



*Energy Harbor Nuclear Corp.  
Davis-Besse Nuclear Power Station  
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**Terry J. Brown**  
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June 24, 2021  
L-21-140

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  
2020 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 2020 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, 2020, to December 31, 2020.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Manager - Fleet Licensing, at 330-696-7208.

Sincerely,

A handwritten signature in black ink, appearing to read "TJB", with a long horizontal flourish extending to the right.

Terry J. Brown

Attachment:  
2020 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

Attachment  
L-21-140

2020 Annual 10 CFR 50.46 Report of Changes to or Errors in  
Emergency Core Cooling System Evaluation Models  
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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.

During the 2020 calendar year, there was a 0°F change to the small break loss of coolant accident (SBLOCA) and large break loss of coolant accident (LBLOCA) PCT, with some changes or errors associated with the evaluation models currently being used to support the design basis at Davis-Besse.

Therefore, a net PCT change of 0°F from the end of 2019 to the end of 2020 is reported for the SBLOCA and LBLOCA analyses.

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 2020**

<b>Plant Name:</b>		Davis-Besse Nuclear Power Station, Unit No. 1	<b>LOCA Spectrum</b>	
<b>Utility Name:</b>		Energy Harbor	<b>Mark-B-HTP LBLOCA Full-Core</b>	<b>Mark-B-HTP SBLOCA Full-Core</b>
			<b>PCT or PCT Change (<math>\Delta</math>)</b>	
<b>Licensing Basis at Beginning of 2020</b>			<b>2,078°F Analyzed</b>	<b>1,371°F Analyzed</b>
<b>2020 Licensing Activity</b>				
<b>Item #</b>	<b>Reporting Category</b>	<b>Description</b>	<b>PCT or PCT Change (<math>\Delta</math>)</b>	
1	EM Change	BWNT LOCA EM Inside Cladding Initial Base Metal Reacted Thickness Model Change	$\Delta = 0^{\circ}\text{F}$	$\Delta = 0^{\circ}\text{F}$
2	EM Change	BEACH Lower Plenum Pressure Elevation Head Adjustment Model Change	$\Delta = 0^{\circ}\text{F}$	N/A
3	EM Change	RELAP5/MOD2-B&W CFT Temperature Limit Adjustment or the Refill Period Model Change	$\Delta = 0^{\circ}\text{F}$	N/A
<b>Licensing Basis at End of 2020</b>			<b>2,078°F Estimated</b>	<b>1,371°F Analyzed</b>