Xcel Energy®

Monticello Nuclear Generating Plant
2807 W County Road 75
Monticello, MN 55362

June 6, 2014

L-MT-14-037
10 CFR 50.55a(g)

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Monticello Nuclear Generating Plant
Docket 50-263
Renewed Facility Operating License No. DPR-22

Subject: 10 CFR 50.55a Request No. 009: Relief from Impractical Examination Coverage Requirements Pursuant to 10 CFR 50.55a(g)(5)(iii) for the Fifth Ten-Year Inservice Inspection Interval

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (g)(5)(iii), Northern States Power Company, a Minnesota corporation (NSPM), d/b/a Xcel Energy requests authorization of an alternative to the examination coverage requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for the Monticello Nuclear Generating Plant.

This 10 CFR 50.55a request is for weld examinations performed during the 2013 refueling outage, where the required coverage of "essentially 100 percent" could not be obtained when examined to the extent practical. The basis for the 10 CFR 50.55a request is that compliance with the examination coverage requirement is impractical due to plant design. The details of the 10 CFR 50.55a request are provided herein.

NSPM submits this request for the Fifth Ten-Year Inservice Inspection Interval and requests approval by June 6, 2015

If you have any questions or require additional information, please contact Mr. Randy Rippy at 612-330-6911.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

Karen D. Fili
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosures (4)

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC
Minnesota Department of Commerce

ENCLOSURE 1

10 CFR 50.55a REQUEST RR-009
IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
INSERVICE INSPECTION IMPRACTICALITY

1. ASME Code Component(s) Affected

Components affected for this request are American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, Class 1, Reactor Pressure Vessel (RPV) nozzle-to-vessel welds specified below and in Table A of Enclosure 2. This request is based on examinations that were performed during the 2013 refueling outage which was in Period 1 of the Fifth Ten-Year Interval that began on September 1, 2012.

Recirculation Suction Nozzle N-1A:	Weld N-1A NV
Recirculation Inlet Nozzle N-2D:	Weld N-2D NV
Feedwater Inlet Nozzle N-4C:	Weld N-4C NV
Core Spray Inlet Nozzle N-5B:	Weld N-5B NV
Jet Pump Instrumentation Nozzle N-8A:	Weld N-8A NV

2. Applicable ASME Section XI Code Edition and Addenda

The applicable ASME Section XI Code for the Monticello Nuclear Generating Plant (MNGP) Fifth Ten-Year Inservice Inspection (ISI) Interval is the 2007 Edition with the 2008 Addenda. ASME Section XI, Appendix VIII requirements are implemented as required by, and as modified by 10 CFR 50.55a. Ultrasonic procedures and personnel are qualified to the Performance Demonstration Initiative (PDI). The PDI Program document meets the requirements of 10 CFR 50.55a up through the 2007 Edition with 2008 Addenda of Section XI.

3. Applicable Code Requirements

ASME Class 1 Reactor Vessel welds are subject to the examination requirements of Subsection IWB, Table IWB-2500-1, as shown below, and by 10 CFR 50.55a(b)(2)(xv)(G). The welds are required to be examined once within the Fifth Ten-Year Interval:

Code Class:	1
References:	IWB-2500, Table IWB-2500-1
Examination Category:	B-D, Full Penetration Welded Nozzles in Vessels
Item Number:	B3.90
Description:	Nozzle-to-Vessel Welds
Component Numbers:	See Section 1 (above) and Enclosure 2 Table A
System:	Reactor Vessel
Examination Method:	Volumetric - Ultrasonic Testing (UT)
Examination Volume:	Figure IWB-2500-7(b)

In 2010, the Nuclear Regulatory Commission (NRC) issued Regulatory Guide (RG) 1.147, Revision 16, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1" (Reference 1). In RG 1.147, the NRC identifies the ASME Code Cases they have determined to be acceptable alternatives to applicable parts of Section XI, and indicate that licensees may use these Code Cases without requesting authorization from the NRC, provided that they are used with any identified limitations or modifications. RG 1.147, Table 1 lists Code Case N-613-1 (Reference 2) as acceptable to the NRC for use by a licensee with no identified limitations or modifications.

Code Case N-613-1, as an alternative to Figure IWB-2500-7(b) required for RPV nozzle-to-vessel welds, permits an examination volume that includes the width of the weld plus one-half inch of adjacent base metal on each side of the widest part of the weld. In comparison, the examination volume required by the Figure IWB-2500-7(b) includes the width of the weld plus the adjacent base metal on each side of the widest part of the weld equal to one-half of the vessel shell wall thickness.

When the Code required examination volume cannot be met, provisions in ASME Section XI Code, Non-Mandatory Appendix S "Evaluating Coverage for Section XI Nondestructive Examination" may be used as a guideline to determine examination coverage. Article S-3000, specifically Sub-Article S-3500, provides examination coverage evaluation guidelines for ultrasonic examination of welds.

NRC Information Notice (IN) 98-42 (Reference 3) addresses conditions when ASME Code examination coverage is less than "essentially 100%" and provides a definition for "Essentially 100 Percent." IN 98-42 states in part,

> 'The NRC has adopted and further refined the definition of "essentially 100 percent" to mean "greater than 90 percent"... This standard has been applied to all examinations of welds or other areas required by ASME Section XI.'

4. Impracticality of Compliance

Construction Permit CPPR-31 was obtained for the MNGP in 1967. The MNGP systems and components were designed for construction before the examination requirements of ASME Section XI were formalized and published. Therefore, MNGP was not specifically designed to meet the requirements of ASME Section XI and full compliance is not feasible or practical within the limits of the current plant design.

10 CFR 50.55a recognizes the limitations to inservice inspection of components in accordance with Section XI of the ASME Code imposed due to early plants' design and construction, as follows:

10 CFR 50.55a(g)(1): For a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components (including supports) must meet the requirements of paragraphs (g)(4) and (5) of this section to the extent practical.

10 CFR 50.55a(g)(4): Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and pre-service examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code ... to the extent practical within the limitations of design, geometry and materials of construction of the components.

10 CFR 50.55a(g)(5)(iii): If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4, information to support the determinations.

The inspection limitations on the subject components are due to inherent component design geometric contours and physical scanning obstructions (see Enclosure 2 Table A and Enclosure 3).

A description of the examination methodology used to achieve the examination coverage is provided in Section 6 of this request. The methodology is based on ASME Section XI, Appendix VIII qualification and was applied to the extent practical within the design constraints of the components. Enclosure 3 provides cross-sectional diagrams of the subject welds showing the geometric contour of the component design in relation to the welds and the coverage obtained within the examination volume requirements of Code Case N-613-1, Figure 2 for the RPV nozzle-to-vessel shell welds.

5. Burden Caused by Compliance

Compliance with the examination coverage requirements of ASME Section XI would require modification, redesign, or replacement of components where geometric contour and physical obstruction is inherent to the component design and installation.

6. Proposed Alternative and Basis for Use

Proposed Alternative

In accordance with 10 CFR 50.55a(g)(5)(iii), relief is requested for the components listed in Table A of Enclosure 2 on the basis that the required examination coverage of "essentially 100 percent" is impractical due to physical obstructions and the limitations imposed by design, geometry and materials of construction.

Northern States Power Company – Minnesota (NSPM) performed volumetric examinations that achieved the maximum, practical amount of coverage obtainable within the limitations imposed by the design of the components with no detected indications.

Pursuant to 10 CFR 50.55a(g)(5)(iii), NSPM requests authorization of an alternative to the examination coverage requirements of ASME Section XI Table IWB-2500-1, Category B-D, Item B3.90, and proposes to utilize these completed exams as acceptable alternatives that provide reasonable assurance of continued structural integrity.

Basis for Use

Nozzle-to-vessel shell welds (N-1A NV, N-2D NV, N-4C NV, N-5B NV, N-8A NV): The NSPM Nondestructive Examination (NDE) UT procedures incorporate inspection techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI.

Examinations of the RPV nozzle-to-shell welds were performed from the Reactor Vessel exterior surface using a manual contact method from the nozzle blend radius, the nozzle-to-vessel shell weld, and vessel shell surface. Coverage using the alternative examination volume permitted by Code Case N-613-1 was obtained by following the scan parameters designated within NSPM NDE procedures for each nozzle configuration and angle, including those parameters defined by MNGP-specific Electric Power Research Institute (EPRI) computer modeling report (Reference 4). It should be noted that the scans defined by the EPRI report are only applicable to the inner 15 percent of the weld volume when scanning in the parallel (circumferential) direction.

The refracted longitudinal wave mode of propagation was applied for all radial (axial) scans of the exam volume. The refracted longitudinal wave mode of propagation was also applied to the outer 85 percent of the exam volume for parallel scans. As required by the NSPM NDE procedures and the EPRI computer modeling report, the shear wave mode of propagation was applied for each of the transducer and wedge combinations required for the remaining inner 15 percent of the parallel scan exam volume.

