GE Energy

Jason Post
Manager, Engineering Quality & Safety Evaluations

3901 Castle Hayne Rd.
Wilmington, NC 28401
USA

T 910-675-6608
F910-362-6608
jason.post@ge.com

July 14, 2005
MFN 05-063

Attn: Document Control Desk
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: **Surveillance Program for Channel-Control Blade Interference**

References: 1. Jason Post (GE), letter to USNRC, "Part 21 Notification: Fuel Channel Bow Reportable Condition and 60-Days Interim Notification", MFN 03-012, March 3, 2003.

2. Jason Post (GE), letter to USNRC, "Interim Surveillance Program for Fuel Channel Bow Monitoring", MFN 03-030 Rev. 1, April 30, 2003.

Reference 1 provided notification by GE Energy – Nuclear (GE) of a Reportable Condition related to increased irradiation-induced deformation of Global Nuclear Fuel (GNF) Zr-2 thick/thin fuel channels. One aspect of this condition is the potential development of channel-control blade interference and friction sufficient to affect control rod operability, scram performance, fuel bundle lift, and loads on reactor components. To address this aspect, Reference 2 provided interim recommendations for surveillance actions to detect channel-control blade friction, assess the extent of the condition, and take compensatory actions before reaching excessive levels of control rod friction.

With the experience gained through the application of those surveillance programs, in conjunction with extended channel dimensional characterizations and performance evaluations, an improved basis has been developed to identify the population of channels and control cells that could potentially develop elevated friction levels due to channel-control blade interference. Additionally, improvements in the surveillance testing procedures have also been developed. Attachments 2 and 3 provide revised surveillance recommendations, incorporating the improvements discussed above.

Attachment 1 provides the listing of US plants for which the surveillance program is recommended. Attachment 2 provides the revised surveillance plan for BWR/6 plants. Attachment 3 provides the revised surveillance plan for BWR/2-5 plants.

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This transmittal contains proprietary information, which GE customarily maintains in confidence and withholds from public disclosure. The enclosed affidavit (Attachment 4) identifies that the designated information has been handled and classified as proprietary to GEE-N. Along with the affidavit, this information is suitable for review by the NRC. GEE-N hereby requests that the designated information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.790 and 9.17.

Please contact me at (910) 675-6608 if you have any questions on this information.

Sincerely,

Jason Post

J. S. Post, Manager
Engineering Quality and Safety Evaluations

Attachments:

1. Plants Recommended for Surveillance
2. Surveillance Plan for GNF Thick/Thin Channel-Control Blade Interference Monitoring for BWR/6 (S-Lattice) Plants
3. Surveillance Plan for GNF Thick/Thin Channel-Control Blade Interference Monitoring for BWR/2-5 (C/D-Lattice) Plants
4. Affidavit, Jason Post, dated July 14, 2005.

cc: S. B. Alexander (NRC-NRR/DISP/PSIM) Mail Stop 6 F2
M. B. Fields (NRC-NRR/DLPM/LPD4) Mail Stop 7 E1
C. V. Hodge (NRC-NRR/DIPM/IROB) Mail Stop 12 H2
M. E. Harding (GE)
J. F. Harrison (GE)
J. F. Klapproth (GE)
L. M. Quintana (GE)
G. A. Potts (GE)
G. B. Stramback (GE)
G. A. Watford (GE)
PRC File

Attachment 1

Plants Recommended for Surveillance Program

Attachment 1 – Plants Recommended for Surveillance Program (X)

	Utility	Plant
X	Carolina Power & Light Co.	Brunswick 1
X	Carolina Power & Light Co.	Brunswick 2
X	Constellation Nuclear	Nine Mile Point 1
X	Constellation Nuclear.	Nine Mile Point 2
X	Detroit Edison Co.	Fermi 2
	Energy Northwest	Columbia
X	Entergy Nuclear Northeast	FitzPatrick
X	Entergy Nuclear Northeast	Pilgrim
	Entergy Operations, Inc.	Grand Gulf
X	Entergy Operations, Inc.	River Bend
X	Entergy Nuclear Northeast	Vermont Yankee
X	Exelon Generation Co.	Clinton
X	Exelon Generation Co.	Dresden 2
X	Exelon Generation Co.	Dresden 3
X	Exelon Generation Co.	LaSalle 1
X	Exelon Generation Co.	LaSalle 2
X	Exelon Generation Co.	Limerick 1
X	Exelon Generation Co.	Limerick 2
X	Exelon Generation Co.	Oyster Creek
X	Exelon Generation Co.	Peach Bottom 2
X	Exelon Generation Co.	Peach Bottom 3
X	Exelon Generation Co.	Quad Cities 1
X	Exelon Generation Co.	Quad Cities 2
X	FirstEnergy Nuclear Operating Co.	Perry 1
X	Nebraska Public Power District	Cooper
X	Nuclear Management Co.	Duane Arnold
X	Nuclear Management Co.	Monticello
	PPL Susquehanna LLC.	Susquehanna 1
	PPL Susquehanna LLC	Susquehanna 2
X	Public Service Electric & Gas Co.	Hope Creek
X	Southern Nuclear Operating Co.	Hatch 1
X	Southern Nuclear Operating Co.	Hatch 2
*	Tennessee Valley Authority	Browns Ferry 1
X	Tennessee Valley Authority	Browns Ferry 2
X	Tennessee Valley Authority	Browns Ferry 3

(*) Not currently operating

Attachment 4

Affidavit

MFN-063
Attachment 4
July 2005

General Electric Company

AFFIDAVIT

I, Jason Post, state as follows:

(1) I am Manager, Engineering Quality and Safety Evaluations, 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 GE proprietary reports GENE/GNF-0000-0013-9020-01 Revision 1 and GENE/GNF-0000-0013-9020-02 Revision 1 which are provided (as Attachments 2 and 3) with GE Letter MFN 05-063 from Jason S. Post to the NRC, *Surveillance Program for Channel-Control Blade Interference*, dated July 14, 2005. The proprietary information in these two reports is identified as follows:

> For text and text contained in tables, GE proprietary information is identified by a double underline inside square brackets. The electronic version includes a red font inside the brackets. For black-grayscale printed copies, the color may appear similar to normal text. [This sentence is an example.] Figures and large equation objects that cannot be appropriately identified with the double underlined red font, is identified by large brackets. This paragraph has brackets as an example. Specific information that is not so marked is not GE proprietary.

(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), 2.790(a)(4), and 2.790(d)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions 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 cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;

d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;

e. 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., (4)b., and (4)e., above.

(5) 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 results of experimental testing, analytical models, methods, processes, including computer codes, which GE has developed, and applied to perform evaluations of the cause, effects, and surveillance process related to channel bowing.

The GE development of the technology and computer codes, including the resources expended to obtain NRC approval of computer codes used in this analysis, was achieved at a significant cost, on the order of several 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 14th day of July 2005.

Jason Post
General Electric Company