

October 3, 2003

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 — FOURTH 10-YEAR
INTERVAL INSERVICE INSPECTION PROGRAM PLAN RELIEF REQUEST
NO. 7 (TAC NO. MB6897)

Dear Mr. Palmisano:

The Nuclear Management Company, LLC's (NMC's), letter of December 6, 2002, as supplemented March 26, 2003, submitted Relief Request No. 7 (RR-7) to the Nuclear Regulatory Commission (NRC). In RR-7, NMC asked the NRC to authorize an alternative pursuant to 10 CFR 50.55a(a)(3)(ii) allowing NMC to use the 2001 edition of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for repair/replacement activities and procedures. RR-7 applies to the fourth 10-year interval of the inservice inspection (ISI) examination plan for the Monticello Nuclear Generating Plant (Monticello).

The NRC staff evaluated NMC's request and concludes that NMC updating two separate repair/replacement programs at Monticello to meet the 2001 edition of the ASME Code, Section XI, including all related requirements, as NMC proposes, and as modified by the NRC staff, provides an acceptable alternative pursuant to 10 CFR 50.55a(a)(3)(ii). Furthermore, the NRC staff concludes that maintaining two separate repair/replacement programs will result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, the NRC staff authorizes NMC's proposed alternative, as discussed in the enclosed safety evaluation, pursuant to 10 CFR 50.55a(a)(3)(ii) for the fourth 10-year ISI interval at Monticello.

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When the 2001 edition of the ASME Code is incorporated by reference in 10 CFR 50.55a, NMC must comply with all limitations and modifications, if any, regarding the implementation of the 2001 edition of the ASME Code, as applied to RR-7. All other ASME Code, Section XI, requirements for which relief was not specifically requested and authorized herein by the NRC staff remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Enclosed is our safety evaluation.

Sincerely,

/RA/

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

Docket No. 50-263

Enclosure: Safety Evaluation

cc w/encl: See next page

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When the 2001 edition through 2002 addenda of the ASME Code are incorporated by reference in 10 CFR 50.55a, NMC must comply with all limitations and modifications, if any, regarding the implementation of the 2001 edition of the ASME Code, as applied to RR-7. All other ASME Code, Section XI, requirements for which relief was not specifically requested and authorized herein by the NRC staff remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Enclosed is our safety evaluation.

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L. Raghavan, Chief, Section 1
Project Directorate III
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Enclosure: Safety Evaluation

cc w/encl: See next page

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Monticello Nuclear Generating Plant

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August 2003

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

RELIEF REQUEST NO. 7

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 6, 2002, as supplemented March 26, 2003, submitted Relief Request No. 7 (RR-7) to the Nuclear Regulatory Commission (NRC). In RR-7, NMC asked the NRC to authorize an alternative pursuant to 10 CFR 50.55a(a)(3)(ii) allowing NMC to use the 2001 edition of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for repair/replacement activities and procedures. The request applies to the fourth 10-year interval of the inservice inspection (ISI) examination plan for the Monticello Nuclear Generating Plant (Monticello).

2.0 REGULATORY EVALUATION

ISI of nuclear power plant components is performed in accordance with the ASME Code, Section XI, and applicable addenda, as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval, and subsequent intervals, comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The ASME Code of record for the Monticello's fourth 10-year ISI interval is the 1995 edition through 1996 addenda.

3.0 TECHNICAL EVALUATION

3.1 NMC's Request for Relief

NMC's Relief Request No. 7 requested authorization of an alternative to use the 2001 edition of the ASME Code, Section XI, for repair/replacement activities and procedures in lieu of the 1995 edition with the 1996 addenda of the ASME Code. NMC stated that implementing the 2001 edition of the ASME Code would be for Class 1, 2, 3, and MC components and their supports. RR-7 affects ASME Code Articles IWA-4000, IWA-5000, IWA-6000, IWA-9000, IWB-5000, IWC-5000, IWD-5000, IWE-5000, and IWX-4000.

3.2 NMC's Basis for Requesting Relief

NMC states that its current program uses two repair/replacement programs. The repair/replacement program for Class 1, 2, and 3 components meets the requirements of the ASME Code, Section XI, 1995 edition with the 1996 addenda. This Code edition and addenda provide the rules and requirements for the repair/replacement activities associated with pressure-retaining components and their supports, including the following:

- appurtenances
- subassemblies
- parts of a component
- core support structures
- metal containments and their integral attachments
- metallic portions of Class CC containments and their integral attachments

The repair replacement program for Article IWE components meets the requirements of ASME Code, Section XI, 1992 edition with the 1992 addenda. This ASME Code edition and addenda provide the rules and requirements for the repair of pressure-retaining components and their supports, including the above list, by welding, brazing, or metal removal. This article also gives the rules and requirements for specifying, constructing, and installing items to be used for replacements.

