Entergy

Entergy Nuclear Operations, Inc.
Pilgrim Station
600 Rocky Hill Road
Plymouth, MA 02360

Stephen J. Bethay
Director, Nuclear Assessment

June 28, 2006

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

SUBJECT: Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
Docket No. 50-293, License No. DPR-35

Request For Approval of ASME Code, Section XI, Third Ten-Year Pilgrim Relief Request, PRR-42, Examinations of Component Welds with Less Than Essentially 100% Examination Coverage

REFERENCES
1. Entergy (BECO) Letter No. 2.95.091, ASME Section XI, Third Interval Inservice Inspection Plan, Pilgrim Nuclear Power Station, dated September 1, 1995
2. ASME Section XI, Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1"

LETTER NO. 2.06.054

Dear Sir or Madam:

By Reference 1, Entergy submitted Pilgrim Third Ten-Year Inservice Inspection Plan for the interval of July 1, 1995 to June 30, 2005, in accordance with the 1989 ASME Code, Section XI requirements pursuant to 10 CFR 50.55a.

During the Third Ten-Year interval, Pilgrim completed the required in-service examinations in accordance with the plan; except, certain components could not fully meet the volumetric examination requirements stipulated in the 1989 ASME Code, Section XI, including the clarifications provided in the ASME Code Case N-460 (Ref. 2). Entergy has determined that conformance with the code requirement of essentially 100% coverage of weld volume or area examined was impractical due to various constraints and limitations. Accordingly, pursuant to 10 CFR 50.55a (g)(5)(iii), Entergy submits the attached Pilgrim Relief Request No, PRR-42, for NRC review and approval.

PRR-42 proposes alternatives where the requirement of "essentially 100%" volumetric examination was not feasible due to construction limitations, obstructions, accessibility, and examination techniques. The alternatives and justifications are explained in the attached relief request providing a list of components which requires relief pursuant to 10 CFR 50.55a. The alternatives and justifications provide acceptable level of quality and safety and will not adversely impact the health and safety of the public.

There are no commitments contained in this letter.

A047

A similar ISI Relief Request No. B-5 for Vermont Yankee Nuclear Power Station was approved by the NRC Letter dated September 19, 2005 (TAC. No. MC 0959).

If you have any questions on this transmittal, please contact Mr. Bryan Ford, Licensing Manager at 508-830-8403.

Sincerely,

Stephen J. Bethay

WGL/dm

Attachments: 1. Pilgrim Relief Request, PRR-42 (8 pages)
2. Pilgrim 3rd Interval ISI Program Data Sheets for Examinations with less than "Essentially 100% coverage (240 pages)

cc: Mr. James Shea, Project Manager
Office of Nuclear Reactor Regulation
Mail Stop: 0-8B-1
U.S. Nuclear Regulatory Commission
1 White Flint North
11555 Rockville Pike
Rockville, MD 20852

U.S. Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Senior Resident Inspector
Pilgrim Nuclear Power Station

PILGRIM RELIEF REQUEST PRR-42

Attachment 1 to Entergy Letter 2.06.054

Entergy Nuclear Northeast
Pilgrim Nuclear Power Station
3rd 10-Year ISI Interval Closeout

Proposed Alternative
In Accordance with 10 CFR 50.55a(g)(5)(iii)
(Inservice Inspection Impracticality - Alternative Provides Acceptable Level of Quality and Safety)

1. ASME Code Component(s) Affected

Code Classes: 1, 2

References: Subarticle IWB-2500, Subarticle IWC-2500, GL 88-10, NUREG 0313, ASME Code Case N-460

Examination Categories: B-A, B-D, B-F, B-H, B-J, B-O, C-C, C-F-1 and C-F-2

Item Numbers: B1.12, B1.21, B1.30, B3.90, B5.10, B5.130, B8.10, B9.11, B9.21, B14.10, C3.20, C5.11, C5.51

Description: Volumetric and Surface Examination Coverage

Component Numbers: Various, see Table 3

2. Applicable Code Edition and Addenda

1989 Edition with no addenda

3. Applicable Code Requirements

Subarticle IWB-2500 states in part "Components shall be examined and tested as specified in Table IWB-2500-1". Table IWB-2500-I requires a volumetric examination or a surface and volumetric examination be performed on the component based on Category and Item Number. The applicable examination area or volume and method required are as shown below from Table IWB-2500-1:

TABLE 1

Examination Category	Item Number	Examination Requirements /Figure Number	Examination Method
B-A	B1.12	IWB-2500-2	Volumetric
B-A	B1.21	IWB-2500-3	Volumetric
B-A	B1.30	IWB-2500-4	Volumetric
B-D	B3.90	IWB-2500-7	Volumetric
B-F	B5.10	IWB-2500-8	Volumetric and Surface
B-F	B5.130	IWB-2500-8	Volumetric and Surface
B-H	B8.10	IWB-2500-13	Surface
B-J	B9.11	IWB-2500-8	Volumetric and Surface
B-J	B9.21	IWB-2500-8	Surface
B-O	B14.10	IWB-2500-18	Volumetric or Surface

Subarticle IWC-2500 states in part, "Components shall be examined and pressure tested as specified in Table IWC-2500-I " Table IWC-2500-1 requires a surface examination or a surface and volumetric examination to be performed on the component based on Category and Item Number. The applicable examination area or volume and method required are as shown below from Table IWC-2500-1:

TABLE 2

Examination Category	Item Number	Examination Requirements / Figure Number	Examination Method
C-C	C3.20	IWC-2500-5	Surface
C-F-1	C5.11	IWC-2500-7	Surface & Volumetric
C-F-2	C5.51	IWC-2500-7	Surface & Volumetric

The Code requires that the entire volume or area be examined.

4. <u>Impracticality of Compliance</u>

Entire volume or area required is defined by ASME Section XI Code Case N-460 titled "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1". Code Case N-460 states in part, "...when the entire examination volume or area cannot be examined... a reduction in examination coverage.. .may be accepted provided the reduction in coverage for that weld is less than 10%".

The NRC through Information Notice 98-42 titled "Implementation of 10 CFR 50.55a(g) Inservice Inspection Requirements" termed the reduction in coverage of less than 10% to be "essentially 100 percent". Information Notice 98-42 states in part, "The NRC has adopted and further refined the definition of 'essentially 100 percent' to mean 'greater than 90 percent'... has been applied to all examinations of welds or other areas required by ASME Section XI."

Pilgrim's piping systems and associated components were designed and fabricated before the examination requirements of ASME Section XI were formalized and published. Since this plant was not specifically designed to meet the requirements of ASME Section XI, literal compliance is not feasible or practical within the limits of the current plant design.

Physical obstructions imposed by design, geometry and materials of construction are typical of vessel appurtenances, biological shield wall, insulation support rings, structural and component support members, adjacent component weldments in close proximity, unique component configurations (valves and pumps), and dissimilar metal weldments.

Therefore, examination of the entire volume or area for some of the components which are listed in Table 3 cannot be achieved. The specifics of the limitations and restrictions are also provided in Table 3. The Attachment 2 to this relief request provides the actual data sheets of examinations with less than essentially 100% coverage.

Accordingly, pursuant to 10 CFR 50.55a(g)(5)(iii), Entergy has determined that conformance with the code requirement of essentially 100% coverage of weld volume or area examined was impractical due to various constraints and limitations as stated above. Entergy requests NRC approval of the proposed alternative as stated below.

5. Burden Caused by Compliance

To increase the percentage coverage of the volume or area examined, the Reactor Pressure Vessel (RPV), Class 1 piping nozzles, portion of the Class 1 piping system, the CRD Housing, and a number of the Class 2 piping system support lugs would have to be re-designed, re-fabricated, or removed. These activities would also require extensive engineering and design effort, as well as the shutdown of the plant for modification installation. These activities are impractical for the plant to undertake.

6. Proposed Alternative and Basis for Use

A). The components listed in Table 3 have already been examined by the available methods to the maximum extent practical. No additional volumetric or surface examinations will be performed on the components for the 3rd Inservice Inspection Interval.

B). A visual inspection (VT-2) is performed by VT-2 qualified operators on the subject components during the system pressure tests (with no leakage detected) as required by code category B-P (each refueling outage) and category C-H (each period).

Basis for Use

As a minimum, all components received the required examination(s) to the extent practical with regard to the limited or lack of access available. The examinations conducted confirmed satisfactory results evidencing no unacceptable flaws present, even though "essentially 100%" coverage was not attained. PNPS has concluded that if any active degradation mechanisms were to exist in the subject welds, those degradations would have been identified in the examinations performed.

For surface examinations PNPS calculated the coverage percentage based on the area that was examined within the required coverage area divided by the required surface area to be inspected. For volumetric (ultrasonic) examinations there are many ways to calculate coverage. PNPS elected to use the following method. The required examination volume was calculated. The examination was performed in accordance with an approved ultrasonic procedure that met the governing Code requirements. The approved procedure requires a number of angles and a number of beam directions for each angle. For each angle/beam direction combination the volume interrogated by that beam was calculated (within the required coverage volume). Then that value was divided by the required examination volume to determine percentage coverage for each angle/beam-direction combination. Then those required angle/beam-direction coverage percentages were averaged to determine an overall composite coverage. For example, prior to invoking Appendix VIII, ASME Section V, Article 4 required 0°, 45°, and 60° search units for examining vessel welds from the OD of the vessel. The 45° and 60° search units are each required to be scanned in four orthogonal directions. Therefore, a total of nine angle/beam- directions are required and a coverage percentage is calculated for each of those nine angle/beam-direction combinations. Then those nine values are averaged to determine the overall composite coverage. (Note: Since Appendix VIII was invoked for vessel welds, the required number of angle/beam-direction combinations now depends on the qualified procedure, and thus the calculation would be different.)

For the most part, PNPS did not select alternative welds when coverage was limited on the scheduled weld. A sample plan implies a certain amount of random choice in the

selection of welds for examination — unless there are more conservative ways to select the sample, such as selecting high stress points or welds where industry experience indicates that damage mechanisms are more likely. This is why for Category C-F-2, terminal end welds are singled out; they are more typically high stressed. The reason for interferences is usually independent of the flaw mechanism. However, there may be cases where this is not true. For example, valve-to-pipe welds and pump-to-pipe weld geometries may inhibit coverage. But, these welds may actually have higher stresses because of their configurations. In these cases, if alternative welds were selected, the sample of higher stressed welds in the population would be diluted. If alternative welds are chosen, the selection randomness decreases. Flaw mechanisms associated with test limitations may be missed and it may be better to accept the limited coverage than to select alternative welds.

There is Code precedent for allowing limited coverage due to inaccessibility. ASME Section XI exempts certain Class 1 and Class 2 welds from examination based on the criteria that they are inaccessible. Paragraphs IWB-1220(c) and IWC-1230 exempt welds that are inaccessible due to control rod drive penetrations or because they are encased in concrete. The Code recognizes that examination of these welds is not possible, and therefore, a Relief Request would not be necessary. The same logic applies to portions of welds that are inaccessible and where examination of those portions of welds is not possible.

To summarize, PNPS has examined all components in the 3rd Interval ISI Program and associated augmented programs to the maximum extent possible given the inspection limitations discussed above. The portion of the PNPS ISI Program surface and volumetric inspection sample that could not be examined (expressed in inches of weld metal) due to limitations/interferences during the 3rd ten year interval is approximately 4% when compared to the total weld length that could have been examined if no limitations had been present.

When the PNPS ISI Program is viewed in total, the overall degree of coverage obtained is still greater than 90%, i.e. essentially 100%. For this and the other reasons detailed in this request, Entergy believes that the limited coverage obtained on the components listed in Table 3 is not significant and will provide an adequate level of quality and safety for examination of the affected welds, and will not adversely impact the health and safety of the public.

7. Duration of Proposed Alternative

Relief is requested for the third ten-year interval of the Inservice Inspection Program for Pilgrim, which began July 1, 1995 and concluded June 30, 2005.

8. Attachment

Pilgrim 3rd Interval ISI program datasheets for examinations with less than "Essentially 100%" coverage are attached (Attachment 2).

TABLE 3

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
				COMBINED NDE COVERAGE		
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	MT/PT	UT	LIMITATION (CAUSE OF REDUCED COVERAGE)
B-A	B1.21	RPV-BH-C1	HEAD CIRCUMF. WELD	---	75	VESSEL SKIRT CONFIGURATION AND THERMOCOUPLES
B-A	B1.12	RPV-L-1-338A	LOWER INTERMEDIATE SHELL VERTICAL WELD	---	89	JET PUMP RISER SUPPORT INTERFERENCE
B-A	B1.12	RPV-L-1-338C	LOWER INTERMEDIATE SHELL VERTICAL WELD	---	25	JET PUMP RISER SUPPORT, SURV. SPECIMEN HOLDER & SUPPORT BRACKETS, SHROUD REPAIR TIE ROD INTERFERENCE
B-A	B1.12	RPV-L-2-338A	LOWER SHELL VERTICAL WELD	---	73	BAFFLE PLATE AND BAFFLE GUSSET INTERFERENCE
B-A	B1.12	RPV-L-2-338B	LOWER SHELL VERTICAL WELD	---	78	BAFFLE PLATE GUSSET INTERFERENCE
B-A	B1.12	RPV-L-2-338C	LOWER SHELL VERTICAL WELD	---	25	BAFFLE PLATE, GUSSET, SHROUD REPAIR TIE ROD INTERFERENCE, N2K NOZZLE
B-A	B1.12	RPV-L-2-339A	UPPER INTERMEDIATE SHELL VERTICAL WELD	---	81	FW AND CS SPARGER INTERFERENCE
B-A	B1.12	RPV-L-2-339B	UPPER INTERMEDIATE SHELL VERTICAL WELD	---	75	FW AND CS SPARGER INTERFERENCE AND ID TAPER
B-A	B1.12	RPV-L-2-339C	UPPER INTERMEDIATE SHELL VERTICAL WELD	---	83	FW AND CS SPARGER INTERFERENCE
B-A	B1.30	RPV-SF-0-120	SHELL TO FLANGE	---	81	N3 NOZZLES, NOZZLE PLUGS, GUIDE RODS @ 0 & 180 deg, FLANGE CONFIGURATION

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
				COMBINED NDE COVERAGE		
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	MT/PT	UT	LIMITATION (CAUSE OF REDUCED COVERAGE)
B-A	B1.30	RPV-SF-120-240	SHELL TO FLANGE	---	81	N3 NOZZLES, NOZZLE PLUGS, GUIDE RODS @ 0 & 180 deg, FLANGE CONFIGURATION
B-A	B1.30	RPV-SF-240-360	SHELL TO FLANGE	---	81	N3 NOZZLES, NOZZLE PLUGS, GUIDE RODS @ 0 & 180 deg, FLANGE CONFIG.
B-D	B3.90	RPV-N7A-NV	NOZZLE TO VESSEL	---	56.7	NOZZLE CONFIGURATION
B-D	B3.90	RPV-N7B-NV	NOZZLE TO VESSEL	---	56.7	NOZZLE CONFIGURATION
B-D	B3.90	RPV-N8-NV	NOZZLE TO VESSEL	---	70.6	NOZZLE CONFIGURATION
B-F	R1.20 (B5.130)	14-A-10A	VALVE TO PIPE	---	37.1	PIPE TO VALVE WELD PROFILE
B-F	R1.20 (B5.130)	14-B-10A	VALVE TO PIPE	---	22.1	PIPE TO VALVE WELD PROFILE
B-F	R1.20 (B5.10)	2R-N1B-1	NOZZLE TO SAFE END	---	75	REDUCED COVERAGE ON CIRC. SCANS DUE TO SURFACE CONTOUR AND MIN. WALL ISSUES
B-F	R1.20 (B5.10)	2R-N2E-1	SAFE END TO NOZZLE	---	81.2	REDUCED COVERAGE ON CIRC. SCANS DUE TO SURFACE CONTOUR AND MIN. WALL ISSUES
B-F	R1.20 (B5.10)	2R-N2G-1	SAFE END TO NOZZLE	---	75.3	REDUCED COVERAGE ON CIRC. SCANS DUE TO SURFACE CONTOUR AND MIN. WALL ISSUES
B-F	R1.20 (B5.10)	2R-N2J-1	SAFE END TO NOZZLE	---	75	REDUCED COVERAGE ON CIRC. SCANS DUE TO SURFACE CONTOUR AND MIN. WALL ISSUES
B-F	R1.11 (B5.10)	6-N4A-1	SAFE END TO NOZZLE	---	87.5	REDUCED COVERAGE DUE TO WELDED THERMOCOUPLE PADS
B-F	R1.11 (B5.10)	6-N4B-1	SAFE END TO NOZZLE	---	87.5	REDUCED COVERAGE DUE TO WELDED THERMOCOUPLE PADS
B-F	R1.11 (B5.10)	6-N4C-1	SAFE END TO NOZZLE	---	88.6	REDUCED COVERAGE DUE TO WELDED THERMOCOUPLE PADS

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
				COMBINED NDE COVERAGE		
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	MT/PT	UT	LIMITATION (CAUSE OF REDUCED COVERAGE)
B-F	R1.11 (B5.10)	6-N4D-1	SAFE END TO NOZZLE	---	88.6	REDUCED COVERAGE DUE TO WELDED THERMOCOUPLE PADS
B-H	B8.10	RPV-SBW-0	RPV STABILIZER WELD	37	---	ONLY UPPER SURFACE ACCESSIBLE
B-J	R1.20 (B9.11)	10-IA-14	PIPE TO FLUED HEAD	---	50	PIPE TO PENETRATION FLUED HEAD CONFIGURATION
B-J	R1.20 (B9.11)	10-IA-15	PIPE TO VALVE	---	50	PIPE TO VALVE WELD PROFILE
B-J	R1.11 (B9.11)	10R-IA-6	PIPE TO VALVE	---	50	PIPE TO VALVE WELD PROFILE
B-J	R1.11 (B9.11)	10R-IA-7	VALVE TO PIPE	---	50	PIPE TO VALVE WELD PROFILE
B-J	R1.20 (B9.11)	12-O-24	PENETRATION TO PIPE	---	56.6	PENETRATION FLUED HEAD TO PIPE CONFIGURATION
B-J	R1.20 (B9.11)	14-A-19	PIPE TO VALVE	---	50	PIPE TO VALVE WELD PROFILE
B-J	R1.20 (B9.11)	14-B-17	PIPE TO PENETRATION	---	58.7	PIPE TO PENETRATION FLUED HEAD CONFIGURATION
B-J	R1.20 (B9.11)	14-B-20	PIPE TO PIPE	---	59.4	WALL OBSTRUCTION
B-J	R1.11 (B9.21)	1-SD-10R	PIPE TO VALVE	---	87.5	PIPE TO VALVE WELD PROFILE
B-J	R1.20 (B9.11)	2R-HB-1	HEADER TO BEND	---	75	REDUCER TO PIPE CONFIGURATION
B-J	R1.20 (B9.11)	2R-HB-4	HEADER TO BEND	---	75	REDUCER TO PIPE CONFIGURATION
B-O	B14.10	RPV-CRD-HSG-1	CRD HOUSING WELD	70	---	LIMTED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
B-O	B14.10	RPV-CRD-HSG-2	CRD HOUSING WELD	50	---	LIMTED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
B-O	B14.10	RPV-CRD-HSG-3	CRD HOUSING WELD	50	---	LIMTED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
				COMBINED NDE COVERAGE		
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	MT/PT	UT	LIMITATION (CAUSE OF REDUCED COVERAGE)
						MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
B-O	B14.10	RPV-CRD-HSG-4	CRD HOUSING WELD	65	---	LIMTED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
C-C	C3.20	EB-23-13HL1(4)	SUPPORT LUGS	87.5	---	HANGER CLAMP AGAINST 1 SIDE OF LUG
C-C	C3.20	EB-23-59HL1(4)	SUPPORT LUGS	83.3	---	HANGER CLAMP AGAINST 1 SIDE OF LUG
C-C	C3.20	HL-10-200HL1(4)	SUPPORT LUGS	90	---	HANGER CLAMP AGAINST 1 SIDE OF LUG
C-F-1	C5.11	GB-14-F34	PIPE TO VALVE	---	29.8	PIPE-TO VALVE WELD PROFILE
C-F-2	C5.51	GB-10-9-2E	WELDOLET	85	63.8	PIPE CLAMP OBSTRUCTION
C-F-2	C5.51	HE-26-F238	VALVE TO PIPE	---	68.8	ONE-SIDED EXAM DUE TO VALVE

Attachment 2 to Entergy Letter 2.06.054

Entergy Nuclear Northeast
Pilgrim Nuclear Power Station
3rd Interval ISI Program Data Sheets
for Examinations with less than
"Essentially 100% coverage (240 pages)

206054 Attach 2.pdf

Attachment 2 to Entergy Letter 2.06.054

Pilgrim 3rd Interval ISI Program Data Sheets for Examinations with less than "Essentially 100% coverage (240 pages)

(Third Ten-Year ISI Interval: July 1, 1995 to June 30, 2005)

APRIL 2006

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: PIL-R15-05-002

Site: Pilgrim Nuclear Power Station Component ID: RPV-BH-C1

Outage: RF-015 HEAD CIRCUMF WELD

System RPV ASME Cat.: B-A ASME Item B1.21 Aug Req N/A

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
60° Long.	UT-086	N/A	TP04-016 (GE-UT-300)	PIL-5B	Scott Erickson	II	4/28/2005
60° Long.	UT-087	N/A	TP04-016 (GE-UT-300)	CAL-IIW2-033	Scott Erickson	II	4/28/2005
60° Long.	UT-088	N/A	TP04-018 (GE-UT-300)	CAL-IIW2-017	Steve Snyder	II	4/28/2005
60° Long.	UT-089	N/A	TP04-018 (GE-UT-300)	PIL-5B	Steve Snyder	II	4/28/2005
45° Shear	UT-090	N/A	TP04-018 (GE-UT-300)	PIL-5B	Steve Snyder	II	4/28/2005
45° Shear	UT-091	N/A	TP04-018 (GE-UT-300)	PIL-5B	Steve Snyder	II	4/28/2005

Examination Results:

Ultrasonic examination results were acceptable to the requirements of ASME B&PV Code Section XI, 1989 Edition no Addenda, and Section XI, 1995 Edition with the 1996 Addenda as modified by the PDI program description and the Federal Register, Part II, Nuclear Regulatory Commission, 10 CFR Part 50 for Category B-A Reactor Pressure Vessel (RPV) Assembly Welds.

Manual transverse and parallel scans were performed in accordance with procedure GE-UT-300 V8 using 60° RL search units.

Scanning was restricted from one side of the weld due to the vessel skirt configuration and thermocouples.

Manual UT exams recorded (3) three indications, that were acceptable to the requirements of Section XI.

Coverage = 75%

Examination results were compared to data report 95-E-528,534,531 *from* 1995 *outage with* ☐ *No Change*

These examinations were performed under Work Order: N/A ☑ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-30-05

Utility Review: [signature] UT L.I. III Date: 5-4-05

ANII Review: [signature] Date: 5/4/05

RWP: 0081

Dose: 110 mr.

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002
Data Sheet Number: UT-066
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1254 Exam Start 1330
Cal Check: N/A Exam End 1540
Cal Check: N/A Ultragel II Couplant: 01225 Batch
Final Cal: 1631
242027 Thermometer 68° F Initial Cal Temp. 68° F Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
ID	4.1"	1X	80%	7.2"	4.1"	7.2
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 63.0 dB
Sweep 0-10 6" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Exam Data for Weld: RPV-BH-C1
HEAD CIRCUMF WELD
Configuration:
OD Exam Surface: 72° F Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	I	69.0	NRI	60°
Plate CW/CCW	P	69.0	NRI	60°

Search Unit Data

Sigma Manufacturer: 22BC-03006 Serial Number: 2(1.1"x.62")/Rect. Size / Shape:
0.65" Incident Point: 60° Nominal Angle: 60° Measured Angle:
3.0 MHz Frequency: SDC2 Model: Long. Mode:

Search Unit Cable

RG-174 Cable Type: 12' Length: 0 Connectors:

Instrument Settings

Panametrics / Epoch 4 Manufacturer/Model: 031526704 Serial Number:
9.59 us Delay/Zero: 0.236 in./usec. Velocity: 0.8 - 3.0 MHz Narrowband Filter:
Auto Rep Rate: Fullwave Rectification: 12.0 in. Range: Sq. / Med Pulser:
400 Ohms Damping: 0 Reject: 3.03 MHz Frequency: Dual Mode:
Off: DAC: Off: TVG: Off: CSC: Off: DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for full volume examination. Exams performed to maintain a 10 - 20% FSH clad roll.
Exam performed from meridinal weld RPV-BH-M1 to RPV-BH-M3 and from RPV-BH-M7 to RPV-BH-M1.
Single sided exam due to component configuration.
Exam limited from meridinal weld # M8 measuring "L" from 31.5" to 36.5" and a "W" of 5 - 6" due to a thermocoupler.

SRE Scott Erickson II 4/28/2005
Initials: Examiner Level Cal/Exam Date:
UT Lvl. III 5-4-05
Utility Reviewed By: Date:
N/A N/A
Initials: Examiner Level
Cut Hanson 5/4/05
ANII Reviewed By: Date:
BMD III 4-30-05
GE Reviewed By: Level: Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002
Data Sheet Number: UT-067
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: CAL-IIW2-033

CS	N/A	4.0"
Material	Size	Thickness

Initial Cal: 1258 Exam Start 1330
Cal Check: N/A Exam End 1540
Cal Check: N/A Ultracel II Couplant: 01225 Batch
Final Cal: 1634

242027	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	0.6"	1X	80%	1.15"	.582"	3.0
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 60.8 dB
Sweep 0-10 2.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-03006	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	60°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12"	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4 Manufacturer/Model: 031526704 Serial Number:

9.59 us	0.236 in./usec.	0.8 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	4.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:

400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-BH-C1
HEAD CIRCUMF WELD
Configuration:

OD	72° F
Exam Surface:	Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	T	74.8	NRI	60°
Plate CW/CCW	P	74.8	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed : 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for near surface examination. Exams performed a minimum of 14 dB above reference.
Exam performed from meridinal weld RPV-BH-M1 to RPV-BH-M3 and from RPV-BH-M7 thru RPV-BH-M1.
Single sided exam due to component configuration.

SRE Scott Erickson II 4/28/2005
Initials: Examiner Level Cal/Exam Date:

UT L.I. III 5-4-05
Utility Reviewed By: Date:

N/A N/A
Initials: Examiner Level

5/4/05
ANII Reviewed By: Date:

BJM III 4-30-05
GE Reviewed By: Level: Date:

Page 4/240

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Procedure: TP04-018 (GE-UT-300)

Data Report Number: PIL-R15-05-002 Linearity Sheet: L-004
Data Sheet Number: UT-088
Rev.: R0 (V8) DRR: N/A

Calibration Block: CAL-IIW2-017

CS	N/A	4.0"
Material	Size	Thickness

Initial Cal: 1305 Exam Start 1330
Cal Check: N/A Exam End 1540
Cal Check: N/A Ultragel II Couplant: 01225 Batch
Final Cal: 1643

242027	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	0.6"	1X	80%	1.6"	.61"	3.0
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 58.0 dB
Sweep 0-10 4.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-03003	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	60°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC-3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4 Maufacturer/Model: 031574111 Serial Number:

9.33 us	0.233 in./usec.	0.8 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	4.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:

400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-BH-C1
HEAD CIRCUMF WELD
Configuration:

OD	72° F
Exam Surface:	Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	I	72.0	NRI	60°
Plate CW/CCW	P	72.0	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for near surface examination. Exams performed to maintain a 14 dB above reference.
Exam performed from meridinal weld RPV-BH-M3 thru RPV-BH-M7.
Single sided exam due to component configuration.