The subject nozzle-to-vessel welds received the required examination(s) to the extent practical within the limited access of the component design. One hundred percent coverage was obtained for the inner 15 percent of the examination volume for the radial and parallel scans. The examination limitations for the subject components were encountered within the outer 85 percent of the examination volume for the parallel and radial scans. For the examinations conducted, satisfactory results were achieved, and no flaw indications were detected.

Due to the design of these nozzle-to-shell welds, it was not feasible to effectively perform a volumetric examination of "essentially 100 percent" of the required volume. The nozzle-to-vessel welds are accessible from the vessel plate side of the weld and are examined to the extent practical with qualified techniques, however, the curvature of the nozzle forging and proximity to the weld and physical obstructions preclude obtaining further coverage of the excluded areas within the outer 85 percent of the examination volume.

Exam coverage determination:
As required by procedure, when limitations to ISI examinations are encountered that prevents obtaining full coverage of a required volume, the limitations are required to be quantified and recorded.

The method used to determine coverage is based on field measurements applied to a two dimensional plot. This allows an informed approximation to be made of the coverage achieved. The methodology is appropriate to the application in that the limitations are physical and the methods applied to the examination are established by the qualified techniques.

The coverage drawings in Enclosure 3 give a representation of the examination volume and the weld interface line shown in Figure 2 of Code Case N-613-1 for the nozzle-to-vessel welds. The areas of examination volume coverage and areas of no examination coverage are identified on the respective drawing for each nozzle. The contour on the exterior surface of the nozzles causes transducer liftoff and inhibits the ability to maintain adequate coupling necessary to transmit and receive the ultrasonic sound energy.

Additional coverage with meaningful results was not achievable or practical for the limited areas with implementation of performance based examination methods without redesigning and modifying the components to allow additional scanning surfaces. NSPM has concluded that if significant service-induced degradation existed in the subject welds, it would have been identified by the examinations performed.

Per 10 CFR 50.55a(g)(1) and (4), each of the subject welds were examined to the extent practical.

For comparison with current results, Table B of Enclosure 4 provides historical examination results from Interval 4 for the subject welds, including coverage information and approved 10CFR50.55a Requests. The coverage obtained for the 4th Interval exams was the same as that obtained for the current exams, as listed in Enclosure 2, Table A.

Materials, Aging Management, Similar Components:
The materials for the subject components are A508 Cl II nozzle forgings welded to A533 Cl I vessel shell plate. The weld filler material for the subject joints was E8018NM. Internal surface cladding materials are E309-15 for the base layer, and ER308L or E308L-15 for subsequent layers.

The MNGP reactor vessel water chemistry is controlled in accordance with the 2008 revision to the BWR Water Chemistry Guidelines (Reference 5). Hydrogen water chemistry system is used to reduce the oxidizing environment in the reactor coolant. Beginning in 2013, MNGP has also implemented Online Noble-Metal Chemistry. These additional measures provide added assurance against the initiation of cracking or corrosion from the inside surface of the reactor vessel. An inerted primary containment environment during operation provides assurance of corrosion protection on the outside surface of the reactor vessel.

Additionally, as Class 1 Examination Category B-P components, system pressure testing with VT-2 examinations are required every outage prior to startup. The VT-2 examinations were performed on the subject components in association with the Reactor Coolant Pressure Boundary (RCPB) system pressure test performed during the 2013 refueling outage. No evidence of pressure boundary leakage was identified during this system test.

Twenty nozzle-to-vessel welds, as shown in Table C of Enclosure 4, were examined during in the 4th Interval with limitations to coverage, and relief was granted by the NRC pursuant to 10 CFR 50.55a(g)(6)(i).

Summary:
The provisions described above, as an alternative to the Code requirement for examination coverage, will continue to provide reasonable assurance of the structural integrity of the subject welds. The volumetric examinations were completed to the extent practical and no unacceptable flaws were identified. VT-2 examinations performed on the subject components during system pressure testing each refueling outage in accordance with Examination Category B-P provide continued assurance that the structural integrity of the subject components is maintained. Additionally, the MNGP Water Chemistry Program and inerted primary containment environment provide added measures of protection for the component materials.

Twenty nozzle-to-vessel welds, as shown in Table C of Enclosure 4, were examined during in the 4th Interval with limitations to coverage, and relief was granted by the NRC pursuant to 10 CFR 50.55a(g)(6)(i).

Therefore, pursuant to 10 CFR 50.55a(g)(5)(iii), NSPM requests that the NRC grant relief from the ASME Section XI examination requirements for the subject nozzle-to-vessel welds.

7. Duration of Proposed Alternative

NSPM requests the granting of this relief for the Fifth Ten-Year Inservice Inspection Interval of the Inservice Inspection Program for the MNGP which is scheduled to conclude on May 31, 2022.

8. Precedents

The NRC has granted relief for other nozzle-to-vessel shell welds at the MNGP during the 4th Interval for the same type of limited examination coverage (References 6, 7, and 8).

REFERENCES FOR ENCLOSURE 1

1. Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 16, October 2010.

2. ASME Section XI Code Case N-613-1, "Ultrasonic Examination of Full Penetration Nozzles in Vessels, Examination Category B-D, Item No's. B3.10 and B3.90, Reactor Nozzle-To-Vessel Welds, Figures IWB-2500-7(a), (b), and (c), Section XI, Division 1."

3. NRC Information Notice 98-42, "Implementation of 10 CFR 50.55a(g) In-service Inspection Requirements."

4. EPRI Internal Report IR-2004-63, "Monticello Nozzle Inner Radius and Nozzle-to-Shell Weld Examinations," dated December 2004.

5. "BWRVIP-190: BWR Vessel and Internals Project, BWR Water Chemistry Guidelines - 2008 Revision," EPRI Report 1016579, October 2008.

6. NRC letter to NMC, "Monticello Nuclear Generating Plant (MNGP) - Fourth 10-Year Interval Inservice Inspection (ISI) Program Plan Relief Request No. 13 (TAC No. MC8882)," dated July 18, 2006 (ADAMS Accession No. ML061780172).

7. NRC letter to NMC, "Monticello Nuclear Generating Plant (MNGP) – Granting of Relief Regarding Limited Ultrasonic Examination Coverage of Five Welds (TAC No. MD6854)," dated May 19, 2008 (ADAMS Accession No. ML081050678).

8. NRC letter to MNGP, "Monticello Nuclear Generating Plant (MNGP) – Request for Relief No. 19 Concerning Examination Coverage of Certain Reactor Vessel Nozzle-to-Vessel Welds (TAC No. ME3937)," dated December 21, 2010 (ADAMS Accession No. ML103400651).

ENCLOSURE 2

10 CFR 50.55a REQUEST RR-009
IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
INSERVICE INSPECTION IMPRACTICALITY

TABLE A

2013 Refueling Outage, Summary of Exams, Essentially 100 Percent Coverage Not Obtained

Category B-D, "Full Penetration Welds of Nozzles in Vessels," Item No. B3.90, Nozzles N1A, N2D, N4C, N5B and N8A

Code Category and Item No.	System and Component Description	Component ID	Code Component and Examination Volume Required	Percent Coverage Obtained	Limitations	Indications Reported	Exam Report Numbers
B-D B3.90	Reactor Vessel, Recirculation Suction Nozzle N-1A	N-1A NV	Nozzle-to-Vessel Weld, Code Case N-613-1 Figure 2	83%	Limited due to nozzle configuration	None	2013UT040 2013UT041
B-D B3.90	Reactor Vessel, Recirculation Inlet Nozzle N-2D	N-2D NV	Nozzle-to-Vessel Weld, Code Case N-613-1 Figure 2	82%	Limited due to nozzle configuration	None	2013UT039 2013UT043
B-D B3.90	Reactor Vessel, Feedwater Inlet Nozzle N-4C	N-4C NV	Nozzle-to-Vessel Weld, Code Case N-613-1 Figure 2	79%	Limited due to nozzle configuration	None	2013UT032 2013UT035
B-D B3.90	Reactor Vessel, Core Spray Inlet Nozzle N-5B	N-5B NV	Nozzle-to-Vessel Weld, Code Case N-613-1 Figure 2	81%	Limited due to nozzle configuration	None	2013UT031 2013UT034
B-D B3.90	Reactor Vessel, Jet Pump Instrumentation Nozzle N-8A	N-8A NV	Nozzle-to-Vessel Weld, Code Case N-613-1 Figure 2	83%	Limited due to nozzle configuration	None	2013UT038 2013UT042

ENCLOSURE 3

10 CFR 50.55a REQUEST RR-009
IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
INSERVICE INSPECTION IMPRACTICALITY

EXAM LIMITATIONS IMPOSED BY COMPONENT DESIGN AND CONSTRUCTION

This enclosure contains a series of excerpts from the Inservice Inspection (ISI) Ultrasonic Testing (UT) reports applicable to the subject components.

These excerpts contain sketches depicting the component configuration with physical limitations imposed by the design, e.g., geometrical contour, weld position, interferences, and a cross sectional view depicting the UT coverage and limitations in relation to the required examination volume.

