

Seabrook 1

4Q/2009 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: **G** 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)

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

Last modified : March 01, 2010