October 26, 2001

Mr. Jeffrey S. Forbes
Site Vice President
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - ISSUANCE OF AMENDMENT RE: CONTROL ROD DRIVE AND CORE MONITORING TECHNICAL SPECIFICATION CHANGES (TAC NO. MB1965)

Dear Mr. Forbes:

The Commission has issued the enclosed Amendment No. 123 to Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment consists of changes to the Technical Specifications in response to your application dated May 18, 2001, as supplemented October 10, 2001.

The amendment (1) deletes a redundant requirement for valving out control rod drives, (2) revises control rod accumulator operability requirements, (3) adds the option to hydraulically isolate control rod drives, and (4) corrects an inconsistency describing when source range monitors are required to be operable during core monitoring.

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/***

Carl F. Lyon, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosures: 1. Amendment No. 123 to DPR-22
2. Safety Evaluation

cc w/encls: See next page

cc:

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Carl F. Lyon, Project Manager, Section 1
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NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 123
License No. DPR-22

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

   A. The application for amendment by Nuclear Management Company, LLC (the licensee) dated May 18, 2001, as supplemented October 10, 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; 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 2.C.2 of Facility Operating License No. DPR-22 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 123, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

William D. Reckley, Acting 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: October 26, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 123

FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

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 | INSERT |
|---|---|
| 82 | 82 |
| 91 | 91 |
| 207 | 207 |
| 209 | 209 |

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 123 TO FACILITY OPERATING LICENSE NO. DPR-22

NUCLEAR MANAGEMENT COMPANY, LLC

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

## 1.0 INTRODUCTION

By application dated May 18, 2001, as supplemented October 10, 2001, the Nuclear Management Company, LLC (the licensee), requested changes to the Technical Specifications (TSs) for the Monticello Nuclear Generating Plant. The proposed amendment would (1) delete a redundant requirement for valving out control rod drives, (2) revise control rod accumulator operability requirements, (3) add the option to hydraulically isolate control rod drives, and (4) correct an inconsistency describing when source range monitors (SRMs) are required to be operable during core monitoring.

The October 10, 2001, supplement provided clarifying information to the application that was within the scope of the original *Federal Register* notice and did not change the staff's initial proposed no significant hazards considerations determination.

## 2.0 EVALUATION

### 2.1 Allowable Four-Rod Group Pattern

The licensee proposes to delete a sentence concerning allowable rod patterns from TS 3.3.C. The sentence describes a specific rod pattern in which a control rod is allowed to be inoperable. Restrictions on the patterns of inoperable control rods are provided in TS 3.3.A, TS 3.3.B, and TS 3.3.D. The rod pattern described in TS 3.3.C is encompassed by and subject to the restrictions of TS 3.3.A, and the deletion of the sentence does not remove or diminish the requirements of TS 3.3.A, TS 3.3.B, or TS 3.3.D. Furthermore, the sentence concerning allowable rod patterns is inconsistent with the remaining content of TS 3.3.C that deals with scram insertion times.

Deletion of the sentence from TS 3.3.C does not reduce the restrictions on allowable rod patterns provided by TS 3.3.A, TS 3.3.B, and TS 3.3.D, and does not reduce safety. Therefore, the proposed change is acceptable.

2.2 Control Rod Accumulator Operability

The licensee proposes to revise the description of a control rod array affected by an inoperable accumulator in TS 3.3.D.1 and its associated TS Bases. The current description states, ". . .a rod accumulator may be inoperable provided that no other control rod *in the nine-rod square array around this rod*. . . ." The description allows one rod accumulator in the nine-rod square array to be inoperable, provided that no other control rod around this rod has an inoperable accumulator. A nonconservative interpretation could allow two inoperable control rod accumulators to be closer than allowed by the Banked Position Withdrawal Sequence (BPWS) analysis (General Electric NEDO-21231, "Banked Position Withdrawal Sequence," Section 7.2, January 1977), because the TS, as written, does not state where in an array the inoperable accumulator is located. With one inoperable accumulator, there is no possibility of a conflict; however, with two inoperable accumulators, it would be possible to configure the two nine-rod arrays such that the current TS requirements would be met, but the BPWS requirements would not be met. The BPWS states that, "Inoperable rods not fully inserted shall be separated from each other in all directions by at least two control rods."

The licensee proposes changing the description to read, ". . .a rod accumulator may be inoperable provided that no other control rod *within two control rod cells in any direction*. . . ." The reworded description more clearly defines an area where a second inoperable accumulator would not be allowed. The proposed wording bounds the current TS, is equivalent to the BPWS wording, and is generally consistent with the description utilized in Standard TSs (NUREG-1433), Section 3.1.3.D. Therefore, the proposed change is acceptable.

