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Proprietary Notice

This letter transmits proprietary information in accordance with 10CFR2.390. Upon removal of Enclosure 1, the balance of the letter may be considered non-proprietary.

MFN 07-138
February 26, 2007

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

Subject: Marathon Control Rod Assembly Surveillance Program Status

The approved safety evaluation for the Marathon control rod (Reference 1) contains a requirement for the surveillance of installed control rods. This letter provides a summary of the inspections of Marathon control rods that GE has performed or reviewed to date.

Please note that Enclosure 1 contains proprietary information of the type that GE maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to GE as indicated in its affidavit, also included in the report. 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 in Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17.

Enclosure 1 is the proprietary version and Enclosure 2 is a non-proprietary version. Enclosure 3 contains the affidavit.

If you have any questions, please contact James Harrison at (910) 675-6604 or myself.

Sincerely,

R. E. Brown

Robert E. Brown
General Manager, Regulatory Affairs

Project No. 710

D065

References:

1. NEDE-31758P-A, "GE Marathon Control Rod Assembly", October 1991.

Enclosures:

1. Marathon Control Rod Assembly Surveillance Program - GE Proprietary Information
2. Marathon Control Rod Assembly Surveillance Program - Non-Proprietary Information
3. Affidavit dated February 26, 2007.

cc: AA Lingenfelter (GNF/Wilmington)
JF Harrison (GE/Wilmington)
DS Nelson (GE/Wilmington)
JF Klapproth (GE/Wilmington)
GB Stramback (GE/San Jose)
eDRF Section 0000-0065-1186

ENCLOSURE 3

MFN 07-138

Affidavit

General Electric Company

AFFIDAVIT

I, Robert E. Brown, state as follows:

(1) I am General Manager, Regulatory Affairs, 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 MFN 07-138, *Marathon Control Rod Assembly Surveillance Program Status*, dated February 26, 2007. The GE proprietary information is identified by a [[dotted underline inside double square brackets$^{(3)}$]]. In each case the superscript notation $^{(3)}$ refer 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 regarding the GE Marathon Control Rod Assembly. The Marathon Control Rod Assembly has been developed by GE at a total cost in excess of a million dollars. The development, evaluation, and design details, as they relate to the BWR, was achieved at a significant cost to GE.

The development of the Marathon Control Rod Assembly 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 26th day of February 2007.

R. E. Brown

Robert E. Brown
General Manager, Regulatory Affairs

ENCLOSURE 2

MFN 07-138

Marathon Control Rod Assembly Surveillance Program Status

Non-Proprietary Version

IMPORTANT NOTICE

This is a non-proprietary version of Enclosure 1 to MFN 07-138, which has the proprietary information removed. Portions of the document that have been removed are indicated by white space with an open and closed bracket as shown here [[ ]].

Marathon Control Rod Assembly Surveillance Program Status

References:

5. NEDE-31758P-A, "GE Marathon Control Rod Assembly", October 1991.
6. NEDE-33243P, "Licensing Topical Report: ESBWR Marathon Control Rod – Nuclear Design Report", May 2006.
7. NEDE-33244P, "Licensing Topical Report: ESBWR Marathon Control Rod – Mechanical Design Report", June 2006.
8. NEDE-33284P, "Licensing Topical Report: Marathon-5S Control Rod Assembly", September 2006.

The approved safety evaluation for the Marathon control rod (Reference 1) contains a requirement for the surveillance of installed control rods. This is a summary of the inspections of Marathon control rods that GE has performed or reviewed to date. Table 1 contains a summary of [[ ]] of Marathon control rods that GE has performed or reviewed to date.

As shown in Table 1, [[

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Table 1: Marathon Control Rod Inspection Data

Plant	Square Tube Type*	Inspection Date	Number of CRBs Inspected	Approx. Fluence Range (snvts)	Peak Local Depletion (%)	Results
Plant A (domestic BWR/4)	D/S	[[				
Plant B (international BWR)	C					
Plant C (international BWR)	C					
Plant D (international BWR)	D/S					
Plant E (domestic BWR/2)	D/S					
Plant F (domestic BWR/4)	C					
Plant G (international BWR/4)	C					
Plant J (international BWR)	D/S					
Plant K (international BWR)	D/S					]]

* "D/S" square tubes are used for GE D lattice (BWR/2-4) and S lattice (BWR/6) applications. "C" square tubes are used for GE C lattice (BWR/4,5) applications.

[[ ]]

From paragraph C on page xxiv of the Marathon control rod SER (Reference 1), GE is responsible for the following action if a material integrity problem should arise:

> "(1) arrangements will be made to inspect additional Marathon control rods to the extent necessary to identify the root cause"

Accordingly, GE is taking the following actions.

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- GE has located four high-depletion, discharged Marathon control rods at a domestic BWR/6, designated Plant L. GE is negotiating with the utility to arrange a visual inspection.
- The lead depletion D/S lattice Marathon control rods are installed in Plant E and an additional BWR/4, designated Plant M. GE is negotiating with the plants to arrange visual inspections at the next scheduled refueling outages, [[

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In paragraph C on page xxiv of the Marathon control rod SER (Reference 1), GE is also responsible for the following action if a material integrity problem should arise:

> "(2) if appropriate, GE shall recommend a revised lifetime limit to the NRC based on the inspections and other applicable information available."

The available inspection data does not suggest a generic design or material issue with the Marathon control rod, which would require a reduced lifetime recommendation. As noted, GE is [[

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GE is currently pursuing approval of two new Marathon control rod designs: one is the original equipment for ESBWR (References 2 and 3), the other is a new replacement control rod design for BWR/2-6, called the Marathon-5S (Reference 4). Licensing topical reports for these two new designs have been submitted for review with the NRC.

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Table 2: Marathon Capsule to Absorber Tube Gap Comparison

Marathon Design	Topical Report(s)	Minimum Diametral Gap Between Capsule and Absorber Tube at Beginning-of-Life (inches)	Local Depletion at Capsule Contact with Absorber Tube Inside Diameter (Nominal)
Marathon – D/S Lattice	NEDE-31758P-A (Reference 1)	[[	
Marathon – C Lattice	NEDE-31758P-A (Reference 1)		
ESBWR Marathon	NEDE-33243P (Reference 2) NEDE-33244P (Reference 3)		
Marathon-5S – D/S Lattice	NEDE-33284P (Reference 4)		
Marathon-5S – C Lattice	NEDE-33284P (Reference 4)		]]

As discussed in section 5.5.3 of Reference 3, the ESBWR Marathon control rod is designed such that [[

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As discussed in section 3.6 of Reference 4, the Marathon-5S control rod is designed such that [[

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Although GE remains confident in the design of the current Marathon control rod, both the ESBWR Marathon design (References 2 and 3), and the Marathon-5S design for BWR/2-6 (Reference 4) have been designed with significantly improved margins on absorber tube lifetime. This is achieved by [[

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