GE Energy

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MFN 06-070

Docket No. 52-010

March 3, 2006

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

Subject: **Partial Response to NRC Request for Additional Information Letter No. 11 for the ESBWR Design Certification Application – Hypothetical ESBWR Core Design – RAI Number 21.6-2**

Enclosure 1 contains GE's response to the subject NRC RAI transmitted via the Reference 1 letter. This is an updated version of the hypothetical ESBWR core design originally transmitted in the Reference 2 letter. The Enclosure 2 CD referenced in the response to RAI 21.6-2 contains information that GE considers proprietary in accordance with 10 CFR 2.390. The CD label contains the designation "GE Proprietary Information." A non proprietary version is provided in Enclosure 3.

The affidavit contained in Enclosure 4 identifies that the information contained in Enclosure 2 has been handled and classified as proprietary to GE. GE hereby requests that the information of Enclosure 2 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17.

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

D068

Sincerely,

David H. Hinds
Manager, ESBWR

References:

1. MFN 06-068, Letter from U.S. Nuclear Regulatory Commission to David Hinds, *Request for Additional Information Letter No. 11 Related to ESBWR Design Certification Application,* February 27, 2006
2. MFN 04-063, Letter from Robert E. Gamble to U.S. Nuclear Regulatory Commission, *Hypothetical ESBWR Core Design for TRACG Comparison*, June 11, 2004

Enclosures:

1. MFN 06-070 – Partial Response to NRC Request for Additional Information Letter No. 11 for the ESBWR Design Certification Application – Hypothetical ESBWR Core Design – RAI Number 21.6-2
2. MFN 06-070 – Hypothetical ESBWR Core Design (CD) – GE Proprietary Information:
   - UH_Array_BOC.pdf
   - UH_Array_MOC.pdf
   - UH_Array_EOC.pdf
   - P_Array_BOC.pdf
   - P_Array_MOC.pdf
   - P_Array_EOC.pdf
3. MFN 06-070 – Hypothetical ESBWR Core Design – Non Proprietary Version
4. Affidavit – George B. Stramback – dated March 3, 2006

cc:	WD Beckner	USNRC (w/o enclosures)
	AE Cubbage	USNRC (with enclosures)
	LA Dudes	USNRC (w/o enclosures)
	GB Stramback	GE/San Jose (with enclosures)
	eDRF	0000-0051-4925

ENCLOSURE 1

MFN 06-070

Partial Response to NRC Request for Additional Information Letter No. 11 for the ESBWR Design Certification Application Hypothetical ESBWR Core Design – RAI Number 21.6-2

NRC RAI 21.6-2

Provide an updated version of MFN 04-063, "Hypothetical ESBWR Core Design," so that the staff can update its PARCS model to perform independent calculations for design certification. In addition to the information provided in this document, also include a 3D void history and control rod history.

GE Response

GNF has previously provided document NEDC-33239P, "GE14 for ESBWR Nuclear Design Report" (FLN 2006-008, 2/18/06). Within that document is the updated bundle and core design information needed to perform a remodeling of the ESBWR core. In addition to the information in the report, Enclosure 2 contains files with 3D void history (UH Array) and 3D power (P Array). While the "P Array" was not specifically requested in the above RAI, it is helpful for model validation. Enclosure 2 contains cycle dependent files for BOC (Beginning of Cycle), MOC (Middle of Cycle = 8000 MWD/ST), and EOC (End of Cycle).

ENCLOSURE 3

MFN 06-070

Hypothetical ESBWR Core Design

Non Proprietary Version

EDITS(33) - Nodal historical water density

[[ ]]

0AD25 (ROD PATTERN DEPLETION

EDITS(33) - Nodal historical water density

Array UH(K,I,J) is dimensioned UH(MKC,MIC,MJC) or UH(25,19,19)

[[ ]]

0AD25 (ROD PATTERN DEPLETION

EDITS(33) - Nodal historical water density

Array UH(K,I,J) is dimensioned UH(MKC,MIC,MJC) or UH(25,19,19)

[[ ]]

0AD25 (ROD PATTERN DEPLETION 03/01/2006 05:17:37 CASE 3 PAGE 1

EDITS(14) - Current normalized nodal power

Array P(K,I,J) is dimensioned P(MKC,MIC,MJC) or P(25,19,19)

[[ ]]

0AD25 (ROD PATTERN DEPLETION 03/01/2006 05:18:27 CASE 11 PAGE 1

EDITS(14) - Current normalized nodal power

Array P(K,I,J) is dimensioned P(MKC,MIC,MJC) or P(25,19,19)

[[ ]]

0AD25 (ROD PATTERN DEPLETION 03/01/2006 05:20:09 CASE 20 PAGE 1

EDITS(14) - Current normalized nodal power

Array P(K,I,J) is dimensioned P(MKC,MIC,MJC) or P(25,19,19)

[[ ]]

ENCLOSURE 4

MFN 06-070

Affidavit

General Electric Company

AFFIDAVIT

I, George B. Stramback, state as follows:

(1) I am Manager, Regulatory Services, 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 2 (CD) of GE letter MFN 06-070, David H. Hinds to NRC, *Partial Response to NRC Request for Additional Information Letter No. 11 for the ESBWR Design Certification Application – Hypothetical ESBWR Core Design – RAI Number 21.6-2,* dated March 3, 2006. The proprietary information is in Enclosure 2, *Hypothetical ESBWR Core Design.* The CD label contains the designation "GE Proprietary Information {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 contains details of the core design for licensing application of TRACG to the ESBWR passive safety system design. This TRACG code has been developed by GE for over fifteen years, at a total cost in excess of three million dollars. The reporting, evaluation and interpretations of the results, as they relate to the ESBWR, was achieved 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 3rd day of March 2006

George B. Stramback

George B. Stramback
General Electric Company

ENCLOSURE 2

MFN 06-070

Hypothetical ESBWR Core Design

- UH_Array_BOC.pdf
- UH_Array_MOC.pdf
- UH_Array_EOC.pdf
- P_Array_BOC.pdf
- P_Array_MOC.pdf
- P_Array_EOC.pdf

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. The CD label contains the designation, "GE Proprietary Information {3}"