May 30, 2002

10 CFR Part 50
Section 50.55a

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Request for Review and Approval of Relief Request Nos. 15 and 16
for the Monticello 3rd 10-Year Interval Inservice Inspection Examination Plan

On November 28, 2001, Nuclear Management Company, LLC (NMC) submitted Revision 4 to the Monticello Third 10-year Inservice Inspection Examination Plan for Monticello. The purpose of this letter is to request review and approval of Inservice Inspection (ISI) Relief Requests No. 15 and 16 to the third 10-year plan.

Relief Request No. 15 addresses American Society of Mechanical Engineers (ASME), Section XI, 1986 Edition, No Addenda, Table IWC-2412-1, Inspection Program B, which requires a distribution of welds in an examination category per interval to be 16%-34% for the first period, 50%-67% for the second period, and 100% by the end of the third period. A selection error during development of the Monticello 3rd 10-Year Interval ISI Examination Plan created a weld inspection distribution different from that required by ASME Code, Section XI, 1986 Edition, No Addenda, Table IWC-2412-1, Inspection Program B. Therefore, Monticello Nuclear Generating Plant is requesting the use of an alternate weld inspection distribution for Category C-F-1 welds for the 3rd 10-Year Interval ISI Examination Plan.

Relief Request No. 16 addresses Section XI Inservice Inspections of limited examination coverage. Regulatory Guide (RG) 1.147 endorses ASME Code Case N-460 which allows greater than 90% coverage of Class 1 and 2 welds to be considered "essentially 100% coverage." Monticello has a number of welds and components for which the essentially 100% inspected coverage as defined in RG 1.147 is not achievable, primarily due to original design and/or construction obstructions, or configuration interferences.

A047

2807 West County Road 75 • Monticello, Minnesota 55362-9637
Telephone: 763.295.5151 • Fax: 763.295.1454

This letter contains no new NRC commitments, nor does it modify any prior commitments.

If you have any questions regarding this submittal please contact Doug Neve, Licensing Manager at (763) 295-1353.

Jeffrey S. Forbes
Site Vice President
Monticello Nuclear Generating Plant

cc: Regional Administrator – III NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
Minnesota Department of Commerce

MONTICELLO NUCLEAR GENERATING PLANT

ISI Relief Request No. 15

ISI RELIEF REQUEST NO. 15

Class 2 Austenitic Piping Weld Examination Schedule

SYSTEM/COMPONENT(S) FOR WHICH RELIEF REQUEST WILL BE USED

Code Class:	Class 2
Reference:	ASME, Section XI, 1986 Edition, No Addenda Table IWC-2412-1 Inspection Program B and Table IWC-2500-1 Category C-F-1 Note (2)
Examination Category:	C-F-1
Item Number:	C 5.10, C5.11 and C5.12.
Description:	Pressure retaining welds in austenitic Stainless Steel
Component Numbers:	All

CODE REQUIREMENT

American Society of Mechanical Engineers (ASME) Code, Section XI, 1986 Edition, No Addenda Table IWC-2412-1 Inspection Program B requires a distribution of welds in an examination category per interval to be 16%-34% for the first period, 50%-67% for the second period, and 100% by end of 3rd period.

ASME Section XI, 1986 Edition, No Addenda, Table IWC-2500-1 for Category C-F-1 Pressure Retaining Welds in Austenitic Stainless Steel, Note (2), requires the welds selected for examination shall include 7.5%, but not less than 28 welds, of all austenitic stainless steel of high alloy welds not exempted by IWC-1220.

BASIS FOR RELIEF REQUEST

During the development of the 3rd ISI interval inspection plan a total of 5 C-F-1 welds were selected for examination out of a total count of 31 C-F-1 welds on the Control Rod Drive (CRD) Discharge System A and B. This initial selection satisfied the required 7.5% selection criteria of Table IWC 2500-1 C-F-1 but did not satisfy the second selection criteria of a minimum of 28 welds that needed to be inspected during the ten-year interval. During development of the Monticello Risk Informed Program and prior to the last scheduled refueling outage of the 3rd In-service Inspection (ISI) interval, it was identified that the Category C-F-1 weld selection for the 3rd Interval ISI plan was required to be 28 welds and not just the 5 welds previously selected. The 3rd Interval ISI plan was immediately corrected and the additional C-F-1 welds were selected and examined during the last 3rd interval refueling outage in December of 2001 to insure that 28 C-F-1 welds were examined during the 10-year interval. The late discovery of the initial selection error made it impossible to readjust the weld distribution per period to conform to the requirements of Table IWC-2412-1 Inspection Program B.

ALTERNATIVE EXAMINATION

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

JUSTIFICATION FOR GRANTING RELIEF

Monticello has a total of 31 Category C-F-1 welds. All of the welds are on the CRD Discharge System A and B. Monticello completed the last refueling outage of the 3rd 10-Year Interval in December 2001. A total of 28 Category C-F-1 welds were examined during the Interval in accordance with code requirements. Recently, Monticello has submitted to the NRC a Risk Informed ISI Program Plan for Class 1 and Class 2 piping welds for the 4th 10-Year Interval ISI Plan. The risk ranking and degradation analysis of the risk informed program has identified all these C-F-1 subject welds to be risk category 6 or risk category 7 in accordance with EPRI topical TR-112657 Revision B-A. As a result none of these welds have been selected for ISI examination during the 4th Interval. The inspection results for all 28 welds during the 3rd interval indicated no detectable flaws or degradation on these welds. Therefore, the proposed alternative examination above provides an acceptable level of quality and safety.

IMPLEMENTATION SCHEDULE

Alternative Examination is requested for the 3rd Ten-Year Interval of the ISI Program for Monticello.

REFERENCE

NMC letter to the NRC, "Risk-Informed Inservice Inspection Program Plan for the Monticello Nuclear Generating Plant," dated December 17, 2001.

MONTICELLO NUCLEAR GENERATING PLANT

ISI Relief Request No. 16

ISI Relief Request No. 16
Limited Examination

SYSTEM: Various
Category: Various

Class: 1
Item: Various

Impractical Examination Requirements:

American Society of Mechanical Engineers (ASME) Code, Section XI (1986 no addenda) requires examination of essentially 100% of weld length for In-service Inspection (ISI) of components per Table IWB-2500-1. Regulatory Guide (RG) 1.147, Revision 12, endorses ASME Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds." This code case allows greater than 90% coverage of a weld to meet the "essentially 100%" requirement.

NRC Information Notice 98-42, "Implementation of 10 CFR 50.55a(g) In-service Inspection Requirements," dated December 1, 1998, states "The NRC has adopted and further refined the definition of "essentially 100 percent' to mean greater than 90 percent" in 10 CFR 50.55a(g)(6)(ii)(A)(2) for required examination coverage of reactor pressure vessel welds. This standard has been applied to all examination of welds or other areas required by ASME Section XI.

This relief request is submitted in accordance with a commitment made in NSP Letter to the NRC dated March 24, 1997 titled "LER 97-004 'Failure to Submit Relief Requests for Limited In-service Inspections Examinations'." The commitment stated that required relief requests will be submitted for all limited examinations performed in the future.

This 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 RG 1.147 is not achievable on some ISI components examined for the Third Ten Year Interval.

Basis for Relief:

The following 10 CFR 50.55a paragraphs apply to the in-service inspection of components in accordance with the ASME Section XI code:

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.

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.

50.55a(g)(5)(iv): Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised in-service inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission ...

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 summary of limited examinations is described below and is also included in Table 1 (attached).

Part A: **Category B-A,** "Pressure Retaining Welds in Reactor Vessel"

Category B-A, Item B1.21, Summary Number 102638, Component VCBB-1, Bottom Head to Reactor Vessel Weld: The volumetric examination, as required by Table IWB-2500-1, was limited to approximately 5.9% of total weld area. The volumetric examination is limited by the installation of permanent insulation between reactor vessel wall and biological shield. The only access to the weld is through the biological shield window for reactor vessel nozzle N1B (and N1A) which have a small area of insulation that is considered as a removable design. This limited access makes just 6 ft 8 inches of weld length available for examination from a single side of the weld only.

Previous examinations from the 1994 Refueling Outage indicate that 5 ft 10 in of weld VCBB-1 was accessible for examination through the N1A Nozzle Window, which equates to approximately 5.1% of the total weld length.

The examination coverage for Weld VCBB-1, combining the two examinations performed during the 3rd 10-Year Interval, totals approximately 11%.

Category B-A, Item B1.12, Summary Number 102642, Component VLAA-1, Reactor Vessel Longitudinal Weld: The volumetric examination, as required by Table IWB-2500-1, was limited to approximately 80.1% of weld length. The volumetric examination (V-scan) was limited by available technology for in-vessel ultrasonic (UT) delivery tooling, the span distance between re-circulation jet pump diffusers and their proximity to the reactor vessel wall, and the interference of the jet pump instrumentation lines. The UT tool head is 5.5" in width and 9.5 " in height. The UT instrument head rotates 90 degrees to obtain a V-scan across the weld. The span distance between re-circulation jet pump diffusers was less than the 9.5" UT instrument head, so the UT scan was not possible from the internal surface of reactor vessel. This longitudinal weld was not accessible from the outside diameter (OD) of the reactor vessel due to biological shielding and no nearby nozzle access windows being available. The reactor vessel has a total of eight longitudinal welds: six of these welds were examined "essentially 100%", while two welds (VLAA-1 and VLAA-2) had greater than 75% coverage. Cumulatively, (all eight longitudinal welds) greater than 90% of longitudinal weld length was examined.

Category B-A, Item B1.12, Summary Number 102643, Component VLAA-2, Reactor Vessel Longitudinal Weld: The volumetric examination, as required by Table IWB-2500-1, was limited to approximately 75.8% of weld length. The volumetric examination was limited by available technology for in-vessel UT delivery tooling, the span distance between re-circulation jet pump diffusers and their proximity to the reactor vessel wall, and the interference of the jet pump Instrumentation Lines. The UT tool head is 5.5" in width and 9.5" in height. The UT instrument head rotates 90 degrees to obtain a V-scan across the weld. The span distance between re-circulation jet pump diffusers was less than the 9.5" UT instrument head, so the UT scan was not possible from the internal surface of reactor vessel. This longitudinal weld was not accessible from the OD of the reactor vessel due to biological shielding and no nearby nozzle access windows being available. The reactor vessel has a total of eight longitudinal welds: six of these welds were examined "essentially 100%", while two welds (VLAA-1 and VLAA-2) had greater than 75% coverage. Cumulatively, (all eight longitudinal welds) greater than 90% of longitudinal weld length was examined.

Part B: **Category B-D**, "Full Penetration Welds of Nozzles in Vessels"

Category B-D, Item B3.90, Summary numbers 102654 (N-1B NV), 102656 (N-2A NV), 102658 (N-2B NV), 102674 (N-2K NV) and 102698 (N-8B NV), Reactor Vessel Nozzle Welds: Each weld was limited to approximately 62.3% volumetric UT coverage due to vessel-to-nozzle weld configuration which physically precludes application of the required scan angles on the nozzle side of the weld. No additional alternative examinations are currently available to achieve the required volumetric coverage.

Part C: **Category B-J**, "Pressure Retaining Welds in Piping".

Category B-J, Item B9.10, Summary Number 102161, W-22 (LSUD): This weld on Recirculation Manifold B was limited to a single sided examination due to the pipe-to-tee configuration. The material type for this weld is austenitic stainless steel. Performance Demonstration Initiative (PDI) examination techniques are only qualified for the accessible side of the weld on a single side examination of austenitic stainless steel. Regulations included in 10 CFR 50.55a(b)(2)(xv)(A), 10 CFR 50.55a(b)(2)(xv)G and 10 CFR 50.55a(b)(2)(xvi), define new requirements for coverage and qualification demonstration of UT methods. These requirements affect both piping and reactor pressure vessel examinations. The PDI UT methodology is in agreement with the Federal Code regarding single side access for piping. The Federal Code requires that, if access is available, the weld shall be scanned in each of the four directions (parallel and perpendicular to the weld) where required. Additionally, 100% coverage credit may be taken for single side exams on ferritic piping. However, for austenitic piping, a procedure must be qualified with flaws on the inaccessible side of the weld. The final rule requires that single side access examinations must demonstrate "equivalency to two sided examinations." Current technology is not fully capable of reliably detecting or sizing flaws on the inaccessible side of an austenitic weld for configurations common to US Nuclear applications. Instead of a full coverage, single side qualification, PDI offers a best effort approach, which demonstrates that the best available

technology is applied. This best effort approach does not meet the requirements of the Federal Code. PDI Performance Demonstration Qualification Summary (PDQS) austenitic piping certificates acknowledges the limitation that single side examination is performed on a best effort basis. This requires the inaccessible side of the weld to be listed as an area of no coverage. It should be noted that the surface examination for this weld had no limitations and was completed with 100% coverage.

Table 1.

Code Category / Item #	System	ISO	Component / Summary No.	Method	% Coverage	Limitation
B-A B1.21	Reactor Vessel	ISI Fig 4	VCBB-1 (102638)	UT	5.85%	Weld Covered by permanent insulation. See attached report 2001U312
B-A B1.12	Reactor Vessel	ISI Fig 4	VLAA-1 (102642)	UT	80.1%	Access to weld restricted by Jet pump Diffuser and available tooling. See attached report 2001VE301
B-A B1.12	Reactor Vessel	ISI Fig 4	VLAA-2 (102643)	UT	75.8%	Access to Weld restricted by Jet Pump Diffusers and available tooling. See attached report 2001VE302
B-D B3.90	Reactor Vessel	ISI Fig 5.	N-1B NV (102654)	UT	62.32%	Limited due to nozzle configuration. See attached report 2001U329

Code Category / Item #	System	ISO	Component / Summary No.	Method	% Coverage	Limitation
B-D B3.90	Reactor Vessel	ISI Fig 5.	N-2A NV (102656)	UT	62.32%	Limited due to nozzle configuration. See attached report 2001U331
B-D B3.90	Reactor Vessel	ISI Fig 5.	N-2B NV (102658)	UT	62.32%	Limited due to nozzle configuration. See attached report 2001U332
B-D B3.90	Reactor Vessel	ISI Fig 5.	N-2K NV (102674)	UT	62.32%	Limited due to nozzle configuration. See attached report 2001U330
B-D B3.90	Reactor Vessel	ISI Fig 5.	N-8B NV (102698)	UT	62.32%	Limited due to nozzle configuration. See attached report 2001U328
B-J B9.10	Recirc Manifold B	ISI-97006-B	W-22 LS UD (102161)	UT	50%	Single Side Examination-PDI procedure not qualified for flaw detection on far side of weld. Configuration limited exam. See attached report 2001U321

Additional Means of Establishing Integrity:

In addition, functional pressure tests and visual examinations (VT-2) are performed during regular inspection intervals to ensure the piping system and vessel is capable of maintaining pressure integrity. Where required by code surface examinations have been performed. 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, and containment temperature monitoring, etc.).

Alternate Examination:

All in-service inspections on these components have been done to the greatest extent practical. No further alternative methods are proposed or recommended beyond the techniques already applied.

The Monticello In-Service Inspection Program Plan will continue to document the limitations.

Attachments:

1) UT Vessel examination report 2001U312, Summary No. 102638
2) UT Pipe Weld examination report 2001U321, Summary No. 102161
3) UT Vessel examination report 2001U329, Summary No. 102654
4) UT Vessel examination report 2001U331, Summary No. 102656
5) UT Vessel examination report 2001U332, Summary No. 102658
6) UT Vessel examination report 2001U330, Summary No. 102674
7) UT Vessel examination report 2001U328, Summary No. 102698
8) Reactor Vessel Longitudinal Weld VLAA-1 report 2001VE301, Summary No. 102642
9) Reactor Vessel Longitudinal Weld VLAA-2 report 2001VE302, Summary No. 102643
10) Support diagrams / sketches for attachments 9 and 10

References: NRC Letter 8-4-99 "MNGP-Evaluation of Relief 10 for 3rd 10 year ISI Program Plan. (TAC No. MA3397).

