February 26, 2004

Mr. Edward J. Weinkam
Director, Regulatory Services
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

SUBJECT: DUANE ARNOLD ENERGY CENTER, MONTICELLO NUCLEAR GENERATING PLANT, PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2, KEWAUNEE NUCLEAR POWER PLANT, POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2, PALISADES NUCLEAR PLANT RE: REQUEST FOR ALTERNATIVES TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) SECTION XI, APPENDIX VIII, SUPPLEMENT 10 (TAC NOS. MC0814, MC0816, MC0820, MC0821, MC0815, MC0818, MC0819 AND MC0817)

Dear Mr. Weinkam:

The Nuclear Management Company, LLC's (NMC's) letter of September 17, 2003, requested U.S. Nuclear Regulatory Commission (NRC) authorization for NMC to use proposed alternatives to the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, pursuant to 10 CFR 50.55a(a)(3)(i). Supplement 10 to Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," of Section XI of the ASME *Boiler and Pressure Vessel Code* (ASME Code) contains the qualification requirements for procedures, equipment, and personnel involved with examining dissimilar metal welds using ultrasonic techniques. In lieu of these ASME Code requirements, NMC requested to use the dissimilar metal weld criteria of the Electric Power Research Institute-Performance Demonstration Initiative Program. Your request applied to the above subject plants for their present 10-year intervals of their inservice inspection (ISI) programs.

Based on the information provided by NMC, the NRC staff concludes that the proposed alternatives will provide an acceptable level of quality and safety. Therefore, the use of the proposed alternatives is authorized pursuant to 10 CFR 50.55a(a)(3)(i) for the remainder of the current 10-year ISI interval at each unit as follows:

- Duane Arnold Energy Center — third ISI interval
- Monticello Nuclear Generating Plant — fourth ISI interval
- Prairie Island Nuclear Generating Plant, Units 1 and 2 — third ISI interval
- Kewaunee Nuclear Power Plant — third ISI interval
- Point Beach Nuclear Plant, Units 1 and 2 — fourth ISI interval
- Palisades Nuclear Plant — third ISI interval

The NRC staff's Safety Evaluation is enclosed. Please contact NRC project manager, Mr. L. Mark Padovan, at (301) 415-1423 if you have questions.

Sincerely,

/RA/

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

Docket Nos. 50-331, 50-263, 50-282, 50-306, 50-305, 50-266, 50-301 and 50-255

Enclosure: As stated

cc w/encl: See next page

The NRC staff's Safety Evaluation is enclosed. Please contact NRC project manager, Mr. L. Mark Padovan, at (301) 415-1423 if you have questions.

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

Docket Nos. 50-331, 50-263, 50-282, 50-306, 50-305, 50-266, 50-301 and 50-255

Enclosure: As stated

cc w/encl: See next page

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NAME	LPadovan	THarris for RBouling	WKoo for TChan	KKannler	LRaghavan
DATE	01/22/04	01/22/04	01/23/04	02/18/04	02/26/04

OFFICIAL RECORD COPY

cc:
Mr. John Paul Cowan
Executive Vice President &
Chief Nuclear Officer
Nuclear Management Company, LLC
700 First Street
Hudson, MI 54016

John Bjorseth
Plant Manager
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324

Steven R. Catron
Manager, Regulatory Affairs
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324

U. S. Nuclear Regulatory Commission
Resident Inspector's Office
Rural Route #1
Palo, IA 52324

Regional Administrator
U. S. NRC, Region III
801 Warrenville Road
Lisle, IL 60532-4531

Jonathan Rogoff
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Bruce Lacy
Nuclear Asset Manager
Alliant Energy/Interstate Power
and Light Company
3277 DAEC Road
Palo, IA 52324

Daniel McGhee
Utilities Division
Iowa Department of Commerce
Lucas Office Buildings, 5th floor
Des Moines, IA 50319

