GE Hitachi Nuclear Energy

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M230132

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

October 4, 2023

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

Subject: **ESBWR Design Certification Annual 10 CFR 50.46 Report for 2023**

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 2022 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,

Kent Halac

Project 710 / Docket No. 99902024

Commitments: No additional commitments are made.

Enclosure:

1. ESBWR Design Certification 10 CFR 50.46 Annual Report – 2023

cc: E. Lenning, NRC
J. Colaccino, NRC
M. Brandon, DTE
R. Westmoreland, DTE
D. Aitken, Dominion
C. Sly, Dominion
S. Sinah
DBR-0033424 R8

Enclosure 1

M230132

ESBWR Design Certification 10 CFR 50.46 Annual Report – 2023

ESBWR Design Certification

2023 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: 2023*				
	Evaluation Model: TRACG			
		LBPCT	**Net PCT Effect**	**Absolute PCT Effect**
	Analysis of Record Licensing Basis PCT (LBPCT), with prior updates	600°F		
A.	Prior 10 CFR 50.46 Changes or Error Corrections – Previous years	ΔPCT =	+/- 0°F	+ 0°F
B.	Prior 10 CFR 50.46 Changes or Error Corrections – This year (itemized below):	ΔPCT =	+/- 0°F	+ 0°F
2021-09 –TRACG04P Version 4.2.76.1			0	
C.	Absolute Sum of 10 CFR 50.46 Changes	ΔPCT =	+ 0°F	+ 0°F
	Projected LBPCT based on these changes	600°F		

* The reporting period is 10/4/2022 through 10/4/2023.

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 since this analysis is less than 2,200°F.

Most Recent Previous Report (2022): Letter, M. P. Catts (GEH) to Document Control Desk (NRC), M220129, "ESBWR Design Certification Annual 10 CFR 50.46 Report for 2022," October 4, 2022.