

**Southern Nuclear
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Birmingham, Alabama 35201-1295
Tel 205.992.5000

**ENCLOSURES CONTAIN INFORMATION
EXEMPT FROM PUBLIC DISCLOSURE
IN ACCORDANCE WITH 10 CFR 2.390**

May 12, 2010



Docket No.: 50-366

NL-10-0824

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

**Edwin I. Hatch Nuclear Plant-Unit 2
Proposed Exemption to 10 CFR 50.46 and
10 CFR 50 Appendix K for HNP Unit 2**

Ladies and Gentlemen:

Southern Nuclear Operating Company (SNC) requests an NRC exemption from the fuel cladding material requirement in 10 CFR 50.46 and 10 CFR 50 Appendix K in order to load four GNF2 lead test assemblies (LTAs) into the Edwin I. Hatch-Unit 2 (HNP) reactor during the 2011 Refueling Outage (2RFO21). This exemption is requested because these LTAs will include fuel rods manufactured with a cladding material, called GNF-Ziron (GNF-Global Nuclear Fuel), which is similar in composition to Zircaloy-2, but contains a slightly higher iron content than specified in American Society for Testing and Materials B350 (ASTM B350). Irradiation of LTAs with GNF-Ziron fuel rods will enable SNC to acquire in-reactor operating experience with this material in GNF2 fuel assemblies. (Please note that this request is basically the same as the exemption granted by the NRC in Reference 4 for GE14 fuel.)

GNF-Ziron has been under development by GNF for over two decades for use as a modified zirconium alloy material in fuel components. The properties of this material have been tested in various forms, including irradiation of cladding, spacers, and water rods in a small quantity of LTAs in a foreign reactor up to 68 Giga-Watt days per Metric Ton Uranium (GWd/MTU). Results of these tests indicate that the corrosion properties of GNF-Ziron are similar to Zircaloy-2; however, there is a significant reduction in hydrogen pickup at higher exposures.

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In order to further evaluate GNF-Ziron as an alternative for fuel rods to the current industry standard of Zircaloy-2, SNC intends to load four standard GNF2 fuel assemblies with GNF-Ziron rods into the HNP-2 reactor starting in operating Cycle 22. Since the current regulations (10 CFR 50.46 and 10 CFR 50 Appendix K) restrict cladding material to either zircaloy or ZIRLO, SNC is requesting an exemption to this requirement for this lead test program.

Enclosures 1, 2, and 3 contain the Global Nuclear Fuel Affidavits and the authorization to apply for withholding. The affidavits set forth the basis on which the information may be withheld from public disclosure by the Commission and specifically addresses the considerations listed in paragraph (b)(4) of Part 10 CFR 2.390 of the Commission's regulations. Accordingly, it is respectfully requested that the information, which is proprietary to Global Nuclear Fuel, be withheld from public disclosure in accordance with 10 CFR 2.390 of the Commission's regulations. Enclosures 4, 5, and 6 contain information proprietary to Global Nuclear Fuel, which are supported by the affidavits (Enclosures 1, 2, and 3) signed by Global Nuclear Fuel, the owner of the information. Enclosures 7, 8, and 9 contain the nonproprietary versions of Enclosures 4, 5, and 6.

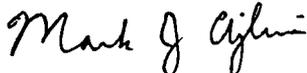
NRC authorization to proceed with this proposed LTA program is requested by October 31, 2010, to support the manufacturing of GNF-Ziron fuel rods for the Hatch-2 Reload 21 fuel.

This letter contains no NRC commitments. If you have any questions, please contact Mr. Jack Stringfellow at (205) 992-7037.

Mr. M. J. Ajluni states he is a Nuclear Licensing Manager of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

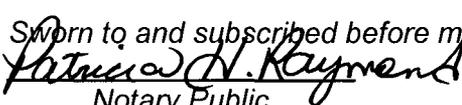
Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



M. J. Ajluni
Manager – Nuclear Licensing

MJA/PAH

Sworn to and subscribed before me this 12th day of May, 2010.

