Proprietary Information Notice
This letter forwards entirely proprietary information in accordance with 10CFR2.390.

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MFN 07-466

Docket No. 52-010

August 24, 2007

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

Subject: **Transmittal of "Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment – Part 3" Research Report VTT-R-06771-07**

The purpose of this letter is for GE-Hitachi Nuclear Energy Americas (GEH) to provide the U.S. Nuclear Regulatory Commission (NRC) with the subject report in support of GEH's response to selected questions of NRC Request for Additional Information Letter No. 90, Items 15.4-28, 15-4-13, and 15.4-22. This report is the third in a series of reports for the estimation and modeling of fission product decontamination factors for the ESBWR Containment. The purpose of this work is to investigate further the sensitivity of the quantity of CsOH in the containment water pools to the pool pH and to study the fission product source term via potential leak path through the Main Steam Line (MSL) and Main Steam Drain Line (MSDL) to the Main Condenser.

In this report, the sensitivity of pH in the containment pools to the anticipated mass of CsOH was estimated with Chemsheet code and the fission product Source Term analyses accounting for the Main Steam Line (MSL) leak path, including a more detailed description of MSL, Main Steam Drain Line and Main Condenser were estimated with MELCOR 1.8.6YN code for a 30-day period. Also, the alignment of Safety Relief Valves and Depressurization Valves in the MSL was updated.

The studied accident scenarios, denoted Accident Scenarios (AS) AS-1, AS-2 and AS-3, were the same LOCA and Loss of Preferred Power sequences as provided in Parts 1 and 2 but with or without a failure of Main Steam Line Isolation Valves (MSIVs) inside the containment and closure with a small leak in the MSIV outside the containment in one of the four MSLs. The fourth accident

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scenario was a MSL break, which was used to investigate the CsI leakage first to the containment atmosphere and then from containment to the MSL and to the Main Condenser.

The results indicate that the Wetwell always remains basic, the Lower Drywell Pool turns acidic 20.3 days into the accident, and the Gravity-Driven Cooling System (GDCS) becomes acidic at 12.3 hrs. It should be noted, however, that if 25% of excess Cs formed from CsI forms CsOH, it is likely that the GDCS pool remains acidic.

The second task was to evaluate the sensitivity of the obtained pH results to the amount of CsOH in the pools. The needed sensitivity runs were run with total CsOH masses equal to 50%, 25% and 10% of the total CsOH mass in the base case results.

Additionally in this report, iodine deposition in the MSL and other interconnected piping was evaluated for CsI removal fractions. The results indicate that the source term analyses accounting for the MSL leak path for Accident Scenarios AS 1-3 suggests that the total CsI removal fractions in the MSL pipe section between MSIV-1 and the Main Condenser are AS-1 (99.45%), AS-2 (99.65%) and AS-3 (99.83%) and a MSL Guillotine Break (AS-4) at 99.02%.

The contents of the subject report (Enclosure 1) are entirely GEH proprietary information of the type that GEH maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to GEH as indicated in the enclosed affidavit (Enclosure 2) required by 10 CFR 2.390(b)(1). GEH hereby requests that the information in Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. Each page of the enclosed report is stamped "GEH Proprietary Information." A non-proprietary version is not enclosed because it would be blank pages.

If you have any questions or require additional information regarding the information provided here, please contact me.

Sincerely,

James C. Kinsey

James C. Kinsey
Project Manager, ESBWR Licensing

Enclosures:

1. Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment – Part 3" VTT-R-06771-07 – GEH Proprietary Information
2. Affidavit – David H. Hinds – August 24, 2007

cc: AE Cubbage USNRC (with enclosures)
GB Stramback GEH /San Jose (with enclosures)
RE Brown GEH /Wilmington (with enclosures)
eDRF 0064-4575

Enclosure 2

MFN 07-466

Affidavit for GE-Hitachi Nuclear Energy Americas LLC Proprietary Information for the NRC

Executed by David H. Hinds, August 24, 2007

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, David H. Hinds, state as follows:

(1) I am the Manager, New Units Engineering, GE-Hitachi Nuclear Energy Americas LLC ("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 1 of MFN 07-466, Mr. James C. Kinsey to U.S. Nuclear Regulatory Commission, *MFN 07-466 – Transmittal of Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment – Part 3, VTT-R-06771-07* dated August 24, 2007. The information in Enclosure 1, which is entitled *MFN 07-466 – Transmittal of Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment – Part 3, VTT-R-06771-07,"* is entirely GEH Proprietary. Each page is stamped "GEH Proprietary Information." Paragraph (3) of this affidavit 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), above, is classified as proprietary because it identifies detailed GEH ESBWR calculations related to the pH sensitivity in the containment pools and iodine deposition in the main steam lines and interconnected piping. Development of these calculations for the pH sensitivity in the containment pools and iodine deposition in the main steam lines and interconnected piping was achieved at a significant cost to GEH, on the order of a hundred thousand dollars and would result in a significant economic and competitive advantage to a competitor, and 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.

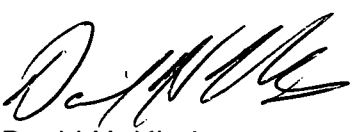
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 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 24th day of August, 2007.



David H. Hinds
GE-Hitachi Nuclear Energy Americas LLC