



HITACHI

GE Hitachi Nuclear Energy

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M210098

Docket 52-010
10 CFR 50.46
10 CFR 50.46(a)(3)(iii)
10 CFR Part 52, Appendix E

September 1, 2021

US Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Subject: ESBWR Design Certification Annual 10 CFR 50.46 Report for 2021

GE Hitachi Nuclear Energy (GEH), as the applicant for the ESBWR Design Certification (10 CFR Part 52, Appendix E), submits this annual report under 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Reactors." Specifically, Enclosure 1 is the 2021 annual report for the ESBWR Design Certification for emergency core cooling system (ECCS) evaluation model changes or errors that affect the peak cladding temperature (PCT) calculation. There is no change to any reported analysis results.

By this letter, GEH also notifies the licensees, DTE Electric Company for Enrico Fermi Nuclear Plant Unit 3, and Dominion Virginia Power for North Anna Unit 3, in accordance with 10 CFR 50.46(a)(3)(iii), because the licenses for these units reference the ESBWR Design Certification.

Please contact me if you have any questions regarding this information.

Sincerely,

A handwritten signature in purple ink that reads "Michelle P. Catts".

Michelle P. Catts
Senior Vice President, Nuclear Programs

Commitments: No additional commitments are made.

Enclosure:

1. ESBWR Design Certification 10 CFR 50.46 Annual Report – 2021

cc: E. Lenning, NRC
J. Colaccino, NRC
M. Brandon, DTE
R. Westmoreland, DTE
D. Aitken, Dominion
C. Sly, Dominion
S. Sinah, Dominion
DBR-0033424 R6

Enclosure 1

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ESBWR Design Certification 10 CFR 50.46 Annual Report – 2021

ESBWR Design Certification

2021 Annual Report Under 10 CFR 50.46(a)(3)(iii)

Emergency Core Cooling System Model

Plant Name:	ESBWR Design Certification (Docket 52-010; 10 CFR Part 52, Appendix E)			
Utility Name:	GE Hitachi (as holder for the ESBWR Final Design Certification)			
Reporting Year: <u>2021*</u>				
Evaluation Model: TRACG				
		<u>LBPCT</u>	<u>Net PCT Effect</u>	<u>Absolute PCT Effect</u>
	Analysis of Record Licensing Basis PCT (LBPCT), with prior updates	600°F		
A.	Prior 10 CFR 50.46 Changes or Error Corrections – Previous years	Δ PCT =	+/- 0°F	+ 0°F
B.	Prior 10 CFR 50.46 Changes or Error Corrections – This year (itemized below):	Δ PCT =	+/- 0°F	+ 0°F
	2021-04 – Non-condensable Gas Error in Zero Cell Side Branch		0	
C.	Absolute Sum of 10 CFR 50.46 Changes	Δ PCT =	+ 0°F	+ 0°F
	Projected LBPCT based on these changes	600°F		

* The reporting period is 9/17/2020 through 08/30/2021. The sum of the peak cladding temperature (PCT) from the most recent analysis using an acceptable evaluation model and the estimates of PCT effect for changes and errors identified because this analysis is less than 2,200°F.

Most Recent Previous Report (2020): Letter, M. P. Catts (GEH) to Document Control Desk (NRC), M200131, ESBWR Design Certification Annual 10 CFR 50.46 Report for 2020, September 25, 2020.