Chairman, Linn County
Board of Supervisors
930 1st Street SW
Cedar Rapids, IA 52404

Craig G. Anderson
Senior Vice President, Group Operations
700 First Street
Hudson, WI 54016

Mark A. Peifer
Site Vice President
Duane Arnold Energy Center
Nuclear Management Company, LLC
3277 DAEC Road
Palo, IA 52324-0351

Monticello Nuclear Generating Plant
cc:

Jonathan Rogoff, Esquire
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

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

Manager, Regulatory Affairs
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

Manager - Environmental Protection Division
Minnesota Attorney General's Office
445 Minnesota St., Suite 900
St. Paul, MN 55101-2127

John Paul Cowan
Executive Vice President & Chief Nuclear
Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Nuclear Asset Manager
Xcel Energy, Inc.
414 Nicollet Mall, R.S. 8
Minneapolis, MN 55401

Mr. Thomas J. Palmisano
Site Vice President
Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
2807 West County Road 75
Monticello, MN 55362-9637

Prairie Island Nuclear Generating Plant,
Units 1 and 2

cc:

Jonathan Rogoff, Esquire
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

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

Manager - Environmental Protection Division
Minnesota Attorney General's Office
445 Minnesota St., 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

Nuclear Asset Manager
Xcel Energy, Inc.
414 Nicollet Mall, R.S. 8
Minneapolis, MN 55401

John Paul Cowan
Executive Vice President & Chief Nuclear Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Craig G. Anderson
Senior Vice President, Group Operations
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

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

Kewaunee Nuclear Power Plant

cc:

John Paul Cowan
Executive Vice President &
Chief Nuclear Officer
Nuclear Management Company, LLC
700 First Street
Hudson, MI 54016

James McCarthy
Plant Manager
Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511

Gerry Riste
Manager, Regulatory Affairs
Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511

David Molzahn
Nuclear Asset Manager
Wisconsin Public Service Corporation
600 N. Adams Street
Green Bay, WI 54307-9002

Thomas Webb
Nuclear Asset Manager
Wisconsin Public Service Corporation
600 N. Adams Street
Green Bay, WI 54307-9002

Resident Inspectors Office
U. S. Nuclear Regulatory Commission
N490 Hwy 42
Kewaunee, WI 54216-9510

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

Jonathan Rogoff
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Larry L. Weyers
Chairman, President and CEO
Wisconsin Public Service Corporation
600 North Adams Street
Greey Bay, WI 54307-9002

David Zellner
Chairman - Town of Carlton
N2164 County B
Kewaunee, WI 54216

Mr. Jeffery Kitsembel
Electric Division
Public Service Commission of Wisconsin
PO Box 7854
Madison, WI 53707-7854

Mr. Thomas Coutu
Site Vice President
Kewaunee Nuclear Power Plant
Nuclear Management Company, LLC
N490 Highway 42
Kewaunee, WI 54216-9511

Point Beach Nuclear Plant, Units 1 and 2

cc:

Jonathan Rogoff, Esquire
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Mr. Richard R. Grigg
President and Chief Operating Officer
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

Manager, Regulatory Affairs
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

Mr. Ken Duveneck
Town Chairman
Town of Two Creeks
13017 State Highway 42
Mishicot, WI 54228

Chairman
Public Service Commission
of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

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

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
6612 Nuclear Road
Two Rivers, WI 54241

Mr. Jeffery Kitsembel
Electric Division
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Nuclear Asset Manager
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

John Paul Cowan
Executive Vice President & Chief Nuclear
Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Douglas E. Cooper
Senior Vice President - Group Operations
Palisades Nuclear Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

Mr. Alfred J. Cayia
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

Palisades Plant

cc:

Robert A. Fenech, Senior Vice President
Nuclear, Fossil, and Hydro Operations
Consumers Energy Company
1945 Parnall Rd.
Jackson, MI 49201