NRC Letter 10-25-2000 "MNGP-Evaluation of Relief 11 for 3rd 10 year ISI Program Plan. (TAC No. MA9914).

ATTACHMENT 1

REPORT 2001U312

Summary No. 102638

UT Vessel Examination

Report No.: 2001U312

Site/Unit: NSP / M1 | Procedure: ISI-UT-3B | Page: 1 of ~~1~~ 3 RAD 11/29/01

Summary No.: 102638 | Procedure Revision/FC: 0 / — | RAD 11/26/01

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 4 | Location: Reactor Vessel

Description: B. Head/Vessel

System ID: Reactor Vessel

Component ID: VCBB-1 | Size/Length: 6' 8" | Thickness/Diameter: 6.25"

Limitations: See Comments | Start Time: 14:48 | Finish Time: 15:35

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Blended

Lo Location: 180 Degree | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #95243

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 144 | Surface Temp.: 95 °F

Cal. Sheet No.: 2001CA313

Angle Used	0	45	45T	60	60T	
Scanning dB				*	*	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

*** Scanned at 20 - 30% noise level. Examined 6' 8" at NIB window access. Upstream scan performed in 4 directions, shell side from centerline. No scan head side due to permanent insulation. Total examination area = 50% of required** (FOR 6'-8" ACCESSIBLE LENGTH) RAD 11/26/01

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes

Examiner	Level		Signature	Date	Reviewer		Signature	Date
Davis, Layn R.		/		11/12/2001	Clay, Sean P.	/		11-17-01
Examiner	Level		Signature	Date	Site Review		Signature	Date
Newgard, Jerry W.	II-~~PDI~~	JN 11-12-01 /		11/12/2001	Deopere, Richard A.	/		(1/26/01
Other	Level		Signature	Date	ANII Review		Signature	Date
N/A	N/A	/			Clow, Ron	/		12/1/01

Supplemental Report

Report No.: 2001U312

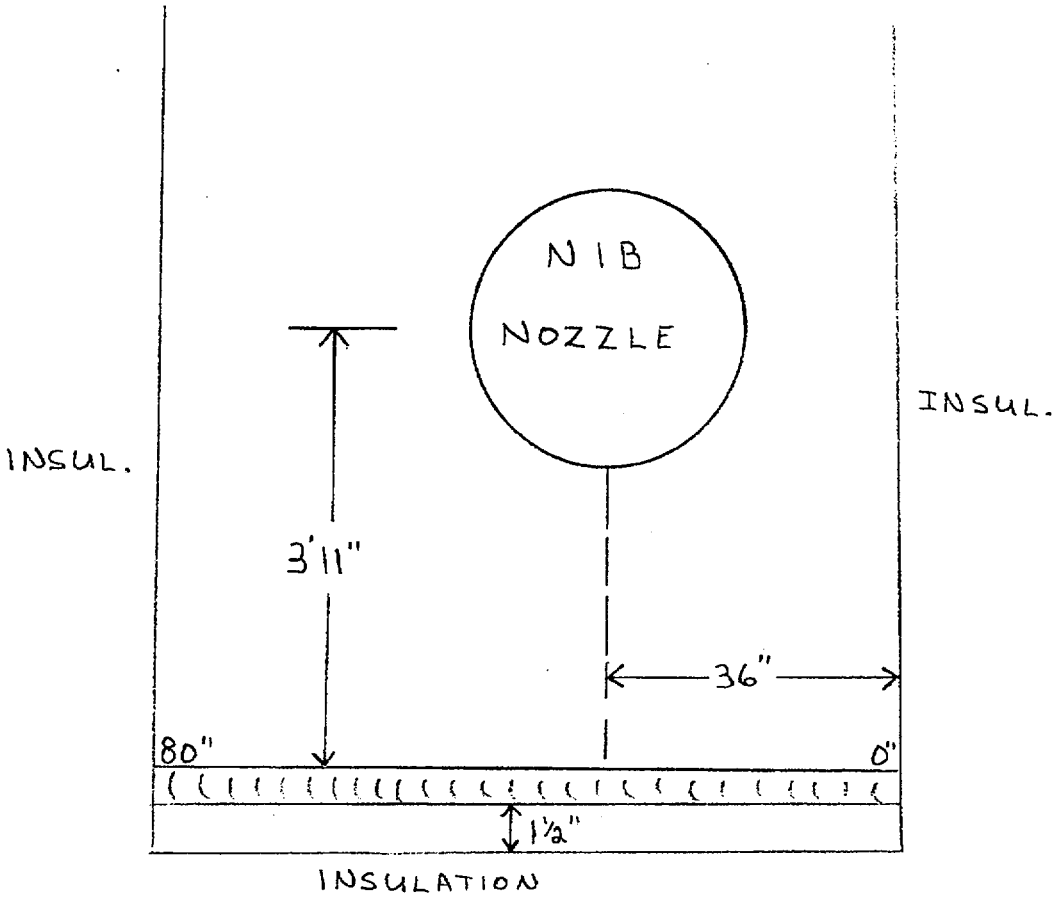
Page: 2 of ~~23~~ PSD 11/19/01

Summary No.: 102638

Examiner:	Davis, Layn R.	Level: III-PDI	Reviewer:	Clay, Sean P.	Date: 11-17-01
Examiner:	Newgard, Jerry W.	Level: ~~II-PDI~~ JN 11-12-01	Site Review:	Deopere, Richard A.	Date: 11/26/01
Other:	N/A	Level: N/A	ANII Review:	Clow, Ron	Date: 12/1/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U312_1.bmp



Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U312

Site/Unit: NSP / M1 Procedure: ISI-UT-3B Page: 3 of 3

Summary No.: 102638 Procedure Revision/FC: 0 /

Examination For: ISI Work Order No.: 0105401

0 deg Planar

Scan _____ % Length X _____ % volume of length / 100 = _____ % total for 0 deg

45 deg

Scan 1 _____ % Length X _____ % volume of length / 100 = _____ % total for Scan 1

Scan 2 _____ % Length X _____ % volume of length / 100 = _____ % total for Scan 2

Scan 3 _____ % Length X _____ % volume of length / 100 = _____ % total for Scan 3

Scan 4 _____ % Length X _____ % volume of length / 100 = _____ % total for Scan 4

Add totals and divide by # scans = _____ **% total for 45 deg**

Other deg 60

Scan 1 11.730 % Length X 100.000 % volume of length / 100 = 11.730 % total for Scan 1

Scan 2 0.000 % Length X 0.000 % volume of length / 100 = 0.000 % total for Scan 2

Scan 3 11.730 % Length X 50.000 % volume of length / 100 = 5.865 % total for Scan 3

Scan 4 11.730 % Length X 50.000 % volume of length / 100 = 5.865 % total for Scan 4

Add totals and divide by # scans = 5.865 **% total for** 60 **deg**

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

5.865 **% Total for complete exam** (BASED ON ENTIRE CIRCUMFERENTIAL LENGTH OF THE BOTTOM HEAD-TO-VESSEL WELD) RAD 11/30/01

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/29/01

ATTACHMENT 2

REPORT 2001U321

Summary No. 102161

UT Pipe Weld Examination

Report No.: 2001U321

Page: 1 of 4

Site/Unit: NSP / M1

Procedure: ISI-UT-16A

Summary No.: 102161

Procedure Revision/FC: 1 / —

Examination For: ISI

Work Order No.: 0105396

Applicable Code: 1986

ISO Drawing No.: ISI-97006-B

Location: Drywell

Description: Tee-to-Pipe

System ID: Recirc Manifold B

Component ID: W-22 LS ~~U&D~~ 11/23/01

Size/Length: 1.2"/42.0"

Thickness/Diameter: .688"/12.0"

Limitations: Single sided due to Tee-Pipe configuration

Start Time: 17:00

Finish Time: 18:00

Examination Surface: Inside ☐ Outside ☑

Surface Condition: Blended

Lo Location: Outside of Tee

Wo Location: Centerline of Weld

Couplant: Sonotrace 40

Batch No.: #00143

Temp. Tool Mfg.: Telatemp

Serial No.: NSP 144

Surface Temp.: 80 °F

Cal. Sheet No.: 2001CA325, 2001CA326

Angle Used	0	45	45T	60	45RL	
Scanning dB	N/A	50.0	44.0		56.0	

Indication(s): Yes ☐ No ☑

Scan Coverage: Upstream ☑ Downstream ☐ CW ☑ CCW ☑

Comments:

No scans axial or circ on the upstream side of weld due to Tee configuration. Examination performed from the weld and the downstream side of the weld only.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No

Reviewed Previous Data: Yes

Examiner	Level II-PDI		Signature	Date	Reviewer	Signature	Date
Griebel, David M.	/			11/8/2001	Clay, Sean P.	/	11-19-01
Examiner	Level N/A		Signature	Date	Site Review	Signature	Date
N/A	/				Deopere, Richard A.	/	11/23/01
Other	Level N/A		Signature	Date	ANII Review	Signature	Date
N/A	/					/	11/23/01

Limitation Record

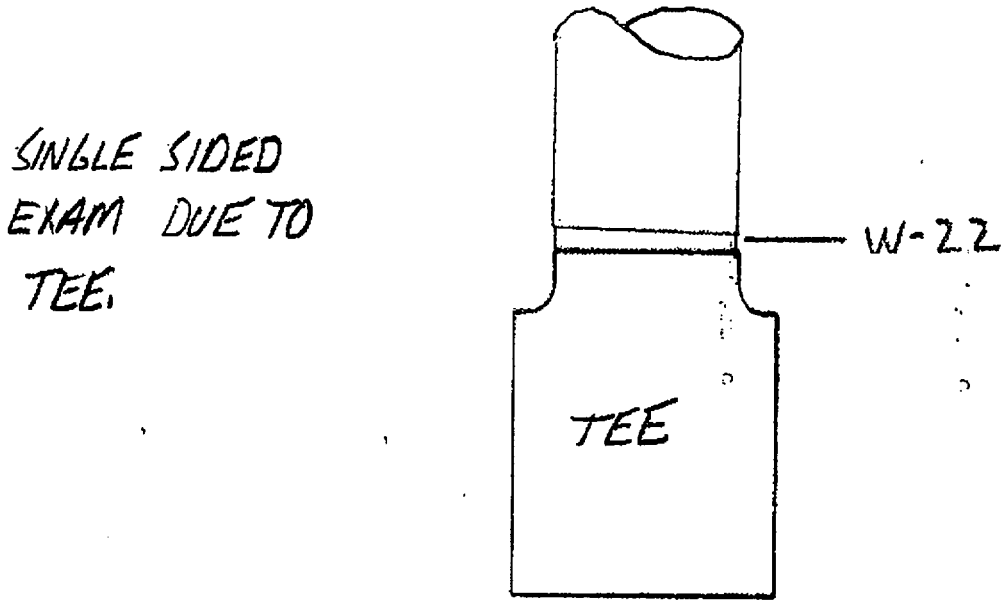
Report No.: 2001U321

Site/Unit:	NSP / M1	Procedure:	ISI-UT-16A	Page:	2 of 4
Summary No.:	102161	Procedure Revision/FC:	1 / —		
Examination For:	ISI	Work Order No.:	0105396		

Description of Limitation:

Single sided exam - Procedure ISI-UT-16A is not qualified for the detection of flaws on the far side of single side access exams. The techniques provided by this procedure were used for a BEST EFFORT EXAMINATION for flaws on the far side of the weld.

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U321.bmp



Limitations removal requirements:

None

Radiation field: **300 mr**

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Griebel, David M.	/		11/8/2001	**Clay, Sean P.**	/		11-19-01
Examiner	Level N/A	Signature	Date	Site Review		Signature	Date
N/A	/			**Deopere, Richard A.**	/		11/23/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/				/		11/23/01

Supplemental Report

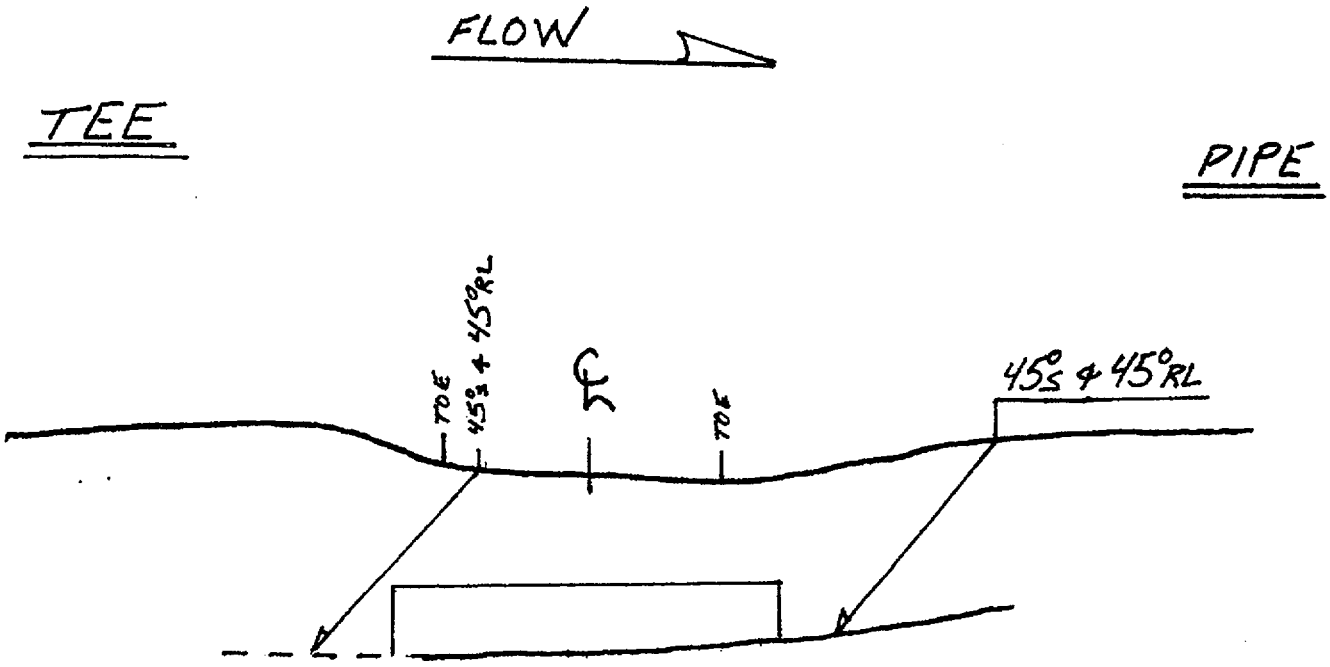
Report No.: 2001U321

Summary No.: 102161

Examiner:	Griebel, David M. DMG	Level:	II-PDI	Reviewer:	Clay, Sean P.	Date:	11-19-01
Examiner:	N/A	Level:	N/A	Site Review:	Deopere, Richard A.	Date:	11/23/01
Other:	N/A	Level:	N/A	ANII Review:	MAS	Date:	11/23/01

Comments: 50% coverage achieved

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U321_1.bmp



WELD: W-22 RRBJR-5

COVERAGE PLOT

Determination of Percent Coverage for UT Examinations - Pipe

Report No.: 2001U321

Site/Unit: NSP / M1 | Procedure: ISI-UT-16A | Page: 4 of 4

Summary No.: 102161 | Procedure Revision/FC: 1 /

Examination For: ISI | Work Order No.: 0105396

45 deg

Scan 1	0.000	% Length X	100.000	% volume of length / 100 =	0.000	% total for Scan 1
Scan 2	100.000	% Length X	100.000	% volume of length / 100 =	100.000	% total for Scan 2
Scan 3	50.000	% Length X	100.000	% volume of length / 100 =	50.000	% total for Scan 3
Scan 4	50.000	% Length X	100.000	% volume of length / 100 =	50.000	% total for Scan 4

Add totals and divide by # scans = 50.000 % total for 45 deg

Other deg - 45 (to be used for supplemental scans)

The data to be listed below is for coverage that was not obtained with the 45 deg scans.