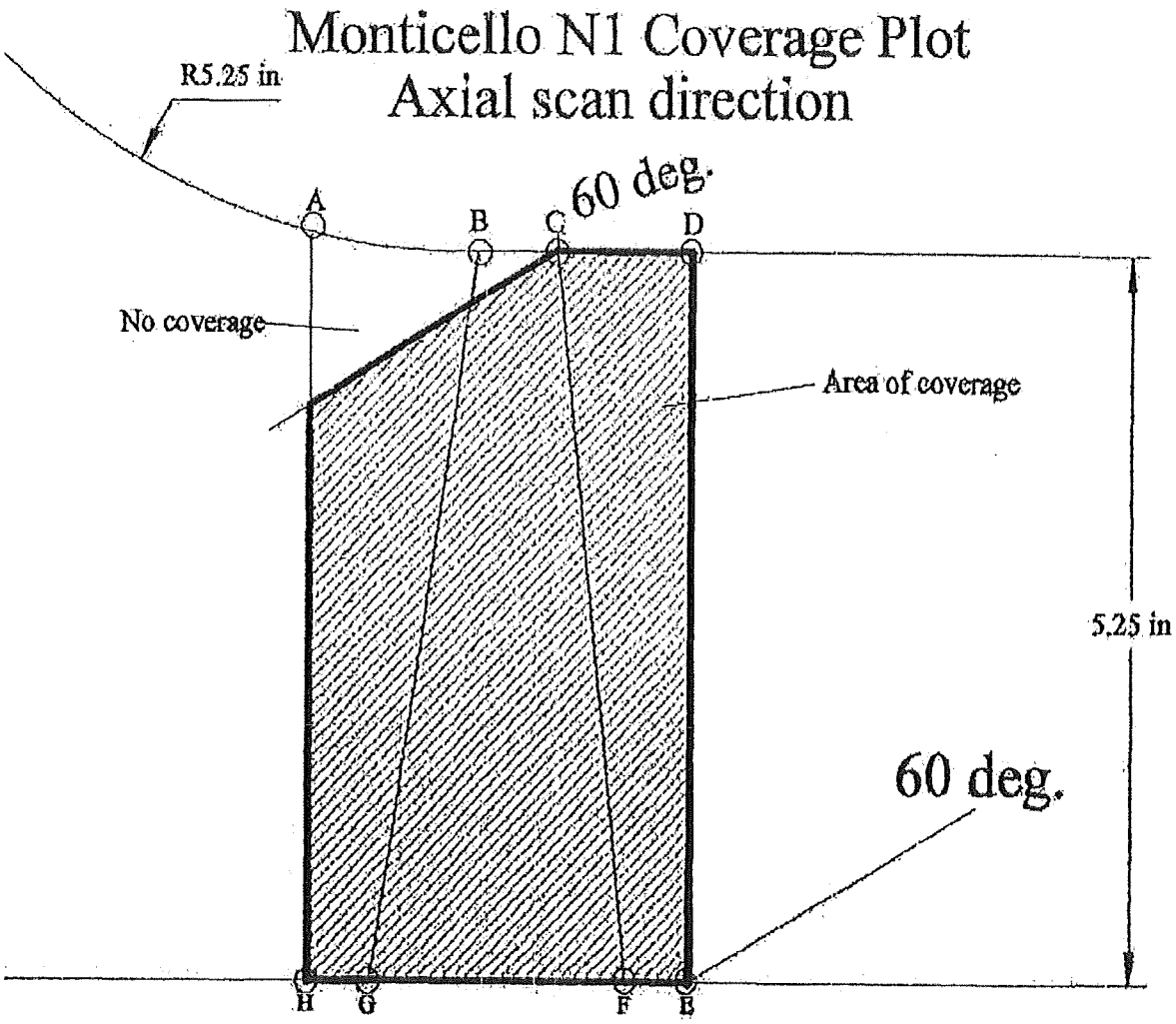
Detail is also provided to describe the various assembly components including reference to the internal and external reactor pressure vessel (RPV) surfaces.

COMPONENT ID	REPORT	PAGE(S)
N-1A NV	2013UT040	Pages 2-5
N-2D NV	2013UT039	Pages 6-8
N-4C NV	2013UT032	Pages 9-10
N-5B NV	2013UT031	Pages 11-13
N-8A NV	2013UT038	Pages 14-15

COVERAGE DRAWINGS EXCERPTED FROM APPLICABLE REPORTS

Component N-1A NV **Axial (Radial) Scan Plot** **Report # 2013UT040**

Xcel Energy® **Supplemental Report** Report No.: 2013UT040



NOTES: Nozzle on left side of weld; RPV shell on right side of weld. Exterior of vessel at the top; Interior of vessel at the bottom. Shaded area indicates exam coverage obtained. See following 2 pages with exception for thermocouple interference.

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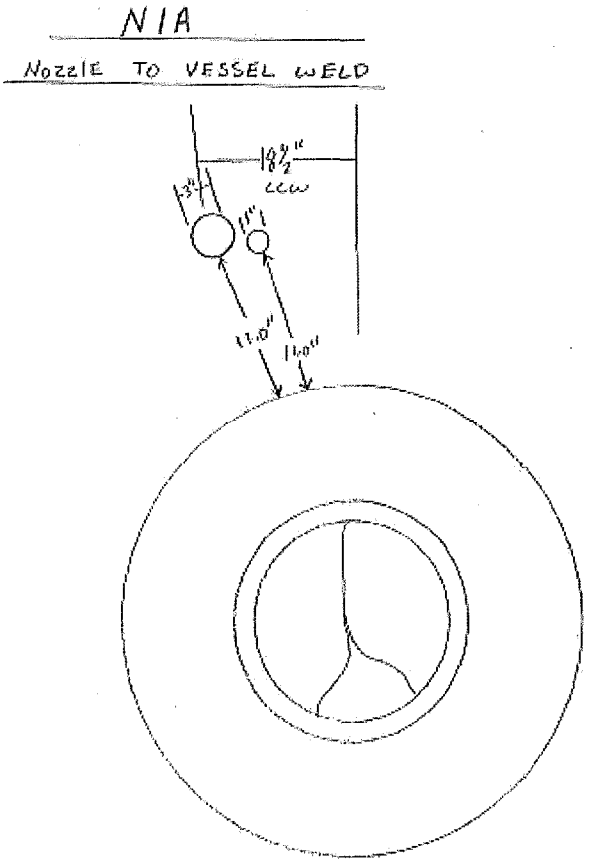
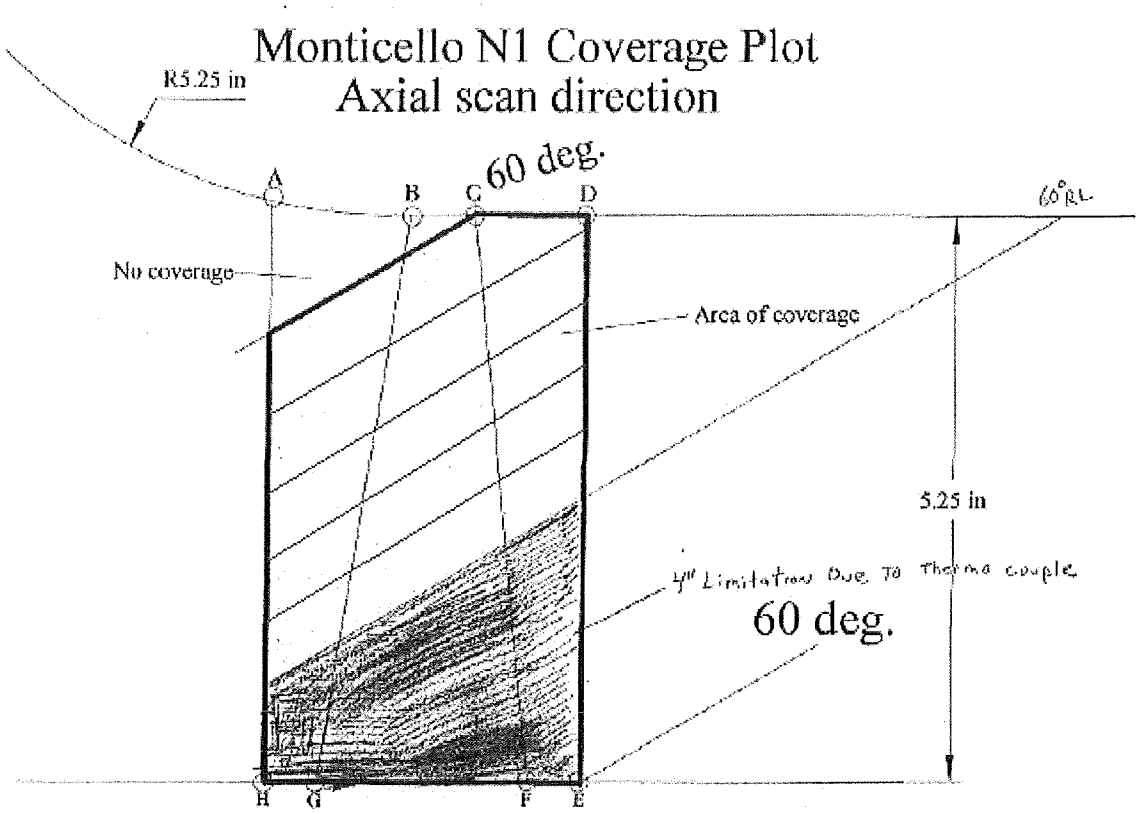
Supplemental Report

