



April 26, 2005

10 CFR 50.90

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

Palisades Nuclear Plant  
Docket 50-255  
License No. DPR-20

License Amendment Request: Core Operating Limits Report Analytical Methods

Pursuant to 10 CFR 50.90, Nuclear Management Company, LLC (NMC) requests Nuclear Regulatory Commission (NRC) review and approval of a proposed license amendment for the Palisades Nuclear Plant. NMC proposes to revise Appendix A, Technical Specifications (TS), Core Operating Limits Report (COLR) analytical methods referenced in Technical Specification (TS) 5.6.5.b.

The current fuel vendor for the Palisades Nuclear Plant, Framatome ANP, has developed a Palisades specific fuel assembly growth model for use in analyzing the fuel assemblies to be used in the next Palisades Nuclear Plant operating cycle. The proposed license amendment request would add the Palisades specific fuel assembly growth model to the analytical methods referenced in TS 5.6.5.b.

Enclosure 1 provides a detailed description of the proposed change, background and technical analysis, No Significant Hazards Consideration Determination, and Environmental Review Consideration. Enclosure 2 provides the revised TS pages reflecting the proposed change. Enclosure 3 provides the annotated TS pages showing the changes proposed.

Enclosure 4 provides the Framatome ANP proprietary authorization affidavit supporting the fuel assembly growth model specified in the enclosed documents. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390.

APD!

Enclosure 5 contains the Framatome ANP description and justification for the Palisades-specific assembly growth model with the proprietary information enclosed in brackets. NMC requests that Enclosure 5, which is proprietary to Framatome ANP, be withheld from public disclosure in accordance with 10 CFR 2.390. Correspondence regarding the proprietary aspects of the items listed above, or the supporting Framatome ANP affidavit, should reference the affidavit and be addressed to Gayle F. Elliot, Manager, Product Licensing, Framatome ANP, Inc., 3315 Old Forest Road, Lynchburg, VA 24506.

Enclosure 6 contains the non-proprietary version of the Framatome ANP report with the proprietary information deleted.

NMC requests approval of this proposed license amendment by April 1, 2006, with the amendment being implemented within 90 days.

A copy of this request has been provided to the designated representative of the State of Michigan.

#### Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 26, 2005.

A handwritten signature in black ink, appearing to read "Daniel J. Malone", with a small "for" written below it.

Daniel J. Malone  
Site Vice-President, Palisades Nuclear Plant  
Nuclear Management Company, LLC

Enclosures (6)

CC Regional Administrator, Region III, USNRC  
Project Manager, Palisades, USNRC  
NRC Resident Inspector, Palisades USNRC

# **ENCLOSURE 1**

## **DESCRIPTION OF REQUESTED CHANGES**

### **1.0 DESCRIPTION**

Nuclear Management Company, LLC (NMC) requests to amend Operating License DPR-20 for the Palisades Nuclear Plant. The proposed change would revise the Appendix A, Technical Specifications (TS), Core Operating Limits Report (COLR) analytical methods referenced in Technical Specification (TS) 5.6.5.b. This change is needed to support the next operating fuel cycle.

The current fuel vendor for the Palisades Nuclear Plant, Framatome ANP (FANP), has developed a Palisades specific fuel assembly growth correlation for use in analyzing the fuel assemblies to be used in the next Palisades Nuclear Plant operating cycle. The proposed license amendment request would add the Palisades-specific fuel assembly growth correlation (Reference 2) to the analytical methods referenced in TS 5.6.5.b.

### **2.0 PROPOSED CHANGE**

NMC proposes to revise Technical Specification 5.6.5.b to add the following reference:

19. BAW-2489P, "Revised Fuel Assembly Growth Correlation for Palisades." (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)

### **3.0 BACKGROUND**

EMF-92-116 (P)(A) (Reference 1) is currently included in the Palisades Nuclear Plant TS 5.6.5 as an approved analytical method. The NRC safety evaluation for EMF-92-116 states, "If either the upper or lower bounds of the new axial growth model change by more than a standard deviation from the upper or lower bounds of the base axial growth model in Reference 5 the new model is required to be submitted to NRC for review." Reference 5, "Response to NRC Request for Information on EMF-92-116(P)," dated November 16, 1994, is described separately in the safety evaluation for EMF-92-116.

