



**HITACHI**

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MFN 11-193

Docket 52-010

August 30, 2011

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

**SUBJECT: 10 CFR 50.46 Annual Report for the ESBWR Standard Plant Design**

Pursuant to 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-water Reactors," GE Hitachi Nuclear Energy (GEH) is submitting this report to document any emergency core cooling system (ECCS) evaluation model changes or errors that affect the temperature calculation for the ESBWR Standard Plant Design. This is the first annual report for the ESBWR Standard Plant Design as submitted in letter number MFN 10-352 (Reference 1) dated December 2, 2010 and it documents that no changes have occurred.

The information included in this letter is generic and is expected to apply to all COL applications referencing the ESBWR Design Certification Application. By copy of this letter, COL Applicants are hereby notified of any changes or errors in the ESBWR Standard Design PCT as required by 10 CFR 50.46(a)(3)(iii).

Please contact me if you have any questions regarding this information, copying the prospective COL Applicants included on the cc: list of this letter.

Sincerely,

Jerald G. Head  
Senior Vice President, Regulatory Affairs

No commitments are made in this letter or its enclosures.

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Reference

1. MFN 10-352, Richard Kingston to US NRC, ESBWR Standard Plant Design Certification Application Design Control Document, Revision 9, Tier 1 and Tier 2 dated December 2, 2010.

Enclosure

1. ESBWR Standard Plant Design 10 CFR 50.46 Annual Report

cc: AE Cabbage, (USNRC) (with enclosure)  
PW Smith (DTE Energy) (with enclosure)  
M Brandon (DTE Energy) (with enclosure)  
JR Douet (Entergy) (with enclosure)  
H. Madronero, GEH/Wilmington (with enclosure)  
W. Schumitsch, GEH/Wilmington (with enclosure)  
PM Yandow, GEH/Wilmington (with enclosure)

# ENCLOSURE 1

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## ESBWR Standard Plant Design 10 CFR 50.46 Annual Report

**Plant Name:** ESBWR Standard Plant Design

**Docket Number:** 52-010

**Utility Name:** N/A

**Evaluation Model:** TRACG

**Limiting LOCA:** Isolation Condenser Drain Line Break

<b>PCT Change Item</b>	<b>Net PCT Effect</b>	<b>Absolute PCT Effect</b>
Prior 10 CFR 50.46 Changes or Error Corrections – <b>Previous Years</b>	$\Delta PCT = 0 \text{ } ^\circ\text{F (K)}$	$\Delta PCT = 0 \text{ } ^\circ\text{F (K)}$
10 CFR 50.46 Changes or Error Corrections – <b>This year</b>	$\Delta PCT = 0 \text{ } ^\circ\text{F (K)}$	$\Delta PCT = 0 \text{ } ^\circ\text{F (K)}$
<b>Absolute Sum of 10CFR 50.46 Changes</b>		$\Delta PCT = 0 \text{ } ^\circ\text{F (K)}$

There is no core uncover and no core heat up in an ESBWR LOCA. The Peak Clad Temperature (PCT) is the same as that during normal operating condition, that is, the  $\Delta PCT$  during an ESBWR LOCA is zero.

The sum of the  $\Delta PCT$  from the most recent analysis using an acceptable evaluation model and the estimates of  $\Delta PCT$  impact for changes and errors identified since this analysis is less than 2200  $^\circ\text{F}$  (1204 K).