Entergy

Entergy Operations, Inc.
7003 Bald Hill Road
P.O. Box 756
Port Gibson, MS 39150
Tel 601 437 6694

Michael A. Krupa
Director
Nuclear Safety Assurance

GNRO-2008/00053

July 21, 2008

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

SUBJECT: Supplement to Amendment Request
Changes to Technical Specification 5.6.5, "Core Operating Limits Report (COLR)"
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

REFERENCE: Letter GNRO-2007/00071 from Entergy to USNRC, "License Amendment Request (LAR) Changes to Technical Specification 5.6.5, "Core Operating Limits Report (COLR)" dated December 5, 2007 (ADAMS Accession No. ML073440113)

Dear Sir or Madam:

By the above referenced letter, Entergy Operations, Inc. (Entergy) requested changes to Grand Gulf Nuclear Station (GGNS) Technical Specification (TS) 5.6.5, "Core Operating Limits Report (COLR)." Specifically, Entergy requested that (1) document NEDC-33383P, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Global Nuclear Fuel (GNF), be added to the list of NRC approved analytical methods that are used for determining core operating limits and (2) an exception given in document 24, NEDE 24011-P-A, "General Electric Standard Application for Reactor Fuel (GESTAR-II)" be deleted. Entergy intends to use NEDC-33383P to determine core operating limits beginning with refueling outage RF16 scheduled for fall 2008.

Entergy and members of the NRC staff held calls to discuss the request on May 8, June 12, and June 17, 2008. As a result of the calls, seven questions were determined to need formal response. Entergy's response is contained in Attachment 1. As discussed in the calls, some of the requested information is not yet available. As agreed with the NRC staff, this additional information will be provided later. The expected date for submittal of this additional information is August 22, 2008.

Enclosed with this letter is Revision 1 to NEDC-33383P (i.e., GEXL97). Entergy requests review and approval of Revision 1 of this document rather than Revision 0. NEDC-33383P was revised to reflect the correction of errors in the underlying SPCB correlation and to include expanded pressure range data and low R-factor and low inlet

A001
NRR

sub-cooling data in the overall statistics. The expanded pressure range is now consistent with GEXL14. Some of the information in NEDC-33383P, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Revision 1 is proprietary to Global Nuclear Fuel - Americas (GNF-A). The proprietary information is requested to be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.390 (a)(4). An affidavit attesting to the proprietary nature of the information is provided in Attachment 3. A non-proprietary version of the document is also included.

Also enclosed is a report which provides information on the mixed core analysis. The report, GNF S-0000-0086-4470P Rev. 1, "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" contains information that is proprietary to GNF-A. The proprietary information is requested to be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.390 (a)(4). An affidavit attesting to the proprietary nature of the information is provided in Attachment 3. A non-proprietary version of the document is also enclosed.

The original no significant hazards consideration is not affected by any information contained in the supplemental letter. There is one new commitment contained in this letter which is identified in Attachment 2.

If you have any questions or require additional information, please contact Ron Byrd at 601-368-5792.

I declare under penalty of perjury that the foregoing is true and correct. Executed on July 21, 2008

Sincerely,

M. A. Krupa

MAK/RWB/amm
Attachments:

1. Response to Request For Additional Information
2. List of Regulatory Commitments
3. Affidavits for the Requests to Withhold Information

Enclosures

1. NEDC-33383P, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Rev. 1 (proprietary version)
2. NEDC-33383, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Rev. 1 (non-proprietary version)
3. GNF S-0000-0086-4470P Rev. 1, "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" (proprietary version).
4. GNF S-0000-0086-4470 Rev. 1. "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" (non-proprietary version).

cc: (See Next Page)

cc: NRC Senior Resident Inspector
Grand Gulf Nuclear Station
Port Gibson, MS 39150

U. S. Nuclear Regulatory Commission
ATTN: Mr. Elmo E. Collins, Jr. (w/2)
Regional Administrator, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4005