### **4.0 TECHNICAL ANALYSIS**

FANP has performed a significant number of post irradiation exams of the Palisades Nuclear Plant fuel assemblies. The fuel assembly growth measurements taken during these exams are summarized in Enclosure 5 (proprietary) and Enclosure 6 (non-proprietary). FANP has revised their Palisades-specific assembly growth correlation based on this data.

Enclosure 5 and 6 provide detailed information on the growth model and how the updated fuel assembly growth correlation was developed.

These proposed changes will have no adverse effect on plant safety.

## **5.0 REGULATORY SAFETY ANALYSIS**

### **5.1 No Significant Hazards Consideration**

Nuclear Management Company, LLC (NMC) has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed license amendment augments an existing analytical method used to determine the core operating limits per Technical Specification 5.6.5.b. Accidents previously evaluated will be unaffected because they will continue to be analyzed using applicable methodologies approved by the Nuclear Regulatory Commission to ensure all required safety limits are met. The proposed amendment does not affect the acceptance criteria for any Final Safety Analysis Report (FSAR) safety analysis analyzed accidents and anticipated operational occurrences. As such, the proposed amendment does not increase the probability or consequences of an accident. The proposed amendment does not involve operation of the required structures, systems or components (SSCs) in a manner or configuration different from those previously recognized or evaluated.

Therefore, operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed amendment does not involve a physical alteration of any SSC or a change in the way any SSC is operated. The proposed amendment does not involve operation of any required SSCs in a manner or configuration different from those previously recognized or evaluated.

No new failure mechanisms will be introduced by the changes being requested.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed amendment does not, by itself, introduce a failure mechanism. The proposed amendment does not involve any physical changes to the plant or manner in which the plant is operated. The proposed changes do not affect the acceptance criteria for any FSAR safety analysis analyzed accidents or anticipated operational occurrences. All required safety limits would continue to be analyzed using methodologies approved by the Nuclear Regulatory Commission.

Therefore, the proposed amendment would not involve a significant reduction in a margin of safety.

Based on the evaluation above, NMC concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

## 5.2 Applicable Regulatory Requirements/Criteria

As indicated in Section 3 above, the addition of a new assembly growth correlation requires prior NRC review and approval based on the stipulations stated in the safety evaluation approving EMF-92-116.

In conclusion, based on the considerations described above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

## **6.0 ENVIRONMENTAL CONSIDERATION**

NMC has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

## **7.0 REFERENCES**

1. EMF-92-116 (P)(A) Revision 0, "Generic Mechanical Design Criteria for PWR Fuel Designs," dated February 1999.
2. BAW-2489P, Revision 0, "Revised Fuel Assembly Growth Correlation for Palisades," dated March 2005.

**ENCLOSURE 2**

**LICENSE AMENDMENT REQUEST: CORE OPERATING LIMITS REPORT  
ANALYTICAL METHODS**

REVISED TECHNICAL SPECIFICATION PAGE 5.0-27  
AND  
OPERATING LICENSE PAGE CHANGE INSTRUCTIONS

**2 Pages Follow**

**ATTACHMENT TO LICENSE AMENDMENT NO.**

**FACILITY OPERATING LICENSE NO. DPR-20**

**DOCKET NO. 50-255**

Remove the following pages of Appendix A Technical Specifications and replace with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

**REMOVE**

5.0-27

**INSERT**

5.0-27



## 5.6 Reporting Requirements

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### 5.6.5 COLR (continued)

14. EMF-92-116(P)(A), "Generic Mechanical Design Criteria for PWR Fuel Designs," Siemens Power Corporation.  
(LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)
  15. EMF-2087(P)(A), "SEM/PWR-98: ECCS Evaluation Model for PWR LBLOCA Applications," Siemens Power Corporation.  
(LCOs 3.1.6, 3.2.1, & 3.2.2)
  16. ANF-87-150 Volume 2, "Palisades Modified Reactor Protection System Report: Analysis of Chapter 15 Events," Advanced Nuclear Fuels Corporation. [Approved for use in the Palisades design during the NRC review of license Amendment 118, November 15, 1988] (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.4.1)
  17. EMF-1961(P)(A), Revision 0, Siemens Power Corporation, July 2000, "Statistical Setpoint/Transient Methodology for Combustion Engineering Type Reactors." (LCOs 3.1.6, 3.2.1, 3.2.2, 3.2.4, & 3.4.1)
  18. EMF-2328 (P)(A), Revision 0, Framatome ANP, Inc., March 2001, "PWR Small Break LOCA Evaluation Model, S-RELAP5 Based." (LCOs 3.1.6, 3.2.1, & 3.2.2)
  19. BAW-2489P, "Revised Fuel Assembly Growth Correlation for Palisades." (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems limits, nuclear limits such as shutdown margin, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any mid cycle revisions or supplements, shall be provided, upon issuance for each reload cycle, to the NRC.

