



July 11, 2011

SBK-L-11141  
Docket No. 50-443

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Seabrook Station

Special Report Regarding Containment Enclosure Building Structural Integrity

Enclosed is a special report for a condition identified at Seabrook Station on June 27, 2011. This condition is being reported in accordance with Seabrook Station Technical Specifications 3.6.5.3, Containment Enclosure Building Structural Integrity; and 6.8.2, Special Reports.

Should you have any questions regarding this letter, please contact Mr. Michael O'Keefe, Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC

A handwritten signature in black ink, appearing to read "Paul Freeman".

Paul Freeman  
Site Vice President

Enclosure

cc: NRC Region I Administrator  
G. E. Miller, NRC Project Manager  
W. J. Raymond, NRC Resident Inspector

Handwritten initials in black ink, appearing to be "JEM" and "WJR" stacked vertically.

## ENCLOSURE

### Special Report Regarding Containment Enclosure Building Structural Integrity

The containment enclosure building is a seismic category 1 structure that surrounds the containment building and creates an annulus between the two buildings. The function of the containment enclosure is to collect any fission products which could leak from the primary containment structure into the containment enclosure and contiguous areas following a loss-of-coolant accident (LOCA). The containment enclosure provides a low leakage rate barrier between the containment and the environment to control leakage from the containment boundary.

Technical Specification (TS) 3.6.5.3 requires maintaining structural integrity of the containment enclosure building at a level consistent with the Containment Leakage Rate Testing Program in Modes 1 through 4. Surveillance requirement 4.6.5.3 specifies that structural integrity shall be determined in accordance with the Containment Leakage Rate Testing Program and further stipulates that any abnormal degradation of the containment enclosure building detected during the required inspections shall be reported to the Commission in a special report pursuant to TS 6.8.2 within 15 days.

NextEra Energy Seabrook, LLC (NextEra) determined that a small section of the below grade, exterior wall of the containment enclosure has been affected by alkali-silica reaction (ASR), resulting in a condition that meets the requirements in TS 3.6.5.3 for reporting to the NRC. ASR occurs over time in concrete between the alkalis in the cement paste and reactive silica, which is found in many common aggregates. The presence of water in hardened concrete is required for ASR to occur.

The analysis of samples of the containment enclosure building found that the concrete has acceptable compressive strength and reduced but still acceptable modulus of elasticity. The portion of the building walls affected by ASR is limited to below ground level areas that are subject to groundwater intrusion. An evaluation of this condition concluded that any change in the dynamic seismic response of the structure would be minor, and the containment enclosure building remains capable of performing its design function. NextEra is evaluating the long-term effects of ASR and what remediation would be appropriate.