U.S. Nuclear Regulatory Commission
ATTN: Mr. Jack N. Donohew, Jr.,NRR/ADRO/DORL (w/2)
ATTN: ADDRESSEE ONLY
ATTN: U.S. Postal Delivery Address Only
Mail Stop OWFN/O-8G14
Washington, D.C. 20555-0001

Mr. Brian W. Amy, MD, MHA, MPH
Mississippi Department of Health
P. O. Box 1700
Jackson, MS 39215-1700

Attachment 1 to

GNR0-2008/00053

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING
LICENSE AMENDMENT REQUEST: CHANGES TO TECHNICAL SPECIFICATIONS 5.6.5,
CORE OPERATING LIMITS REPORT (COLR)

Question 1:

It appears that NEDC-33383-P does not provide a detailed mixed core analysis for the transition cores. Provide this mixed core analysis.

Response:

Enclosure 3, GNF S-0000-0086-4470P Rev 1, "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" provides evaluations performed to demonstrate acceptable thermal hydraulic compatibility of the GE14 fuel assembly with the Grand Gulf legacy fuel assemblies. Analyses cover the transition from a core loaded completely with ATRIUM – 10 fuel to one loaded completely with GE14 fuel. The results of these evaluations support the conclusion that GE14 fuel and the legacy fuel can be safely and acceptably operated together at GGNS.

Some of the information in GNF S-0000-0086-4470P Rev 1, is proprietary to Global Nuclear Fuel - Americas (GNF-A). The proprietary information is requested to be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.390 (a)(4). An affidavit attesting to the proprietary nature of the information is provided in Attachment 3. Enclosure 4 provides a non-proprietary version of the report.

Question 2:

Discuss if the licensee/GNF intends to use GEXL97 beyond the approval data base of both the GEXL14 and the SPCB NRC-approved ranges of applicability.

Response:

Entergy and GNF do not intend to use GEXL97 beyond the approval data base of both the GEXL14 and the SPCB NRC-approved ranges of applicability.

Question 3:

Figure 4-1, "GEXL97 R-Factor Trends, in NEDC-33383P provides predicted critical power versus R-factor behavior for a range of R-factors. Yet the R-factor range depicted in the table above the figure shows a longer range of R-factors than that given in the figure.

a) Is there R-factor raw data beyond the highest R-factor in the figure?

b) Also, the data provided is for only one pressure. Do the GEXL97 trends behave differently at different pressures? If so, explain.

Response:

a) As mentioned in the report, data was taken to higher R-factors, and the statistics are conservative. Figure 4-1 was revised in the enclosed NEDC-33383-P Rev. 1 to show the longer R-factor range.

b) The observed R-factor trends extend over the entire pressure application range.

Question 4:

The NRC-approved documents listed in TS 5.6.5.b are the only documents to be used to determine the core operating limits listed in TS 5.6.5.a prior to each reload. Discuss if there are documents listed in TS 5.6.5.b, other than the changes in documents submitted in the December 5, 2007, application, that would not be used to calculate the operating limits in TS 5.6.5.a for the next reload.

Response:

The documents provided in Technical Specification 5.6.5.b include the NRC approved methodologies for both GNF and AREVA. Although GNF is the fuel vendor for Cycle 17, the Cycle 17 core will contain fuel from both fuel vendors. Several of the AREVA documents explicitly support generation of thermal limits for Cycle 17 while some do not. However, the use of the methods not supporting Cycle 17 thermal limits could be necessary at some point in the future and maintaining these documents in the GGNS Technical Specification would preclude the need for a Technical Specification change in the event the documents were needed. The principle of GL 88-16 and the Standard TS NUREGs is to reduce unnecessary burden on both licensee and NRC staff by minimizing the need for TS amendments involving cycle specific information. Since some of the AREVA documents will continue to apply to the upcoming cycle and others may be used in the future, leaving the AREVA references in the TS is consistent with this principle.

Question 5:

Discuss if there are any plant-specific documents listed in TS 5.6.5.b that have been revised since the NRC staff approved their use and what is the requirement that the document revisions are reviewed in accordance with the change criteria in 10 CFR 50.59.

