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February 12, 2018

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No.: NA3-18-001
NRA/DEA R0
Docket No.: 52-017
License No.: NPF-103

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA UNIT 3
REPORT OF 10 CFR 50.46 EMERGENCY CORE COOLING SYSTEM
(ECCS) MODEL CHANGES

General Electric Hitachi Nuclear Energy (GEH) reported a change to one ECCS model for the Certified Economic Simplified Boiling Water Reactor (ESBWR) Design in letter M170244 from Jerald G. Head (GEH) to U. S. Nuclear Regulatory Commission, "ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017," dated October 30, 2017. The ECCS evaluation model change reported by GEH is applicable to the North Anna Unit 3 (NA3) Combined Operating License. Therefore, in accordance with 10 CFR 50.46 (a)(3)(ii), this change is being reported on the NA3 docket.

Attachment 1 provides the 2017 annual 10 CFR 50.46 report submitted by GEH.

If you have any questions regarding this submittal, please contact Ms. Diane E. Aitken at (804) 273-2694.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Mark D. Sartain', written over a horizontal line.

Mark D. Sartain

Vice President – Nuclear Engineering and Fleet Support

Attachment: GEH ESBWR Design Certification Annual 10 CFR 50.46 Report for 2017

Commitments made in this letter: None

D689
NRD

cc: (electronic distribution, except where noted)

U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Avenue, NE Suite 1200
Atlanta, GA 30303-1257

J. J. Shea, Jr., NRC
M. A. Eudy, NRC
T. S. Dozier, NRC
G. Croon, NRC
D. Paylor, VDEQ
M. K. Brandon, DTE
R. J. Bell, NEI

Attachment 1

**GEH ESBWR DESIGN CERTIFICATION
ANNUAL 10 CFR 50.46 REPORT FOR 2017**

**VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA UNIT 3**



HITACHI

GE Hitachi Nuclear Energy

Jerald G. Head
Senior Vice President,
Regulatory Affairs

3901 Castle Hayne Road
P.O. Box 780 M/C/ A-18
Wilmington, NC 28402
USA

T 910 233 1134
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M170244

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.

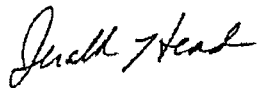
Please contact me if you have any questions regarding this information.

ML17303A120

M170244
October 30, 2017

Page 2 of 2

Sincerely,

A handwritten signature in cursive script, 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.