Steve Snyder	II	4/28/2005
Initials: Examiner	Level	Cal/Exam Date:

N/A	N/A
Initials: Examiner	Level

GE Reviewed By: Level: III Date: 4-30-05

Utility Reviewed By: UT Lvl III Date: 5-4-05

ANII Reviewed By: Date: 5/4/05

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-002 Linearity Sheet: L-004
Data Sheet Number: UT-069
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1307 Exam Start 1330
Cal Check: N/A Exam End 1540
Cal Check: N/A Ultragel II 01225
Final Cal: 1642 Couplant: Batch
242027 68° F 68° F
Thermometer Initial Cal Temp. Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
ID	4.1"	1X	80%	7.5"	4.35"	7.3
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 60.5 dB
Sweep 0-10 6" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-03003	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	60°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC-3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4 031574111
Maufacturer/Model: Serial Number:

9.33 us	0.233 in./usec.	0.8 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	12.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:

400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-BH-C1
HEAD CIRCUMF WELD
Configuration:
OD 72° F
Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	T	68.0	Yes	60°
Plate CW/CCW	P	68.0	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for full volume examination. Exams performed to maintain a 10 - 20% FSH clad roll.
Exam performed from meridinal weld RPV-BH-M3 thru RPV-BH-M7
Single sided exam due to component configuration.
Exam limited at two places for an "L" of 5" and a "W" of 5 to 6" from weld centerline of M5 weld cw from 55" to 60" and M3 weld from 9" to 14".

Steve Snyder II 4/28/2005
Initials: Examiner Level Cal/Exam Date:

UT Lvl. III 5-4-05
Utility Reviewed By: Date:

N/A N/A
Initials: Examiner Level

5/4/05
ANII Reviewed By: Date:

III 4-30-05
GE Reviewed By: Level: Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002
Data Sheet Number: UT-090
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS — Material; Flat — Size; 4.35" — Thickness

Initial Cal: 1303 Exam Start: 1330
Cal Check: N/A Exam End: 1540
Cal Check: N/A Ultragel II — Couplant: 01225 — Batch
Final Cal: 1646

242027 — Thermometer; 68° F — Initial Cal Temp.; 68° F — Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	1.1"	1X	80%	1.1"	1.1"	1.5
1/2	2.2"	1X	55%	2.2"	2.2"	3.0
3/4	3.3"	1X	34%	3.3"	3.3"	4.5
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 18.9 dB
Sweep 0-10 7" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

KBA — Manufacturer; 010HX1 — Serial Number; 0.5"x1.0"/Rect. — Size / Shape:
0.65" — Incident Point; 45° — Nominal Angle; 45° — Measured Angle:
1.0 MHz — Frequency; 113-891-600 — Model; Shear — Mode:

Search Unit Cable

RG-174 — Cable Type; 12' — Length; 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Maufacturer/Model; 031526704 — Serial Number:
13.91 us — Delay/Zero; 0.1276 in./usec. — Velocity; 0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate; Fullwave — Rectification; 10.0 in. — Range; Sq. / Med — Pulser:
400 Ohms — Damping; 0 — Reject; 1.0 MHz — Frequency; P/E — Mode:
Off — DAC; Off — TVG; Off — CSC; Off — DGS:

Exam Data for Weld: RPV-BH-C1

HEAD CIRCUMF WELD — Configuration:
OD — Exam Surface; 72° F — Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	UPST	32.9	NRI	45°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for indication verification. Exams performed a minimum of 14 dB above reference.

Steve Snyder — Initials: Examiner; II — Level; 4/28/2005 — Cal/Exam Date:
UT Lvl. III — Utility Reviewed By: 5-4-05 — Date:
N/A — Initials: Examiner; N/A — Level
ANII Reviewed By: 5/4/05 — Date:
GE Reviewed By: — Level: III — Date: 4-30-05

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002
Data Sheet Number: UT-091
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS — Material; Flat — Size; 4.35" — Thickness

Initial Cal: 1301 Exam Start 1330
Cal Check: N/A Exam End 1540
Cal Check: N/A
Final Cal: 1644

Ultragel II — Couplant; 01225 — Batch

242027 — Thermometer; 68° F — Initial Cal Temp.; 68° F — Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	1.1"	1X	80%	1.1"	1.1"	1.5
1/2	2.2"	1X	50%	2.2"	2.2"	3.0
3/4	3.3"	1X	30%	3.3"	3.3"	4.5
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 16.9 dB
Sweep 0-10 7" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

KBA — Manufacturer; E02110 — Serial Number; 0.5"x1.0"/Rect. — Size / Shape:
0.65" — Incident Point; 45° — Nominal Angle; 45° — Measured Angle:
2.25 MHz — Frequency; 113-292-600 — Model; Shear — Mode:

Search Unit Cable

RG-174 — Cable Type; 12' — Length; 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Maufacturer/Model; 031526704 — Serial Number:
11.94 us — Delay/Zero; 0.126 in./usec. — Velocity; 0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate; Fullwave — Rectification; 10.0 in. — Range; Sq. / Med — Pulser:
400 Ohms — Damping; 0 — Reject; 2.0 MHz — Frequency; P/E — Mode:
Off — DAC; Off — TVG; Off — CSC; Off — DGS:

Exam Data for Weld: RPV-BH-C1

HEAD CIRCUMF WELD — Configuration:
OD — Exam Surface; 72° F — Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	UPST	30.9	Yes	45°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for indication verification. Exams performed a minimum of 14 dB above reference.
For recordable indication see RPV exam data sheet.

Steve Snyder — Initials: Examiner; II — Level; 4/28/2005 — Cal/Exam Date:
Utility Reviewed By: UT Lvl. III Date: 5-4-05

N/A — Initials: Examiner; N/A — Level
ANII Reviewed By: Date: 5/4/05

GE Reviewed By: Level: III Date: 4-30-05

GE Nuclear Energy

Reactor Pressure Vessel Examination Data Sheet

Plant: Pilgrim, Unit 2 RF-015
Weld: RPV-BH-C1

Procedure: GE-UT-300 V8
Revision: N/A

L Reference: Centerline of Meridinal Weld **

W Reference: Taper of Vessel

NS 60° Cal. Sheet: UT-088
FV 60° Cal. Sheet: UT-089

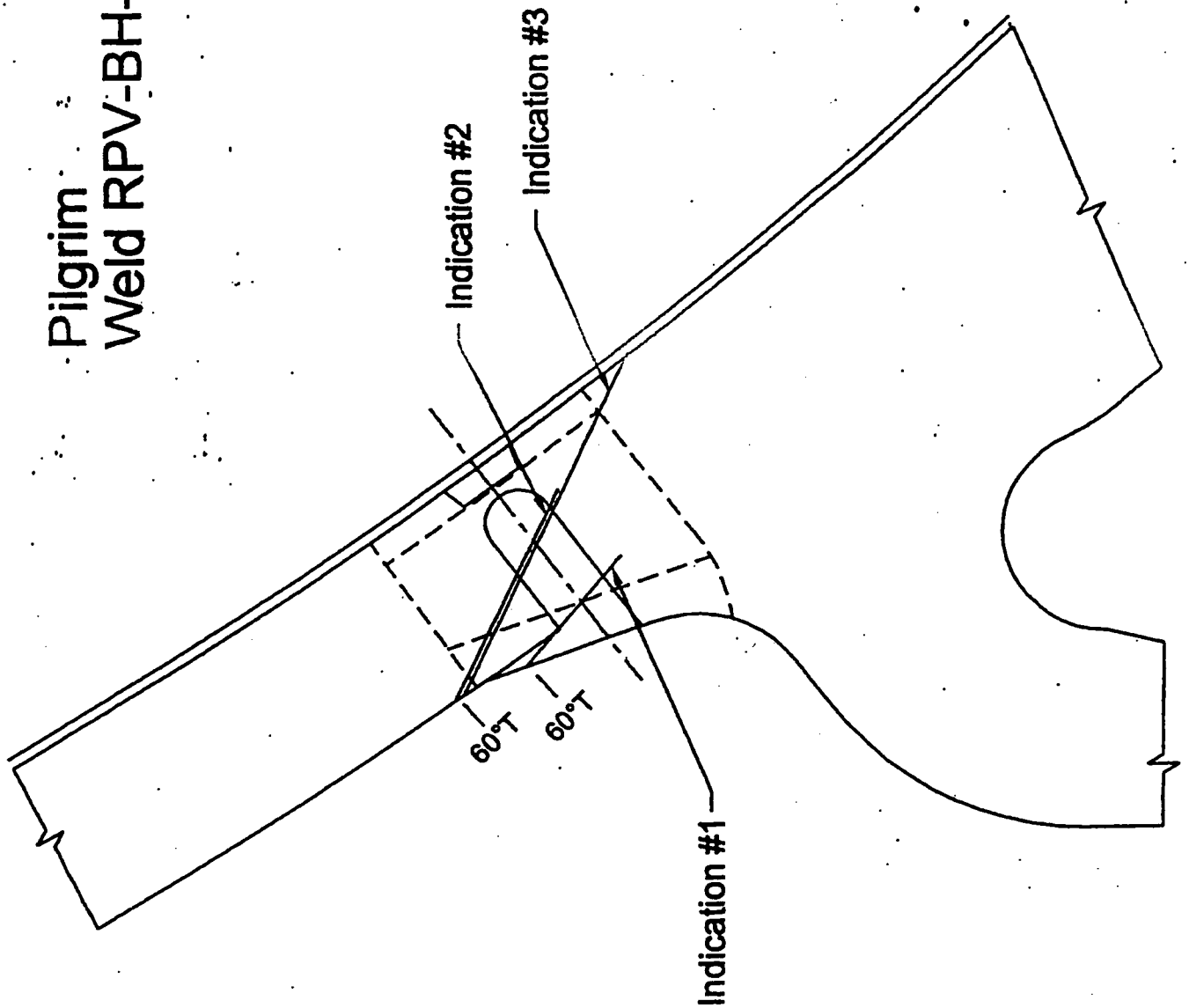
1.0 MHz 45° Cal. Sheet: UT-090
2.25 MHz 45° Cal. Sheet: UT-091

Ind. No.	Angle	Max. Amp.	L1	Lmax	L2	Sweep	Wmax	UP/DN CW/CCW	Confirmed / Comments:
1	60° RL	80%	27.0"	27.5"	28.0"	1.528"	1.8"	LKDN	Yes / Supplemental exam for confirmation
2	60° RL	70%	50.0"	50.5"	51.0"	2.48"	3.4"	LKDN	Yes / Supplemental exam for confirmation
3	60° RL	60%	9.5"	12.0"	13.5"	4.0"	3.2"	LKDN	No / Could not see with either 1 MHz or 2.25 MHz.

Comments: * Indications # 1, 2 and 3 have no determinable throughwall and are acceptable to the requirements of IWB-3000. ** Ind. # 1 - Weld # M6 CW, Ind. # 2 - Weld # M5 CW, Ind. # 3 - Weld # M4 CCW

Initials:	Examiner:	Level	Date:	Utility Reviewed By:	Date:
SS	Steve Snyder	II	4/28/05	UT Lvl. III	5-4-05
GE Reviewed By:		Level	Date:	ANII Reviewed By:	Date:
BMD		III	4-30-05		5/4/05

Pilgrim
Weld RPV-BH-C1



LCI L.I. III 5-4/05

Page 9/240

Pilgrim - RFO15
Weld RPV-BH-C1 Bottom Head Circumference
Spring 2005

Weld Length = 593.8 Exam Volume = 24.5		CODE CROSS-SECTIONAL AREA		TOTAL CODE COVERAGE		
		Required Exam Area Sq. In.	Area Scanned Manual	Percent of Area Manual	Weld Length Manual	Percent Manual
60° NS T-Scan	A	5.3	3.9	15.9%	578.8	7.8%
60° S6 T-Scan	A	16.2	16.1	65.7%	578.8	32.0%
60° S4 T-Scan	A	3.0	3.0	12.2%	578.8	3.0%
60° NS P-Scan	A	5.3	3.2	13.1%	578.8	6.4%
60° S6 P-Scan	A	16.2	9.9	40.4%	578.8	19.7%
60° S4 P-Scan	A	3.0	2.0	8.2%	578.8	4.0%
60° NS T-Scan	B	5.3	3.9	15.9%	15	0.2%
60° S6 T-Scan	B	16.2	14.4	58.8%	15	0.7%
60° S4 T-Scan	B	3.0	2.5	10.2%	15	0.1%
60° NS P-Scan	B	5.3	3.2	13.1%	15	0.2%
60° S6 P-Scan	B	16.2	9.9	40.4%	15	0.5%
60° S4 P-Scan	B	3.0	2.0	8.2%	15	0.1%

% Total Composite Coverage = 75%

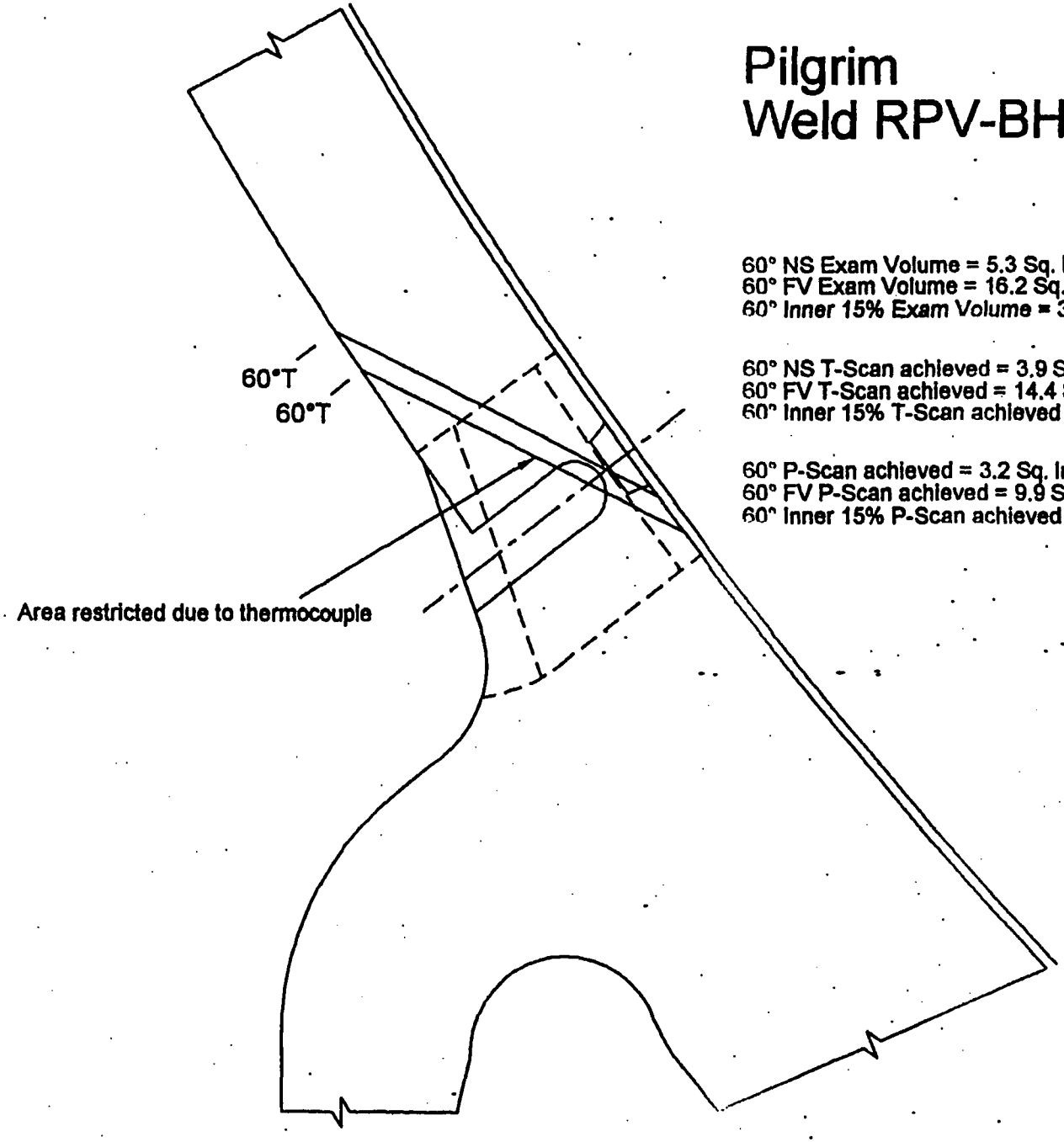
Comments: A - T-Scan and P-Scan restricted due to proximity of vessel skirt.
B - T-Scan and P-Scan restricted due to proximity of vessel skirt and thermocouples.

Note - Rounding methods may affect calculated values.

Page 10/240

5-4-05

Pilgrim
Weld RPV-BH-C1



60° NS Exam Volume = 5.3 Sq. In.
60° FV Exam Volume = 16.2 Sq. In.
60° Inner 15% Exam Volume = 3.0 Sq. In.

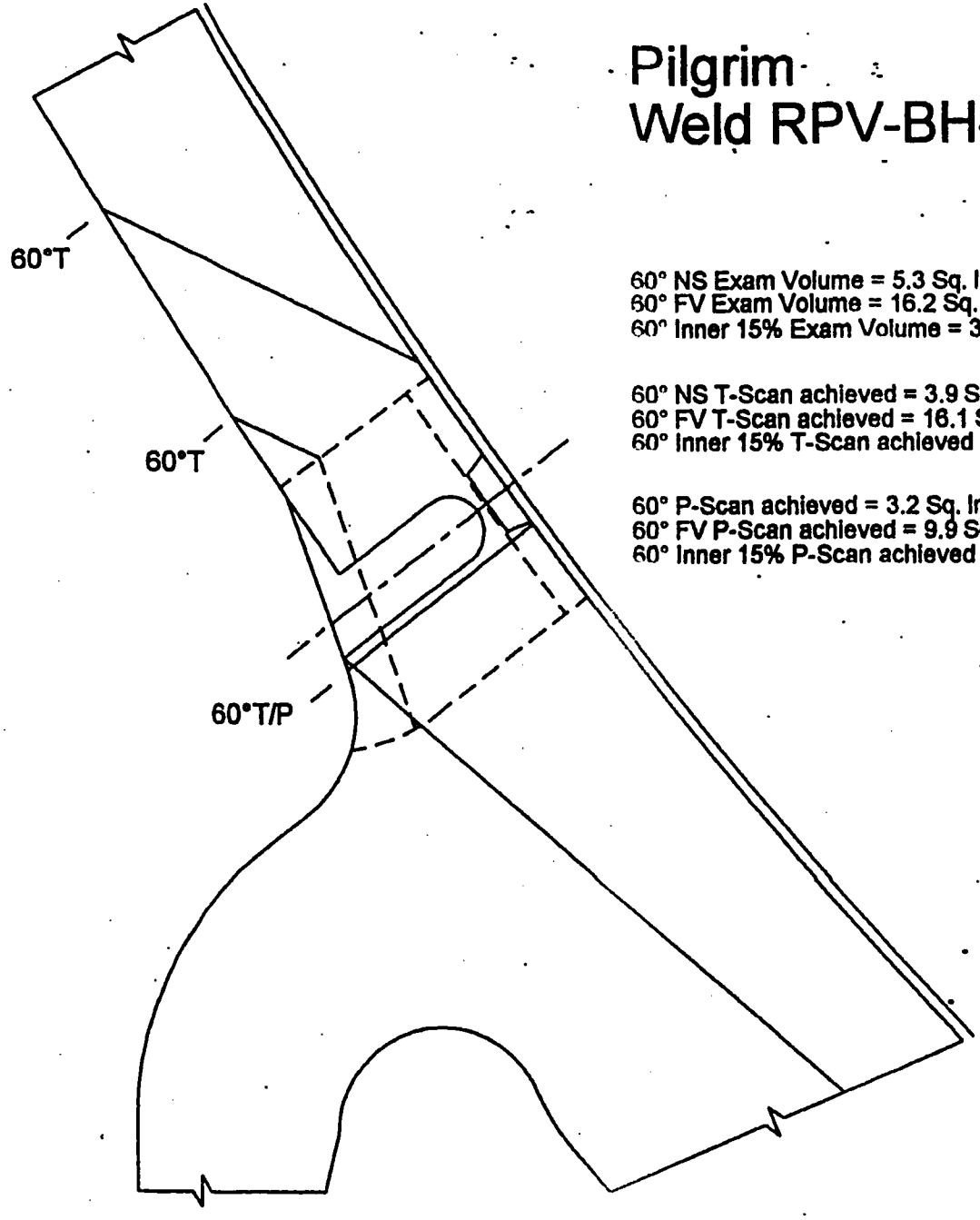
60° NS T-Scan achieved = 3.9 Sq. In.
60° FV T-Scan achieved = 14.4 Sq. In.
60° Inner 15% T-Scan achieved = 2.5 Sq. In.

60° P-Scan achieved = 3.2 Sq. In.
60° FV P-Scan achieved = 9.9 Sq. In.
60° Inner 15% P-Scan achieved = 2.0 Sq. In.

5-4-05

Page 11/240

Pilgrim
Weld RPV-BH-C1



60° NS Exam Volume = 5.3 Sq. In.
60° FV Exam Volume = 16.2 Sq. In.
60° Inner 15% Exam Volume = 3.0 Sq. In.

60° NS T-Scan achieved = 3.9 Sq. In.
60° FV T-Scan achieved = 16.1 Sq. In.
60° Inner 15% T-Scan achieved = 3.0 Sq. In.

60° P-Scan achieved = 3.2 Sq. In.
60° FV P-Scan achieved = 9.9 Sq. In.
60° Inner 15% P-Scan achieved = 2.0 Sq. In.

EXAMINATION RESULTS

3.1 Examination Results

No recordable indications were detected during the RFO15 examinations, reference Table 1 below. The examination results from RFO14 are also provided in Table 2. The data records for each examination are located in Appendix F (tab 9). The actual RPV ultrasonic data which was recorded with the EDAS data acquisition system was archived onto 8mm data tapes. The EDAS data tapes are also provided as attachments to this report.

Table 1. Examination Results from RFO15

Weld No.	Weld Configuration Description	Examination Results	Examination Coverage
RPV-L-2-338A	Ring 1 Vertical Weld at 78°	No Recordable Indications	73%
RPV-L-2-338C	Ring 1 Vertical Weld at 318°	No Recordable Indications	25%
RPV-L-1-338A	Ring 2 Vertical Weld at 60°	No Recordable Indications	89%
RPV-L-1-338C	Ring 2 Vertical Weld at 300°	No Recordable Indications	25%

Table 2. Examination Results from RFO14

Weld No.	Weld Configuration Description	Examination Results	Examination Coverage
RPV-L-2-338B	Ring 1 Vertical Weld at 198°	No Recordable Indications	78%
RPV-L-1-338A	Ring 2 Vertical Weld at 60°	No Recordable Indications	Partial Exam
RPV-L-1-338B	Ring 2 Vertical Weld at 180°	No Recordable Indications	100%
RPV-L-2-339A	Ring 3 Vertical Weld at 356°	No Recordable Indications	81%
RPV-L-2-339B	Ring 3 Vertical Weld at 116°	No Recordable Indications	75%
RPV-L-2-339C	Ring 3 Vertical Weld at 236°	No Recordable Indications	83%
RPV-L-1-339A	Ring 4 Vertical Weld at 60°	No Recordable Indications	97%
RPV-L-1-339B	Ring 4 Vertical Weld at 180°	1 Acceptable Indication	100%
RPV-L-1-339C	Ring 4 Vertical Weld at 300°	1 Acceptable Indication	98%
RPV-C-4-339	Upper Shell-to-Flange Weld	1 Acceptable Indication	81%

3.2 Examination Limitations

The scanning accessibility of the full length and/or width of some areas from the inside surface of the RPV was limited due to physical obstructions. A description of the examination limitations is provided below in Tables 3 and 4. The actual scan areas (scan axis and increment axis) are recorded on the ISwT Examination Records (data records).

