



GE Energy

David H. Hinds  
Manager, ESBWR

PO Box 780 M/C L60  
Wilmington, NC 28402-0780  
USA

T 910 675 6363  
F 910 362 6363  
david.hinds@ge.com

MFN 06-034

Docket No. 52-010

February 15, 2006

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

**Subject: Response to NRC Request for Additional Information Letter No. 5 for  
the ESBWR Design Certification Application – RAI No. 6.3-2 –  
TRACE Input**

GE provided a partial response to the subject RAI in the Reference 1 letter. Enclosure 1 contains GE's response to the remaining RAI items and completes this RAI Letter No. 5 response.

Please note that the PCCS condenser tube lengths provided in Enclosure 1 should supercede any data provided previously (e.g., estimated heat exchanger tube lengths were given in Reference 2). Also, information previously provided for the MELCOR model (Reference 3) may not be suitable for TRACE because of the nature of severe accident calculations, which have very high uncertainties.

Enclosure 1 contains GE proprietary information as defined by 10 CFR 2.390. GE customarily maintains this information in confidence and withholds it from public disclosure.

The affidavit contained in Enclosure 3 identifies that the information contained in Enclosure 1 has been handled and classified as proprietary to GE. GE 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. A non-proprietary version is contained in Enclosure 2.

D068

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

Sincerely,



David H. Hinds  
Manager, ESBWR

References:

1. MFN 06-003, Letter from David H. Hinds to U. S. Nuclear Regulatory Commission, *Additional Information Regarding PCCS, ICS, GDCS, SRV and DPV Design Details*, January 9, 2006
2. MFN 05-122, Letter from David H. Hinds to U. S. Nuclear Regulatory Commission, *Additional Information Regarding ESBWR MAAP Parameters (TAC #MC8168)*, October 28, 2005
3. MFN 05-089, Letter from David H. Hinds to U. S. Nuclear Regulatory Commission, *ESBWR MAAP Parameters*, September 9, 2005

Enclosures:

1. MFN 06-034 – Response to NRC Request for Additional Information Letter No. 5 for the ESBWR Design Certification Application – RAI No. 6.3-2 – TRACE Input – GE Proprietary Information
2. MFN 06-034 – Response to NRC Request for Additional Information Letter No. 5 for the ESBWR Design Certification Application – RAI No. 6.3-2 – TRACE Input – Non Proprietary Version
3. Affidavit – David J. Robare – dated February 15, 2006

cc: WD Beckner USNRC (w/o enclosures)  
LA Dudes USNRC (w/o enclosures)  
AE Cabbage USNRC (with enclosures)  
GB Stramback GE San Jose (with enclosures)  
eDRF 0000-0049-8917

MFN 06-034  
Enclosure 2

**ENCLOSURE 2**

**MFN 06-034**

**Response to NRC Request for Additional Information Letter**

**No. 5 for the ESBWR Design Certification Application**

**RAI No. 6.3-2 – TRACE Input**

**Non Proprietary Version**

RAI Number 6.3-2: Provide design information for the PCCS, ICS, GDCS, SRVs and DPVs. Verify L1 and L2 positions

**Passive Containment Cooling System (PCCS)**

**NRC Request**

(6) PCCS tube length

**GE Response**

PCCS Condenser Tube Lengths:

[[

]]

**L1 and L2 Design Information**

**NRC Request**

(1) Verify or correct the value of L1. Table 6.3-1 lists the L1 position as 3.547 meters above TAF, where TAF is given in Table 5.3-3 as 7.453 m. This gives an L1 position of 11.0 m. However, Table 15.2-1 lists the L1 position as 10.0 m.

**GE Response**

L1 is 11 m above vessel 0. The value in Table 15.2-1 was corrected in DCD, Revision 1.

**NRC Request**

(2) Verify or correct the value of L2. Table 15.2-1 lists the L2 position as 16.05m.

**GE Response**

L2 is correctly stated in DCD Chapter 15, Revision 0

**ENCLOSURE 3**

**MFN 06-034**

**Affidavit**

# General Electric Company

## AFFIDAVIT

**I, David J. Robare, state as follows:**

- (1) I am Project Manager, Plant Performance and Optimization, General Electric Company ("GE") and 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 GE letter MFN 06-034, David H. Hinds to USNRC, *Response to NRC Request for Additional Information Letter No. 5 for the ESBWR Design Certification Application – RAI No. 6.3-2 – TRACE Input*, dated February 15, 2006. The proprietary information in Enclosure 1, *Response to NRC Request for Additional Information Letter No. 5 for the ESBWR Design Certification Application – RAI No. 6.3-2 – TRACE Input*, is identified by a dark red font with double underlines inside double square brackets. 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, GE 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 General Electric's competitors without license from General Electric 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 General Electric customer-funded development plans and programs, resulting in potential products to General Electric;
- 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 GE, 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 GE, 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 GE 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 GE 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 the details of the evaluation model supporting the probabilistic analysis that GE developed to estimate the core damage frequency of the ESBWR. This model is based on previous European SBWR information developed over several years at a significant cost to GE.

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 GE asset.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE'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 GE.


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.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE 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 GE 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 GE 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 15<sup>th</sup> day of February 2006



David J. Robare  
General Electric Company



MFN 06-034  
Enclosure 1

## **ENCLOSURE 1**

**MFN 06-034**

**Response to NRC Request for Additional Information Letter**

**No. 5 for the ESBWR Design Certification Application**

**RAI No. 6.3-2 – TRACE Input**

**Contains GE Proprietary Information**

### **PROPRIETARY INFORMATION NOTICE**

This enclosure contains proprietary information of the General Electric Company (GE) 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 GE disclosed herein or any right to publish or make copies of the enclosure without prior written permission of GE. The proprietary information is identified by a dark red font with double underlines inside double square brackets. [[This sentence is an example<sup>{3}</sup>]]. The superscript notation <sup>{3}</sup> refers to Paragraph (3) of the enclosed affidavit, which provides the basis for the proprietary determination.