



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000
November 06, 2006

TVA-BFN-TS-455

10 CFR 50.90

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

Gentlemen:

In the Matter of) Docket No. 50-259
Tennessee Valley Authority)

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 1 - TECHNICAL SPECIFICATIONS (TS) CHANGE TS-455 - SAFETY LIMIT MINIMUM CRITICAL POWER RATIO (SLMCPR) - CYCLE 7 OPERATION - REANALYSIS AT 105% ORIGINAL LICENSED THERMAL POWER (OLTP)

The Tennessee Valley Authority (TVA) submitted a request for a TS change (TS-455) to license DPR-33 for BFN Unit 1 Cycle 7 operations on May 1, 2006 (ADAMS Accession No. ML061290590). The TS change revised the numeric values of SLMCPR in TS Section 2.1.1.2 for single recirculation loop operation (SLO) and two reactor recirculation loop operation (TLO) to incorporate the results of the Unit 1 Cycle 7 SLMCPR analysis, which was prepared by Global Nuclear Fuel (GNF) for TVA. Specifically, TS-455 revises the SLMCPR values in TS 2.1.1.2 from 1.12 to 1.11 for SLO and from 1.10 to 1.09 for TLO. The Unit 1 Cycle 7 SLMCPR analysis provided in the May 1, 2006, submittal was performed based on Extended Power Uprate (EPU) conditions, which represents an approximate 20% increase in thermal power from the OLTP of 3293 megawatts thermal (MWt) to 3952 MWt. TVA's original Unit 1 EPU TS change (TS-431) was submitted on June 28, 2004 (ML041840109).

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On September 22, 2006, a supplement (ML062680459) to the TS-431 EPU TS change was submitted, which provides for interim operation at 105% OLTP (3458 MWt) until such time as certain steam dryer analyses can be completed and reviewed by NRC prior to EPU operations. Power ascension testing and normal plant operation up to 105% OLTP will provide the data to confirm the applicable analyses prior to EPU operation.

In support of the September 22, 2006, TS-431 supplement, the Unit 1 Cycle 7 SLMCPR analysis has been reperformed by GNF at 105% OLTP, and yields SLMCPR values of 1.09 for SLO and 1.07 for TLO. The Cycle 7 core configuration is an all-GNF core using GE13 and GE14 fuel assemblies as shown in Figure 1 of the Enclosures. The core configuration is the same as that in the May 1, 2006, submittal, which provided NRC with the SLMCPR analysis report for 120% OLTP. Since the SLMCPR values requested in May 1, 2006, TS-455 submittal (1.11 and 1.09) bound those for operation at 105% OLTP (1.09 and 1.07) for SLO and TLO respectively, TVA is requesting that TS-455 be approved as originally proposed. Accordingly, TVA requests that this TS-455 be approved by February 1, 2007, and that implementation of the revised TS be made within 60 days of NRC approval.

With regard to section 2.6 of the Enclosures, the rod patterns used to calculate the SLMCPR at 81% of rated core flow and 100% of rated core power produce a limiting MCPR distribution that reasonably bounds the MCPR distributions and rod patterns that would be expected during the operation of the BFN 1 core throughout Cycle 7.

A proprietary version of the GNF SLMCPR analysis report is provided in Enclosure 1. Some of the information in Enclosure 1 is considered proprietary and GNF requests that this proprietary information be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.390(a)(4). A GNF affidavit supporting this request is included in Enclosure 2. Enclosure 3 provides a non-proprietary version of the SLMCPR report.

TVA has determined that this response does not change the determination in the May 1, 2006, TS-455 submittal that there are no significant hazards considerations associated with the proposed change and that the TS change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). Additionally, in accordance

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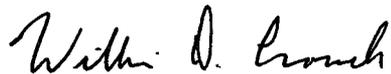
November 06, 2006

with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Alabama State Department of Public Health.

There are no new regulatory commitments associated with this submittal. If you have any questions about this submittal, please contact me at (256) 729-2636.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 06, 2006.

Sincerely,



William D. Crouch
Manager of Licensing
and Industry Affairs

Enclosures:

1. Proprietary Version of GNF Report
2. GNF Affidavit
3. Non-Proprietary Version of GNF Report

cc: See page 3

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Enclosures

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Enclosure 2

Browns Ferry Nuclear Plant (BFN) Unit 1

Technical Specifications (TS) Change TS-455
Safety Limit Minimum Critical Power Ratio (SLMCPR)
Cycle 7 Operation
Reanalysis at 105% Original Licensed Thermal Power
(OLTP)

GNF Affidavit

Affidavit

I, Jens G. M. Andersen, state as follows:

- (1) I am Consulting Engineer, Thermal Hydraulic Methods, 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, “GNF Additional Information Regarding the Requested Changes to the Technical Specification SLMCPR Browns Ferry Unit 1 Cycle 7” 2 November, 2006. GNF proprietary information is indicated by enclosing it in double brackets. 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 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) 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.

Affidavit

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 2nd day of November, 2006.



Jens G. M. Andersen

Global Nuclear Fuel – Americas, LLC

Enclosure 3

Browns Ferry Nuclear Plant (BFN) Unit 1

Technical Specifications (TS) Change TS-455
Safety Limit Minimum Critical Power Ratio (SLMCPR)
Cycle 7 Operation
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Non-Proprietary Version of GNF Report