

November 2, 2004

Mr. Thomas J. Palmisano
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: REVISION TO TECHNICAL SPECIFICATION TABLES 3.2.1 AND 3.2.4
(TAC NO. MC1804)

Dear Mr. Palmisano:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 140 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 of December 23, 2003, as supplemented June 21, 2004. The amendment changes TS Limiting Condition for Operation (LCO) Tables 3.2.1, "Instrumentation That Initiates Primary Containment Isolation Functions," and 3.2.4, "Instrumentation That Initiates Reactor Building Ventilation Isolation And Standby Gas Treatment System Initiation" as follows:

- eliminates the reactor head cooling containment isolation function from the TSs, as the reactor head cooling system has been removed from service
- corrects and clarifies the description of the number of instrument channels per trip system as defined in the TSs
- revises an existing LCO for radiation monitors used to isolate reactor building ventilation and initiate the standby gas treatment system

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/

L. Mark Padovan, 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. 140 to DPR-22
2. Safety Evaluation

cc w/encls: See next page

October 2, 2004

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Monticello Nuclear Generating Plant

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October 2003

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 140
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 December 23, 2003, as supplemented June 21, 2004, 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 (TSs) 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 TSs contained in Appendix A, as revised through Amendment No. 140, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the TSs.

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: November 2, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 140

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

49
51a
59
59a

INSERT

49
51a
59
59a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 140 TO FACILITY OPERATING LICENSE NO. DPR-22
NUCLEAR MANAGEMENT COMPANY, LLC
MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

1.0 INTRODUCTION

The Nuclear Management Company, LLC's (NMC's) letter of December 23, 2003, as supplemented June 21, 2004, requested changes to the Technical Specifications (TSs) for the Monticello Nuclear Generating Plant (MNGP). The proposed amendment would change TS Limiting Condition for Operation (LCO) Tables 3.2.1, "Instrumentation That Initiates Primary Containment Isolation Functions," and 3.2.4, "Instrumentation That Initiates Reactor Building Ventilation Isolation and Standby Gas Treatment System Initiation," as follows:

- eliminate the reactor head cooling containment isolation function from the TSs, as the reactor head cooling system has been removed from service
- correct and clarify the description of the number of instrument channels per trip system as defined in the TSs
- revise an existing LCO for radiation monitors used to isolate reactor building ventilation and initiate the standby gas treatment system

The supplemental letter contained clarifying information and did not change the initial no significant hazards consideration determination and did not expand the scope of the original *Federal Register* notice.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 36(c)(2)(ii)(A) requires that a TS LCO must be established for "instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." In addition, 10 CFR 50.36(c)(3), "Surveillance Requirements," specifies that TSs are to include surveillance requirements for testing, calibrating, or inspecting to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

Title 10 of the *Code of Federal Regulations* Section 50.36 (c)(2)(ii) specifies that a TS LCO must be established for each item meeting one or more of four criteria. Generic Letter (GL) 95-10, "Relocation of Selected TS Requirements Related to Instrumentation" uses the same criteria for relocating any item from the TSs.

3.0 TECHNICAL EVALUATION

NMC's proposed changes, and the U.S. Nuclear Regulatory Commission (NRC) staff's evaluation of the changes, are discussed below.

3.1 TS Table 3.2.1

3.1.1 Proposed TS Changes

NMC proposed removing the Group 2 isolation function (generated on reactor low-water level or high drywell pressure) for the reactor head cooling line in TS Table 3.2.1, Function 2. In addition, NMC would modify Note C for Table 3.2.1 to remove reference to the reactor head cooling line isolation valves.

3.1.2 NRC Staff Evaluation

NMC's proposed change would remove TSs pertaining to the containment isolation function for the reactor head cooling isolation valves. The reactor head cooling function is non-safety-related. NMC modified MNGP in 2002 to remove a spool piece in the reactor head cooling system and cap the piping to alleviate a hydrogen detonation concern. General Electric's (GE's) Service Information Letter 643, "Potential for Radiolytic Gas Detonation," indicated that accumulation and detonation of radiolytic hydrogen in two foreign GE-designed boiling-water reactors caused piping ruptures to occur. Subsequently, NMC determined that similar detonations might occur in the reactor head cooling piping at MNGP. Accordingly, NMC removed the spool piece to prevent the reactor head cooling system from communicating with the reactor vessel.