Response:

GGNS TS 5.6.5.b requires the analytical methods used to determine the core operating limits to be those previously reviewed and approved by the NRC and listed in TS 5.6.5.b. The current documents listed in TS 5.6.5.b are all fuel vendor generic Topical Reports (TRs) that have been approved by the NRC. NEDC-33383P, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," will be the first document listed in TS 5.6.5.b approved by the NRC for GGNS on a plant-specific basis.

The GGNS Core Operating Limits Report (COLR) provides the complete identification of all of the analytical documents, including the revision number. Entergy procedure EN-LI-100, "Process Applicability Determination," identifies the COLR as a licensing basis document for which changes must be reviewed in accordance with the 50.59 process. Thus, any changes to NEDC-33383P must be reviewed in accordance with the criteria of 10 CFR 50.59.

Question 6:

In the application letter dated December 5, 2007, on the top of page 2, there are the following two statements: (1) AREVA identified an error in its SPCB critical power correlation affecting the ATRIUM-10 fuel and is currently evaluating the impact of the error, and Entergy will provide a supplement to this LAR describing the impact of this error; and (2) Entergy has not completed analyses to determine whether a change to the minimum critical power ratio (MPCR) safety limits in the Technical Specifications (TS) will be required. Address these two statements and provide the current status of (1) the AREVA evaluation of the error in the SPCB correlation including an explanation the impact of the error on the GEXL97 topical report that was submitted with the application and (2) the analyses to determine whether a change in the TS MPCR safety limits is needed.

Response:

(1) Entergy's application dated December 5, 2007 (Reference.1) noted that the GEXL97 correlation was developed in part by using the approved AREVA SPCB correlation and that AREVA had recently identified an error in their SPCB correlation affecting ATRIUM-10 fuel. The evaluation of the impact of the error on the use of GEXL97 was not complete at the time of Entergy's application. This evaluation has been completed. AREVA has determined the affect of the error on additive constants in the SPCB critical power correlation and has developed an addendum to EMF-2209(P) to correct the additive constants. AREVA requested NRC review and approval of the addendum by letter dated May 1, 2008. Although the error did not have a significant impact on the use of GEXL97, the corrected additive constants did affect some of the information reported in NEDC-33383P. NEDC-33383P has been revised to correct this information. Therefore, Entergy is enclosing Revision 1 to NEDC-33383P for NRC review and approval.

(2) Entergy has determined that a change to the TS MCPR safety limit is not required. Analysis has shown that the existing MCPR safety limits remain sufficiently conservative.

Question 7:

The application describes a transition from the current core with a full loading of ATRIUM-10 to a full loading of GE14 fuel. This transition will start with the upcoming refueling outage and continue over several refueling outages. Once the NRC staff approves the inclusion of the GEXL97 correlation into the TS, the licensee calculates the core operating limits listed in TS 5.6.5a and performs the plant accident analyses without further review by the NRC staff. Therefore, the staff requests that the licensee provide additional information to allow the staff to review the impact of the transition on the safety analyses.

Specifically, for loss-of-coolant accident (LOCA), anticipated transient without scram (ATWS), abnormal operation occurrence (AOO), American Society of Mechanical Engineers (ASME) Code overpressure, and stability analyses performed for the initial transition core:

a) state the approved methodology and/or the computer codes used and the reference (e.g. topical report) documenting the methodology/computer codes,
b) state if the analysis is in compliance with all applicable restrictions in the staff safety evaluation(s) approving the methodology, and
c) provide the quantitative results of the figure(s) of merit (FOM) compared against the acceptance criteria.

Below is an example of a format that would provide the set of information to the staff.

Analysis	Methodology / Code(s) Used	Staff Approval	Comply with all applicable restrictions and conditions	FOM	Result Value vs. Acceptance Criterion
ATWS		Ref. xx	Y/N	Peak pressure PCT Peak pool temp Peak containment pressure	
LOCA				PCT Local MWR Core wide MWR	
ASME Overpressure				Peak pressure	
Stability				Stability regions[1]	
AOO				OLMCPR[2]	

For the LOCA analysis, also provide a narrative showing that:
a) the limiting break location, break size, and single failure(s) were identified and used.
b) the limiting power/flow conditions and axial power shape were used.
c) the legacy fuel analysis (MAPLHGR) will continue to be applicable through the transition cycles.

