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MFN 08-239
March 17, 2008

Docket No. 52-010

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: **Response to Portion of NRC Request for Additional Information Letter No. 117 Related to ESBWR Design Certification Application – Site Characteristics – RAI Number 2.3-11**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) sent by NRC letter dated December 5, 2007. GEH response to RAI Number 2.3-11 is addressed in Enclosure 1.

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

Sincerely,

James C. Kinsey
Vice President, ESBWR Licensing

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NRO

References:

1. MFN 07-656, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, *Request for Additional Information Letter No. 117 Related to the ESBWR Design Certification Application*, December 5, 2007.

Enclosures:

1. Response to Portion of NRC Request for Additional Information Letter No. 117 Related to ESBWR Design Certification Application – Site Characteristics - RAI Number 2.3-11

cc: AE Cabbage USNRC (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
DH Hinds GEH/Wilmington (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
eDRF 0000-0082-1370

Enclosure 1

MFN 08-239

**Response to Portion of NRC Request for
Additional Information Letter No. 117
Related to ESBWR Design Certification Application**

Site Characteristics

RAI Number 2.3-11

NRC RAI 2.3-11

The long term dispersion estimates listed as site parameters in Revision 3 to DCD Tier 1 Table 5.1-1 are no longer listed as site parameters in Revision 4. Please explain why the long term dispersion estimates were removed as Tier 1 site parameters.

GEH Response

The long term dispersion estimates listed as site parameters were removed in DCD Revision 4, Tier 1, Table 5.1-1 as they were not required to be included in the table. For example, the short term dispersion estimates (off-site and control room) are provided in DCD Tier 1, Table 5.1-1. If an applicant can show that its site-specific short term dispersion estimates (X/Qs) are bounded by the short term X/Qs in DCD Tier 1, Table 5.1-1, its resulting accident doses are bounded by the doses cited in DCD Tier 2, Chapter 15, per Section C.I.15.6.5 of Regulatory Guide 1.206 (under Section III.1 – “Information Needed for a Combined License Application Referencing a Certified Design”). As a result, the applicant does not need to perform any accident dose analyses, since it has shown that it will meet the regulatory dose criteria.

However, if an applicant’s long term X/Q is bounded by the long term X/Q cited in the DCD, the applicant is still required to comply with 10 CFR 50, Appendix I and calculate its doses due to gaseous effluents produced during normal operations, per Section C.I.11.3.3 of Regulatory Guide 1.206 (under Section III.1 – “Information Needed for a Combined License Application Referencing a Certified Design”).

Therefore, it was concluded by GEH that the long term dispersion estimates did not belong in DCD Tier 1, Table 5.1-1. The long term dispersion estimates will remain in DCD Tier 2, Chapter 12.

DCD Impact

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