

October 1, 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: THIRD 10-YEAR INSERVICE INSPECTION INTERVAL REQUEST FOR
RELIEF NO. 15 FOR MONTICELLO NUCLEAR GENERATING PLANT
(TAC NO. MB5481)

Dear Mr. Forbes:

By letter dated May 30, 2002, the Nuclear Management Company, LLC (the licensee), submitted Relief Request No. 15 for the third 10-year inservice inspection (ISI) interval for the Monticello Nuclear Generating Plant. In Relief Request No. 15, the licensee requested relief from requirements of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code*, Section XI, 1986 edition, no addenda, Table IWC-2412-1, Inspection Program B, regarding the distribution requirement for weld inspection categories. During the licensee's initial selection of welds for inspection, an error was made and an insufficient number of welds were inspected according to ASME Code, Section XI, 1986 edition, no addenda, Table IWC-2500-1. Subsequently, the licensee altered the remaining inspection schedule to compensate for the initial error. The licensee's proposed alternative allows for 100-percent inspection of C-F-1 welds by the end of the third ISI interval, as required by Table IWC-2412-1.

The Nuclear Regulatory Commission (NRC) staff concludes that the licensee's proposed alternative provides an acceptable level of quality and safety to ensure the integrity of C-F-1 welds. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year ISI interval for Monticello. The NRC staff's evaluation is enclosed.

Relief Request No. 16, which was also included in the licensee's letter of May 30, 2002, will be addressed later, under separate cover.

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

Enclosure: Safety Evaluation

cc w/encl: See next page

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Monticello Nuclear Generating Plant

cc:

J. E. Silberg, Esquire
Shaw, Pittman, Potts and Trowbridge
2300 N Street, N. W.
Washington, DC 20037

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
2807 W. County Road 75
Monticello, MN 55362

Site Licensing Manager
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

Robert Nelson, President
Minnesota Environmental Control
Citizens Association (MECCA)
1051 South McKnight Road
St. Paul, MN 55119

Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Commissioner
Minnesota Department of Health
717 Delaware Street, S. E.
Minneapolis, MN 55440

Douglas M. Gruber, Auditor/Treasurer
Wright County Government Center
10 NW Second Street
Buffalo, MN 55313

Commissioner
Minnesota Department of Commerce
121 Seventh Place East
Suite 200
St. Paul, MN 55101-2145

Adonis A. Neblett
Assistant Attorney General
Office of the Attorney General
445 Minnesota Street
Suite 900
St. Paul, MN 55101-2127

Mr. Roy A. Anderson
Executive Vice President and
Chief Nuclear Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Nuclear Asset Manager
Xcel Energy, Inc.
414 Nicollet Mall
Minneapolis, MN 55401

March 2002

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL REQUEST FOR RELIEF NO. 15
MONTICELLO NUCLEAR GENERATING PLANT
NUCLEAR MANAGEMENT COMPANY, LLC
DOCKET NO. 50-263

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components is to be performed in accordance with the ASME *Boiler and Pressure Vessel Code* (the Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Article IWA-5242(a), and applicable addenda, as required by the Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(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 Nuclear Regulatory Commission (NRC), if the licensee demonstrates that (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 preservice 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 applicable edition of Section XI of the ASME Code for the third 10-year interval for the Monticello Nuclear Generating Plant is the 1986 edition.

By letter dated May 30, 2002, the Nuclear Management Company, LLC (licensee), submitted Request for Relief No. 15 proposing alternatives to the ASME Code, Section XI, for the Monticello Nuclear Generating Plant. The NRC staff has reviewed and evaluated the licensee's request for relief pursuant to 10 CFR 50.55a(a)(3)(i), as discussed below.

ENCLOSURE

2.0 DISCUSSION (RELIEF REQUEST NO. 15)

2.1 Components Affected

All ASME Class 2 pressure-retaining welds in austenitic stainless steel, Examination Category C-F-1.

2.2 Code Requirement

Section XI of the ASME Code, 1986 edition, Table IWC-2412-1, Inspection Program B, requires a distribution of welds in an examination category per interval to be 16 percent - 34 percent for the first period, 50 percent - 67 percent for the second period, and 100 percent by the end of the third period.

ASME Code, Section XI, 1986 edition, no addenda, Table IWC-2500-1, for Category C-F-1, pressure retaining welds in austenitic stainless steel, Note (2), requires the welds selected for examination shall include 7.5 percent, but not less than 28 welds, of all austenitic stainless steel of high alloy welds not exempted by IWC-1220.

2.3 Licensee's Proposed Alternative

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested to allow a weld inspection distribution during the third 10-Year ISI program interval for Category C-F-1 welds of 10 percent (1st period), 14 percent (2nd period), and 100 percent (3rd period). These examinations were performed during the third 10-year ISI inspection interval.

2.4 Licensee's Basis for Relief

During the development of the third ISI interval inspection plan, a total of 5 C-F-1 welds were selected for examination out of a total count of 31 C-F-1 welds on the control rod drive discharge system A and B. This initial selection satisfied the required 7.5-percent selection criteria of Table IWC-2500-1 C-F-1, but did not satisfy the second selection criteria of a minimum of 28 welds that needed to be inspected during the 10-year interval. During development of the Monticello Risk Informed Program and prior to the last scheduled refueling outage of the third ISI interval, it was identified that the Category C-F-1 weld selection for the third ISI interval plan was required to be 28 welds and not just the 5 welds previously selected. The third ISI interval plan was immediately corrected and the additional C-F-1 welds were selected and examined during the last third interval refueling outage in December of 2001 to ensure that 28 C-F-1 welds were examined during the 10-year interval. The late discovery of the initial selection error made it impossible to readjust the weld distribution per period to conform to the requirements of Table IWC-2412-1, Inspection Program B.

3.0 EVALUATION

Due to an initial selection error which satisfied the required 7.5-percent selection criteria of Table IWC 2500-1 C-F-1, but did not satisfy the second selection criteria of a minimum of 28 welds, the licensee was forced to deviate from the inspection requirements of Table IWC-2412-1, Inspection Program B. During the licensee's development of the Monticello Risk Informed ISI Program, and prior to the last scheduled refueling outage of the

third 10-year ISI interval, the error was identified. During the last refueling outage, all necessary inspections were completed to bring Monticello into conformance with the ASME Code; however, the previous weld inspection distributions for the past two periods were outside of ASME Code requirements.

The licensee states in its justification for Relief Request No. 15 that it has recently submitted to the NRC a Risk Informed ISI Program Plan for Class 1 and Class 2 piping welds for the fourth 10-year ISI interval Plan. The risk ranking and degradation analysis of the risk-informed program has identified the C-F-1 subject welds to be risk category 6 and 7 in accordance with the Electric Research Power Institute's Topical Report TR-112657, Revision B-A. Due to this categorization, none of these welds have been selected for inspection during the fourth interval. Additionally, no detectable flaws or degradation was detected during the third 10-year interval. This supports the licensee's proposed alternative by showing that the C-F-1 welds are of low risk.

Considering the low risk nature determined from the risk-informed ISI program and the timely manner in which the remaining inspections were conducted after the deficiencies were discovered, the adjusted weld inspection distribution provides an acceptable level of quality and safety.

4.0 CONCLUSION

The NRC staff concludes that the licensee's proposed alternative to the requirements of Table IWC-2412-1, Inspection Program B, will provide an acceptable level of quality and safety to ensure the integrity of the subject C-F-1 welds. The NRC staff has authorized the licensee's proposed alternative pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year ISI interval for Monticello.

Principal Contributor: N. T. Sanfilippo

Date: October 1, 2002