UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 9, 2001

Mr. Nathan L. Haskell
Director, Licensing and Performance Assessment
Palisades Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

SUBJECT: PALISADES PLANT - ISSUANCE OF AMENDMENT TO REVISE TECHNICAL SPECIFICATIONS TO ADD A REFERENCE TO AN ACCEPTED LICENSING TOPICAL REPORT ON STATISTICAL SETPOINT METHODOLOGY (TAC NO. MB1195)

Dear Mr. Haskell:

The Commission has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-20 for the Palisades Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated February 12, 2001.

The amendment changes TS Section 5.6.5b, "Reporting Requirements--Core Operating Limits Report (COLR)," to add a report pertaining to statistical setpoint methodology to the list of approved methodology references.

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,

Darl S. Hood

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. 195 to DPR-20
2. Safety Evaluation

cc w/encls: See next page

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Palisades Plant

cc:

Mr. John Paul Cowan
Site Vice President
Palisades Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

Mr. Robert A. Fenech, Senior Vice President
Nuclear, Fossil, and Hydro Operations
Consumers Energy Company
212 West Michigan Avenue
Jackson, MI 49201

Arunas T. Udrys, Esquire
Consumers Energy Company
212 West Michigan Avenue
Jackson, MI 49201

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Jerry Sarno, Supervisor
Covert Township
P. O. Box 35
Covert, MI 49043

Office of the Governor
P. O. Box 30013
Lansing, MI 48909

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
Palisades Plant
27782 Blue Star Memorial Highway
Covert, MI 49043

Drinking Water and Radiological
Protection Division
Michigan Department of
Environmental Quality
3423 N. Martin Luther King Jr Blvd
P. O. Box 30630 CPH Mailroom
Lansing, MI 48909-8130

Michigan Department of Attorney General
Special Litigation Division
630 Law Building
P.O. Box 30212
Lansing, MI 48909

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSUMERS ENERGY COMPANY

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Consumers Energy Company (the licensee) dated February 12 , 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. 195 , and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. Consumers Energy Company 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Claudia M. Craig

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: April 9, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 195

FACILITY OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

Revise Appendix A of the Technical Specifications by removing the page identified below and inserting the enclosed page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE	INSERT
5.0-27	5.0-27

5.6 Reporting Requirements

5.6.5 COLR (continued)

9. EMF-92-153(P)(A) and Supplement 1, "HTP: Departure from Nucleate Boiling Correlation for High Thermal Performance Fuel," Siemens Power Corporation. (LCOs 3.2.1, 3.2.2, & 3.2.4)

10. XN-NF-621(P)(A), "Exxon Nuclear DNB Correlation for PWR Fuel Designs," Exxon Nuclear Company. (LCOs 3.2.1, 3.2.2, & 3.2.4)

11. XN-NF-82-06(P)(A) and Supplements 2, 4, and 5, "Qualification of Exxon Nuclear Fuel for Extended Burnup," Exxon Nuclear Company. (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)

12. ANF-88-133(P)(A) and Supplement 1, "Qualification of Advanced Nuclear Fuels' PWR Design Methodology for Rod Burnups of 62 GWD/MTU," Advanced Nuclear Fuels Corporation. (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)

13. XN-NF-85-92(P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," Exxon Nuclear Company. (LCOs 3.1.6, 3.2.1, 3.2.2, & 3.2.4)

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)

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)

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.

UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-20

CONSUMERS ENERGY COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By application dated February 12, 2001, Consumers Energy Company (the licensee) requested changes to the Technical Specifications (TSs) for the Palisades Plant. The proposed amendment would change TS Section 5.6.5b, "Reporting Requirements--Core Operating Limits Report (COLR)," by adding a reference to the existing references of approved analytical methods for determining core operating limits. The reference to be added is Topical Report EMF-1961(P)(A)[1], Revision 0, "Statistical Setpoint/Transient Methodology for Combustion Engineering Type Reactors," by the Siemens Power Corporation (SPC, now known as Framatome Advanced Nuclear Power, or ANP), dated July 2000.