The licensee proposes to revise the associated TS Bases to reflect the rewording of TS 3.3.D and for clarification. The staff has no objection to the proposed change to the Bases.

2.3 Control Rod Accumulator Hydraulic Isolation

In the Startup or Run modes, TS 3.3.D.1 allows an inoperable accumulator to be electrically disarmed once the control rod is fully inserted. Once the control rod is fully inserted and the accumulator is isolated, the rod shall not be considered to have an inoperable accumulator. The licensee proposes to revise TS 3.3.D to allow an inoperable accumulator to be either electrically or hydraulically disarmed once the control rod is fully inserted, in the Startup, Run, or Refuel modes.

Hydraulic isolation provides an additional method of isolating the drive that is equivalent to electrical isolation. The additional isolation method provides greater flexibility in conducting operations, maintenance, or repairs. Both methods disarm the control rod drive and preclude the possibility of inadvertent rod withdrawal. Inadvertent control rod withdrawal with the drive hydraulically isolated is prevented by the withdrawal sequence. For a drive to withdraw, it must first complete an insert segment unlatching the drive, and then complete the withdraw segment. The duration of the insert signal is controlled by the reactor manual control system logic and must be adequate to unlatch the drive while normal hydraulic pressure is available. The licensee states that even if the isolation valves leak when the drive is hydraulically isolated, there will be insufficient pressure to unlatch the drive. General Electric Hydraulic Control Unit Operations and Maintenance Instructions (GEI-92807B) and the Standard TSs, Section 3.1.3, recognize as acceptable both electrical and hydraulic methods of isolating fully inserted drives. Therefore, the proposed change is acceptable.

The licensee also proposes placing the isolation requirements prior to Section 3.3.D.1, clarifying that the requirements apply in the Refuel mode as well as the Startup and Run modes. With the control rod fully inserted, the function of the accumulators is no longer required and the accumulator may be isolated without a reduction in safety. Therefore, the proposed change is acceptable.

2.4 Clarification of TS Bases Regarding Control Rod Exercise Testing

The licensee proposes to delete a sentence in TS Bases Section 3.3.C referring to the monthly exercising of one rod in any two-by-two array. Monticello License Amendment No. 86, dated July 12, 1993, revised the testing requirements for control rods by deleting the option for monthly testing. The associated sentence in the Bases should have been deleted along with the TS option by Amendment No. 86. The proposed deletion of the sentence from the Bases clarifies the existing TS testing requirements and precludes a misinterpretation of the TS requirements. The staff has no objection to the proposed change to the Bases.

2.5 Core Monitoring Prior to Core Alterations

The licensee proposes a change to the core monitoring surveillance requirements of TS 4.10.B, in order that TS 4.10.B be consistent with the operability requirements of TS 3.10.B.2. During core alterations, the function of the SRM is to monitor an unexpected criticality.

As provided by TS 3.10.B.2, there is no requirement for a minimum count rate on the SRM during core alterations when (1) no more than two fuel assemblies are present in the core quadrant associated with the SRM, and (2) while in core, these fuel assemblies are in locations adjacent to the SRM. With few fuel assemblies loaded, the SRM will not have a high enough count rate to satisfy the surveillance requirement. Therefore, allowances are made for loading sufficient “source” material, in the form of irradiated fuel assemblies, to establish the minimum count rate. The licensee states that with no more than two assemblies loaded in a quadrant and adjacent to an SRM, the configuration will not be critical. The staff agrees, and Standard TSs, Surveillance Requirement 3.3.1.2.4, allows that the minimum count rate is not required to be met on an SRM with up to four assemblies adjacent to the SRM where there are no other fuel assemblies loaded in the associated quadrant. The proposed change is more restrictive than that allowed in the Standard TSs.

Where not more than two fuel assemblies are present in any quadrant, the configuration will not be critical, and SRMs are not required to be operable. Therefore, SRM response checks are not required. The proposed change to TS 4.10.B reduces SRM response testing prior to core alterations to the period of time when the SRM is required to be operable. This change makes TS 4.10.B consistent with TS 3.10.B.2, and is acceptable.

The licensee proposes to revise associated TS Bases Section 3.10/4.10.B to reflect the change to the TS. The staff has no objection to the proposed change to the Bases.

3.0 STATE CONSULTATION

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

## 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. The 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 31711). 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 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: F. Lyon

Date: October 26, 2001