Scan 1	0.000	% Length X	100.000	% volume of length / 100 =	0.000	% total for Scan 1
Scan 2	0.000	% Length X	100.000	% volume of length / 100 =	0.000	% total for Scan 2
Scan 3	0.000	% Length X	0.000	% volume of length / 100 =	0.000	% total for Scan 3
Scan 4	0.000	% Length X	0.000	% volume of length / 100 =	0.000	% total for Scan 4

Percent complete coverage

Add totals for each scan required and divide by # of scans to determine;

50.000 % Total for complete exam

Site Field Supervisor: [signature] Date: 11/21/01

ATTACHMENT 3

REPORT 2001U329

Summary No. 102654

UT Vessel Examination

Report No.: 2001U329

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 1 of 4

Summary No.: 102654 | Procedure Revision/FC: 8 / —

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 5 | Location: Reactor Vessel

Description: N- 1B Vsl/Noz Weld

System ID: Reactor Vessel

Component ID: N- 1B NV | Size/Length: 28.0" / 100.0" | Thickness/Diameter: 5.55" / 28.0"

Limitations: Nozzle Configuration | Start Time: 14:01 | Finish Time: 15:30

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Ground Flush

Lo Location: Top Dead Center | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #00143

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 176 | Surface Temp.: 85 °F

Cal. Sheet No.: 2001CA336, 2001CA337, 2001CA338

Angle Used	0	45	45T	60	60T	
Scanning dB	45.2	51.0	51.0	58.3	58.3	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

See attached coverage plots.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Loredo, Quirino	/		11/10/2001	Clay, Sean P.	/		11-26-01
Examiner	Level IIR	Signature	Date	Site Review		Signature	Date
Thompson, Lee	/		11/10/2001	Deopere, Richard A.	/		11/30/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/			Clow, Ron	/		11/30/01

Supplemental Report

Report No.: 2001U329

Summary No.: 102654

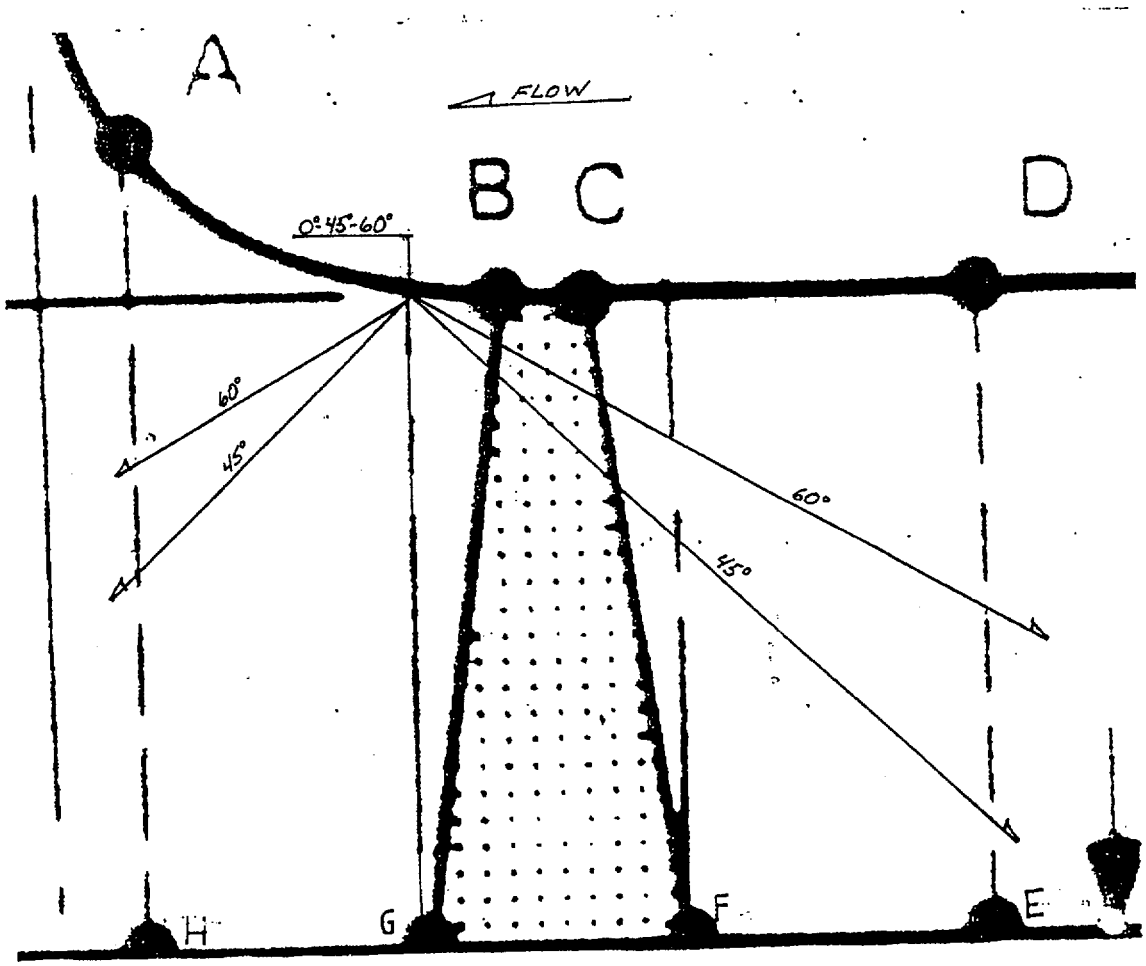
Examiner: Loredo, Quirino QZ Level: II-PDI Reviewer: Clay, Sean P. Date: 11-20-01

Examiner: Thompson, Lee Level: IIR Site Review: Deopere, Richard A. Date: 11/30/01

Other: N/A Level: N/A ANII Review: Clow, Ron Date: 11/30/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U329_1.bmp



Limitation Record

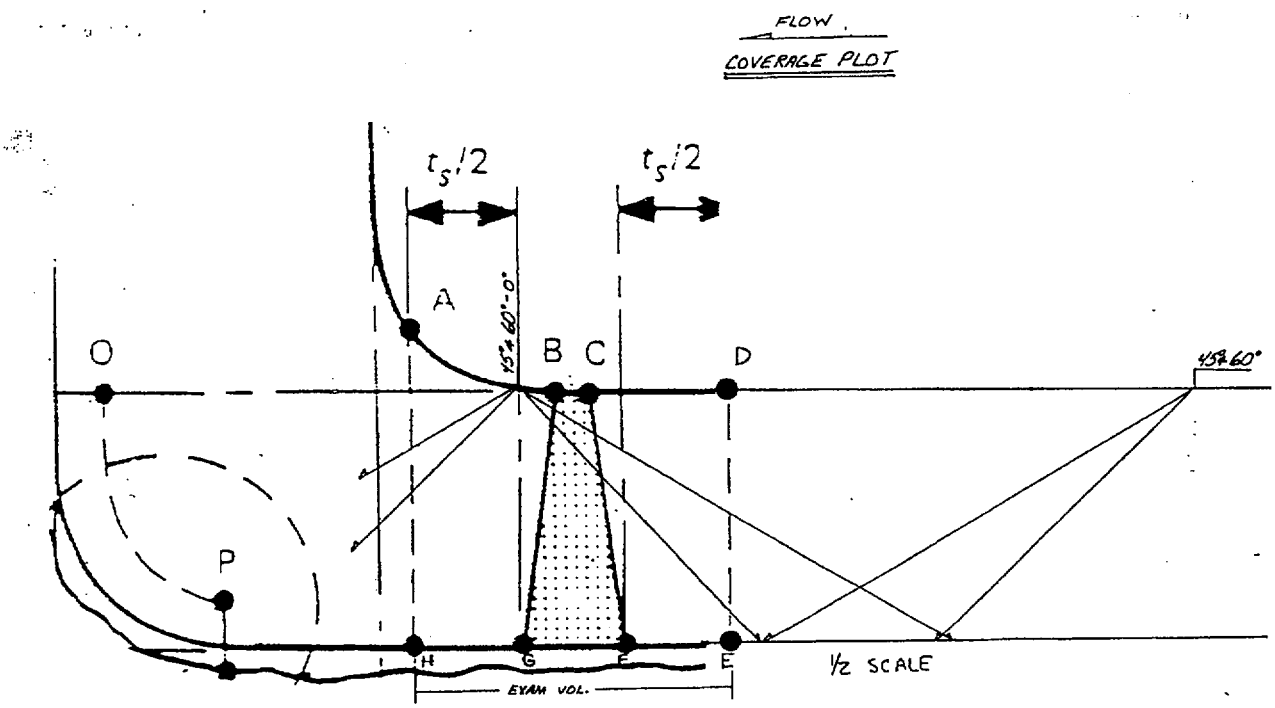
Report No.: 2001U329

Site/Unit:	NSP / M1	Procedure:	ISI-UT-3A	Page:	3 of 4
Summary No.:	102654	Procedure Revision/FC:	8 / —		
Examination For:	ISI	Work Order No.:	0105401		

Description of Limitation:

Nozzle Configuration.

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U329_2.bmp



Limitations removal requirements:

N/A

Radiation field:

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Loredo, Quirino	/	Q. Loredo	11/10/2001	**Clay, Sean P.**	/		11-20-01
Examiner	Level IIR	Signature	Date	Site Review		Signature	Date
Thompson, Lee	/	Lee D. Thompson	11/10/2001	**Deopere, Richard A.**	/		11/30/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/			**Clow, Ron**	/		11/30/01

Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U329

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 4 of 4

Summary No.: 102654 | Procedure Revision/FC: 8 / —

Examination For: ISI | Work Order No.: 0105401

0 deg Planar

Scan 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for 0 deg

45 deg

Scan 1 100.000 % Length X 90.500 % volume of length / 100 = 90.500 % total for Scan 1

Scan 2 100.000 % Length X 27.800 % volume of length / 100 = 27.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 62.075 **% total for 45 deg**

Other deg 60

Scan 1 100.000 % Length X 92.800 % volume of length / 100 = 92.800 % total for Scan 1

Scan 2 100.000 % Length X 16.800 % volume of length / 100 = 16.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 59.900 **% total for** 60 **deg**

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

62.325 **% Total for complete exam**

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/30/01

ATTACHMENT 4

REPORT 2001U331

Summary No. 102656

UT Vessel Examination

Report No.: 2001U331

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 1 of 4

Summary No.: 102656 | Procedure Revision/FC: 8 /

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 5 | Location: Reactor Vessel

Description: N- 2A Noz/Vsl Weld

System ID: Reactor Vessel

Component ID: N- 2A NV | Size/Length: 12.0" / 50.26" | Thickness/Diameter: 5.55" / 12.0"

Limitations: Nozzle Configuration | Start Time: 12:31 | Finish Time: 13:30

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Ground Flush

Lo Location: Top Dead Center | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #00143

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 176 | Surface Temp.: 85 °F

Cal. Sheet No.: 2001CA342, 2001CA343, 2001CA344

Angle Used	0	45	45T	60	60T	
Scanning dB	45.2	51.0	51.0	58.3	58.3	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

See attached coverage plots.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes

Examiner	Level	Signature	Date	Reviewer	Signature	Date
Loredo, Quirino	II-PDI /		11/11/2001	Clay, Sean P. /		11-26-01
Examiner	Level	Signature	Date	Site Review	Signature	Date
Griebel, David M.	II-PDI /		11/11/2001	Deopere, Richard A. /		11/26/01
Other	Level	Signature	Date	ANII Review	Signature	Date
N/A	N/A /			Clow, Ron /		11/27/01

Supplemental Report

Summary No.: 102656

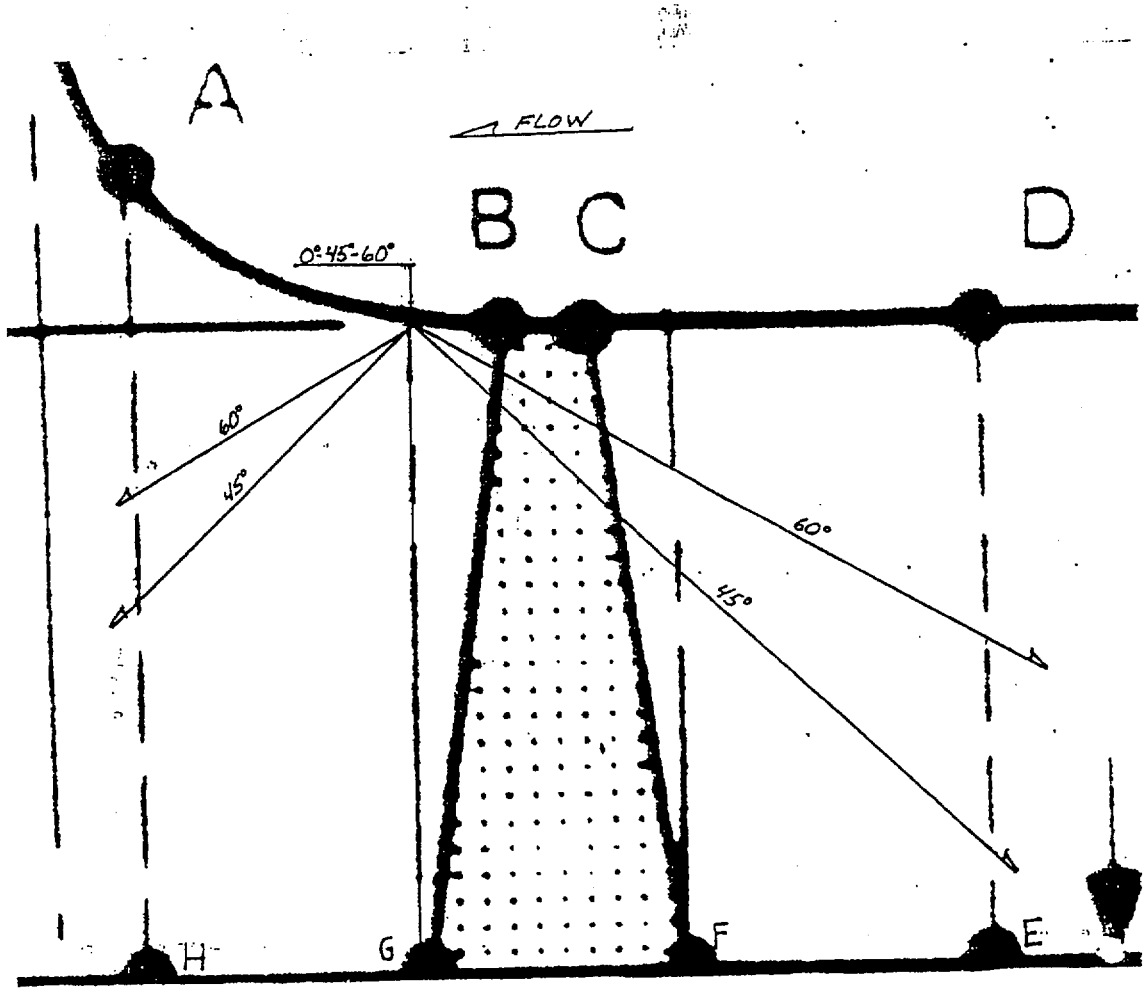
Examiner: Loredo, Quirino — Level: II-PDI — Reviewer: Clay, Sean P. — Date: 11-20-01

Examiner: Griebel, David M. — Level: II-PDI — Site Review: Deopere, Richard A. — Date: 11/26/01

Other: N/A — Level: N/A — ANII Review: Clow, Ron — Date: 11/27/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U331_1.bmp



