



Monticello Nuclear Generating Plant
2807 W County Road 75
Monticello, MN 55362

**WITHHOLD ENCLOSURE 3 FROM PUBLIC DISCLOSURE
UNDER 10 CFR 2.390**

April 27, 2011

L-MT-11-026
10 CFR 50.90

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

Monticello Nuclear Generating Plant
Docket 50-263
Renewed Facility Operating License No. DPR-22

Response to Second Request for Additional Information for the License Amendment
Request to Revise the Minimum Critical Power Ratio Safety Limit in Reactor Core
Safety Limit 2.1.1.2 (TAC No. ME4790)

- References:
- 1) Letter from Northern States Power Company – a Minnesota corporation (NSPM), d/b/a Xcel Energy, to Document Control Desk, “License Amendment Request: Revise the Minimum Critical Power Ratio Safety Limit in Reactor Core Safety Limit 2.1.1.2,” L-MT-10-055, dated September 17, 2010. (ADAMS Accession No. ML102650399).
 - 2) Email from P. Tam (NRC) to R. Loeffler dated April 12, 2011, “Monticello – conference call to resolve 3 issues of the proposed SLMCPR amendment (TAC ME4790).”

Pursuant to 10 CFR 50.90, Northern States Power Company – a Minnesota corporation (NSPM), doing business as Xcel Energy, requested in Reference 1 an amendment to the Monticello Nuclear Generating Plant (MNGP) Technical Specifications (TS) for the Minimum Critical Power Ratio Safety Limit (MCPR Safety Limit) in Reactor Core Safety Limit 2.1.1.2. The change requested was to revise the values for the MCPR Safety Limit for both single and two recirculation loop operation. Additional information was requested by the U.S. Nuclear Regulatory Commission (NRC) by e-mail dated April 12, 2011 (Reference 2), and a conference call to clarify the questions was held later that day.

Enclosure 1 provides redacted non-proprietary responses to Requests for Additional Information (RAI) Questions 1 through 3. The responses to RAI Questions 2 and 3, provided in Enclosure 3, include Global Nuclear Fuel-Americas, LLC (GNF), proprietary

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NRC

information that is customarily held in confidence and required to be withheld from public disclosure.

Enclosure 2 provides an affidavit executed by GNF that identifies and attests to the information that is classified as proprietary. NSPM requests that the proprietary information provided by GNF (Enclosure 3), be withheld from public disclosure in accordance with 10 CFR 2.390(a)(4) and 10 CFR 9.17(a)(4).

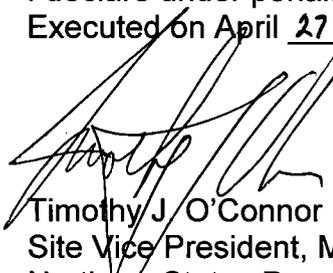
In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated Minnesota Official.

Should you have questions regarding this letter, please contact Mr. Richard Loeffler at (763) 295-1247.

Summary of Commitments

This letter proposes no new commitments and does not revise any existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on April 27, 2011.



Timothy J. O'Connor
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosures (3)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC (w/o Enclosure 3)
Minnesota Department of Commerce (w/o Enclosure 3)

ENCLOSURE 1

MONTICELLO NUCLEAR GENERATING PLANT

**RESPONSE TO SECOND REQUEST FOR ADDITIONAL INFORMATION FOR THE
LICENSE AMENDMENT REQUEST TO REVISE THE MINIMUM CRITICAL POWER
RATIO SAFETY LIMIT IN REACTOR CORE SAFETY LIMIT 2.1.1.2**

ENCLOSURE 1

RESPONSE TO SECOND REQUEST FOR ADDITIONAL INFORMATION FOR THE LICENSE AMENDMENT REQUEST TO REVISE THE MINIMUM CRITICAL POWER RATIO SAFETY LIMIT IN REACTOR CORE SAFETY LIMIT 2.1.1.2

Pursuant to 10 CFR 50.90, Northern States Power Company – a Minnesota corporation (NSPM), d/b/a Xcel Energy, requested a License Amendment Request (LAR) (Reference 1) to the Monticello Nuclear Generating Plant (MNGP) Technical Specifications (TS) for the Minimum Critical Power Ratio Safety Limit (MCPR Safety Limit, also referred to as SLMCPR) in Reactor Core Safety Limit 2.1.1.2. The LAR proposed to revise the values for the MCPR Safety Limit for both single and two recirculation loop operation.

