



**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 Enclosure 1, the balance of this letter may be considered non-proprietary.

MFN 09-131, Supplement 1

Docket No. 52-010

March 13, 2009

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

**Subject: Re-Submittal of Computational Fluid Dynamics (CFD) Model Inputs for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format**

The Staff has indicated that they could not open the previous files submitted in Reference 1 and offered suggested format changes that enable use of the files. Attached is the revised formatted files for the Staff's use.

There are three directories on the Compact Disc (CD) CD\_1:

- Input--Contains the excel spreadsheet "inputs.xls" used as boundary conditions
- Geometry--Contains the geometry of the ESBWR used for modeling of the single phase liquid portions of the simulation, "npp-esbwr rpv cfd 2.X\_T" (converted from Inventor model to Parasolid version 18 model)
- Mesh\_a -Contains the mesh file "Geh\_fluent\_mesh\_a."

There is one directory on the CD\_2:

- Mesh\_b – Contains the mesh file "Geh\_fluent\_mesh\_b".

Also, there is an "ReadMeInformation.rtf" file. Please note that the Mesh files in directory Mesh\_a and Mesh\_b must be merged together from the two CDs prior to use. Unfortunately, the file was too large to be placed on one CD. The following DOS command can be used to join the two mesh files:

"Copy/b Geh\_fluent\_mesh\_a+Geh\_fluent\_mesh\_b Geh\_fluent\_mesh.cas.gz"  
The file Geh\_fluent\_mesh.cas.gz can be opened by Fluent.

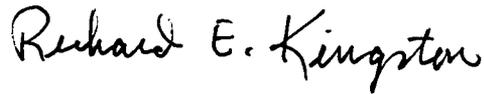
D068  
NPO

The Enclosure 1 CDs contain entirely proprietary GEH information as defined by 10 CFR 2.390. GEH customarily maintains this information in confidence and withholds it from public disclosure. A non-proprietary version for public disclosure is not available.

The affidavit contained in Enclosure 2 identifies that the information contained in Enclosure 1 CDs have been handled and classified as proprietary to GEH. GEH 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, please contact me.

Sincerely,



Richard E. Kingston  
Vice President, ESBWR Licensing

Reference:

1. MFN 09-131, Letter from Richard E. Kingston, GEH to U.S. Nuclear Regulatory Commission, *Submittal of Computational Fluid Dynamics (CFD) Model Inputs for RWCU/Shutdown Cooling Decay Heat Removal*, dated February 19, 2009

Enclosures:

1. MFN 09-131, Supplement 1 CDs "Re-Submittal of Computational Fluid Dynamics Input Files for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format"
2. MFN 09-131, Supplement 1 – Affidavit – Larry J. Tucker – March 13, 2009

cc: AE Cabbage      USNRC (with enclosures)  
RE Brown          GEH/Wilmington (with enclosures)  
DH Hinds          GEH/Wilmington (with enclosures)

The Enclosure 1 CDs contain entirely proprietary GEH information as defined by 10 CFR 2.390. GEH customarily maintains this information in confidence and withholds it from public disclosure. A non-proprietary version for public disclosure is not available.

The affidavit contained in Enclosure 2 identifies that the information contained in Enclosure 1 CDs have been handled and classified as proprietary to GEH. GEH 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, please contact me.

Sincerely,

Richard E. Kingston  
Vice President, ESBWR Licensing

Reference:

1. MFN 09-131, Letter from Richard E. Kingston, GEH to U.S. Nuclear Regulatory Commission, *Submittal of Computational Fluid Dynamics (CFD) Model Inputs for RWCU/Shutdown Cooling Decay Heat Removal*, dated February 19, 2009

Enclosures:

1. MFN 09-131, Supplement 1 CDs "Re-Submittal of Computational Fluid Dynamics Input Files for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format"
2. MFN 09-131, Supplement 1 – Affidavit – Larry J. Tucker – March 13, 2009

cc: .AE Cabbage      USNRC (with enclosures)  
RE Brown          GEH/Wilmington (with enclosures)  
DH Hinds          GEH/Wilmington (with enclosures)

**Enclosure 2**

**MFN 09-131, Supplement 1**

**Affidavit**

**Larry J. Tucker – March 13, 2009**

# GE-Hitachi Nuclear Energy Americas LLC

## AFFIDAVIT

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

- (1) I am Manager, ESBWR 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 to be discussed and sought to be withheld is delineated in the letter from Mr. Richard E. Kingston to U.S. Nuclear Regulatory Commission, entitled "Re-Submittal of Computational Fluid Dynamics (CFD) Model Inputs for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format," dated March 13, 2009. The information in Enclosure 1 Compact Discs, which is entitled "Re-Submittal of Computational Fluid Dynamics (CFD) Model Inputs for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format" – *GEH Proprietary Information*, contains 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 contains computer code development methodology inputs and assumptions developed by GEH. Development of this computer code methodology was achieved at a significant cost to GEH, and is considered 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 13<sup>th</sup> day of March 2009.



---

Larry J. Tucker  
GE-Hitachi Nuclear Energy Americas LLC

## **Enclosure 1**

### **MFN 09-131, Supplement 1**

#### **CDs**

#### **Re-Submittal of Computational Fluid Dynamics Input Files for RWCU/Shutdown Cooling Decay Heat Removal in Revised Format**

##### **CDs Files**

- Input – input.xls
- Geometry - npp-esbwr rpv cfd 2.X\_T
- Mesh - Geh\_fluent\_mesh\_a and Geh\_fluent\_mesh\_b
- Read Me - ReadMeInformation.rtf

#### **GEH Proprietary Information**

These CDs contain entirely proprietary GE-Hitachi Nuclear Energy Americas LLC (GEH) 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. Paragraph (3) of the enclosed affidavit provides the basis for the proprietary determination.