Arunas T. Udrys, Esquire
Consumers Energy Company
1 Energy Plaza
Jackson, MI 49201

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

Supervisor
Covert Township
P. O. Box 35
Covert, MI 49043

Office of the Governor
P. O. Box 30013
Lansing, MI 48909

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
Palisades Plant
27782 Blue Star Memorial Highway
Covert, MI 49043

Michigan Department of Environmental Quality
Waste and Hazardous Materials Division
Hazardous Waste and Radiological
Protection Section
Nuclear Facilities Unit
Constitution Hall, Lower-Level North
525 West Allegan Street
P.O. Box 30241
Lansing, MI 48909-7741

Michigan Department of Attorney General
Special Litigation Division
525 West Ottawa St.
Sixth Floor, G. Mennen Williams Building
Lansing, MI 48913

Manager, Regulatory Affairs
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

Director of Nuclear Assets
Consumers Energy Company
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

John Paul Cowan
Executive Vice President & Chief Nuclear
Officer
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Jonathan Rogoff, Esquire
Vice President, Counsel & Secretary
Nuclear Management Company, LLC
700 First Street
Hudson, WI 54016

Douglas E. Cooper
Senior Vice President - Group Operations
Palisades Nuclear Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

Daniel J. Malone
Site Vice President
Palisades Nuclear Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR ALTERNATIVES

TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

SECTION XI, APPENDIX VIII, SUPPLEMENT 10

RELATED TO THE INSERVICE INSPECTION PROGRAMS

NUCLEAR MANAGEMENT COMPANY, LLC

DUANE ARNOLD ENERGY CENTER

MONTICELLO NUCLEAR GENERATING PLANT

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

KEWAUNEE NUCLEAR POWER PLANT

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

PALISADES NUCLEAR PLANT

DOCKET NOS. 50-331, 50-263, 50-282, 50-306, 50-305, 50-266, 50-301 AND 50-255

1.0 INTRODUCTION

The Nuclear Management Company, LLC's (NMC's) letter of September 17, 2003, requested U.S. Nuclear Regulatory Commission (NRC) authorization for NMC to use proposed alternatives to the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, pursuant to 10 CFR 50.55a(a)(3)(i). Supplement 10 to Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," of Section XI of the ASME *Boiler and Pressure Vessel Code* (ASME Code) contains the qualification requirements for procedures, equipment, and personnel involved with examining dissimilar metal welds using ultrasonic techniques. In lieu of these ASME Code requirements, NMC requested to use the dissimilar metal weld criteria of the Electric Power Research Institute-Performance Demonstration Initiative (PDI) Program. NMC's request applied to its plants for their present 10-year intervals of their inservice inspection (ISI) programs as follows:

- Duane Arnold Energy Center — third ISI interval
- Monticello Nuclear Generating Plant — fourth ISI interval
- Prairie Island Nuclear Generating Plant, Units 1 and 2 — third ISI interval

ENCLOSURE

- Kewaunee Nuclear Power Plant — third ISI interval
- Point Beach Nuclear Plant, Units 1 and 2 — fourth ISI interval
- Palisades Nuclear Plant — third ISI interval

2.0 REGULATORY EVALUATION

Section 50.55a(g) requires that ISI of ASME Code Class 1, 2, and 3 components be performed in accordance with Section XI of the ASME Code and applicable addenda, except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). According to 10 CFR 50.55a(a)(3), alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if an applicant demonstrates that the proposed alternatives would provide an acceptable level of quality and safety or if the specified requirement 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, "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 ISI 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. Table 1 below shows the ISI ASME Code of record and ISI intervals for NMC's plants.

