump Restoration

A self-revealing finding was identified regarding the improper maintenance restoration of a condensate pump resulted in a reactor trip. NextEra workers aligned the B condensate pump for service following maintenance without first venting air from the pump casing in accordance with the system operating procedure. The finding is greater than minor because it is associated with the equipment performance attribute of the Initiating Events cornerstone, and because it adversely affects the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during power operations. The inspectors conducted a Phase 1 SDP screening in accordance with IMC 0609 and determined that the finding is of very low safety significance. The finding has a cross-cutting aspect in the area of human performance because NextEra did not ensure that adequate procedures and work packages were available (H.2.c). Specifically, neither the work package nor tagout used to restore the condensate pump to service vented the pump casing, and as a result, air from the pump entered the condensate-feedwater train causing a reactor trip when the “A” main feedwater pump tripped on low suction pressure.

Inspection Report# : [2011005](#) (*pdf*)

Mitigating Systems

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Functionality Assessment for Fire Protection System

The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 6.7.1.a that requires written procedures be established and implemented, including administrative procedures that define authorities and responsibilities for safe operation. Specifically, NextEra identified a degraded condition in the fire protection system on July 15, 2011, but did not properly or thoroughly evaluate the fire protection system performance as required by NextEra procedure EN-AA-203-1001. As corrective action, NextEra completed an operability evaluation that identified degraded fire protection system performance under certain operating conditions for which NextEra implemented administrative controls that would prevent the degraded Performance

The performance deficiency was more than minor because a reasonable doubt of operability existed until further engineering evaluations were completed to demonstrate adequate fire system performance under design basis conditions. The finding affected the Mitigating Systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events in order to prevent core damage. The issue was evaluated using Appendix F of IMC 0609, “Significance Determination Process” (SDP), and was determined to be of very low safety significance (Green) because the finding had minimal impact on fire system performance. The finding had a cross cutting aspect in the area of problem identification and resolution, P.1(c), because NextEra personnel did not adequately implement the operability determination process to ensure that fire system performance was thoroughly evaluated for operability to assure timely and appropriate corrective actions were completed.

Inspection Report# : [2011004](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Control of Combustible Materials

Green. The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 6.7.1.h, which requires that written procedures be established, implemented and maintained for the fire protection program. Contrary to TS 6.7.1.f, the inspectors identified combustible materials which were not controlled per fire protection procedure FP 2.2. Specifically, (i) combustible materials were stored within three feet of an energized sample panel in the primary auxiliary building room PB404, a PRA risk significant area; and, (ii) combustible materials in excess of the permissible amounts were stored in waste process building area WB505. The inspectors identified materials stored in WB505 in excess of FP 2.2 limits on three occasions. Collectively, the NRC observations indicate a weakness on the programmatic control of combustible materials. Seabrook entered this performance deficiency into their corrective action program.

The failure to properly implement procedure FP 2.2 was more than minor because, if left uncorrected, inadequate control of combustibles could affect the Mitigating Systems cornerstone objective to assure external factors (fires) do not impact the availability and reliability of systems which mitigate events. The inspectors assessed the finding using Appendix F of the Significance Determination Process (SDP). The finding is of very low safety significance resulting in a Degradation Rating of Low, which screens to Green in the fire protection SDP. This finding has a cross-cutting aspect in Human Performance, Work Practices [H.4(b)] because Seabrook personnel did not follow procedures for the control of transient combustibles. (Section 1R05)

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Untimely Operability Determination for Degraded Concrete Structures Housing Safety-Related Equipment

The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 6.7.1.a, that requires written procedures be established, implemented and maintained, including administrative procedures that define authorities and responsibilities for safe operation. NextEra identified a degraded and nonconforming condition related to reduced modulus of elasticity for buildings housing safety related equipment on June 16, 2011, but did not complete an operability determination until EC250348 was issued on June 28, 2011 (AR1664399). The delayed entry into the OD process for either issue was contrary to Section 4.3 of EN-AA-203-1001 that requires an operability determinations be completed in a time frame commensurate with the safety significance of the issue (in most cases within 8 hours) and consider all plant conditions.

The finding was more than minor because a reasonable doubt of operability for the affected concrete structures existed until further engineering evaluations were completed to demonstrate the structures and systems that they housed would remain functional under design and licensing basis conditions. The finding affected the Mitigating Systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events in order to prevent core damage. The issue was evaluated using IMC 0609, "Significance Determination Process" (SDP), and was determined to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of a barrier function, and was not potentially risk significant for external events. The finding had a cross cutting aspect in the area of problem identification and resolution, P.1(a), because NextEra did not enter identified degraded concrete conditions for several site buildings into the corrective actions process in a timely manner that would have ensured the shift manager completed timely operability evaluations for the affected structures.

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Operability Determination for Reduced EDG HX Cooling Water Flow

The inspectors identified a non-cited violation (NCV) of Technical Specification (TS) 6.7.1.a, which requires that written procedures be established, implemented and maintained, including administrative procedures that define authorities and responsibilities for safe operation. NextEra identified a degraded and nonconforming condition related to degraded service water flow to the B EDG HX on June 28, 2011, but did not fully evaluate the reduced flow under all plant conditions as required by NextEra procedure EN-AA-203-1001.

The performance deficiency was more than minor because a reasonable doubt of operability existed until further engineering evaluations were completed to demonstrate adequate service water flow to the B EDG HX existed and the B EDG remained functional under design and licensing basis conditions. The finding affected the Mitigating Systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events in order to prevent core damage. The issue was evaluated using IMC 0609, "Significance Determination Process" (SDP), and was determined to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of a barrier function, and was not potentially risk significant for external events. The finding had a cross cutting aspect in the area of problem identification and resolution, P.1(c), because NextEra personnel did not adequately implement the OD process to ensure that the impact of the reduced EDG HX SW flow was fully evaluated under all operating conditions so timely and appropriate corrective action was completed.

Inspection Report# : [2011003](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Monitor Condition of Control Building per 10CFR50.65(a)(1)

Inspectors identified a non-cited violation of 10 CFR 50.65(a)(1) because NextEra did not adequately monitor the condition of an in-scope structure under the Maintenance Rule (MR). Specifically, NextEra did not evaluate the results of their periodic inspections of the condition of the Control Building (CB) to determine the extent and rate of degradation to the structure. Further, in August 2010 after NextEra identified CB concrete strength degradation that called into question the effectiveness of that structures preventative maintenance program, NextEra did not classify the CB as MR (a)(1). NextEra entered the degraded structural concrete issue into its corrective action program to address the extent of condition and establish a mitigation strategy (ARs 574120 and 581434) for all in-scope structures. NextEra also initiated AR 1636419 to complete the evaluation for placing the CB into (a)(1) status.

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

Inspection Report# : [2011002](#) (pdf)

Significance:  Mar 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Classify and Monitor the Ocean Transition Structures as In-Scope per 10CFR50.65(b)(2)

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

The performance deficiency is more than minor because if left uncorrected, given the indications of ASR identified in these concrete structures, not monitoring the ITS and DTS structures for degradation could result in the loss of function of structures supporting systems used to mitigate design basis events, used in the emergency operating procedures, or whose loss could result in a reactor trip. The inspectors performed a Phase 1 Significance Determination Process (SDP) screening, in accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 4, and determined the issue was of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not result in an actual loss of safety function, was not a loss of barrier function, and was not potentially risk significant for external events. This finding did not have a cross cutting aspect because the most significant contributor to the performance deficiency was not reflective of current licensee performance.
Inspection Report# : [2011002](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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.

Miscellaneous

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