The U.S. Nuclear Regulatory Commission (NRC) Requested Additional Information (RAI) by an e-mail dated April 12, 2011 (Reference 2). On April 12, 2011, a conference call was held between the NRC, NSPM, and Global Nuclear Fuel-Americas, LLC (GNF), to discuss the RAIs, and subsequently the original questions were amended as indicated below.

Responses to each RAI are provided below. The portions of the responses containing GNF proprietary information that is redacted is shown by enclosure within double brackets.

QUESTIONS / RESPONSES

- (1) **power/flow map not provided in response to Q7** (Question 7 in the February 8, 2011, RAI response (Reference 3)).

Answer

During discussion between the NRC reviewer and NSPM / GNF personnel during the April 12, 2011, conference call it was recognized that what would be most useful for the reviewer were copies of the Cycle 26 Maximum Extended Load Line Limit Analysis (MELLLA) and Maximum Extended Load Line Limit Analysis – Plus (MELLLA+) power/flow maps. Copies of these power/flow maps are provided immediately behind this enclosure. The first power/flow map is from the proposed MNGP Cycle 26 Core Operating Limits Report (COLR) for MELLLA operation (at the current licensed thermal power level of 1775 MWth) and is labeled, “Figure 5 – Monticello Cycle 26 Power/Flow Map.” The second power/flow map is from the Operating Parameters List (OPL-3), a design input from NSPM to GNF. This power/flow map is for Cycle 26 operation assuming Extended Power Uprate (EPU) operation is approved (licensed thermal power level of 2004 MWth) and shows both the MELLLA and MELLLA+ boundaries, and is labeled “Figure 1.1-1 – Licensed Power/Flow Operating Map.”

(2) no GE14 fuel data in Figure 5 of the September 17, 2010, submittal.

This question was discussed between the NRC reviewer and NSPM / GNF personnel during the April 12, 2011, conference call. This question was subsequently clarified to read as follows.

Please provide the most up-to-date version of Figure 5 that was included in Enclosure 6 of the September 17, 2010, License Amendment Request, that includes the GE14 fuel data.

Answer

The redacted figure is indicated below.

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Refer to Enclosure 3 for the response including the GNF proprietary information for this question.

(3) not identifying whether fresh, once-, twice-, or thrice-burned fuel is dominant in Cycle 26 MELLLA+ operation.

This question was discussed between the NRC reviewer and NSPM / GNF personnel during the April 12, 2011, conference call. This question was subsequently clarified to read as follows.

Please provide a core map to show those bundles experiencing the 0.1 percent boiling transition for the limiting SLMCPR case, including information of the bundle group, number of bundles, type, percent contribution to the number of rods in boiling transition (NRSBT), and group exposure.

Answer

The bundle groupings for the limiting SLMCPR calculation (End-of-Cycle at 82.5 percent power/57.4 percent flow) is shown in Table A below along with the number of bundles in the group, their percent contribution to the number of rods in boiling transition (NRSBT), and the group average exposure. The 2-dimensional map of the bundle groupings is shown in the Figure A below.

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Table A: Bundle Group, Number of Bundles, Type, Percent Contribution to NRSBT, and Group Exposure

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Figure A: Map of the Bundle Groupings for Percent Contribution to NRSBT

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Refer to Enclosure 3 for the response including the GNF proprietary information for this question.

REFERENCES

1. Letter from Northern States Power Company – a Minnesota corporation (NSPM), d/b/a Xcel Energy, to Document Control Desk, “License Amendment Request: Revise the values for the Minimum Critical Power Ratio Safety Limit in Reactor Core Safety Limit 2.1.1.2,” L-MT-10-055, dated September 17, 2010, Accession No. ML102650399.
2. Email from P. Tam (NRC) to R. Loeffler dated April 12, 2011, “Monticello – conference call to resolve 3 issues of the proposed SLMCPR amendment (TAC ME4790).”
3. Letter from Northern States Power Company – a Minnesota corporation (NSPM), d/b/a Xcel Energy, to Document Control Desk, “Response to Requests for Additional Information for the License Amendment Request to Revise the Minimum Critical Power Ratio Safety Limit in Reactor Core Safety Limit 2.1.1.2 (TAC No. ME4790),” L-MT-11-009, dated February 8, 2011.