Meeting both the 1995 edition with the 1996 addenda and the 1992 edition with the 1992 addenda of the ASME Code, Section XI, would require NMC to maintain two separate repair and replacement programs (one for the IWB, IWC, and IWD components, and one for the containment vessel). This would also require NMC to keep duplicate records to demonstrate compliance with the 1996 addenda and the 1992 addenda. Duplicating programs and records increases the man-hours necessary to maintain the Monticello repair/replacement program without providing any increase in the level of quality and safety.

3.3 NMC's Proposed Alternative Examination

On September 9, 1996, the NRC revised 10 CFR 50.55a, implementing Articles IWE and IWL (requirements for IWL do not apply to Monticello) of the 1992 edition with the 1992 addenda of Section XI of the ASME Code. This required utilities to develop and implement a program for examining containments by September 9, 2001. Additionally, it required implementation of an IWE/IWL repair/replacement program effective September 9, 1996. The revision to 10 CFR 50.55a requires ASME Code, Section XI, ISI programs (implemented 12 months prior

to the fourth 10-year interval for Monticello) to follow the 1995 edition, as amended by the 1996 addenda of ASME Code, Section XI, for Class 1, 2, and 3 components and the 1992 edition, as amended by the 1992 addenda for Class MC components.

NMC's proposed alternative examination is to use the 2001 edition of the ASME Code, Section XI, to govern repair/replacement procedures (IWX-4000) for Class 1, 2, 3 and MC pressure-retaining components and their supports. NMC is requesting this alternate examination pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that complying with the specified ASME Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The NRC incorporated, by reference, the ASME Code, Section XI, 1998 edition through the 2000 addenda in *Federal Register* Notice (67 FR 60520) dated September 26, 2002. In its submittal of December 6, 2002, NMC provided a reconciliation of the changes made, and a comparison of the 2001 edition to the 2000 addenda of the ASME Code, Section XI. NMC prepared this reconciliation to justify allowing the use of the 2001 edition of the ASME Code, Section XI, for Class 1, 2, 3, and MC pressure-retaining components and their supports. NMC's submittal of December 6, 2002, also discussed some general issues as specified below:

- The NRC has reviewed and approved, with some exceptions, the 1998 edition through the 2000 addenda as noticed in the *Federal Register* (67 FR 60520) on September 26, 2002. Those specific exceptions made to the rules for repair/replacement activities are included in the implementation of the 2001 edition of the ASME Code.
- The ISI requirements will be based on the 1995 edition, as amended by the 1996 addenda of the ASME Code.
- The periodic pressure-testing requirements will be based on the 1995 edition, as amended by the 1996 addenda of the ASME Code. The pressure-testing requirements for the repair/replacement activities will be based on the 2001 edition of the ASME Code.
- NMC's reconciliation addresses the changes contained within the IWA-4000 paragraphs. In addition, any significant changes identified within any related requirement will be addressed.

In its December 6, 2002, submittal, NMC stated that using the requirements contained in the 2001 edition of the ASME Code, Section XI, for repair/replacements at Monticello will maintain the safety of the plant.

3.4 NRC Staff Evaluation

The regulation at 10 CFR 50.55a(g)(4) states that components (including supports) classified as ASME Code Class 1, 2, and 3 shall meet, to the extent practical, the requirements set forth in the ASME Code, Section XI. The applicable requirements are in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to issuance of the operating license, or on the date 12 months prior to the start of a successive, 120-month interval, subject to the limitations and modifications listed therein. Preservice examination of components shall meet the requirements set forth in the applicable edition and addenda of the ASME Code, Section XI, as specified in 10 CFR 50.55a(g)(2) and 10 CFR 50.55a(g)(3). Preservice and inservice examination of components (including supports) may meet the requirements set forth in subsequent editions

and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed therein. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

The latest revision of 10 CFR 50.55a (12 months prior to the fourth 10-year interval for Monticello) requires ASME Code, Section XI, ISI programs to follow the 1995 edition as amended by the 1996 addenda of ASME Code, Section XI, for Class 1, 2, and 3 components, and the 1992 edition, as amended by the 1992 addenda for Class MC. NMC stated that the maintenance of two separate repair/replacement programs duplicates the programs and records which increases the man-hours necessary to maintain the Monticello repair/replacement program. This results in a hardship or unusual difficulty (unnecessary burdens) without providing any compensating increase in the level of quality or safety.