**ENCLOSURE 3**

**LICENSE AMENDMENT REQUEST: CORE OPERATING LIMITS REPORT  
ANALYTICAL METHODS**

MARK-UP OF TECHNICAL SPECIFICATION PAGE 5.0-27  
(showing proposed changes)  
(additions are highlighted; deletions are strikethrough)

**1 Page Follows**

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## 5.6 Reporting Requirements

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### 5.6.5 COLR (continued)

14. EMF-92-116(P)(A), "Generic Mechanical Design Criteria for PWR Fuel Designs," Siemens Power Corporation.  
(LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)
  15. EMF-2087(P)(A), "SEM/PWR-98: ECCS Evaluation Model for PWR LBLOCA Applications," Siemens Power Corporation.  
(LCOs 3.1.6, 3.2.1, & 3.2.2)
  16. ANF-87-150 Volume 2, "Palisades Modified Reactor Protection System Report: Analysis of Chapter 15 Events," Advanced Nuclear Fuels Corporation. [Approved for use in the Palisades design during the NRC review of license Amendment 118, November 15, 1988] (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.4.1)
  17. EMF-1961(P)(A), Revision 0, Siemens Power Corporation, July 2000, "Statistical Setpoint/Transient Methodology for Combustion Engineering Type Reactors." (LCOs 3.1.6, 3.2.1, 3.2.2, 3.2.4, & 3.4.1)
  18. EMF-2328 (P)(A), Revision 0, Framatome ANP, Inc., March 2001, "PWR Small Break LOCA Evaluation Model, S-RELAP5 Based." (LCOs 3.1.6, 3.2.1, & 3.2.2)
  19. BAW-2489P, "Revised Fuel Assembly Growth Correlation for Palisades." (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems limits, nuclear limits such as shutdown margin, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any mid cycle revisions or supplements, shall be provided, upon issuance for each reload cycle, to the NRC.

**ENCLOSURE 4**

**LICENSE AMENDMENT REQUEST: CORE OPERATING LIMITS REPORT  
ANALYTICAL METHODS**

**FRAMATOME AFFIDAVIT**

**3 Pages Follow**

## AFFIDAVIT

COMMONWEALTH OF VIRGINIA    )  
  ) ss.  
CITY OF LYNCHBURG            )

1. My name is Gayle F. Elliott. I am Manager, Product Licensing in Regulatory Affairs, for Framatome ANP ("FANP"), and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by FANP to determine whether certain FANP information is proprietary. I am familiar with the policies established by FANP to ensure the proper application of these criteria.

3. I am familiar with BAW-2489P, Revision 0, "Revised Fuel Assembly Growth Correlation for Palisades," dated March of 2005, and referred to herein as "Document." Information contained in this Document has been classified by FANP as proprietary in accordance with the policies established by FANP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by FANP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure.

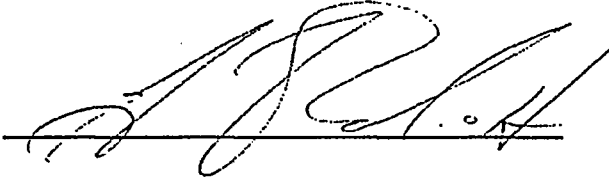
6. The following criteria are customarily applied by FANP to determine whether information should be classified as proprietary:

- (a) The information reveals details of FANP's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for FANP.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for FANP in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by FANP, would be helpful to competitors to FANP, and would likely cause substantial harm to the competitive position of FANP.

7. In accordance with FANP's policies governing the protection and control of information, proprietary information contained in this Document have been made available, on a limited basis, to others outside FANP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. FANP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge,  
information, and belief.

A handwritten signature in cursive script, appearing to read "D. R. Kidd", written over a horizontal line.

SUBSCRIBED before me this 18  
day of March, 2005.

A handwritten signature in cursive script, appearing to read "Danita R. Kidd", written over a horizontal line.

Danita R. Kidd  
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA  
MY COMMISSION EXPIRES: 12/31/08



Danita R. Kidd  
NOTARY PUBLIC  
Commonwealth of VA  
Comm. Expires: 12-31-08