Table 3. Examination Limitations from RFO15

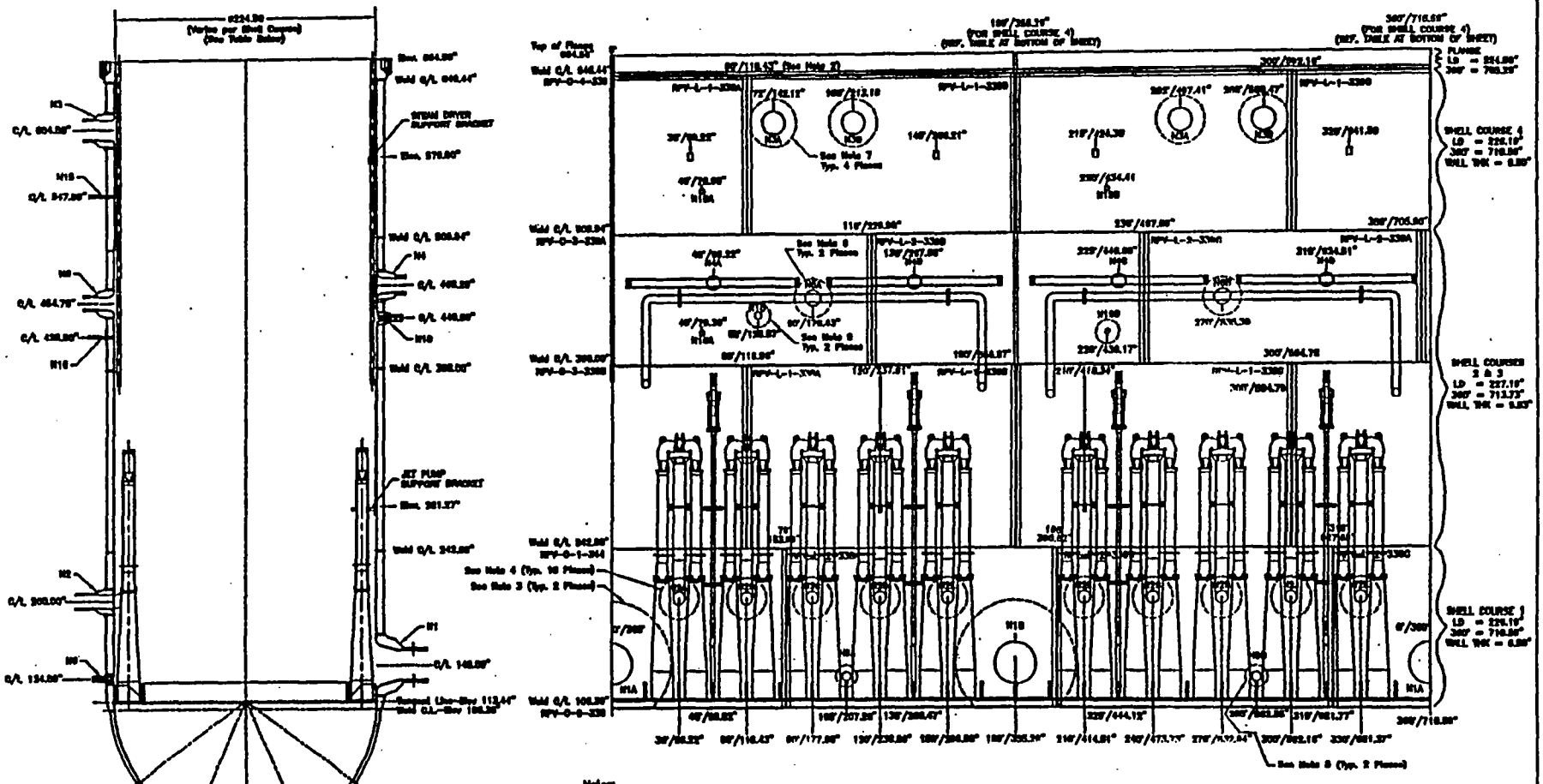
Weld No.	Weld Configuration Description	Examination Limitation
RPV-L-2-338A	Ring 1 Vertical Weld at 78-deg	Proximity of Baffle Plate & Baffle Gusset
RPV-L-2-338C	Ring 1 Vertical Weld at 318-deg	Proximity of Baffle Plate, Baffle Gusset, Core Shroud Tie Rod, & N2K Nozzle
RPV-L-1-338A	Ring 2 Vertical Weld at 60-deg	Proximity of Jet Pump Riser Support
RPV-L-1-338C	Ring 2 Vertical Weld at 300-deg	Proximity of Jet Pump Riser Support, Surveillance Specimen Holder & Support Brackets, and Shroud Tie Rod

Table 4. Examination Limitations from RFO14

Weld No.	Weld Configuration Description	Examination Limitation
RPV-L-2-338B	Ring 1 Vertical Weld at 198-deg	Proximity of Baffle Plate Gusset
RPV-L-1-338A	Ring 2 Vertical Weld at 60-deg	Partial Examination
RPV-L-1-338B	Ring 2 Vertical Weld at 180-deg	None
RPV-L-2-339A	Ring 3 Vertical Weld at 356-deg	Proximity of FW and CS Spargers
RPV-L-2-339B	Ring 3 Vertical Weld at 116-deg	Proximity of FW and CS Spargers & ID Taper
RPV-L-2-339C	Ring 3 Vertical Weld at 236-deg	Proximity of FW and CS Spargers
RPV-L-1-339A	Ring 4 Vertical Weld at 60-deg	Proximity of N3A Nozzle & Nozzle Plug
RPV-L-1-339B	Ring 4 Vertical Weld at 180-deg	None
RPV-L-1-339C	Ring 4 Vertical Weld at 300-deg	Proximity of N3D Nozzle & Nozzle Plug
RPV-C-4-339	Upper Shell-to-Flange Weld	Proximity of N3 Nozzles, Nozzle Plugs, Guide Rods @ 0 & 180, and Flange Configuration

3.3 Explanation of Field Data Records

In addition to the examinations being automatically recorded as described in the previous section of this report, results of the NDE activities and calibrations performed by ISwT personnel were recorded on standard ISwT forms. The field data records for each weld or area were assembled into a data package preceded by a Summary Sheet. The examination areas and Summary Sheet numbers correspond to those listed in the Summary Table and were completed while on site. Therefore, a general explanation of the individual field data forms is provided to further clarify the information contained on the summary sheet.



Notes:
1. Rollout as viewed from the vessel centerline.
2. Circumferential locations (inches) are based on the ID of the Shell Course on which the feature (i.e., vertical weld, nozzle, etc.) is located.
3. Thickness of shell wall base metal is 7.00" in this region (108.00" diameter from N1 nozzle centerline), per Combustion Engineering Dwg. No. 232-345-8, Rev. E.
4. Thickness of shell wall base metal is 7.00" in this region (34.75" diameter from N2 nozzle centerline), per Combustion Engineering Dwg. No. 232-345-8, Rev. E.
5. Thickness of shell wall base metal is 7.00" in this region (19.00" diameter from N9 nozzle centerline), per Combustion Engineering Dwg. No. 232-345-8, Rev. E.
6. Thickness of shell wall base metal is 9.00" in this region (33.12" diameter from N6 nozzle centerline), per Combustion Engineering Dwg. No. 232-345-8, Rev. E.
7. Thickness of shell wall base metal is 7.00" in this region (42.16" diameter from N3 nozzle centerline), per Combustion Engineering Dwg. No. 232-346-8, Rev. E.

VESSEL INSIDE DIAMETER VARIES ACCORDING TO SHELL COURSE AS FOLLOWS:

LOCATION	VESSEL ID	1 DEGREE =	360 DEGREES =	ORIG. WELD NAME	LOCATION OF ID TRANSITION
FLANGE	224.00"	1.9661"	706.20"		
				RPV-0-4-330	AT WELD CENTERLINE
SHELL COURSE 4	226.10"	1.9730"	710.50"		
				RPV-0-3-330A	ABOVE WELD CENTERLINE
SHELL COURSE 3	227.10"	1.9826"	713.73"		
				RPV-0-3-330B	NO TRANSITION (SAME DIA)
SHELL COURSE 2	227.10"	1.9826"	713.73"		
				RPV-0-1-344	BELOW WELD CENTERLINE
SHELL COURSE 1	226.10"	1.9730"	710.50"		
				RPV-0-0-330	NO TRANSITION
LOWER HEAD	R=113.44"	N/A	N/A		

Pilgrim Station

ID Vessel Rollout

November 2002

RPVID

Page 15/340

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285 | PILGRIM NUCLEAR POWER STATION | Summary Sheet No.: 000400

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 2 VERTICAL WELD @ 60-DEGREES
IDENTIFICATION:	RPV-L-1-338A

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	80031,80032	exam 22-24	X	-	N/A	N/A	Examination no's 22 - 24 were performed
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80033,80034	exam 22-24	X	-	N/A	N/A	during RFO14.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80035	exam 22-24	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	0800301,0800302	exam 19-21	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	0800303,0800304	exam 19-21	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0800305	exam 19-21	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	0800301,0800302	exam 25-26	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0800303,0800304	exam 25-26	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0800305	exam 25-26	X	-	N/A	N/A	

NOTES:
1. Weld RPV-L-1-338A was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. Examinations 22 - 24 performed during RFO14.
4. Examinations 25 and 26 were divided into 2 segments, 25a & 25b; and 26a & 26b.
5. The examination was limited due to the proximity of the jet pump riser brace, 89% examination coverage was achieved.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70389-1

Prepared by: Steven J. Todd
Steven J. Todd - Project Engineer

Date: 4/30/05

Page 1 of 1

LWTT - [illegible]

Page 16/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-19
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 60°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 04	1741	1746	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	11266	11282
Upper Limit	12526	12503
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	23188	23188
Upper Limit	27880	24464
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	11282	12503	23188	24464

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date: Joel G. Godwin / III / 24 Apr. 05 *Joel G. Godwin*

ISWT FORM No. UT 50 (Rev. 05/02)

Page 17/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-20	
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 60°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time	Surface Temperature °F	
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A		24 Apr. 04	Start: 1646 / End: 1656	Start: 85	End: 85

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	11266	11266	Lower Limit	23188	24360	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	12526	12538	Upper Limit	27880	26960	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (180)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Upper scan axis limited due to jet pump riser brace. Lower scan axis limted due to welded lug.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	11266	12538	24360	26960

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 18/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-21
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 60°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 04	1804	1809	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	11266	11266
Upper Limit	12526	12526
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	27877	27877
Upper Limit	32101	32101
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Limited exam due to jet pump riser brace.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	11260	12526	27877	32101

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 19/29

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-25a
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 60°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0112	0130	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	24138	24138
Upper Limit	27918	26298
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	11146	11146
Upper Limit	12646	12646
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cow/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	43
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803301
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803302
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803303
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803304
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Limited exam due to jet pump riser brace.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 25	24138	26298	11146	12646

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:
Joel G. Godwin / III / 25 Apr. 05 — Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 20/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-25b
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 60°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0319	0324	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	24138	26298
Upper Limit	27918	27542
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	11146	11146
Upper Limit	12646	12646
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	43
Device Position:	A (180)

Module Parameters:	Status	A-07-1C Angle	Cal 33 Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803301
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803302
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803303
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803304
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	0803305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Limited exam due to jet pump riser brace.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
25 - 39	26298	27542	11146	12646

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 25 Apr. 05 — Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 21/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-26a
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 60°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0153	0210	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	27877	30307
Upper Limit	33997	33997
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	11146	11146
Upper Limit	12646	12646
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	69
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803301
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803302
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803303
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803304
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to jet pump riser brace.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
28 - 69	30307	33997	11146	12646

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 22/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-26b
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 60°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0216	0237	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	33907	33907
Upper Limit	40027	40027
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	11146	11146
Upper Limit	12646	12646
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	CCW/CW
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	69
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803301
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803302
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803303
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803304
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 69	33907	40027	11146	12646

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date: Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 23/240

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285 | PILGRIM NUCLEAR POWER STATION | Summary Sheet No.: 000600

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 2 VERTICAL WELD @ 300-DEGREES
IDENTIFICATION:	RPV-L-1-338C

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT45	0803401	exam 37-38	X	-	N/A	N/A	Examination no's 35-38.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	0803402	exam 37-38	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0803403,0803404	exam 37-38	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0803403,0803404	exam 37-38	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	0802301,0802302	exam 35-36	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	0802303,0800304	exam 35-36	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0802305	exam 35-36	X	-	N/A	N/A	

NOTES:
1. Weld RPV-L-1-338C was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to the proximity of the jet pump riser brace, specimen holder, and core shroud repair tie rod, 25% Examination coverage was achieved.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70389-1

Prepared by: Steven J. Todd - Project Engineer Date: 4/20/05

Page 1 of 1

Page 24/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-35a
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 300°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1B	**Scan Path Drawing:** SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II . Alan Scheafer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0811	0835	83	83

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	58938	58958
Upper Limit	60018	60018
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	23538	23538
Upper Limit	40550	24878
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	13
Device Position:	A (-90)

Module Parameters: A-07-1B Cal 23

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	+ 1.00(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-23
0802301
0802302
0802303
0802304
0802305
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Exam continued on exam ID-35b.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 13	58938	60018	23538	24878

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date: Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 25/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-35b
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 300°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1B	Scan Path Drawing: SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II . Alan Scheafer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0845	0903	83	83

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	58938	58943
Upper Limit	60018	60038
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	23538	24642
Upper Limit	40550	25342
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	13
Device Position:	A (-90)

Module Parameters: A-07-1B Cal 23

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	+ 1.00(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-23
0802301
0802302
0802303
0802304
0802305
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Exam continued on exam ID-35c.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 13	58943	60038	24642	25342

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date: Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 26 of 40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-35c
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 300°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1B	**Scan Path Drawing:** SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II . Alan Scheafer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0938	0940	80	80

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	58938	59935
Upper Limit	60018	59245
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	23538	30942
Upper Limit	40550	31526
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	13
Device Position:	A (-90)

Module Parameters: A-07-1B Cal 23

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	+ 1.00(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-23
0802301
0802302
0802303
0802304
0802305
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

No exam from 25320 to 30942 due to specimen holder and riser support brackets.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 5	58933	59245	30942	31526

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 27/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-36
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 300°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1A	**Scan Path Drawing:** SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	N/A	N/A	N/A	N/A

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	58938	N/A
Upper Limit	60018	N/A
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	23538	N/A
Upper Limit	40550	N/A
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	13
Device Position:	A (90)

Module Parameters: A-07-1A Cal 23

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)
Channel 5	On	0T	(+)	- 4.40(in)	- 1.00(in)
Channel 6	On	0T	(+)	+ 4.40(in)	+ 1.00(in)
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-23
0802301
0802302
0802303
0802304
0802305
0802306
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

NO EXAMINATION DUE TO SHROUD
TIE ROD REPAIR MECHANISM

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
N/A	N/A	N/A	N/A	N/A

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☐	☑
Channel 2	☐	☐	☑
Channel 3	☐	☐	☑
Channel 4	☐	☐	☑
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: N/A

Analysis Tape/CD No.: N/A

Analyst Remarks

Analyst / SNT Level / Date: Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 28/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-1-338C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2		**Examination No.:** ID-37a	
Project No.: 02-0285	**Weld Description:** Ring 2 Vert @ 300°	**Device Configuration:** D-PNPS-102			
Mod.Conf.: A-08C	**Scan Path Drawing:** SPLONGSH2SS	**Exam Date**	**Examination Time**		**Surface Temperature °F**
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II . Alan Schaefer / N/A		25 Apr. 05	**Start** 1340	**End** 1414	**Start** 88 / **End** 88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	**Planned**	**Actual**
Lower Limit	24069	24068
Upper Limit	40089	25766
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	**Planned**	**Actual**
Lower Limit	58396	58396
Upper Limit	60020	60020
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	179
Device Position:	D (-90)

Module Parameters: A-08C Cal 34

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	45	(+)	+ 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	- 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	- 1.97(in)	+ 1.69(in)
Channel 5	On	SLIC-40	(-)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-34
0803401
0803402
0803403
0803404
0803405
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Exam limited due to surveillance capsule holder.

Continued on exam ID-37b.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 17	24068	25548	58396	60020
18 - 20	25638	25766	58396	59430

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 29/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-37b
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 300°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-08C	Scan Path Drawing: SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II . Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	1431	1619	88	88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	24069	31163
Upper Limit	40089	40082
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	58396	58396
Upper Limit	60020	60020
DCI	4.	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	179
Device Position:	D (-90)

Module Parameters:	Status	A-08C Angle	Cal 34 Direction	Scan Offset	Step Offset
Channel 1	On	45	(+)	+ 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	- 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	- 1.97(in)	+ 1.69(in)
Channel 5	On	SLIC-40	(-)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-34
0803401
0803402
0803403
0803404
0803405
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Exam limited due to surveillance capsule holder and holder support bracket.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
80 - 106	31163	33546	58396	59200
107 - 120	33636	34729	58396	58912
121 - 171	34819	39329	58396	59200
172 - 179	39419	40082	58396	60020

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 30 of 40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-38
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 300°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-08D	Scan Path Drawing: SPLONGSH2SS		
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	N/A	N/A	N/A	N/A

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	24069	N/A
Upper Limit	40089	N/A
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	58936	N/A
Upper Limit	60560	N/A
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	179
Device Position:	D (90)

Module Parameters: A-08D Cal 34

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-34
0803401
0803402
0803403
0803404
0803405
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump, the jet pump riser bracket, the N2 nozzle, and the surveillance capsule holder.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

NO EXAMINATION DUE TO SHROUD TIE ROD REPAIR MECHANISM

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
N/A	N/A	N/A	N/A	N/A

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☐	☑
Channel 2	☐	☐	☑
Channel 3	☐	☐	☑
Channel 4	☐	☐	☑
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: N/A

Analysis Tape/CD No.: N/A

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 31/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-38bDS
Project No.: 02-0285	Weld Description: Ring 2 Vert @ 300°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	0629	0637	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	33907	39397
Upper Limit	40027	40098
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	58728	58728
Upper Limit	60228	60228
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	CCW/CW
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	69
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-33
0803301
0803302
0803303
0803304
0803305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Limited exam due to specimen bracket.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
62- 70	39397	40098	60228	60228

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 25 Apr. 05 — Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 32/240

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285 | PILGRIM STATION | Summary Sheet No.: 000100

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 1 VERTICAL WELD @ 78-DEGREES
IDENTIFICATION:	RPV-L-2-338A

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	N R I	O T H	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0803305	exam 7-8	X	-	N/A	N/A	Examination no's 1-8.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	0803301,0803302	exam 7-8	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0803303,0803304	exam 7-8	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	0800301,0800302	exam 1-6	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	0800303,0800304	exam 1-6	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0800305	exam 1-6	X	-	N/A	N/A	

NOTES:
1. Weld RPV-L-2-338A was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to proximity of baffle plate and baffle plate gusset, 73% examination coverage was achieved.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70369-1

Prepared by: Steven J. Todd - Project Engineer Date: 4/30/05

Page 1 of 1

AWT Carl Stanson 5/18/05

Page 33/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-1
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH1&4DS		
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 04	N/A	N/A	N/A	N/A

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	14766	N/A
Upper Limit	16026	N/A
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	9838	N/A
Upper Limit	12466	N/A
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800301
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800302
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800303
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800304
Channel 6	Off	N/A	N/A	N/A	N/A	0800305
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

NO EXAM DUE TO VESSEL TO BAFFLE PLATE GUSSET

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
N/A	N/A	N/A	N/A	N/A

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☐	☑
Channel 2	☐	☐	☑
Channel 3	☐	☐	☑
Channel 4	☐	☐	☑
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: N/A

Analysis Tape/CD No.: N/A

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 34/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-2	
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH1&4DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A		24 Apr. 04	Start: 1453	End: 1501	Start: 85 / End: 85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	14766	14673
Upper Limit	16026	15948
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	12413	13781
Upper Limit	15041	15041
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800301
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800302
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800303
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800304
Channel 6	Off	N/A	N/A	N/A	N/A	0800305
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020
Limited examination due to vessel to baffle plate gusset.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	14673	15948	13781	15041

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 35/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-2-338A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2				**Examination No.:** ID-3	
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 78°	**Device Configuration:** D-PNPS-102					
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH1&4DS	**Exam Date**	**Examination Time**		**Surface Temperature °F**		
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A		24 Apr. 04	**Start**	**End**	**Start**	**End**	
			1505	1518	85	85	

Data Acquisition

Scan Controller Parameters		**Increment Axis/Arm**	**Planned**	**Actual**	**Scan Axis/Device**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	ID Device	Lower Limit	14766	14746	Lower Limit	14988	14988	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	16026	16021	Upper Limit	17616	17616	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (0)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800301
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800302
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800303
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800304
Channel 6	Off	N/A	N/A	N/A	N/A	0800305
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual					**Recordable Indications**	Yes	No	N/A
Scan No.(s)	Increment Position		Scan Position					
	Start	Stop	Start	Stop	Channel 1	☐	☑	☐
1 - 15	14747	16021	14988	17616	Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☐	☑
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 58 (Rev. 05/02)

Page 36 of 40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-4
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH1&4DS		
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 04	1528	1536	85	85

Data Acquisition

Scan Controller Parameters

Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	14766	14749
Upper Limit	16026	16021
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	17563	17563
Upper Limit	20191	20191
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters

Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	14749	16021	17563	20191

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 37/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-5	
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH1&4DS	Exam Date	Examination Time	Surface Temperature °F	
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A		24 Apr. 04	Start: 1547 / End: 1552	Start: 85	End: 85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	14766	14748
Upper Limit	16026	16013
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	20138	20138
Upper Limit	22766	22766
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	14748	16012	20138	22766

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 *Joel G. Godwin*

ISWT FORM No. UT 50 (Rev. 05/02)

Pg 38/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-2-338A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-6
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 78°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07A	**Scan Path Drawing:** SPLONGSH1&4DS		
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 04	1557	1604	85	85

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	14766	14750
Upper Limit	16026	16033
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	22713	22713
Upper Limit	25341	25341
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
0800301
0800302
0800303
0800304
0800305
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:
Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	14750	16034	22713	25341

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:
Joel G. Godwin / III / 24 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 34/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-7
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH1&4DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 05	2228	2240	80	80

Data Acquisition

Scan Controller Parameters

Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	10488	14718
Upper Limit	17508	17508
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Arm	Planned	Actual
Lower Limit	14646	14646
Upper Limit	16146	16146
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters

Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	79
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803301
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803302
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803303
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803304
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to vessel baffle plate gusset.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
48 - 80	14707	17508	14646	16146

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 40/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-8
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 78°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH1&4DS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
24 Apr. 05	2345	.0011	80	80

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	17418	17418
Upper Limit	24438	24438
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Arm	Planned	Actual
Lower Limit	14646	14646
Upper Limit	16146	16146
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	CCW/CW
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	79
Device Position:	A (0)

Module Parameters:	Status	A-07-1D Angle	Cal 33 Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-33
0803301
0803302
0803303
0803304
0803305
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 79	17418	24438	14646	16146

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☐	☑
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 1A & 1B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 41/240

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285 | PILGRIM STATION | Summary Sheet No.: 000300

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 1 VERTICAL WELD @ 318-DEGREES
IDENTIFICATION:	RPV-L-2-338C

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	N R I	O T H	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT45	0803401	exam 18	X	-	N/A	N/A	Examination no's 17 - 18.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	0803402	exam 18	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0803403,0803404	exam 18	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	0803405	exam 18	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	0802305,0802302	exam 17	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	0802303,0802304	exam 17	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	0802305	exam 17	X	-	N/A	N/A	

NOTES:
1. Weld RPV-L-2-338C was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to proximity of baffle plate, baffle plate gusset, jet pump diffusers, core shroud tie rod, and the N2K nozzle, 25% examination coverage was achieved.
4. Examination 18 was divided into 3 segments 18a, 18b, and 18c.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70389-1

Prepared by: Steven J. Todd
Steven J. Todd - Project Engineer

Date: 4/30/05

Page 1 of 1

Page 42/240

AVIS - Cert Steven J. Todd

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-17a	
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 318°	Device Configuration: D-PNPS-101			
Mod.Conf.: A-07-1A	Scan Path Drawing: SPLONGSH1&4SS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II		26 Apr. 05	Start: 0255	End: 0309	Start: 88 / End: 88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	62139	62139
Upper Limit	63399	62693
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Arm	Planned	Actual
Lower Limit	9888	14050
Upper Limit	25040	15550
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	A (90)

Module Parameters: A-07-1A Cal 23

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-23
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	0802301
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0802302
Channel 3	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)	0802303
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)	0802304
Channel 5	On	0T	(+)	- 4.40(in)	- 1.00(in)	0802305
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to the proximity of the baffle plate.

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop				
1 - 8	62139	62693	14050	15550	Channel 1	☐	☑	☐
					Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☐	☑
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst / SNT Level / Date: Joel G. Godwin / III / 26 Apr. 05 — Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 43/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-18a
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 318°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-08D	Scan Path Drawing: SPLONGSH1&4SS		
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	1719	1810	88	88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	10419	13898
Upper Limit	24549	15657
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	62178	62178
Upper Limit	63986	63986
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	158
Device Position:	D (90)

Module Parameters:	Status	A-08D Angle	Cal 34 Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-34
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	0803401
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803402
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803403
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803404
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803405
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to the jet pump diffusers.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
41 - 59	13898	15657	62178	63986

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 26 Apr. 05 Joel G. Godwin

ISWT FORM No. IIT 50 (Rev. 05/02)

Page 44/R40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	**Weld Identification:** RPV-L-2-338C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-18b
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 318°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-08D	**Scan Path Drawing:** SPLONGSH1&4SS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
D. Kleinjan / II	25 Apr. 05	1819	1855	88	88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	10419	15728
Upper Limit	24549	19382
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	62178	62178
Upper Limit	63986	63986
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	158
Device Position:	D (90)

Module Parameters: A-08D Cal 34

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-34
0803401
0803402
0803403
0803404
0803405
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to the N2K nozzle.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
60 - 100	15728	19382	62178	63986

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date:

Joel G. Godwin / III / 26 Apr. 05 Joel G. Godwin

ISWT FORM No. UT 50 (Rev. 05/02)

Page 45/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Nuclear Station	Weld Identification: RPV-L-2-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-18c
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 318°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-08D	Scan Path Drawing: SPLONGSH1&4SS		
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			

Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
25 Apr. 05	2051	2145	88	88

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	10419	22029
Upper Limit	24549	23019
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	62178	62178
Upper Limit	63986	63986
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	158
Device Position:	D (90)

Module Parameters: A-08D Cal 34

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-34
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	0803401
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803402
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803403
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803404
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803405
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.

Examination Remarks:

Entergy/Pilgrim Procedure TP04-020

Limited exam due to the N2K nozzle.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
130 - 141	21924	23019	62178	63986

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 2A & 2B

Analysis Tape/CD No.: A & B

Analyst Remarks

Analyst / SNT Level / Date: Joel G. Godwin / III / 26 Apr. 05 *Joel G. Godwin*

ISWT FORM No. UT 50 (Rev. 05/02)

Page 46/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-338B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-9
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 198°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	**Exam Date**	**Examination Time**		**Surface Temperature °F**	
		Start	**End**	**Start**	**End**
Harper Jacoby / N/A	1-May-03			87	87

Data Acquisition

Scan Controller Parameters		**Increment Axis/Arm**	**Planned**	**Actual**	**Scan Axis/Device**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	ID Device	Lower Limit	38452		Lower Limit	9838		Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	39712		Upper Limit	12466		Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (0)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	80032
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	80033
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:
No exam due to proximity of baffel plate gusset.

Data Analysis

Increment & Scan Positions Actual					**Recordable Indications**				**Analyst Remarks**
Scan No.(s)	Increment Position		Scan Position			Yes	No	N/A	Attachment:
	Start	Stop	Start	Stop	Channel 1	☐	☐	☐	☐ Yes ☐ No
					Channel 2	☐	☐	☐	Further Evaluation
					Channel 3	☐	☐	☐	Required:
					Channel 4	☐	☐	☐	☐ Yes ☐ No
					Channel 5	☐	☐	☐	Archive Tape/CD No.:
					Channel 6	☐	☐	☐	
					Channel 7	☐	☐	☐	Analysis Tape/CD No.:
					Channel 8	☐	☐	☐	

Analyst / SNT Level / Date:
Hector Diaz III 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 47/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-10
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 198°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	1-May-03	1235	1250	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	38452	38451
Upper Limit	39712	39712
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	12413	13700
Upper Limit	15041	15041
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	80032
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	80033
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Limited exam due to proximity of baffle plate gusset.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 5	38471	39552	13621	15041
6 - 15	38909	39728	13700	15041

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 1-May-03

ISWT FORM No. UT 50 (Rev. 05/01)

Page 48/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-11
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 198°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	1-May-03	1256	1314	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	38452	38452
Upper Limit	39712	39712
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	14988	14988
Upper Limit	17616	17616
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:

PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Data Analysis

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	38451	39712	14988	17616

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz III 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 49/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	**Weld Identification:** RPV-L-2-338B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-12
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 198°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07A	**Scan Path Drawing:** SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	1-May-03	1358	1406	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	38452	38452
Upper Limit	39712	39712
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	17563	17563
Upper Limit	20191	20191
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	38451	29796	17563	20191

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 50/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-338B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-13
Project No.: 02-0285	**Weld Description:** Ring 1 Vert @ 198°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07A	**Scan Path Drawing:** SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	**Exam Date**	**Examination Time**		**Surface Temperature °F**	
		Start	**End**	**Start**	**End**
Harper Jacoby / N/A	1-May-03	1414	1425	87	87

Data Acquisition

Scan Controller Parameters		**Increment Axis/Arm**	**Planned**	**Actual**	**Scan Axis/Device**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	ID Device	Lower Limit	38452	38452	Lower Limit	20138	20138	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	39712	39712	Upper Limit	22766	22766	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (180)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	38451	39714	20138	22766

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 51/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-14
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 198°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	1-May-03	1433	1443	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	38452	38452
Upper Limit	39712	39712
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	22713	22241
Upper Limit	25341	25341
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	38451	39694	22713	25341

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date: Hector Diaz Heator Diaz III 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 52/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT,1/0/0/1,2		Examination No.: ID-15	
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 198°	Device Configuration: D-PNPS-101			
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH1&4DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level:		1-May-03	Start	End	Start / End
R.A. Riddles / II			0543	0600	87 / 87

Data Acquisition

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	10488	13635	Lower Limit	38332	38332	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	17508	17508	Upper Limit	39832	39832	Transducer Size:	1.00
Increment:	Y Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	79
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	A (0)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:

PNS-33
80331
80332
80333
80334
80335
80336
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Limited exam due to proximity of baffle plate gusset.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
36 - 79	13631	17569	38332	39832

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Channel 6 inactive.

