FPL.

November 19, 2019

L-2019-202
10 CFR 50.46

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

Re: NextEra Energy Duane Arnold, LLC
Duane Arnold Energy Center, Docket No. 50-331

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

Florida Power & Light (FPL), on behalf of NextEra Energy Duane Arnold, LLC, and pursuant to 10 CFR 50.46(a)(3)(ii), is submitting this letter to provide a 30-day report for the Duane Arnold Energy Center (DAEC) for the emergency core cooling system analysis performed by General Electric Hitachi (GEH).

One legacy error was identified by GEH that affects the GNF2 Loss-of-Coolant Accident (LOCA) analysis. As the reported error is of a 0°F impact, the PCT continues to remain within the limits. However, as the cumulative PCT change already exceeds 50 °F for the LOCA analysis, a 30 day 10CFR50.46 report must be issued. Evaluation of the reported error has concluded that re-analysis was not required.

This letter contains no new or revised regulatory commitments.

Should you have any questions regarding this report, please contact Mr. Steve Catron, Fleet Licensing Manager, at (561) 304-6206.

Very truly yours,

William L. Parks
Safety Assurance and Learning, General Manager
Florida Power & Light Company

Attachment (1)

cc: USNRC Regional Administrator, Region III
USNRC Project Manager, Duane Arnold Energy Center
USNRC Senior Resident Inspector, Duane Arnold Energy Center

A002
NRR

Attachment 1

Duane Arnold GNF2 LOCA PCT 30-Day Report

Evaluation Methodology:
General Electric, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of Coolant Accident: Volume III – SAFER/GESTR Application Methodology," NEDE-23785-1-PA, February 1985.

Global Nuclear Fuel, Licensing Topical Report, "The PRIME Model for Analysis of Fuel Rod Thermal-Mechanical Performance," Technical Bases - NEDC-33256P-A, Qualification - NEDC-33257P-A, and Application Methodology - NEDC-33258P-A, September 2010.

General Electric-Hitachi, "Duane Arnold Energy Center GNF2 ECCS-LOCA Evaluation," Engineering Report #0000-0133-6901-R0, DRF 0000-0133-6885-R0, August 2012.

Evaluation Model PCT: **1730 °F**

	Net PCT Effect	Absolute PCT Effect
Prior 10 CFR 50.46 Changes or Error Corrections – up to 12/31/2018 (Reference 1)	-10 °F	70 °F
Prior 10 CFR 50.46 Changes or Error Corrections – 2019	None	
New 10 CFR 50.46 Changes or Error Corrections – 2019		
SAFER Lower Limit on Differential Pressure for Bypass Leakage	0 °F	0 °F
Sum of 10 CFR 50.46 Changes or Errors Corrections	-10 °F	70 °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*	**1720 °F < 2200 °F**

SAFER Lower Limit on Differential Pressure for Bypass Leakage

The driving differential pressure for forward and backward bypass leakage is limited with an upper and lower limit in the SAFER code. It was discovered that the limits are implemented correctly on all nine leakage paths except for one, the lower limit for the control rod guide tube to control rod drive housing interface backward leakage path. A SAFER version was developed with the correct lower limit on differential pressure for the control rod guide tube to control rod drive housing interface backward leakage path, and this version confirmed that the software code error had no impact on the plant ECCS LOCA event evaluations. The PCT impact of the change/error is estimated to be 0 °F for Duane Arnold.

References:

1) Letter from W. Parks (Florida Power & Light Company) to USNRC, "10 CFR 50.46 Annual Reporting of Changes to, or Errors in Emergency Core Cooling System Models or Applications," L-2019-057, March 19, 2019.