

September 13, 2002

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

SUBJECT: PALISADES PLANT - ISSUANCE OF AMENDMENT RE: CORE OPERATING
LIMITS REPORT ANALYTICAL METHODS (TAC NO. MB3905)

Dear Mr. Cooper:

The Commission has issued the enclosed Amendment No. 209 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 January 28, 2002.

The amendment revises the Core Operating Limits Report analytical methods referenced in TS 5.6.5.b. Specifically, the amendment adds references to two NRC-approved Framatome ANP, Inc., reports: (1) EMF-2310(P)(A), Revision 0, "SRP [Standard Review Plan] Chapter 15 Non-LOCA [loss-of-coolant accident] Methodology for Pressurized Water Reactors [PWRs]," dated May 2001, and (2) EMF-2328(P)(A), Revision 0, "PWR Small Break LOCA Evaluation Model, S-RELAP5 Based," dated March 2001. The amendment also deletes previous references in TS 5.6.5.b describing Exxon Nuclear Company's large-break LOCA evaluation model.

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 by Samuel Miranda for/

Johnny H. Eads, Acting 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. 209 to DPR-20
2. Safety Evaluation

cc w/encls: See next page

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Palisades Plant

cc:

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

Arunas T. Udryns, 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

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

Mr. Roy A. Anderson
Executive Vice President and
Chief Nuclear Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Laurie A. Lahti
Manager - Licensing
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

Steven T. Wawro
Nuclear Asset Director
Consumers Energy Company
Palisades Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

Mr. John Paul Cowan
Senior Vice President
Palisades Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

March 2002

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-255

PALISADES PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 209

License No. DPR-20

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nuclear Management Company, LLC (the licensee), dated January 28, 2002, 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. 209 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by John Stang for/

L. Raghavan, 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: September 13, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 209

FACILITY OPERATING LICENSE NO. DPR-20

DOCKET NO. 50-255

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

REMOVE

5.0-26

5.0-27

INSERT

5.0-26

5.0-27

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 209 TO FACILITY OPERATING LICENSE NO. DPR-20
NUCLEAR MANAGEMENT COMPANY, LLC

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By application dated January 28, 2002, the Nuclear Management Company, LLC (the licensee), requested an amendment to the Technical Specifications (TSs) for the Palisades Plant. The proposed amendment would revise the Core Operating Limits Report (COLR) analytical methods referenced in Technical Specification (TS) 5.6.5.b. Specifically, the amendment would add references to two NRC-approved Framatome ANP, Inc. (FRA-ANP, previously known as Siemens Power Corporation), reports: (1) EMF-2310(P)(A), Revision 0, "SRP [Standard Review Plan] Chapter 15 Non-LOCA [loss-of-coolant accident] Methodology for Pressurized Water Reactors [PWRs]," dated May 2001, and (2) EMF-2328(P)(A), Revision 0, "PWR Small Break LOCA Evaluation Model, S-RELAP5 Based," dated March 2001. The amendment would also delete previous references in TS 5.6.5.b describing Exxon Nuclear Company's large-break LOCA evaluation model.

2.0 BACKGROUND

By letter dated November 22, 1999, FRA-ANP submitted Topical Report EMF-2310(P) to the Nuclear Regulatory Commission (NRC) for review and approval for use of the S-RELAP5 based thermal-hydraulic analysis code. FRA-ANP proposed to use S-RELAP5 to replace the NRC-approved code, ANF-RELAP, as the new code was updated and modified to analyze both PWR LOCA and non-LOCA transient occurrences. The S-RELAP5 code includes analyses of the thermal-hydraulic code, RELAP/MOD2 (including some RELAP/MOD3 models), the fuel design code RODEX2, along with other codes necessary for use with LOCA analyses. All of these calculations were tied into a single system calculation and satisfactorily met the requirements of 10 CFR Part 50, Appendix K. For the non-LOCA transient events, FRA-ANP proposed to continue the use of the XCOBRA-IIIC code in obtaining the final minimum departure from nucleate boiling ratio.

