

August 1, 2001

Mr. Douglas E. Cooper  
Site Vice President  
Palisades Plant  
Nuclear Management Company, LLC  
27780 Blue Star Memorial Highway  
Covert, MI 49043

SUBJECT: PALISADES PLANT - ISSUANCE OF AMENDMENT RE: ASSEMBLY RADIAL  
PEAKING FACTOR (TAC NO. MB1683)

Dear Mr. Cooper:

The Commission has issued the enclosed Amendment No. 205 to Facility Operating License No. DPR-20 for the Palisades Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to the application by Consumers Energy Company (CEC) dated April 2, 2001. CEC has subsequently been succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Palisades Plant. By letter dated May 17, 2001, NMC requested that the Commission continue to process and disposition licensing actions previously docketed and requested by CEC.

The amendment changes the TSs by removing requirements for, and references to, the "Assembly Radial Peaking Factor" - a term no longer used in the licensee's core design and safety analyses methodology.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

*/RA/*

Darl S. Hood, Senior Project Manager, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosures: 1. Amendment No. 205 to DPR-20  
2. Safety Evaluation

cc w/encls: See next page

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DISTRIBUTION

PUBLIC	OGC	YOrechwa	WBeckner
PDIII-1 Reading	ACRS	CCraig	GHill (2)
DHood	AVegel, RIII	RBouling	FAkstulewicz

OFFICE	PDIII-1/PM	PDIII-1/LA	SRXB/SC	OGC	PDIII-1/SC
NAME	DHood	THarris for RBouling	FAkstulewicz	RWeisman	SBajwa for CCraig
DATE	7/20/01	7/20/01	By SE 7/10/01	7/29/01	8/1/01

ACCESSION NO. ML011990100

OFFICIAL RECORD COPY

Palisades Plant

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July 2001

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 205

License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. Consumers Energy Company (CEC) submitted a letter dated April 2, 2001, requesting a license amendment for the Palisades Plant. CEC was subsequently succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Palisades Plant. By letter dated May 17, 2001, NMC requested that the Commission continue to process and disposition licensing actions previously docketed and requested by CEC. The application for amendment by the licensee dated April 2, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public; and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to the license amendment and Paragraph 2.C.(2) of Facility Operating License No. DPR-20 is hereby amended to read as follows:

The Technical Specifications contained in Appendix A, as revised through Amendment No. 205, and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. NMC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA by S. Bajwa for/***

Claudia M. Craig, Chief, Section 1  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 1, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 205

FACILITY OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

Revise Appendix A of the Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

i  
1.1-1  
1.1-6  
3.2.2-1  
3.2.3-1

INSERT

i  
1.1-1  
1.1-6  
3.2.2-1  
3.2.3-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 205 TO FACILITY OPERATING LICENSE NO. DPR-20

NUCLEAR MANAGEMENT COMPANY, LLC

PALISADES PLANT

DOCKET NO. 50-255

## 1.0 INTRODUCTION

By application dated April 2, 2001, Consumers Energy Company (CEC) requested an amendment to the operating license to change the Technical Specifications (TSs) for the Palisades Plant. The proposed changes to the TSs would remove all requirements for, and references to, the "Assembly Radial Peaking Factor" ( $F_R^A$ ). Consequently, in TS Section 1.0, the definition of Assembly Radial Peaking Factor would be deleted. In addition, the definition of the Total Radial Peaking Factor ( $F_R^T$ ) would be corrected to read: " $F_R^T$  shall be the maximum ratio of the individual fuel pin power to the core average pin power integrated over the total core height, including tilt." In the TS table of contents and in Limiting Condition for Operation (LCO) 3.2.2, the title would be changed to "TOTAL RADIAL PEAKING FACTOR ( $F_R^T$ ).". In LCO 3.2.2, the wording would state " $F_R^T$  shall be within the limits specified in the [Core Operating Limits Report] COLR"; Condition A would state " $F_R^T$  not within limits specified in the COLR"; Required Action A.1 would state "Restore  $F_R^T$  to within limits"; and Surveillance Requirement 3.2.2.1 would state "Verify  $F_R^T$  is within limits specified in the COLR." In LCO 3.2.3, Required Action A.1 would state: "Verify  $F_R^T$  is within the limits of LCO 3.2.2, 'Total Radial Peaking Factor ( $F_R^T$ ).'."