Table 1. Applicable ASME Code and Addenda and ISI Intervals

Plant (Docket Nos.)	Applicable Code and Addenda	ISI Interval	Interval Start Date	Interval End Date
Duane Arnold Energy Center (50-331)	1989 edition no addenda	Third	Nov. 1, 1996	Nov. 1, 2005
Monticello Nuclear Generating Plant (50-263)	1995 edition 1996 addenda	Fourth	May 1, 2003	May 31, 2012
Prairie Island Nuclear Generating Plant, Unit 1 (50-282)	1989 edition no addenda	Third	Dec. 17, 1993	Dec. 16, 2003*
Prairie Island Nuclear Generating Plant, Unit 2 (50-306)	1989 edition no addenda	Third	Dec. 21, 1994	Dec. 20, 2004

Kewaunee Nuclear Power Plant (50-305)	1989 edition no addenda	Third	June 16, 1994	June 16, 2005**
Point Beach Nuclear Plant, Units 1 and 2 (50-266 and 50-301)	1998 edition 2000 addenda	Fourth	July 1, 2002	June 30, 2012
Palisades Nuclear Plant (50-255)	1989 edition no addenda	Third	May 12, 1995	Dec. 12, 2006

* NMC's letter of January 24, 2003, requested NRC approval to use an alternative that would extend the third 10-year interval for Prairie Island Nuclear Generating Plant, Unit 1. Upon approval of that request, the third 10-year interval for Prairie Island Nuclear Generating Plant, Unit 1 will end on December 20, 2004.

** NMC is extending the Kewaunee Nuclear Power Plant third 10-year interval as allowed by ASME Section XI, IWA-2430(d).

3.0 TECHNICAL EVALUATION

3.1 Components for Which Relief Is Requested

Pressure retaining piping welds subject to examination using procedures, personnel, and equipment qualified to ASME Code Section XI, Appendix VIII, Supplement 10, "Qualification Requirements for Dissimilar Metal Piping Welds" criteria.

3.2 ASME Code Requirements (as stated)

The following paragraphs or statements are from ASME Section XI, Appendix VII, Supplement 10 and identify the specific requirements that are included in this request for relief.

Item 1 - Paragraph 1.1 (b) states in part - Pipe diameters within a range of 0.9 to 1.5 times a nominal diameter shall be considered equivalent.

Item 2 - Paragraph 1.1 (d) states - All flaws in the specimen set shall be cracks.

Item 3 - Paragraph 1.1(d)(1) states - At least 50 percent of the cracks shall be in austenitic material. At least 50 percent of the cracks in austenitic material shall be contained wholly in weld or buttering material. At least 10 percent of the cracks shall be in ferritic material. The remainder of the cracks may be in either austenitic or ferritic material.

Item 4 - Paragraph 1.2(b) states in part - The number of unflawed grading units shall be at least twice the number of flawed grading units.

Item 5 - Paragraph 1.2(c)(1) and 1.3(c) state in part - At least 1/3 of the flaws, rounded to the next higher whole number, shall have depths between 10 percent and 30 percent of the nominal pipe wall thickness. Paragraph 1.4(b) distribution table requires 20 percent of the flaws to have depths between 10 percent and 30 percent.

Item 6 - Paragraph 2.0 first sentence states - The specimen inside surface and identification shall be concealed from the candidate.

Item 7 - Paragraph 2.2(b) states in part - The regions containing a flaw to be sized shall be identified to the candidate.

Item 8 - Paragraph 2.2(c) states in part - For a separate length sizing test, the regions of each specimen containing a flaw to be sized shall be identified to the candidate.

Item 9 - Paragraph 2.3(a) states - For the depth sizing test, 80 percent of the flaws shall be sized at a specific location on the surface of the specimen identified to the candidate.

Item 10 - Paragraph 2.3(b) states - For the remaining flaws, the regions of each specimen containing a flaw to be sized shall be identified to the candidate. The candidate shall determine the maximum depth of the flaw in each region.

Item 11 - Table VIII-S2-1 provides the false call criteria when the number of unflawed grading units is at least twice the number of flawed grading units.