Limitation Record

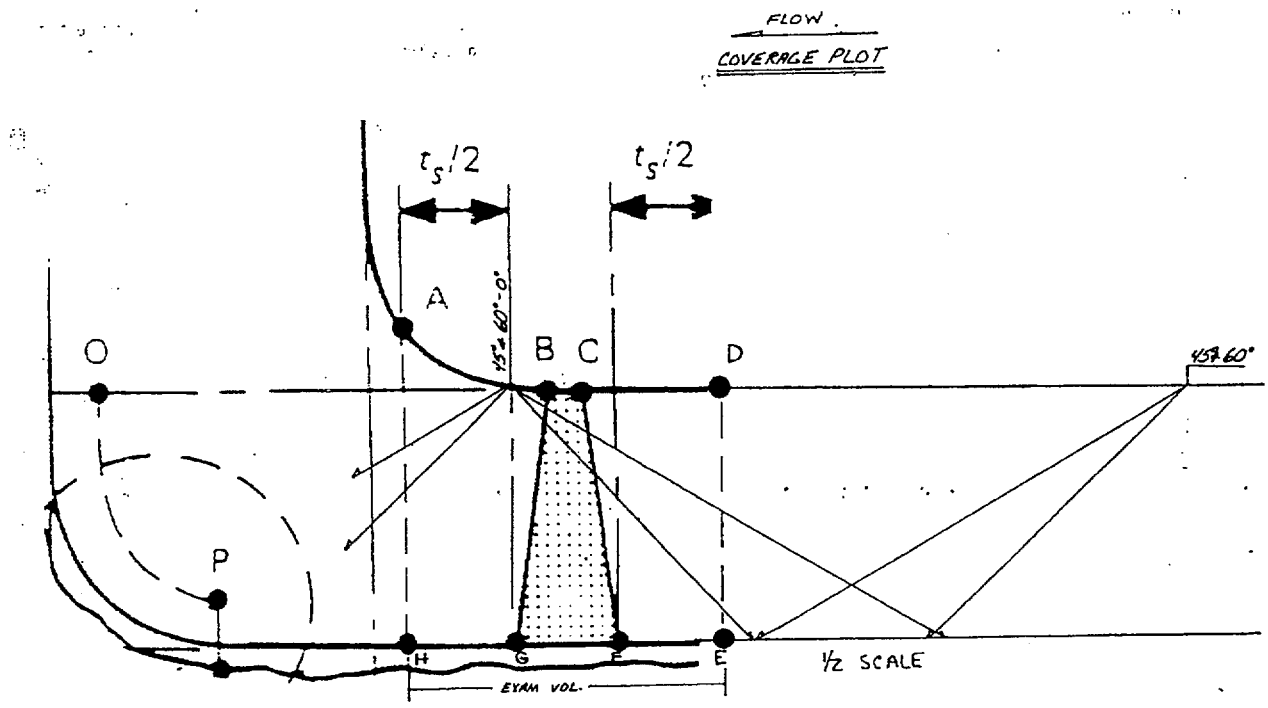
Report No.: 2001U331

Site/Unit:	NSP / M1	Procedure:	ISI-UT-3A	Page:	3 of 4
Summary No.:	102656	Procedure Revision/FC:	8 /		
Examination For:	ISI	Work Order No.:	0105401		

Description of Limitation:

Nozzle Configuration

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U331_2.bmp



Limitations removal requirements:

N/A

Radiation field:

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Loredo, Quirino	/		**11/11/2001**	**Clay, Sean P.**	/		11-20-01
Examiner	Level II-PDI	Signature	Date	Site Review		Signature	Date
Griebel, David M.	/		**11/11/2001**	**Deopere, Richard A.**			11/26/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/			**Clow, Ron**	/		11/27/01

Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U331

Site/Unit: NSP / M1 Procedure: ISI-UT-3A Page: 4 of 4

Summary No.: 102656 Procedure Revision/FC: 8 /

Examination For: ISI Work Order No.: 0105401

0 deg Planar

Scan 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for 0 deg

45 deg

Scan 1 100.000 % Length X 90.500 % volume of length / 100 = 90.500 % total for Scan 1

Scan 2 100.000 % Length X 27.800 % volume of length / 100 = 27.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 62.075 **% total for 45 deg**

Other deg 60

Scan 1 100.000 % Length X 92.800 % volume of length / 100 = 92.800 % total for Scan 1

Scan 2 100.000 % Length X 16.800 % volume of length / 100 = 16.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 59.900 **% total for** 60 **deg**

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

62.325 **% Total for complete exam**

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/26/01

ATTACHMENT 5

REPORT 2001U332

Summary No. 102658

UT Vessel Examination

Report No.: 2001U332

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 1 of 4

Summary No.: 102658 | Procedure Revision/FC: 8 / 2

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 5 | Location: Reactor Vessel

Description: N- 2B Noz / Vsl Weld

System ID: Reactor Vessel

Component ID: N- 2B NV | Size/Length: 12.0" / 50.26" | Thickness/Diameter: 5.55" / 12.0"

Limitations: Nozzle Configuration | Start Time: 13:46 | Finish Time: 14:45

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Ground Flush

Lo Location: Top Dead Center | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #00143

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 176 | Surface Temp.: 85 °F

Cal. Sheet No.: 2001CA345, 2001CA346, 2001CA347

Angle Used	0	45	45T	60	60T	
Scanning dB	45.2	51.0	51.0	58.3	58.3	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

See attached coverage plots.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes

Examiner	Level	Signature	Date	Reviewer	Signature	Date
Loredo, Quirino	II-PDI		11/11/2001	Clay, Sean P.		11-26-01
Examiner	Level	Signature	Date	Site Review	Signature	Date
Griebel, David M.	II-PDI		11/11/2001	Deopere, Richard A.		11/29/01
Other	Level	Signature	Date	ANII Review	Signature	Date
N/A	N/A			~~Clow, Ron~~ 791 11/30/01		11/30/01

Supplemental Report

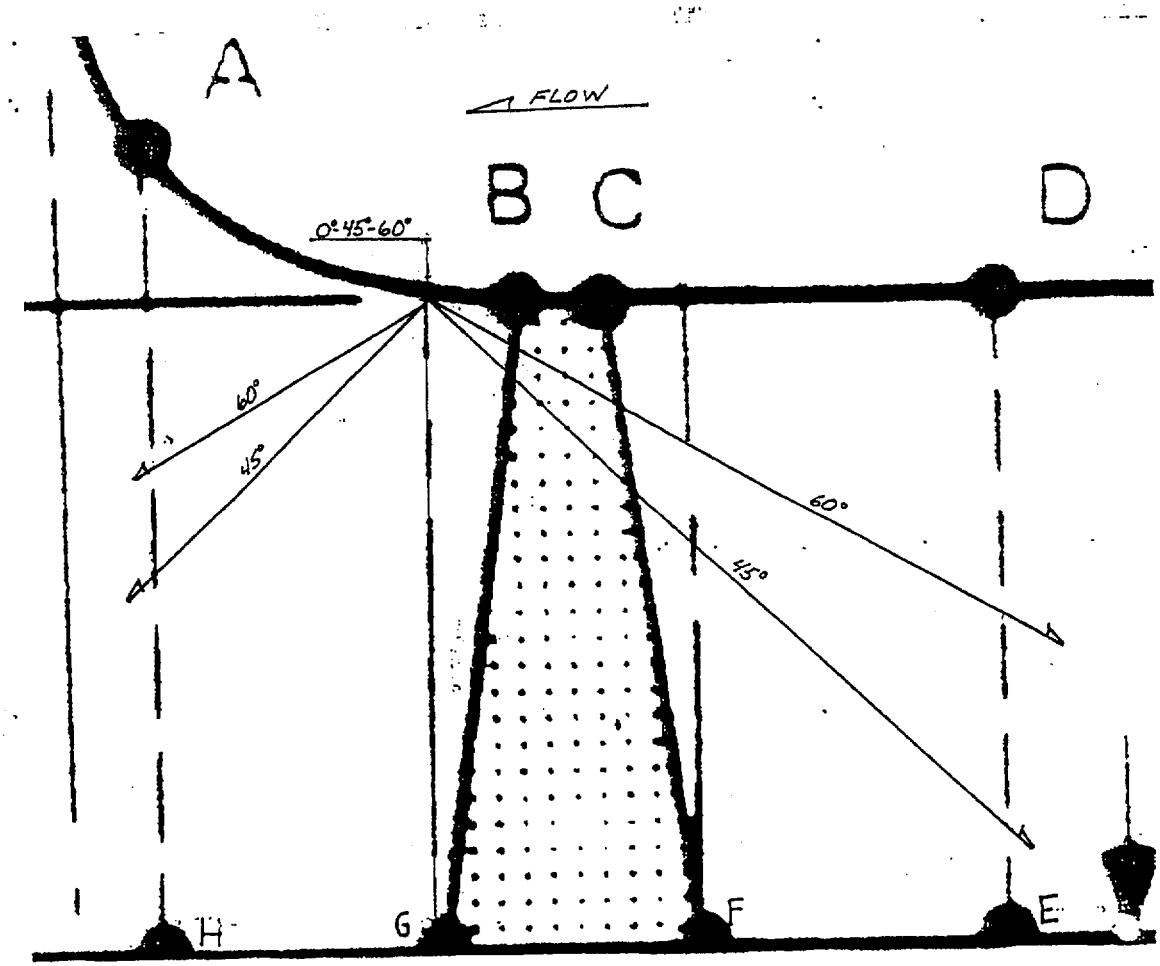
Report No.: 2001U332

Summary No.: 102658

Examiner:	Loredo, Quirino QL	Level:	II-PDI	Reviewer:	Clay, Sean P.	Date:	11-20-01
Examiner:	Griebel, David M. DMG	Level:	II-PDI	Site Review:	Deopere, Richard A.	Date:	11/29/01
Other:	N/A	Level:	N/A	ANII Review:	~~Clow, Ron~~ KAJ 11/30/01	Date:	11/30/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U332_1.bmp



Limitation Record

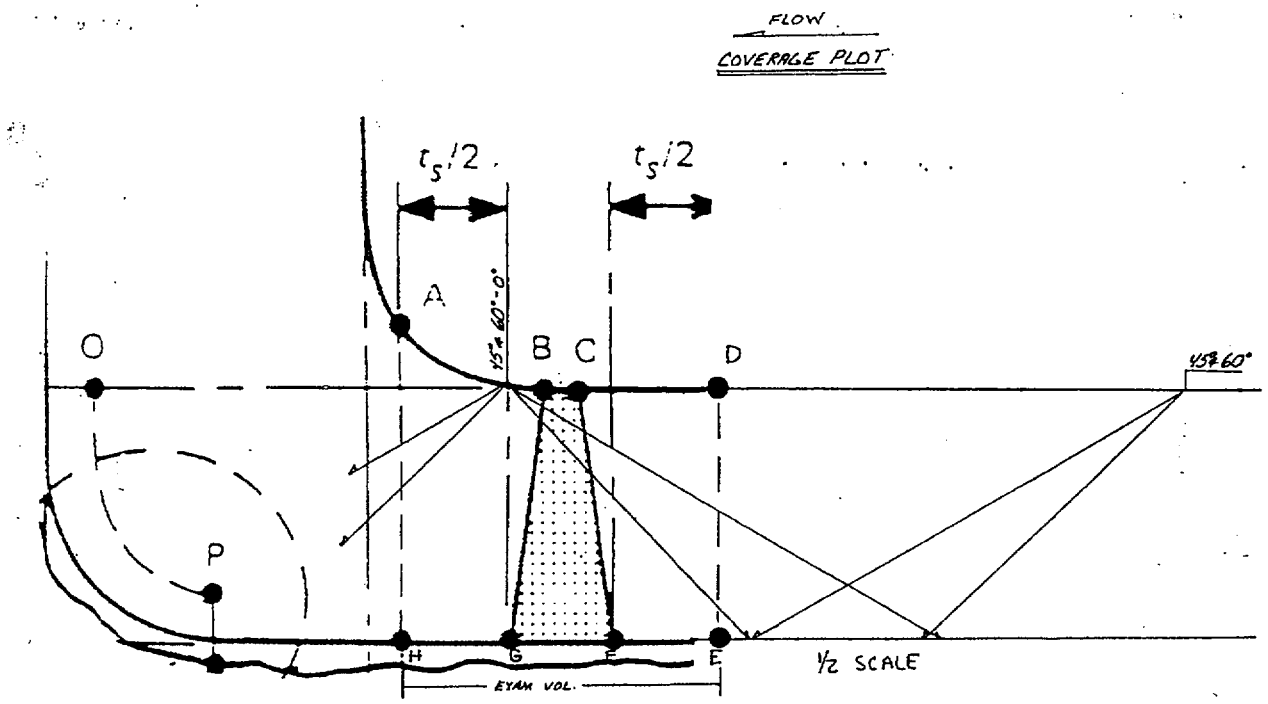
Report No.: 2001U332

Site/Unit:	NSP / M1	Procedure:	ISI-UT-3A	Page:	3 of 4
Summary No.:	102658	Procedure Revision/FC:	8 / —		
Examination For:	ISI	Work Order No.:	0105401		

Description of Limitation:

Nozzle Configuration

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U332_2.bmp



Limitations removal requirements:

N/A

Radiation field:

Examiner	Level	II-PDI	Signature	Date	Reviewer	Signature	Date
Loredo, Quirino		/		**11/11/2001**	**Clay, Sean P.** /		11-200
Examiner	Level	II-PDI	Signature	Date	Site Review	Signature	Date
Griebel, David M.		/		**11/11/2001**	**Deopere, Richard A.** /		11/29/01
Other	Level	N/A	Signature	Date	ANII Review	Signature	Date
N/A		/			~~**Clow, Ron**~~ JAS 11/30/01	/	11/30/01

Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U332

Site/Unit: NSP / M1 Procedure: ISI-UT-3A Page: 4 of 4

Summary No.: 102658 Procedure Revision/FC: 8 / —

Examination For: ISI Work Order No.: 0105401

0 deg Planar

Scan 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for 0 deg

45 deg

Scan 1 100.000 % Length X 90.500 % volume of length / 100 = 90.500 % total for Scan 1

Scan 2 100.000 % Length X 27.800 % volume of length / 100 = 27.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 62.075 **% total for 45 deg**

Other deg 60

Scan 1 100.000 % Length X 92.800 % volume of length / 100 = 92.800 % total for Scan 1

Scan 2 100.000 % Length X 16.800 % volume of length / 100 = 16.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 59.900 **% total for** 60 **deg**

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

62.325 **% Total for complete exam**

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/29/01

ANII Kurt A Schuh 11/30/01

ATTACHMENT 6

REPORT 2001U330

Summary No. 102674

UT Vessel Examination

Report No.: 2001U330

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 1 of 4

Summary No.: 102674 | Procedure Revision/FC: 8 /

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 5 | Location: Reactor Vessel

Description: N- 2K Noz/Vsl Weld

System ID: Reactor Vessel

Component ID: N- 2K NV | Size/Length: 12.0" / 50.26" | Thickness/Diameter: 5.55" / 12.0"

Limitations: Nozzle Configuration | Start Time: 12:31 | Finish Time: 13:20

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Ground Flush

Lo Location: Top Dead Center | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #00143

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 176 | Surface Temp.: 85 °F

Cal. Sheet No.: 2001CA339, 2001CA340, 2001CA341

Angle Used	0	45	45T	60	60T	
Scanning dB	45.2	51.0	51.0	58.3	58.3	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

See attached coverage plots.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes

Examiner	Level II-PDI		Signature	Date	Reviewer	Signature	Date
Loredo, Quirino	/			11/10/2001	Clay, Sean P.	/	11-26-01
Examiner	Level I		Signature	Date	Site Review	Signature	Date
VanRuler, Christopher	/			11/10/2001	Deopere, Richard A.	/	11/26/01
Other	Level N/A		Signature	Date	ANII Review	Signature	Date
N/A	/				Clow, Ron	/	11/27/01

