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MFN-04-097
September 10, 2004

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Attention: Chief, Information Management Branch
Program Management
Policy Development and Analysis Staff

Subject: **Confirmatory Information on GE Methodology for Shroud Flux Calculation (Re: NEDC-32983P-A)**

GE is submitting in Enclosure 2 the result of two additional shroud flux calculations together with data from the shroud sample dosimetry measurements, to resolve and remove all remaining limitations set forth in the NRC safety evaluation (Reference 1) on the GE Methodology for RPV flux evaluations (Reference 2). The result of these additional calculations and comparison with the measurement data reaffirms that GE's flux calculational method yields conservative fluence estimates on the core shroud.

This submittal completes the shroud fluence confirmatory items identified during the NRC's review of GE's plan (Reference 3) for addressing the NRC safety evaluation limitations. The other confirmatory item regarding RPV fluence was provided in a previous submittal (Reference 4).

The calculational results in Enclosure 2 contain GE proprietary information, as defined by 10 CFR 2.390. GE customarily maintains this information in confidence and withholds it from public disclosure. A non-proprietary version of the calculational results is provided in Enclosure 1.

The affidavit contained in Enclosure 3 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.

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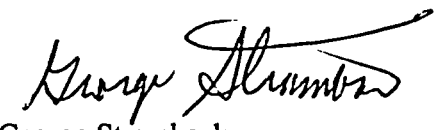
If you have any questions, please contact Tang Wu at (408) 925-2209 or myself.

Sincerely,



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Project No. 710

References:

1. MFN 01-050, Stuart A. Richards (NRC) to James F. Klapproth (GE), *Safety Evaluation for NEDC-32983P "General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluation" (TAC No. MA9891)*, September 14, 2001.
2. NEDC-32983P-A Revision 1, *General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluations*, December 2001.
3. MFN 02-048, Alan Wang (NRC) to George Stramback (GE), *Plan for Addressing NRC Safety Evaluation Limitations on NEDC-32983P, "General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluation" (TAC NO. MB2774)*, August 7, 2002.
4. MFN 04-068, George Stramback (GE) to NRC, *Confirmatory Information on GE Methodology for RPV Flux Calculation (Re: NEDC-32983P-A)*, July 14, 2004.

Enclosures:
1. Confirmatory Shroud Flux Calculations (Non-Proprietary Information)
2. Confirmatory Shroud Flux Calculations (Proprietary Information)
3. Affidavit, George B. Stramback, dated September 10, 2004.

cc: MB Fields (NRC)
L Lois (NRC)
AB Wang (NRC)
AK Chung (GE/San Jose)
JF Klapproth (GE/San Jose)
I Nir (GE/San Jose)
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eDRF 0000-0012-4185

ENCLOSURE 1

MFN 04-097

Confirmatory Shroud Flux Calculations

Redacted and Non-Proprietary Information

ANALYSIS AND RESULTS

Tables A and B list the result of the two additional shroud flux calculations performed by GE and comparison of calculated results with data from the shroud sample dosimetry measurements.

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Shroud flux calculations for both plants were performed with the core operating data for the cycle in which the shroud segment was removed at the end of the cycle, so that shroud sample environment is properly modeled. All shroud flux calculations were performed using the approved GE Flux Evaluation Methodology. No bias adjustment has been applied to the calculated result in Tables A and B.

The mean value for the [[ ]] pairs of calculated/measured (C/M) ratios of reaction rate is [[ ]], with a 1σ standard deviation of [[ ]]. The mean value for the C/M ratios of fast neutron flux (E > 1 MeV) is [[ ]], with a 1σ standard deviation of [[ ]]. The result of these additional calculations and comparison with the measurement data reaffirms that GE's flux calculational method yields conservative fluence estimates on the core shroud. Consequently, it is not necessary to further apply a bias to the calculated results. Application of the shroud flux formula in Section 7.5 of NEDC-32983P-A will be continued.

Table A

Calculated and Measured Reaction Rate (dps/nucleus) for Shroud Samples

Class	Plant	Shroud Sample	Calculated Reaction Rate	Measured Reaction Rate	C/M
[[					
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Table B

Calculated and Measured Fast Neutron Flux (E > 1 MeV) for Shroud Samples

Class	Plant	Shroud Sample	Calculated Flux (n/cm^2-s)	Measured Flux (n/cm^2-s)	C/M
[[					
]]					

ENCLOSURE 3

MFN 04-097

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 of GE letter MFN 04-097, George Stramback to NRC, *Confirmatory Information on GE Methodology for Shroud Flux Calculation (Re: NEDC-32983P-A)*, dated September 10, 2004. The Enclosure 2 proprietary information, *Confirmatory Shroud Flux Calculations*, is delineated by a double underline inside double square brackets. Figures and large equation objects are identified with double square brackets before and after the object. In each case, 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 2.390(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 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 detailed information in support of NEDC-32983P-A, Revision 1, *General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluations.* The information is detailed results of analytical models, methods, and processes, including computer code extension, which GE has developed, and applied to perform fast neutron flux calculations associated with BWR reactor pressure vessel evaluations.

The development of these methods to perform fast neutron flux calculations was achieved at a significant cost, on the order of ¼ million dollars, 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 10th day of September 2004.

George B. Stramback

George B. Stramback
General Electric Company

ENCLOSURE 2

MFN 04-097

Confirmatory Shroud Flux Calculations

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 header of each page in this enclosure carries the notation "GE Proprietary Information."

GE proprietary information is identified by a double underline inside double square brackets. Figures and large equation objects are identified with double square brackets before and after the object. In each case, the superscript notation{3} refers to Paragraph (3) of the affidavit provided in Enclosure 3, which documents the basis for the proprietary determination. [[This sentence is an example.{3}]] Specific information that is not so marked is not GE proprietary.