3.3 Licensee's Proposed Alternatives and Basis for Request

NMC proposed the following alternatives to implement Appendix VIII, Supplement 10 requirements for the plants listed in the Introduction section of this safety evaluation during their current ISI interval. NMC will implement the alternatives through the PDI Program.

Item 1 — The proposed alternative to Paragraph 1.1 (b) states:

The specimen set shall include the minimum and maximum pipe diameters and thicknesses for which the examination procedure is applicable. Pipe diameters within a range of 1/2 in. (13 mm) of the nominal diameter shall be considered equivalent. Pipe diameters larger than 24 in. (610 mm) shall be considered to be flat. When a range of thicknesses is to be examined, a thickness tolerance of ±25 percent is acceptable.

Technical Basis - The change in the minimum pipe diameter tolerance from 0.9 times the diameter to within 1/2 inch of the nominal diameter provides tolerances more in line with industry practice. Though the alternative is less stringent for small pipe diameters they typically have a thinner wall thickness than larger diameter piping. A thinner wall thickness results in shorter sound path distances that reduce the detrimental effects of the curvature. This change maintains consistency between Supplement 10 and the recent revision to Supplement 2.

Item 2 — The proposed alternative to Paragraph 1.1 (d) states:

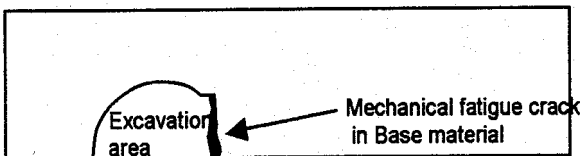
At least 60 percent of the flaws shall be cracks, the remainder shall be alternative flaws. Specimens with IGSCC [intergranular stress corrosion cracking] shall be used when available. Alternative flaws shall meet the following requirements:

(1) Alternative flaws, if used, shall provide crack-like reflective characteristics and shall only be used when implantation of cracks would produce spurious reflectors that are uncharacteristic of service-induced flaws.

(2) Alternative flaw mechanisms shall have a tip width no more than 0.002 in. (.05 mm).

Note, to avoid confusion the proposed alternative modifies instances of the term "cracks" or "cracking" to the term "flaws" because of the use of alternative flaw mechanisms.

Technical Basis - As illustrated below, implanting a crack requires excavation of the base material on at least one side of the flaw. While this may be satisfactory for ferritic materials, it does not produce a useable axial flaw in austenitic materials because the sound beam, which normally passes only through base material, must now travel through weld material on at least one side, producing an unrealistic flaw response. In addition, it is important to preserve the dendritic structure present in field welds that would otherwise be destroyed by the implantation process. To resolve these issues, the proposed alternative allows the use of up to 40 percent fabricated flaws as an alternative flaw mechanism under controlled conditions. The fabricated flaws are isostatically compressed which produces ultrasonic reflective characteristics similar to tight cracks.



Item 3 — The proposed alternative to Paragraph 1.1(d)(1) states:

At least 80 percent of the flaws shall be contained wholly in weld or buttering material. At least one and no more than 10 percent of the flaws shall be in ferritic base material. At least one and no more than 10 percent of the flaws shall be in austenitic base material.

Technical Basis - Under the current [ASME] Code, as few as 25 percent of the flaws are contained in austenitic weld or buttering material. Recent experience has indicated that flaws contained within the weld are the likely scenarios. The metallurgical structure of austenitic weld material is ultrasonically more challenging than either ferritic or austenitic base material. The proposed alternative is therefore more challenging than the current [ASME] Code.

Item 4 — The proposed alternative to Paragraph 1.2(b) states:

Personnel performance demonstration detection test sets shall be selected from Table VIII-S10-1. The number of unflawed grading units shall be at least 1-1/2 times the number of flawed grading units.

