HITACHI

GE Hitachi Nuclear Energy

Richard E. Kingston
Vice President, ESBWR Licensing

P.O. Box 780 M/C A-65
Wilmington, NC 28402-0780
USA

T 910.675.6192
F 910.362.6192
rick.kingston@ge.com

Proprietary Notice
This letter forwards proprietary information in accordance with 10CFR2.390. Upon the removal of Enclosure 2, the balance of this letter may be considered non-proprietary.

MFN 09-789, Rev. 1

Docket No. 52-010

January 20, 2010

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

Subject: **Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks - RAI Number 9.1-146**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) revised response to the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) 9.1-146 sent by NRC Letter 396, Reference 1. The revised response corrects references to LTR NEDC-33373P, from Rev. 3 to Rev. 4.

GEH response to RAI Number 9.1-146 is addressed in Enclosure 1. Enclosure 2 contains the LTR markups associated with this response. Enclosure 2 contains GEH proprietary information as defined by 10 CFR 2.390. GEH customarily maintains this information in confidence and withholds it from public disclosure. GEH has not submitted a non-proprietary version of Enclosure 2 in accordance with NRC Information Notice 2009-07, Requirements for Submittals, (2): "In instances in which a non-proprietary version would be of no value to the public because of the extent of the proprietary information, the agency does not expect a non-proprietary version to be submitted."

The affidavit contained in Enclosure 3 identifies that the information contained in Enclosure 2 has been handled and classified as proprietary to GEH. GEH hereby requests that the information in Enclosure 2 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17.

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

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

D068
NRO

Reference:

1. MFN 09-745, Letter from U.S. Nuclear Regulatory Commission to Jerald G. Head, *Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application*, November 24, 2009

Enclosures:

1. Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks - RAI Number 9.1-146
2. Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks - RAI Number 9.1-146 – LTR Markups – GEH Proprietary Information
3. Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks - RAI Number 9.1-146 – Affidavit

cc: AE Cubbage USNRC (with enclosures)
JG Head GEH/Wilmington (with enclosures)
DH Hinds GEH/Wilmington (with enclosures)
TL Enfinger GEH/Wilmington (with enclosures)
eDRF Section 0000-0110-4460

Enclosure 1

MFN 09-789, Rev. 1

Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application

Fuel Racks

RAI Number 9.1-146

NRC RAI 9.1-146

For free-standing racks, many factors affect the seismic response of the racks. Among these factors, friction coefficient between the bearing pads and pool floor is important in determining whether the racks will be subject to sliding or overturning.

NEDE-33373P, Section 1.6.5.1 provides a scenario study of various combinations of factors, and establishes a bounding for the seismic response of racks. The staff noticed that Case C-5 with the friction coefficient equal to 0.5 controls the relative displacements of racks with pool floor at bottom and the pool wall at the top in E-W direction. However, the lower bound for the friction coefficient is 0.2. Therefore, the staff requests that the applicant demonstrate that the relative horizontal displacements between rack foot and pool floor and FSR top and pool wall will not exceed the prescribed gaps when Case C-5 is analyzed with a 0.2 friction coefficient.

GEH Response (Original)

NEDC-33373P will be revised as follows to address this RAI:

- A new case (Case C-6) will be added to Section 1.6.5.1. This new case evaluates the seismic response of the fuel racks assuming a coefficient of friction of 0.2 for the bearings pads on the pool floor.
- Tables 1.6-2, 1.6-3 and 1.6-4 of NEDC-33373P will be revised to provide the results of Case C-6.
- Figures A-52 and A-57 will be revised to provide displacement versus time results for Case C-6.

Other minor changes will also be made to NEDC-33373P.

GEH Response (Revised)

The original response is unchanged. The LTR markup pages are replaced in their entirety by this revised response.

DCD/LTR Impact (Revised)

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

Tables 1-1, 1-2, 1-16, 1-17 and 1-17a; Sections 1.3, 1.4.1, 1.4.1.1, 1.4.7, 1.6.5.1, 1.6.6, 1.7, 2.4.9 and 3.4.9; and Figures A-9, A-52 and A-57 of LTR NEDC-33373P will be revised as shown in the attached markups.

Enclosure 3

MFN 09-789, Rev. 1

Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application

Fuel Racks

RAI Number 9.1-146

Affidavit

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, **Larry J. Tucker,** state as follows:

(1) I am Manager, ESBWR Engineering, GE Hitachi Nuclear Energy ("GEH"), and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in enclosure 2 of GEH's letter, MFN 09-789, Rev. 1, Mr. Richard E. Kingston to U.S. Nuclear Regulatory Commission, entitled "Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks - RAI Number 9.1-146" dated January 20, 2010. The proprietary information in enclosure 2, entitled "*Revised Response to Portion of NRC Request for Additional Information Letter No. 396 Related to ESBWR Design Certification Application – Fuel Racks – RAI Number 9.1-146 – LTR Markups - GEH Proprietary Information,*" is delineated by a [[dotted underline inside double square brackets{3}]]. Figures and large equation objects are identified with double square brackets before and after the object. In each case, the superscript notation {3} refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.

(3) In making this application for withholding of proprietary information of which it is the owner or licensee, GEH relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), and 2.390(a)(4) for "trade secrets" (Exemption 4). The material for which exemption from disclosure is here sought also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

(4) Some examples of categories of information which fit into the definition of proprietary information are:

   a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by GEH's competitors without license from GEH constitutes a competitive economic advantage over other companies;

b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information which reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;

d. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b. above.

(5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GEH, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GEH, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or subject to the terms under which it was licensed to GEH. Access to such documents within GEH is limited on a "need to know" basis.

(7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist, or other equivalent authority for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GEH are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.

(8) The information identified in paragraph (2) is classified as proprietary because it contains details of GEH's design and licensing methodology. The development of the methods used in these analyses, along with the testing, development and approval of the supporting methodology was achieved at a significant cost to GEH.

(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GEH's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GEH's

comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GEH.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GEH's competitive advantage will be lost if its competitors are able to use the results of the GEH experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GEH would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GEH of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 20th day of January 2010.

Larry J. Tucker

Larry J. Tucker
GE-Hitachi Nuclear Energy Americas LLC