Analyst / SNT Level / Date:

Hector Diaz — III — 1-May-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 53/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-16
Project No.: 02-0285	Weld Description: Ring 1 Vert @ 198°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH1&4DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	1-May-03	0603	0648	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	17418	17431
Upper Limit	24438	24432
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.10	

Scan Axis/Device	Planned	Actual
Lower Limit	38332	38332
Upper Limit	39832	39832
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	79
Device Position:	A (180)

Module Parameters: A-07-1C Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	PNS-33
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80332
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80333
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80334
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335
Channel 7	Off	N/A	N/A	N/A	N/A	80336
Channel 8	Off	N/A	N/A	N/A	N/A	N/A
						N/A

Examination Notes:

Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.

Examination Remarks:

Limited exam due to proximity of the N2F nozzle.

Data Analysis

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 20	17431	19155	38332	39832
21 -34	19237	20410	38332	39050
35 - 43	20499	21175	38332	39090
44 - 50	21284	21804	38332	38950
51 - 73	21897	23886	38332	39560
74 - 79	23978	24427	38332	39832

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 5A

Analysis Tape/CD No.: 1A

Analyst Remarks

Channel 6 inactive.

Analyst / SNT Level / Date: Hector Diaz III 1-May-03

ISWT FORM No. IIT 50 (Rev. 05/02)

Page 54/142

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285

PILGRIM NUCLEAR POWER STATION

Summary Sheet No.: 000700

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 3 VERTICAL WELD @ 356-DEGREES
IDENTIFICATION:	RPV-L-2-339A

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80335,80336	exam 43-46	X	-	N/A	N/A	Examination no's 39-46.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	80331,80332	exam 43-46	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	80333,80334	exam 43-46	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	80031,80032	exam 39-42	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80033,80034	exam 39-42	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80035	exam 39-42	X	-	N/A	N/A	

NOTES:
1. Weld RPV-L-2-339A was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to proximity of feedwater and core spray spargers, 81% examination coverage was achieved.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D703[illegible] 1

Page 55/240

Prepared by: Steven J. Todd
Steven J. Todd - Project Engineer

Date: 04-May-03

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-39	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level:		28-Apr-03	Start	End	Start / End
Harper Jacoby	/ N/A		1154	1206	96 / 96

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	69950	69950	Lower Limit	38750	38750	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	71210	71210	Upper Limit	42814	42814	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (0)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	80031
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	80032
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	80033
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80034
Channel 6	Off	N/A	N/A	N/A	N/A	80035
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position		Scan Position					
	Start	Stop	Start	Stop				
1 - 15	69950	71210	38750	42806	Channel 1	☐	☑	☐
					Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 56/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-40	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level:		28-Apr-03	Start	End	Start / End
Harper Jacoby	/ N/A		1129	1144	96 / 96

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	69950	69950	Lower Limit	42763	42763	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	71210	71210	Upper Limit	46827	46827	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (180)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PHS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:
Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position		Scan Position					
	Start	Stop	Start	Stop	Channel 1	☐	☑	☐
1 - 7	69950	70339	42763	46115	Channel 2	☐	☑	☐
6 - 15	70351	71210	42763	46827	Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst Remarks

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 57/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-41
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 356°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	28-Apr-03	0936	0956	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	69950	69950
Upper Limit	71210	71210
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	46760
Upper Limit	52096	50400
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:
Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	69950	71210	46760	50400

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

Hector Diaz

ISWT FORM No. UT 50 (Rev. 05/02)

Page 58/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-42	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time	Surface Temperature °F	
Data Acquisition Operator (s) / SNT Level:		28-Apr-03	Start / End	Start	End
Harper Jacoby / N/A			1004 / 1010	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	69950	69950
Upper Limit	71210	71210
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	50300
Upper Limit	51744	51744
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:
Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	69950	71210	50300	51700

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date: Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/92)

Page 55/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-43
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	29-Apr-03	0150	0202	87	78

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	39650	39638
Upper Limit	43340	43330
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	69830	69830
Upper Limit	71330	71330
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	42
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80333
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80334
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:

Data Analysis

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 42	39646	43340	69830	71330

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Channel 6 inactive.

Analyst / SNT Level / Date: Hector Diaz Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 60 of 90

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339A	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-44
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 356°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1C	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	29-Apr-03	0213	222	87	78

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	43213	43215
Upper Limit	46903	45114
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	69830	69830
Upper Limit	71330	71330
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	42
Device Position:	A (180)

Module Parameters: A-07-1C Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80333
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80334
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:

Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 22	43213	45108	69830	71330

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Channel 6 inactive.

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

Hector Diaz

ISWT FORM No. UT 50 (Rev. 05/02)

Page 61/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-45
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	29-Apr-03	0213	0222	87	78

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	46776	47745
Upper Limit	51186	50620
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	69830	69830
Upper Limit	71330	71330
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	50
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80333
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80334
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:

Limited exam due to proximity of core spray sparger.

Data Analysis

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
12 - 44	47738	50620	69830	71330

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Channel 6 inactive.

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date: Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 62/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-46
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 356°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	29-Apr-03	0116	0121	87	78

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Manual Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	46776	50533
Upper Limit	51276	51296
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	69830	69830
Upper Limit	71330	71330
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	51
Device Position:	A (180)

Module Parameters: A-07-1C Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-33
80331
80332
80333
80334
80335
80336
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.

Examination Remarks:

Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
43 - 51	50617	51281	69830	71330

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Analyst Remarks

Channel 6 inactive.

Analyst / SNT Level / Date: Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 63/140

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285 | PILGRIM NUCLEAR POWER STATION | Summary Sheet No.: 000800

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 3 VERTICAL WELD @ 116-DEGREES
IDENTIFICATION:	RPV-L-2-339B

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80335,80336	exam 51-54	X	-	N/A	N/A	Examination no's 47-54.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	80331,80332	exam 51-54	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	80333,80334	exam 51-54	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	80031,80032	exam 47-50	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80033,80034	exam 47-50	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80035	exam 47-50	X	-	N/A	N/A	

NOTES:

1. Weld RPV-L-2-339B was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to proximity of feedwater and core spray spargers and ID taper at circ weld C-3-339A. 75% examination coverage was achieved. ID taper configuration in this area was greater (more severe) than experienced for welds RPV-L-2-339A and RPV-L-2-339C, resulting in slightly less examination coverage on this weld.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70388-1

Prepared by: Steven J. Todd
Steven J. Todd - Project Engineer

Date: 2 July 2003

Page 1 of 1

Page 65/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339B	Pro/Rev/Chg/ICN: ISWT-PDI-AUT-1/0/0/1,2	Examination No.: JD-47
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 116°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	28-Apr-03	2006	2019	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	22368	22348
Upper Limit	23628	23615
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	38750	38750
Upper Limit	42814	42402
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	80032
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	80033
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of core spray sparge.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 11	22376	23144	38750	42402
12	23317	-	39434	42402
13 - 15	23481	33628	39674	42402

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4AA

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

Hector Diaz

Page 66/140

ISWT FORM No. UT 50 (Rev. 05/02)

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-48
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 116°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07A	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	28-Apr-03	2028	2036	87	87

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	22368	22348
Upper Limit	23628	23628
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	42763	42400
Upper Limit	46827	44800
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of core spray sparge.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	22368	23628	42390	44815

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4AA

Analysis Tape/CD No.: 1A

Analyst Remarks

Analyst / SNT Level / Date:
Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 67/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-339B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-49
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 116°	Device Configuration: D-PNPS-102	
Mod.Conf.: A-07B	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Steven J. Todd / III	28-Apr-03	1810	1919	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	22368	22368
Upper Limit	23628	23628
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	47550
Upper Limit	52096	48350
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of core spray, feedwater spargers and ID taper on weld RPV-C-3-339A.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	22343	23549	47550	48350

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4AA

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. IIT 50 (Rev. 05/02)

Page 68/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-50
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 116°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07A	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	28-Apr-03	1730	1810	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	22368	22345
Upper Limit	23628	23591
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	50300
Upper Limit	52096	52092
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-):	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of core spray and feedwater spargers.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	22368	23628	50300	52096

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4AA

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz III 29-Apr-03

ISWT FORM No. IIT 50 (Rev. 05/02)

Page 69/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	**Weld Identification:** RPV-L-2-339B	**Pro/Rev/Chg/ICN:** ISWT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-51
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 116°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1D	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	27-Apr-03	2027	2102	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	39650	39637
Upper Limit	43340	40783
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	22248	22248
Upper Limit	23748	23748
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	42
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80333
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80334
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of the Core Spray Sparger.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 14	39666	40807	22248	23748

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst Remarks
Channel 6 inactive.

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 70/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: JD-52
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 116°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	27-Apr-03	2118	2251	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	43213	40820
Upper Limit	46903	45017
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	22248	22248
Upper Limit	23748	23748
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	42
Device Position:	A (180)

Module Parameters:	Status	A-07-1C Angle	Cal 33 Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80333
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80334
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of the Core Spray Sparger.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 50	40795	45017	22248	23748

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst Remarks

Channel 6 inactive.

Analyst / SNT Level / Date: Hector Diaz III 29-Apr-03

ISWT FORM No. UT 58 (Rev. 05/02)

Page 71/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339B	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-53
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 116°	**Device Configuration:** D-PNPS-101	
Mod.Conf.: A-07-1D	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	27-Apr-03	1844	1905	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	46776	47465
Upper Limit	51186	50037
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	22248	22248
Upper Limit	23748	23748
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Ccw/Cw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	50
Device Position:	A (0)

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-33
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80332
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80333
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80334
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80336
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of the Core Spray Sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
9 - 37	47468	50016	22248	23725

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☑	☐
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 72/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-54
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 116°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	27-Apr-03	1820	1825	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	46776	49824
Upper Limit	51186	51194
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	22248	22248
Upper Limit	23748	23748
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	50
Device Position:	A (180)

Module Parameters: A-07-1C Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-33
80331
80332
80333
80334
80335
80336
N/A
N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of the Core Spray Sparger.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
35 - 50	49828	51186	22248	23748

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☑	☐
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date: Hector Diaz Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 73/240

Page 74/240

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285

PILGRIM NUCLEAR POWER STATION

Summary Sheet No.: 000900

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	RING 3 VERTICAL WELD @ 236-DEGREES
IDENTIFICATION:	RPV-L-2-339C

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80335,80336	exam 59-62	X	-	N/A	N/A	Examination no's 55-62.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	80331,80332	exam 59-62	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	80333,80334	exam 59-62	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	80031,80032	exam 55-58	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80033,80034	exam 55-58	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80035	exam 55-58	X	-	N/A	N/A	

NOTES:

1. Weld RPV-L-2-339C was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. No recordable indications were detected during this examination.
3. The examination was limited due to proximity of feedwater and core spray spargers, 83% examination coverage was achieved.

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70389-1

Prepared by: Steven J. Todd
Steven J. Todd - Project Engineer

Date: 04-May-03

Page 1 of 1

Page 75/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** ID-55
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 236°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	**Exam Date**	**Examination Time**		**Surface Temperature °F**	
		Start	**End**	**Start**	**End**
Harper Jacoby / N/A	28-Apr-03	1425	1432	96	96

Data Acquisition

Scan Controller Parameters		**Increment Axis/Arm**	**Planned**	**Actual**	**Scan Axis/Device**	**Planned**	**Actual**	**Positional Parameters**	
Controller:	ID Device	Lower Limit	46159	46160	Lower Limit	38750	38750	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	47419	47380	Upper Limit	42814	40862	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	15
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (0)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	80032
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	80033
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual					**Recordable Indications**	Yes	No	N/A
Scan No.(s)	Increment Position		Scan Position					
	Start	Stop	Start	Stop	Channel 1	☐	☑	☐
1 - 15	46146	47392	38750	40862	Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 76 of 80

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-56	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-102			
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time	Surface Temperature °F	
Data Acquisition Operator (s) / SNT Level:			Start / End	Start	End
Harper Jacoby / N/A		28-Apr-03	1324 / 1420	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	46159	46160
Upper Limit	47419	47420
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	42763	40763
Upper Limit	46827	44795
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of the core spray line.

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position		Scan Position					
	Start	Stop	Start	Stop				
1 - 15	46159	47318	40763	44840	Channel 1	☐	☑	☐
					Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 56 (Rev. 05/02)

Page 77/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	**Weld Identification:** RPV-L-2-339C	**Pro/Rev/Chg/ICN:** ISwT-PDI-AUT1/0/0/1,2	**Examination No.:** JD-57
Project No.: 02-0285	**Weld Description:** Ring 3 Vert @ 236°	**Device Configuration:** D-PNPS-102	
Mod.Conf.: A-07B	**Scan Path Drawing:** SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	28-Apr-03	1552	1611	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	46159	46146
Upper Limit	47419	47420
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	47550
Upper Limit	52096	50402
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Dn/Up
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (0)

Module Parameters: A-07B Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)
Channel 6	Off	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-03
80031
80032
80033
80034
80035
N/A
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of core spray sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 15	46159	47414	47550	50402

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst Remarks

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 78 of 79

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-58
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07A	Scan Path Drawing: SPLONGSH3TOPDS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
Harper Jacoby / N/A	28-Apr-03	1617	1621	96	96

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	Y Axis
Increment:	X Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Arm	Planned	Actual
Lower Limit	46159	46160
Upper Limit	47419	47460
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Device	Planned	Actual
Lower Limit	46776	50300
Upper Limit	51744	51744
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Up/Dn
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	15
Device Position:	D (180)

Module Parameters: A-07A Cal 03

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
						PNS-03
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	80031
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	80032
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	80033
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	80034
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035
Channel 6	Off	N/A	N/A	N/A	N/A	N/A
Channel 7	Off	N/A	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A	N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop				
1 - 15	46159	47451	50300	51700	Channel 1	☐	☑	☐
					Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 3A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date: Hector Diaz III 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 79/240

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-59	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-101			
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II		29-Apr-03	Start 0430 - End 0457		Start 99 End 99

Data Acquisition

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	39650	39657	Lower Limit	46039	36050	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	43340	42890	Upper Limit	47539	47529	Transducer Size:	1.00
Increment:	Y Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	42
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	A (0)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80332
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80333
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80334
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335
Channel 7	Off	N/A	N/A	N/A	N/A	80336
Channel 8	Off	N/A	N/A	N/A	N/A	N/A
						N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to proximity of the core spray sparger.

Data Analysis

Increment & Scan Positions Actual

Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 37	39650	42867	46050	47630

Recordable Indications

	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☑	☐
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Analyst Remarks

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Analyst / SNT Level / Date:

Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 8 of 40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2	Examination No.: ID-60
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-101	
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS		

Data Acquisition Operator (s) / SNT Level:	Exam Date	Examination Time Start	Examination Time End	Surface Temperature °F Start	Surface Temperature °F End
R.A. Riddles / II	29-Apr-03	0512	0522	99	99

Data Acquisition

Scan Controller Parameters	
Controller:	ID Device
Scan:	X Axis
Increment:	Y Axis
Mode:	Automatic Scan
Scan Motion:	Bi-directional
Correction:	Default

Increment Axis/Device	Planned	Actual
Lower Limit	43213	42943
Upper Limit	46903	45020
Increment Interval	90	
Conversion Counts	100	
Conversion Units In.	1.00	
EDAS Radius In.	113.60	

Scan Axis/Arm	Planned	Actual
Lower Limit	46039	46030
Upper Limit	47539	47515
DCI	4	
Conversion Counts	100	
Conversion Units In.	1.00	

Positional Parameters	
Beam Direction:	Cw/Ccw
Transducer Size:	1.00
Code % of Overlap:	10
Number of Scans:	42
Device Position:	A (180)

Module Parameters: A-07-1C Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)
Channel 7	Off	N/A	N/A	N/A	N/A
Channel 8	Off	N/A	N/A	N/A	N/A

Calibration Records:
PNS-33
80331
80332
80333
80334
80335
80336
N/A
N/A

Examination Notes:
Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:
Limited exam due to proximity of the core spray sparger.

Data Analysis

Increment & Scan Positions Actual				
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop
1 - 24	42943	45015	46039	47539

Recordable Indications	Yes	No	N/A
Channel 1	☐	☑	☐
Channel 2	☐	☑	☐
Channel 3	☐	☑	☐
Channel 4	☐	☑	☐
Channel 5	☐	☑	☐
Channel 6	☐	☐	☑
Channel 7	☐	☐	☑
Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Analyst Remarks
Channel 6 inactive.

Analyst / SNT Level / Date:
Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 81/140

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-61	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-101			
Mod.Conf.: A-07-1D	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time	Surface Temperature °F	
Data Acquisition Operator (s) / SNT Level:		29-Apr-03	Start: 2046 / End: 2109	Start: 82	End: 82

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	46776	47496	Lower Limit	46039	46063	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	51186	51186	Upper Limit	47539	47523	Transducer Size:	1.00
Increment:	Y Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Automatic Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	50
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	A (0)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07-1D Cal 33

	Status	Angle	Direction	Scan Offset	Step Offset	Calibration Records:
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80332
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80333
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80334
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335
Channel 7	Off	N/A	N/A	N/A	N/A	80336
Channel 8	Off	N/A	N/A	N/A	N/A	N/A
						N/A

Examination Notes:

Check for limitations due to the proximity of the feedwater and core spray spargers.

Examination Remarks:

Limited exam due to the proximity of the core spray sparger.

Data Analysis

Increment & Scan Positions Actual					Recordable Indications	Yes	No	N/A
Scan No.(s)	Increment Position Start	Increment Position Stop	Scan Position Start	Scan Position Stop	Channel 1	☐	☑	☐
9 - 50	47476	51154	46039	47539	Channel 2	☐	☑	☐
					Channel 3	☐	☑	☐
					Channel 4	☐	☑	☐
					Channel 5	☐	☑	☐
					Channel 6	☐	☐	☑
					Channel 7	☐	☐	☑
					Channel 8	☐	☐	☑

Attachment: ☐ Yes ☑ No

Further Evaluation Required: ☐ Yes ☑ No

Archive Tape/CD No.: 4A

Analysis Tape/CD No.: 1A

Analyst Remarks

Channel 6 inactive.

Analyst / SNT Level / Date: Hector Diaz III 30-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 30/40

IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/0/1,2		Examination No.: ID-62	
Project No.: 02-0285	Weld Description: Ring 3 Vert @ 236°	Device Configuration: D-PNPS-101			
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS	Exam Date	Examination Time		Surface Temperature °F
Data Acquisition Operator (s) / SNT Level:			Start	End	Start / End
R.A. Riddles / II		29-Apr-03	0608	0615	99 / 99

Data Acquisition

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	46776	49783	Lower Limit	46039	46039	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	51186	51289	Upper Limit	47539	47539	Transducer Size:	1.00
Increment:	Y Axis	Increment Interval	90		DCI	4		Code % of Overlap:	10
Mode:	Manual Scan	Conversion Counts	100		Conversion Counts	100		Number of Scans:	50
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	A (180)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters:		A-07-1C	Cal 33			Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset	PNS-33	Check for limitations due to the proximity of the feedwater and core spray spargers.
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80332	
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	80333	
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	80334	**Examination Remarks:**
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335	Limited exam due to proximity of the core spray sparger.
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80336	
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	

Data Analysis

Increment & Scan Positions Actual					Recordable Indications				Analyst Remarks
Scan No.(s)	Increment Position		Scan Position			Yes	No	N/A	Attachment:
	Start	Stop	Start	Stop	Channel 1	☐	☑	☐	☐ Yes ☑ No — Channel 6 inactive.
34 - 52	49718	51287	46039	47539	Channel 2	☐	☑	☐	Further Evaluation
					Channel 3	☐	☑	☐	Required:
					Channel 4	☐	☑	☐	☐ Yes ☑ No
					Channel 5	☐	☑	☐	Archive Tape/CD No.:
					Channel 6	☐	☐	☑	4A
					Channel 7	☐	☐	☑	Analysis Tape/CD No.:
					Channel 8	☐	☐	☑	1A

Analyst / SNT Level / Date:
Hector Diaz — Hector Diaz — III — 29-Apr-03

ISWT FORM No. UT 50 (Rev. 05/02)

Page 83/240

ISwT EXAMINATION SUMMARY RECORD

Project No.: 02-0285

PILGRIM NUCLEAR POWER STATION

Summary Sheet No.: 001300

SITE:	PILGRIM STATION
SYSTEM:	REACTOR PRESSURE VESSEL
LINE/SUBASSEMBLY:	UPPER SHELL-TO-FLANGE
IDENTIFICATION:	RPV-C-4-339

PNPS ISI Program Designation is RPV-SF-- RAG

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Data Sheet No.	NRI	OTH	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80335,80336	exam 83	X	-	N/A	N/A	Examination no's 83 - 84.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT45	80041	exam 83	X	-	N/A	N/A	AUT0 for thickness measurement only.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55	80042	exam 83	X	-	N/A	N/A	Indication detected with AUTSLIC40 was
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40	80043,80044	exam 83	-	X	020001	285001	sized with AUTSLIC35 and found to be allowable
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	80331,80332	exam 84	X	-	N/A	N/A	In accordance with the 1989 Edition of ASME
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80333,80334	exam 84	X	-	N/A	N/A	Section XI Code.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT0	80335,80336	exam 84	X	-	N/A	N/A	
AUT	ISwT-PDI-AUT2/0/0/1,2,3	AUTSLIC35	809033	exam 83A-RLA	-	X	020001	285001	

NOTES:

1. Weld RPV-C-4-339 was examined from the inside surface using AIRIS-21 and EDAS-II examination equipment.
2. The examination was limited due to proximity of the main steam nozzles, nozzle plugs, guide rods at 0 and 180-degrees, and the configuration of the vessel flange. 81% examination coverage was achieved.
3. One (1) acceptable flaw indication was recorded and sized.
4. Detection examination patches included #83A - 83F (6 patches) and 84A - 84AB (53 patches).
5. Sizing examination patches included #83A-RLA (1 patch).

****UT CALIBRATION BLOCK(s)****
D-70187-2/D70389-1

Prepared by: Steven J. Todd
Steven J. Todd / Project Engineer

Date: 3 July 2003.

Page 1 of 1

Page 84/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-L-1-339A Ring 4 Vert @ 60°	Transverse	63	112.12	124.65	499.44	524.36	312.2				97%	Limitations due to the proximity of N3A nozzle.
		64	112.12	124.65	524.36	548.78	306.0					
		65	112.12	124.73	548.87	573.20	306.8					
		66	112.12	124.73	573.20	597.62	307.9					
		67	112.12	124.73	597.62	622.04	307.9					
		68	112.12	124.73	622.04	646.46	307.9	1849	1620	100%		
	Parallel	69	110.93	125.93	508.44	578.66	1053.3					
		70-1	110.93	125.93	578.66	592.96	214.5					
		70-2	110.93	120.00	592.96	618.95	235.7					
		70-3	110.93	125.93	618.95	647.60	429.8	1933	2068	93%		
RPV-L-1-339B Ring 4 Vert @ 180°	Transverse	71A	348.99	361.59	499.44	524.36	314.0				100%	
		71B	348.99	361.59	524.36	548.78	307.7					
		71C	348.99	361.59	548.78	573.20	307.7					
		72A	348.99	361.59	573.20	597.62	307.7					
		72B	348.99	361.59	597.62	622.04	307.7					
		72C	348.99	361.59	622.04	646.46	307.7	1852	1620	100%		
	Parallel	73	347.79	362.79	508.29	578.82	1058.0					
		74	347.74	362.79	578.82	647.94	1040.3	2098	2068	100%		
RPV-L-1-339C Ring 4 Vert @ 300°	Transverse	75	585.86	598.46	499.44	524.36	314.0				98%	Limitations due to the proximity of N3D nozzle.
		76	585.86	598.46	524.36	548.78	307.7					
		77	585.86	598.46	548.78	573.20	307.7					
		78	585.86	598.46	573.20	597.62	307.7					
		79	585.86	598.46	597.62	622.04	307.7					
		80	585.86	598.46	622.04	646.46	307.7	1852	1620	100%		
	Parallel	81	584.66	599.66	508.31	578.41	1051.5					
		82-1	584.66	599.66	578.41	592.12	205.7					
		82-2	589.42	599.66	592.12	614.96	233.9					
		82-3	584.66	599.66	614.96	647.91	494.2	1985	2068	96%		

Page 85/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-L-2-339A Ring 3 Vert @ 356°	Transverse	39	699.50	712.10	387.50	428.06	511.1				81%	Limitations due to the proximity of the feedwater and core spray spargers.
		40-1	699.50	703.39	428.06	461.15	128.7					
		40-2	703.39	712.10	461.15	468.27	62.0					
		41	699.50	712.10	476.60	504.00	345.2					
		42	699.50	712.10	504.00	517.00	163.8	1211	1481	82%		
	Parallel	43	698.30	713.30	396.50	433.30	552.0					
		44	698.30	713.30	433.30	451.08	266.7					
		45	698.30	713.30	477.38	506.20	432.3					
		46	698.30	713.30	506.20	512.81	99.1	1350	1701	79%		
RPV-L-2-339B Ring 3 Vert @ 116°	Transverse	47-1	223.76	231.41	387.50	424.02	279.4				75%	Limitations due to the proximity of the feedwater and core spray spargers and ID taper at circ weld C-3-339A.
		47-2	231.41	234.81	394.34	424.02	100.9					
		47-3	234.81	236.28	396.74	424.02	40.1					
		48	223.68	236.28	424.02	448.15	304.0					
		49	223.68	235.49	475.50	483.50	94.5					
		50	223.68	236.28	503.00	520.96	226.3	1045	1481	71%		
	Parallel	51	222.48	237.48	396.66	408.07	171.2					
		52	222.48	237.48	408.07	450.17	631.5					
		53	222.48	237.48	474.68	500.16	382.2					
		54	222.48	237.48	500.16	511.86	175.5	1360	1701	80%		
RPV-L-2-339C Ring 3 Vert @ 236°	Transverse	55	461.59	473.92	387.50	408.62	260.4				83%	Limitations due to the proximity of the feedwater and core spray spargers.
		56	461.59	473.18	408.62	448.40	461.1					
		57	461.59	474.19	475.50	504.02	359.4					
		58	461.59	474.19	504.02	517.00	163.5	1244	1481	84%		
	Parallel	59	460.50	476.30	396.50	428.67	508.3					
		60	460.39	475.39	429.43	450.15	310.8					
		61	460.39	475.39	474.76	511.54	551.7					
		62	460.39	475.39	511.54	512.87	19.9	1391	1701	82%		

