



HITACHI

GE Hitachi Nuclear Energy

Richard E. Kingston
Vice President, ESBWR Licensing

P.O. Box 780
3901 Castle Hayne Road, M/C A-65
Wilmington, NC 28402 USA

T 910.819.6192
F 910.362.6192
rick.kingston@ge.com

Proprietary Notice

This letter forwards proprietary information in accordance with 10CFR2.390. Upon the removal of Enclosures 1 and 2, the balance of this letter may be considered non-proprietary.

MFN 09-785

Docket No. 52-010

December 12, 2009

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

**Subject: Response to a Portion of NRC Request for Additional Information
Letter No. 399 Related to ESBWR Design Certification Application -
Qualification of Batteries- RAI 8.3-64 S02**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to a portion of U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) letter number 399 sent by NRC letter received December 7, 2009 (Reference 1). The GEH response to RAI Number 8.3-64 S02 is addressed in Enclosure 1. In addition, a revised Licensing Topical Report, "ESBWR Qualification Plan Requirements for a 72-Hour Duty Cycle Battery," NEDE-33516P Revision 2, December 2009 has been issued as shown in Enclosure 2.

Enclosures 1 and 2 contain GEH proprietary information as defined by 10 CFR 2.390. GEH customarily maintains this information in confidence and withholds it from public disclosure.

The affidavit contained in Enclosure 3 identifies that the information contained in Enclosures 1 and 2 has been handled and classified as proprietary to GEH. GEH hereby requests that the information in Enclosure 1 and 2 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. GEH has not submitted a nonproprietary version of these enclosures in accordance with NRC Information Notice 2009-07, Requirements for Submittals, (2): "In instances in which a nonproprietary version would be of no value to the public because of the extent of the proprietary information, the agency does not expect a nonproprietary version to be submitted."

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

Sincerely,



Richard E. Kingston
Vice President, ESBWR Licensing

Reference:

1. MFN 09-771 Letter from U.S. Nuclear Regulatory Commission to J. G. Head, GEH, *Request For Additional Information Letter No. 399 Related to ESBWR Design Control Document* received December 7, 2009

Enclosures:

1. Response to a Portion of NRC Request for Additional Information Letter No. 399 Related to ESBWR Design Certification Application - Qualification of Batteries- RAI 8.3-64 S02 and DCD Markup - GEH Proprietary Information
2. Response to a Portion of NRC Request for Additional Information Letter No. 399 Related to ESBWR Design Certification Application - Qualification of Batteries- Licensing Topical Report, "ESBWR Qualification Plan Requirements for a 72-Hour Duty Cycle Battery," NEDE-33516P Revision 2, December 2009, GEH Proprietary Information
3. Affidavit

cc:	AE Cabbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	PM Yandow	GEH/Wilmington (with enclosures)
	eDRF Section	0000-0110-7549 (RAI 8.3-64 S02 and LTR NEDE-33516P Rev 2)

MFN 09-785

Enclosure 1

**Response to Portion of NRC Request for Additional
Information Letter No. 399 Related to ESBWR
Design Certification Application –
Qualification of Batteries –**

**RAI Number 8.3-64 S02
And DCD Markup**

GEH PROPRIETARY INFORMATION

PROPRIETARY INFORMATION NOTICE

This enclosure contains GE-Hitachi Nuclear Energy Americas LLC (GEH) proprietary information and is furnished in confidence solely for the purpose(s) stated in the transmittal letter. No other use, direct or indirect, of the document or the information it contains is authorized. Furnishing this enclosure does not convey any license, express or implied, to use any patented invention or, except as specified above, any proprietary information of GEH disclosed herein or any right to publish or make copies of the enclosure without prior written permission of GEH. Each page is stamped "GEH Proprietary Information." The proprietary information is enclosed within double square brackets with a dotted underline. [[This sentence is an example. ^{3}]] Figures and large equation objects are enclosed in double brackets. The superscript notation {3} refers to Paragraph (3) of the enclosed affidavit in Enclosure 3 which provides the basis for the proprietary determination.

