NEXTera® ENERGY SEABROOK

L-2024-003
10 CFR 50.46
January 11, 2024

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

Re: NextEra Energy Seabrook, LLC
Seabrook Station, Docket No. 50-443

10 CFR 50.46 - Emergency Core Cooling System LBLOCA 30-Day Report

Florida Power & Light Company (FPL), on behalf of NextEra Energy Seabrook, LLC, and pursuant to 10 CFR 50.46(a)(3)(ii), is submitting this letter to provide a 30-day report for the Seabrook Station for the emergency core cooling system analysis performed by Westinghouse Electric Company, LLC, described in the attachment to this letter.

A vendor legacy error was identified by Westinghouse that affects the Large-Break (LB) LOCA analyses. As the reported error is of a 0 °F impact, the Peak Cladding Temperature (PCT) is unchanged and continues to remain within the limits. However, as the cumulative PCT change already exceeds 50 °F for the LBLOCA analyses, a 30-day 10 CFR 50.46 report must be issued. An evaluation of the reported error has concluded that re-analysis is not required.

This letter contains no new or revised regulatory commitments.

Should you have any questions regarding this report, please contact Mr. Kenneth Mack, Fleet Licensing Manager, at (561) 904-3635.

Very truly yours,

Dianne Strand
General Manager, Regulatory Affairs

Attachment (1)

cc: USNRC Regional Administrator, Region I
USNRC Project Manager, Seabrook Station
USNRC Senior Resident Inspector, Seabrook Station

Seabrook Unit 1 Large Break LOCA PCT 30-Day Report

Evaluation Methodology:

Westinghouse, "Code Qualification Document for Best Estimate LOCA Analysis," WCAP-12945-P-A, March 1998.

Evaluation Model PCT: 1784 °F (Reference 1)

	Net PCT Effect	Absolute PCT Effect
Prior 10 CFR 50.46 Changes or Error Corrections – up to Year 2023 (Reference 2)	155 °F	155 °F
Prior 10 CFR 50.46 Changes or Error Corrections – Year 2023	None	
New 10 CFR 50.46 Changes or Error Corrections – Year 2023	None	
Error in Flow Area and Volume of Thimble Components	0 °F	0 °F
Sum of 10 CFR 50.46 Changes or Errors Corrections	155 °F	155 °F

The sum of the PCT from the most recent analysis using an acceptable evaluation model and the estimates of PCT impact for changes and errors identified since this analysis	**1939 °F < 2200 °F**

Error in the Flow Area and Volume of Thimble Components:

An error was identified related to flow area and volume of thimble components in the Westinghouse Best-Estimate Large-Break LOCA Evaluation Model. The reactor vessel thimble bypass flow is modeled using three PIPE components, which represent the thimble bypass for peripheral low power assemblies, interior assemblies located under guide tubes, and interior assemblies not located under guide tubes. It was discovered that the number of assemblies modeled is inconsistent with the number of assemblies represented by one or more of the thimble components, leading to incorrect flow area and volume for the affected thimble component(s). The error was evaluated to have a negligible impact on the calculated results, leading to an estimated peak cladding temperature (PCT) impact of 0°F.

References:

1. Letter from M. Warner to U.S. Nuclear Regulatory Commission, "License Amendment Request 04-03, Application for Stretch Power Uprate," NYN-04016, March 17, 2004.
2. Letter from D. Strand to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Reporting of Changes to, or Errors in Emergency Core Cooling System Models or Applications," L-2023-028, March 27, 2023.