Notary Public

My commission expires: 7-21-2012

References:

1. SNC Letter NL-08-0380, "Edwin I. Hatch Nuclear Plant-Unit 2, Proposed Exemption to 10CFR 50.46 and 10 CFR Appendix K to Allow Ziron Fuel Cladding" dated March 21, 2008.
2. SNC Letter NL-08-0590, "Edwin I. hatch Nuclear Plant-Unit 2, Revised Proposed Exemption to 10 CFR 5.46 and 10 CFR Appendix K to Allow Ziron Fuel Cladding" dated May 2, 2008.
3. SNC Letter NL-08-1250, "Edwin I. hatch Nuclear Plant-Unit 2 Submittal of Additional Information to Support Proposed Exemption to 10 CFR 50.46 and 10 CFR 50 Appendix K to Allow Ziron Fuel Cladding" dated August 8, 2008.
4. NRC Letter, "EDWIN I. HATCH NUCLEAR PLANT, UNIT NO 2- EXEMPTIONS FROM THE REQUIREMENTS OF 10 CFR PART 50, SECTION 50.46, AND APPENDIX K (TAC NO. MD8356)," R. E. Martin to D. H. Jones, November 7, 2008.

Enclosures:

- 1 Global Nuclear Fuels – Americas Affidavit for GNF-0000-0114-0175P.
2. Global Nuclear Fuels – Americas Affidavit for GNF-0000-0101-6839P.
3. Global Nuclear Fuels – Americas Affidavit for GNF-0000-0113-8604P.
4. GNF-0000-0114-0175P, "Technical Basis Supporting GNF-Ziron Lead Test Assembly Introduction into the Hatch Unit 2 Nuclear Plant," March 2010.
5. GNF-0000-0101-6839P, "GNF-Ziron Basic Characteristics and Properties," March 2010.
6. GNF-0000-0113-8604P, "GNF-Ziron Performance Benefits and Licensing Requirements Assessment," March 2010.
7. GNF-0000-0114-0175NP, "Technical Basis Supporting GNF-Ziron Lead Test Assembly Introduction into the Hatch Unit 2 Nuclear Plant," March 2010.
8. GNF-0000-0101-6839NP, "GNF-Ziron Basic Characteristics and Properties," March 2010.
9. GNF-0000-0113-8604NP, "GNF-Ziron Performance Benefits and Licensing Requirements Assessment," March 2010.

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cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. D. R. Madison, Vice President – Hatch
Ms. P. M. Marino, Vice President – Engineering
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. E.D. Morris, Senior Resident Inspector – Hatch
Mr. P. Boyle, NRR Project Manager

State of Georgia
Mr. C. Clark, Commissioner – Department of Natural Resources

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Enclosure 1

Global Nuclear Fuels – Americas Affidavit for GNF-0000-0114-0175P

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Global Nuclear Fuel – Americas AFFIDAVIT

I, Andrew A. Lingenfelter, state as follows:

- (1) I am the 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-A Report, GNF-0000-0114-0175P, *Technical Basis Supporting GNF-Ziron Lead Test Assembly Introduction into the Hatch Unit 2 Nuclear Plant*, March 2010. The proprietary information in GNF-A Report, GNF-0000-0114-0175P, *Technical Basis Supporting GNF-Ziron Lead Test Assembly Introduction into the Hatch Nuclear Plant*, March 2010, is identified by a dark red dotted underline inside double square brackets. [[This sentence is an example.^{3}]] Figures and large equation objects containing GNF-A proprietary information 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 that 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 qualifies 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, 975 F2d 871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704 F2d 1280 (DC Cir. 1983).
- (4) The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b. Some examples of categories of information that 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 GNF-A and/or 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.
- (5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to the 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, not been disclosed publicly, and not been made available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary and/or confidentiality agreements that provide for maintaining the information in confidence. The initial designation of this information as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure are as set forth in the following paragraphs (6) and (7).
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, who is the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or who is the person most likely to be subject to the terms under which it was licensed to GNF-A. Access to such documents within GNF-A is limited to 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 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 and/or confidentiality agreements.
- (8) The information identified in paragraph (2) above is classified as proprietary because it contains details of GNF-A's fuel design and licensing methodology. Development of these methods, techniques, and information and their application for the design, modification, and analyses methodologies and processes was achieved at a significant cost to GNF-A.

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.

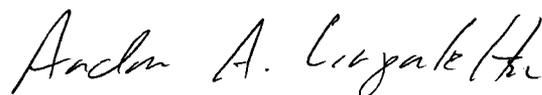
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 26th day of March 2010.



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

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Enclosure 2

Global Nuclear Fuels – Americas Affidavit for GNF-0000-0101-6839P

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Global Nuclear Fuel – Americas AFFIDAVIT

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 - 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.
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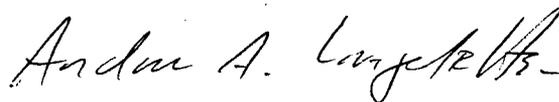
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Enclosure 3

Global Nuclear Fuels – Americas Affidavit for GNF-0000-0113-8604P

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