Note 1: Stability regions = A figure showing the stability regions, like Figures 4-4 and 4-5 of the core operating limits report (COLR) submitted by letter dated March 23, 2004 (GNRO-2004/00022).
Note 2: OLMCPR = operating limit minimum critical power ratio.

Response:

The requested information is not available at this time. As discussed with members of the NRC staff, the response to this question will be provided by separate letter when the information is available. The expected date for submittal of this information is August 22, 2008.

Attachment 2 to

GNRO-2008/00053

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
The requested information for loss-of-coolant accident (LOCA), anticipated transient without scram (ATWS), abnormal operation occurrence (AOO), American Society of Mechanical Engineers (ASME) Code overpressure, and stability analyses performed for the initial transition core is not yet available. As discussed with members of the NRC staff, the response to this question will be provided by separate letter when the information is available. The expected date for submittal of this additional information is August 22, 2008.	X		8/22/2008

Attachment 3 to

GNRO-2008/00053

Affidavits for the Requests to Withhold Information

1. **Affidavit for NEDC-33383P, Rev. 1**
2. **Affidavit for GNF S-0000-0086-4470P, Rev. 1**

Global Nuclear Fuel – Americas

AFFIDAVIT

I, Anthony P. Reese, state as follows:

(1) I am Reload Licensing Manager, Fuel Engineering, Global Nuclear Fuel–Americas, LLC ("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, "GE14 Thermal Hydraulic Compatibility With Grand Gulf Legacy Fuel" dated July 2008. GNF proprietary information is identified by a dotted underline inside double square brackets. [[This sentence is an example.{3}]] 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 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 2.390(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 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 aspects of past, present, or future GNF-A customer-funded development plans and programs, resulting in potential products to GNF-A;

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 GNF-A, 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 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. 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, 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 information 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.

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

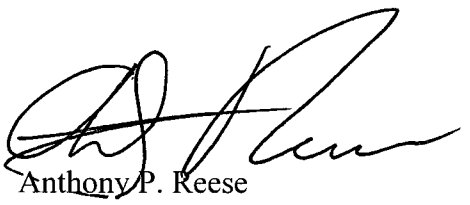
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 on this 9th day of July 2008.



Anthony P. Reese
Reload Licensing Manager, Fuel Engineering
Global Nuclear Fuel – Americas, LLC

Global Nuclear Fuel – Americas

AFFIDAVIT

I, Andrew A. Lingenfelter, state as follows:

(1) I am Vice President, Fuel Engineering, Global Nuclear Fuel–Americas, LLC ("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 GNF Licensing Topical Report, NEDC-33383P, Revision 1, *GEXL97 Correlation Applicable To ATRIUM-10 Fuel,* June 2008. The proprietary information in GNF Licensing Topical Report, NEDC-33383P, Revision 1, *GEXL97 Correlation Applicable To ATRIUM-10 Fuel,* June 2008, is identified by a single [[dotted underline inside double square brackets$^{\{3\}}$]]. Figures and other large 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 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 2.390(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 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 aspects of past, present, or future GNF-A customer-funded development plans and programs, resulting in potential products to GNF-A;

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 GNF-A, 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 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. 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, 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 information 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.

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

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 on this 23rd day of June 2008.

Andrew A. Lingenfelter
Vice President, Fuel Engineering
Global Nuclear Fuel – Americas, LLC

Enclosures to

GNR0-2008/00053

1. NEDC-33383P, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Rev. 1 (proprietary version)

2. NEDC-33383, "GEXL97 Correlation Applicable to ATRIUM-10 Fuel," Rev. 1 (non-proprietary version)

3. GNF S-0000-0086-4470P Rev 1, "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" (proprietary version).

4. GNF S-0000-0086-4470 Rev 1. "GE14 Thermal Hydraulic Compatibility with Grand Gulf Legacy Fuel" (non-proprietary version).