

**DTE Energy®**



10 CFR 52.3  
10 CFR 50.46 (a)(3)(ii)

December 11, 2017  
NRC3-17-0009

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

References: 1) Fermi 3  
NRC Docket No. 52-033  
NRC License No. NPF-95  
2) Letter from Jerald G. Head (GE Hitachi Nuclear Energy) to USNRC, "ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017," dated October 30, 2017

Subject: DTE Electric Company 10 CFR 50.46 Report of Fermi 3 Emergency Core Cooling System (ECCS) Model Changes

By reference 2, GE Hitachi reported a change to the ECCS model for the Certified ESBWR design. The ECCS evaluation model change reported by GE Hitachi is applicable to the Fermi 3 COL. Therefore, in accordance with 10 CFR 50.46 (a)(3)(ii), DTE is reporting this change on the Fermi 3 docket.

Enclosure 1 contains the 2017 10 CFR 50.46 report GE Hitachi submitted in reference 2.

If you have any questions, or need additional information, please contact me at (313) 235-0443.

Sincerely,

Michael K. Brandon, Manager  
Nuclear Development - Licensing  
DTE Electric Company

D095  
NRD

Enclosure: 1) ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017

cc: Adrian Muniz, NRC Fermi 3 Project Manager  
Fermi 2 Resident Inspector (w/o Enclosure)  
NRC Region III Regional Administrator (w/o Enclosure)  
NRC Region II Regional Administrator (w/o Enclosure)  
Supervisor, Electric Operators, Michigan Public Service Commission (w/o Enclosure)  
Michigan Department of Environmental Quality  
OWMRP, Radiological Protection Section (w/o Enclosure)  
Craig D. Sly, Dominion Energy, Inc. (w/o Enclosure)  
Patricia L. Campbell, General Electric (w/o Enclosure)  
Scott M. Head, Nuclear Innovation North America (w/o Enclosure)  
Erik Wagner, Duke Energy (w/o Enclosure)

**Enclosure 1 to**

**NRC3-17-0009**

**ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017**

**(4 pages)**



**HITACHI**

**GE Hitachi Nuclear Energy**

**Jerald G. Head**  
Senior Vice President,  
Regulatory Affairs

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

October 30, 2017

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

**Subject: ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017**

Reference:

1. Letter, J. G. Head (GEH) to Document Control Desk (NRC), MFN 16-067, ESBWR Standard Plant Design Annual 10 CFR 50.46 Report for 2016, September 23, 2016.

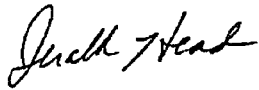
GE Hitachi Nuclear Energy (GEH), as the applicant for the ESBWR Design Certification (10 CFR Part 52, Appendix E), submits this annual report under 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Reactors." Specifically, Enclosure 1 is the 2017 annual report for the ESBWR Design Certification for emergency core cooling system (ECCS) evaluation model changes or errors that affect the peak cladding temperature (PCT) calculation. Since the 2016 report (Reference 1), one evaluation model change has occurred, but it does not result in a change to the PCT values for the ESBWR Design Certification during this period.

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.

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Sincerely,

A handwritten signature in black ink, appearing to read "Jerald G. Head".

Jerald G. Head  
Senior Vice President, Regulatory Affairs

Commitments: No additional commitments are made.

Enclosure:

1. ESBWR Design Certification 10 CFR 50.46 Annual Report – 2017

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

**Enclosure 1**

**M170244**

**ESBWR Design Certification 10 CFR 50.46 Annual Report – 2017**

# ESBWR Design Certification

## 2017 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 applicant for the ESBWR Design Certification)			
Reporting Year: <u>2017*</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	ΔPCT =	+ 0°F	+ 0°F
B.	Prior 10 CFR 50.46 Changes or Error Corrections – This year (itemized below):	ΔPCT =	+ 0°F	+ 0°F
	2017-02: Fuel Rod Plenum Temperature Update**	ΔPCT =	+ 0°F	+ 0°F
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 10/01/2016 through 09/30/2017. The sum of the peak cladding temperature (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 is less than 2,200°F.

\*\*Removes “getter” as a model commitment going forward for consistency between model and fuel products as installed (0°F impact on PCT).

Most Recent Previous Report (2016): Letter, J. G. Head (GEH) to Document Control Desk (NRC), MFN 16-067, ESBWR Standard Plant Design Annual 10 CFR 50.46 Report for 2016, September 23, 2016.