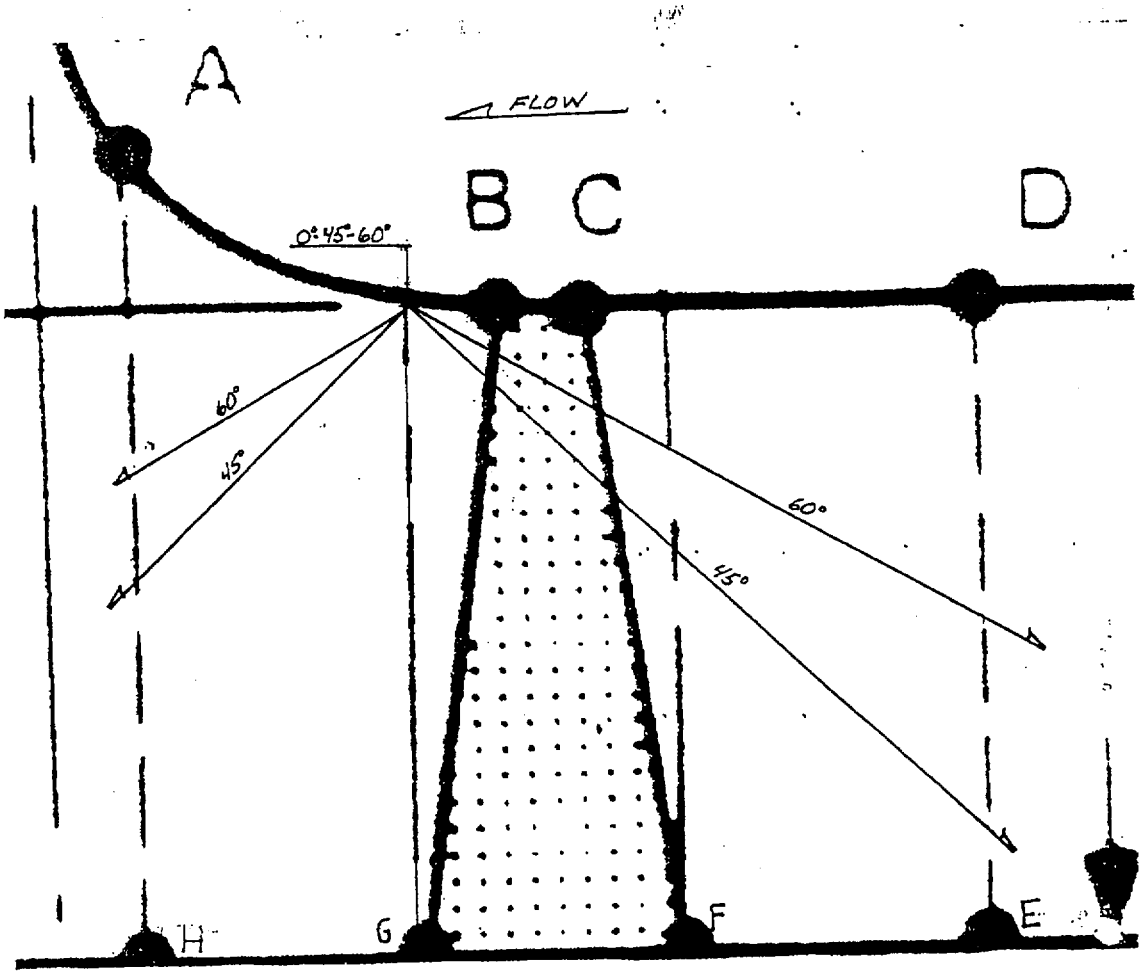
Supplemental Report

Summary No.: 102674

Examiner:	Loredo, Quirino	Level:	II-PDI	Reviewer:	Clay, Sean P.	Date: 11-20-01
Examiner:	VanRuler, Christopher D.	Level:	I	Site Review:	Deopere, Richard A.	Date: 11/26/01
Other:	N/A	Level:	N/A	ANII Review:	Clow, Ron	Date: 11/27/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U330_1.bmp



Limitation Record

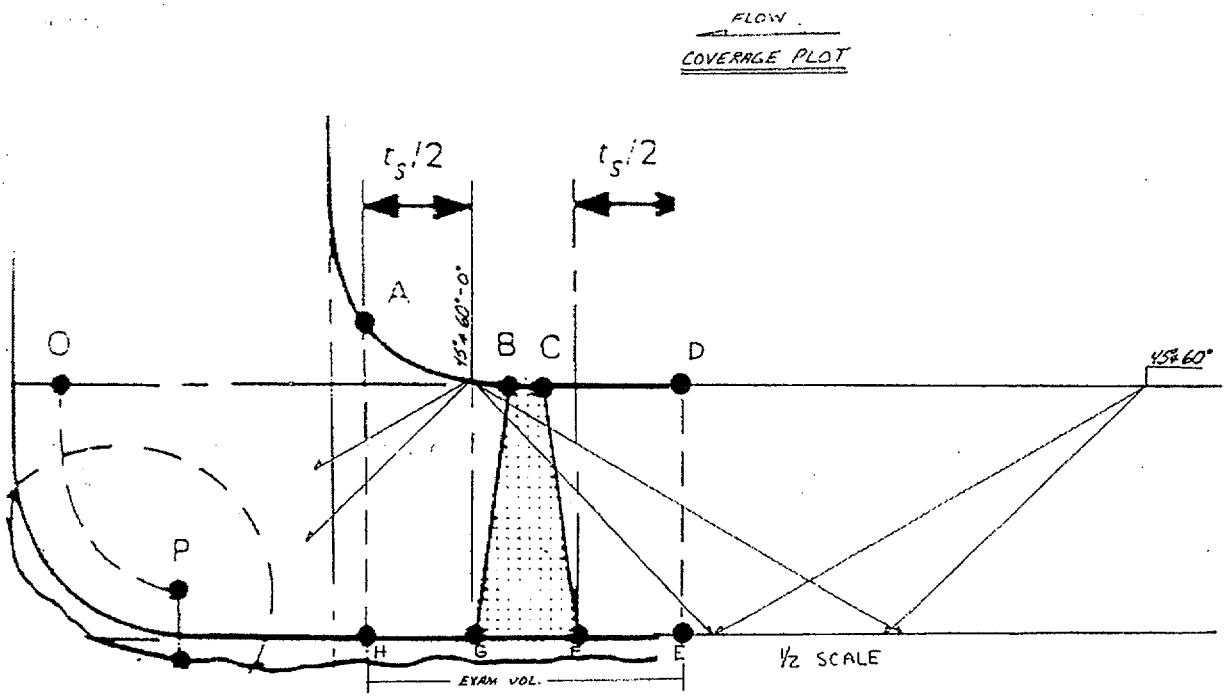
Report No.: 2001U330

Site/Unit:	NSP / M1	Procedure:	ISI-UT-3A	Page:	3 of 4
Summary No.:	102674	Procedure Revision/FC:	8 / —		
Examination For:	ISI	Work Order No.:	0105401		

Description of Limitation:

Nozzle Configuration

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U330_2.bmp



Limitations removal requirements:

N/A

Radiation field:

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Loredo, Quirino	/		**11/10/2001**	**Clay, Sean P.**	/		11-20-01
Examiner	Level I	Signature	Date	Site Review		Signature	Date
VanRuler, Christopher	/		**11/10/2001**	**Deopere, Richard A.**			11/26/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/			**Clow, Ron**	/		11/27/01

Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U330

Site/Unit: NSP / M1 Procedure: ISI-UT-3A Page: 4 of 4

Summary No.: 102674 Procedure Revision/FC: 8 /

Examination For: ISI Work Order No.: 0105401

0 deg Planar

Scan 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for 0 deg

45 deg

Scan 1 100.000 % Length X 90.500 % volume of length / 100 = 90.500 % total for Scan 1

Scan 2 100.000 % Length X 27.800 % volume of length / 100 = 27.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 62.075 **% total for 45 deg**

Other deg 60

Scan 1 100.000 % Length X 92.800 % volume of length / 100 = 92.800 % total for Scan 1

Scan 2 100.000 % Length X 16.800 % volume of length / 100 = 16.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 59.900 **% total for** 60 **deg**

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

62.325 **% Total for complete exam**

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/20/01

ATTACHMENT 7

REPORT 2001U328

Summary No. 102698

UT Vessel Examination

Report No.: 2001U328

Site/Unit: NSP / M1 | Procedure: ISI-UT-3A | Page: 1 of 4

Summary No.: 102698 | Procedure Revision/FC: 8 / —

Examination For: ISI | Work Order No.: 0105401

Applicable Code: 1986 | ISO Drawing No.: ISI Fig 5 | Location: Reactor Vessel

Description: N- 8B Vsl/Noz Weld

System ID: Reactor Vessel

Component ID: N- 8B NV | Size/Length: 6.0" / 31.40" | Thickness/Diameter: 5.55" / 6.0"

Limitations: Nozzle Configuration | Start Time: 12:41 | Finish Time: 14:00

Examination Surface: Inside ☐ Outside ☑ | Surface Condition: Ground Flush

Lo Location: Top Dead Center | Wo Location: Centerline of Weld | Couplant: Sonotrace 40 | Batch No.: #00143

Temp. Tool Mfg.: Telatemp | Serial No.: NSP 176 | Surface Temp.: 85 °F

Cal. Sheet No.: 2001CA333, 2001CA334, 2001CA335

Angle Used	0	45	45T	60	60T	
Scanning dB	45.2	51.0	51.0	58.3	58.3	

Indication(s): Yes ☐ No ☑ | Scan Coverage: Upstream ☑ Downstream ☑ CW ☑ CCW ☑

Comments:

See attached coverage plots.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No | Reviewed Previous Data: Yes PKD

Examiner	Level	Signature	Date	Reviewer	Signature	Date
Loredo, Quirino	II-PDI /		11/12/2001	Clay, Sean P. /		11-26-01
Examiner	Level	Signature	Date	Site Review	Signature	Date
Griebel, David M.	II-PDI /		11/12/2001	Deopere, Richard A. /		11/26/01
Other	Level	Signature	Date	ANII Review	Signature	Date
N/A	N/A /			Clow, Ron /		11/30/01

Supplemental Report

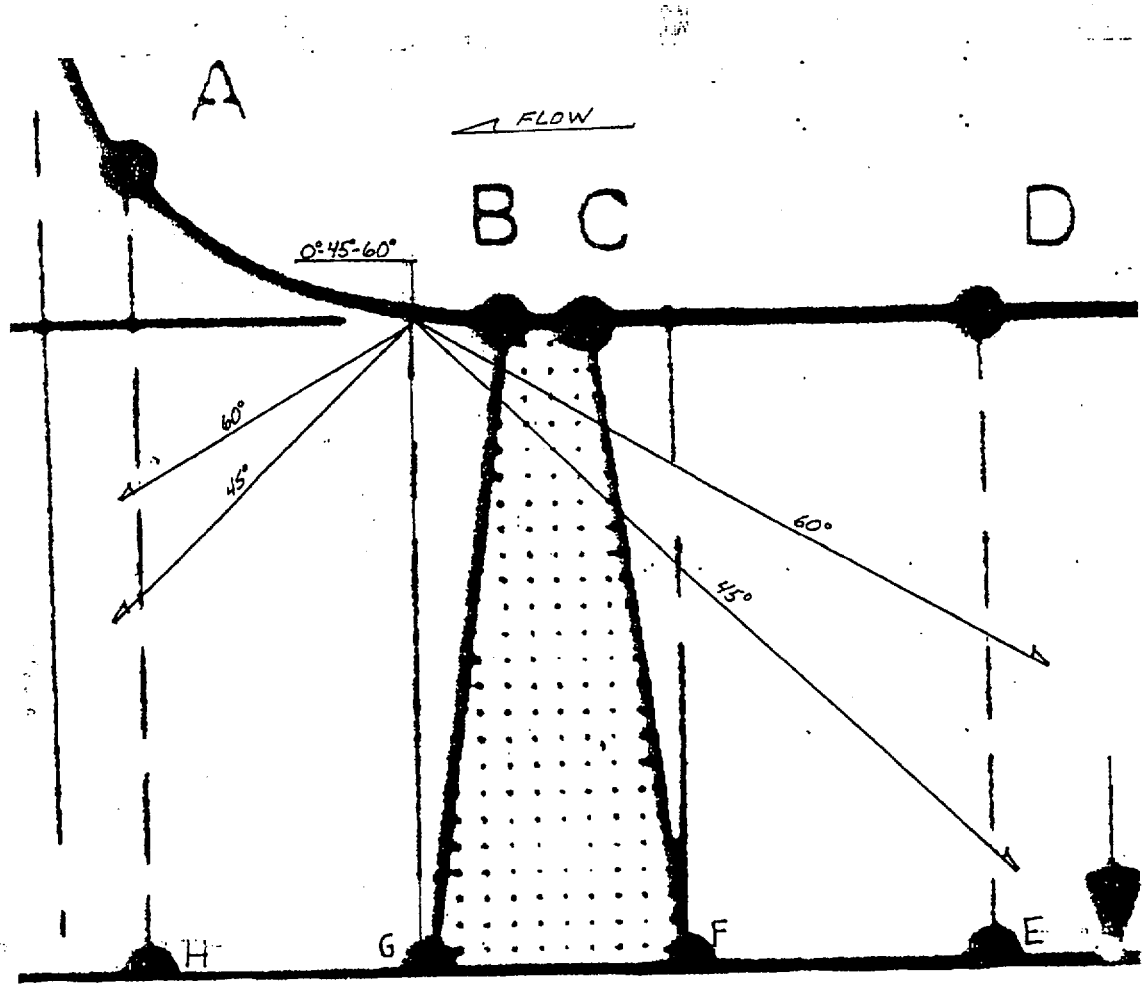
Report No.: 2001U328

Summary No.: 102698

Examiner:	Loredo, Quirino QL	Level:	II-PDI	Reviewer:	Clay, Sean P.	Date: 11-20-01
Examiner:	Griebel, David M. DMG	Level:	II-PDI	Site Review:	Deopere, Richard A.	Date: 11/26/01
Other:	N/A	Level:	N/A	ANII Review:	Clow, Ron	Date: 11/30/01

Comments: None

Sketch or Photo: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U328_1.bmp



Limitation Record

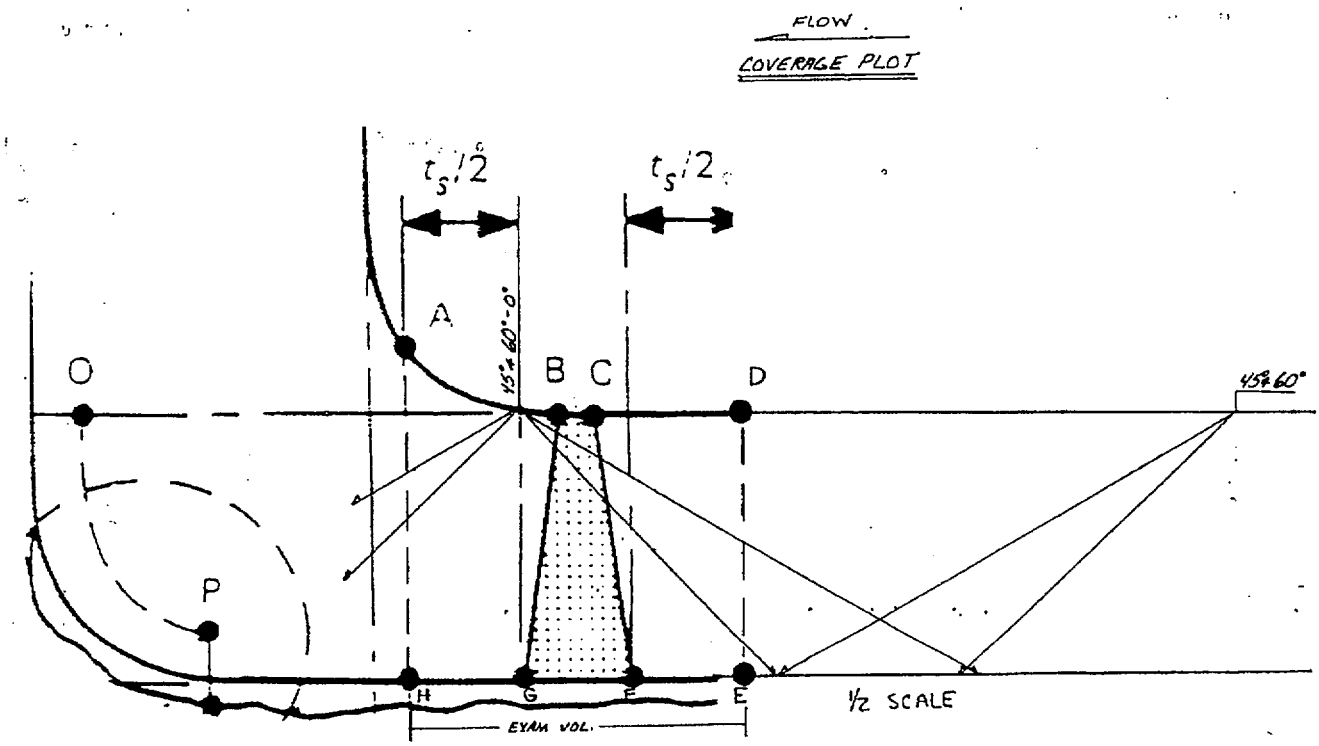
Report No.: 2001U328

Site/Unit:	NSP / M1	Procedure:	ISI-UT-3A	Page:	3 of 4
Summary No.:	102698	Procedure Revision/FC:	8 / —		
Examination For:	ISI	Work Order No.:	0105401		

Description of Limitation:

Nozzle Configuration.

