

Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

www.exeloncorp.com

10 CFR 50.90

February 25, 2003

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Limerick Generating Station, Unit 2
Facility Operating License No. NPF-85
NRC Docket No. 50-353

Subject: License Amendment Request 02-00643
Safety Limit Minimum Critical Power Ratio (SLMCPR) Change

Reference: Letter from M. P. Gallagher (Exelon Generation Company, LLC) to U. S.
Nuclear Regulatory Commission, dated November 21, 2002

Dear Sir/Madam:

In the referenced letter, Exelon Generation Company, LLC (Exelon), requested an amendment to the Technical Specifications (TS), Appendix A of Operating License No. NPF-85 for Limerick Generating Station (LGS), Unit 2. This proposed change will revise Technical Specification (TS) Section 2.1. This Section will be revised to incorporate revised Safety Limit Minimum Critical Power Ratios (SLMCPRs) due to the cycle specific analysis performed by Global Nuclear Fuel for LGS, Unit 2, Cycle 8, which will include the use of the GE-14 fuel product line.

On February 20, 2003, a conference call was held with NRC Staff regarding our request. Attached are the questions discussed during this call, and our responses.

Attachment 1 to this letter contains information proprietary to Global Nuclear Fuel. Global Nuclear Fuel requests that the document be withheld from public disclosure in accordance with 10 CFR 2.790(a)(4). An affidavit supporting this request is also contained in Attachment 1. Attachment 2 contains a non-proprietary version of the Global Nuclear Fuel document.

AP01

LGS Unit 2 License Amendment Request 02-00643
February 25, 2003
Page 2

There are no commitments contained within this letter.

If you have any questions or require additional information, please contact Dave Helker at (610) 765-5525.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

2-25-03
Executed on

Michael P. Gallagher
Michael P. Gallagher
Director, Licensing and Regulatory Affairs
Mid Atlantic Regional Operating Group

Attachments: 1-Affidavit and Proprietary Global Nuclear Fuels Letter
2-Non-Proprietary Global Nuclear Fuels Letter

cc: H. J. Miller, Administrator, Region I, USNRC
A. L. Burritt, USNRC Senior Resident Inspector, LGS
S. Wall, Project Manager, USNRC
R. R. Janati, Commonwealth of Pennsylvania

LGS Unit 2 License Amendment Request 02-00643

February 25, 2003

Page 3

bcc: C. G. Pardee - KSA 3-N
M. A. Christinziano - KSA 3-N
J. A. Benjamin - Cantera
R. J. DeGregorio - KSA 3-N
C. P. Lewis - KSB 3-2
W. Levis - LGS, SMB1-1
R. C. Braun - LGS, GML5-1
J. P. Grimes - KSA 2-N
J. M. Armstrong - KSA 3-N
C. H. Mudrick - LGS, SSB3-1
M. C. Kaminski - LGS, SSB2-4
D. P. Helker - KSA 3-E
PA DEP BRP Inspector - LGS, SSB2-4
Commitment Coordinator - KSA 3-E
Correspondence Control Desk - KSA 1-N-1
DAC - KSA 1-N-1
S. Getz - KSA



Global Nuclear Fuel

A Joint Venture of GE, Toshiba, & Hitachi

Affidavit

I, Jens G. Andersen, state as follows:

- (1) I am Fellow and project manager, TRACG Development, Global Nuclear Fuel – Americas, L.L.C. (“GNF-A”) 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 the attachment, “NRC Requests for Additional Information related to Technical Specification Change to Safety Limit M CPR for Limerick Generating Station, Unit 2, Cycle 8 License No. NPF-85, Docket No. 50-353,” February 24, 2003.
- (3) In making this application for withholding of proprietary information of which it is the owner or licensee, GNF-A 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 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 GNF-A’s competitors without license from GNF-A 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 GNF-A, its customers, or its suppliers;
 - d. Information which reveals aspects of past, present, or future GNF-A customer-funded development plans and programs, of potential commercial value to GNF-A;

- 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. and (4)b., 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 GNF-A, and is in fact so held. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in (6) and (7) following. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GNF-A, 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.
- (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, or subject to the terms under which it was licensed to GNF-A. Access to such documents within GNF-A 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 GNF-A 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) is classified as proprietary because it contains details of GNF-A's fuel design and licensing methodology.

