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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 09-755

Docket No. 52-010

December 4, 2009

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

**Subject: Response to Portion of NRC RAI Letter No. 392 Related to ESBWR
Design Certification Application – DCD Tier 2 Section 3.9 –
Mechanical Systems and Components; RAI Numbers 3.9-212 S02,
3.9-219 S02 & 3.9-258 S01**

The purpose of this letter is to submit the GE Hitachi Nuclear Energy (GEH) response to a portion of the U.S. Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) letter number 392 sent by NRC letter dated November 5, 2009 (Reference 1). RAI Numbers 3.9-212 S02, 3.9-219 S02 and 3.9-258 S01 are addressed in Enclosure 1.

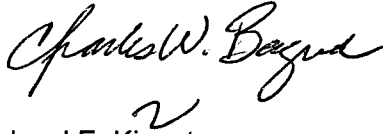
Enclosure 2 contains the changes to the effected LTRs as a result of GEH's response to this RAI. Verified LTR changes associated with these RAI responses are identified in the enclosed markups by enclosing the text within a black box. Enclosure 2 contains GEH proprietary information as defined by 10 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 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.

DO 68
NRC

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

Sincerely,



Richard E. Kingston
Vice President, ESBWR Licensing

Reference:

1. MFN 09-699 Letter from U.S. Nuclear Regulatory Commission to J. G. Head, GEH, *Request For Additional Information Letter No. 392 Related to ESBWR Design Control Document* dated November 5, 2009

Enclosures:

1. Response to Portion of NRC RAI Letter No. 392 Related to ESBWR Design Certification Application - DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Numbers 3.9-212 S02, 3.9-219 S02 and 3.9-258 S01
2. Response to Portion of NRC RAI Letter No. 392 Related to ESBWR Design Certification Application - LTR Markups for RAI Numbers 3.9-212 S02, 3.9-219 S02 and 3.9-258 S01 – Proprietary Version
3. Affidavit

cc:	AE Cubbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	HA Upton	GEH/San Jose (with enclosures)
	eDRF Section	0000- 0110-1045 (RAIs 3.9-212 S02, 3.9-219 S02 and 3.9-258 S01)

Enclosure 1

MFN 09-755

Response to Portion of NRC Request for

Additional Information Letter No. 392

Related to ESBWR Design Certification Application

**DCD Tier 2 Section 3.9 – Mechanical Systems and
Components**

RAI Numbers 3.9-212 S02, 3.9-219 S02, 3.9-258 S01

NRC RAI 3.9-212 S02 [1]

RAI Summary

Explain how uncertainty in strain gage orientation will be accounted for in comparison to simulations

Detailed RAI Text

Since the strain gages will all be uniaxial, GEH should explain how uncertainty in strain gage orientation with respect to the dryer geometry will be accounted for in its comparisons to simulations. GEH is requested to include this information in LTR NEDE-33313P.

GEH Response

The strain gages will be installed with a maximum angularity tolerance of +/-5 degrees. This tolerance assures the measurement uncertainty due to angularity tolerance is negligible. This requirement and explanation will be added to LTR NEDE-33313P [2] Section 9.2 Startup Testing Acceptance Criteria.

DCD Impact

No DCD changes will be made in response to this RAI. LTR NEDE-33313P [2] will be revised as noted in the attached markup.

NRC RAI 3.9-219 S02 [1]

RAI Summary

Clarify the meaning of time interval, time segment, and subinterval

RAI Text

GEH should clarify the meanings of the terms: time interval, time segment, and subinterval. GEH should also document the length(s) of the stress analysis time histories. Finally, GEH should further clarify how time interval bias factors are determined, including explaining their frequency dependence (if any), and location dependence. GEH is requested to include these explanations in a revised version of LTR NEDE-33313P.

GEH Response

Section 5.2.4 of LTR NEDE-33313P [2] has been expanded to describe the terms time interval and time segment. The term subinterval is not used. We have added a description of the lengths of the stress analysis time histories. We have clarified how time interval bias factors are determined including their frequency dependence and location dependence. The equations added to this section were previously provided in Reference [3].

DCD Impact

No DCD changes will be made in response to this RAI. LTR NEDE-33313P [2] Section 5.2.4 will be revised as noted in the attached markup.

NRC RAI 3.9-258 S01 [1]

While GEH's substantiation of assuming velocity squared dependence for the U23 coefficient is reasonable, it should be documented in a revision of NEDC-33408P, Supplement 1.

GEH Response

The information provided in RAI-3.9-258 [4] has been incorporated in the attached markup of Section 3.1.2 and 3.1.3 of NEDC-33408P, Supplement 1 Rev 1 [5].

DCD Impact

No DCD changes will be made in response to this RAI. LTR NEDC-33408P, Supplement 1 [5], will be revised as noted in the attached markup.

References

1. MFN-09-699, Leslie Perkins to Gerald Head, "Request for Additional Information Letter No. 392 Related to ESBWR Design Certification Application", November 5, 2009.
2. GE Hitachi Nuclear Energy, "ESBWR STEAM DRYER STRUCTURAL EVALUATION, NEDE-33313P, Revision 1", July 2009
3. MFN 09-509, Richard E. Kingston (GEH) to USNRC Document Control Desk, "Response to Portion of NRC RAI Letter No. 220 and 339 Related to ESBWR Design Certification Application – DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Numbers 3.9-213 and 3.9-217 S01", Docket Number 52-010, July 31, 2009.
4. MFN-09-493, "Response to Portion of NRC RAI Letter No. 338 Related to ESBWR Design Certification Application – DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Number 3.9-258" Docket No. 52-010, July 20, 2009.
5. GE Hitachi Nuclear Energy, "ESBWR Steam Dryer - Plant Based Load Evaluation Methodology Supplement 1," NEDC-33408P, Supplement 1, Revision 1, Class III (Proprietary), August 2009."

MFN 09-755

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 Enclosure 2 of GEH letter MFN 09-755, Mr. Richard E. Kingston to U.S. Nuclear Regulatory Commission, entitled *Response to Portion of NRC RAI Letter No. 392 Related to ESBWR Design Certification Application – DCD Tier 2 Section 3.9 – Mechanical Systems and Components; RAI Numbers 3.9-212 S02, 3.9-219 S02 & 3.9-258 S01* dated December 4, 2009. The GEH proprietary information in Enclosure 2, which is entitled *Response to Portion of NRC RAI Letter No. 392 Related to ESBWR Design Certification Application - LTR Markups for RAI Numbers 3.9-212 S02, 3.9-219 S02 and 3.9-258 S01 – Proprietary Version* 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. 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 proprietary information, the agency does not expect a non-proprietary version to be submitted."
- (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 GEH ESBWR design information. GEH 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.

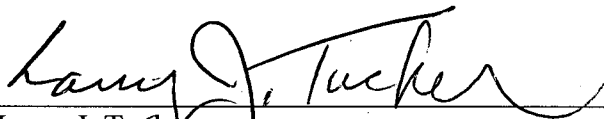
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 4th day of December, 2009.


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