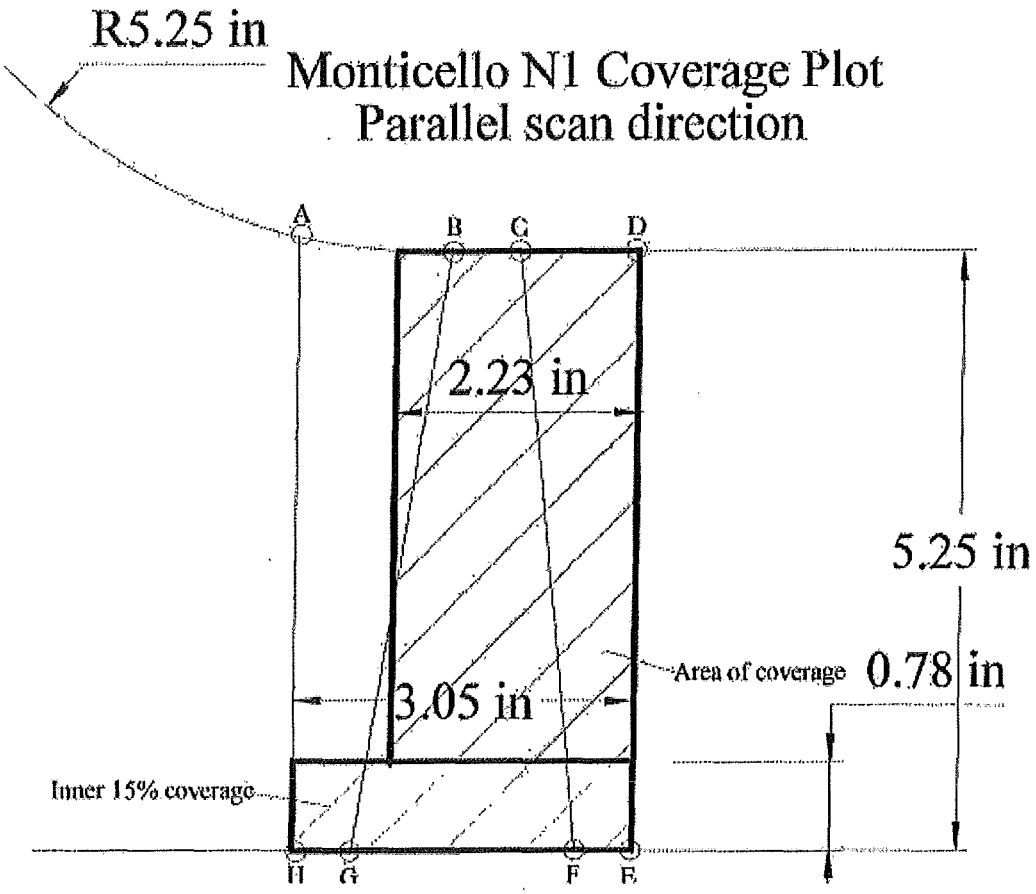
Report No.: 2013UT040



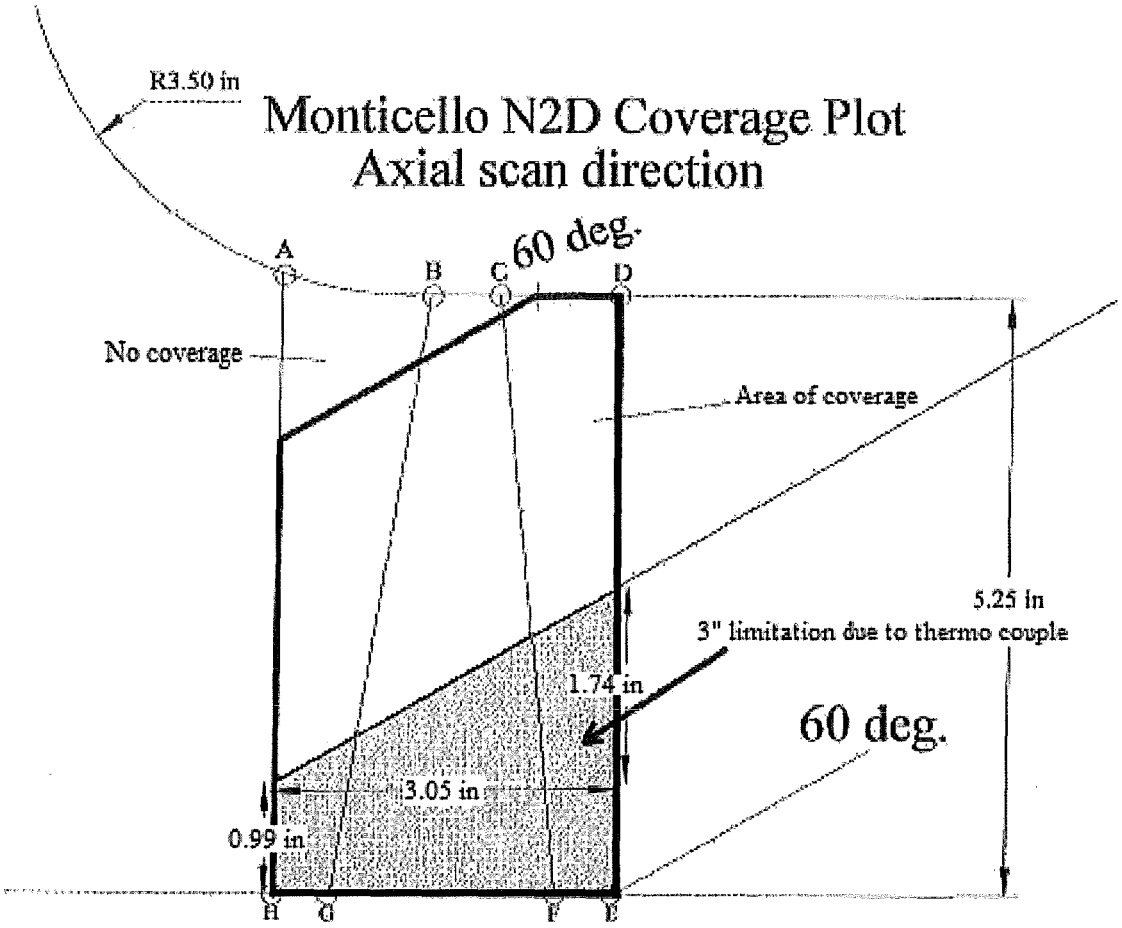
NOTES: View looking at nozzle.
4" limitation at back of scan due to thermocouples. See next page for cross-sectional view.



NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Area of coverage, noted in slash patterned area at the top.
4" wide area of no coverage at back of scan due to thermocouples is noted in the shaded area at the bottom.

