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 nonproprietary.

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MFN 06-313 Supplement 5

Docket No. 52-010

June 27, 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. 40 Related to ESBWR Design Certification Application, RAI Number 19.2-23S01.

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

If you have any questions about the information provided here, please contact me.

Sincerely,

James C. Kinsey

James C. Kinsey
Project Manager, ESBWR Licensing

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NRO

Reference:

1. MFN 06-222, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application*, July 5, 2006.

Enclosures:

1. Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk AssessmentRAI Number 19.2-23 S01. GHNEA Proprietary Information.

2. Enclosure 2 MFN 06-313 Supplement 5 Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk Assessment RAI Number 19.2-23 S01.

3. Affidavit – James Kinsey – dated June 27, 2007

cc:	AE Cubbage	USNRC (with enclosures)
	George Stramback	GHNEA/San Jose (with enclosures)
	RE Brown	GHNEA/Wilmington (with enclosures)

eDRF Section 0000-0069-5265

Enclosure 2

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Response to Portion of NRC Request for

Additional Information Letter No. 40

Related to ESBWR Design Certification Application

ESBWR Probabilistic Risk Assessment

RAI Number 19.2-23 S01

Non-Proprietary Information

NRC RAI 19.2-23 S01

Received by e-mail from T. Kevern.

The response to RAI 19.2-23 regarding BiMAC testing indicated that a conceptual design report would be issued by 10/1/2006, a final design report would be issued by 2/1/2007, and the final BiMAC test report was scheduled for 8/1/2007. Provide the status of the test program and documents. Discuss the role of the COL applicant and any COL action items related to the test program, if applicable.

GHNEA Response

Phase II is complete. The experiment is presently operational with all instrumentation, power equipment, and full-scale pipe in place. The half-diameter, full-scale pipe is also being installed after now that the initial shakedown testing is complete. The attached figures give most details pertinent to this time of the project.

During Phase III a decision will be made about the optimal angle of the pipe inclination. The ¼-sector, ½-scale system of ~20 pipes will be installed and used to explore system's effects during Phase III.

Shakedown testing of the full scale pipe went well with no unexpected results. The experimental facility reached power levels near the maxima under subcooled conditions. We measured natural circulation flow, and developed a power-control/measurement system (based on LABVIEW) that is reliable and convenient to use. As expected there was significant knocking from condensation shocks, which was reduced when the water in the tank heated up above 50 C.

There are no issues and no difficulties are expected in completing the project as scheduled. The results will be provided, as scheduled, in the September 2007 submittal of NEDO-33201 Section 21, Revision 3. Upon completion of the test phase, the design issues will be addressed, and therefore, no COL action items are anticipated.

DCD Impact

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

Section 21 of NEDO-33201 Revision 3 will be revised in response to this RAI

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Figure 1. Schematic of the as-built BiMAC Experimental Rig.

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Figure 2a. Engineering drawing of the BiMAC Rig Top View

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Figure 2b. Engineering drawing of the BiMAC Rig Bottom View

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**Figure 3. Detail of the pipe entrance section (region A in Figure 2a)
Also shown are the tank exit port, and the electromagnetic flow meter.**

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Figure 4 – Underside of Test Rig

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Figure 5 – Test Facility Underside – Opposite Direction

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Figure 6- Test Facility and Console

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Figure 7 – Area C of Figure 2a.

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Enclosure 3

AFFIDAVIT

General Electric Company

AFFIDAVIT

I, James C. Kinsey, state as follows:

(1) I am Project Manager, ESBWR Licensing, General Electric Hitachi Nuclear Energy Americas Company ("GHNEA") 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 letter MFN 06-313 Supplement 5, Mr. James C. Kinsey to U.S. Nuclear Regulatory Commission, entitled *Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application, RAI Number 19.2-23S01,* dated June 27, 2007. The proprietary information in Enclosure 1, *Response to Portion of NRC Request for Additional Information Letter No. 40 Related to ESBWR Design Certification Application ESBWR Probabilistic Risk Assessment RAI Number 19.2-23 S01* 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, 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 2.790(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 GHENA 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. 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, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, 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 depicts detailed GHNEA ESBWR design details of an experimental facility design related to the ESBWR Basemat Internal Melt Arrest and Coolability (BiMAC) System. The development of the test rig requires appropriate scaling and design considerations to properly model the design test conditions. The cost and effort associated with this development 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 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 27th day of June 2007.

James C. Kinsey

James C. Kinsey
General Electric Hitachi Nuclear
Energy Americas Company