NRC RAI 8.3-64 S02

In regards to the Topical Report NEDE-33516P, please clarify test definitions and frequencies as follows:

[[a. Provide a table within the report showing the testing frequency and type of test (for example, Year 1 - Capacity test at a 72-hour rate) to be conducted conforming to the qualification plan as outlined in the topical report. As a footnote to the table, please include the following statement as shown in page 1 of the report: "the battery capacity tests meet the requirements of a performance capacity test and exceed the load profile of a service test throughout their installed 20-year life."

b. Throughout the report, the applicant uses the term "72-hr duty cycle duration is performed to 1.75 vpc" and "72-hour rate is performed at a rated current to 1.75 (vpc) average" interchangeably (for example, see Steps 4 and 5). Please replace all the instances where the phrase "72-hr duty cycle duration is performed to 1.75 vpc" is used with "72-hour rate is performed at a rated current to 1.75 (vpc) average" to show consistency throughout the report.⁽³⁾]]

GEH Response

GEH agrees with changes as requested.

- a. *[[Table 1.1-1 Qualification Testing Sequence Summary has been developed and included in the LTR. The footnote requested was included at the new table.*
- b. *The requested wording, "72-hour rate is performed at a rated current to 1.75 (vpc) average" has been inserted throughout the report, as requested, to show consistency. Step 52, the acceptance criteria test , shows >80% capacity prior to reaching 1.75 vpc, not an average cell voltage in accordance with IEEE 535.⁽³⁾]]*

The format of the NEDE has been revised for clarity and consistency.

Reference 3.11-6 has had editorial correction to revision and date.

DCD Impact

LTR NEDE-33516P, Rev 1 is revised to Rev 2 as noted in the attached markup and as described above.

Editorial change to DCD Chapter 3 Reference 3.11-8 is attached.

3.11.8 References

- 3.11-1 USNRC, Standard Review Plan, NUREG-0800, SRP 3.11, Revision 3, March 2007, "Environmental Qualification of Mechanical and Electrical Equipment."
- 3.11-2 USNRC, Code of Federal Regulations, Title 10, Chapter I, Part 50, Paragraph 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants."
- 3.11-3 General Electric Co., "General Electric Environmental Qualification Program," NEDE-24326-1-P, Proprietary Document, January 1983.
- 3.11-4 Regulatory Guide 1.209, "Guidelines for Environmental Qualification of Safety-Related Computer-Based Instrumentation and Control Systems in Nuclear Power Plants," March 2007.
- 3.11-5 NUREG 0588, USNRC, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979.
- 3.11-6 GE Hitachi Nuclear Energy, "ESBWR Qualification Plan Requirements for a 72-Hour Duty Cycle Battery," NEDE-33516P Revision-02, Proprietary Document, July-December 2009.

MFN 09-785

Enclosure 3

Affidavit

GE-Hitachi Nuclear Energy Americas, LLC

AFFIDAVIT

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

- (1) I am the Manager, ESBWR Engineering, GE Hitachi Nuclear Energy ("GEH"), 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 Enclosures 1 and 2 of GEH letter MFN 09-785, Mr. Richard E. Kingston to U.S. Nuclear Regulatory Commission, entitled *Response to Portion of NRC RAI Letter No. 399 Related to ESBWR Design Certification Application – Qualification of Batteries- RAI Number 8.3-64 S02 dated December 12, 2009*. The GEH proprietary information in Enclosures 1 and 2, which are the RAI response and an LTR entitled Qualification of Batteries- Licensing Topical Report, "ESBWR Qualification Plan Requirements for a 72-Hour Duty Cycle Battery," NEDE-33516P Revision 2, December 2009, 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, 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 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, 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 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), above, is classified as proprietary because it identifies detailed GE ESBWR design information. GE utilized prior design information and experience from its fleet with significant resource allocation in developing the system over several years at a substantial cost.

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 GEH asset.

- (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 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 12th day of December, 2009.

Larry J. Tucker
GE-Hitachi Nuclear Energy Americas, LLC

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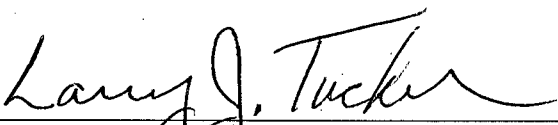
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Larry J. Tucker
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