Sketch of Limitation: G:\IDDEAL50\MNGPRFO2001\MNGP SUPPL UT\2001U328_2.bmp



Limitations removal requirements:

N/A

Radiation field: 2500 mR CONTACT

Examiner	Level II-PDI	Signature	Date	Reviewer		Signature	Date
Loredo, Quirino	/		**11/12/2001**	**Clay, Sean P.**	/		11-20-01
Examiner	Level II-PDI	Signature	Date	Site Review		Signature	Date
Griebel, David M.	/		**11/12/2001**	**Deopere, Richard A.**	/		11/26/01
Other	Level N/A	Signature	Date	ANII Review		Signature	Date
N/A	/			**Clow, Ron**	/		11/26/01

Determination of Percent Coverage for UT Examinations - Vessels

Report No.: 2001U328

Site/Unit: NSP / M1 Procedure: ISI-UT-3A Page: 4 of 4

Summary No.: 102698 Procedure Revision/FC: 8 / —

Examination For: ISI Work Order No.: 0105401

0 deg Planar

Scan 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for 0 deg

45 deg

Scan 1 100.000 % Length X 90.500 % volume of length / 100 = 90.500 % total for Scan 1

Scan 2 100.000 % Length X 27.800 % volume of length / 100 = 27.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 62.075 % total for 45 deg

Other deg 60

Scan 1 100.000 % Length X 92.800 % volume of length / 100 = 92.800 % total for Scan 1

Scan 2 100.000 % Length X 16.800 % volume of length / 100 = 16.800 % total for Scan 2

Scan 3 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 3

Scan 4 100.000 % Length X 65.000 % volume of length / 100 = 65.000 % total for Scan 4

Add totals and divide by # scans = 59.900 % total for 60 deg

Percent complete coverage

Add totals for each angle and scan required and divide by # of angles to determine;

62.325 % Total for complete exam

Note:

Supplemental coverage may be achieved by use of other angles / methods. When used, the coverage for volume not obtained with angles as noted above shall be calculated and added to the total to provide the percent total for the complete examination.

Site Field Supervisor: [signature] Date: 11/26/01

ATTACHMENT 8

REPORT 2001VE301

Summary No. 102642

Vendor Exam For Ultrasonic

Site/Unit:	NSP / M1	Procedure:	PDI-ISI-254	Outage No.:	MNGPRF22
Summary No.:	102642	Procedure Rev/FC:	4 / ---	Report No.:	2001VE301
Workscope:	ISI	Work Order No.:	0003968	Page:	1 of 1

Code: 1986 Code Cat.: B-A Location: Reactor Vessel

Drawing No.: ISI Fig 4 Description: Long Seam

System ID: Reactor Vessel

Component ID: VLAA-1 Size/Length: Thickness/Diameter:

Limitations: Jet Pump diffusers restricts access to lower portion of Weld.

Comments:

See Wesdyne Report," Monticello Nuclear Generating Plant 10 Year Reactor Vessel Inservice Examination for NMC. Report 2001 interval 3, period3, Outage RFO20". Coverage of VLAA-1= 80.1%

Limitation is documented in Wesdyne Report

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

Examiner	Level III-PDI	Signature	Date	Reviewer	Signature	Date
Clay, Sean	/		11/19/2001	Whitcomb,Daniel	/	11/19/2001
Examiner	Level	Signature	Date	Site Review	Signature	Date
	/			Deopere, Richard A.	/	2/15/02
Other	Level	Signature	Date	ANII Review	Signature	Date
	/			Suleski, Kurt A.	/	2/15/02

WesDyne International
Reactor Vessel Weld Results Summary

MONTICELLO

WELD NO. VLAA-1 DESCRIPTION Long Seam @ 75°

LIMITATIONS NO [ ] YES [X] See Coverage Estimate Sheet

RESULTS

NI	RI
X	

NO. OF INDICATIONS 0

STATUS N/A

EXAM DOCUMENTATION		INDICATION DOCUMENTATION	
[X]	ANALYSIS LOG	[ ]	ASSESSMENT SHEET
[X]	ACQUISITION LOG	[ ]	PARAGON HARD COPY
[X]	SCAN PRINTOUT	[ ]	OTHER (specify)
[X]	COVERAGE BREAKDOWN		

WESDYNE ANALYST

MONTICELLO

RPV COVERAGE ESTIMATE BREAKDOWNS

DIRECTION / ORIENTATION

PARALLEL SCANS UP / DN

PERP. SCANS CCW / CW

ITEM / AREA Long Seam @ 75°

WELD NO. VLAA1

BEAM ANGLES

BEAM DIRECTION	45° L Dual		45° L Single		45° Shear					
	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME
CCW	76.1	76.1	76.1	73.5	76.1	73.2				
CW	76.1	76.1	76.1	73.5	76.1	73.2				
UP	86.8	82.9	86.8	82.9	86.8	82.9				
DOWN	86.8	82.9	86.8	82.9	86.8	82.9				
	81.5	79.5	81.5	78.2	81.5	78.1				

COMPOSITE COVERAGE 80.1%

ANALYST

ATTACHMENT 9

REPORT 2001VE302

Summary No. 102643

Vendor Exam For Ultrasonic

Site/Unit:	NSP / M1	Procedure:	PDI-ISI-254	Outage No.:	MNGPRF22
Summary No.:	102643	Procedure Rev/FC:	4 / ---	Report No.:	2001VE302
Workscope:	ISI	Work Order No.:	0003968	Page:	1 of 1

Code: 1986 Code Cat.: B-A Location: Reactor Vessel

Drawing No.: ISI Fig 4 Description: Long Seam

System ID: Reactor Vessel

Component ID: VLAA-2 Size/Length: Thickness/Diameter:

Limitations: Jet Pump diffusers restricts access to lower portion of Weld.

Comments:

PAD 2/15/02 for NMC.

See Wesdyne Report," Monticello Nuclear Generating Plant 10 Year Reactor Vessel Inservice Examination Report 2001 interval 3, period3, Outage RFO20." Coverage of VLAA-2= 75.8%

Limitation is documented in Wesdyne Report.

Results: NAD ☑ IND ☐ GEO ☐

Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

Examiner	Level III-PDI	Signature	Date	Reviewer	Signature	Date
Clay, Sean	/		11/19/2001	Whitcomb,Daniel	/	11/19/2001
Examiner	Level	Signature	Date	Site Review	Signature	Date
	/			Deopere, Richard A.		2/15/02
Other	Level	Signature	Date	ANII Review	Signature	Date
	/			Suleski, Kurt A.	/	2/15/02

WesDyne International
Reactor Vessel Weld Results Summary

MONTICELLO

WELD NO. VLAA-2 DESCRIPTION Long Seam @ 255°

LIMITATIONS NO [ ] YES [X] See Coverage Estimate Sheet

RESULTS

NI	RI
X	

NO. OF INDICATIONS 0

STATUS N/A

EXAM DOCUMENTATION	INDICATION DOCUMENTATION
[X] ANALYSIS LOG	[ ] ASSESSMENT SHEET
[X] ACQUISITION LOG	[ ] PARAGON HARD COPY
[X] SCAN PRINTOUT	[ ] OTHER (specify)
[X] COVERAGE BREAKDOWN	

WESDYNE ANALYST

MONTICELLO

RPV COVERAGE ESTIMATE BREAKDOWNS

DIRECTION / ORIENTATION

PARALLEL SCANS UP / DN

PERP. SCANS CCW / CW

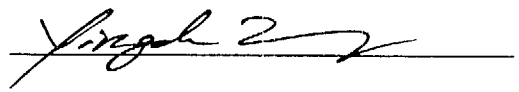
ITEM / AREA Long Seam @ 255°

WELD NO. VLAA2

BEAM ANGLES

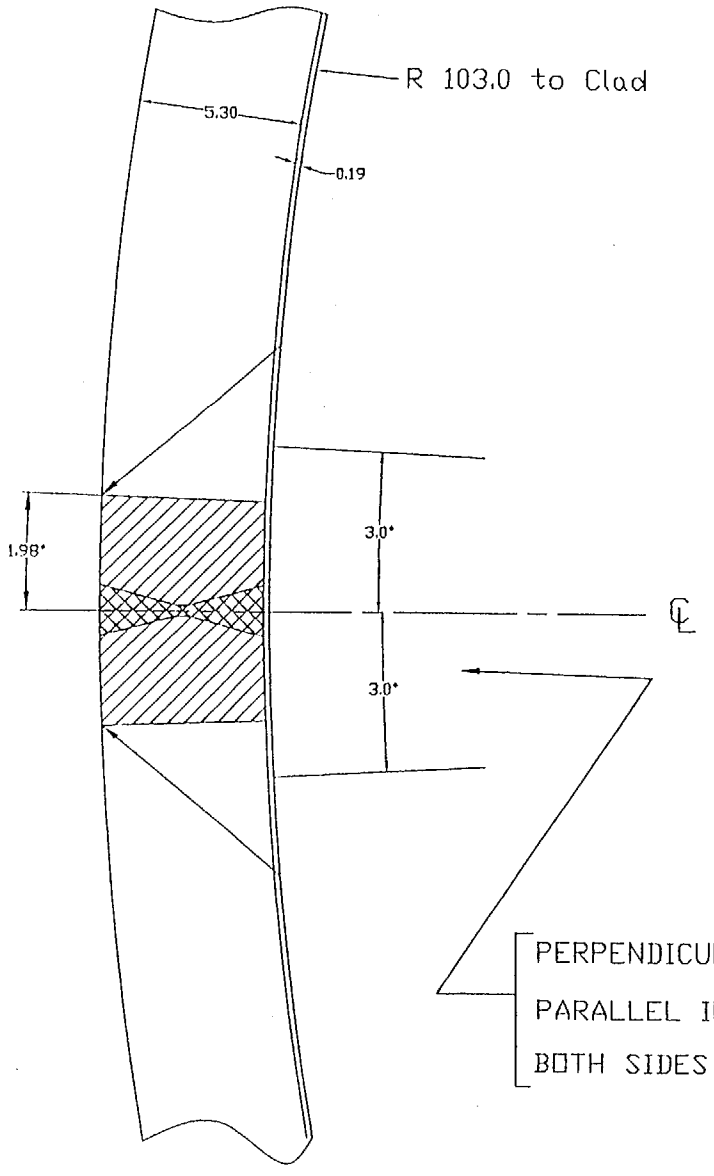
BEAM DIRECTION	45° L Dual		45° L Single		45° Shear					
	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME	WELD	VOLUME
CCW	76.5	76.5	76.5	74.7	76.5	74.4				
CW	76.5	76.5	76.5	73.6	76.5	72.9				
UP	83.7	68.0	83.7	68.0	83.7	68.0				
DOWN	83.7	68.0	83.7	68.0	83.7	68.0				
	80.1	72.3	80.1	71.1	80.1	70.8				

COMPOSITE COVERAGE 75.8%

ANALYST 

ATTACHMENT 10

SUPPORTING DIAGRAMS / SKETCHES FOR ATTACHMENTS 8 AND 9

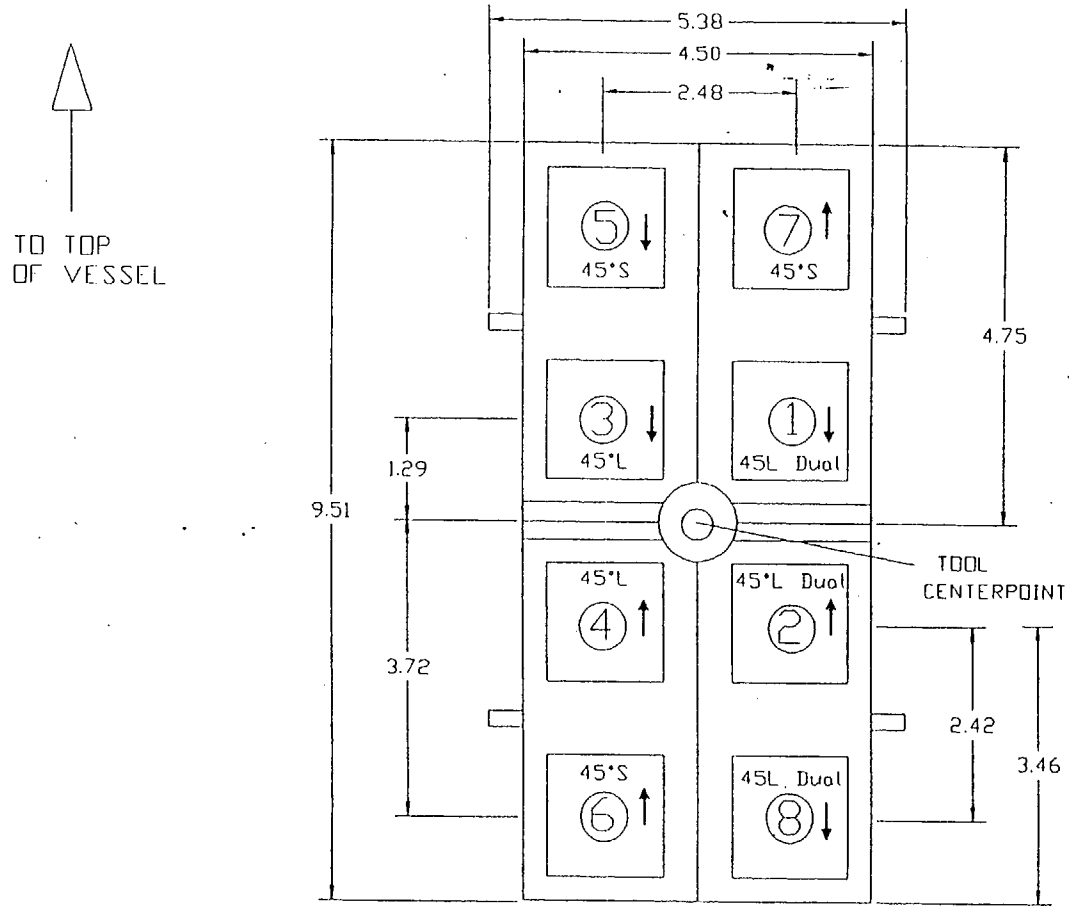


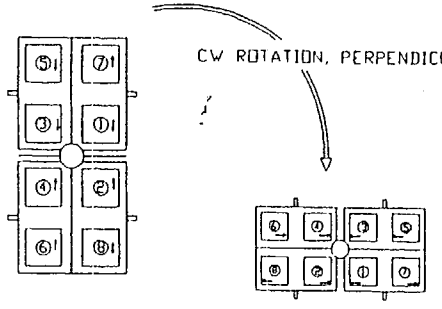
1.798" per Degree

EXPECTED SCAN LIMITATIONS PROVIDED IN WESDYNE EXAMINATION PLAN FOR VLAA-1 & VLAA-2
(BASED ON RPV DRAWING SPECIFICATIONS)