Page 86/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-L-1-338A Ring 2 Vert @ 60°	Transverse	19					0.0				28%	Partial exam.
		20					0.0					
		21					0.0					
		22	112.66	125.26	319.93	349.81	376.5					
		23	112.66	125.26	349.81	379.16	369.8					
		24	112.66	125.26	379.16	408.51	369.8	1116	2026	55%		
	Parallel	25					0.0					
		26					0.0	0	2347	0%		
RPV-L-1-338C Ring 2 Vert @ 180°	Transverse	27	350.57	362.02	231.88	261.76	342.1				100%	
		28	350.57	362.73	261.76	291.11	356.9					
		29	350.57	363.10	291.11	320.46	367.8					
		30	350.57	363.17	320.46	349.91	371.1					
		31	350.57	363.17	349.91	379.16	368.6					
		32	350.57	363.17	379.16	408.51	369.8	2176	2026	100%		
	Parallel	33	349.37	364.37	241.33	321.48	1202.3					
		34	349.37	364.37	321.48	400.68	1188.0	2390	2347	100%		

Page 87/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-L-2-338B Ring 1 Vert @ 198°	Transverse	9					0.0				78%	Limitations due to the proximity of the baffel plate gusset.
		10-1	384.71	395.52	136.21	150.41	153.5					
		10-2	395.52	397.28	137.00	150.41	23.6					
		11	384.51	397.12	150.41	176.16	324.7					
		12	384.51	397.12	176.16	201.91	324.7					
		13	384.51	397.12	201.91	227.66	324.7					
		14	384.51	396.94	227.66	253.41	320.1	1471	1620	91%		
	Parallel	15	383.32	398.32	136.31	175.69	590.7					
		16-1	383.32	398.32	175.69	191.55	237.9					
		16-2	383.32	390.50	191.55	204.10	90.1					
		16-3	383.32	390.90	204.10	211.75	58.0					
		16-4	383.32	389.50	211.75	218.04	38.9					
		16-5	383.32	395.60	218.04	238.86	255.7					
		16-6	383.32	398.32	238.86	244.27	81.1	1352	2068	65%		

Page 38/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-C-4-339 Flange	Transverse	84A	1.00	14.40	640.14	652.74	168.8				81%	Limitations due to the N3 nozzles, Plugs, the flange configuration, and the guide rods.
		84B	14.40	27.80	640.14	652.74	168.8					
		84C	27.80	40.80	640.14	652.74	163.8					
		84D	40.80	54.60	640.14	652.74	173.9					
		84E	54.60	68.00	640.14	652.74	168.8					
		84F	68.00	81.40	640.14	652.74	168.8					
		84G	81.40	94.80	640.14	652.74	168.8					
		84H	94.80	108.20	640.14	652.74	168.8					
		84I	108.20	121.60	640.14	652.74	168.8					
		84J					0.0					
		84K					0.0					
		84L					0.0					
		84M	160.90	175.20	640.14	652.74	180.2					
		84N	174.20	188.60	640.14	652.74	181.4					
		84O	188.60	202.00	640.14	652.74	168.8					
		84P	202.00	215.40	640.14	652.74	168.8					
		84Q					0.0					
		84R	227.80	242.20	640.14	652.74	181.4					
		84S	242.20	255.60	640.14	652.74	168.8					
		84T	255.60	269.00	640.14	652.74	168.8					
		84U	269.00	282.40	640.14	652.74	168.8					
		84V	282.40	295.80	640.14	652.74	168.8					
		84W	295.80	309.20	640.14	652.74	168.8					
		84X	309.20	322.60	640.14	652.74	168.8					

Page 89/240

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-C-4-339 Flange	Transverse	84Y	322.60	336.00	640.14	652.74	168.8					Limitations due to the N3 nozzles, Plugs, the flange configuration, and the guide rods.
		84Z	336.00	349.40	640.14	652.74	168.8					
		84AA	348.40	362.80	640.14	652.74	181.4					
		84BB	362.80	376.00	640.14	652.74	166.3					
		84CC	376.00	389.60	640.14	652.74	171.4					
		84DD	389.60	403.00	640.14	652.74	168.8					
		84EE	403.00	416.40	640.14	652.74	168.8					
		84FF	416.40	429.50	640.14	652.74	165.1					
		84GG	429.50	442.92	640.14	652.74	169.1					
		84HH	442.92	456.60	640.14	652.74	172.4					
		84II	456.60	470.00	640.14	652.74	168.8					
		84JJ	470.00	483.20	640.14	652.74	166.3					
		84KK	483.20	496.20	640.14	652.74	163.8					
		84LL					0.0					
		84MM					0.0					
		84NN					0.0					
		84OO	536.00	550.40	640.14	652.74	181.4					
		84PP	550.40	563.80	640.14	652.74	168.8					
		84QQ					0.0					
		84RR					0.0					
		84SS	589.60	603.55	640.14	652.74	175.8					
		84TT	603.55	617.00	640.14	652.74	169.5					
		84UU	617.00	630.00	640.14	652.74	163.8					
		84VV	630.00	644.20	640.14	652.74	178.9					

Page 90/140

PILGRAIM NUCLEAR POWER STATION
COVERAGE REPORT
RFO 14

Weld No.	Exam Type	Exam No.	X		Y		Sq. Inches Scanned / Exam	Total Sq. Inches Scanned	Sq. Inches Required	Percent	Total Coverage	Remarks
			Start	Stop	Start	Stop						
RPV-C-4-339 Flange	Transverse	84WW	644.20	657.60	640.14	652.74	168.8					Limitations due to the N3 nozzles, Plugs, the flange configuration, and the guide rods.
		84XX	657.60	670.80	640.14	652.74	166.3					
		84YY	670.80	684.40	640.14	652.74	171.4					
		84ZZ	684.40	697.80	640.14	652.74	168.8					
		84AB	697.80	705.29	640.14	652.74	94.4	7421	8953	83%		
	Parallel	83A	0.00	123.23	633.42	652.38	2336.4					
		83B	161.10	194.31	633.42	652.38	629.7					
		83C	232.20	355.77	633.42	652.38	2342.9					
		83D	356.49	478.80	633.42	652.38	2319.0					
		83E	516.43	549.90	633.42	652.38	634.6					
		83F-1	586.80	701.36	633.42	652.38	2172.1					
		83F-2	701.36	705.29	633.42	650.94	68.9	10503	13444	78%		

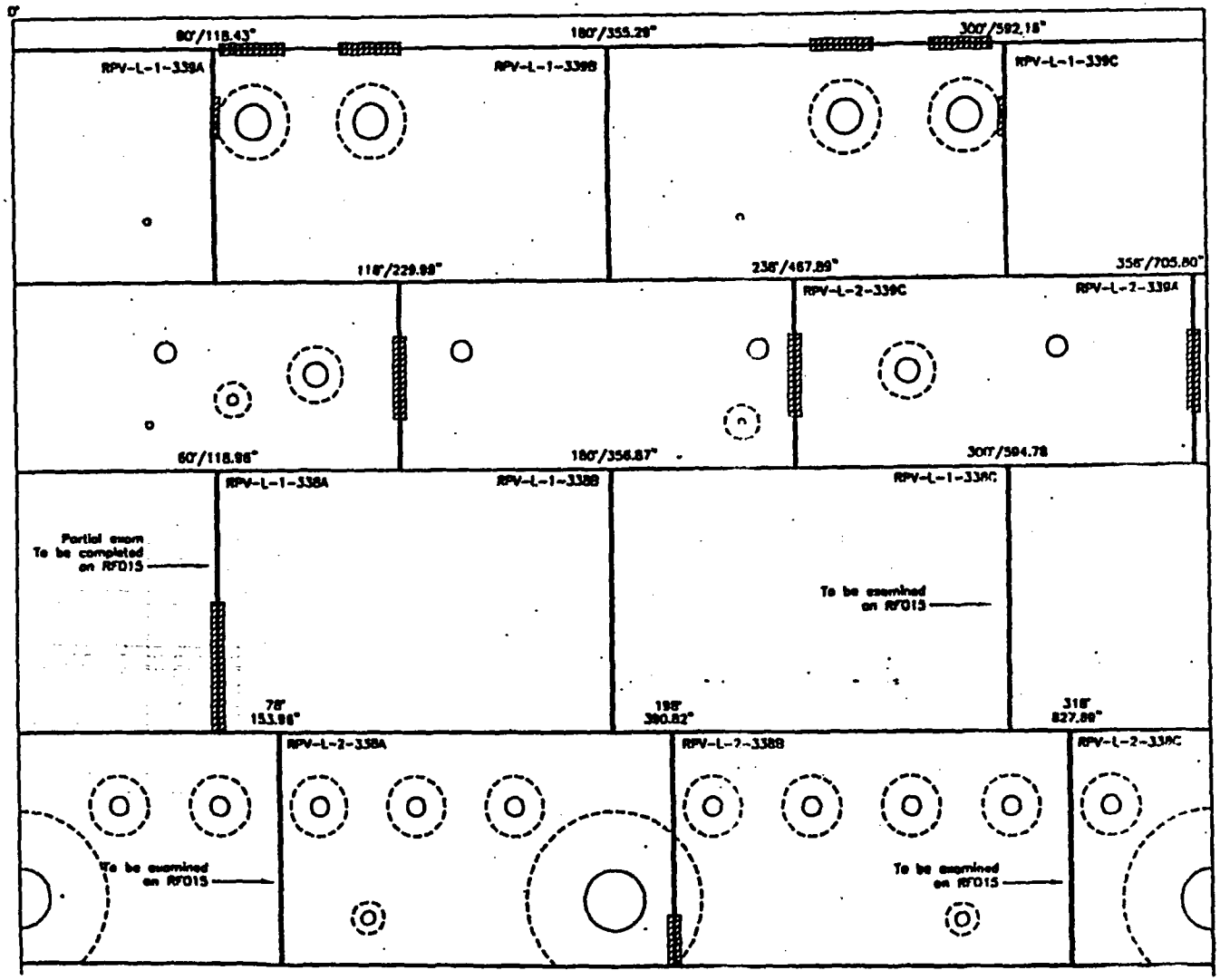
X is the dimension in the circumferential direction meassure in inches from vessel 0°.

Y is the dimension in elevation meassued in inches from vessel 0".

For the Transverse examinations, *X* is the increment axis, and the *Y* is the scan axis.

For the Parallel exaaminations, *X* is in the scan axis, and *Y* is the increment axis.

Page 91/240



Pilgrim RPV
OD Vessel Rollout (Limitoions)
May 2003
Limit RPV.dwg

Page 92/240

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: PIL-R15-05-026

Site: Pilgrim Nuclear Power Station Component ID: RPV-N7A-NV NOZZLE TO VESSEL

Outage: RF-015

System: RPV ASME Cat.: B-D ASME Item: B3.90 Aug Req: N/A

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° Shear	UT-029	N/A	TP04-029 (GE-UT-311)	PIL-5B	J. Kent Montgomery	II	4/22/2005
60° Shear	UT-028	N/A	TP04-029 (GE-UT-311)	PIL-5B	J. Kent Montgomery	II	4/22/2005
60° Long.	UT-003	N/A	TP04-018 (GE-UT-300)	PIL-5B	Brad Dummer	III	4/22/2005
60° Long.	UT-004	N/A	TP04-018 (GE-UT-300)	CAL-IIW2-017	Brad Dummer	III	4/22/2005

Examination Results:

Ultrasonic examination results were acceptable to the requirements of ASME B&PV Code Section XI, 1989 Edition no Addenda, and Section XI, 1995 Edition with the 1996 Addenda as modified by the PDI program description and the Federal Register, Part II, Nuclear Regulatory Commission, 10 CFR Part 50 for Category B-D Reactor Pressure Vessel (RPV) Assembly Welds.

Manual scans form the outside surface were performed in accordance with procedure TP04-018 Rev. 0 (GE-UT-300 V8) and TP04-029 Rev. 0 (GE-UT-311 V10).

No indications were recorded.

Scanning was restricted due to nozzle configuration.

Manual coverage = 56.7%

Examination results were compared to data report 95-E-437,439,441 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: N/A ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-24-05

Utility Review: [signature] Date: 4/27/05

ANII Review: [signature] Date: 4/27/05

RWP: 0065

Dose: 1 mr.

Page 93/140

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-026 Linearity Sheet: L-006
Data Sheet Number: UT-003
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 0945" Exam Start 1400
Cal Check: N/A Exam End 1440
Cal Check: N/A Ultragel II 01225
Final Cal: 1445" Couplant: Batch

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
ID	4.1"	1X	80%	7.8"	8.2"	4.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 62 dB
Sweep 0-10 10.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-02005	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	59°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC-3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031540506
Maufacturer/Model:	Serial Number:

9.615 us	0.234 in./usec.	0.8 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:

400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-N7A-NV
NOZZLE TO VESSEL
Configuration:

OD	72° F
Exam Surface:	Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
T/P	OD	68	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Exams performed to maintain a 10% - 20% FSH clad roll.
**** Initial cal date: 4/22/05***
**** Final date: 4/23/05***
Numerous spot indications seen but not recordable per procedure.

RD	Brad Dummer	III	4/22/2005
Initials:	Examiner	Level	Cal/Exam Date:

	N/A	N/A	
Initials:	Examiner	Level	

	~~III~~	4-24-05
GE Reviewed By:	Level:	Date:

Scott Lee	L-III	4/27/05
Utility Reviewed By:		Date:

Curt Hamm		4/27/05
ANII Reviewed By:		Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-026 Linearity Sheet: L-006
Data Sheet Number: UT-004
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: CAL-IIW2-017

CS	N/A	4.0"
Material	Size	Thickness

Initial Cal: 0945* Exam Start 1400
Cal Check: N/A Exam End 1440
Cal Check: N/A Ultragel II 01225
Final Cal: 1445* Couplant: Batch

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	0.6"	1X	80%	1.0"	.58"	2.8
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 58 dB
Sweep 0-10 2.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-0200*	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	59°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC-3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4 — Manufacturer/Model:
031540506 — Serial Number:

9.615 µs	0.234 in./µsec.	0.5 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	4.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:
400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:
Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-N7A-NV

NOZZLE TO VESSEL
Configuration:

OD	72° F
Exam Surface:	Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
T/P	OD	72	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for near surface examination.
**** Initial cal date: 4/22/05***
**** Final date: 4/23/05***
Numerous spot indications seen but not recordable per procedure.

BD — Brad Dummer — III — 4/22/2005
Initials: Examiner Level Cal/Exam Date:

Utility Reviewed By: — Date: 4/27/05

N/A — N/A
Initials: Examiner Level

ANII Reviewed By: — Date: 4/30/05

GE Reviewed By: — III — 4-24-05
Level: Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-026 Linearity Sheet: L-004
Data Sheet Number: UT-028
Procedure: TP04-029 (GE-UT-311) Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1030* Exam Start 14:00
Cal Check: N/A Exam End 14:45
Cal Check: N/A Ultragel II Couplant: 01225 Batch
Final Cal: 1405*

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Side	Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
ID	4.1"	1X	80%	7.8"	9.18"	4.6
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 41 dB

Sweep 0-10 20 Metal Path

Acceptable Linearity performed : 4/15/2005

Search Unit Data

KBA	010HXM	0.5"x1.0"/Rect.
Manufacturer:	Serial No.:	Size/Shape:

0.75 in.	60°	61°
Incident Point:	Nominal Angle:	Measured Angle:

2.25 MHz	113-892-600	Sheer
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4 — Maufacturer/Model:
031574111 — Serial No.:

14.27 us	0.128 in /usec	0.8 - 3.0 MHz
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser/Energy

400 Ohms	0	2.0 MHz	P/E
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Component: RPV-N7A-NV

NOZZLE TO VESSEL
Configuration:

OD — Exam Surface:
70° F — Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
0 - 5"	60°	15° - 85°	N/A	55	NRI

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Comments: Cal/Exam Date is the date of initial calibration. See coverage sheet for limitations.

Exams performed to maintain a 5% FSH ID roll.
Scanned CW and CCW.
Calibration sweep is 20 metal path, examination range setting is 10.
Calibration for nozzle to vessel weld.
**** Initial Cal: 4/22/2005***
**** Final Cal: 4/23/2005***

JKM J. Kent Montgomery	II	4/22/2005	L-14	4/27/05
Initials: Examiner:	Level	Cal/Exam Date:	Utility Reviewed By:	Date:

	III	4-24-05		4/30/05
GE Reviewed By:	Level:	Date:	ANII Reviewed By:	Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-026 Linearity Sheet: L-004
Data Sheet Number: UT-029
Procedure: TP04-029 (GE-UT-311) Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1020° Exam Start 14:00
Cal Check: N/A Exam End 14:45
Cal Check: N/A Ultragel II Couplant: 01225 Batch
Final Cal: 1400°

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Side	Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
ID	4.1"	1X	80%	4.1"	6.19"	3.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 35.5 dB

Sweep 0-10 20" Metal Path

Acceptable Linearity performed : 4/15/2005

Exam Data for Component: RPV-N7A-NV

NOZZLE TO VESSEL
Configuration:

OD — Exam Surface:
70° F — Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
0 - 8"	45°	15° - 85°	N/A	49.5	NRI

Search Unit Data

KBA	010HXC	0.5"x1.0"/Rect
Manufacturer:	Serial No.:	Size/Shape:
0.7 in.	45°	44°
Incident Point:	Nominal Angle:	Measured Angle:
2.25 MHz	113-892-600	Shear
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12"	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031574111
Maufacturer/Model:	Serial No.:

12.35 us	0.128 in /usec	0.8 - 3.0 MHz
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser/Energy
400 Ohms	0	2.0 MHz	P/E
Damping:	Reject:	Frequency:	Mode:
Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Comments: Cal/Exam Date is the date of initial calibration. See coverage sheet for limitations.

Exams performed to maintain a 5% FSH ID roll.
Scanned CW and CCW.
Calibration sweep is 20 metal path, examination range setting is 10.
Calibration for nozzle to vessel weld.
**** Initial Cal: 4/22/2005***
**** Final Cal: 4/23/2005***

JKM J. Kent Montgomery	II	4/22/2005	[signature]	4/27/05
Initials: Examiner:	Level	Cal/Exam Date:	Utility Reviewed By:	Date:
[signature]	II	4-24-05	[signature]	4/28/05
GE Reviewed By:	Level:	Date:	ANII Reviewed By:	Date:

MANUAL DETECTION
NOZZLE INNER RADIUS AND BORE INSPECTION REQUIREMENTS

PLANT : Pilgrim

PREPARED BY S.C. MORTENSON DATE 01/10/05

NOZZLE EXAM ZONE	SCAN SURFACE	SCAN AREA	BEAM ANGLE	ROTATION ANGLE	WEDGE RADIUS	MAX MF	FREQ	
RECIRC OUTLET								
N/V Weld (M)	PLATE	0 - 3.0"	45.0°	± 70° - 85°	FLAT	10.7"	1 MHz	
N/V Weld/Zone 1 (M)	ODBR	50° - 90°	43.0°	83.0°	6.6"	15.9"	1 MHz	W-071
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6"	12.9"	1 MHz	W-070
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6"	13.4"	1 MHz	W-069
RECIRC INLET								
N/V Weld (M)	PLATE	0 - 6.0"	60.0°	± 35° - 65°	FLAT	15.6"	1 MHz	
Zone 1 (M)	PLATE	0 - 6.0"	70.0°	± 30°	FLAT	28.0"	1 MHz	
Zone 2a (M)	ODBR	55° - 90°	64.8°	20.3°	6.1"	12.2"	1 MHz	W-072
TOP HEAD VENT								
N/V (M)	PLATE	0 - 5.0"	60.0°	32° - 56°	FLAT	6.8"	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.0"	70.0°	±25°	FLAT	9.7"	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 8.0"	80.0°	±25°	FLAT	12.9"	2.25 MHz	
TOP HEAD SPARE								
N/V (M)	PLATE	0 - 8.0"	45.0°	15° - 85°	FLAT	4.6"	2.25 MHz	
N/V (M)	PLATE	0 - 5.0"	60.0°	15° - 85°	FLAT	6.8"	2.25 MHz	
ZONE 1 (M)	PLATE	0 - 4.0"	60.0°	±56°	FLAT	6.6"	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.0"	70.0°	±30°	FLAT	10.7"	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 9.0"	80.0°	±25°	FLAT	17.9"	2.25 MHz	

NOTES:		
	*	DESIGN / (FIXTURE) ROTATION FOR 3.0" PKG OFFSET
	#	DESIGN / (FIXTURE) ROTATION FOR 1.45" PKG OFFSET
	**	WEDGE / (FIXTURE) ROTATION ANGLE FOR 2.5" OFFSET
	***	DESIGN / (FIXTURE) ROTATION FOR 1.5" PKG OFFSET
	(M)	MANUAL

Questions on this NIR requirements sheet shall be directed to S.C. Mortenson @ 704 948-0253

 1/9/2005

Pilgrim - RFO15
Weld RPV-N7A-NV Top Head Spray
Spring 2005

		CODE CROSS-SECTIONAL AREA		TOTAL CODE COVERAGE		
Weld Length = 360. Exam Volume = 28.		Required Exam Area Sq. In.	Area Scanned Manual	Percent of Area Manual	Weld Length Manual	Percent Manual
60° NS T-Scan	A	10.2	1.7	6.1%	180	1.5%
60° S6 T-Scan	A	14.7	11.3	40.4%	180	10.1%
60° S4 / IRS Scan	A	3.1	3.1	11.1%	180	2.8%
60° NS P-Scan	A	10.2	1.3	4.6%	180	1.2%
60° S6 P-Scan	A	25.6	5.9	21.1%	180	5.3%
60° IRS P-Scan	A	3.1	3.1	11.1%	180	2.8%
60° NS T-Scan	B	9.1	2.8	10.0%	180	2.5%
60° S6 T-Scan	B	14.9	14.5	51.8%	180	12.9%
60° S4 / IRS Scan	B	2.9	2.9	10.4%	180	2.6%
60° NS P-Scan	B	10.2	2.2	7.9%	180	2.0%
60° S6 P-Scan	B	25.6	11.8	42.1%	180	10.5%
60° IRS P-Scan	B	3.1	2.9	10.4%	180	2.6%
					% Total Composite Coverage =	56.7%

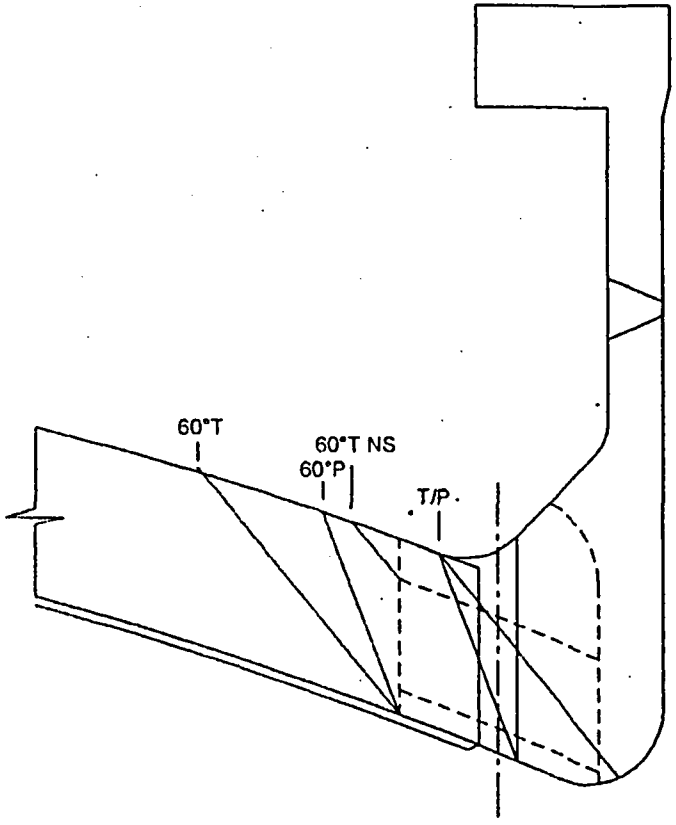
Comments: A - Examined from the top side of the nozzle 180°. Scanning limited due to nozzle configuration.
B - Examined from the bottom side of the nozzle 180°. Scanning limited due to nozzle configuration.

Note - Rounding methods may affect calculated values.

Page 98/240

Scott [illegible] 4/27/05

Pilgrim
Weld RPV-N7A-NV
Top Head Spray



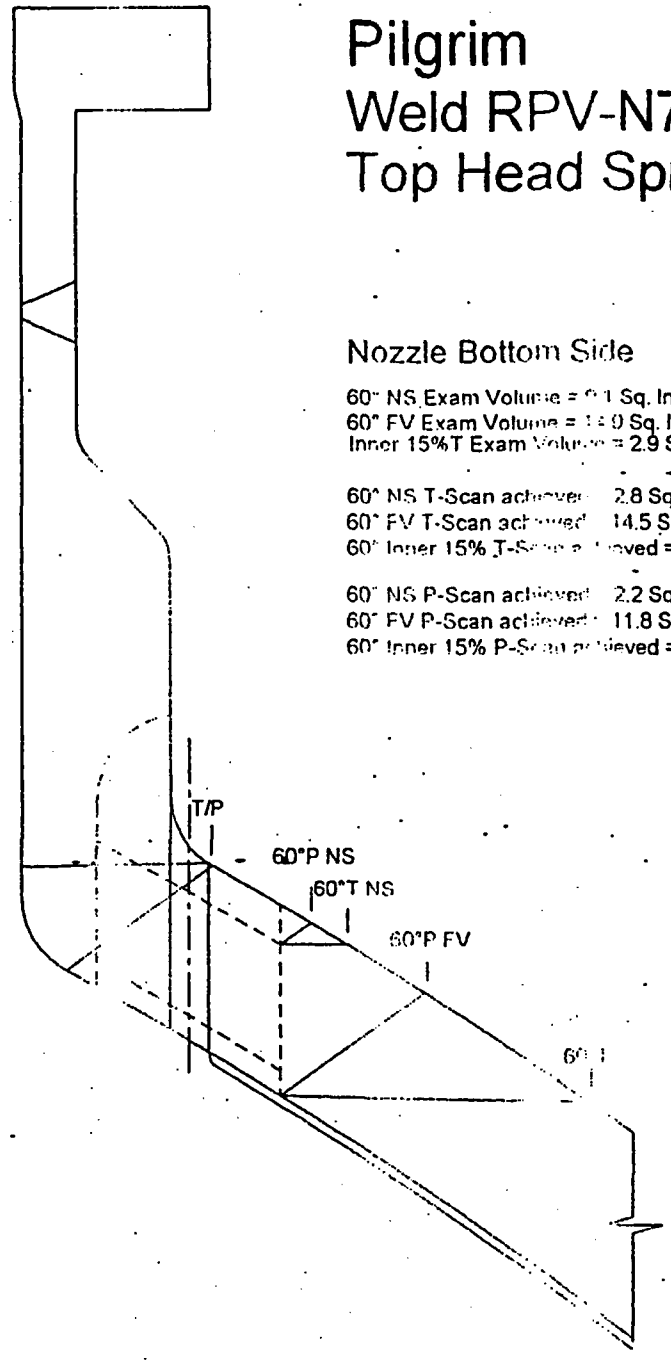
Nozzle Top Side

60° NS Exam Volume = 10.2 Sq. In
60° FV Exam Volume = 14.7 Sq. In.
Inner 15%T Exam Volume = 3.1 Sq. In.