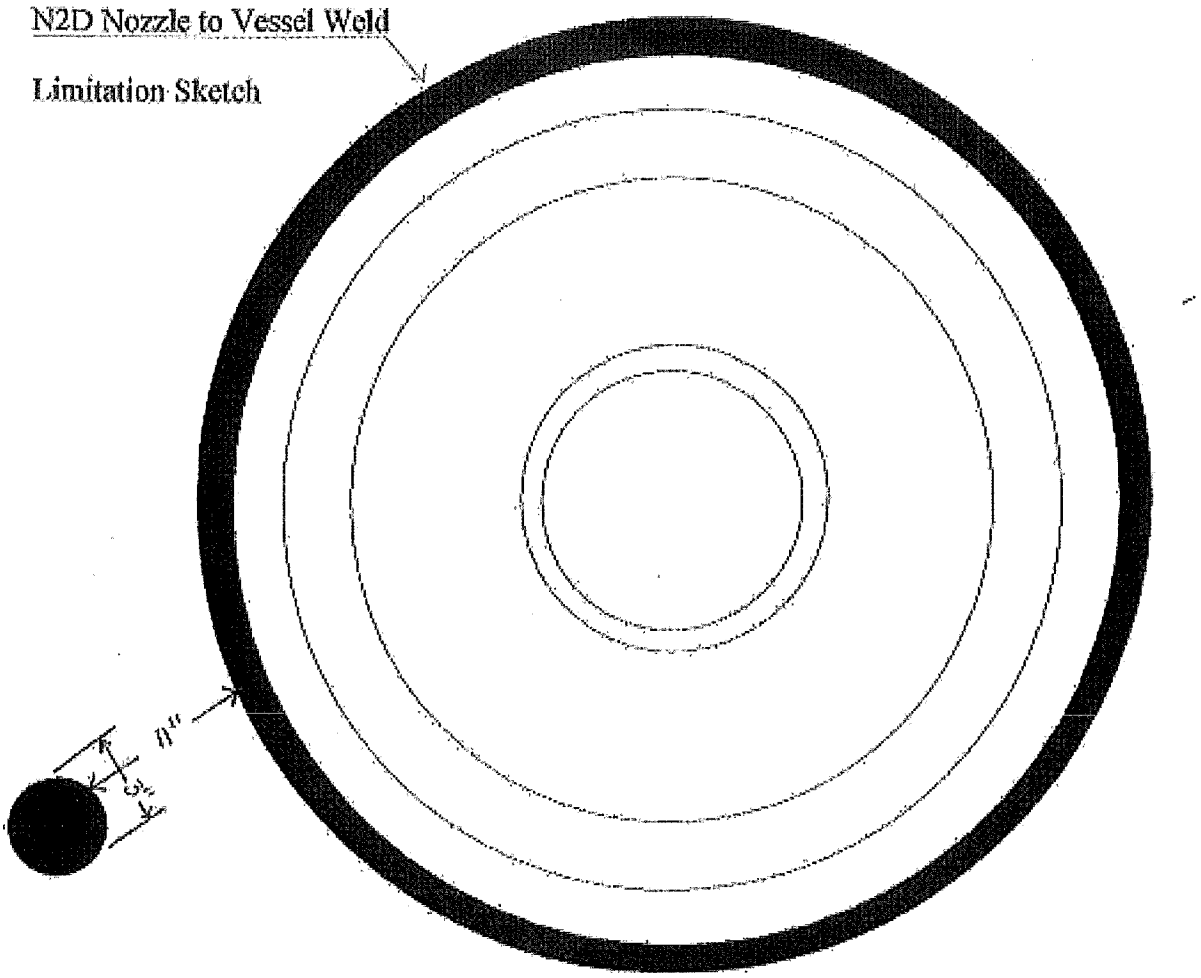


NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.
Report No. 2013UT041 applicable to Inner 15% for circ scan.

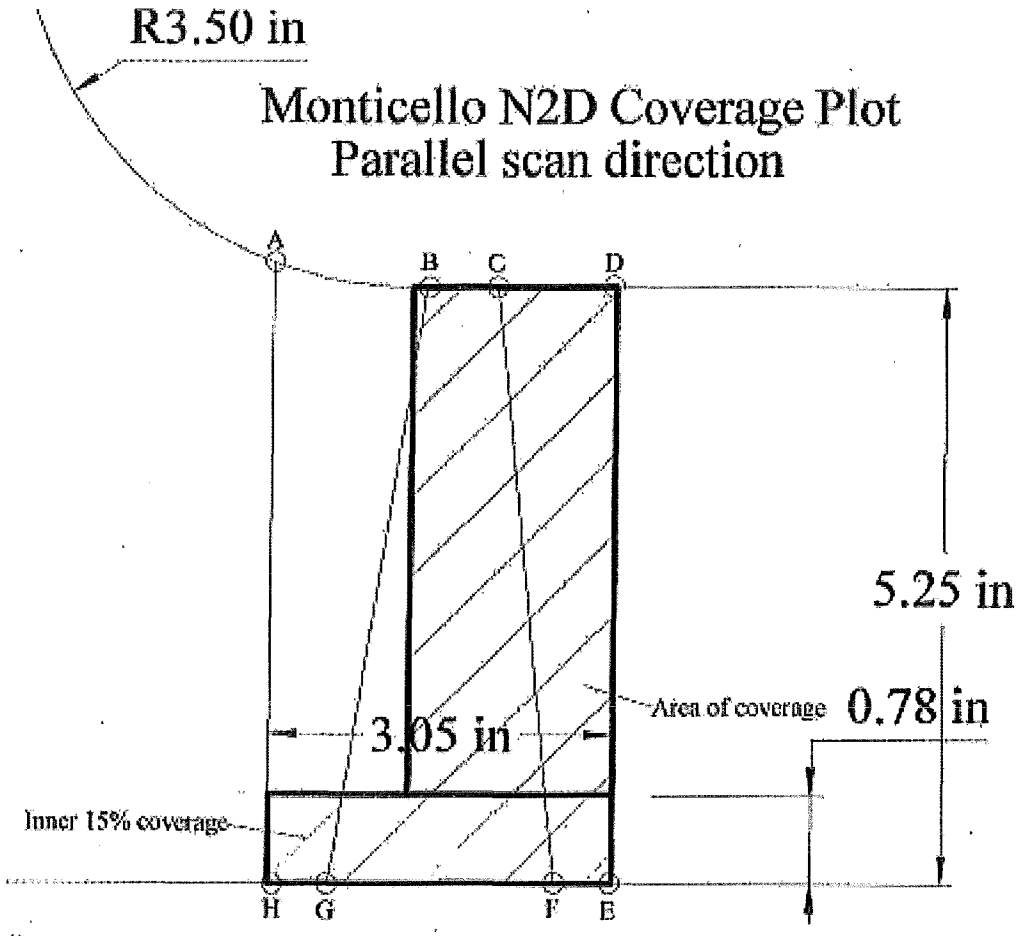


NOTE: Nozzle on left side of weld; RPV shell on right side of weld. Exterior of vessel at the top; Interior of vessel at the bottom. Area of coverage, outlined with bold lines with exception of a 3" wide area of no coverage at the back of the scan due to a thermocouple, is indicated by the shaded area.

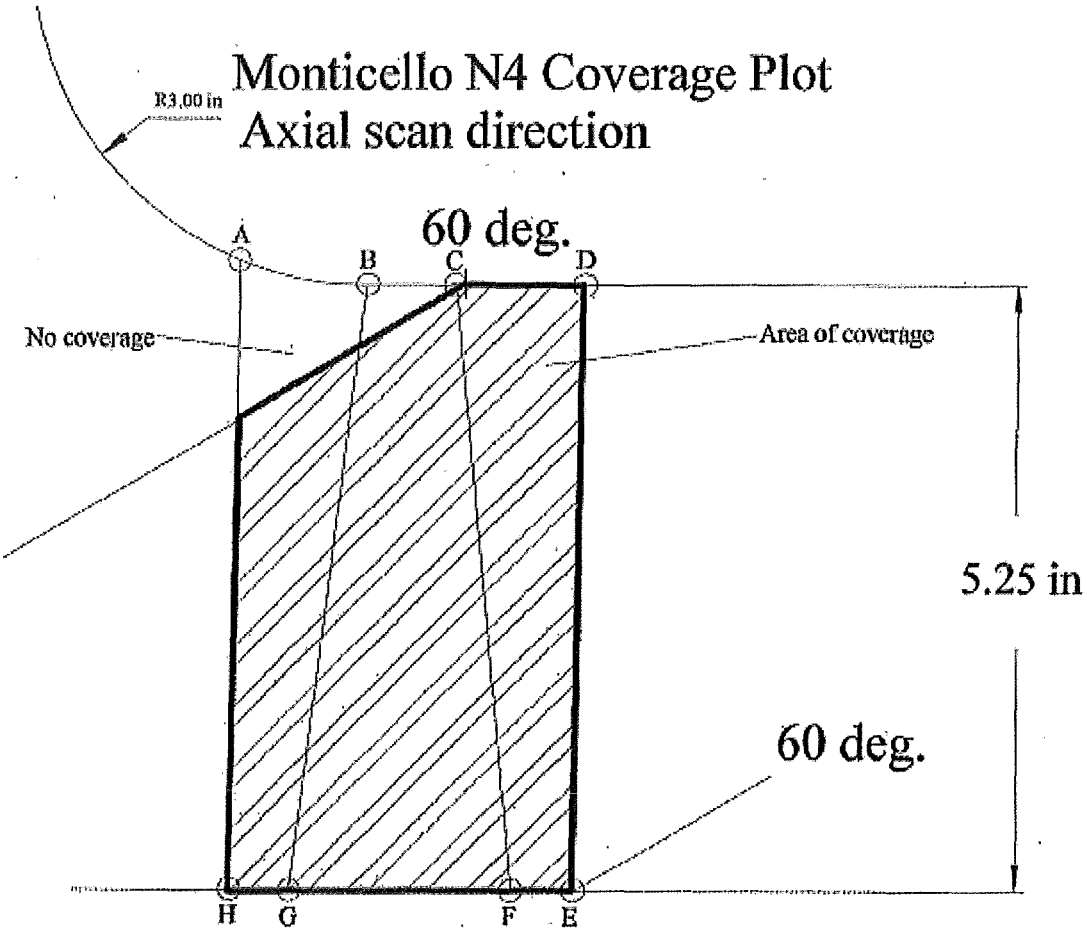
Xcel Energy® **Supplemental Report** Report No.: 2013UT039



NOTES: View looking at nozzle.
3" limitation at back of scan due to thermocouple. See previous page for cross-sectional view.