Technical Basis - Table VIII-S10-1 provides a statistically based ratio between the number of unflawed grading units and the number of flawed grading units. The proposed alternative reduces the ratio to 1.5 times. This reduces the number of test samples to a more reasonable number from the human factors perspective. However, the statistical basis used for screening personnel and procedures is still maintained at the same level with competent personnel being successful and less skilled personnel being unsuccessful. The acceptance criteria for the statistical basis are in Table VIII-S10-1.

Item 5 — The proposed alternative to the flaw distribution requirements of Paragraph 1.2(c)(1) (detection) and 1.3(c) (length) is to use the Paragraph 1.4(b) (depth) distribution table (see below) for all qualifications.

Flaw Depth	Minimum
(% Wall Thickness)	Number of Flaws
10-30%	20%
31-60%	20%
61-100%	20%

Technical Basis - The proposed alternative uses the depth sizing distribution for both detection and depth sizing because it provides for a better distribution of flaw sizes within the test set. This distribution allows candidates to perform detection, length, and depth sizing demonstrations simultaneously utilizing the same test set. The requirement that at least 75 percent of the flaws shall be in the range of 10 to 60 percent of wall thickness provides an overall distribution tolerance yet the distribution uncertainty decreases the possibilities for testmanship that would be inherent to a uniform distribution. It must be noted that it is possible to achieve the same distribution utilizing the present requirements, but it is preferable to make the criteria consistent.

Item 6 — The proposed alternative to Paragraph 2.0 states:

For qualifications from the outside surface, the specimen inside surface and identification shall be concealed from the candidate. When qualifications are performed from the inside surface, the flaw location and specimen identification shall be obscured to maintain a “blind test.”

Technical Basis - The current [ASME] Code requires that the inside surface be concealed from the candidate. This makes qualifications conducted from the inside of the pipe (e.g., PWR [pressurized water reactor] nozzle to safe end welds) impractical. The proposed alternative differentiates between ID [inner diameter] and OD [outer diameter] scanning surfaces, requires that they be conducted separately, and requires

that flaws be concealed from the candidate. This is consistent with the recent revision to Supplement 2.

Items 7 and 8 — The proposed alternatives to Paragraph 2.2(b) and 2.2(c) state:

. . . containing a flaw to be sized may be identified to the candidate.

Technical Basis - The current [ASME] Code requires that the regions of each specimen containing a flaw to be length sized shall be identified to the candidate. The candidate shall determine the length of the flaw in each region (Note, that length and depth sizing use the term “regions” while detection uses the term “grading units” - the two terms define different concepts and are not intended to be equal or interchangeable). To ensure security of the samples, the proposed alternative modifies the first “shall” to a “may” to allow the test administrator the option of not identifying specifically where a flaw is located. This is consistent with the recent revision to Supplement 2.

Items 9 and 10 — The proposed alternative to Paragraph 2.3(a) and 2.3(b) state[s]:

. . . regions of each specimen containing a flaw to be sized may be identified to the candidate.

Technical Basis - The current [ASME] Code requires that a large number of flaws be sized at a specific location. The proposed alternative changes the “shall” to a “may” which modifies this from a specific area to a more generalized region to ensure security of samples. This is consistent with the recent revision to Supplement 2. It also incorporates terminology from length sizing for additional clarity.

Item 11 — The proposed alternative modifies the acceptance criteria of Table VIII-S2-1 as follows:

