November 7, 2002

Mr. Mano Nazar
Site Vice President
Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - EVALUATION OF RELIEF REQUEST NO. 9 FOR UNIT 1 AND NO. 10 FOR UNIT 2 ASSOCIATED WITH THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM (TAC NOS. MB5690 AND MB5691)

Dear Mr. Nazar:

By letter dated July 24, 2002, the Nuclear Management Company, LLC (the licensee) submitted Relief Request Nos. 9 (Unit 1) and 10 (Unit 2) related to the Third 10-Year Interval Inservice Inspection (ISI) Program for the Prairie Island Nuclear Generating Plant, Units 1 and 2. In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed an alternative to the 10-hour annual training requirement of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code,* Section XI, 1989 edition, Appendix VII, for personnel performing ultrasonic testing.

Based on the information provided in the July 24, 2002, submittal, the Nuclear Regulatory Commission (NRC) staff concludes that the proposed alternative will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the NRC staff authorizes the licensee's proposed alternative for the third 10-year ISI interval for Prairie Island, Units 1 and 2.

The enclosed safety evaluation provides the basis for the NRC staff's determination. If you have any questions concerning this action, please call Mr. T. J. Kim of my staff at (301) 415-1392.

Sincerely,

***/RA/***

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

Docket Nos. 50-282 and 50-306

Enclosure: Safety Evaluation

cc w/encl: See next page

November 7, 2002

Mr. Mano Nazar
Site Vice President
Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 - EVALUATION OF RELIEF REQUEST NO. 9 FOR UNIT 1 AND NO. 10 FOR UNIT 2 ASSOCIATED WITH THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM (TAC NOS. MB5690 AND MB5691)

Dear Mr. Nazar:

By letter dated July 24, 2002, the Nuclear Management Company, LLC (the licensee) submitted Relief Request Nos. 9 (Unit 1) and 10 (Unit 2) related to the Third 10-Year Interval Inservice Inspection (ISI) Program for the Prairie Island Nuclear Generating Plant, Units 1 and 2. In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed an alternative to the 10-hour annual training requirement of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code,* Section XI, 1989 edition, Appendix VII, for personnel performing ultrasonic testing.

Based on the information provided in the July 24, 2002, submittal, the Nuclear Regulatory Commission (NRC) staff concludes that the proposed alternative will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the NRC staff authorizes the licensee's proposed alternative for the third 10-year ISI interval for Prairie Island, Units 1 and 2.

The enclosed safety evaluation provides the basis for the NRC staff's determination. If you have any questions concerning this action, please call Mr. T. J. Kim of my staff at (301) 415-1392.

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

Docket Nos. 50-282 and 50-306

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION:

| | | | |
|---|---|---|---|
| PUBLIC | OGC | PDIII-1 Reading | ACRS |
| LRaghavan | TKim | RBouling | TChan |
| GHill(2) | TBergman | RLanksbury, RIII | |

ADAMS Accession No. ML023010209

| OFFICE | PDIII-1/PM | PDIII-1/LA | EMCB/SC | OGC | PDIII-1/SC |
|---|---|---|---|---|---|
| NAME | TKim | RBouling | TChan | BSmith | LRaghavan |
| DATE | 10/31/02 | 10/31/02 | 10/31/02 | 11/04/02 | 11/07/02 |

OFFICIAL RECORD COPY

Prairie Island Nuclear Generating Plant,
Units 1 and 2

cc:

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

Site Licensing Manager
Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC
1717 Wakonade Drive East
Welch, MN 55089

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

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
1719 Wakonade Drive East
Welch, MN 55089-9642

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

Administrator
Goodhue County Courthouse
Box 408
Red Wing, MN 55066-0408

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

Tribal Council
Prairie Island Indian Community
ATTN: Environmental Department
5636 Sturgeon Lake Road
Welch, MN 55089

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REGARDING THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION

RELIEF REQUEST NO. 9 (FOR UNIT 1)

RELIEF REQUEST NO. 10 (FOR UNIT 2)

NUCLEAR MANAGEMENT COMPANY, LLC

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

DOCKET NOS. 50-282 AND 50-306

## 1.0 INTRODUCTION

The inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code) Class 1, Class 2, and Class 3 components is to be performed in accordance with Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the ASME Code and applicable edition and addenda, as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the 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) will 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 ISI code of record for the third 10-year ISI interval for the Prairie Island Nuclear Generating Plant, Units 1 and 2, is the ASME Code, Section XI, 1989 edition.