60° NS T-Scan achieved = 1.7 Sq. In.
60° FV T-Scan achieved = 11.3 Sq. In
60° Inner 15% T-Scan achieved = 3.1 Sq. In.

Scan Plan Coverage T and P scans

60° NS P-Scan achieved = 1.3 Sq. In.
60° FV P-Scan achieved = 5.9 Sq. In.
60° Inner 15% P-Scan achieved = 3.1 Sq. In.



Nozzle Bottom Side

60° NS Exam Volume = [illegible] Sq. In.
60° FV Exam Volume = [illegible] Sq. In.
Inner 15%T Exam Volume = 2.9 Sq. In.

60° NS T-Scan achieved = 2.8 Sq. In.
60° FV T-Scan achieved = 14.5 Sq. In.
60° Inner 15% T-Scan achieved = 2.9 Sq. In

60° NS P-Scan achieved = 2.2 Sq. In.
60° FV P-Scan achieved = 11.8 Sq. In.
60° Inner 15% P-Scan achieved = 2.9 Sq. In.

Pilgrim RF015, 2005

Page 8 of 8

Page 99 of 240

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: PIL-R15-05-028

Site: Pilgrim Nuclear Power Station **Component ID:** RPV-N7B-NV

Outage: RF-015 NOZZLE TO VESSEL

System RPV **ASME Cat.:** B-D **ASME Item** B3.90 **Aug Req** N/A

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° Shear	UT-033	N/A	TP04-029 (GE-UT-311)	PIL-5E	J. Kent Montgomery	II	4/22/2005
60° Shear	UT-034	N/A	TP04-029 (GE-UT-311)	PIL-5B	J. Kent Montgomery	II	4/22/2005
60° Long.	UT-005	N/A	TP04-018 (GE-UT-300)	PIL-5B	Brad Dummer	III	4/21/2005
60° Long.	UT-006	N/A	TP04-018 (GE-UT-300)	CAL-IIW2-017	Brad Dummer	III	4/22/2005

Examination Results:

Ultrasonic examination results were acceptable to the requirements of ASME B&PV Code Section XI, 1989 Edition no Addenda, and Section XI, 1995 Edition with the 1996 Addenda as modified by the PDI program description and the Federal Register, Part II, Nuclear Regulatory Commission, 10 CFR Part 50 for Category B-D Reactor Pressure Vessel (RPV) Assembly Welds.

Manual scans from the outside surface were performed in accordance with procedures TP04-018 Rev. 0 (GE-UT-300 V8) and TP04-029 Rev. 0 (GE-UT-311 V10).

No indications were recorded.

Scanning was restricted due to nozzle configuration.

Manual coverage = 56.7%.

Examination results were compared to data report 95-E-375,377,379 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: N/A ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: Level: III Date: 4-24-05 Utility Review: Date: 4/28/05

ANII Review: Date: 4/28/05

RWP: 0065

Dose: 1 mr.

Page 1 of 8

Page 100/240

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-028 Linearity Sheet: L-006
Data Sheet Number: UT-006
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: CAL-IIW2-017

CS — Material; N/A — Size; 4.0" — Thickness

Initial Cal: 0945" Exam Start 1445
Cal Check: N/A Exam End 1535
Cal Check: N/A Ultragel II — Couplant; 01225 — Batch
Final Cal: 1445"
241890 — Thermometer; 68° F — Initial Cal Temp.; 68° F — Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	0.6"	1X	80%	1.0"	.58"	2.8
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 58 dB
Sweep 0-10 2.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma — Manufacturer; 22BC-02005 — Serial Number; 2(1.1"x.62")/Rect. — Size / Shape:
0.65" — Incident Point; 60° — Nominal Angle; 59° — Measured Angle:
3.0 MHz — Frequency; SDC-3 — Model; Long. — Mode:

Search Unit Cable

RG-174 — Cable Type; 12' — Length; 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Maufacturer/Model; 031540506 — Serial Number:
9.615 us — Delay/Zero; 0.234 in./usec. — Velocity; 0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate; Fullwave — Rectification; 4.0 in. — Range; Sq. / Med — Pulser:
400 Ohms — Damping; 0 — Reject; 3.03 MHz — Frequency; Dual — Mode:
Off — DAC; Off — TVG; Off — CSC; Off — DGS:

Exam Data for Weld: RPV-N7B-NV
NOZZLE TO VESSEL
Configuration:
OD — Exam Surface; 72° F — Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	I	72	NRI	60°
Plate CW/CCW	P	72	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed : 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for near surface examination. Exams performed a minimum of 14 dB above reference.
** Initial cal date: 4/22/05*
** Final cal date: 4/23/05*
Numerous spot indications seen but not recordable per procedure.

BD — Brad Dummer — III — 4/22/2005
Initials: Examiner Level Cal/Exam Date:

Utility Reviewed By: — Date: 4/28/05

N/A — N/A
Initials: Examiner Level

ANII Reviewed By: — Date: 4/29/05

GE Reviewed By: — Level: III — Date: 4-25-05

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Procedure: TP04-018 (GE-UT-300)

Data Report Number: PIL-R15-05-028 Linearity Sheet: L-006
Data Sheet Number: UT-005
Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 0945* Exam Start 1445
Cal Check: N/A Exam End 1535
Cal Check: N/A Ultragel II 01225
Final Cal: 1445* Couplant: Batch

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
ID	4.1"	1X	80%	7.8"	8.2"	4.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 62 dB
Sweep 0-10 10.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma	22BC-02005	2(1.1"x.62")/Rect.
Manufacturer:	Serial Number:	Size / Shape:

0.65"	60°	59°
Incident Point:	Nominal Angle:	Measured Angle:

3.0 MHz	SDC-3	Long.
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031540506
Maufacturer/Model:	Serial Number:

9.615 us	0.234 in./usec.	0.8 - 3.0 MHz
Delay/Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser:

400 Ohms	0	3.03 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Exam Data for Weld: RPV-N7B-NV

NOZZLE TO VESSEL
Configuration:

OD	72° F
Exam Surface:	Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	T	68*	NRI	60*
Plate CW/CCW	P	68*	NRI	60*

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed : 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for full volume examination. Exams performed to maintain a 10% - 20% FSH clad roll.
**** Initial cal date: 4/22/05***
**** Final cal date: 4/23/05***
Numerous spot indications seen but not recordable per procedure.

Brad Dummer	III	4/22/2005
Initials: Examiner	Level	Cal/Exam Date:

N/A	N/A
Initials: Examiner	Level

GE Reviewed By: Level: 4-24-05 Date:

Utility Reviewed By: L-III 4/26/05 Date:

ANII Reviewed By: 4/26/05 Date:

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-028 Linearity Sheet: L-004
Data Sheet Number: UT-034
Procedure: TP04-029 (GE-UT-311) Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS — Material
Flat — Size
4.35" — Thickness

Initial Cal: 1030* Exam Start 15:35
Cal Check: N/A Exam End 16:25
Cal Check: N/A
Final Cal: 1405*

Ultragel II — Couplant:
01225 — Batch
241890 — Thermometer
68° F — Initial Cal Temp.
68° F — Final Cal Temp:

DAC Construction

Side	Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
ID	4.1"	1X	80%	7.8"	9.18"	4.6
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 41 dB

Sweep 0-10 20" Metal Path

Acceptable Linearity performed: 4/15/2005

Exam Data for Component: RPV-N7B-NV

NOZZLE TO VESSEL — Configuration:

OD — Exam Surface:
70° F — Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
0 - 5"	60°	15° - 85°	N/A	55	NRI

Search Unit Data

KBA — Manufacturer:
010HXM — Serial No.:
0.5"x1.0"/Rect. — Size/Shape:
0.75 in. — Incident Point:
60° — Nominal Angle:
61° — Measured Angle:
2.25 MHz — Frequency:
113-892-600 — Model:
Shear — Mode:

Search Unit Cable

RG-174 — Cable Type:
12' — Length:
0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Manufacturer/Model:
031574111 — Serial No.:
14.27 us — Zero:
0.128 in /usec — Velocity:
0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate:
Fullwave — Rectification:
20.0 in. — Range:
Sq. / Med — Pulser/Energy
400 Ohms — Damping:
0 — Reject:
2.0 MHz — Frequency:
P/E — Mode:
Off: — DAC:
Off: — TVG:
Off: — CSC:
Off: — DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Comments: Cal/Exam Date is the date of initial calibration. See coverage sheet for limitations.

Exams performed to maintain a 5% FSH ID roll.
Scanned CW and CCW.
Calibration sweep is 20 metal path, examination range setting is 10.
Calibration for nozzle to vessel weld.
**** Initial Cal: 4/22/2005***
**** Final Cal: 4/23/2005***

Initials: Examiner:	Level	Cal/Exam Date:	Utility Reviewed By:	Date:
JKM J. Kent Montgomery	II	4/22/2005	L-III	4/28/05

GE Reviewed By:	Level:	Date:	ANII Reviewed By:	Date:
BMD	III	4-24-05		4/28/05

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-028 Linearity Sheet: L-004
Data Sheet Number: UT-033
Procedure: TP04-029 (GE-UT-311) Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1020* Exam Start 15:35
Cal Check: N/A Exam End 16:25
Cal Check: N/A Ultragel II 01225
Final Cal: 1400*. Couplant: Batch

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Side	Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
ID	4.1"	1X	80%	4.1"	6.19"	3.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 35.5 dB

Sweep 0-10 20" Metal Path

Acceptable Linearity performed : 4/15/2005

Exam Data for Component: RPV-N7B-NV

NOZZLE TO VESSEL
Configuration:

OD	70° F
Exam Surface:	Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
0 - 8"	45°	15° - 85°	N/A	49.5	NRI

Search Unit Data

KBA	010HXC	0.5"x1.0"/Rect
Manufacturer:	Serial No.:	Size/Shape:

0.7 in.	45°	44°
Incident Point:	Nominal Angle:	Measured Angle:

2.25 MHz	113-892-600	Shear
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031574111
Maufacturer/Model:	Serial No.:

12.35 µs	0.126 in /µsec	0.8 - 3.0 MHz
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser/Energy
400 Ohms	0	2.0 MHz	P/E
Damping:	Reject:	Frequency:	Mode:
Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Comments: Cal/Exam Date is the date of initial calibration. See coverage sheet for limitations.

Exams performed to maintain a 5% FSH ID roll.
Scanned CW and CCW.
Calibration sweep is 20 metal path, examination range setting is 10.
Calibration for nozzle to vessel weld.
**** Initial Cal: 4/22/2005***
**** Final Cal: 4/23/2005***

J. Kent Montgomery	II	4/22/2005	L-III	4/28/05
Initials: Examiner:	Level	Cal/Exam Date:	Utility Reviewed By:	Date:
	III	4-24-05		4/28/05
GE Reviewed By:	Level:	Date:	ANII Reviewed By:	Date:

MANUAL DETECTION
NOZZLE INNER RADIUS AND BORE INSPECTION REQUIREMENTS

PLANT Pilgrim

PREPARED BY S.C. MORTENSON DATE 01/10/05

NOZZLE EXAM ZONE	SCAN SURFACE	SCAN AREA	BEAM ANGLE	ROTATION ANGLE	WEDGE RADIUS	MAX MP	FREQ	
RECIRC OUTLET								
N/V Weld (M)	PLATE	0 - 3.0"	45.0°	± 70° - 65°	FLAT	10.2"	1 MHz	
N/V Weld/Zone 1 (M)	ODBR	50° - 90°	43.0°	83.0°	6.6"	15.9"	1 MHz	W-071
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6"	12.9"	1 MHz	W-070
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6"	13.4"	1 MHz	W-069
RECIRC INLET								
N/V Weld (M)	PLATE	0 - 6.0"	60.0°	± 35° - 65°	FLAT	15.6"	1 MHz	
Zone 1 (M)	PLATE	0 - 8.0"	70.0°	± 30°	FLAT	28.0"	1 MHz	
Zone 2a (M)	ODBR	55° - 90°	64.8°	20.3°	6.1"	12.2"	1 MHz	W-072
TOP HEAD VENT								
N/V (M)	PLATE	0 - 5.0"	60.0°	32° - 56°	FLAT	6.8"	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.0"	70.0°	±25°	FLAT	9.7"	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 8.0"	80.0°	±25°	FLAT	12.9"	2.25 MHz	
TOP HEAD SPARE								
N/V (M)	PLATE	0 - 8.0"	45.0°	15° - 85°	FLAT	4.6"	2.25 MHz	
N/V (M)	PLATE	0 - 5.0"	60.0°	15° - 85°	FLAT	6.8"	2.25 MHz	
ZONE 1 (M)	PLATE	0 - 4.0"	60.0°	±55°	FLAT	6.8"	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.5"	70.0°	±30	FLAT	10.6"	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 9.0"	80.0°	±25°	FLAT	17.9"	2.25 MHz	

NOTES:		
	*	DESIGN / (FIXTURE) ROTATION FOR 3.0" PKG OFFSET
	#	DESIGN / (FIXTURE) ROTATION FOR 1.45" PKG OFFSET
	**	WEDGE / (FIXTURE) ROTATION ANGLE FOR 2.5" OFFSET
	***	DESIGN / (FIXTURE) ROTATION FOR 1.5" PKG OFFSET
	(M)	MANUAL

Questions on this NIR requirements sheet shall be directed to S.C. Mortenson @ 704 948-0253

Pilgrim - RFO15
Weld RPV-N7B-NV Top Head Spray
Spring 2005

		CODE CROSS-SECTIONAL AREA		TOTAL CODE COVERAGE		
Weld Length =	360.	Required Exam Area Sq. In.	Area Scanned Manual	Percent of Area Manual	Weld Length Manual	Percent Manual
Exam Volume =	28.					
60° NS T-Scan	A	10.2	1.7	5.1%	180	1.5%
60° S6 T-Scan	A	14.7	11.3	45.4%	180	10.1%
60° S4 / IRS Scan	A	3.1	3.1	11.1%	180	2.8%
60° NS P-Scan	A	10.2	1.3	4.6%	180	1.2%
60° S6 P-Scan	A	25.6	5.9	21.1%	180	5.3%
60° IRS P-Scan	A	3.1	3.1	11.1%	180	2.8%
60° NS T-Scan	B	9.1	2.8	10.0%	180	2.5%
60° S6 T-Scan	B	14.9	14.5	51.8%	180	12.9%
60° S4 / IRS Scan	B	2.9	2.9	10.4%	180	2.6%
60° NS P-Scan	B	10.2	2.2	7.9%	180	2.0%
60° S6 P-Scan	B	25.6	11.8	42.1%	180	10.5%
60° IRS P-Scan	B	3.1	2.9	10.4%	180	2.6%

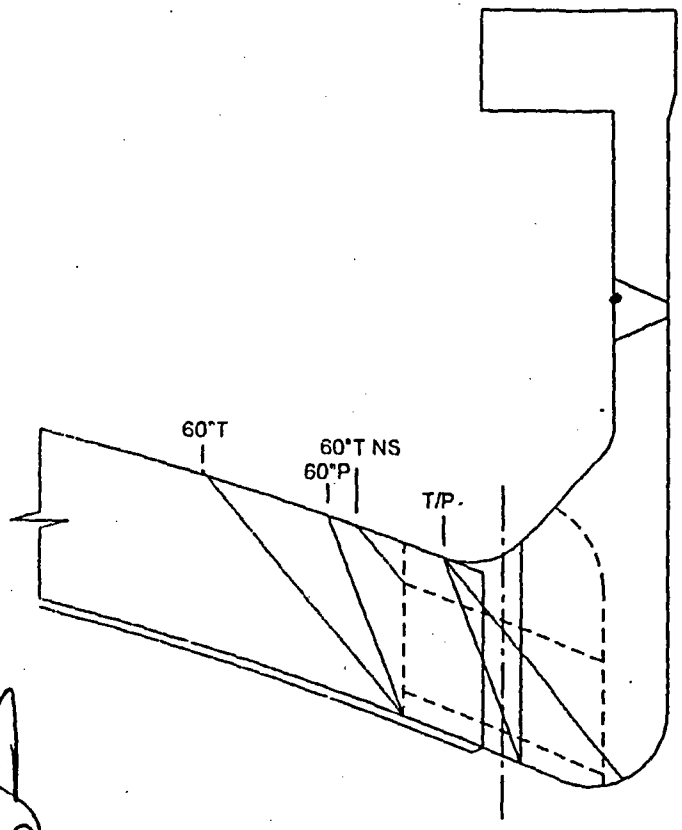
% Total Composite Coverage = 56.7%

Comments: A - Examined from the top side of the nozzle 180°. Scanning limited due to nozzle configuration.
B - Examined from the bottom side of the nozzle 180°. Scanning limited due to nozzle configuration.

Note - Rounding methods may affect calculated values.

L-III 4/28/05

Pilgrim
Weld RPV-N7B-NV
Top Head Spray



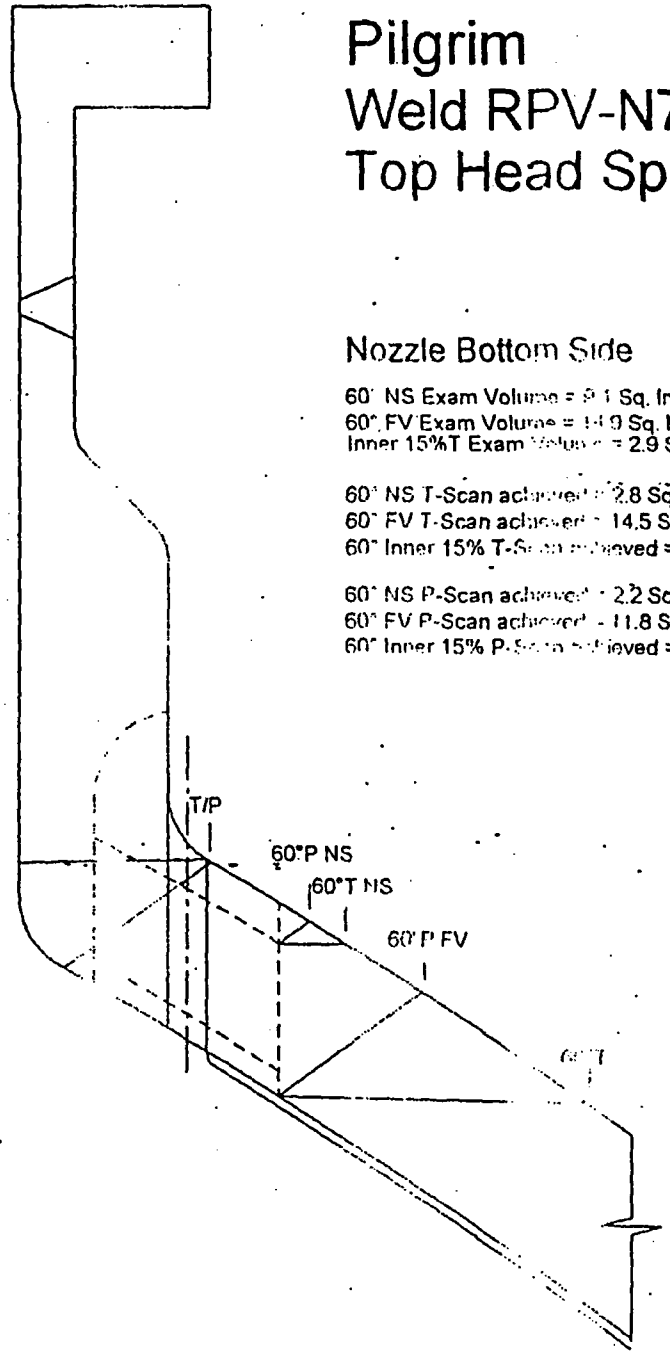
Nozzle Top Side

60° NS Exam Volume = 10.2 Sq. In.
60° FV Exam Volume = 14.7 Sq. In.
Inner 15%T Exam Volume = 3.1 Sq. In.

60° NS T-Scan achieved = 1.7 Sq. In
60° FV T-Scan achieved = 11.3 Sq. In
60° Inner 15% T-Scan achieved = 3.1 Sq. In.

Scan Plan Coverage T and P scans

60° NS P-Scan achieved = 1.3 Sq. In.
60° FV P-Scan achieved = 5.9 Sq. In.
60° Inner 15% P-Scan achieved = 3.1 Sq. In.



Nozzle Bottom Side

60° NS Exam Volume = [illegible] Sq. In.
60° FV Exam Volume = [illegible] Sq. In.
Inner 15%T Exam Volume = 2.9 Sq. In.

60° NS T-Scan achieved = 2.8 Sq. In
60° FV T-Scan achieved = 14.5 Sq. In.
60° Inner 15% T-Scan achieved = 2.9 Sq. In

60° NS P-Scan achieved = 2.2 Sq. In.
60° FV P-Scan achieved = 11.8 Sq. In
60° Inner 15% P-Scan achieved = 2.9 Sq. In

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: PIL-R15-05-030

Site: **Pilgrim Nuclear Power Station** *Component ID:* **RPV-N8-NV**

Outage: **RF-015** **NOZZLE TO VESSEL**

System **RPV** *ASME Cat.:* **B-D** *ASME Item* **B3.90** Aug Req **N/A**

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
60° Shear	UT-025	N/A	TP04-029 (GE-UT-311)	PIL-5E	J. Kent Montgomery	II	4/22/2005
60° Long.	UT-008	N/A	TP04-018 (GE-UT-300)	CAL-IIW2-017	Brad Dummer	III	4/22/2005
60° Long.	UT-007	N/A	TP04-018 (GE-UT-300)	PIL-5B	Brad Dummer	III	4/22/2005

Examination Results:

Ultrasonic examination results were acceptable to the requirements of ASME B&PV Code Section XI, 1989 Edition no Addenda, and Section XI, 1995 Edition with the 1996 Addenda as modified by the PDI program description and the Federal Register, Part II, Nuclear Regulatory Commission, 10 CFR Part 50 for Category B-D Reactor Pressure Vessel (RPV) Assembly Welds.

Manual scans from outside surface were performed in accordance with procedures TP04-018 Rev. 0 (GE-UT-300 V8) and TP04-029 Rev. 0 (GE-UT-311 V10).

Scan was restricted due to nozzle configuration.

No indications were recorded.

Manual coverage = 70.6%

Examination results were compared to data report 95-E-263,265,267 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: N/A ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By:	Level:	Date:	Utility Review:	Date:
[signature]	III	4-24-05	[signature] L-III	4/28/05

ANII Review: [signature] Date: 4/28/05

RWP: 0065

Dose: 1 mr.

Page 1 of 7

Page 107/240

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Procedure: TP04-018 (GE-UT-300)

Data Report Number: PIL-R15-05-030 Linearity Sheet: L-006
Data Sheet Number: UT-008
Rev.: R0 (V8) DRR: N/A

Calibration Block: CAL-IIW2-017

CS — Material; N/A — Size; 4.0" — Thickness

Initial Cal: 0945" Exam Start 1540
Cal Check: N/A Exam End 1605
Cal Check: N/A Ultragel II — Couplant; 01225 — Batch
Final Cal: 1445"

241890 — Thermometer; 68° F — Initial Cal Temp.; 68° F — Final Cal Temp:

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
1/4	0.6"	1X	80%	1.0"	.58"	2.8
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 58 dB
Sweep 0-10 2.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

Sigma — Manufacturer; 22BC-02005 — Serial Number; 2(1.1"x.62")/Rect. — Size / Shape:
0.65" — Incident Point; 60° — Nominal Angle; 59° — Measured Angle:
3.0 MHz — Frequency; SDC-3 — Model; Long. — Mode:

Search Unit Cable

RG-174 — Cable Type; 12' — Length; 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Maufacturer/Model; 031540506 — Serial Number:
9.615 us — Delay/Zero; 0.234 in./usec. — Velocity; 0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate; Fullwave — Rectification; 4.0 in. — Range; Sq. / Med — Pulser:
400 Ohms — Damping; 0 — Reject; 3.03 MHz — Frequency; Dual — Mode:
Off — DAC; Off — TVG; Off — CSC; Off — DGS:

Exam Data for Weld: RPV-N8-NV

NOZZLE TO VESSEL — Configuration:
OD — Exam Surface; 72° F — Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	T	72	NRI	60°
Plate CW/CCW	P	72	NRI	60°

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed: 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for near surface examination. Exams performed a minimum of 14 dB above reference.
**** Initial cal date: 4/22/05***
**** Final cal date: 4/23/05***
Numerous spot indications seen but not recordable per procedure.

BD — Initials; Brad Dummer — Examiner; III — Level; 4/22/2005 — Cal/Exam Date:
Utility Reviewed By: L-III Date: 4/28/05

N/A — Initials; N/A — Examiner; N/A — Level
ANII Reviewed By: Date: 4/30/05

GE Reviewed By: Level: III Date: 4-24-05

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Data Report Number: PIL-R15-05-030 Linearity Sheet: L-006
Data Sheet Number: UT-007
Procedure: TP04-018 (GE-UT-300) Rev.: R0 (V8) DRR: N/A

Calibration Block: PIL-5B

CS (Material) Flat (Size) 4.35" (Thickness)
Initial Cal: 0945" Exam Start 1540
Cal Check: N/A Exam End 1605
Cal Check: N/A Ultragel II (Couplant:) 01225 (Batch)
Final Cal: 1445"
241890 (Thermometer) 68° F (Initial Cal Temp.) 68° F (Final Cal Temp:)

DAC Construction

Reflector	Hole Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
N/A	N/A	1X	N/A	N/A	N/A	N/A
ID	4.1"	1X	80%	7.8"	8.2"	4.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 62 dB
Sweep 0-10 10.0" Depth
Note N/A dB difference between 3/8 and 5/8 Vee

Exam Data for Weld: RPV-N8-NV
NOZZLE TO VESSEL
Configuration:
OD (Exam Surface:) 72° F (Component Temperature)

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	T	68	NRI	60°
Plate CW/CCW	P	68	NRI	60°

Search Unit Data

Sigma (Manufacturer:) 22BC-02005 (Serial Number:) 2(1.1"x.62")/Rect. (Size / Shape:)
0.65" (Incident Point:) 60° (Nominal Angle:) 59° (Measured Angle:)
3.0 MHz (Frequency:) SDC-3 (Model:) Long. (Mode:)

Search Unit Cable

RG-174 (Cable Type:) 12' (Length:) 0 (Connectors:)

Instrument Settings

Panametrics / Epoch 4 (Maufacturer/Model:) 031540506 (Serial Number:)
9.615 us (Delay/Zero:) 0.234 in./usec. (Velocity:) 0.8 - 3.0 MHz (Narrowband Filter:)
Auto (Rep Rate:) Fullwave (Rectification:) 20.0 in. (Range:) Sq. / Med (Pulser:)
400 Ohms (Damping:) 0 (Reject:) 3.03 MHz (Frequency:) Dual (Mode:)
Off: (DAC:) Off: (TVG:) Off: (CSC:) Off: (DGS:)

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Acceptable Linearity performed : 4/15/2005

Comments: Cal/Exam Date is the date of examination. See coverage sheet for limitations.
Calibration for full volume examination. Exams performed to maintain a 10% - 20% FSH clad roll.
** Initial cal date: 4/22/05*
** Final cal date: 4/23/05*
Numerous spot indications seen but not recordable per procedure.

