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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 06-399 Supplement 1

Docket No. 52-010

June 15, 2007

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. 53 Related to ESBWR Design Certification Application – Reactor - RAI Number 4.4-23 S01**

Enclosure 1 contains GHNEA's response to the subject NRC RAIs transmitted via the Reference 1 letter.

Enclosure 1 contains GHNEA proprietary information as defined by 10 CFR 2.390. GHNEA 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 GHNEA. GHNEA hereby requests that the information of Enclosure 1 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 regarding the information provided here, please contact me.

Sincerely,

Kathy Sedney for

James C. Kinsey
Project Manager, ESBWR Licensing

D068

NRO

Reference:

1. MFN 06-288, Letter from U. S. Nuclear Regulatory Commission to Mr. David H. Hinds, *Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application,* August 16, 2006.

Enclosures:

1. MFN 06-399, Supplement 1 - Response to Portion of NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – Reactor RAI Number 4.4-23 S01 – GHNEA Proprietary Information
2. MFN 06-399, Supplement 1 - Response to Portion of NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – Reactor RAI Number 4.4-23 S01 – Non-Proprietary Version
3. Affidavit – James C. Kinsey – dated June 15, 2007

cc:

AE Cubbage	USNRC (with enclosures)
DH Hinds	GHNEA Wilmington (with enclosures)
BE Brown	GHNEA Wilmington (with enclosures)
eDRF	0000-0059-3547/R1

Enclosure 2

MFN 06-399 Supplement 1

Response to Portion of NRC Request for

Additional Information Letter No. 53

Related to ESBWR Design Certification Application

Reactor

RAI Number 4.4-23 01

Non-Proprietary Version

NRC RAI 4.4-23 Supplement 1

"The proposed response is not complete; the NRC staff requests that GE submit the flow blockage calculation for the GE14E fuel (showing the critical power as a function of percent blockage)."

"Additional information from telecon: GE asked what blockage the NRC reviewer was referring to; Staff wants to know what would be the %blockage the fuel elements would experience operating at full power and its effect on MCPR. GE suggested that GE provide CPR vs. inlet orifice flow area; Staff stressed that this is what they were looking for and recognize that ESBWR is a natural circulation plant and would not necessarily experience this. However, GE must state this in the response so that they can use this information to show compliance with SRP."

GE Response

An updated flow blockage evaluation has been performed for GE14E fuel. This analysis includes a figure that presents Critical Power Ratio (CPR) vs. inlet orifice flow area and CPR vs. Lower Tie Plate (LTP) flow area.

Figure 1 shows CPR for the ESBWR hot channel with GE14E fuel vs. inlet orifice and LTP flow area blocked in percent.

[[

]]

Figure 1. CPR vs. Flow Area Blocked

Boiling transition, (CPR=1.0), is reached at about [[ ]] reduction in the initial flow area for the inlet orifice and about [[ ]] reduction in the initial flow area for the LTP. The ESBWR lower plenum velocities are lower than forced circulation BWRs, which should reduce the chance that foreign material is swept up to the inlet orifice or lower tie plate.

DCD Impact

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

Enclosure 3

MFN 06-399 Supplement 1

Response to Portion of NRC Request for

Additional Information Letter No. 53

Related to ESBWR Design Certification Application

Reactor

RAI Number 4.4-23 01

Affidavit

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, James C. Kinsey, state as follows:

(1) I am Project Manager, ESBWR Licensing, GE-Hitachi Nuclear Energy Americas LLC ("GHNEA"), 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 1 of GHNEA's letter, MFN 06-399 Supplement 1, Mr. James C. Kinsey to U.S. Nuclear Energy Commission, entitled "*Response to Portion of NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – Reactor RAI Number 4.4-23 S01*", dated June 15, 2007. The proprietary information in enclosure 1, which is entitled "*Response to Portion of NRC Request for Additional Information Letter No. 53 Related to ESBWR Design Certification Application – Reactor RAI Number 4.4-23 S01 – GHNEA 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, GHNEA 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 GHNEA's competitors without license from GHNEA 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 GHNEA customer-funded development plans and programs, resulting in potential products to GHNEA;

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 GHNEA, 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 GHNEA, 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 GHNEA. Access to such documents within GHNEA 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 GHNEA 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) above is classified as proprietary because it contains details of GHNEA's evaluation methodology.

The development of the evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GHNEA asset.

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

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.

GHNEA's competitive advantage will be lost if its competitors are able to use the results of the GHNEA 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 GHNEA 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 GHNEA 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 15th day of June 2007.

James C. Kinsey

James C. Kinsey
GE-Hitachi Nuclear Energy Americas LLC