2.0 BACKGROUND

By letter dated December 21, 1998, SPC requested NRC review and approval of Topical Report EMF-1961(P), which described a new methodology for statistical setpoint and transient analysis for nuclear power plants that use Combustion Engineering (CE)-type nuclear steam supply systems. The methodology includes ways to statistically combine the uncertainties for analyzing limiting conditions for operation (LCOs), limiting safety system settings (LSSSs), and transients. The new methodology uses SPC's previously approved generic statistical uncertainty analysis methodology, a methodology to statistically combine uncertainties and create response surfaces which are used to determine the probability of conservatively remaining below the limiting parameter. The methodology is based on CE plants with thermal margin/low pressure (TM/LP) LSSS, local power density (LPD) LSSS, LPD LCO, and departure from nucleate boiling (DNB) LCO. The new statistical methodology is intended to facilitate automating the methodology, decreasing the user effect, and decreasing the potential for introducing user errors.

[1](P) denotes the proprietary version of the report and (A) denotes the approved version of the report.

As stated in a letter to SPC dated July 12, 2000, the NRC staff concluded that Topical Report EMF-1961(P) is acceptable for referencing in licensing applications, subject to certain conditions specified in that letter and its accompanying safety evaluation.

3.0 EVALUATION

In its application dated February 12, 2001, the licensee stated that the methodology described in Topical Report EMF-1961(P)(A) is being used in the design of the Palisades Cycle 16 core (currently scheduled to be installed during the refueling outage beginning on March 30, 2001) and requested a license amendment to add this report as a reference in TS 5.6.5. The setpoint discussion in Topical Report EMF-1961 includes the evaluation of the Thermal Margin/Low Pressure (TM/LP) trip function, as well as several setpoints not used at Palisades (LPD LSSS trip function, the DNB LCO, and the LPD LCO). The report describes the statistical evaluation of transients for DNB, fuel centerline melt, and system pressures.

In a letter to SPC dated July 12, 2000, the NRC staff concluded that Topical Report EMF-1961 is acceptable for referencing in licensing applications, subject to certain specified conditions. The NRC staff noted that it would not repeat its review of the matters described in the report that have been found acceptable when the report appears as a reference in license applications, except to ensure that the material presented is applicable to the specific plant involved. In a safety evaluation that accompanied the July 12, 2000, letter, the NRC staff specified the following two conditions regarding use of Topical Report EMF-1961:

1. This methodology is approved only for CE-type reactors which use protection systems as described in the topical report.

2. The methodology includes a statistical treatment of specific variables in the analysis; therefore, if additional variables are treated statistically, SPC (now ANP) should reevaluate the methodology and document the changes in the treatment of the variables. The documentation will be maintained by SPC and will be available for NRC audit.

The first condition precludes the methodology from being applied to any Palisades trip input parameter that is not described in the topical report (e.g., the inlet temperature (T_{inlet}) LCO). The NRC staff's prior approval does provide for ANP applying the methodology to the Palisades core design to calculate fuel centerline melt limits, analyze transients statistically, and confirm the TM/LP trip statistically. The second condition places conditions on ANP with regard to extending the number of variables treated statistically and does not affect the use of the approved methodology for Palisades. SPC (now ANP) has agreed to both conditions by letter dated March 3, 2000. The licensee is aware of these conditions and is required to ensure that the methodology is applied to Palisades consistent with these specified conditions.

On the basis of its prior acceptance of Topical Report EMF-1961(P) and review of the licensee's application dated February 12, 2001, the NRC staff concludes that the subject methodology is applicable to Palisades and that Topical Report EMF-1961(P)(A) should be added as an additional reference in Palisades TS Section 5.6.5, subject to the stated conditions.

4.0 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 had no comments.

5.0 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. 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 13801). 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.

6.0 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: S. Miranda
U. Shoop

Date: April 9, 2001