August 27, 2002

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 TO REVISE TECHNICAL SPECIFICATIONS AND SURVEILLANCE REQUIREMENTS RELATING TO STANDBY DIESEL GENERATORS (TAC NO. MB3042)

Dear Mr. Forbes:

The Commission has issued the enclosed Amendment No. 129 to Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 27, 2001, as supplemented May 14, 2002.

The amendment (1) revises the diesel fuel supply volume required for diesel generator (DG) operability, (2) clarifies existing wording in the TSs, (3) adds a TS limiting condition for operation (LCO) and a TS surveillance requirement (SR) regarding the DG air receivers, (4) deletes a current TS SR concerning DG starting air compressors, and (5) restructures and renumbers the TS LCOs and SR for applicability and administrative purposes.

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/

Samuel Miranda, 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. 129 to DPR-22
2. Safety Evaluation

cc w/encls: See next page

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DISTRIBUTION:

PUBLIC	OGC	SWeerakkody
PDIII-1 Reading	ACRS	DShum
LRaghavan	WBeckner	RDennig
SMiranda	GHill(2)	
RBouling	BBurgess, RGN-III	

*Provided SE input by memo
**Previously Concurred

ADAMS Accession No. ML022120097

OFFICE	PDIII-1/PM	PDIII-1/LA	SPLB/SC*	RORP/SC**	OGC	PDIII-1/SC
NAME	SMiranda	RBouling	SWeerakkody	RDennig	RHoefling	LRaghavan
DATE	08/26/02	08/16/02	06/07/02	08/16/02	08/26/02	08/27/02

OFFICIAL RECORD COPY

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NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 129
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 September 27, 2001, as supplemented May 14, 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; 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. 129, 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/

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: August 27, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 129

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
200	200
201	201
202	202
B 204	B 204
-	B 204a
B 205	B 205

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 129 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 September 27, 2001, as supplemented May 14, 2002, the Nuclear Management Company, LLC (the licensee), requested changes to the Technical Specifications (TSs) for the Monticello Nuclear Generating Plant (MNGP). The proposed amendment would change TSs 3.9.B.3/4.9.B.3 related to emergency diesel generators (EDG). Specifically, the proposed amendment would (1) increase the minimum fuel oil required to be stored in the diesel oil storage tank (DOST) for EDG operation; (2) add a TS limiting condition for operation (LCO) and a TS surveillance requirement (SR) for the EDG starting air system air receivers; (3) delete a current TS SR regarding EDG starting air compressors; and (4) renumber/restructure the TS LCOs and SRs for applicability and administrative purposes.

The May 14, 2002, supplemental letter provided additional clarifying information that was within the scope of the original application and did not change the Nuclear Regulatory Commission (NRC) staff's initial proposed no significant hazards consideration determination.

2.0 REGULATORY EVALUATION

2.1 Minimum EDG Fuel Oil Inventory Requirement

Regulatory Guide (RG) 1.137, Revisions 1, "Fuel-Oil Systems for Standby Diesel Generators," dated October 1979, endorses American National Standards Institute (ANSI) N195-1976, "Fuel Oil System for Standby Diesel Generators." ASNI N195-1976 requires the onsite fuel oil storage be sufficient to operate the minimum number of EDGs required following a limiting design-basis accident (DBA) for 7 days. The minimum fuel oil required to be maintained in the storage tanks is based on either a 7-day time-dependent load calculation plus 10-percent margin, or a more conservative calculation method which assumes that the EDG operates at continuous rated capacity for 7 days.

In compliance with the guidance described in ANSI N195-1976 regarding the design requirements for the EDG fuel oil inventory, Section 8.4 of the MNGP Updated Safety Analysis Report (USAR), in part, states that the DOST shall provide sufficient fuel oil for one EDG operating at full load for 7 days. Subsequently, a minimum of 34,500 gallons of fuel oil required to be maintained in the DOST was established in the current MNGP TSs.