10

TABLE VIII-S~~2~~-1
PERFORMANCE DEMONSTRATION DETECTION TEST
ACCEPTANCE CRITERIA

Detection Test Acceptance Critera		False Call Test Acceptance Criteria	
No. of Flawed Grading Units	Minimum Detection Criteria	No. of Unflawed Grading Units	Maximum Number of False Calls
~~5~~	~~5~~	~~10~~	~~0~~
~~6~~	~~6~~	~~12~~	~~1~~
~~7~~	~~6~~	~~14~~	~~1~~
~~8~~	~~7~~	~~16~~	~~2~~
~~9~~	~~7~~	~~18~~	~~2~~
10	8	~~20~~ 15	~~3~~ 2
11	9	~~22~~ 17	~~3~~ 3
12	9	~~24~~ 18	~~3~~ 3
13	10	~~26~~ 20	~~4~~ 3
14	10	~~28~~ 21	~~5~~ 3
15	11	~~30~~ 23	~~5~~ 3
16	12	~~32~~ 24	~~6~~ 4
17	12	~~34~~ 26	~~6~~ 4
18	13	~~36~~ 27	~~7~~ 4
19	13	~~38~~ 29	~~7~~ 4
20	14	~~40~~ 30	~~8~~ 5

Technical Basis - The proposed alternative is identified as new Table VIII-S10-1 above. It was modified to reflect the reduced number of unflawed grading units and allowable false calls. As a part of ongoing [ASME] Code activities, Pacific Northwest National Laboratory has reviewed the statistical significance of these revisions and offered the revised Table S10-1.

3.4 NRC Staff's Evaluation

NMC proposed using the program developed by PDI that is similar to the ASME Code requirements. The differences between the ASME Code and the PDI program are discussed below.

3.4.1 Item 1 — Paragraph 1.1(b)

The ASME Code requirement of "0.9 to 1.5 times the nominal diameter are equivalent" was established for a single nominal diameter. When applying the ASME Code-required tolerance to a range of diameters, the tolerance rapidly expands on the high side. Under the current ASME Code requirements, a 5-inch OD pipe would be equivalent to a range of 4.5-inch to 7.5-inch diameter pipe. Under the proposed PDI guidelines, this would be reduced to a range of 4.5-inch to 5.5-inch diameter pipe. With current ASME Code requirements, a 16-inch nominal diameter pipe would be equivalent to a range of 14.4-inch to 24-inch diameter pipe. The proposed alternative would significantly reduce the equivalent range of 15.5-inch to 16.5-inch diameter pipe. The difference between ASME Code requirements and the proposed alternative for diameters less than 5 inches is not significant because of shorter metal path and beam spread associated with smaller diameter piping. The proposed alternative is considered more conservative overall than current ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.2 Item 2 — Paragraph 1.1 (d)

The ASME Code requires all flaws to be cracks. Manufacturing test specimens containing cracks free of spurious reflections and telltale indicators is extremely difficult in austenitic material. To overcome these difficulties, PDI developed a process for fabricating flaws that produce UT acoustic responses similar to the responses associated with real cracks. PDI discussed its process at public meetings held June 12 through 14, 2001, and January 31 through February 2, 2002, at the Electric Power Research Institute Nondestructive Examination Center, Charlotte, NC. The NRC staff attended these meetings and determined that the process parameters used for manufacturing fabricated flaws resulted in acceptable acoustic responses. PDI is selectively installing these fabricated flaws in specimen locations that are unsuitable for real cracks. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.3 Item 3 — Paragraph 1.1(d)(1)

The ASME Code requires that at least 50 percent of the flaws be contained in austenitic material, and 50 percent of the flaws in the austenitic material shall be contained fully in weld or buttering material. This means that at least 25 percent of the total flaws must be located in the weld or buttering material. Field experience shows that flaws identified during ISI of dissimilar metal welds are more likely to be located in the weld or buttering material. The grain structure of austenitic weld and buttering material represents a much more stringent ultrasonic scenario than that of a ferritic or austenitic base material. Flaws made in austenitic base material are difficult to create free of spurious reflectors and telltale indicators. The proposed alternative of 80 percent of the flaws in the weld metal or buttering material provides a challenging testing scenario reflective of field experience and minimizes testmanship associated with telltale reflectors common to placing flaws in austenitic base material. The NRC staff considers the proposed alternative to be more conservative than current ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.4 Item 4 — Paragraph 1.2(b) and Item 11 - Table VIII-S2-1