By letter dated July 24, 2002, the Nuclear Management Company, LLC (the licensee), requested relief from certain ultrasonic testing (UT) requirements pertaining to UT performance qualification for the third 10-year ISI interval at Prairie Island, Units 1 and 2. Specifically, the licensee's request proposed conducting annual UT training in accordance with 10 CFR 50.55a(b)(2)(xiv).

## 2.0 RELIEF REQUEST NO. 9 FOR UNIT 1 AND NO. 10 FOR UNIT 2

### 2.1 Code Requirements for which Relief is Requested

The licensee is requesting relief from Appendix VII to Section XI of the ASME Code, Subsection VII-4240, for all UT personnel. Subsection VII-4240 requires a minimum of 10 hours of annual UT training.

### 2.2 Licensee's Proposed Alternative to Code

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee proposed conducting annual UT training in accordance with 10 CFR 50.55a(b)(2)(xiv) in lieu of Subsection VII-4240 of Section XI of the ASME Code, 1989 edition, Appendix VII. Annual UT training in accordance with 10 CFR 50.55a(b)(2)(xiv) would require that all personnel qualified for performing UT examinations in accordance with Section XI of the ASME Code, Appendix VIII, receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing UT examinations at a licensee's facility.

### 2.3 Licensee's Bases for Requesting Relief (as stated)

The regulation at 10 CFR 50.55a(b)(2)(xiv) was amended in September 1999 to require that: "All personnel qualified for performing ultrasonic examinations in accordance with Appendix VIII shall receive 8 hours of annual hands-on training on specimens that contain cracks. This training must be completed no earlier than 6 months prior to performing ultrasonic examinations at a licensee's facility."

As part of the NRC staff's rulemaking effort to revise 10 CFR 50.55a(b)(2), the NRC staff stated in the *Federal Register* notice (64 FR 51369, September 22, 1999) of the proposed rulemaking regarding the 10 hours of training on an annual basis: "The NRC had determined that this requirement was inadequate for two reasons. The first reason was that the training does not require laboratory work and examination of flawed specimens. Signals can be difficult to interpret and as detailed in the regulatory analysis for this rulemaking, experience and studies indicate that the examiner must practice on a frequent basis to maintain the capability for proper interpretation. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within approximately 6 months if skills are not maintained. Thus, the NRC had determined that 10 hours of annual training is not sufficient practice to maintain skills, and that an examiner must practice on a more frequent basis to maintain proper skill level."

2.4 Evaluation

Subsection VII-4240, Appendix VII, of Section XI of the Code requires 10 hours of annual training to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by the licensee. No hands-on training or practice is required to be included in the 10 hours of training. This training is required of all UT personnel qualified to perform examinations of ASME Code Class 1, 2, and 3 components. Independent of the ASME Code, 10 CFR 50.55a(b)(2)(xiv) imposes the requirement for Appendix VIII qualification that 8 hours of hands-on training with flawed specimens containing cracks be performed no earlier than 6 months prior to performing examinations at a licensee's facility.

As part of the NRC staff's rulemaking effort to revise 10 CFR 50.55a(b)(2), the issue of UT annual training requirements was reviewed. This review was included in the summary of comments to the rule that was published in the *Federal Register* (64 FR 51370). In the review, the NRC staff determined that the 10 hours of annual training requirement specified in the ASME Code was inadequate for the two reasons quoted in the licensee's basis for relief (Section 2.3 above). In resolving a public comment on the rulemaking, the NRC staff adopted a recommendation advanced by the nuclear power industry which proposed 8 hours of hands-on practice with specimens containing cracks. This practice would occur no earlier than 6 months prior to performing examinations at a licensee's facility. These recommendations were accepted by NRC and are reflected in 10 CFR 50.55a(b)(2)(xiv). The NRC staff has determined that the licensee's proposed alternative to use 10 CFR 50.55a(b)(2)(xiv) in lieu of Subsection VII-4240 will maintain the skill and proficiency of UT personnel at or above the level provided in the ASME Code for annual UT training, thereby, providing an acceptable level of quality and safety.

3.0 CONCLUSION

Based on the discussion above, the NRC staff concludes that the licensee's proposed alternative to use the requirements in 10 CFR 50.55a(b)(2)(xiv) in lieu of Subsection VII-4240 for annual UT training will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the alternative proposed by Relief Request No. 9 for Unit 1 and Relief Request No. 10 for Unit 2 are authorized for the third 10-year ISI interval for Prairie Island, Units 1 and 2.

Principal Contributor: T. Kim

Date: November 7, 2002