VLAA1	255°	420.6 to 551.46	413.74 to 558.32
VLAA2	75°	420.6 to 551.46	413.74 to 558.32

Monticello R.V. ISI 2002
WesDyne International
LONG SEAMS
EXAMINATION PROGRAM PLAN
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED | SHEET OF





VIEW: FROM VESSEL CENTERLINE

WEDSDYNE INTERNATIONAL

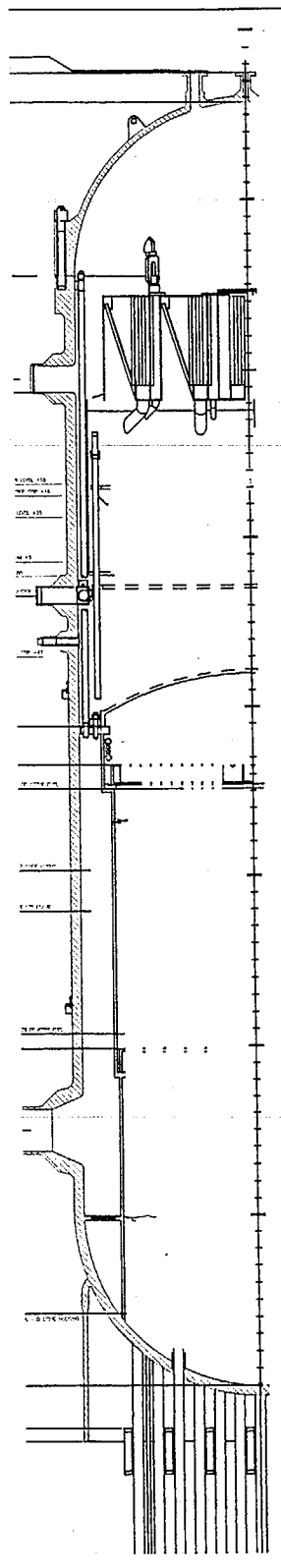
MONTICELLO

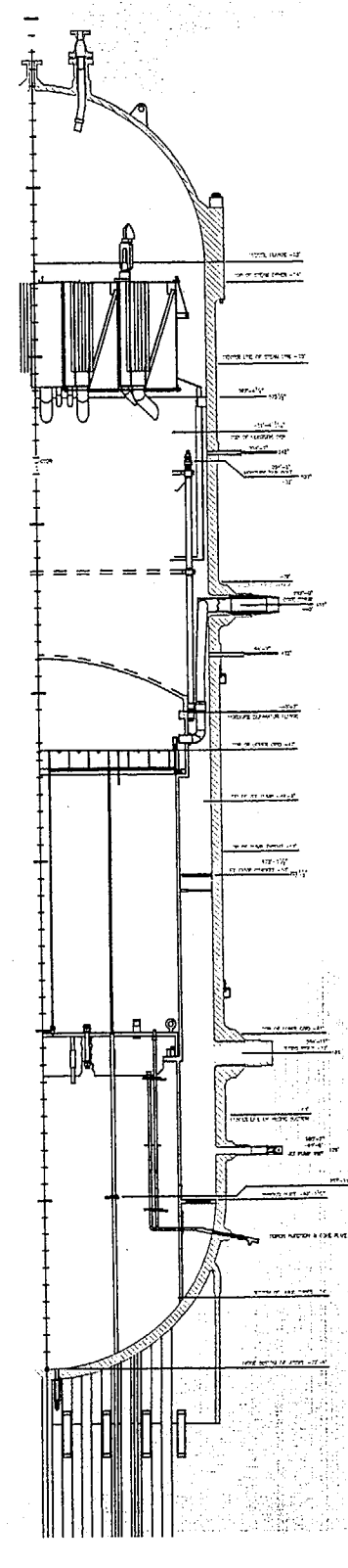
PDI EXAM SHELL SLED

UT TRANSDUCER FIXTURE

SKETCH SHOWING RELATIONSHIP BETWEEN VERTICAL WELD VLAA-2, JET PUMP DIFFUSERS & INSTRUMENTATION LINES

(* VLAA-1 IS SAME AS VLAA-2) *





VCBC 5

VLDB 1

VLDB 2

VCBB4

VCBB3

VLCB 1

VLCB 2

VLBA 1

VLBA 2

VCBA 2

VLAA 1

VLAA 2

VCBB 1

1-10 1-11 1-12 1-13 1-14 1-15 1-16 1-17

N3A 072° STEAM LINE PLUGS N3B 108°

N3C 252° STEAM LINE PLUGS N3D 288°

N11A 040°

N11B 220°

N4D 315°

N12A 040°

N9 065°

N5A 090°

N10 135°

N12B 220°

N5B 270°

N2H 270°

N2J 300°

N2K 330°

N1A 000°

N2A 030°

N2B 060°

N2C 090°

N2D 120°

N2E 150°

N1B 180°

N2F 210°

N2G 240°

N8B 240°

N10 350°

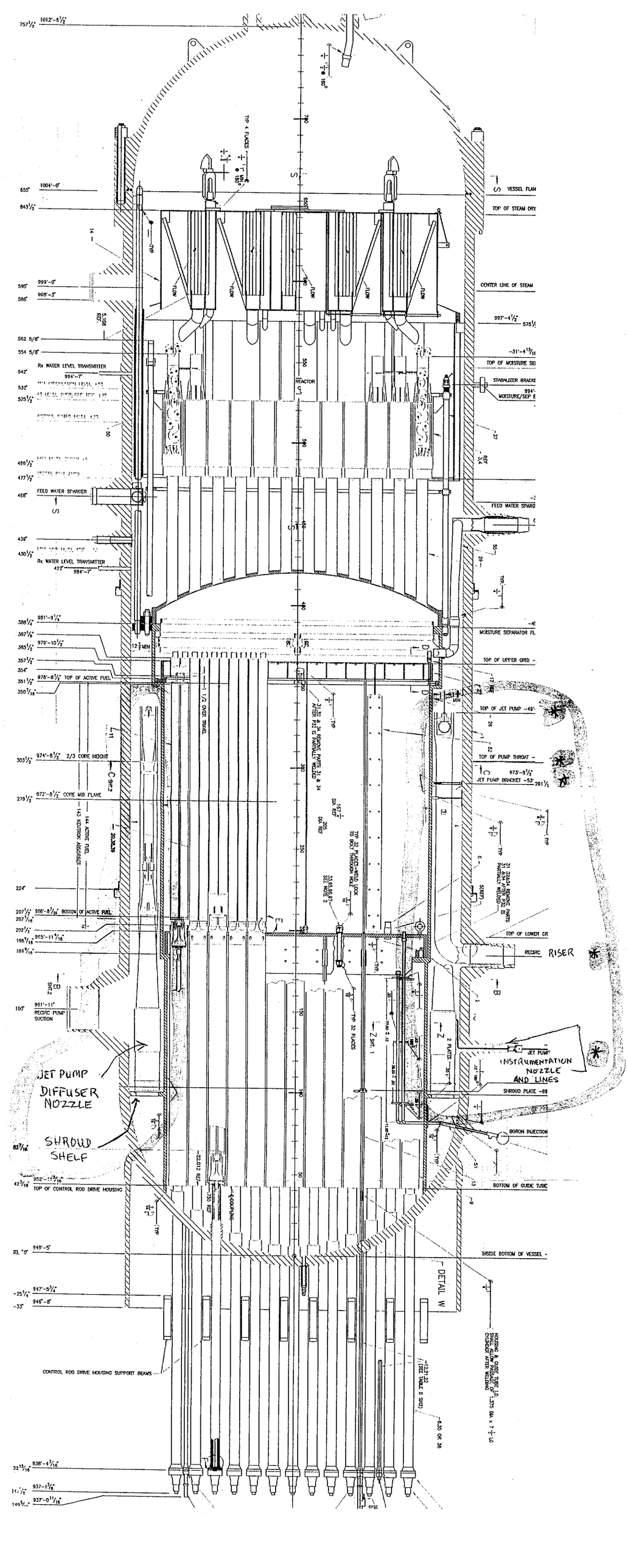
JET PUMP INSTUMENTATION LINES (TYPICAL)

JET PUMP INSTRUMENTATION NOZZLE

WELD VLAA-2 (INACCESSIBLE AREA HIGHLIGHTED)

JET PUMPS (10 SETS -- TYPICAL)

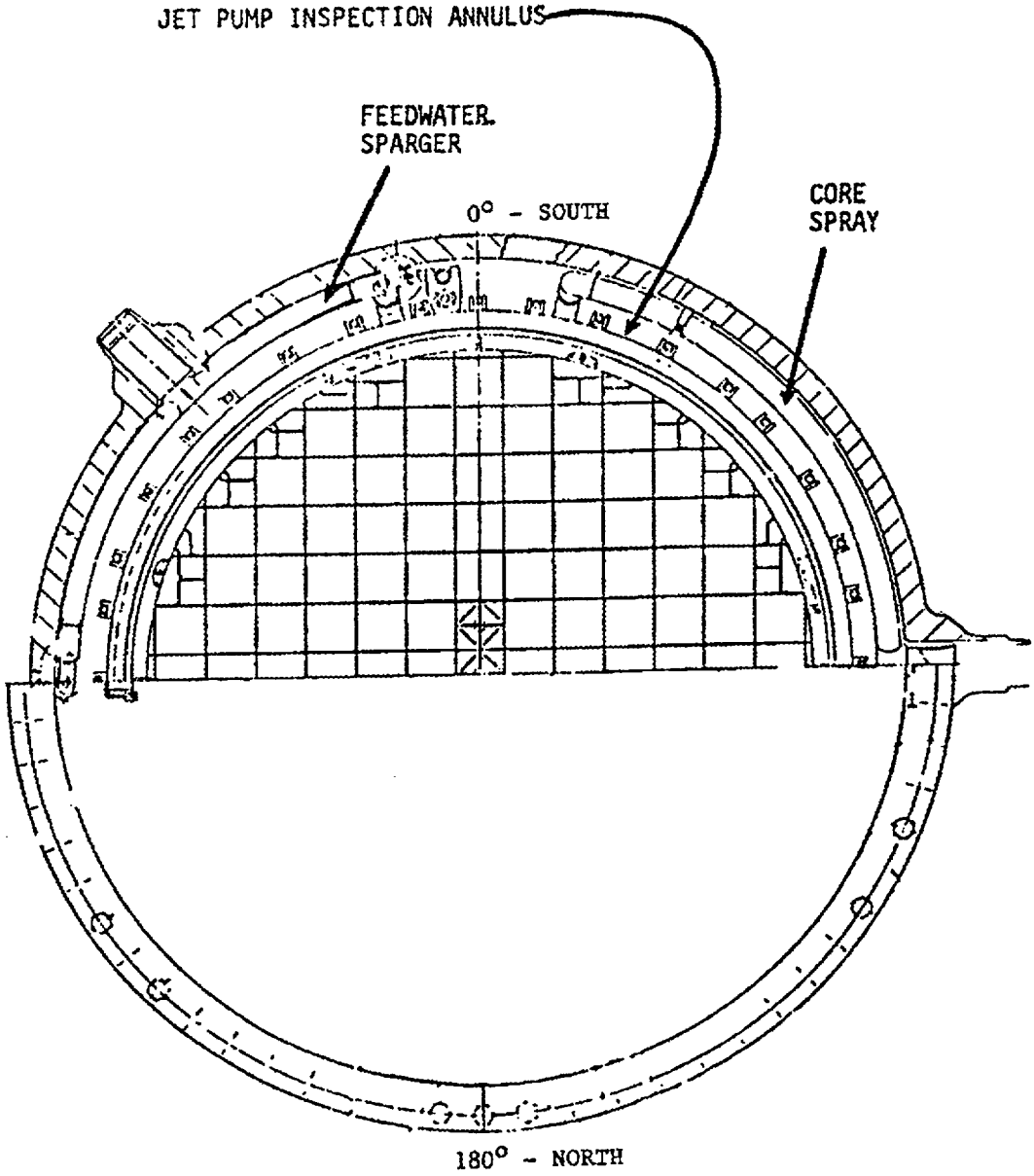
JI = JET PUMP INSTRUMENT LINES


JET PUMP
DIFFUSER
NOZZLE
SHROUD
SHELF
INSTRUMENTATION
NOZZLE
AND LINES
RISER
DETAIL W
CONTROL ROD DRIVE HOUSING SUPPORT BEAMS
TOP OF CONTROL ROD DRIVE HOUSING
BOTTOM OF ACTIVE FUEL
TOP OF ACTIVE FUEL
2/3 CORE HEIGHT
CORE MID PLANE
FEED WATER SPARGER
JET PUMP BRACKET
TOP OF JET PUMP
TOP OF PUMP THROAT
TOP OF LOWER GR
TOP OF UPPER GRID
MOISTURE SEPARATOR FL
TOP OF STEAM DRY
VESSEL FLAN
CENTER LINE OF STEAM
REACTOR
RECIRC PUMP SUCTION
BORON INJECTION
SHROUD PLATE
BOTTOM OF GUIDE TUBE
INSIDE BOTTOM OF VESSEL
144 ACTIVE FUEL
140 NEUTRON ABSORBER
Rx WATER LEVEL TRANSMITTER
TOP 4 PLACES
TOP 32 PLACES
2 PLATES

TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX E

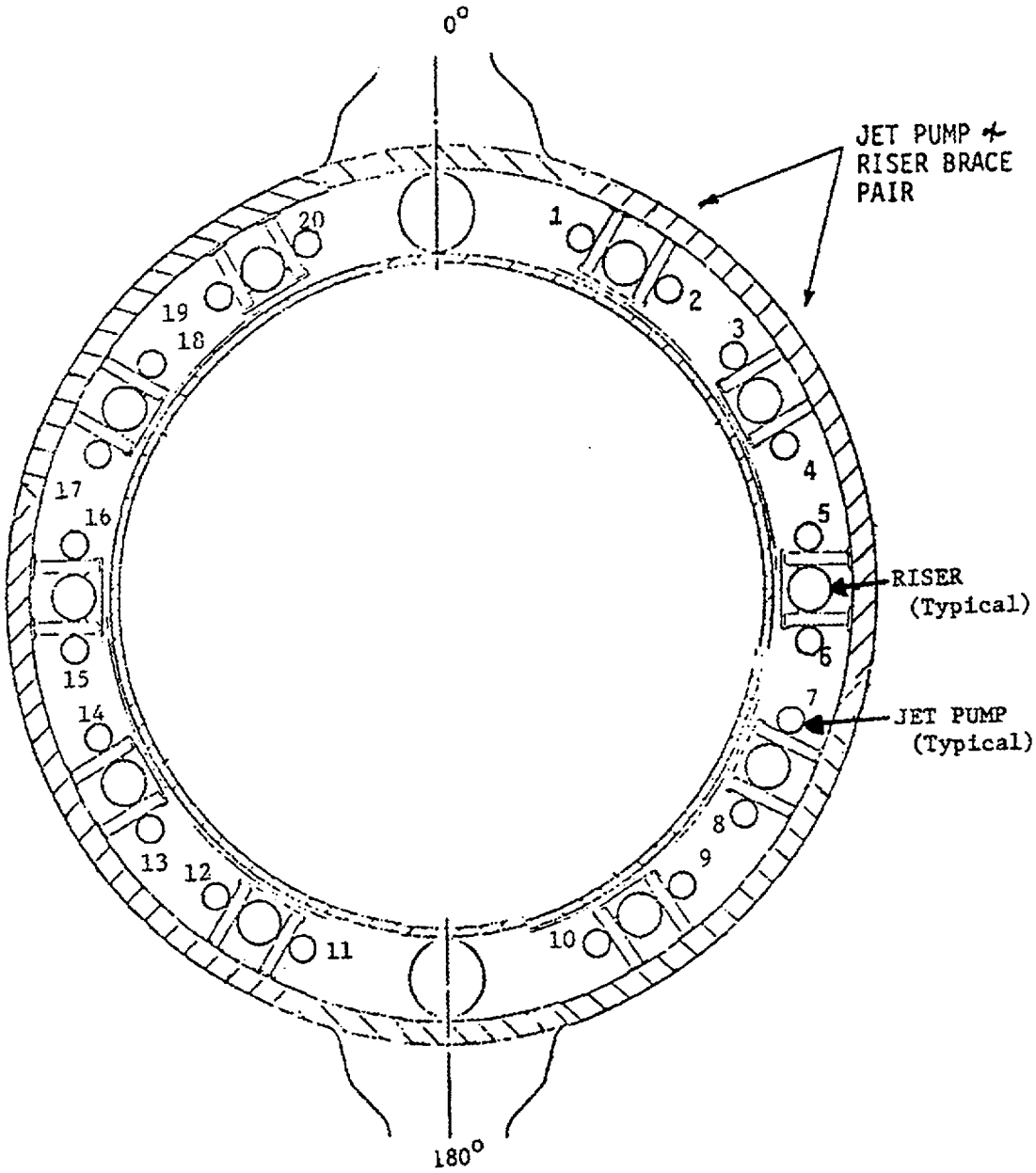
JET PUMP TOP ASSEMBLY AND BRACES
FIGURE 1



TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX E

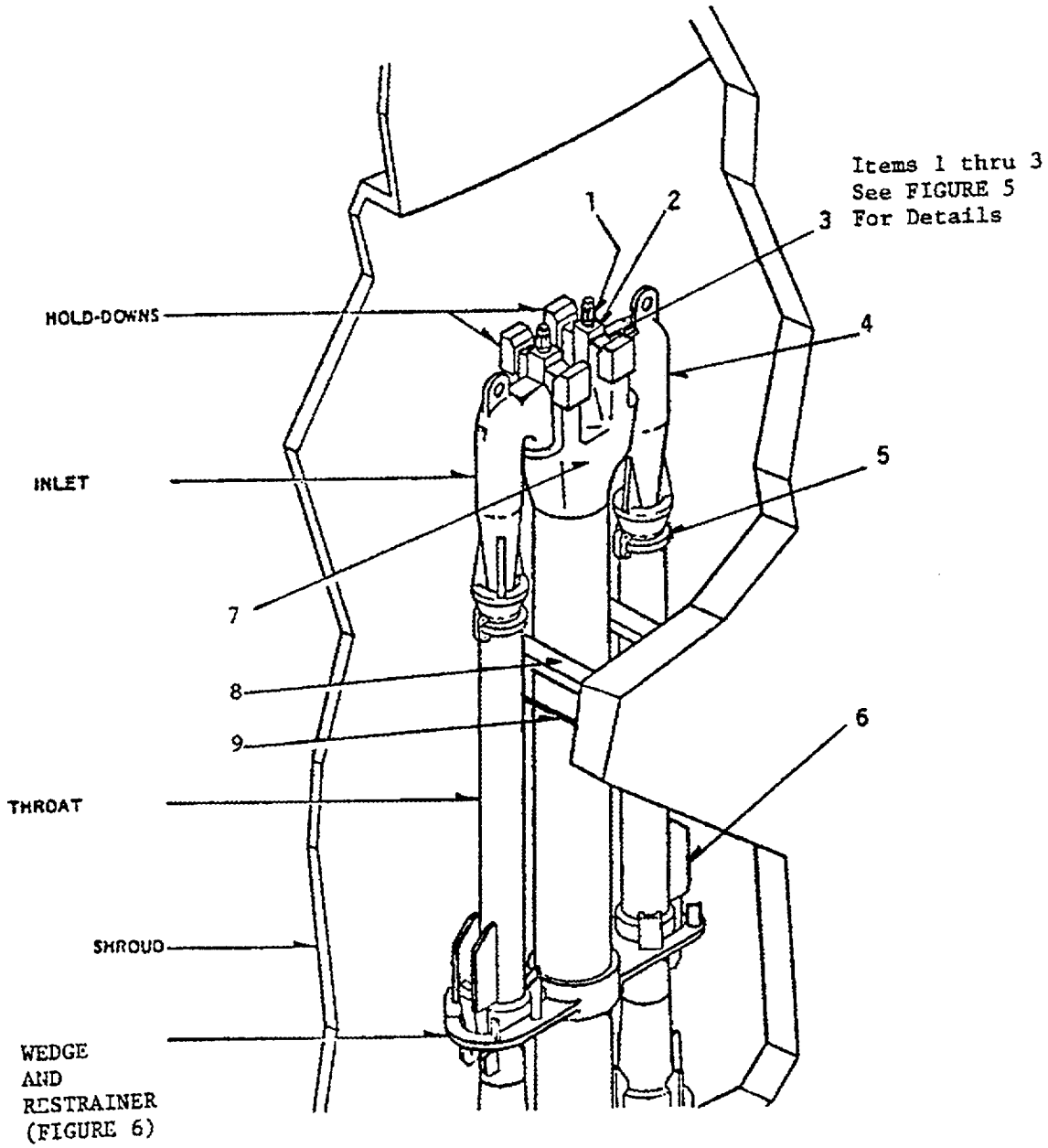
JET PUMP TOP ASSEMBLY AND BRACES
FIGURE 2



TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX E

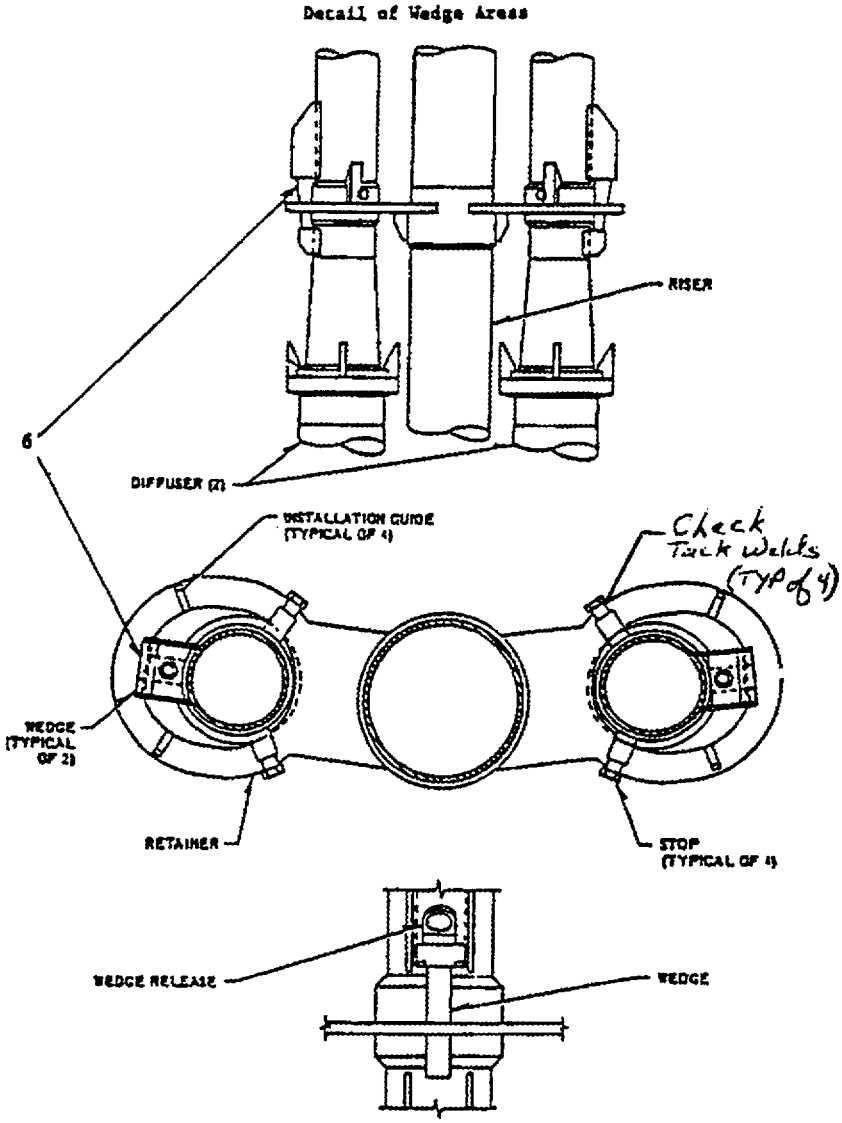
JET PUMP TOP ASSEMBLY AND BRACES
FIGURE 3



TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX E

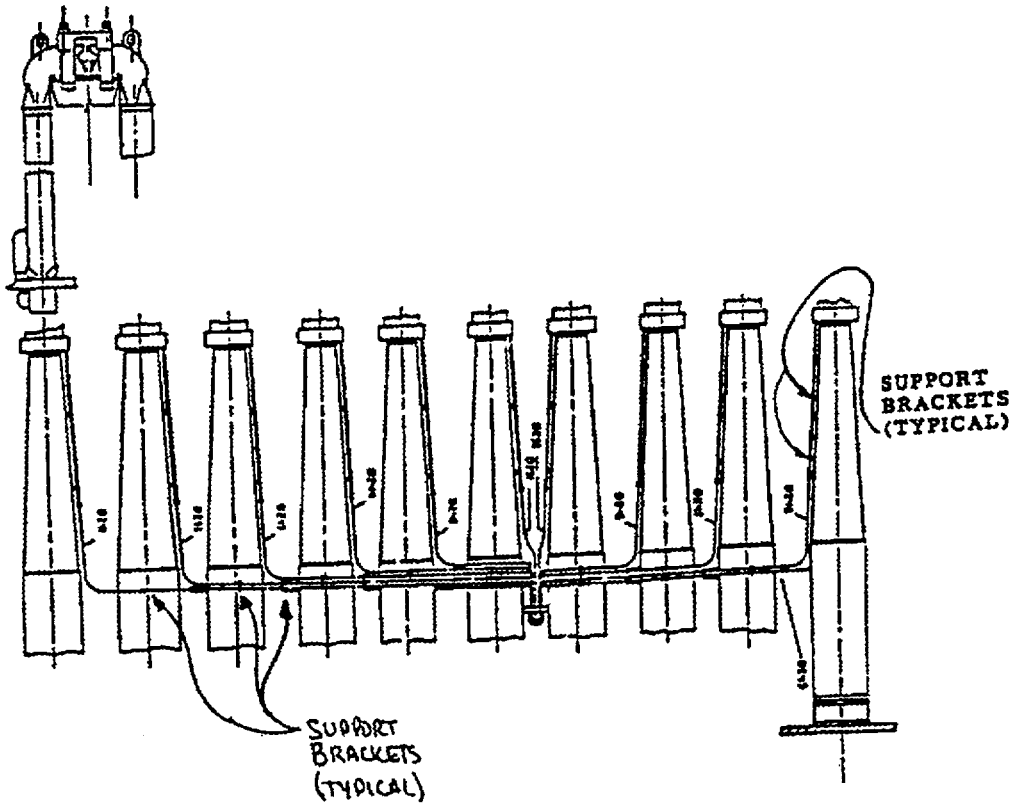
JET PUMP TOP ASSEMBLY AND BRACES
FIGURE 6



TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX E

JET PUMP TOP ASSEMBLY AND BRACES
FIGURE 7

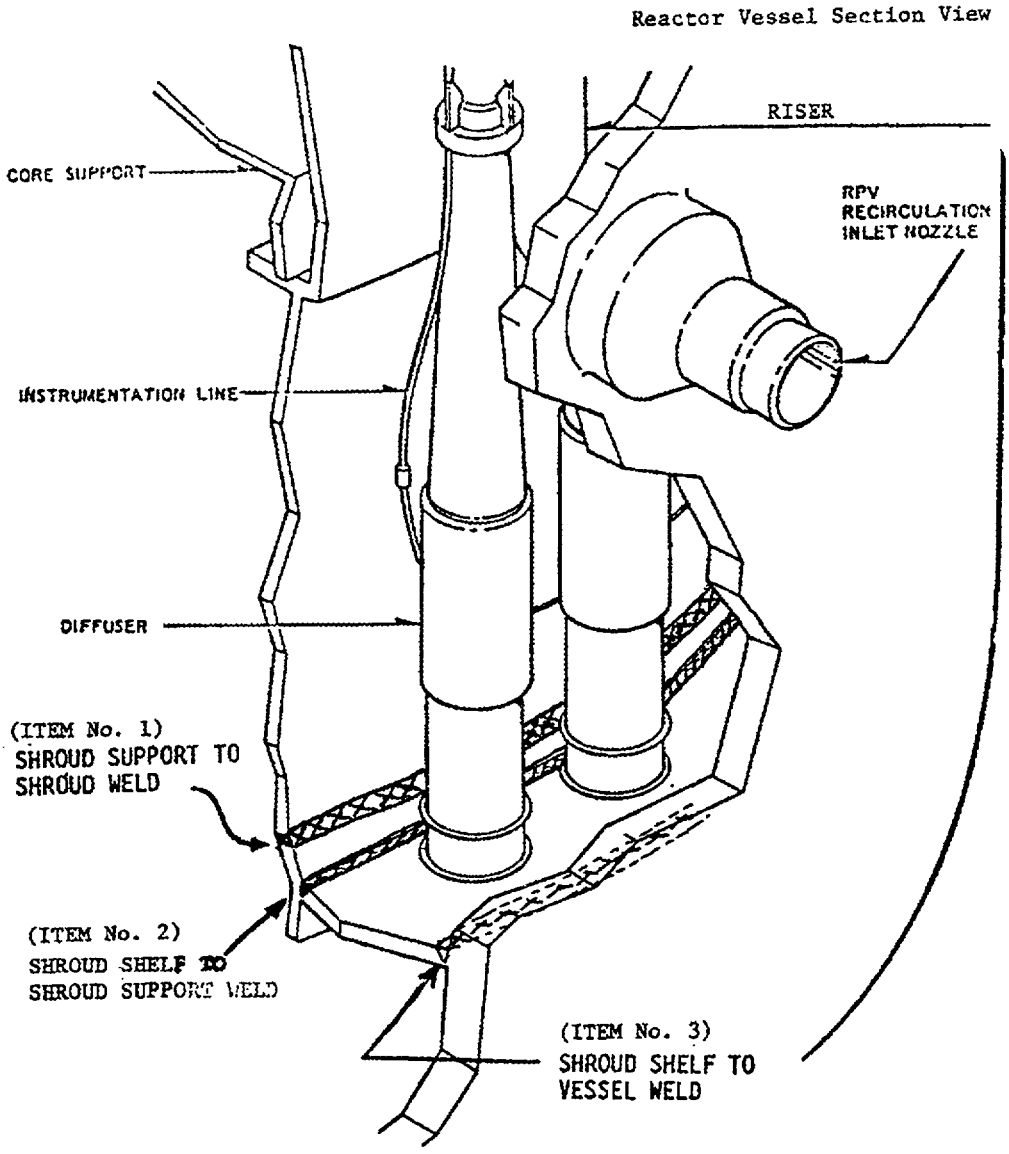


JET PUMP SENSING LINES AND SUPPORT BRACKET SCHEMATIC

TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX F

SHROUD SHELF AND WELDS
FIGURE 1



TITLE: VISUAL EXAMINATION OF MONTICELLO REACTOR VESSEL INTERIOR
NUMBER: ISI-VT-4.0 Revision 5

APPENDIX F

SHROUD SHELF AND WELDS
FIGURE 2