During an engineering review of the minimum DOST useable volume calculations, the licensee discovered that the potential of vortex formation at the fuel oil transfer pump suction located near the bottom of the DOST had not been considered in the previous minimum DOST useable volume calculations. The licensee recalculated the diesel fuel oil requirement and determined that 38,300 gallons of fuel oil, instead of the current TS requirement of 34,500 gallons of fuel oil, are required to be maintained in the DOST to overcome the effects of vortex formation. Currently, the DOST is being administratively controlled to store above 38,300 gallons of diesel fuel oil.

2.2 Addition of New LCO and SR Sections Regarding EDG Starting Air System Air Receiver Pressures, and Removal of the Air Compressor SR from the TSs

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant operating licenses to include TSs as a part of the license. The NRC's regulatory requirements related to the content of TSs are set forth in 10 CFR 50.36, which requires that the TSs include items in five specific categories: (1) safety limits, limiting safety settings and limiting control settings; (2) LCOs; (3) SRs; (4) design features; and (5) administrative controls.

The regulation at 10 CFR 50.36(c)(2)(ii) sets forth the following four criteria to be used in determining whether an LCO is required to be included in the TSs. System design parameters, components, or systems which meet one or more of the following four criteria are required to have the LCOs included in the TSs:

Criterion 1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 4. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The standby AC power sources at MNGP are provided by two independent/redundant EDGs. Each EDG has two independent 100-percent redundancy air starting systems. Each air starting system consists of a pair of compressed air starting motors, an air dryer, a strainer, an air line lubricator, and an air receiver which is composed of a bank of three air tanks. Each of the three air tanks is connected to a common header with a normally open manual valve. Starting at a nominal pressure of 200 psig, the air receiver of each air starting system has adequate capacity to start its associated diesel generator five times without recharging. Also, the two air starting systems for each of the EDGs are cross-connected with a normally closed manual valve. Air pressures in the air receivers are maintained by two non-safety-related air compressors.

The starting air systems are designed to support the operation of EDGs which provide the standby AC power sources to the plant and, therefore, satisfy the above Criterion 3. However, the current MNGP TSs do not include an LCO or SR for the air receivers of the EDG starting air systems. The current MNGP TSs include TS SR 4.9.B.3.b to impose SRs on the non-safety design air compressors which are not required to support the EDG operation or to perform any safety-related function following a DBA. TS SR 4.9.B.3.b has no direct impact on EDG operability and does not meet the minimum requirements as described in 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. Therefore in an effort to improve the MNGP TSs to ensure the EDG operability, the licensee proposes to (1) add one new TS section designated as 3.9.B.3.c and one new section designated as 4.9.B.3.c to impose LCOs and SRs, respectively, on the air receivers of the EDG starting air systems; and (2) delete current TS SR 4.9.B.3.b regarding the air compressors from the TSs.

3.0 TECHNICAL EVALUATION

3.1 Minimum EDG Fuel Oil Inventory Requirement

Current TS 3.9.B.3.c states:

> "For the diesel generators to be considered operable, there shall be a minimum of 34,000 gallons of diesel of fuel (7 days supply for 1 diesel generator at full load @ 2500 KW) in the diesel oil storage tank."

The licensee proposed to renumber the above TS 3.9.B.3.c as TS 3.9.B.3.b, and to revise it to reflect the recalculated minimum diesel fuel oil of 38,300 gallons required to be maintained in the DOST.

The change of the section number from TS 3.9.B.3.c to TS 3.9.B.3.b is considered to be an administrative change and is, therefore, acceptable.