**Figure 5
Monticello Cycle 26 Power/Flow Map**

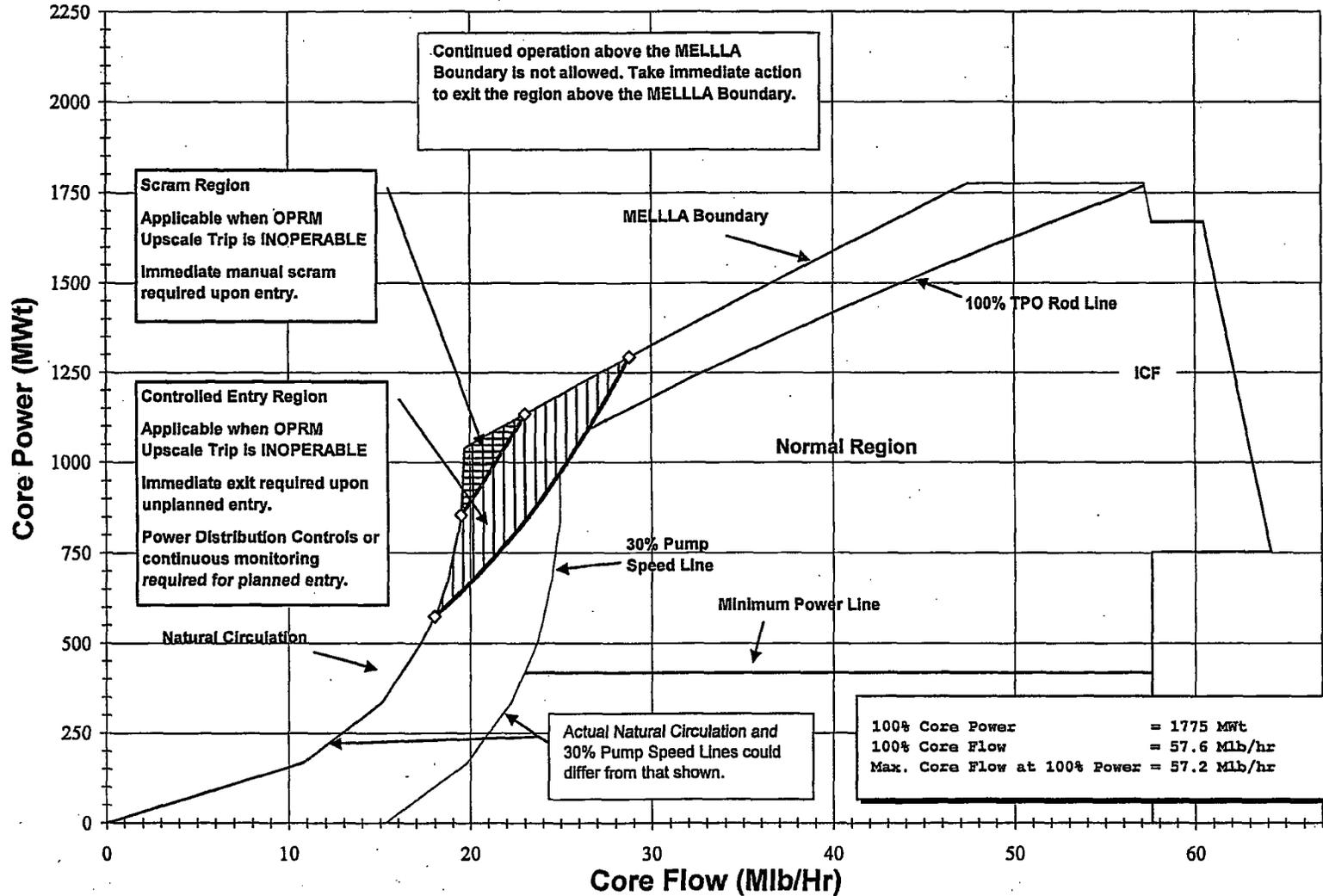
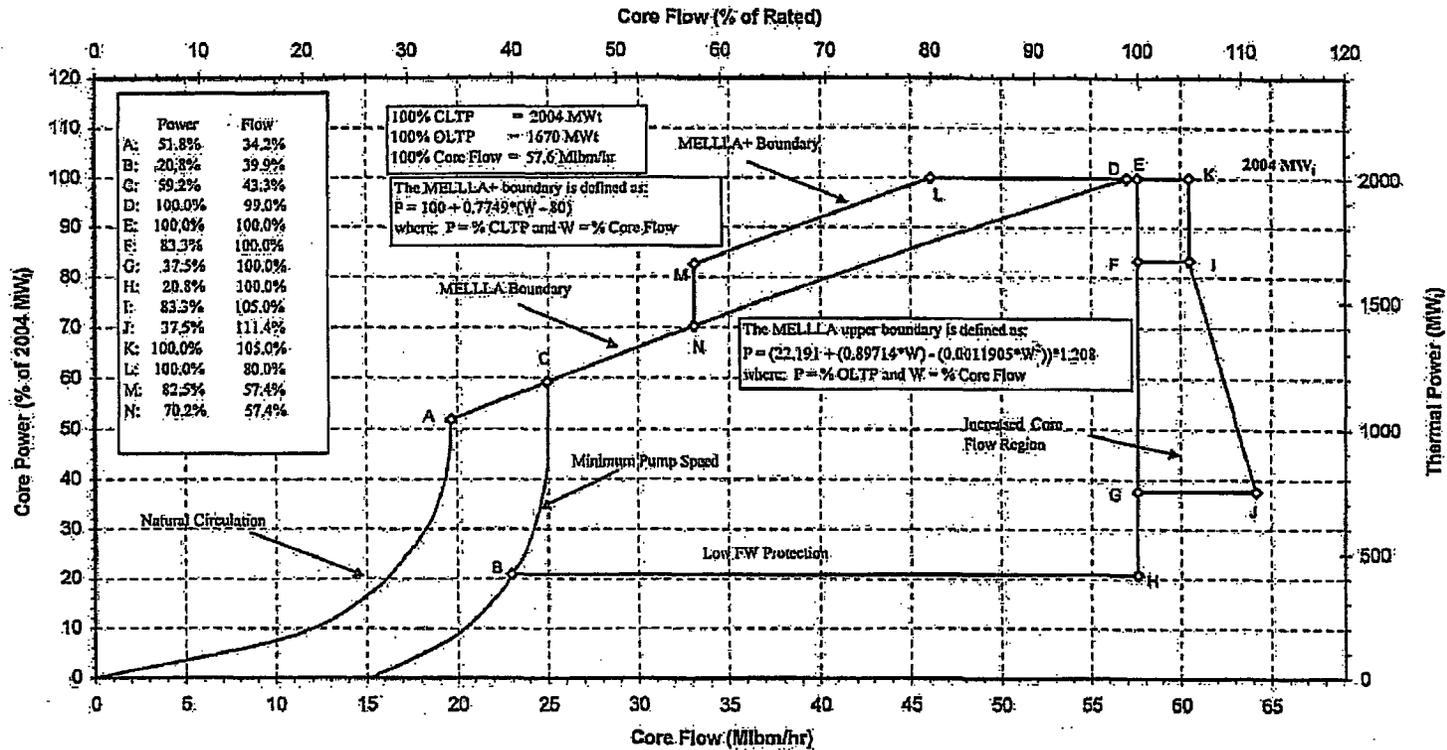