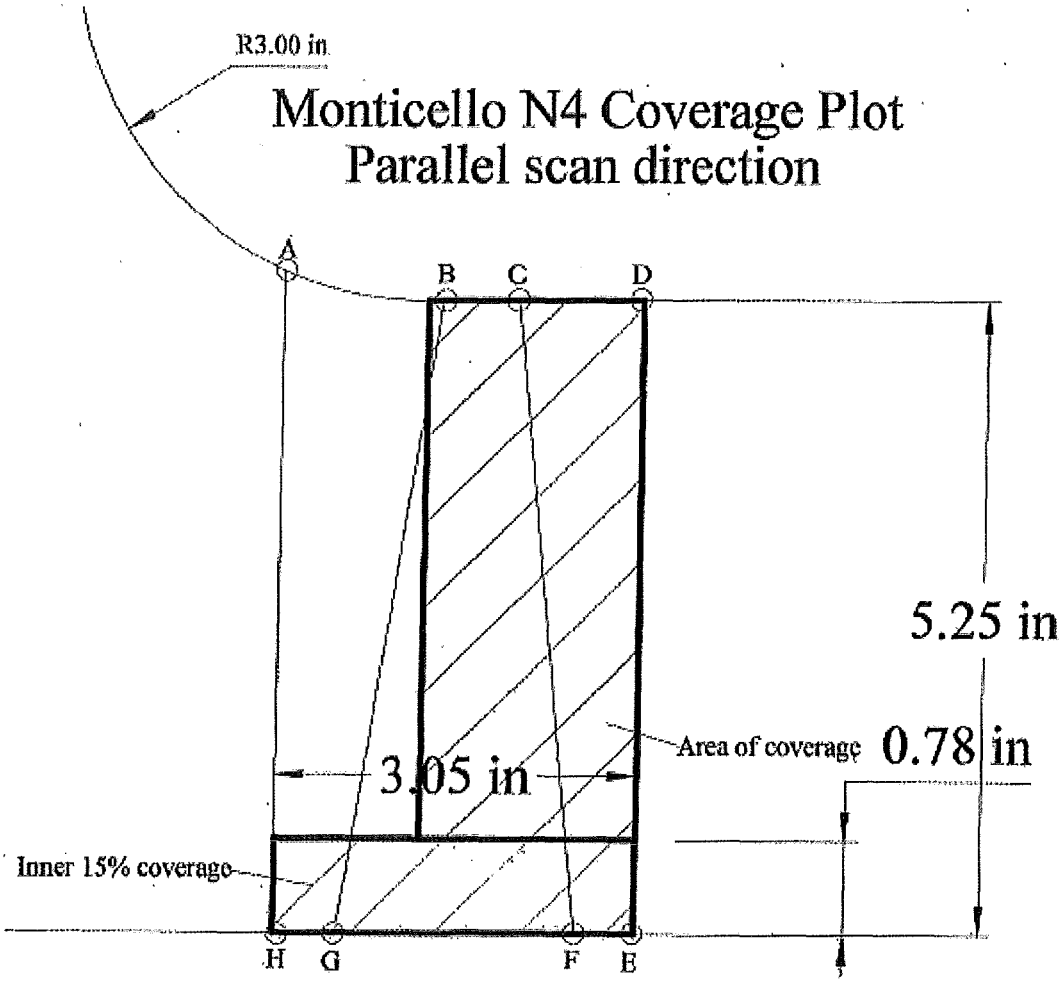


NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.
Report No. 2013UT043 applicable to Inner 15% for circ scan



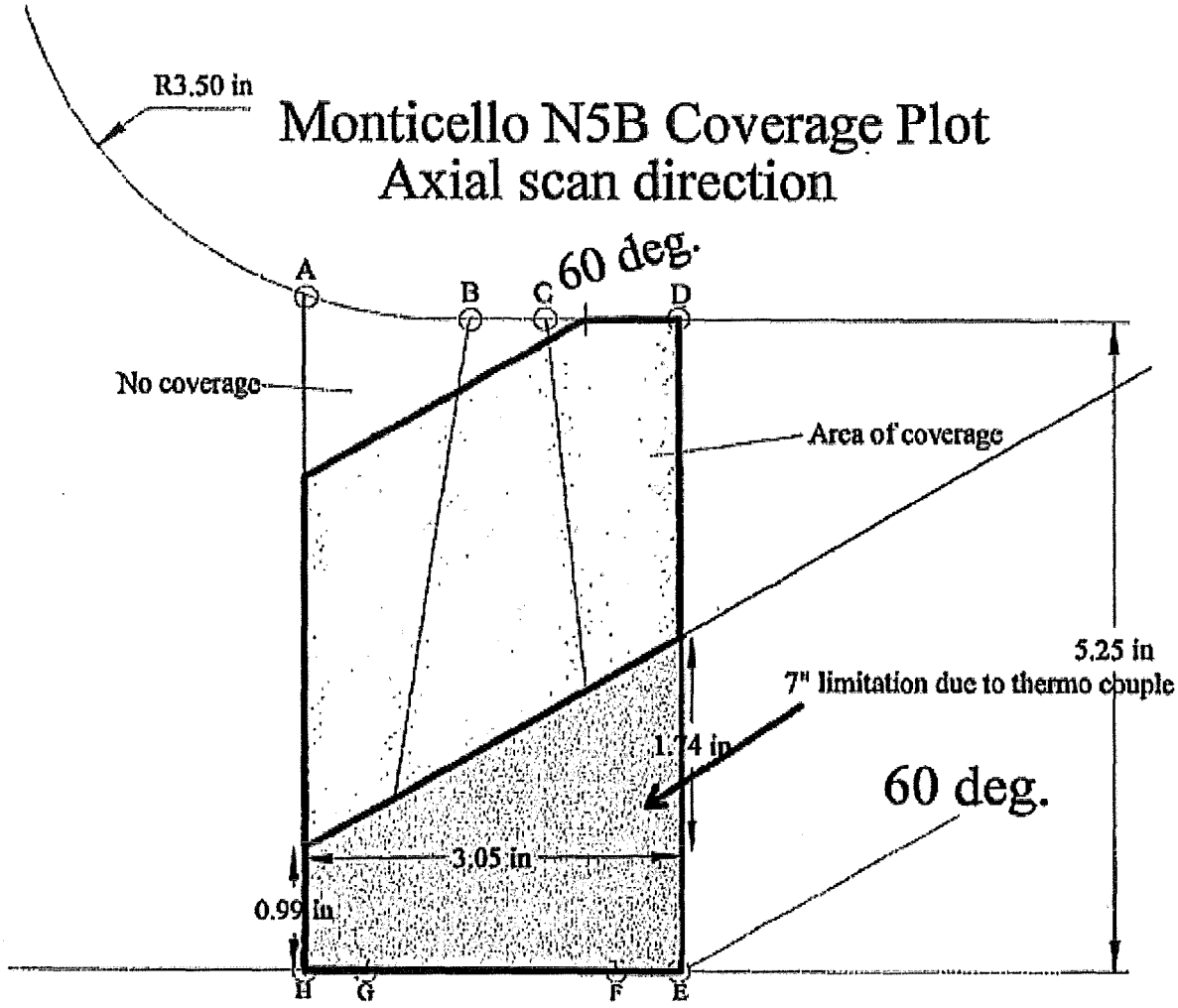
NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.

