



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

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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.

FLN-2007-001  
January 19, 2007

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

**Subject: GNF Licensing Topical Report, "The PRIME Model for Analysis of Fuel Rod Thermal – Mechanical Performance," NEDC-33256P, NEDC-33257P, and NEDC-33258P, January 2007.**

This letter submits GNF Licensing Topical Report (LTR), "The PRIME Model for Analysis of Fuel Rod Thermal-Mechanical Performance" for US NRC review and approval. The PRIME model is presented in three parts:

- NEDC-33256P, Part 1 - Technical Bases
- NEDC-33257P, Part 2 - Qualification
- NEDC-33258P, Part 3 - Application Methodology

These LTRs present changes and improvements in GNF fuel thermal-mechanical models. The PRIME models and methods are applicable to all GE/GNF fuel products and provide the capability to extend the current pellet exposure limit. As encouraged by the NRC Staff, GNF desires to make the transition to the state-of-the-art PRIME technology as quickly as possible. Therefore, in accordance with Reference 1, GNF requests that the review be completed within 18 months following the receipt of the reports, resulting in a safety evaluation by July 2008.

Please note that Enclosure 1 contains proprietary information of the type that GNF maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to GNF-A 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

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been handled and classified as proprietary to GNF-A. GNF-A hereby requests that the information in Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10CFR2.390 and 9.17.

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

If you have any questions about the information provided here, please contact me at (910) 675-5954 or Jim Harrison at (910) 675-6604.

Sincerely,



Andrew A. Lingenfelter  
Manager, Engineering

Global Nuclear Fuel – Americas, LLC

Project No. 712

References

1. Letter from H.N. Berkow (US NRC) to J.F. Klapproth (GE), *Implementation of a Revised Review Process for Topical Reports*, October 21, 2003.

Enclosures

1. NEDC-33256P, NEDC-33257P, and NEDC-33258P - GNF Proprietary Information
2. NEDO-33256, NEDO-33257, and NEDO-33258 - Non-Proprietary Information
3. Affidavit, dated January 19, 2007

cc: MC Honcharik, USNRC  
BJ Miles, GNF/Wilmington  
PL Campbell, GE, Washington  
RE Brown, GE/Wilmington  
JF Harrison, GE/Wilmington  
JS Bowman, GE/Wilmington  
GB Stramback, GE/San Jose  
eDRF Section 0000-0053-5440

ENCLOSURE 3

FLN-2007-001

Affidavit

# Global Nuclear Fuel–Americas, L.L.C

## AFFIDAVIT

I, **Andrew A. Lingenfelter**, state as follows:

- (1) I am Manager, Engineering, 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 Enclosure 1 of FLN-2007-001, Andrew A. Lingenfelter (GNF) to Document Control Desk (USNRC), *GNF Licensing Topical Report, The PRIME Model for Analysis of Fuel Rod Thermal – Mechanical Performance, NEDC-33256P, NEDC-33257P , and NEDC-33258P, January 2007*, dated January 19, 2007. The proprietary information in Enclosure 1, *GNF Licensing Topical Report, The PRIME Model for Analysis of Fuel Rod Thermal – Mechanical Performance, NEDC-33256P, NEDC-33257P , and NEDC-33258P, January 2007*, is delineated by enclosure inside double square brackets. In each case, the superscript notation<sup>(3)</sup> 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, 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 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 the 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. 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.

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 19<sup>th</sup> day of January 19, 2007.



Andrew A. Lingenfelter  
Manager, Engineering  
Global Nuclear Fuels – Americas, LLC