On May 15, 2001, CEC was succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Palisades Plant. By letter dated May 17, 2001, NMC requested that the Nuclear Regulatory Commission (NRC) continue to process and disposition licensing actions previously docketed and requested by CEC.

## 2.0 EVALUATION

In its application for amendment, dated April 2, 2001, the licensee states that the nuclear fuel supplier for the Palisades Plant, Siemens Power Corporation (Siemens), has revised the Palisades fuel design and safety analyses such that the  $F_R^A$  is no longer utilized in the computation of a design limit. In particular, the  $F_R^A$  is not part of the current core design and safety methodology and will not be used for subsequent cycles.

The  $F_R^A$  was introduced to the Palisades TSs in 1978 to ensure that the assumptions used in the analysis for establishing the departure from nucleate boiling (DNB) margin, linear heat

generation rate, thermal margin/low pressure, and high pressure trip set points remain valid during operation at the various allowable control rod group insertion limits. Since that time, Siemens has, on several occasions, upgraded the safety analyses methodology applied to the Palisades Plant. The upgrading has been in response to plant changes and new technology that Siemens developed for safety analyses calculations.

For the then-current Palisades fuel cycle (Cycle 15) and the then-upcoming Cycle 16,<sup>1</sup> Siemens performed neutronic design analyses of the reload cores using computational codes and analytical methodologies previously reviewed and approved by the NRC staff and identified in TS Section 5.6.5. These analytic methods do not use the  $F_R^A$  in computing the Minimum DNB Ratio values for limiting Anticipated Operational Occurrences (AOOs) and Postulated Accidents. Analyses based on these methodologies verify that for AOOs and Postulated Accidents: 1) The DNB Ratio remains above the appropriate TSs Safety Limit specified in TS 2.1, "Safety Limits, and 2) the calculated offsite doses and control room dose for the affected events remain within the guidelines of Section 11, "Determination of Exclusion Area, Low Population Zone, and Population Center Distance," of 10 CFR Part 100, "Reactor Site Criteria," and Criterion 19, "Control Room," of 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants."

Operation of the plant in accordance with the proposed TSs does not add new equipment, change any equipment or instrument settings, or alter plant operating practices. Therefore, no new accidents from those previously evaluated need be considered.

In the application for amendment, the licensee also requests an editorial correction in the definition of the "Total Radial Peaking Factor ( $F_R^T$ )." The current definition states that " $F_R^T$  shall be the maximum product of the ratio of the individual fuel pin power to the core average pin power integrated over the total core height, including tilt." The proposed change deletes "product of the" in this current definition. The NRC staff agrees that this deletion is appropriate. Other formatting changes substituting "Total Radial Peaking Factor" and " $F_R^T$ " in the title headings, text, and table of contents, are also appropriate.

On the basis of the above considerations, the NRC staff finds that the changes to the Palisades TSs removing the requirements for, and references to,  $F_R^A$ , and the changes regarding the definition and use of  $F_R^T$  are consistent with NRC reviewed and approved analytic methodology. The proposed TS changes are, therefore, acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official indicated agreement with the NRC staff's proposed issuance of the amendment.

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<sup>1</sup> Since submitting the application for license amendment dated April 2, 2001, the licensee has completed a refueling outage and resumed operation with fuel Cycle 16 in the spring of 2001.

#### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, and changes a surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (66 FR 22027, dated May 2, 2001). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 5.0 CONCLUSION

The Commission has concluded, based upon the considerations discussed above, that: (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.

Principal Contributors: Y. Orechwa

Date: August 1, 2001