Xcel Energy® **Supplemental Report** Report No.: 2013UT032



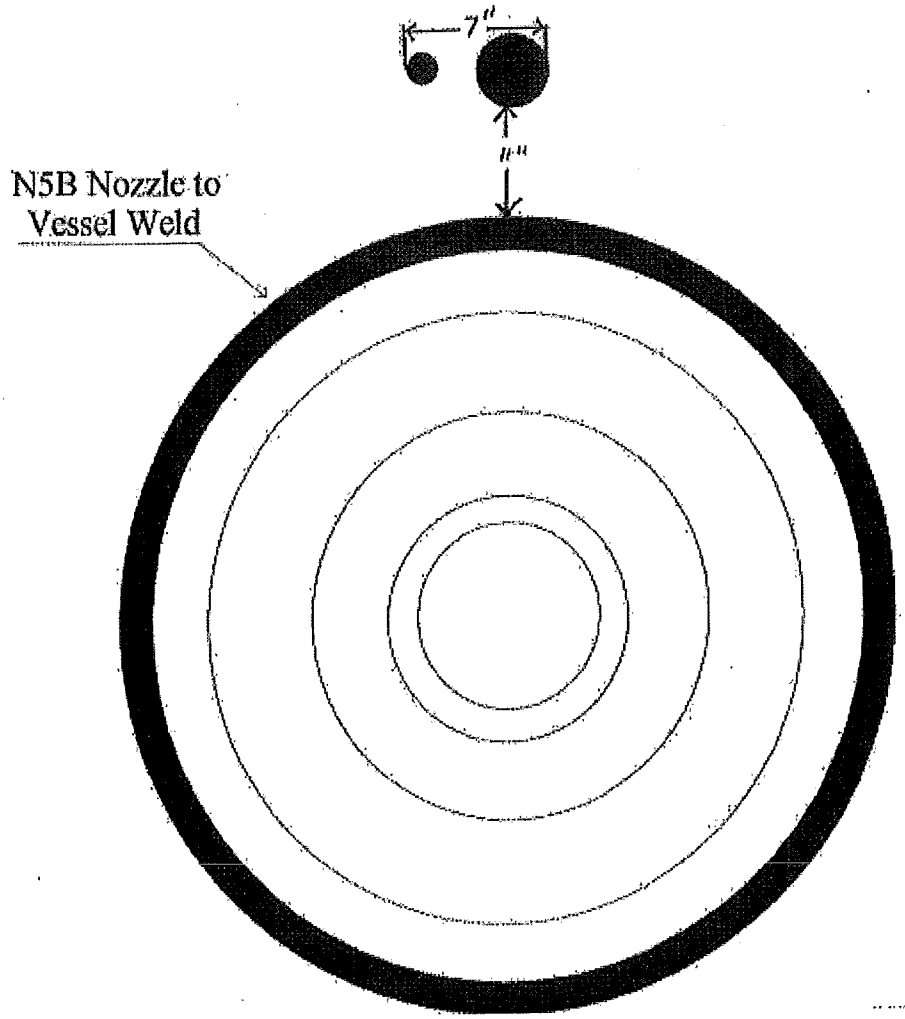
NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.
Report No. 2013UT035 applicable to Inner 15% for circ scan

Xcel Energy® **Supplemental Report** Report No.: 2013UT031

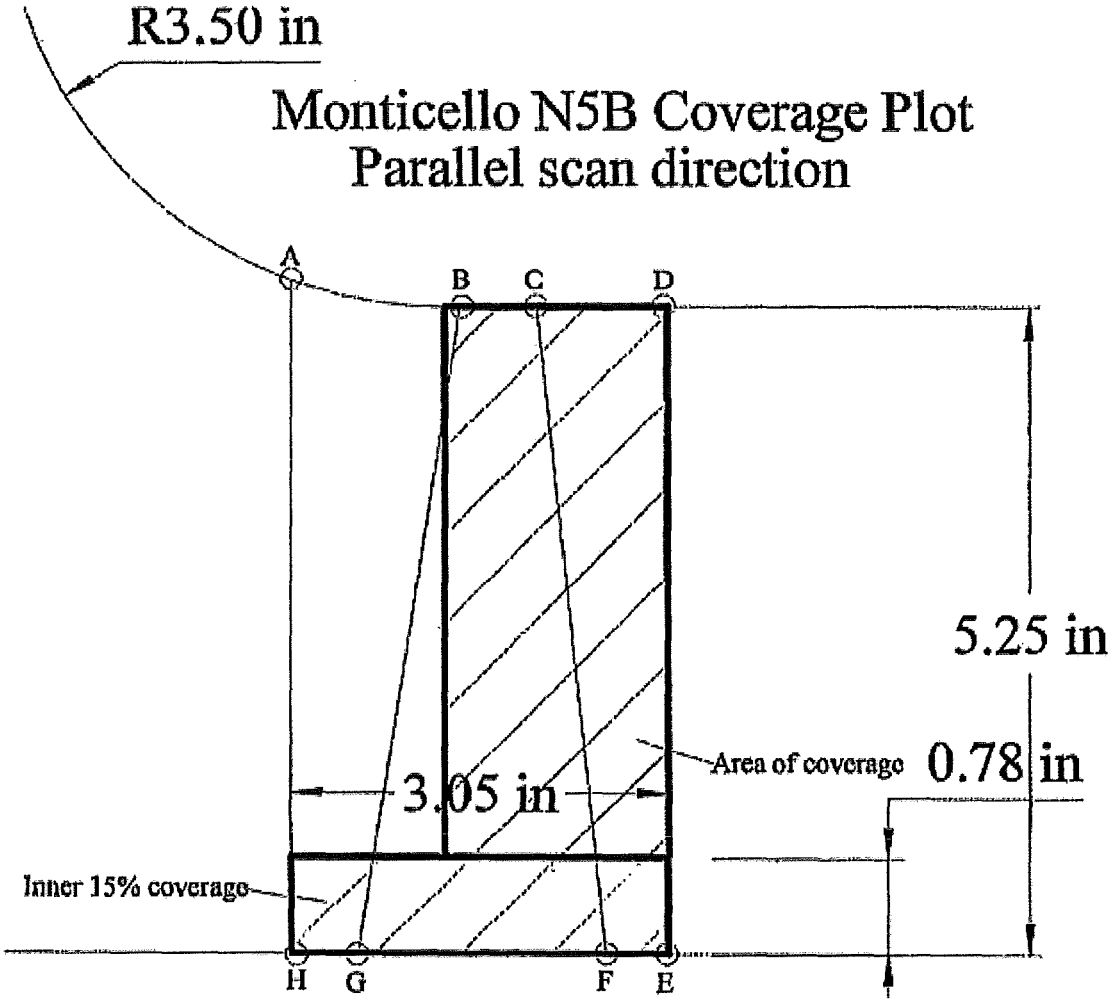


NOTE: Nozzle on left side of weld; RPV shell on right side of weld. Exterior of vessel at the top; Interior of vessel at the bottom. Area of coverage, outlined with bold lines with exception of a 7" wide area of no coverage at the back of the scan due to a thermocouple, is indicated by the shaded area.

Xcel Energy® **Supplemental Report** Report No.: 2013UT031

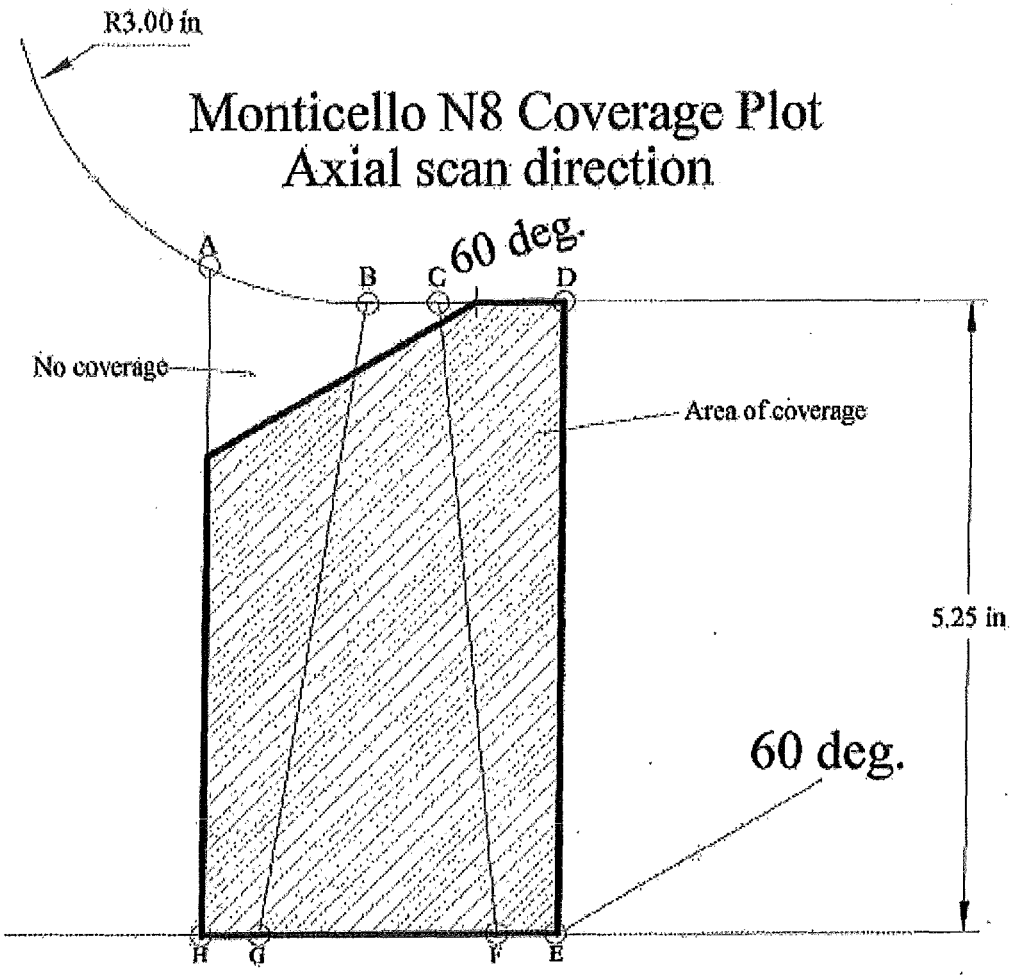


NOTES: View looking at nozzle.
7" limitation at back of scan due to thermocouple. See previous page for cross-sectional view.



