

October 25, 2000

Mr. Michael F. Hammer  
Site General Manager  
Monticello Nuclear Generating Plant  
Nuclear Management Company, LLC  
2807 West County Road 75  
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - EVALUATION OF RELIEF  
REQUEST NUMBER 11 FOR THE THIRD 10-YEAR INTERVAL INSERVICE  
INSPECTION PROGRAM PLAN (TAC NO. MA9114)

Dear Mr. Hammer:

By letter dated May 25, 2000, as supplemented July 11, 2000, Northern States Power Company (NSP) submitted Relief Request No. 11 related to the Third 10-Year Interval Inservice Inspection (ISI) Program. NSP was subsequently succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Monticello Nuclear Generating Plant. By letter dated October 5, 2000, NMC requested the staff continue to process and disposition licensing actions previously docketed and requested by NSP. The staff has reviewed NSP's submittal and concludes that the inservice examination for Relief Request No. 11, Parts A, B, and C, are impractical to perform at Monticello to the extent required by American Society of Mechanical Engineers Code. The examinations that have been and will be completed provide reasonable assurance of structural integrity. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), the staff grants approval of Relief Request No. 11. The relief granted is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, giving due consideration to the burden on NSP if the requirements were imposed on the facility.

The detailed results of the staff review are provided in the enclosed safety evaluation. If you have any questions concerning this action please call Mr. F. Lyon of my staff at (301) 415-2296.

Sincerely,

*/RA/*

Claudia M. Craig, 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

October 25, 2000

Mr. Michael F. Hammer  
Site General Manager  
Monticello Nuclear Generating Plant  
Nuclear Management Company, LLC  
2807 West County Road 75  
Monticello, MN 55362-9637

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT - EVALUATION OF RELIEF  
REQUEST NUMBER 11 FOR THE THIRD 10-YEAR INTERVAL INSERVICE  
INSPECTION PROGRAM PLAN (TAC NO. MA9114)

Dear Mr. Hammer:

By letter dated May 25, 2000, as supplemented July 11, 2000, Northern States Power Company (NSP) submitted Relief Request No. 11 related to the Third 10-Year Interval Inservice Inspection (ISI) Program. NSP was subsequently succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Monticello Nuclear Generating Plant. By letter dated October 5, 2000, NMC requested the staff continue to process and disposition licensing actions previously docketed and requested by NSP. The staff has reviewed NSP's submittal and concludes that the inservice examination for Relief Request No. 11, Parts A, B, and C, are impractical to perform at Monticello to the extent required by American Society of Mechanical Engineers Code. The examinations that have been and will be completed provide reasonable assurance of structural integrity. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), the staff grants approval of Relief Request No. 11. The relief granted is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, giving due consideration to the burden on NSP if the requirements were imposed on the facility.

The detailed results of the staff review are provided in the enclosed safety evaluation. If you have any questions concerning this action please call Mr. F. Lyon of my staff at (301) 415-2296.

Sincerely,  
*/RA/*  
Claudia M. Craig, 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

DISTRIBUTION

PUBLIC                      ESullivan              RLanksbury, RIII  
PDIII-1 Reading        ZBFu  
CCraig                    OGC  
FLyon                    ACRS  
RBouling                GHill(2)

\*No significant changes to SE

OFFICE	PDIII-1/PM	PDIII-1/LA	EMCB/SC*	OGC	PDIII-1/SC
NAME	FLyon	RBouling	ESullivan	RHoefling	C Craig
DATE	10/10/00	10/10/00	08/22/00	10/18/00	10/25/00

ACCESSION NO: ML003763033

OFFICIAL RECORD COPY

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

Michael D. Wadley  
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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

OF THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION

RELIEF REQUEST NO. 11

NUCLEAR MANAGEMENT COMPANY, LLC

MONTICELLO NUCLEAR GENERATING PLANT

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 performed in accordance with Section XI of the ASME *Boiler and Pressure Vessel (B&PV) Code*, 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).

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, "Rules for Inservice Inspection (ISI) of Nuclear Power Plant Components," 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, which were 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 Code of record for the Monticello Nuclear Generating Plant, third 10-year ISI interval, which started May 31, 1992, is the 1986 edition of the ASME B&PV Code.

2.0 DISCUSSION

The staff has reviewed the information concerning the third 10-year ISI program Request for Relief No. 11 for Monticello, submitted by Northern States Power Company (the licensee) in its letter dated May 25, 2000, as supplemented July 11, 2000. The information provided by the licensee in support of the request for relief from the Code requirements has been evaluated and the bases for disposition are documented below.

ENCLOSURE

2.1 Request for Relief No. 11: Code requirements for the applicable items are summarized as follows:

Relief Request	System or Component	Code Category /Item#	Examination requirements	Required Method	% Coverage	Limitation
Part A	Reactor Vessel	B-A B1.22	100% of welds, as detailed in IWB-2500-3	Volumetric	35.16	*Figure 1
Part B	Reactor Vessel	B-D B3.90	100% of welds, as detailed in IWB-2500-7	Volumetric	61.27	*Figure 2
	Reactor Vessel	B-D B3.90	100% of welds, as detailed in IWB-2500-7	Volumetric	61.27	*Figure 3
Part C	RHR Return B	B-J B9.11	100% of welds, as detailed in IWB-2500-8	Volumetric and surface	50.00	*Figure 4
	RHR Return B	B-J B9.31	100% of welds, as detailed in IWB-2500-9, -10, and -11	Volumetric and surface	71.50	*Figure 5
	Recirc Loop B	B-J B9.31	100% of welds, as detailed in IWB-2500-9, -10, and -	Volumetric and surface	39.37	*Figure 6

\* Figures referenced are in the licensee's May 25, 2000, letter and July 11, 2000, supplement, and are not included in this safety evaluation

#### 2.1.1 Code Requirement for Item B-A, B1.22

The 1986 edition of ASME Code, Section XI, Table IWB-2500-1, examination Category B-A, Item Number B.1.22, requires 100 percent volumetric examination each inspection interval.