Subsequently, by letter dated January 10, 2000, FRA-ANP submitted Topical Report EMF-2328(P), Revision 0, "PWR Small Break LOCA Evaluation Mode, S-RELAP5 Based," to the NRC for review and approval. This topical report is closely related to Topical Report EMF-2310(P)(A). FRA-ANP requested approval to apply one computer code to the analyses of LOCA and non-LOCA transient events. The ANF-RELAP code previously

approved by the NRC was amended to include RELAP/MOD2 (with RELAP/MOD3 models), RODEX2, the containment model ICECON, and TOODEE2, the hot rod model, all incorporated into a single system calculation. The requirements of 10 CFR Part 50, Appendix K, were satisfactorily met.

3.0 EVALUATION

The licensee requested NRC approval to include references to NRC-approved Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) in TS 5.6.5.b. The licensee also requested approval to delete references to Topical Reports XN-NF-82-20(P)(A), XN-NF-82-07(P)(A), XN-NF-81-58(P)(A), XN-NF-85-16(P)(A), and XN-NF-85-105(P)(A) listed in TS 5.6.5.b. These topical reports are superseded by other documents already listed. The proposed revisions will allow the use of the methodologies in Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) for LOCA and non-LOCA transient events and analyses at Palisades. The licensee stated that the methodologies in Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) will be used for the safety analysis of the next operating fuel cycle.

In the NRC's approval letters for Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) dated May 11, 2001, and March 15, 2001, respectively, the NRC permitted the use of these topical reports by licensees. The NRC concluded that, as a result of the efficiency of the program to tie all of the plant data together in an accident or transient situation, the solution may be more easily reached. Since the manual transfer of the information from one program to another, as was done previously, was not as functional, tying all of the thermal-hydraulic, fuel rod performance, and other performance codes together allows for a smoother system and a more precise response and solution under accident conditions. Evaluating the previous code used by the licensee, and noting that the S-RELAP5 code is more adept, the need for the change to Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) from Palisades' current system is reasonable. The methodology currently used at Palisades is the ANF-RELAP code, which still applies since it is included in the newer S-RELAP coding, but it will not be the primary resource for safety analyses. Reference to the ANF-RELAP5 code should still be included in the COLR for Palisades.

In the safety evaluation for approval of Topical Report EMF-2310(P)(A), the NRC staff determined that there were no limitations on the topical report to be used. In the safety evaluation for approval of Topical Report EMF-2328(P)(A), one limitation was identified on the use of the topical report. The NRC staff notes that a condition imposed on the use of the ANF-RELAP code still applies to the use of S-RELAP5. Specifically, while it has been shown in NUREG/CR-4945, "Summary of the Semiscale Program (1965-1986)," that the thermal-hydraulic phenomena observed for breaks up to 10 percent of the cold leg flow area are the same, if the code is used for break sizes larger than 10 percent of the cold leg flow area, additional assessments must be performed to ensure that the Code is predicting the important phenomena that may occur. Based on this determination, the licensee is permitted to use Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) in the COLR for Palisades. Also, since the references to the topical reports that the licensee proposes to delete are superseded by others listed already in the COLR, the deletion of these reports is allowed as their information is still present in the COLR.

Based on the above evaluation, the NRC staff has determined that the licensee's proposed changes to TS 5.6.5.b to include references to Topical Reports EMF-2310(P)(A) and EMF-2328(P)(A) and delete references to Topical Reports XN-NF-82-20(P)(A), XN-NF-82-07(P)(A), XN-NF-81-58(P)(A), XN-NF-85-16(P)(A), and XN-NF-85-105(P)(A) are acceptable.

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 Michigan State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in recordkeeping, reporting, or administrative procedures or requirements. 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 (67 FR 7420). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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 on 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 Contributor: J. Eads

Date: September 13, 2009