The development of the methods used in these analyses, along with the testing, development and approval of the supporting methodology was achieved at a significant cost, on the order of several million dollars, to GNF-A or its licensor.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GNF-A's competitive position and foreclose or reduce the availability of profit-making opportunities. The fuel design and licensing methodology is part of GNF-A'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.

Affidavit

The research, development, engineering, analytical, and NRC review costs comprise a substantial investment of time and money by GNF-A or its licensor.


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.

GNF-A's competitive advantage will be lost if its competitors are able to use the results of the GNF-A 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 GNF-A 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 GNF-A of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining 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 at Wilmington, North Carolina, this 24th day of February 2003.



Jens G. Andersen

Global Nuclear Fuel – Americas, LLC

ATTACHMENT 2

LIMERICK GENERATING STATION
UNIT 2

Docket No. 50-353

License No. NPF-85

LICENSE AMENDMENT REQUEST 02-00643

Non-Proprietary Global Nuclear Fuels Letter

NRC Requests for Additional Information related to
Technical Specification Change to Safety Limit MCPR for
Limerick Generating Station, Unit 2, Cycle 8
License No. NPF-85, Docket No. 50-353

February 24, 2003

1. Describe the detailed calculation process including approved methods used, based on plant/cycle specific parameters, to model [[
]] the entire cycle. Also, provide a table to show the net adjustment to the SLMCPR for both dual loop operation and single loop operation including beginning of cycle, middle of cycle and end of cycle.

Response

The process for determining whether SLMCPR adjustments [[
]] are required is documented in Reference 6 of the attachment titled "Additional Information Regarding the Cycle Specific SLMCPR for Limerick Unit 2 Cycle 8" dated September 27, 2002. For the fuel types in the Limerick 2 Cycle 8 core, [[
]]. Thus a table [[

]] is not necessary. If present, the table would simply show that no adjustments were necessary to the calculated dual loop and single loop SLMCPR values. [[

]]

2. It appears that cycle 8 has an aggressive core design in terms of higher latest reload batch fraction of GE14 fuel and higher latest reload average batch weight percent enrichment compared to cycle 7. Provide a description for the cause of the reduction in the value of the SLMCPRs from cycle 7 to cycle 8 including any penalty for top-peaked power shape.

Response

Please refer to Table 1 of the attachment titled "Additional Information Regarding the Cycle Specific SLMCPR for Limerick Unit 2 Cycle 8" dated September 27, 2002. The higher batch fraction and batch enrichments for Cycle 8 relative to Cycle 7 are shown. Because the bundles are loaded with increased enrichment, the bundle design has become more peaked [[

]] As expected, the estimated SLMCPR increases for Cycle 8; but, there are several other elements that have not been considered.

NRC Requests for Additional Information related to
Technical Specification Change to Safety Limit MCPR for
Limerick Generating Station, Unit 2, Cycle 8
License No. NPF-85, Docket No. 50-353

February 24, 2003

Firstly, the 1.09 SLMCPR in the Technical Specifications for Cycle 7 is quite conservative. A significant part of that conservatism is associated with the GETAB methodology itself and is described on pages 4-7 and B-14 of NEDC-32601P-A. [[

]]

Secondly, the excessive conservatism in the GETAB methodology has been removed for Cycle 8 but not for Cycle 7. The estimated reduction from an average of the differences in Table 4.1 of NEDC-32601P-A is [[

]] The actual Monte Carlo calculation with the NRC-approved revised methodology produced [[

]] a confirmation calculation using the original GETAB methodology was performed to determine the actual specific reduction for Limerick 2 Cycle 8. The Monte Carlo calculation using the conservative GETAB methodology yields [[

]].

The requested Technical Specification value of 1.07 is based on the NRC-approved revised SLMCPR methodology with the higher more conservative GETAB uncertainties which together yield a calculated value of [[

]].

As stated in the response to question 1, no SLMCPR penalty [[

]] is required for Limerick 2 Cycle 8.

The details that support these results are filed in the GNF electronic design record files 0000-0006-6567 and 0000-0013-6705.