Figure 1.1-1 Licensed Power/Flow Operating Map



ENCLOSURE 2

MONTICELLO NUCLEAR GENERATING PLANT

**RESPONSE TO SECOND REQUEST FOR ADDITIONAL INFORMATION FOR THE
LICENSE AMENDMENT REQUEST TO REVISE THE MINIMUM CRITICAL POWER
RATIO SAFETY LIMIT IN REACTOR CORE SAFETY LIMIT 2.1.1.2**

GLOBAL NUCLEAR FUEL (GNF) PROPRIETARY INFORMATION AFFIDAVIT

(3 pages follow)

Global Nuclear Fuel - Americas LLC

AFFIDAVIT

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

- (1) I am the Vice President, Fuel Engineering of 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 GNF-A proprietary report, GNF S-0000-0092-5732-P, *Request for Additional Information for Monticello Cycle 26 SLMCPR Technical Specification Change*, Class III, (GNF-A Proprietary Information), dated April 2011. GNF-A proprietary information in GNF S-0000-0092-5732-P 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 that, if used by a competitor, would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.
 - c. Information that reveals aspects of past, present, or future GNF-A customer-funded development plans and programs, that may include potential products of GNF-A.

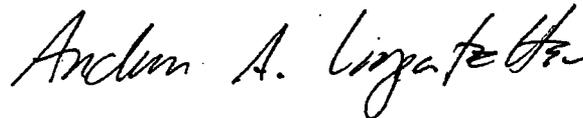
- d. Information that discloses trade secret and/or potentially patentable subject matter for which it may be desirable to obtain patent protection.
- (5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to the NRC in confidence. The information is of a sort customarily 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 for the Boiling Water Reactor (BWR). 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 evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GNF-A asset.
- (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. 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 14th day of April, 2011



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