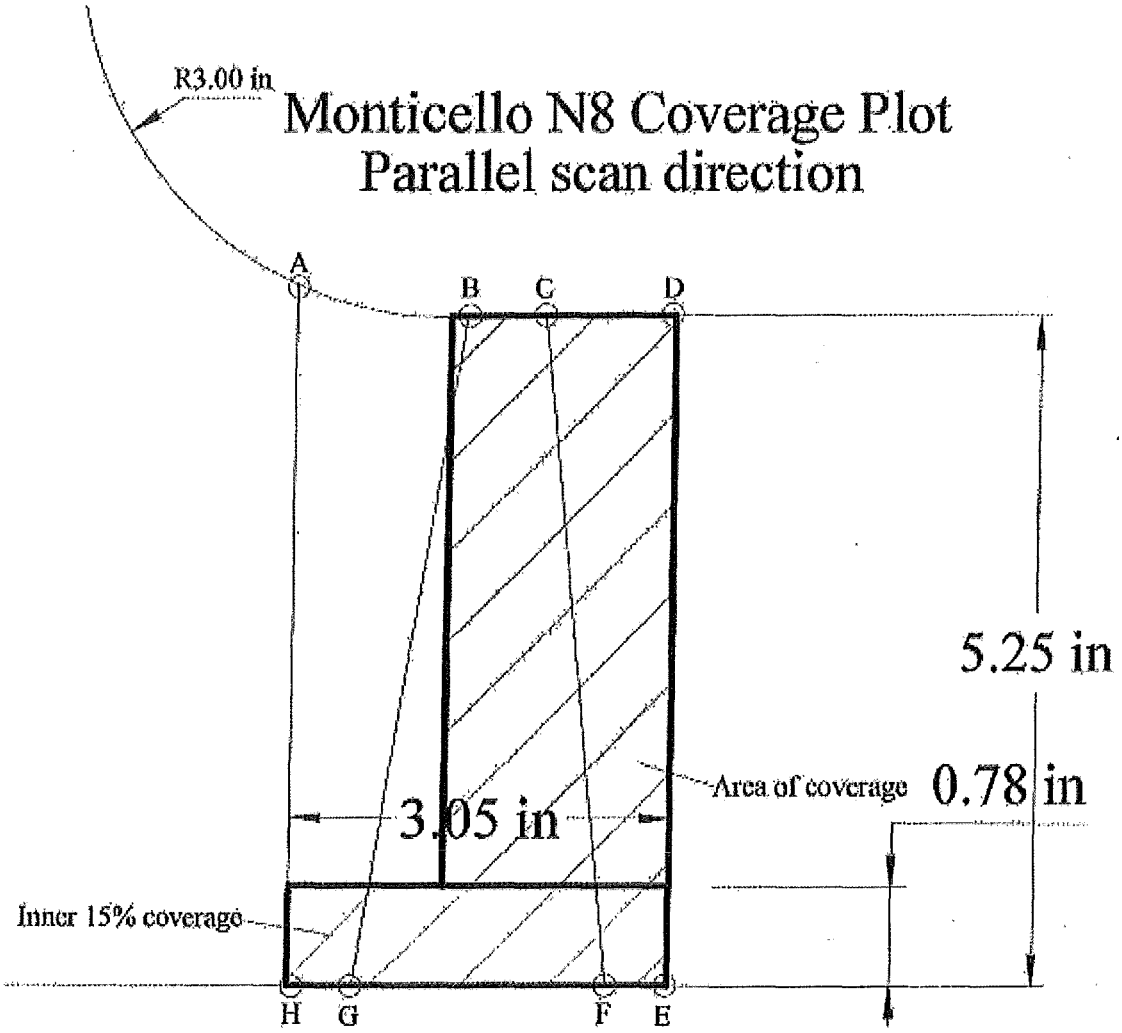
NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.
Report No. 2013UT034 applicable to Inner 15% for circ scan

Xcel Energy® **Supplemental Report** Report No.: 2013UT038



NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.

Xcel Energy® **Supplemental Report** Report No.: 2013UT038



NOTES: Nozzle on left side of weld; RPV shell on right side of weld.
Exterior of vessel at the top; Interior of vessel at the bottom.
Slashed pattern area indicates exam coverage obtained.
Report No. 2013UT042 applicable to Inner 15% for circ scan

ENCLOSURE 4

10 CFR 50.55a REQUEST RR-009
IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
INSERVICE INSPECTION IMPRACTICALITY

Table B: Historical 4th Interval Examination Information Applicable to 5th Interval 10 CFR 50.55a Request RR-009 Components Coverage per ASME XI Code Case N-613-1, Figure 2

Weld	Exam Year	Exam Coverage	4th Interval Exam Results	4th Interval 10CFR50.55a Request	4th Interval NRC Approval Date
N-1A NV	2005	83%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N-2D NV	2005	82%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N-4C NV	2005	79%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N-5B NV	2005	81%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N-8A NV	2005	83%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)

Table C: Summary of All 4th Interval Nozzle–to–Vessel Welds With Previously Approved NRC Relief for Exam Limitations

Weld	Exam Year	Exam Coverage	4th Interval Exam Results	4th Interval 10CFR50.55a Request	4th Interval NRC Approval Date
N–1A NV	2005	83%	No flaw indications	RR–13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–2A NV	2009	83%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)
N–2B NV	2007	78%	No flaw indications	RR–15 (Ref. 5)	May 19, 2008 (Ref. 6)
N–2D NV	2005	82%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–2E NV	2005	78%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–2G NV	2007	78%	No flaw indications	RR–15 (Ref. 5)	May 19, 2008 (Ref. 6)
N–2J NV	2005	78%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–3A NV	2005	83%	No flaw indications	ISI RR-13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–3C NV	2009	83%	1 acceptable indication (Note 1)	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)

Note 1: Sub-surface indication initially recorded in 1998 (acceptable, IWB-3512-1); reconfirmed in 2009, no change.

Table C: Summary of All 4th Interval Nozzle–to–Vessel Welds With Previously Approved NRC Relief for Exam Limitations					
Weld	**Exam Year**	**Exam Coverage**	**4th Interval Exam Results**	**4th Interval 10CFR50.55a Request**	**4th Interval NRC Approval Date**
N–4A NV	2007	79%	No flaw indications	RR–15 (Ref. 5)	May 19, 2008 (Ref. 6)
N–4B NV	2009	83%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)
N–4C NV	2005	79%	No flaw indications	RR–13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–5B NV	2005	81%	No flaw indications	RR–13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–6A NV	2007	86%	No flaw indications	RR–15 (Ref. 5)	May 19, 2008 (Ref. 6)
N–6B NV	2009	87%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)
N–7 NV	2009	87%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)
N–8A NV	2005	83%	No flaw indications	RR–13 (Ref. 1)	July 18, 2006 (Ref. 2)
N–8B NV	2009	83%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)
N–9 NV	2007	85%	No flaw indications	RR–15 (Ref. 5)	May 19, 2008 (Ref. 6)
N–10 NV	2009	85%	No flaw indications	RR–19 (Ref. 3)	Dec. 21, 2010 (Ref. 4)

REFERENCES FOR ENCLOSURE 4

1. MNGP letter to NRC, "10 CFR 50.55a Request No. 13: Relief from Impractical Examination Coverage Requirements Pursuant to 10 CFR 50.55a(g)(5)(iii) for the Fourth Ten–Year Inservice Inspection Interval," dated September 27, 2005 (ADAMS Accession No. ML052760169).

2. NRC letter to MNGP, "Monticello Nuclear Generating Plant (MNGP) – Fourth 10-Year Interval Inservice Inspection (ISI) Program Plan Relief Request No. 13 (TAC No. MC8882)," dated July 18, 2006 (ADAMS Accession No. ML061780172).

3. MNGP letter to NRC, "10 CFR 50.55a Request No. 19: Relief from Impractical Examination Coverage Requirements Pursuant to 10 CFR 50.55a(g)(5)(iii) for the Fourth Ten–Year Inservice Inspection Interval," dated May 6, 2010 (ADAMS Accession No. ML101300050).

4. NRC letter to MNGP, "Monticello Nuclear Generating Plant (MNGP) – Request for Relief No. 19 Concerning Examination Coverage of Certain Reactor Vessel Nozzle-to-Vessel Welds (TAC No. ME3937)," dated December 21, 2010 (ADAMS Accession No. ML103400651).

5. MNGP letter to NRC, "10 CFR 50.55a Request No. 15: Relief from Impractical Examination Coverage Requirements Pursuant to 10 CFR 50.55a(g)(5)(iii) for the Fourth Ten–Year Inservice Inspection Interval," dated September 26, 2007 (ADAMS Accession No. ML072710119).

6. NRC letter to MNGP, "Monticello Nuclear Generating Plant (MNGP) – Granting of Relief Regarding Limited Ultrasonic Examination Coverage of Five Welds (TAC No. MD6854)," dated May 19, 2008 (ADAMS Accession No. ML081050678).