January 11, 2005

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 - REQUEST FOR ADDITIONAL INFORMATION RELATED TO TECHNICAL SPECIFICATIONS CHANGE REQUEST TO APPLY ALTERNATIVE SOURCE TERM (AST) METHODOLOGY TO RE-EVALUATE THE FUEL-HANDLING ACCIDENT (TAC NO. MC3299)

Dear Mr. Palmisano:

The Nuclear Management Company's, LLC's, letter of April 29, 2004, submitted a license amendment request for selective-scope application of AST methodology for re-evaluation of the fuel-handling accident at the Monticello Nuclear Generating Plant. The NRC staff is reviewing your request and finds that additional information is needed as shown in the enclosed request for additional information (RAI).

I discussed the enclosed RAI with Mr. John Fields of your organization on December 22, 2004, and he agreed to respond within 30 days of receipt of the RAI. Please contact me at (301) 415-1423 if you have questions.

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

Enclosure: Request for Additional Information

cc w/encl: See next page

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Monticello Nuclear Generating Plant (MNGP)

Fuel Handling Alternative Source Term Submittal

Request for Additional Information

Docket No. 50-263

A. Nuclear Management Company's (NMC's) April 29, 2004, License Amendment Request (LAR)

1. One of the proposed commitments associated with this LAR is to change the refueling procedures to require a minimum of 23 feet of water above stored fuel in the spent fuel pool during irradiated fuel movement. Such a commitment is usually linked with a technical specification (TS) requirement. Why wasn't a TS surveillance requirement proposed to require 23 feet of water above stored fuel?

2. Proposed changes to Table 3.2.4, "Instrumentation that initiates Reactor Building Ventilation Isolation and Standby Gas Treatment System Initiation," remove automatic isolation functions. Although the fuel-handling accident (FHA) analyses predicts that the releases from the accident would be less than the guidelines presented in Title 10 of the Code of Federal Regulations (10 CFR) Section 50.67, the commitment to NUMARC 93-01, "Industry Guidance for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," requires the building to be isolated to contain the release of an accident and filter systems to be used to process and clean up the release, if required, in order to keep releases to a minimum. Please clarify if the exhaust through the reactor building ventilation is terminated manually or redirected through a filtered system as part of the secondary containment closure process defined by shutdown administrative controls.

B. Enclosure 1 of NMC's Submittal

1. NMC provided only one dose analysis for a FHA. That was the dose associated with fuel which was not "recently" irradiated. If NMC ever intends to handle fuel which is "recently" irradiated, then NMC needs to provide an analysis that demonstrates acceptable dose results, both offsite and in the control room, in the event of an FHA.

2. The FHA analysis assumes that 125 fuel rods of an 8x8 array assembly are damaged. How is it ensured that this analysis is bounding for each operating cycle?

3. NMC states that the MNGP control room ventilation system normally operates only in the recirculation mode of operation with no makeup flow due to concerns of leakage past the normal makeup air intake dampers. Consequently, the normal makeup air dampers were blanked off. It would seem that a stagnant air problem would develop in the control room envelope (CRE) without normal makeup. If there is not a problem, this would imply that inleakage during normal operation is substantial. What is the inleakage to the CRE in the normal mode of operation?

C. Enclosure 2 to NMC's April 29, 2004, LAR

NMC states on page 2 that it used a peaking factor of 1.7 in the analysis even though MNGP does not specify a radial peaking factor in the TSs or the core operating limits report, and that the value was considered conservative. What core parameter(s) are monitored to ensure that the FHA analysis remains relevant? How are these parameter(s) used to conclude that the core remains within the assumed 1.7 value for radial peaking factor? If it is determined that a value greater than 1.7 should be used, will MNGP be re-submitting a FHA for staff review and approval?

ENCLOSURE

D. Enclosure 3 to NMC's April 29, 2004, LAR

1. The BASES section associated with TS Table 3.2.4 does not address effluent monitoring for the various modes of operation.

Proprietary Calculation 2004-02104, Rev. 0 - Sargent & Lundy Project No. 11163-013

NMC states that the calculation is conservative regardless of whether the reactor building normal ventilation or standby gas treatment fans are operating or not. If a fan was not operating within the reactor building, would this result in the release occurring over a period longer than 2 hours, and would it result in a higher control room operator dose than the analysis provided? If the release occurred over 2 hours without the reactor building fan operating, would it result in a larger dose?

NMC's November 23, 2004, Supplement 1 to the LAR

E. Enclosure 1 to NMC's November 23, 2004, Supplement 1

1. Address the manner in which effluents are monitored during fuel handling operations as a result of this change in operations and plant TSs. Is the monitoring consistent with your licensing basis i.e., principle design criterion 17, 10 CFR Part 20, and Appendix I of 10 CFR Part 50?

2. Enclosure 1 said that one train of the control room ventilation system will be operating during refueling operations. Control room air is being recirculated in this operating mode. Makeup air to the CRE is provided on an as-needed basis through the operation of one of the control room emergency filtration treatment filter banks. The analysis provided in support of this amendment did not assume the control room ventilation systems would be operating in the manner described above. Rather, it was assumed that when the FHA occurred, makeup air was being provided to the control room envelope at a rate of 7440 cubic feet per minute (cfm) and CRE inleakage was 1000 cfm. None of this air was filtered or adsorbed. NMC stated that the dose to control room operators was insensitive to inleakage or makeup flows for the range of 300-8500 cfm. Inleakage or makeup flows less than 300 cfm are not addressed. The actual mode of operation during refueling operations will involve no makeup flow. Based upon NMC's November 18, 2004, response to Generic Letter 2003-01, it is indicated that the CRE inleakage while operating the B train in the recirculation mode of operation is 188 cfm ± 10. No value is provided for the A train because the A train was not tested in this configuration. Instead, the A train was tested in the pressurization mode of operation as was the B train. The A train was found to have more inleakage than B train. What is the inleakage rate for the A train operating in the recirculation mode of operation? What is the dose consequences with the limiting train operating in the recirculation mode of operation?

3. NMC's letter of November 23, 2004, contains an Assessment of Ventilation System and Radiation Monitor Availability. The NRC staff does not consider the submittal to be risk informed. No probability risk assessment is provided, and no basis for risk established. Please clarify what is meant by "risk" or "acceptable risk," and give NMC's basis for determining when and where systems need to be available to monitor or control the ventilation during movement of irradiated fuel after the period "recently" has passed.

4. There are numerous references to "outage schedule" or "outage schedule design" in NMC's letter of November 23, 2004. Outage schedule should not be a consideration in the mitigation of the accident. Also, on page 2 of 9 of Enclosure 1 to NMC's letter of November 23, 2004, NMC quotes the following NUMARC 93-01 guidance:

> The goal of maintaining ventilation and system radiation monitor availability is to reduce doses even further below that provided by the natural decay, and to avoid unmonitored releases.

Please clarify how outage schedule impacts the mitigation of an FHA with respect to controlling releases. How do the shutdown administrative controls demonstrate that the NUMARC goal will be achieved?

Monticello Nuclear Generating Plant

cc:

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