

September 5, 2003

Mr. Alfred J. Cayia
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS RE: TECHNICAL SPECIFICATIONS LCO 3.5.2,
ECCS-OPERATING, AND LCO 3.5.3, ECCS-SHUTDOWN (TAC NOS. MB6349
AND MB6350)

Dear Mr. Cayia:

The Commission has issued the enclosed Amendment No. 209 to Facility Operating License No. DPR-24 and Amendment No. 214 to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application of September 12, 2002, as supplemented March 27 and May 30, 2003.

These amendments add surveillance requirements for TS 3.5.2, "ECCS - Operating," and TS 3.5.3, "ECCS - Shutdown," to verify, every 31 days, that the emergency core cooling system piping is full of water.

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/

Deirdre W. Spaulding, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures: 1. Amendment No. 209 to DPR-24
2. Amendment No. 214 to DPR-27
3. Safety Evaluation

cc w/encls: See next page

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| DATE | 09/03/03 | 08/21/03 | 08/21/03 | 06/13/03 | 08/28/03 | 09/04/03 |

OFFICIAL RECORD COPY

Point Beach Nuclear Plant, Units 1 and 2

cc:

Jonathan Rogoff, Esquire
General Counsel
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Mr. Richard R. Grigg
President and Chief Operating Officer
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

Manager, Regulatory Affairs
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

Mr. Ken Duveneck
Town Chairman
Town of Two Creeks
13017 State Highway 42
Mishicot, WI 54228

Chairman
Public Service Commission
of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

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

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
6612 Nuclear Road
Two Rivers, WI 54241

Ms. Sarah Jenkins
Electric Division
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Nuclear Asset Manager
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

Mano K. Nazar
Senior Vice President
Nuclear Management Company, LLC
Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089

John Paul Cowan
Executive Vice President & Chief Nuclear
Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

August 2003

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 209
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Nuclear Management Company, LLC (the licensee), dated September 12, 2002, as supplemented March 27 and May 30, 2003, 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; and
 - 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 this license amendment, and paragraph 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 209, are hereby incorporated in the license. The licensee shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by DHood 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 5, 2003

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 214
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nuclear Management Company, LLC (the licensee), dated September 12, 2002, as supplemented March 27 and May 30, 2003, 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; and
 - 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 this license amendment, and paragraph 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 214, are hereby incorporated in the license. The licensee shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by DHood 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 5, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 209

TO FACILITY OPERATING LICENSE NO. DPR-24

AND LICENSE AMENDMENT NO. 214

TO FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NOS. 50-266 AND 50-301

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

3.5.2-1

3.5.2-2

3.5.3-2

INSERT

3.5.2-1

3.5.2-2

3.5.3-2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 209 TO FACILITY OPERATING LICENSE NO. DPR-24
AND AMENDMENT NO. 214 TO FACILITY OPERATING LICENSE NO. DPR-27
NUCLEAR MANAGEMENT COMPANY, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By application dated September 12, 2002, as supplemented March 27 and May 30, 2003, the Nuclear Management Company, LLC (NMC), requested changes to the Technical Specifications (TSs) for the Point Beach Nuclear Plant, Units 1 and 2. The proposed changes would add surveillance requirements (SRs) for TS 3.5.2, "ECCS-Operating," and TS 3.5.3, "ECCS-Shutdown," to verify, every 31 days, that the emergency core cooling system (ECCS) piping is full of water.

The supplements dated March 27 and May 30, 2003, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on October 15, 2002 (67 FR 63695).

2.0 REGULATORY EVALUATION

Section 1.3 of the Updated Final Safety Report (UFSAR) for Point Beach lists plant-specific design requirements to which the plant was licensed (based on "General Design Criteria for Nuclear Power Plant Construction Permits," 32 FR 10213, July 11, 1967). The TSs address operational requirements.

NMC proposed changes to plant-specific TSs that would be more consistent with NUREG-1431, "Standard Technical Specifications, Westinghouse Plants, Revision 2." NMC proposed adding the following SR under TS 3.5.2:

SR 3.5.2.2 "Verify ECCS piping is full of water." [every 31 days]

Additionally, NMC proposes to add SR 3.5.2.2 to the list of SRs in SR 3.5.3.1 that apply for all equipment required to be operable during shutdown conditions. The purpose of the proposed SRs is to prevent significant gas accumulation in the ECCS piping during both shutdown and operating conditions. These SRs will help ensure that the ECCS is maintained in an operable state so that it is available to provide core cooling and negative reactivity to the core.