In its response to an NRC staff request for additional information (RAI) dated April 12, 2002, the licensee submitted supplemental letter dated May 14, 2002, which provided the details -(e.g., assumptions, DOST size, location of fuel oil pump suction, etc.) of the revised calculations. Based on the NRC staff's review of the licensee's calculations, the NRC staff finds that the fuel oil inventory of 38,300 gallons to be maintained in the DOST meets the guidance described in ANSI N195-1976, and will ensure that vortex formation does not occur during 7 days of EDG continuous operation at full load following a DBA. Therefore, the NRC staff concludes that the above proposed changes to the current TS 3.9.B.3.c are acceptable.

3.2 Addition of New LCO and SR Sections Regarding EDG Starting Air System Air Receiver Pressures

As part of the LCOs and SRs required to ensure the operability of each EDG for plant operation, the licensee proposed to add the following two new sections relating to the EDG air starting system:

(1) Proposed TS 3.9.B.3.c:

"When a diesel generator is required to be operable, maintain air pressure for both associated air starting receivers $\geq$ 165 psig.

1) With one diesel generator starting air receiver pressure < 165 psig, restore both starting air receivers pressure to $\geq$ 165 psig within 7 days, or declare the associated diesel generator inoperable.

2) With both diesel generator starting air receivers pressure < 165 psig but $\geq$ 125 psig, restore one starting air receiver to $\geq$ 165 psig and enter TS LCO 3.9.B.3.c.1, or restore both starting air receivers pressure to $\geq$ 165 psig within 48 hours. If neither action can be accomplished within 48 hours, declare the associated diesel generator inoperable.

3) With both diesel generator starting air receivers pressure < 125 psig, immediately declare the associated diesel generator inoperable."

(2) Proposed SR 4.9.B.3.c:

"Verify each required operable diesel generator air start receiver pressure is $\geq$ 165 psig once per month."

With regard to the air starting system, Standard Review Plan (SRP) Section 9.5.6, "Emergency Diesel Engine Starting System," provides the guidance to size the air receivers.
SRP Section 9.5.6, in part, states that as a minimum, the air starting system should be capable of cranking a cold diesel engine five times without recharging the air receiver(s). The air starting system capacity should be determined as follows: (1) each cranking cycle duration should be approximately 3 seconds; (2) consist of two to three engine revolutions; or (3) air start requirements per engine start provided by the engine manufacturer; whichever air start requirement is larger.

As stated in Section 2.2 of this safety evaluation, starting at a nominal pressure of 200 psig, each air starting system air receiver for the EDGs at MNGP has adequate capacity to start its associated diesel generator five times without recharging. In the response to the NRC staff's RAI, the licensee stated that the limit of 165 psig provides minimum air pressure to support three diesel generator engine starts from each of the two starting air system air receivers without recharging. Two air receivers combined (as indicated in the above Section 2.2, the two air starting systems for each of the EDGs are cross-connected with a normally closed manual valve) will provide adequate capacity for more than five start attempts of their associated EDG without recharging the air receivers, and meet the five (5) start design requirement described in SRP Section 9.5.6. The MNGP design is such that one air receiver for one air starting system, as indicated in the above Section 2.2, is composed of a bank of three air tanks. Each of the three air tanks is connected to a common header with a normally open manual valve. If one of the air tanks is isolated, the air receiver maintaining at the pressure limit of 165 psig will not have sufficient air capacity to provide three EDG starts. Therefore, the air receiver pressures should be monitored with all the three valves open.

The licensee stated that the monthly SR frequency for verifying the pressure in each starting air receiver takes into account the capacity, capability, redundancy, and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure. Also, it is consistent with the frequency of the monthly load test required for EDGs.

Based on the NRC staff's review of the licensee's rationale and the NRC staff's understanding of the air receiver design and configuration, the NRC staff finds the above proposed TS LCO and SR sections regarding the pressures to be maintained in the start air system air receivers for the EDGs consistent with the criteria of 10 CFR 50.36(c)(2)(ii) and also with NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4." Therefore, the NRC staff finds the proposed changes acceptable.

3.3 Removal of the Current TS SR 4.9.B.3.b Regarding SR for the Air Compressors

As indicated in the above Section 2.2, the current MNGP TSs include SR 4.9.B.3.b, which imposes SRs on the non-safety design air compressors that are not required to support the EDG operation or to perform any safety-related function following a DBA. SR 4.9.B.3.b has no direct impact on EDG operability and does not meet the minimum requirements specified in 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. Therefore, the licensee proposes to remove current SR 4.9.B.3.b regarding the air compressors from the MNGP TSs.

With regard to the licensee's proposal to remove the existing SR 4.9.B.3.b from the MNGP TSs, the NRC staff stated its position in the RAI that existing TS sections and SR sections that fall within or satisfy any of the four criteria described in the 10 CFR 50.36(c)(2)(ii) must be retained in the TSs, while those TS sections and SR sections that do not fall within or satisfy these criteria may be relocated to other documents administratively controlled by the licensee (e.g., plant Technical Requirements Manual).

In the licensee's response to the NRC staff's RAI, the licensee stated that:

> "The requirements of current TS SR 4.9.B.3.b will be maintained in Monticello plant procedures, and the Preventive Maintenance Program. The air compressors will continue to be tested to ensure that they can support the function of maintaining the minimum air pressure in the starting air receivers."

The following are the NRC staff's findings after having reviewed the licensee's proposal against each of the criteria in 10 CFR 50.36(c)(2)(ii):

1. Operation of non-safety-related air compressors does not involve a reactor coolant pressure boundary or control room instrumentation that is used to detect a significant abnormal degradation of the reactor pressure boundary. Therefore, SR 4.9.B.3.b does not fall within or satisfy the above cited Criterion 1.

2. Non-safety-related air compressor operation is not an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Therefore, SR 4.9.B.3.b is not required to meet the above cited Criterion 2.

3. The air compressors at MNGP are not part of the primary success path and do not provide a safety function or actuation to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Therefore, TS 4.9.B.3.b does not satisfy the requirements as described in the above cited Criterion 3.

4. Air compressors have not been shown, either through operating experience or probabilistic risk assessment, to be significant to the public health and safety. Therefore, TS 3.9.B.3.b does not satisfy the above cited Criterion 4.

In addition, the requirements of current TS SR 4.9.B.3.b will be maintained in MNGP operating procedures and the Preventive Maintenance Program. In a follow-up discussion of the licensee's RAI response, the licensee confirmed that administrative control will be implemented via the 10 CFR 50.59 safety evaluation process. The air compressors will continue to be tested to ensure that they can support the function of maintaining the minimum air pressure in the starting air system air receivers. Also, relocating TS SR 4.9.B.3.b to the plant operating procedures and the Preventive Maintenance Program does not change the design aspects and operations of the air compressor system.

Based on the NRC staff's review of the licensee's rationale, the NRC staff evaluation discussed above, and that the licensee has provision in the administratively controlled documents to require the SRs of the current TS SR 4.9.B.3.b be maintained in the MNGP operating procedures and the Preventive Maintenance Program, the NRC staff finds the licensee's proposal to remove current SR 4.9.B.3.b from the MNGP TSs acceptable.

Based on the NRC staff's review and evaluation described above, the NRC's staff concludes that the above proposed changes to the TSs and SRs pose no undue risk to public health and safety, involve no increase in the consequences of an accident previously evaluated, and provide added flexibility in plant operation. The proposed changes are consistent with NUREG-1433, ANSI N195-1976 regarding the design requirements for the EDG fuel oil inventory, SRP Section 9.5.4 regarding EDG fuel oil storage and transfer systems, and SRP Section 9.5.6 regarding the EDG starting system, and 10 CFR 50.36(c)(2)(ii) regarding the relocation of TS 3.9.B.3.b and SR 4.9.B.3.b to the plant operation procedures. Therefore, the NRC staff finds the above proposed TS changes acceptable.

4.0 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.

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 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 52801). 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 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: D. Shum

Date: August 27, 2002