

# GE-Hitachi Nuclear Energy Americas LLC

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MFN 07-412

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**Subject: Response to Portion of NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – DCD Chapter 4 and GNF Licensed Topical Reports – RAI Numbers 4.4-6S01, 4.4-15S01 through 4.4-17S01, 4.4-19S01 and 4.4-24S01**

Enclosure 1 contains GE-Hitachi Nuclear Energy Americas (GEH) supplemental responses to the subject NRC RAIs initially transmitted via Reference 1. Please note that these RAI supplements were not entered as supplemental RAIs in the GEH RAI tracking database since the Staff found the initial responses to be acceptable with exception to the actual changes that were to be made in DCD Tier 2, Revision 3, or the GNF topical report NEDC-33237P that was to be submitted in November 2006. The supplemental comments were annotated in the GEH RAI database as requiring DCD Revision 3 changes. However, when DCD Tier 2, Revision 3 was submitted on February 22, 2007, the Chapter 4 DCD Tier 2 change page list did not reflect these changes were being made for the subject RAI supplements. As a result, the Staff was not able to delineate why the change was being made.

GEH is providing the attached supplemental responses with references to the Tier 2, DCD Tier 2 Revision 3 Subsections, and the GNF topical report submittal so that the Staff can resolve these RAIs accordingly.

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NRO

If you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,



James C. Kinsey  
Project Manager, ESBWR Licensing

Reference:

1. MFN 06-392 – Letter from US Nuclear Regulatory Commission (NRC) to David H. Hinds, *Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application*, dated August 16, 2006

Enclosures:

1. Response to NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – DCD Chapter 4 and GNF Topical Reports – RAI Numbers 4.4-6S01, 4.4-15S01 through 4.4-17 S01, 4.4-19S01 and 4.4-24S01

cc: AE Cabbage USNRC (with enclosures)  
GB Stramback GEH /San Jose (with enclosures)  
RE Brown GEH /Wilmington (with enclosures)

**Enclosure 1**

**MFN 07-412**

**Response to Portion of NRC Request for  
Additional Information Letter No. 53  
Related to ESBWR Design Certification Application**

**DCD Chapter 4 and GNF Topical Reports**

**RAI Numbers 4.4-6S01, 4.4-15S01 through 4.4-17S01,  
4.4-19S01, and 4.4-24S01**

**NRC RAI 4.4-6S01:**

*The explanation provided in the response is acceptable. However, a reference to Topical Report NEDC-33238P should be included in DCD Tier 2, Sections 4.4.2.3.1 and 4.4.2.3.2.*

**GEH Response:**

The reference to Topical Report NEDC-33238P entitled "GE14 Pressure Drop Characteristics", NEDC-33238P, Class III (proprietary), December 2005" was included in DCD Tier 2, Revision 3, February 22, 2007, as reference 4.4-14 and appropriately referenced in DCD Subsections 4.4.2.3.1 and 4.4.2.3.2 on pages 4.4-4 and 4.4-5, respectively.

**DCD Impact:**

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

**NRC RAI 4.4-15S01:**

*The explanation provided in the response is acceptable. However, a reference to Topical Report NEDC-33238P should be included in DCD Tier 2, Section 4.4.2.3.2.*

**GEH Response:**

The reference to Topical Report NEDC-33238P entitled "GE14 Pressure Drop Characteristics", NEDC-33238P, Class III (proprietary), December 2005" was included in DCD Tier 2, Revision 3, February 22, 2007, as reference 4.4-14 and appropriately referenced in DCD Subsection 4.4.2.3.2 on page 4.4-5.

**DCD Impacts:**

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

**NRC RAI 4.4-16S01:**

*The explanation provided in the response is acceptable. However, the discussion should be included in DCD Tier 2, since it provides a more complete explanation of the test data.*

**GEH Response:**

The explanation of the test data was provided in DCD Tier 2, Revision 3, February 22, 2007, Subsection 4.4.2.3.2 on page 4.4-5.

**DCD Impact:**

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

**NRC RAI 4.4-17S01:**

*The explanation provided in the response is acceptable. However, a reference to Topical Report NEDC-33238P should be included in DCD Tier 2, Section 4.4.2.4 when the pressure drop qualification to test data is discussed.*

**GEH Response:**

The reference to Topical Report NEDC-33238P (DCD Tier 2, Chapter 4.4 Reference 4.4-14) is provided in the pressure drop qualification discussion in DCD Tier 2, Revision 3, February 22, 2007, Subsection 4.4.2.3.5 on page 4.4-7.

**DCD Impact:**

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

**NRC RAI 4.4-19S01:**

*The proposed wording for the revision to DCD Tier 2, Section 4.4 is acceptable, except the update to Reference 4.4-12 should be the planned November 2006 revision to NEDC-33237P.*

**GEH Response:**

The reference to the November 2006 revision (actually provided on December 15, 2006 via GE Letter MFN 06-542) Topical Report NEDC-33237P entitled "GE14 for ESBWR-Critical Power Correlation, Uncertainty, and OLMCPR Development", NEDC-33237P, Revision 1, Class III (proprietary), December 2006 was provided in DCD Tier 2, Revision 3, February 22, 2007 as Reference 4.4-12.

**DCD Impact:**

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

**NRC RAI 4.4-24S01:**

*The explanation provided in the response is acceptable. However, the discussion should be included in DCD Tier 2, since it provides a more complete explanation of the test data and ESBWR flow range.*

**GEH Response:**

The applicability of the test data is discussed in DCD Tier 2, Revision 3, February 22, 2007 in Subsection 4.4.2.3.5 on page 4.4-7.

**DCD Impact:**

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