



GE Energy

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*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 06-239, Supplement 1

Docket No. 52-010

March 27, 2007

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

Subject: **Response to Portion of NRC Request for Additional Information  
Letter No. 52 Related to ESBWR Design Certification Application –  
TRACG ATWS – RAI Number 21.6-53S01**

Enclosure 1 contains proprietary information as defined in 10CFR2.390. 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 proprietary information in 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.

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

Sincerely,

James C. Kinsey  
Project Manager, ESBWR Licensing

Reference:

1. MFN 06-314, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 52 Related to ESBWR Design Certification Application*, August 18, 2006

Enclosures:

1. MFN 06-239, Supplement 1 – Partial Response to Portion of NRC Request for Additional Information Letter No. 52 Related to ESBWR Design Certification Application – TRACG ATWS – RAI Number 21.6-53S01 – GE Proprietary Information
2. MFN 06-239, Supplement 1 – Partial Response to Portion of NRC Request for Additional Information Letter No. 52 Related to ESBWR Design Certification Application – TRACG ATWS – RAI Number 21.6-53S01 – Non-Proprietary
3. Affidavit – David H. Hinds – dated March 27, 2007

cc: AE Cabbage USNRC (w/enclosures)  
GB Stramback GE/San Jose (w/enclosures)  
BE Brown GE/Wilmington (w/enclosures)  
eDRF 0063-9717R1

**Enclosure 2**

**MFN 06-239 Supplement 1**

**Response to Portion of NRC Request for  
Additional Information Letter No. 52  
Related to ESBWR Design Certification Application**

**TRACG ATWS**

**RAI Numbers 21.6-53 S01**

**Non-Proprietary Version.**

**NRC RAI 21.6-53 S01:**

*Revised response to reflect TRACG ATWS Error on Leakage Flow Rates similar to format in 21.6-77.*

**GE Response:**

Table 21.6-53 S01 shows the leakage path flow rates for the nominal (100% power) MSIVc case and includes the following updates and corrections previously incorporated into the bounding analysis in Revision 3 of the Design Control Document. The changes discussed herein resulted from correcting the initiation time for feedwater runback in the TRACG analysis for ATWS. In GE letter MFN 06-503 dated December 8, 2006, GE informed the NRC of an incorrect input (feedwater runback was initiated too soon) in the ATWS TRACG analysis.

1. New Isolation Condenser (IC) Input consistent with increased volume of the drain tank.
2. Revision of the SRV opening and closing duration consistent with technical specifications for ESBWR ATWS.
3. SRV open/close setpoints have been corrected from [[                    ]] psia to [[                    ]] psig, and made consistent with technical specifications for ESBWR ATWS.
4. The SLCS transportation delay time is increased to [[            ]] seconds = [[                    ]] for the TRACG analysis, and is consistent with technical specifications for ESBWR ATWS.

The first two lines of Table 21.6-53b-1 from MFN 06-239 are shown with updated values below. The flow rates are shown in kg/s.

**Table 21.6-53 S01 Updated Average Values of Leakage Flow for CFD Evaluation  
(just before SLCS Injection)**

|  | Ring 1 | Ring 2 | Ring 3<br>Standard<br>Orifice*<br>(CHAN<br>311-361) | Ring 3<br>Peripheral<br>Orifice<br>(CHAN<br>411-461) |
|--|--------|--------|---|--|
| Leakage Path Flow Rate Between Bypass and Channel (kg/s)<br>$W_{FS} + W_{LTPH} + W_B$ (Positive Denotes Flow INTO Channel) | [[     |        |   |  |
| Leakage Path Flow Rate Between Bypass and Lower Plenum<br>(kg/s) $W_{CSP}$<br>(Positive Denotes Upward Flow)               |        |        |   | ]]   |

*\*Previously called "Peripheral Chimney"*

**Affected Documents:**

No changes to the subject ATWS LTR will be made in response to this RAI. No changes to the DCD will be made in response to this RAI.

**Enclosure 3**

**MFN 06-239 Supplement 1**

**Affidavit**

# General Electric Company

## AFFIDAVIT

I, **David H. Hinds**, state as follows:

- (1) I am Manager, New Units Engineering, 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 Enclosure 1 of GE letter MFN 06-239, Supplement 1, Mr. James C. Kinsey to U.S. Nuclear Regulatory Commission, *Request for Additional Information Letter No. 52 Related to ESBWR Design Certification Application – TRACG ATWS, RAI Number 21.6-53S01 Contains GE Proprietary Information* dated March 27, 2007. The proprietary information is in Enclosure 1, *Request for Additional Information Letter No. 52 Related to ESBWR Design Certification Application – TRACG ATWS, RAI Number 21.6-53S01 Contains GE Proprietary Information* and contains the designation "GE Proprietary <sup>{3}</sup>." The superscript notation <sup>{3}</sup> 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 describes the models and methodologies GE used in evaluating design basis accidents (DBAs) and transients for the ESBWR. GE and its partners performed significant additional research and evaluation to develop a basis for these revised methodologies to be used in evaluating the ESBWR over a period of several years at a cost of millions of dollars.
- (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.

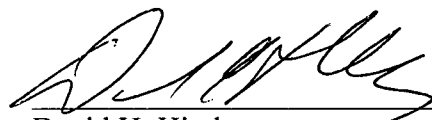
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 27<sup>th</sup> day of March, 2007.

  
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David H. Hinds  
General Electric Company