3.0 TECHNICAL EVALUATION

3.1 Background

The NRC staff reviewed the impact of the proposed changes to NMC's TSs. The Point Beach ECCS is designed to provide adequate core cooling and prevent fuel and clad damage during a loss-of-coolant accident (LOCA) or loss-of-secondary-coolant accident, and maintain the core subcritical during a steam generator tube rupture overcooling event. The ECCS operates in the following three modes:

- passive accumulator injection
- safety injection (SI) from the refueling water storage tank
- recirculation from the containment emergency sump

Only one train is needed to mitigate accidents. However, the TSs require two independent and redundant ECCS trains to be operable to reasonably ensure that a single failure will not impair the ability of the system to meet the criteria of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.46.

One of the issues related to the loss of ECCS operability is gas accumulation in ECCS piping. This can lead to water-hammer events in the ECCS, potentially damaging the system. Gas accumulation can also cause cavitation in ECCS pumps, which can damage the pumps and/or prevent them from reaching their design flowrate. The proposed modifications to the TSs would require NMC to verify that the ECCS is full of water every 31 days. See Section 3.3 below for the meaning of "full of water."

The NRC staff raised the following three concerns with regard to the effectiveness of these TSs:

- potential for gas accumulation in the ECCS
- identifying the method for verifying the system is full of water
- effectiveness of the verification process

NMC proposed venting the ECCS periodically to prevent gas accumulation. NMC asserted that this procedure would satisfy the requirement to verify the ECCS is full of water. The NRC staff requested additional information from NMC concerning 1) the configuration of the ECCS during venting procedures, and 2) vent locations in order to evaluate NMC's ability to remove gas from pump casings. NMC's letter of May 30, 2003, provided this information to the NRC. The NRC staff's evaluations of these three concerns are described below.

3.2 Potential For Gas Accumulation in the ECCS

Gas can accumulate in the following ECCS locations:

- high points in pipe runs
- under-closed valves
- residual heat removal heat exchanger inverted U-tubes
- horizontal pipe diameter transitions
- pump casings
- horizontal pipe runs

NMC's letter of May 30, 2003, indicated that NMC maintained the ECCS at Point Beach without venting and in a standby mode for long periods without any signs of gas buildup. However, it is prudent to verify, on a periodic basis, that a significant amount of gas has not accumulated in the ECCS.

3.3 Methodology for Verifying the ECCS is Full of Water

Adding SR 3.5.2.2 and SR 3.5.3.1 to the TSs requires NMC to verify that the ECCS piping is full of water. A literal interpretation of "verify" means to provide evidence. Since NMC cannot assure that some parts of the ECCS will be free of gas following venting, the "full of water" requirement will not be met. The NRC staff was concerned that the wording of the TSs was not adequately explicit to prevent inconsistent implementation and misinterpretation of the TSs. The NRC staff communicated its concerns to NMC in a January 14, 2003, conference call. NMC responded that it would modify the Bases section of SR 3.5.2.2 to document the method used to verify that the ECCS is full of water. NMC's letter of March 27, 2003, indicated that it would add the following text to the Bases section for SR 3.5.2.2:

Maintaining the ECCS pumps and accessible portions of ECCS suction piping, including cross-connect piping to RHR, free of gas quantities that could jeopardize ECCS operability, ensures that the system will perform properly, injecting its full capacity into the RCS upon demand. This is accomplished by venting the SI pumps and accessible portions of ECCS suction piping. Performance of this SR also includes venting accessible portions of the piping from the ECCS pumps to the RCS. This will also prevent pump cavitation and minimize pumping noncondensable gas (e.g., air, nitrogen, or hydrogen) into the reactor vessel following an SI signal or during shutdown cooling. The 31 day Frequency takes into consideration the gradual nature of gas accumulation in the ECCS piping and the procedural controls governing system operation.

This change describes the methodology to prevent and minimize gas accumulation in the system. The NRC staff evaluated whether these venting procedures would be effective. The concern was that some locations may contain gas voids after venting.

In order to evaluate the effectiveness of the venting procedures, the NRC staff requested

additional information from NMC concerning the ECCS configuration and the vent locations. NMC's letter of May 30, 2003, provided this information. Isometric drawings provided by NMC show a direct path from the casing of the RHR pumps to the discharge piping. Based on these drawings, the NRC staff agrees that this system configuration will cause gas to rise from the RHR pump casing and flow into the discharge piping. The gas can then be vented thoroughly because the vents are located at high points in the discharge piping.

The NRC staff concludes that the venting procedures would effectively minimize gas accumulation in the ECCS. The NRC staff also concludes that the periodic venting on a 31-day cycle is adequate. Accordingly, the proposed changes to the TSs are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change 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 change an SR. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (68 FR 5679). Accordingly, these amendments meet 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 these amendments.

5.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Y. Diaz

Date: September 5, 2003