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L-2017-145
10 CFR 50.46(a)(3)(ii)

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

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

Subject: 10 CFR 50.46 30-Day Special Report of Changes in Peak Cladding Temperature for the Duane Arnold Energy Center

References:
(1) Letter from L. Nicholson (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-2017-014, April 17, 2017.

(2) Letter from L. Nicholson (Florida Power & Light Company) to USNRC, "10 CFR 50.46 30-Day Special Report of Changes in Peak Cladding Temperature for the Duane Arnold Energy Center," L-2017-118, June 28, 2017.

In accordance with 10 CFR 50.46(a)(3)(ii), Florida Power & Light acting as agent for NextEra Energy Duane Arnold, LLC (NextEra), hereby provides this 30-day special report regarding changes in the calculated peak cladding temperature (PCT) of the GNF2 fuel design currently utilized at the Duane Arnold Energy Center (DAEC).

Our fuel vendor, Global Nuclear Fuels (GNF), has notified NextEra of an evaluation model change in the DAEC Loss-of-Coolant Accident (LOCA) analysis. This new change, when combined (sum of the absolute magnitudes) with all the applicable PCT changes previously reported for the GNF2 fuel design, results in a cumulative PCT change for DAEC of greater than the 50 °F reporting threshold under 10 CFR 50.46(a)(3)(i). The change in the evaluation model would result in no change to the pellet cladding temperature (PCT), meaning that this change would not have any impact on analysis margin, which is more than 450 °F below the regulatory limit of 2200 °F. Accordingly, a schedule for re-analysis for GNF2 fuel design is not required. PCT effect is reported as 0 °F.

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NRR

Enclosed is a summary rack-up of changes or errors for GNF2 fuel for the 30-day report to NRC.

This submittal contains no new commitments or revisions to existing commitments.

Sincerely,

Larry Nicholson
Director, Nuclear Licensing and Regulatory Compliance

Enclosure (1)

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

Enclosure 1

Summary Rack-Up Sheet GNF2 Fuel

LOCA Margin Summary Sheet – 30 Day Report

Plant Name: Duane Arnold Energy Center

Utility name: NextEra Energy

Evaluation Model: GE Hitachi Report, "Duane Arnold Energy Center GNF2 ECCS-LOCA Evaluation," GNF Report 0000-0133-6901-R0, DRF 0000-0133-6885-R0, August 2012

Last Acceptable Evaluation Model Analyzed PCT: 1730 °F

			Net PCT Effect	Absolute PCT Effect
A	Prior 10 CFR 50.46 Changes or Error Corrections – up to Year N-1	ΔPCT	10 °F	50 °F
B	Prior 10 CFR 50.46 Changes or Errors Corrections – Year N	ΔPCT	-20 °F	20 °F
C	Current 10 CFR 50.46 Changes			
	1. Impact of new inputs for fuel rod plenum temperature modeling	ΔPCT	0 °F	0 °F
	Absolute Sum of 10 CFR 50.46 Changes	ΔPCT	-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