energy harbor

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L-20-128

10 CFR 50.46(a)(3)(ii)

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

SUBJECT:
Davis-Besse Nuclear Power Station, Unit No. 1
Docket No. 50-346, License No. NPF-3
2019 Annual 10 CFR 50.46 Report of Changes to or Errors in Emergency Core Cooling System Evaluation Models

In accordance with 10 CFR 50.46(a)(3)(ii), Energy Harbor Nuclear Corp. hereby submits the 2019 annual report of changes to or errors in an emergency core cooling system (ECCS) evaluation model, or in the application of such model, for the Davis-Besse Nuclear Power Station, Unit No. 1. The attached report covers the period of January 1, 2019 to December 31, 2019.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager, Nuclear Licensing and Regulatory Affairs, at (440) 280-5567.

Sincerely,

Terry J. Brown

Attachment:
2019 Annual 10 CFR 50.46 Report of Changes to or Errors in Emergency Core Cooling System Evaluation Models

cc: NRC Region III Administrator
NRC Resident Inspector
NRC Project Manager
Utility Radiological Safety Board

Title 10 of the *Code of Federal Regulations*, Part 50, Section 50.46(a)(3) states that each holder of an operating license shall report to the Nuclear Regulatory Commission (NRC), at least annually, each change to or error in an acceptable emergency core cooling system (ECCS) evaluation model (EM), or in the application of such a model, that affects the calculation of peak cladding temperature (PCT). The nature of the change or error and its estimated effect on the limiting ECCS analysis is to be included in the report.

Following the 2019 reanalysis, there was a 1°F change to the small break loss of coolant accident (SBLOCA) PCT, and no changes or errors associated with the large break loss of coolant accident (LBLOCA) evaluation model currently being used to support the design basis at Davis-Besse.

Therefore, a net PCT change of 1°F (analyzed) from the end of 2018 to the end of 2019 is reported for the SBLOCA analyses and a 0°F PCT change for the LBLOCA analyses.

A new set of LOCA analyses has been prepared for Davis-Besse and was implemented in June 2019.

The estimated effects on the peak cladding temperatures for this reporting period are summarized in Table 1.

Table 1
10 CFR 50.46 Summary for 2019

Plant Name:		**Davis-Besse Nuclear Power Station, Unit No. 1**	***LOCA Spectrum***	
Licensee Name:		**FirstEnergy Nuclear Operating Company – as of 2019 Energy Harbor Nuclear Corp. – current**	***Mark-B-HTP LBLOCA Full-Core***	***Mark-B-HTP SBLOCA Full-Core***
			PCT or PCT Change (Δ)	
Licensing Basis at Beginning of 2019 (See note)			**2,119°F Estimated**	**1,780°F Estimated**
2019 Licensing Activity				
Item #	***Reporting Category***	***Description***	***PCT or PCT Change (Δ)***	
1	**New Analysis**	**Implemented new LOCA analyses**	**2078°F Analyzed**	**1370°F Analyzed**
2	**EM Error**	**Emissivity Documentation Error PCT Change (0°F), Thermal Expansion Documentation Error PCT Change (0°F), SBLOCA junction flag correction (1°F)**	**Δ = 0°F**	**Δ = +1°F**
3	**EM Change**	**SBLOCA Homogeneous LOCA Hole EM Model Change (0°F)**	**Δ = 0°F**	**Δ = 0°F**
Licensing Basis at End of 2019 Analyzed			**2,078°F**	**1,371°F**

Note: There were no EM changes or errors for the period of time in 2019 where the old LOCA analyses were in effect.