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**Subject: Response to Portion of NRC Request for Additional
Information Letter No. 224 Related to ESBWR Design
Certification Application - Containment Systems -
RAI Number 6.2-185**

Enclosure 1 contains the GE Hitachi Nuclear Energy (GEH) response to the
subject NRC RAI transmitted via the Reference 1 letter.

If you have any questions or require additional information, please contact me.

Sincerely,

Richard E. Kingston
Vice President, ESBWR Licensing

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MRO

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Reference:

1. MFN 08-576, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, *Request for Additional Information Letter No. 224 Related to ESBWR Design Certification Application*, July 10, 2008

Enclosure:

1. MFN 08-636 - Response to Portion of NRC Request for Additional Information Letter No. 224 Related to ESBWR Design Certification Application - Containment Systems - RAI Number 6.2-185

cc: AE Cabbage USNRC (with enclosure)
DH Hinds GEH/Wilmington (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
eDRF 0000-0086-4290

Enclosure 1

MFN 08-636

**Response to Portion of NRC Request for
Additional Information Letter No. 224
Related to ESBWR Design Certification Application**

Containment Systems

RAI Number 6.2-185

NRC RAI 6.2-185:

The containment pressure results shown on ESBWR DCD Revision 5 Figure 6I-1a1 and Figure 6.2-14a1 are different although they appear to be for the same case. Please explain the differences between these two figures and the basis of revising Figure 6.2-14a1.

GEH Response:

The difference between DCD Tier 2, Revision 5, Figure 6.2-14a1 and Figure 6I-1a1 is the different drywell (DW) to wetwell (WW) bypass leakage assumed in their respective analyses. Both analyses have the same input data except for the DW to WW bypass assumed leakage. The input data for the analyses shown in Figure 6.2-14a1 assume a suppression pool bypass leakage of 2 cm^2 ($2.16\text{E-}03 \text{ ft}^2$) (A/\sqrt{K}), while the input data for the analyses shown in Figure 6I-1a1 assume 1 cm^2 ($1.08\text{E-}03 \text{ ft}^2$) (A/\sqrt{K}). These two different analyses are described in DCD Tier 2, Revision 5, Subsection 6.2.1.1.5.1 and Appendix 6I, respectively.

The new Figure 6I-1a1 and Figure 6.2-14a1 as revised in DCD Revision 5 both capture and document design changes impacting the DW, WW, and reactor pressure vessel pressure responses during the postulated Main Steam Line Break event under bounding conditions that were not included in the analyses prior to DCD Tier 2, Revision 5. DW to WW design basis bypass leakage (Figure 6.2-14a1 only), main steam line size, and containment inert gas type are some examples of the design changes incorporated in the analyses supporting the results shown in Figure 6I-1a1 and Figure 6.2-14a1. For a more detailed list of the implemented changes, refer to the DCD Tier 2, Revision 5, Chapter 6 Revision 4 to Revision 5 Change List (MFN 08-487, dated June 1, 2008).

DCD Impact:

No DCD changes will be made in response to this RAI.