BD Brad Dummer III 4/22/2005
Initials: Examiner Level Cal/Exam Date:
Utility Reviewed By: Date: 4/25/05

N/A N/A
Initials: Examiner Level
ANII Reviewed By: Date: 4/25/05

GE Reviewed By: Level: III Date: 4-24-05

Page 3 of 7

Page 109/240

GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015
Procedure: TP04-029 (GE-UT-311)

Data Report Number: PIL-R15-05-030 Linearity Sheet: L-004
Data Sheet Number: UT-025
Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS	Flat	4.35"
Material	Size	Thickness

Initial Cal: 1030* Exam Start 14:48
Cal Check: N/A Exam End 15:30
Cal Check: N/A Ultragel II (Couplant:) 01225 (Batch)
Final Cal: 1405*

241890	68° F	68° F
Thermometer	Initial Cal Temp.	Final Cal Temp:

DAC Construction

Side	Depth	Gain @ 1X	Max Amp	"W" Dim.	Sweep	Screen Div.
ID	4.1"	1X	80%	7.8"	9.18"	4.6
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 41 dB

Sweep 0-10 20 Metal Path

Acceptable Linearity performed : 4/15/2005

Exam Data for Component: RPV-N8-NV

NOZZLE TO VESSEL
Configuration:

OD	70° F
Exam Surface:	Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
0-5"	60°	32°-56°	N/A	55	NRI

Search Unit Data

KBA	010HXM	0.5"x1.0"/Rect.
Manufacturer:	Serial No.:	Size/Shape.

0.75 in.	60°	61°
Incident Point:	Nominal Angle:	Measured Angle:

2.25 MHz	113-892-600	Shear
Frequency:	Model:	Mode:

Search Unit Cable

RG-174	12'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031574111
Manufacturer/Model:	Serial No.:

14.27 us	0.126 in /usec	0.6 - 3.0 MHz
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	20.0 in.	Sq. / Med
Rep Rate:	Rectification:	Range:	Pulser/Energy

400 Ohms	0	2.0 MHz	P/E
Damping:	Reject:	Frequency:	Mode:

Off:	Off:	Off:	Off:
DAC:	TVG:	CSC:	DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	N/A	N/A	N/A
Amplitude	N/A	N/A	N/A
Gain (dB)	N/A	N/A	N/A
Sweep (SD)	N/A	N/A	N/A

Comments: Cal/Exam Date is the date of initial calibration. See coverage sheet for limitations.

Exams performed to maintain a 5% FSH ID roll.
Scanned CW and CCW.
Calibration sweep is 20 metal path, examination range setting is 10.
Calibration for nozzle to vessel weld.
**** Initial Cal: 4/22/2005***
**** Final Cal: 4/23/2005***

Initials: Examiner:	Level	Cal/Exam Date:	Utility Reviewed By:	Date:
J.K.M J. Kent Montgomery	II	4/22/2005	[signature]	4/28/05

GE Reviewed By:	Level:	Date:	ANII Reviewed By:	Date:
[signature]	III	4-24-05	[signature]	4/25/05

MANUAL DETECTION
NOZZLE INNER RADIUS AND BORE INSPECTION REQUIREMENTS

PLANT **Pilgrim**

PREPARED BY S.C. MORTENSON DATE 01/10/05

NOZZLE EXAM ZONE	SCAN SURFACE	SCAN AREA	BEAM ANGLE	ROTATION ANGLE	WEDGE RADIUS	MAX MP	FREQ	
RECIRC OUTLET								
N/V Weld (M)	PLATE	0 - 3.0	45.0°	± 70° - 85°	FLAT	10.2°	1 MHz	
N/V Weld/Zone 1 (M)	ODBR	50° - 90°	43.0°	83.0°	6.6°	15.9°	1 MHz	W-071
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6°	12.9°	1 MHz	W-070
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6°	13.4°	1 MHz	W-069
RECIRC INLET								
N/V Weld (M)	PLATE	0 - 6.0°	60.0°	± 35° - 65°	FLAT	15.6°	1 MHz	
Zone 1 (M)	PLATE	0 - 8.0°	70.0°	± 30°	FLAT	28.0°	1 MHz	
Zone 2a (M)	ODBR	55° - 90°	64.8°	20.3°	6.1°	12.2°	1 MHz	W-072
TOP HEAD VENT								
N/V (M)	PLATE	0 - 5.0°	60.0°	32° - 56°	FLAT	6.8°	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.0°	70.0°	±25°	FLAT	9.7°	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 8.0°	80.0°	±25°	FLAT	12.9°	2.25 MHz	
TOP HEAD SPARE								
N/V (M)	PLATE	0 - 8.0°	45.0°	15° - 65°	FLAT	4.6°	2.25 MHz	
N/V (M)	PLATE	0 - 5.0°	60.0°	15° - 65°	FLAT	6.8°	2.25 MHz	
ZONE 1 (M)	PLATE	0 - 4.0°	60.0°	±58°	FLAT	6.8°	2.25 MHz	
ZONE 1-2A (M)	PLATE	0 - 7.0°	70.0°	±32°	FLAT	10.8°	2.25 MHz	
ZONE 2A (M)	PLATE	0 - 9.0°	80.0°	±25°	FLAT	17.9°	2.25 MHz	

NOTES:		
	*	DESIGN / (FIXTURE) ROTATION FOR 3.0° PKG OFFSET
	#	DESIGN / (FIXTURE) ROTATION FOR 1.45° PKG OFFSET
	**	WEDGE / (FIXTURE) ROTATION ANGLE FOR 2.5° OFFSET
	***	DESIGN / (FIXTURE) ROTATION FOR 1.5° PKG OFFSET
	(M)	MANUAL

Questions on this NIR requirements sheet shall be directed to S.C. Mortenson @ 704 948-0253

Pilgrim - RFO15
Weld RPV-N8-NV Top Head Vent
Spring 2005

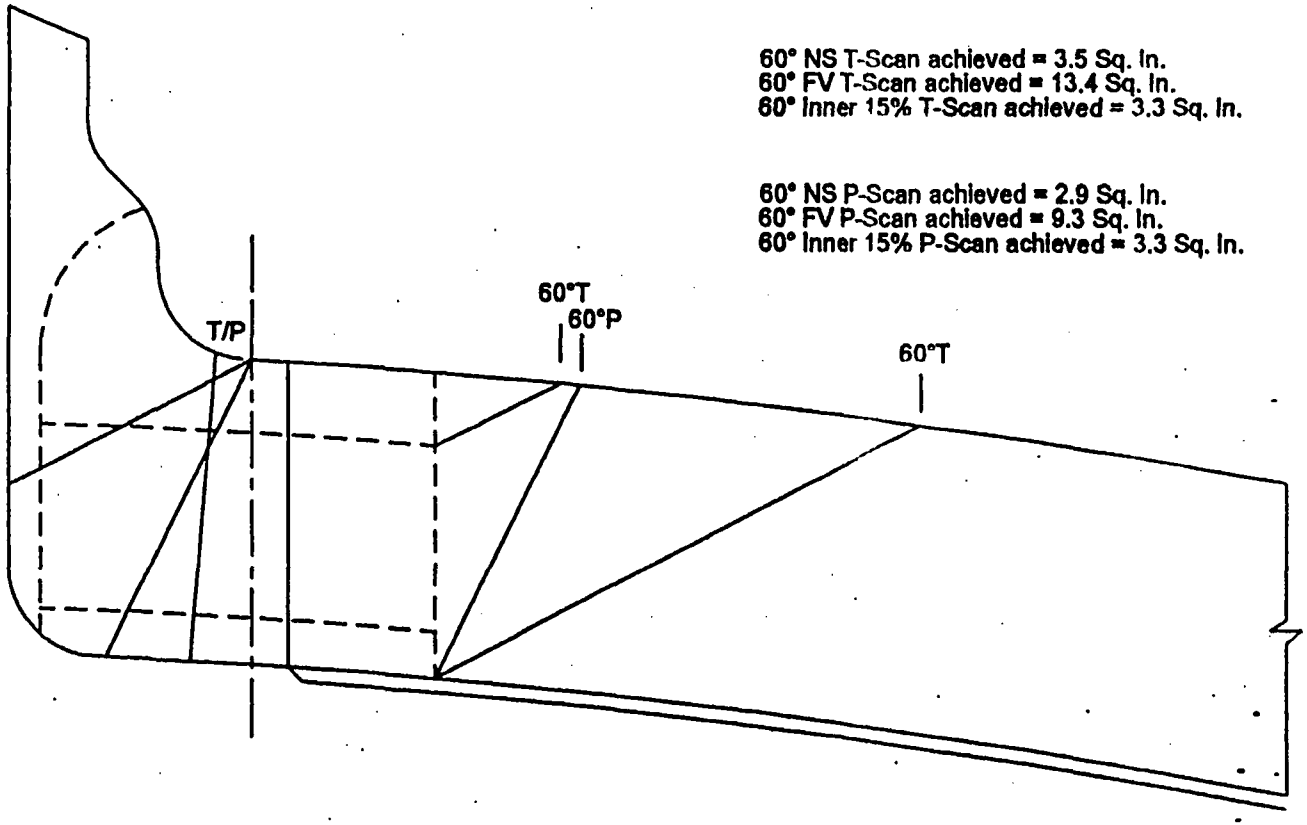
Weld Length = 360. Exam Volume = 25.3		CODE CROSS-SECTIONAL AREA Required Exam Area Sq. In.	Area Scanned Manual	TOTAL CODE COVERAGE Percent of Area Manual	Weld Length Manual	Percent Manual
60° NS T-Scan	A	8.2	3.5	13.8%	360	6.9%
60° S6 T-Scan	A	13.8	13.4	53.0%	360	26.5%
60° S4 / IRS Scan	A	3.3	3.3	13.0%	360	6.5%
60° NS P-Scan	A	8.2	2.9	11.5%	360	5.7%
60° S6 P-Scan	A	25.6	9.3	36.8%	360	18.4%
60° IRS P-Scan	A	3.3	3.3	13.0%	360	6.5%

Pilgrim
Weld RPV-N8-NV
Top Head Vent

60° NS Exam Volume = 8.2 Sq. In.
60° FV Exam Volume = 13.8 Sq. In.
60° Inner 15% Exam Volume = 3.3 Sq. In.

60° NS T-Scan achieved = 3.5 Sq. In.
60° FV T-Scan achieved = 13.4 Sq. In.
60° Inner 15% T-Scan achieved = 3.3 Sq. In.

60° NS P-Scan achieved = 2.9 Sq. In.
60° FV P-Scan achieved = 9.3 Sq. In.
60° Inner 15% P-Scan achieved = 3.3 Sq. In.



Scan L-III 4/26/05

GE ENERGY, NUCLEAR	EXAMINATION SUMMARY SHEET	Report No.: APR-002

Site: Pilgrim Nuclear Power Station Component ID: 14-A-10A

Outage: RF-015 VALVE TO PIPE

System CS ASME Cat.: B-F ASME Item B5.10 Aug Req IGSCC D

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° Shear	UT-075	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005
45° RL	UT-076	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005
60° Long.	UT-077	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005

Examination Results:

During the manual ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC were recorded utilizing a 45° shear wave, 45° and 60° refracted longitudinal wave search units.

The outside surface weld crown did not meet procedure requirements for 360° due to the valve configuration.

22.9% procedural coverage obtained.
37.1% code coverage obtained.

Previous manual reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 99-E-440 from 1999 outage with ☑ No Change

These examinations were performed under Work Order: 03116643 ☐ Change

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 5-2-05 Utility Review: [signature] UT Lvl. III Date: 5-2-05

ANII Review: [signature] Date: 5/2/05

RWP: 0080

Dose: 133 mr.

Page 1 of 8

Page 114/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-002

System: CS

Component ID Number: 14-A-10A

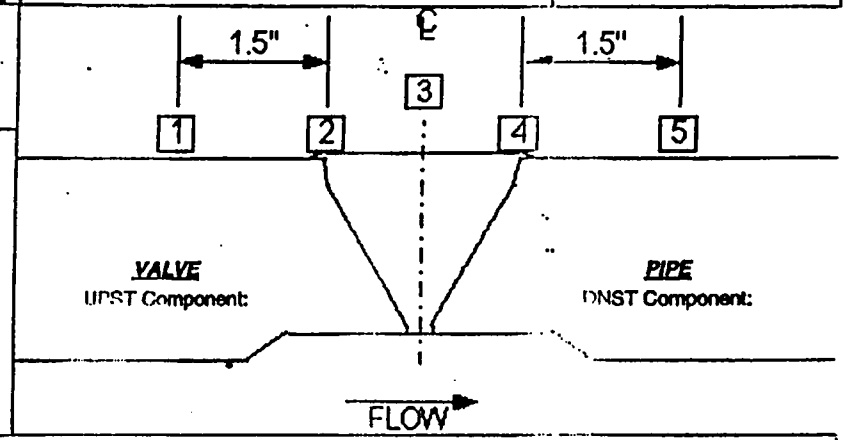
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.683	N/A	N/A	N/A
4	0.585	N/A	N/A	N/A
5	0.586	N/A	N/A	N/A

Crown Height: 0.1

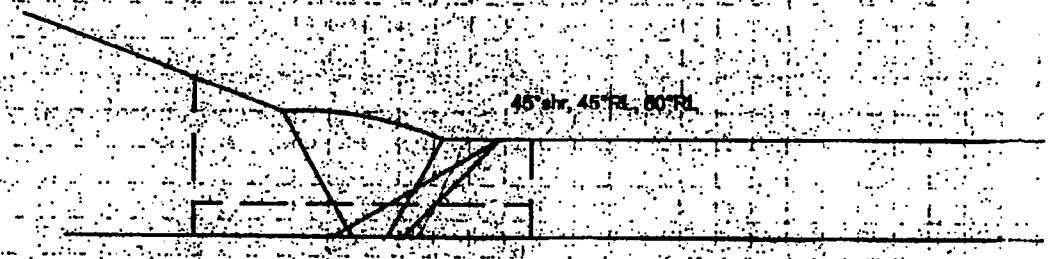
Crown Width: 0.9"

Nominal Diameter: 10.0"

Weld Length: 34.0"



14-A-10A



Thickness obtained from previous data

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Randy Linden	III	4/28/2005		III	5-2-05		5-2-05		

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-002

System: CS

Component ID Number: 14-A-10A

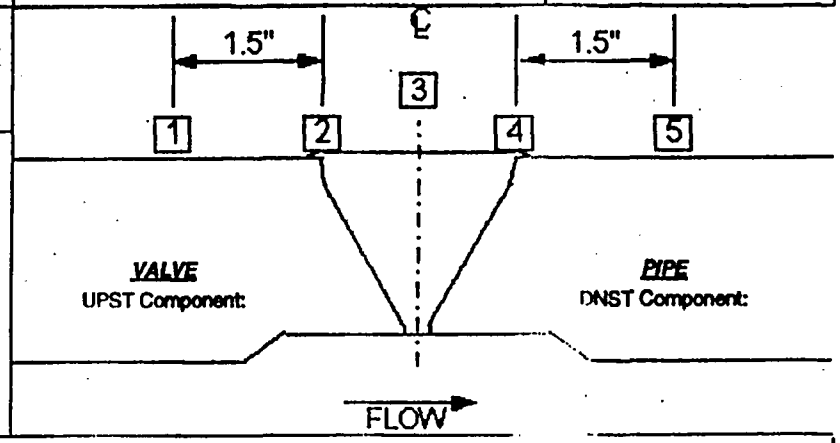
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.683	N/A	N/A	N/A
4	0.585	N/A	N/A	N/A
5	0.586	N/A	N/A	N/A

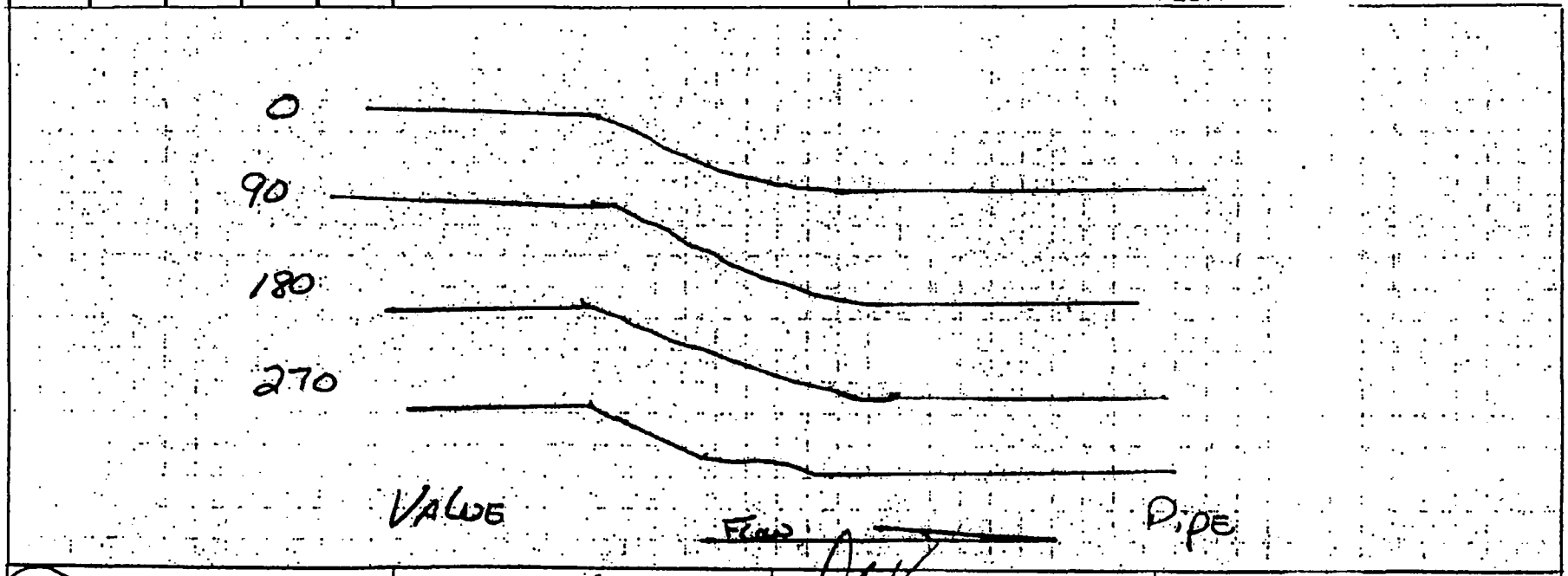
Crown Height: 0.1

Crown Width: 0.9"

Nominal Diameter: 10.0"

Weld Length: 34.0"





Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Randy Linden	III	4/28/2005		III	5-2-05		5-2-05		

Page 3 of 8

Page 116/240

GE ENERGY.NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015

Report Number: APR-002
Data Sheet Number: UT-075
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

			Calibration	Cal Time
CS	10"	0.594"	Initial Cal:	0740
Material	Size	Thick	Cal Check:	0917
Ultrasol II	01225		Cal Check:	1010
Couplant:	Couplant batch		Final Cal:	1103
241890	68° F			
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 9.0 dB
Sweep 0-10 = 1.5 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-ITW2-017

Reflector	0.60"	N/A
Amplitude	40%	N/A
Gain (dB)	9 dB	N/A
Sweep (SD)	5.6	N/A

Acceptable Linearity performed : 4/15/2005

Search Unit Data

KBA — Manufacturer: 010CJP — Serial Number: 0.50"/Round — Size/Shape:
0.55 in. — Incident Point: 45° — Nominal Angle: 45° — Measured Angle:
2.25 MHz — Frequency: Como-G — Style: Shear — Mode: 1 — Elements:

Search Unit Cable

RG-174 — Cable Type: 6' — Length: 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Manufacturer/Model: 031573611 — Serial Number:
6.295 us — Zero: 0.128 in./usec. — Velocity: 0.8 - 3.0 MHz — Narrowband Filter:
Auto — Rep Rate: Fullwave — Rectification: 1.5 in — Range: Sq. / Max — Pulser/Energy:
400 Ohms — Damping: Off — Reject: 2.0 MHz — Frequency: P/E — Mode:

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Maintained a 5% to 20% ID roll during examination.

Exam Start: 0906 Exam End: 0940

Exam Data for Weld: 14-A-10A

VALVE TO PIPE
Configuration:

OD — Exam Surface: 85° F — Exam Temp. 241890 — Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	23	NRI	45°
Circ	DNST	23	NRI	45°

(R) Randy Linden III
Initials: Examiner: Level:

N/A N/A
Initials: Examiner 2: Level:

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: TII 5-2-05
Level: Date:

Utility Review: 5-2-05
Date:

ANII Review: 5/2/05
Date:

GE ENERGY,NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015

Report Number: APR-002
Data Sheet Number: UT-076
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

			Calibration	Cal Time
CS	10"	0.594"	Initial Cal:	0750
Material	Size	Thick	Cal Check:	0905
Ultrasel II	01225		Cal Check:	0955
Couplant:	Couplant batch		Final Cal:	1102
241890	68° F			
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 37.9 dB
Sweep 0-10 = 1.5 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-IIW2-017

Reflector	0.60"	N/A
Amplitude	80%	N/A
Gain (dB)	30.3	N/A
Sweep (SD)	5.6	N/A

Acceptable Linearity performed : 4/15/2005

Search Unit Data

RTD — Manufacturer: | 03-177 — Serial Number | 2(7x10) mm/Rect. — Size/Shape:
0.32 in. — Incident Point: | 45° — Nominal Angle: | 44° — Measured Angle:
2.0 MHz — Frequency: | TRL2-Aust — Style: | RL — Mode: | 2 — Elements:

Search Unit Cable

RG-174 — Cable Type: | 6' — Length: | 0 — Connectors:

Instrument Settings

Panametrics / Epoch 4 — Manufacturer/Model: | 031573611 — Serial Number:
7.535 us — Zero: | 0.236 in./usec. — Velocity: | 0.8 - 3.0 — Narrowband Filter:
Auto — Rep Rate: | Fullwave — Rectification: | 2.0 in — Range: | Sq. / Max — Pulser/Energy:
400 Ohms — Damping: | Off — Reject: | 2.0 MHz — Frequency: | Dual — Mode:

Exam Data for Weld: 14-A-10A

VALVE TO PIPE — Configuration:
OD — Exam Surface: | 85° F — Exam Temp. | 241890 — Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	43.9	NRI	45°
Circ	DNST	43.9	NRI	45°

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Maintained a 20% ID roll during examination.

Exam Start: 0906 Exam End: 0940

Initials: Examiner: Randy Linden Level: III

Initials: Examiner 2: N/A Level: N/A

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: [signature] Level: III Date: 5-2-05

Utility Review: [signature] UT Lvl III 5-2-05 Date:

ANII Review: [signature] Date: 5/2/05

GE ENERGY.NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015

Report Number: APR-002
Data Sheet Number: UT-077
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

			Calibrator	Cal Time
CS	10"	0.594"	Initial Cal:	0800
Material	Size	Thick	Cal Check:	0930
Ultrasol II	01225		Cal Check:	N/A
Couplant:	Couplant batch		Final Cal:	1100
241890	68° F			
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 47.2 dB
Sweep 0-10 = 2.0 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-BW2-017

Reflector	0.60"	N/A
Amplitude	80%	N/A
Gain (dB)	42.4	N/A
Sweep (SD)	6.0	N/A

Acceptable Linearity performed : 4/15/2005

Search Unit Data

RTD	03-179	2(7x10) mm/Rect.
Manufacturer:	Serial Number	Size/Shape:
0.32 in.	60°	60°
Incident Point:	Nominal Angle:	Measured Angle:

2.0 MHz	TRL2-Aust	Long.	2
Frequency:	Style:	Mode:	Elements:

Search Unit Cable

RG-174	6'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031573611
Maufacturer/Model:	Serial Number:

6.155 us	0.222 in./usec.	0.8 - 3.0
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	2.0 in	Sq. / Max
Rep Rate:	Rectification:	Range:	Pulser/Energy:
400 Ohms	Off	2.0 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Maintained a 20 -30% ID roll during examination.

Exam Data for Weld: 14-A-10A

VALVE TO PIPE
Configuration:

OD	85° F	241890
Exam Surface:	Exam Temp.	Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	47.2	NRI	60°
Circ	DNST	47.2	NRI	60°

Exam Start: 0906 Exam End: 0940

Initials: Examiner: Randy Linden Level: III

Initials: Examiner 2: N/A Level: N/A

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: Level: III Date: 5-2-05

Utility Review: UT Lvl. III Date: 5-2-05

ANII Review: Date: 5/2/05

Page 6 of 8

Page 119/240

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: APR-005

Site: Pilgrim Nuclear Power Station Component ID: 14-B-10A

Outage: RF-015 VALVE TO PIPE

System CS ASME Cat.: B-F ASME Item B5.10 Aug Req IGSCC D

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° Shear	UT-072	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005
45° RL	UT-073	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005
60° Long.	UT-074	N/A	ENN-NDE-9.10	PIL-115	Randy Linden	III	4/28/2005

Examination Results:

During the manual ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC were recorded utilizing a 45° shear wave, 45° and 60° refracted longitudinal wave search units.

The outside surface weld crown did not meet procedure requirements for 360° due to the valve configuration and shrinkage at the weld toe.

10.1% procedural coverage obtained.
22.1% code coverage obtained.

Previous manual reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 99-E-441 from 1999 outage with ☑ No Change

These examinations were performed under Work Order: 03116643 ☐ Change

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 5-2-05

Utility Review: [signature] UT Lvl III Date: 5-2-05

ANII Review: [signature] Date: 5/3/05

RWP: 0080

Dose: 133 mr.