Current NRC regulations incorporate, by reference, the 1998 edition through 2000 addenda of the ASME Code. In its December 6, 2002, submittal, NMC provided a Certificate of Reconciliation of the changes made and a comparison between its current repair and replacement program requirements and the 2001 edition to the 2000 addenda of Section XI of the ASME Code. NMC's Certificate of Reconciliation addresses each change that is related to repair/replacement activities to show it will be implemented at Monticello. In addition, in its December 6, 2002, submittal, NMC stated that it would address any significant changes identified within any related requirement.

NMC said it would implement the limitations of the 1998 edition to 2000 addenda of the ASME Code as stated in 10 CFR 50.55a(b)(2) when implementing the 2001 edition of the ASME Code until such time the 2001 edition of the ASME Code is incorporated by reference into 10 CFR 50.55a. NMC also made the following commitment in its supplemental letter of March 26, 2003:

For the MNGP [Monticello] ASME Section XI Repair/Replacement program, the NMC commits to comply with any modifications or changes incorporated into the 2001 edition of the ASME Code when the 2001 edition is incorporated into the rule. This commitment is limited to the IWA-4000 portions or related requirements of the code for the MNGP Repair/Replacement Program. The inspection portions of the MNGP ASME Section XI program will be performed in accordance with the 1995 edition with the 1996 addenda of ASME Section XI.

Incorporating two separate repair/replacement programs will duplicate records and will increase the man-hours necessary to maintain the Monticello repair/replacement program. This will result in hardship or unusual difficulty for NMC without a compensating increase in the level of quality and safety. The NRC staff is currently reviewing the acceptability of the 2001 edition through the 2002 addenda of the ASME Code for incorporation, by reference, into the regulations. Although that review is not yet complete, the NRC staff has identified an issue regarding paragraph IWA-4540(c), which appears in the 1998 edition of the ASME Code, but was eliminated in the 1999 addenda through the 2000 addenda and the 2001 edition.

Paragraph IWA-4540(c) addresses the pressure-testing requirements of Class 1, 2, and 3 mechanical joints associated with repair and replacement activities. The NRC staff has determined that the omission of paragraph IWA-4540(c) results in the ASME Code being silent in regard to pressure testing of mechanical joints that are subject to the repair and replacement rules of Article IWX-4000. This omission would allow individual Owners to specify pressure-

testing requirements on a plant-specific basis. This potentially allows different utility organizations to implement inadequate or inconsistent pressure-testing practices and requirements for the same types of repair and replacement activities. Therefore, the NRC staff requires implementation of paragraph IWA-4540 of the 1998 edition in lieu of that of the 2001 edition when implementing the 2001 edition of ASME Code, Section XI, Article IWX-4000 for repair and replacement activities. The NRC staff recognizes that the 1999 addenda through the 2000 addenda of the ASME Code has been incorporated by reference in 10 CFR 50.55a without referencing a limitation paragraph IWA-4540(c). The NRC staff will address this in an upcoming rulemaking regarding the incorporation by reference of the 2001 edition through the 2002 addenda of the ASME Code into 10 CFR 50.55a.

NMC has committed to implement the limitations and modifications to the 1998 edition through 2000 addenda of the ASME Code, Section XI, as stated in 10 CFR 50.55a(b)(2) when implementing the 2001 edition. NMC has further committed to implement any limitations and modifications to the 2001 edition of the ASME Code for its repair and replacement program when the NRC incorporates, by reference, this edition into the regulations. As a result, updating the two separate repair/replacement programs to meet the 2001 edition of the ASME Code, Section XI, including all the related requirements, as NMC proposed, and including paragraph IWA-4540(c) of the 1998 edition of the ASME Code as discussed above, provides an acceptable alternative. When the 2001 edition of the ASME Code is incorporated by reference in 10 CFR 50.55a, NMC must comply with all limitations and modifications stated in the regulations, if any, regarding the implementation of the 2001 edition of the ASME Code, as applied to Relief Request No. 7.

4.0 CONCLUSION

Based on the above, the NRC staff concludes that updating two separate repair/replacement programs at Monticello to meet the 2001 edition of the ASME Code Section XI, including all related requirements, as NMC proposes and as modified by the staff, provides an acceptable alternative pursuant to 10 CFR 50.55a(a)(3)(ii). Maintaining two separate repair/replacement programs will result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Therefore, the NRC staff authorizes NMC's proposed alternative, and as modified by the NRC staff, pursuant to 10 CFR 50.55a(a)(3)(ii) for the fourth 10-year ISI interval at Monticello. When the 2001 edition of the ASME Code is incorporated by reference in 10 CFR 50.55a, NMC must comply with all limitations and modifications, if any, regarding the implementation of the 2001 edition of the ASME Code, as applied to RR-7. All other ASME Code, Section XI, requirements for which relief was not specifically requested and authorized herein by the NRC staff remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: E. Reichelt

Date: October 3, 2003