The NRC staff sent NMC a May 13, 2004, request for additional information (RAI) asking it to justify changing the TSs based on the four criteria identified in 10 CFR 50.36(c)(2)(ii) and GL 95-10. NMC's RAI response of June 21, 2004, said that the system, in its current configuration, meets criteria 2, 3, and 4. However, when NMC removes the containment isolation valves (currently scheduled for the next refueling outage) and welds the penetration process pipe closed to ensure the integrity of the fission product barrier, the penetration will become a spare penetration and the reactor head cooling system will no longer exist. This spare penetration will meet the same design criteria as the containment, and will continue to be leak-rate tested and controlled by TS Section 3.7/4.7.A.2, "Primary Containment Integrity." Also, no changes are made to the development of the Group 2 isolation signal. On this basis, the NRC staff has determined that the revised plant design does not meet any of the criteria of 10 CFR 50.36(c)(2)(ii), and the proposed deletion of this TS is therefore acceptable.

3.2 TS Table 3.2.4

Table 3.2.4 identifies instrumentation that provides reactor building ventilation isolation and standby gas treatment initiation signals. NMC's requested changes to TS Table 3.2.4, and the NRC staff evaluations, are provided below.

3.2.1 Proposed TS Change

Add a column entitled "Minimum No. of Operable or Operating Trip Systems."

3.2.2 NRC Staff Evaluation

This change simply reflects the configuration of each trip system, and indicates the number of channels that are required for the system to be operable. The reactor building ventilation isolation and standby gas treatment initiation signals are developed using two logic trains or trip systems. The NRC staff finds the proposed change acceptable since it clarifies the system configuration and makes the table consistent with other MNGP TS instrumentation tables.

3.2.3 Proposed TS Change

Revise Function 3, "Reactor Building Plenum Radiation Monitors," and Function 4, "Refueling Floor Radiation Monitors," to change the "Total No. of Instrument Channels Per Trip System" from one to two.

3.2.4 NRC Staff Evaluation

Two instrumentation channels (radiation monitors) monitor each of these functions. However, each of the monitors is shared by the redundant trip systems of the function which creates the configuration of two instrument channels per trip system. The note on the shared nature of the channels simply documents the unique configuration of these instrument channels compared to the other instrument channels listed in this table. The NRC staff finds the proposed change acceptable since it simply documents the present configuration of the system and therefore clarifies the TS requirements.

3.2.5 Proposed TS Change

Revise Function 3 and Function 4 to modify the "Min. No. of Operable or Operating Instrument Channels Per Trip System" from one to two.

3.2.6 NRC Staff Evaluation

As stated previously, each of these functions is monitored by two radiation monitors. However, each of the monitors is shared by the redundant trip systems of the function. This results in a configuration of two instrument channels per trip system. The current TSs would allow one channel to be out of service indefinitely. With the proposed change, each monitor is required to be available and operable to perform its design function. On this basis, the NRC staff finds the proposed change acceptable as it clarifies the intent of the TS.

3.2.7 Proposed TS Change

Revise Note (1) for TS Table 3.2.4 to remove reference to "one instrument channel per trip system" and to bring the current contents of Note (6) into Note (1).

3.2.8 NRC Staff Evaluation

Existing Note (1) for TS Table 3.2.4 refers to "one instrument channel per trip system." This no longer applies with the changes discussed in sections 3.2.5 and 3.2.6 above. Also, some editorial changes were made to Note (1) since this note now applies to all the TS functions on

this table. Having two instrument channels available per trip system allows monitoring of a parameter to continue with an instrument channel out for surveillance testing.

Existing Note (6) deals with placing an channel in an inoperable status for up to 6 hours. NMC asked to have a particular channel inoperable for up to 6 hours during surveillance testing, provided the redundant channel is available to monitor the given parameter. NMC justified this duration based on GE Topical Report (TR) NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," dated July 1990, which has been approved by the NRC staff. In its RAI, the NRC staff requested NMC to provide the basis for applying this TR for this function since inoperability of one channel will result in the failure of a channel in each trip system for Functions 3 and 4. NMC's RAI response provided an acceptable basis for it applying this TR to MNGP. Thus, bringing the current contents of Note (6) into Note (1) is appropriate.

The NRC staff finds the proposed changes to the TSs acceptable.

