

February 12, 2003

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, ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR EXEMPTION
TO 10 CFR PART 50, SECTION 50.60(a) AND APPENDIX G (TAC NOS. MB4976
AND MB5078)

Dear Mr. Forbes:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemption and amendment dated April 22, 2002, as supplemented September 16, 2002. The proposed exemption is from the requirements of 10 CFR Part 50, Section 50.60(a) and Appendix G, and would allow the use of American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* Code Case N-640 as the basis for revised reactor vessel pressure and temperature limit curves.

The environmental assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Darl S. Hood, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-263

Enclosure: Environmental Assessment

cc w/encl: See next page

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*No legal objection

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Monticello Nuclear Generating Plant

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March 2002

UNITED STATES NUCLEAR REGULATORY COMMISSION

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.60, "Acceptance criteria for fracture prevention measures for light-water nuclear power reactors for normal operation," and 10 CFR Part 50, Appendix G, "Fracture Toughness Requirements," for Facility Operating License No. DPR-22, issued to the Nuclear Management Company, LLC (the licensee), for operation of the Monticello Nuclear Generating Plant, located in Wright County, Minnesota. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would exempt the licensee from the requirements of 10 CFR Part 50, Section 50.60(a) and Appendix G, which would allow the use of American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* (ASME Code) Code Case N-640 as the basis for revised reactor vessel pressure and temperature (P/T) limit curves in the Monticello Technical Specifications (TSs).

The regulation at 10 CFR Part 50, Section 50.60(a), requires, in part, that except where an exemption is granted by the Commission, all light-water nuclear power reactors must meet the fracture toughness requirements for the reactor coolant pressure boundary set forth in Appendices G and H to 10 CFR Part 50. Appendix G to 10 CFR Part 50 requires that P/T limits be established for reactor pressure vessels (RPVs) during normal operating and hydrostatic or leak-rate testing conditions. Specifically, 10 CFR Part 50, Appendix G, states, "The appropriate requirements on both the pressure-temperature limits and the minimum permissible temperature must be met for all conditions." Appendix G of 10 CFR Part 50 specifies that the requirements for these limits are the ASME Code, Section XI, Appendix G, limits.

ASME Code Case N-640 permits the use of alternate reference fracture toughness (i.e., use of " K_{IC} fracture toughness curve" instead of " K_{IA} fracture toughness curve," where K_{IC} and K_{IA} are "Reference Stress Intensity Factors," as defined in ASME Code, Section XI, Appendices A and G, respectively) for reactor vessel materials in determining the P/T limits. Since the K_{IC} fracture toughness curve shown in ASME Code, Section XI, Appendix A, Figure A-2200-1, provides greater allowable fracture toughness than the corresponding K_{IA} fracture toughness curve of ASME Code, Section XI, Appendix G, Figure G-2210-1, using ASME Code Case N-640 to establish the P/T limits would be less conservative than the methodology currently endorsed by 10 CFR Part 50, Appendix G. Therefore, an exemption to apply ASME Code Case N-640 is required.

The proposed action is in accordance with the licensee's application dated April 22, 2002, as supplemented by letter dated September 16, 2002.

The Need for the Proposed Action:

The proposed exemption is needed to allow the licensee to implement ASME Code Case N-640 in order to revise the method used to determine the P/T limits because continued use of the present curves unnecessarily restricts the P/T operating window. Since the

P/T operating window is defined by the P/T operating and test limit curves developed in accordance with the ASME Code, Section XI, Appendix G, procedure, continued operation of Monticello with these P/T curves without the relief provided by ASME Code Case N-640 would unnecessarily require the RPV to maintain a temperature exceeding 212 °F in a limited operating window during the pressure test. Consequently, steam vapor hazards would continue to be one of the safety concerns for personnel conducting inspections in primary containment. Implementation of the proposed P/T curves, as allowed by ASME Code Case N-640, would not significantly reduce the margin of safety and would eliminate steam vapor hazards by allowing inspections in primary containment to be conducted at a lower coolant temperature.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that there are no significant adverse environmental impacts associated with the proposed action.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the NRC staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resource than those previously considered in the Final Environmental Statement for Monticello.

Agencies and Persons Consulted:

On February 11, 2003, the staff consulted with the Minnesota State official, Nancy Campbell of the Department of Commerce, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's application dated April 22, 2002, as supplemented by letter dated September 16, 2002. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to

ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 12th day of February 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

L. Raghavan, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation