



GE Energy

Proprietary Information Notice
This letter forwards proprietary information in accordance with 10CFR2.390. The balance of this letter may be considered non-proprietary upon the removal of Enclosure 1.

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MFN 06-229 Supplement 3

Docket No. 52-010

December 1, 2006

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

Subject: **Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR**

In the Reference 1 letter, additional information was requested to support NRC independent confirmatory analysis of aerosol depletion behavior as related to design basis accident dose consequences. In the Reference 2 letter, GE provided preliminary TRACG results to address a portion of this request, and in the Reference 3 and 4 letters GE provided an initial and revised report to detail additional research and evaluation performed to continue to address these questions. Reference 5 provided additional MELCOR support data and calculations to supplement the information provided in the Reference 2, 3 and 4 letters. Enclosure 1 contains additional data.

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. The CD is entirely proprietary, and a non-proprietary version is not possible. Therefore, the CD label contains the designation "GE Proprietary," and Enclosure 2 contains a non-proprietary description of the data provided on the CD.

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

D068

Sincerely,



David H. Hinds
Manager, ESBWR

References:

1. MFN 06-104, Letter from U. S. Nuclear Regulatory Commission to Mr. David H. Hinds, *Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application*, March 30, 2006
2. MFN 06-112, Letter from Mr. David H. Hinds to U.S. Nuclear Regulatory Commission, *Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – Preliminary TRACG Results – RAI Number 6.5-2*, April 28, 2006
3. MFN 06-229, Letter from Mr. David H. Hinds to U.S. Nuclear Regulatory Commission, *Research Report No. VTT-R-04413-06, “Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment,” June 2006*, June 18, 2006
4. MFN 06-229 Supplement 1, Letter from Mr. David H. Hinds to U.S. Nuclear Regulatory Commission, *Research Report No. VTT-R-04413-06, “Estimation and Modeling of Effective Fission Product Decontamination Factor for ESBWR Containment – Part 1,” October 2006*, October 18, 2006
5. MFN 06-229, Supplement 2, Letter from David H. Hinds to U.S. Nuclear Regulatory Commission, *Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – Additional MELCOR Data – RAI Number 6.5-2*, October 26, 2006

Enclosures:

1. MFN 06-229 Supplement 3 – Information Supporting NRC Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR – Contains GE Proprietary Information
2. MFN 06-229 Supplement 3 – Information Supporting NRC Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR – Non Proprietary Version
3. Affidavit – David H. Hinds – dated December 1, 2006

cc: AE Cabbage USNRC (with enclosures)
GB Stramback GE/San Jose (with enclosures)
eDRF 0000-0054-9445

ENCLOSURE 1

MFN 06-229 Supplement 3

Information Supporting NRC Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR

- ESBWR_CASE1_1.xls: pH profiles: Start pH 5.3, total HCl 430 mol and total HNO₃ 5.2 mol, 8 vol-% of HCl in UDW, 92 vol-% of HCl in LDW, 100 vol-% of HNO₃ in GDCS
- ESBWR_CASE1_2.xls: pH profiles: Start pH 5.3, HCl generation 0.0015 mol/s from 2000 s
- ESBWR_CASE1_3.xls: pH profiles: Start pH 5.3, HCl generation 0.0060 mol/s from 2000 s
- ESBWR_CASE1_4.xls: pH profiles: Start pH 5.3, HCl generation 0.0038 mol/s from 2000 s
- ESBWR_CASE1_5.xls: pH profiles: Start pH neutral, HCl generation 0.0060 mol/s from 2000 s
- ESBWR_CASE1_6.xls: H profiles: Start pH 5.3, total HCl 430 mol and total HNO₃ 5.2 mol (2000 s - 53000 s)

Contains GE Proprietary Information

PROPRIETARY INFORMATION NOTICE

This enclosure (CD) 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. Each page contains the designation "GE Proprietary Information." The Enclosure 1 CD label carries the notation "GE Proprietary ^{3}."

ENCLOSURE 2

MFN 06-229 Supplement 3

Information Supporting NRC Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR

- ESBWR_CASE1_1.xls: pH profiles: Start pH 5.3, total HCl 430 mol and total HNO₃ 5.2 mol, 8 vol-% of HCl in UDW, 92 vol-% of HCl in LDW, 100 vol-% of HNO₃ in GDCS
- ESBWR_CASE1_2.xls: pH profiles: Start pH 5.3, HCl generation 0.0015 mol/s from 2000 s
- ESBWR_CASE1_3.xls: pH profiles: Start pH 5.3, HCl generation 0.0060 mol/s from 2000 s
- ESBWR_CASE1_4.xls: pH profiles: Start pH 5.3, HCl generation 0.0038 mol/s from 2000 s
- ESBWR_CASE1_5.xls: pH profiles: Start pH neutral, HCl generation 0.0060 mol/s from 2000 s
- ESBWR_CASE1_6.xls: H profiles: Start pH 5.3, total HCl 430 mol and total HNO₃ 5.2 mol (2000 s - 53000 s)

Non-Proprietary Version

Enclosure 3

MFN 06-229, Supplement 3

Affidavit

General Electric Company

AFFIDAVIT

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

- (1) I am Manager, ESBWR, 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 (CD) of GE letter MFN 06-229 Supplement 3, Mr. David H. Hinds to U.S. Nuclear Regulatory Commission, *Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR*, dated December, 2006. The proprietary information is in Enclosure 1, *Information Supporting NRC Request for Additional Information Letter No. 17 Related to ESBWR Design Certification Application – pH Calculations for MELCOR*. The CD label contains the designation "GE Proprietary ^{3}." 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 describes the models and methodologies GE will use in evaluating the dose consequences of design basis accidents (DBAs) 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 over one million 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.

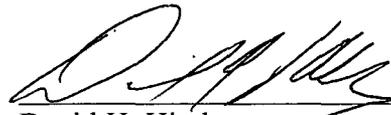
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 1st day of December 2006.



David H. Hinds
General Electric Company