3.2.9 Proposed TS Change

Combine Notes (2) and (5) to form an LCO condition for the instruments on this table. Add references to Note (2) for each function and delete references to Note (5). Further modify Note (2) to reflect the configuration and capability differences between Functions 1 and 2 and Functions 3 and 4. Add further subsections to Note (2) to provide additional optional actions to perform upon loss of any function.

3.2.10 NRC Staff Evaluation

The current entry conditions for Notes (2) and (5) are essentially the same. The only difference is the action initiated. Note (2) applies to a single instrument channel per trip system while Note (5) applies to two instrument channels per trip system. Note (5) is being combined into Note (2) since no single instrument channel for each trip exists, as discussed in Sections 3.2.3 and 3.2.4 above. However, NMC proposed changing the wording of Note (5)(a) as applied to Functions 1 and 2 from "With one required instrument channel inoperable per trip function, . . ." to "With one Instrument Channel per Trip System inoperable: . . ." The NRC staff's RAI of May 13, 2004, requested NMC to justify the change. NMC's RAI response provided revised TS pages returning the TS wording to the original wording to address the NRC staff's concern. Therefore, the NRC staff finds the change acceptable as it is an administrative change.

The proposed revision to Note (2)(a) gives different time requirements for placing the associated instrument channel or trip system in the tripped condition when one instrument channel per trip function is inoperable. For Functions 1 and 2, the instrument channel or trip system must be placed in the tripped condition within 12 hours. This remains unchanged from the currently-approved TS in Note (5)(a). For Functions 3 and 4, NMC proposes changes to Note (2)(a) to provide a 24-hour period for operation with one radiation monitor channel inoperable, and to furnish an action statement saying what to do if the requirement cannot be met. The NRC staff finds these changes to be acceptable as they are consistent with GE's TR NEDC-31677P-A, which does apply as discussed in Section 3.2.8 above.

For Functions 3 and 4, NMC also proposes to add Note (2)(a)2) to put an inoperable channel in a downscale trip condition due to the shared nature of the radiation monitors for Functions 3

and 4. Placing a single channel in an upscale, tripped condition would actuate both secondary containment logic trains and initiate a secondary containment isolation. Note (2)(a)2 allows placing a channel in a tripped condition while the redundant channel is fully functional and capable of detecting a high-radiation situation. Therefore, the logic system will initiate a secondary containment isolation signal, as designed, if the redundant channel detects a high-radiation condition or fails (downscale trip). This meets the requirements of GE's TR NEDC-31677P-A, and therefore is acceptable to the NRC staff.

NMC's proposed changing Note (2)(b) to give separate actions to take when more than one instrument channel per trip system is inoperable. For Functions 1 and 2, Note (2)(b)1) specifies that operators must immediately place the instrument channel or trip system in the tripped condition. This is the same as the currently-approved actions in Note (5)(b). For Functions 3 and 4, Note (2)(b)2) requires operators to immediately take the actions described in Note (2)(c), as there is a loss of capability to detect a failure. Note (2)(c) specifies isolating the reactor building ventilation, initiating standby gas treatment, or establishing conditions where secondary containment is not required. The NRC staff finds this acceptable, since any failure of both the monitoring channels for any function requires immediate operator action to compensate for the inability to detect a failure for Functions 3 and 4.

3.2.11 Proposed TS Change

Delete Note (4) and delete references to Note (4) throughout the table.

3.2.12 NRC Staff Evaluation

Note 4 says that "one of two monitors may be bypassed for maintenance and/or testing." NMC proposes to delete this because it only applies to a single-train instrument channel used in conjunction with two trip systems. As discussed in section 3.2.4 above, Functions 3 and 4 in TS Table 3.2.4 have been revised to indicate that two shared instrument channels work with two trip systems. Thus, deleting Note 4 is acceptable to the NRC staff since the note no longer applies.

3.2.13 Proposed TS Change

Relocate Note (6) to Note (1) and delete references to Note (6).

3.2.14 NRC Staff Evaluation

Since Note (6) was incorporated in Note (1) as discussed in Section 3.2.8 above, deleting references to Note (6) is acceptable. Each function is now referenced to Note (1) where the text of previous Note (6) is contained.

3.3 Summary

On the basis of its review of NMC's application for amendment, the NRC staff concludes that NMC has demonstrated its conformance to 10 CFR 50.36 and GL 95-10. Therefore, the proposed TS changes are acceptable to the NRC staff.

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 NRC has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (69 FR 16621). 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: H. Garg

Date: November 2, 2004