



HITACHI

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Proprietary Notice

This letter forwards proprietary information in accordance with 10CFR2.390. Upon the removal of Enclosure 1, the balance of this letter may be considered non-proprietary.

MFN 08-292

Docket No. 52-010

April 3, 2008

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. 115 – Related to ESBWR Design Certification Application – RAI Number 4.4-27 Supplement 2

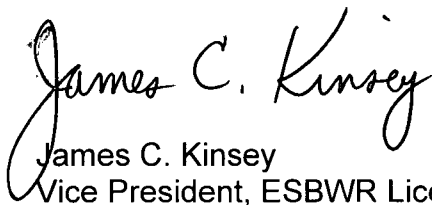
The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) sent by the Reference 1 NRC letter. GEH's response to RAI Number 4.4-27 Supplement 2 is addressed in Enclosures 1, 2 and 3.

Enclosure 1 contains GNF proprietary information as defined by 10 CFR 2.390. GNF customarily maintains this information in confidence and withholds it from public disclosure. A non-proprietary version is provided in Enclosure 2.

The affidavit contained in Enclosure 3 identifies that the information contained in Enclosure 1 has been handled and classified as proprietary to GNF. GEH hereby requests that the information of Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 10 CFR 9.17.

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

Sincerely,


James C. Kinsey
Vice President, ESBWR Licensing

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Reference:

1. MFN 07-637, Letter from U.S. Nuclear Regulatory Commission to Robert E. Brown, GEH, *Request For Additional Information Letter No. 115 Related To ESBWR Design Certification Application*, dated November 20, 2007

Enclosures:

1. MFN 08-292 – Response to Portion of NRC Request for Additional Information Letter No. 115 – Related to ESBWR Design Certification Application – RAI Number 4.4-27 S02 – GEH Proprietary Information
2. MFN 08-292 – Response to Portion of NRC Request for Additional Information Letter No. 115 – Related to ESBWR Design Certification Application – RAI Number 4.4-27 S02 – Non-Proprietary Version
3. MFN 08-292 – Response to Portion of NRC Request for Additional Information Letter No. 115 – Related to ESBWR Design Certification Application – RAI Number 4.4-27 S02 – Affidavit

cc: AE Cubbage USNRC (with enclosure)
GB Stramback GEH/San Jose (with enclosure)
RE Brown GEH/Wilmington (with enclosure)
DH Hinds GEH/Wilmington (with enclosure)

eDRF 0000-0082-2542 and 0000-0082-1217

Enclosure 2

MFN 08-292

**Response to Portion of NRC Request for
Additional Information Letter No. 115
Related to ESBWR Design Certification Application**

RAI Number 4.4-27 S02

Non-Proprietary Version

NRC RAI 4.4-27 S02

R-factor will be reassessed and the methodology is satisfactorily confirmed

The NRC staff accepts the supplemental response provided, with the condition that the R-factor will be reassessed, and the methodology is satisfactorily confirmed when the new critical power performance data is collected for the ESBWR GE14E fuel assembly ITAAC.

GEH Response

Full-scale critical power tests were conducted for the GE14E 10x10 fuel assembly in Stern Laboratories test facility in Hamilton, Ontario. The critical power data covers the ESBWR operating range. The GEXL14 correlation was used to predict the GE14E critical power data. It has been confirmed that the GEXL14 correlation accurately predicts GE14E critical power performance and the results are summarized in Reference 2. The R-factor methodology has been reassessed using the method in Reference 1 for the GE14E test data. The R-factor methodology is confirmed by virtue of the adequacy of the GEXL14 correlation statistics and trend characteristics for the GE14E critical power database. Reference 2 describes the GE14E critical power test results and the adequacy of the GEXL14 correlation. The ITAAC referenced in the RAI is not required because the subject testing has been completed.

References

- Reference 1 NEDC-32505P-A, Revision 1, "R-factor Calculation Method for GE11, GE12 and GE13 Fuel", July 1999.
- Reference 2 NEDC-33413P, "Full Scale Critical Power Testing of GE14E and Validation of GEXL14", March 2008.

DCD Impact

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

NEDO-33413, Revision 0 (the non-proprietary version of Reference 2) is provided in Attachment A.

ATTACHMENT A

**NEDO-33413, "Full Scale Critical Power Testing of GE14E and Validation of GEXL14",
March 2008.**