The ASME Code requires that detection sets meet the requirements of Table VIII-S2-1, which specifies the minimum number of flaws in a test set to be 5 with 100-percent detection. The current ASME Code also requires the number of unflawed grading units to be two times the number of flawed grading units. The proposed alternative would follow the detection criteria of the table beginning with a minimum number of flaws in a test set being 10, and reducing the number of false calls to one-and-a-half times the number of flawed grading units. The changes to Table VIII-S2-1 are shown in Table VIII-S10-1. The NRC staff finds that the proposed alternative satisfies the pass/fail objective established for Appendix VIII performance demonstration acceptance criteria. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.5 Item 5 — Paragraphs 1.2(c)(1) and 1.3(c)

For detection and length sizing, the ASME Code requires at least one third of the flaws be located between 10 and 30 percent through the wall thickness and one third located greater

than 30 percent through the wall thickness. The remaining flaws would be located randomly throughout the wall thickness. The proposed alternative sets the distribution criteria for detection and length sizing to be the same as the depth sizing distribution, which stipulates that at least 20 percent of the flaws be located in each of the increments of 10-30 percent, 31-60 percent and 61-100 percent. At least 75 percent of the flaws shall be in the range of 10 to 60 percent of the wall thickness with the remaining flaws located randomly throughout the wall thickness. With the exception of the 10-30-percent increments, the proposed alternative is a subset of the current ASME Code requirements. The 10-30-percent increments would be in the subset if it contained at least 30 percent of the flaws. The change simplifies assembling test sets for detection and sizing qualifications and is more indicative of conditions in the field. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.6 Item 6 — Paragraph 2.0

The ASME Code requires that the inside surface of the specimen be concealed from the candidate. This requirement applies to test specimens used for qualification performed from the outside surface. With the expansion of Supplement 10 to include qualifications performed from the inside surface, the inside surface must be accessible while maintaining the specimen integrity. The proposed alternative requires that flaws and specimen identifications be obscured from candidates, thus maintaining blind test conditions. The NRC staff considers this to be consistent with the intent of ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.7 Items 7 and 8 — Paragraphs 2.2(b) and 2.2(c)

The ASME Code requires that the location of flaws added to the test set for length sizing shall be identified to the candidate. The proposed alternative is to make identifying the location of additional flaws an option. This option provides an additional element of difficulty to the testing process because the candidate would be expected to demonstrate the skill of detecting and sizing flaws over an area larger than a specific location. The NRC staff considers the proposed alternative to be more conservative than current ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

3.4.8 Items 9 and 10 — Paragraphs 2.3(a) and 2.3(b)

In paragraph 2.3(a), the ASME Code requires that 80 percent of the flaws be sized in a specific location that is identified to the candidate. The proposed alternative permits detection and depth sizing to be conducted separately or concurrently. In order to maintain a blind test, the location of flaws cannot be shared with the candidate. For depth sizing that is conducted separately, allowing the test administrator the option of not identifying flaw locations makes the testing process more challenging. The NRC staff considers the proposed alternative to be more conservative than current ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

In paragraph 2.3(b), the ASME Code also requires that the location of flaws added to the test set for depth sizing shall be identified to the candidate. The proposed alternative is to make identifying the location of additional flaws an option. This option provides an additional element of difficulty to the testing process because the candidate would be expected to demonstrate the skill of finding and sizing flaws in an area larger than a specific location. The NRC staff considers the proposed alternative to be more conservative than current ASME Code requirements. The NRC staff finds that the proposed alternative will provide an acceptable level of quality and safety and, therefore, is acceptable.

4.0 CONCLUSION

The NRC staff has determined that the proposed alternative to Supplement 10, as administered by the EPRI-PDI Program, will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the NRC staff authorizes the proposed alternative described in NMC's letter of September 17, 2003, for the plants listed in Table 1 for the remainder of their respective current ISI intervals. All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: L. Padovan

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