#### 2.1.2 Code Requirement for Item B-D, B3.90

The 1986 edition of ASME Code, Section XI, Table IWB-2500-1, examination Category B-D, Item Number B3.90, requires 100 percent volumetric examination each inspection interval.

### 2.1.3 Code Requirement for Item B-J, B9.11

The 1986 edition of ASME Code, Section XI, Table IWB-2500-1, examination Category B-J, Item Number B9.11, requires 100 percent surface and volumetric examination each inspection interval.

### 2.1.4 Code Requirement for Item B-J, B9.31

The 1986 edition of ASME Code, Section XI, Table IWB-2500-1, examination Category B-J, Item Number B9.31, requires 100 percent surface and volumetric examination each inspection interval.

## 2.2 Licensee's Proposed Request for Relief

Pursuant to 10 CFR 50.55a(g)(4) and 10 CFR 50.55a(g)(5)(iii), relief is requested from examining 100 percent of the Code-required volume of the welds because of access restrictions due to plant design or component configuration.

Relief is requested from examining the Code-required volumetric examination for the following:

### 2.2.1 Reactor Vessel Bottom Head Dollar PI LS Weld W-2

"Examination is limited to 35.16% coverage due to Control Rod Drive mechanisms at 13" and 2" (see Figure 1)."

### 2.2.2 Reactor Vessel Nozzle N-3B NV and N-4D NV

"Coverage for nozzle/vessel weld is 61.27%. Inspection is limited due to nozzle configuration. (See Figures 2 and 3)."

### 2.2.3 RHR Return B weld W-21

"Volumetric examination is limited to 71.50%. Limitation is due to configuration of pipe to weldolet (see Figure 5)."

### 2.2.4 RHR Return B weld W-22.

"Volumetric examination is limited to 50%. Limitation is due to configuration of flange to weldolet (see Figure 4)."

### 2.2.5 Recirculation Loop B W-5 LS U&D

"Volumetric examination is limited to 39.37%. Limitation is due to pipe to branch configuration (see Figure 6)."

### 2.3 Licensee's Bases (as stated):

"Monticello was designed and constructed prior to development of ASME XI, therefore, plant and component design and layout for inspection coverage required by ASME Section XI Code, in many cases, is not sufficient to permit satisfying the current code requirements. Inspection limitations are primarily due to obstructions and configuration interference."

"The facility was designed and constructed with limited accessibility. Due to component configurations and/or physical barriers and interference, essentially 100% inspection coverage as defined in Reg. Guide 1.147 is not achievable on some ISI component items examined for the Third Ten Year Interval."

### 2.4 Licensee's Proposed Alternative (as stated):

"All inservice inspections at Monticello have been done to the greatest extent practical. When limitations to required inspections are encountered, Materials & Special Process procedures ISI-LTS-1 is applied, which requires alternative examination techniques to be considered or applied to gain the maximum obtainable inspection coverage practical. In all of the above items identified, this procedure was used and the maximum inspection coverage was achieved."

"In addition, hydrostatic tests are performed during regular inspection intervals to ensure the piping system is capable of maintaining pressure integrity. System integrity is monitored continuously during normal operation by routine operator rounds during shift and remote monitoring methods; e.g., containment radiation monitoring, containment air monitoring, containment leakage detection and monitoring, containment temperature monitoring, etc."

## 3.0 EVALUATION

The Code requires that the subject Class 1 full penetration nozzle-to-vessel welds be 100 percent volumetrically examined during the inspection interval. However,

1. Full coverage is not achievable because access to these welds is restricted due to physical interference. The plant was designed and constructed prior to development of Section XI of ASME Code. The design of these components did not consider the need for future ISIs and as such, interferences obstruct full volumetric inspection coverage.
2. In order to perform 100 percent volumetric coverage as required by the Code, substantial plant and component modifications would be required which would result in a considerable burden on the licensee.

Based on the above, the staff finds that performance of the Code-required examination is impractical.

The licensee was able to examine substantial volume of the subject welds. The staff finds that if significant degradation were occurring, it would have been detected by the examinations. These volumetric examinations, in conjunction with the 100-percent surface examinations that have been performed, where required, ensure that reasonable assurance of continued structural integrity has been provided, and that the overall level of plant quality and safety will not be compromised.

#### 4.0 CONCLUSION

The staff concludes that certain inservice examinations cannot be performed to the extent required by the Code at Monticello. Based on the impracticality of meeting the Code coverage requirements for the welds discussed in Request for Relief No. 11, and the reasonable assurance of structural integrity provided by the examinations that can be performed, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for Monticello's third 10-year ISI interval. The staff has determined that granting this relief is authorized by law and will not endanger life or property, or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Principal Contributor: Z. B. Fu

Date: October 25, 2000