Page 1 of 6

Page 120/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-005

System: CS

Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.728	N/A	N/A	N/A
4	0.545	N/A	N/A	N/A
5	0.557	N/A	N/A	N/A

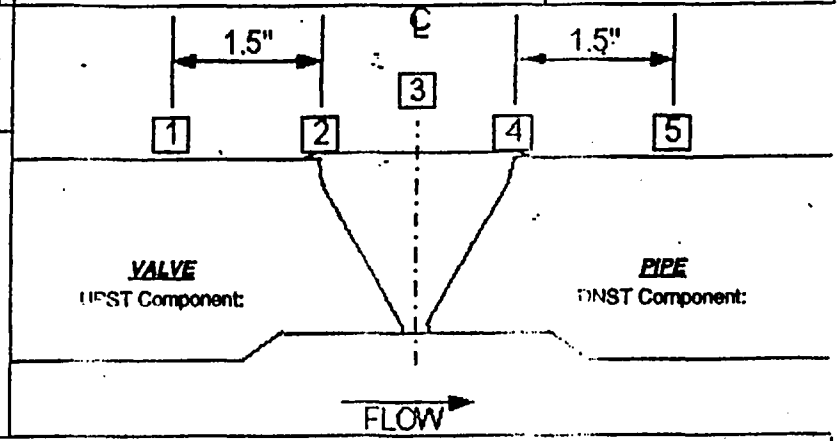
Component ID Number: 14-B-10A

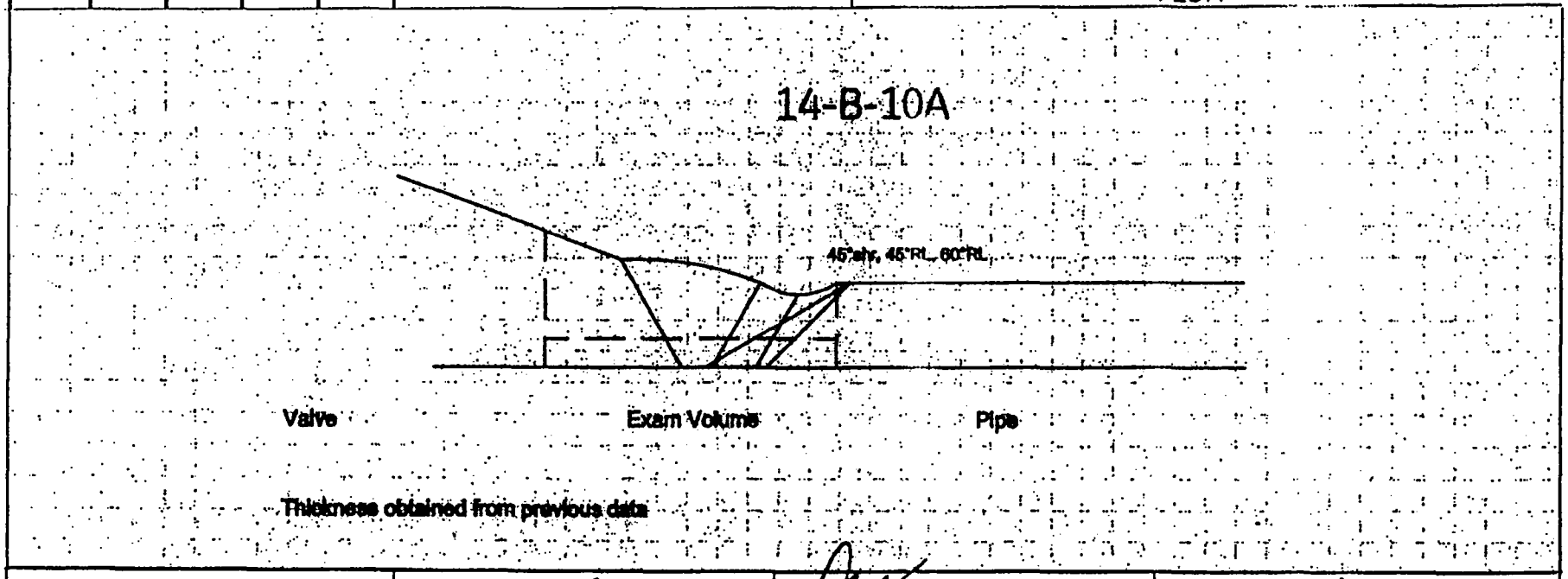
Crown Height: 0.1

Crown Width: 1.0"

Nominal Diameter: 10.0"

Weld Length: 34.0"





Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
MW For Randy Linden	III	4/28/2005	MWKelly	III	5-2-05	UT Lvl III	5-2-05	Curt Hanson	5/3/05

Page 121 /240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RE-015

Report No.: APR-005

System: CS

Component ID Number: 14-B-10A

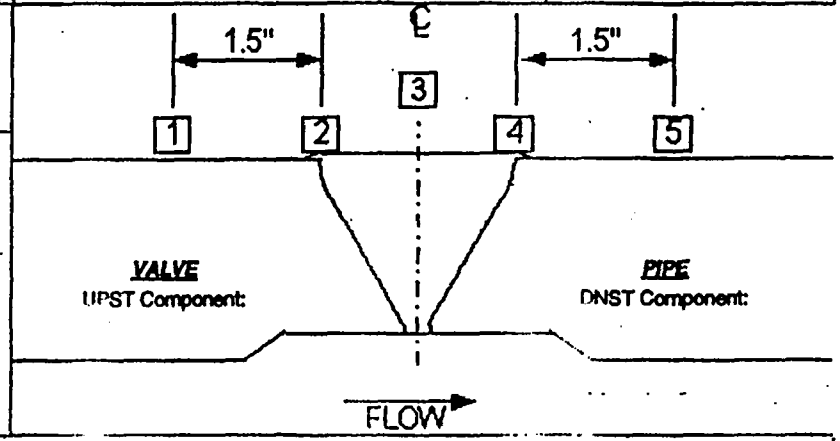
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.728	N/A	N/A	N/A
4	0.545	N/A	N/A	N/A
5	0.557	N/A	N/A	N/A

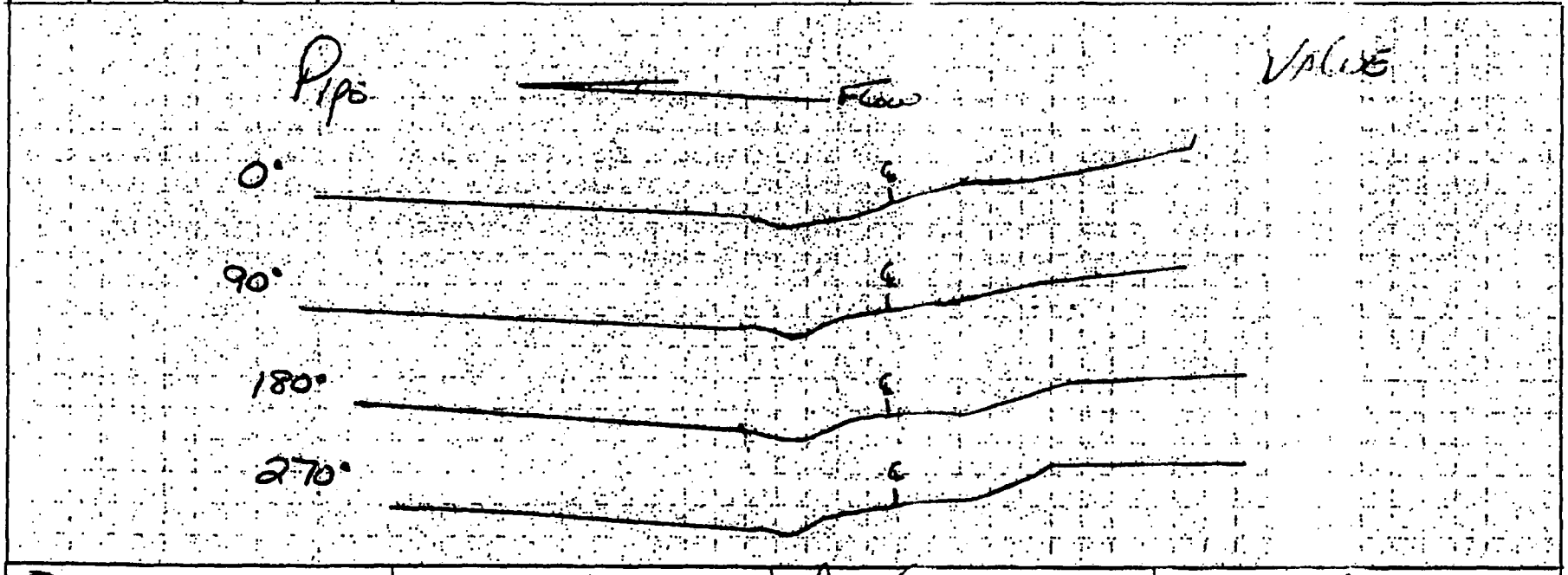
Crown Height: 0.1

Crown Width: 1.0"

Nominal Diameter: 10.0"

Weld Length: 24.0"





Initials: Randy Linden Examiner: III Level: 4/28/2005 Date:

GE Reviewed By: III Level: 5-2-05 Date:

Utility Review: LIT Lvl. III 5-2-05 Date:

ANII Review: Date:

Page 122/240

GE ENERGY.NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015

Report Number: APR-005
Data Sheet Number: UT-072
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

CS	10"	0.594"	Calibration	Cal Time
Material	Size	Thick	Initial Cal:	0740
Ultrasoil II	01225		Cal Check:	0917
Couplant:	Couplant batch		Cal Check:	1010
241890	68° F		Final Cal:	1103
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 9.0 dB
Sweep 0-10 = 1.5 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-HW2-017

Reflector	0.60"	N/A
Amplitude	40%	N/A
Gain (dB)	9 dB	N/A
Sweep (SD)	5.6	N/A

Acceptable Linearity performed : 4/15/2005

Search Unit Data

KBA	010CJP	0.50"/Round
Manufacturer:	Serial Number	Size/Shape:
0.55 in.	45°	45°
Incident Point:	Nominal Angle:	Measured Angle:

2.25 MHz	Como-G	Shear	1
Frequency:	Style:	Mode:	Elements:

Search Unit Cable

RG-174	6'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4	031573611
Maufacturer/Model:	Serial Number:

6.295 us	0.128 in./usec.	0.8 - 3.0 MHz
Zero:	Velocity:	Narrowband Filter:

Auto	Fullwave	1.5 in	Sq. / Max
Rep Rate:	Rectification:	Range:	Pulser/Energy:
400 Ohms	Off	2.0 MHz	P/E
Damping:	Reject:	Frequency:	Mode:

Exam Data for Weld: 14-B-10A

VALVE TO PIPE
Configuration:

OD	85° F	241890
Exam Surface:	Exam Temp.	Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	23	NRI	45°
Circ	DNST	23	NRI	45°

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Liftoff signals seen due to weld shrinkage.
Maintained a 5% to 20% ID roll during examination.

Exam Start: 0945 Exam End: 1025

(10) Randy Linden III
Initials: Examiner: Level:

N/A N/A
Initials: Examiner 2: Level:

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: III 5-2-05
Level: Date:

UT Lvl III 5-02-05
Utility Review: Date:

5/3/05
ANII Review: Date:

GE ENERGY NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-016

Report Number: APR-005
Data Sheet Number: UT-073
Linearity Sheet: L-009

Calibration Date for Block: PIL-11!

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

			Calibration	Cal Time
CS	10"	0.594"	Initial Cal:	0750
Material	Size	Thick	Cal Check:	0905
Ultrasol II	01225		Cal Check:	0955
Couplant:	Couplant batch		Final Cal:	1102
241890	68° F			
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 37.9 dB
Sweep 0-10 = 1.5 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-HW2-017

Reflector	0.60"	N/A
Amplitude	80%	N/A
Gain (dB)	30.3	N/A
Sweep (SD)	5.6	N/A

Acceptable Linearity performed: 4/15/2005

Search Unit Data

RTD	03-177	2(7x10) mm/Rect.
Manufacturer:	Serial Number	Size/Shape:
0.32 in.	45°	44°
Incident Point:	Nominal Angle:	Measured Angle:

2.0 MHz	TRL2-Aust	RL	2
Frequency:	Style:	Mode:	Elements:

Search Unit Cable

RG-174	6'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4		031573811	
Maufacturer/Model:		Serial Number:	
7.535 us	0.236 in./usec.	0.8 - 3.0	
Zero:	Velocity:	Narrowband Filter:	
Auto	Fullwave	2.0 in	Sq. / Max
Rep Rate:	Rectification:	Range:	Pulser/Energy:
400 Ohms	Off	2.0 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Liftoff signals seen due to weld shrinkage.
Maintained a 20% ID roll during examination.

Exam Data for Weld: 14-B-10A

VALVE TO PIPE
Configuration:

OD	85° F	241890
Exam Surface:	Exam Temp.	Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	43.9	NRI	45°
Circ	DNST	43.9	NRI	45°

Exam Start: 0945 Exam End: 1025

RL Initials: Randy Linden Examiner: III Level:

N/A Initials: Examiner 2: N/A Level:

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: III Level: 5-2-05 Date:

Utility Review: 5-2-05 Date:

ANII Review: 5/2/05 Date:

GE ENERGY,NUCLEAR

Ultrasonic Calibration and Examination Record
Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015

Report Number: APR-005
Data Sheet Number: UT-074
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10
Ver / Rev: 0 DRR: N/A

CS	10"	0.594"	Calibration	Cal Time
Material	Size	Thick	Initial Cal:	0800
Ultrasol II	01225		Cal Check:	0930
Couplant:	Couplant batch		Cal Check:	N/A
241890	68° F		Final Cal:	1100
Thermometer S/N	Cal Temp.			

DAC Construction

Scan Direction: Ax
Cal Reflector: ID Notch
Signal Amplitude: 80%
Signal Sweep: 5.9 Div
Signal dB: 47.2 dB
Sweep 0-10 = 2.0 in Metal Path

Calibration Verification

Field Simulator Block S/N: CAL-HW2-017

Reflector	0.80"	N/A
Amplitude	80%	N/A
Gain (dB)	42.4	N/A
Sweep (SD)	6.0	N/A

Acceptable Linearity performed : 4/15/2005

Search Unit Data

RTD	03-179	2(7x10) mm/Rect.
Manufacturer:	Serial Number	Size/Shape:
0.32 in.	60°	60°
Incident Point:	Nominal Angle:	Measured Angle:

2.0 MHz	TRL2-Aust	Long	2
Frequency:	Style:	Mode:	Elements:

Search Unit Cable

RG-174	6'	0
Cable Type:	Length:	Connectors:

Instrument Settings

Panametrics / Epoch 4		031573611	
Maufacturer/Model:		Serial Number:	
6.155 us	0.222 in./usec.	0.8 - 3.0	
Zero:	Velocity:	Narrowband Filter:	
Auto	Fullwave	2.0 in	Sq. / Max
Rep Rate:	Rectification:	Range:	Pulser/Energy:
400 Ohms	Off	2.0 MHz	Dual
Damping:	Reject:	Frequency:	Mode:

Exam Data for Weld: 14-B-10A

VALVE TO PIPE
Configuration:

OD	85° F	241890
Exam Surface:	Exam Temp.	Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	47.2	*NRI	60°
Circ	DNST	47.2	NRI	60°

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
*Weld shrinkage caused liftoff signals, causing geometric reflectors.
Maintained a 20 -30% ID roll during examination.

Exam Start: 0945 Exam End: 1025

Initials: RD Examiner: Randy Linden Level: III

Initials: ____ Examiner 2: N/A Level: N/A

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: [signature] Level: III Date: 5-2-05

Utility Review: [signature] UT Lvl. III Date: 5-2-05

ANII Review: [signature] Date: 5/3/05

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: APR-007

Site: Pilgrim Nuclear Power Station **Component ID:** 2R-N1B-1

Outage: RF-015 **NOZZLE TO SAFE END**

System RPV **ASME Cat.:** B-F **ASME Item** B5.10 **Aug Req** IGSCC D

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° / RL	N/A	APC-001	TP04-016 (GE-UT-209) R1 (V17)	PIL-79	Richard Jasken	II	4/21/2005
45° / RL	N/A	APC-002	TP04-016 (GE-UT-209) R1 (V17)	PIL-79	Richard Jasken	II	4/21/2005
45° / S	N/A	APC-003	TP04-016 (GE-UT-209) R1 (V17)	PIL-79	Richard Jasken	II	4/21/2005
60° / RL	N/A	APC-004	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Richard Jasken	II	4/21/2005
60° / RL	N/A	APC-006	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Richard Jasken	II	4/21/2005
N/A	APD-001	N/A	TP04-016 (GE-UT-209) R1 (V17)	N/A	Richard Jasken	II	4/21/2005

Examination Results:

During the automated ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC or any reportable indications were recorded with the "SMART 2000" system utilizing a 45° shear wave and 45° & 60° refracted longitudinal wave search units.

The 45° shear wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, beam redirect and non-relevant indications were recorded.

The 45° RL wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, acoustic interface and non-relevant indications were recorded.

The 60° RL wave examinations were performed from both the upstream and downstream sides of the weld. Non-relevant indications were recorded.

Transducer lift off was observed at the carbon steel nozzle to butter interface due to the surface contour. Reference the data sheet for the parameters. Due to this lift off, the upstream circumferential scans are considered a best effort examination. 73% coverage was obtained per the procedure and 75% coverage of the code required examination volume.

Previous automated reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 95-E-0643 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: 03116627 ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-23-05

Utility Review: [signature] Level: III Date: 4/26/05

ANII Review: [signature] Date: 4/29/05

RWP: 0082

Dose: 2200 mr.

Page 126/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-007

System: RPV

Component ID Number: 2R-N1B-1

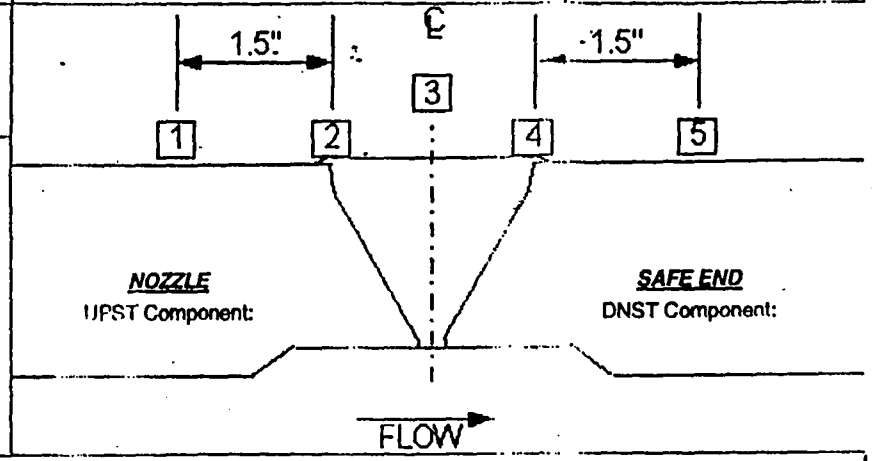
Position	0°	90°	180°	270°
1	1.90"	N/A	N/A	N/A
2	1.95"	N/A	N/A	N/A
3	2.05"	N/A	N/A	N/A
4	1.95"	N/A	N/A	N/A
5	1.90"	N/A	N/A	N/A

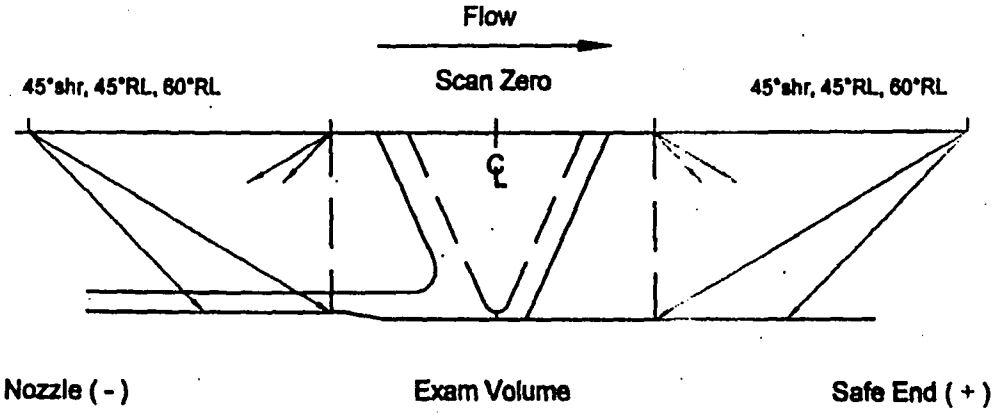
Crown Height: -

Crown Width: 1.95"

Nominal Diameter: 28.0"

Weld Length: 92.0"





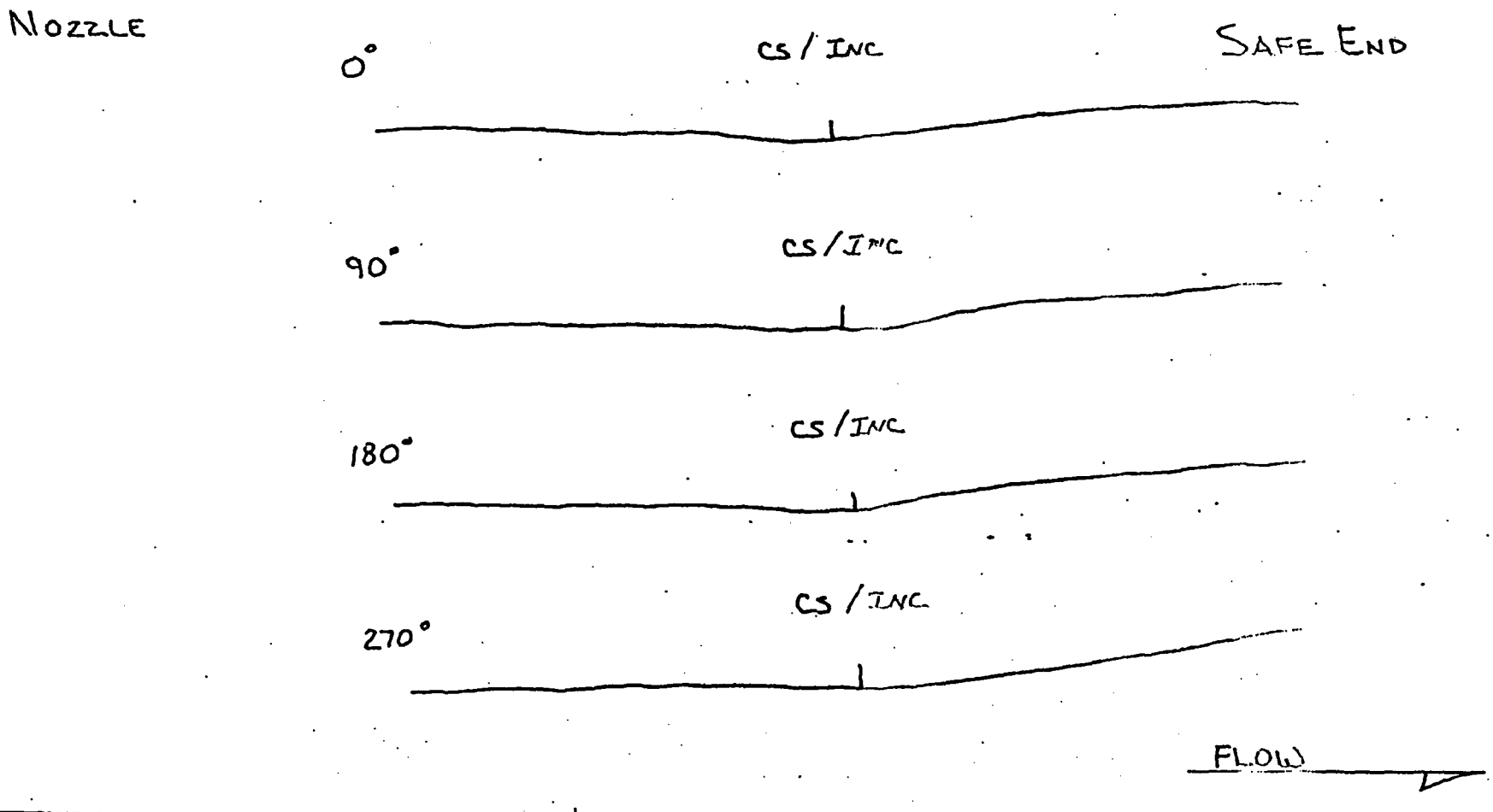
Thickness obtained from previous data
Weld preps obtained from drawings; M1A80 and M1A73 sheet 2
Scale - 1:2
* - Concavity found at CS/Inc interface. See page 3 of this report.

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
CRB Charles Barrett	II	4/20/2005		III	4-23-05		4/26/05		4/29/05

Page 127/240

GE ENERGY, NUCLEAR	Indication / Coverage Plot Sheet	Site: Pilgrim Nuclear Power Station Unit: 1 Project: RF-015	Report Number.: APR-007

System: RPV Component ID Number: 2R-N1B-1 Configuration: NOZZLE SAFE END

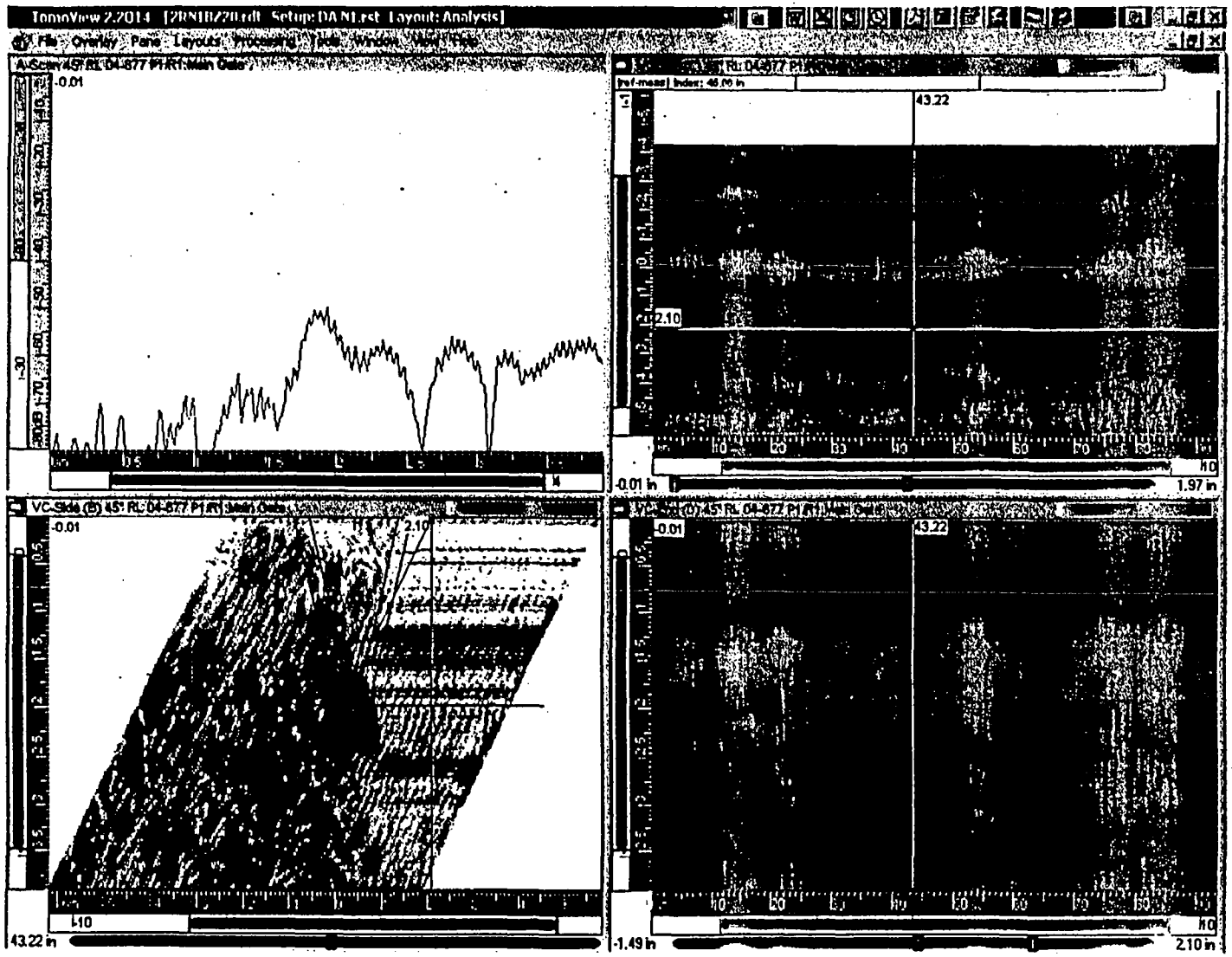


Initials: CBS Examiner: Charles Barrett	Level: II	Date: 4/20/2005	GE Reviewed By:	Level: III	Date: 4-23-05	Utility Reviewed By:	Date: 4/26/05	ANII Reviewed By:	Date: 4/29/05

Page 128 of 240

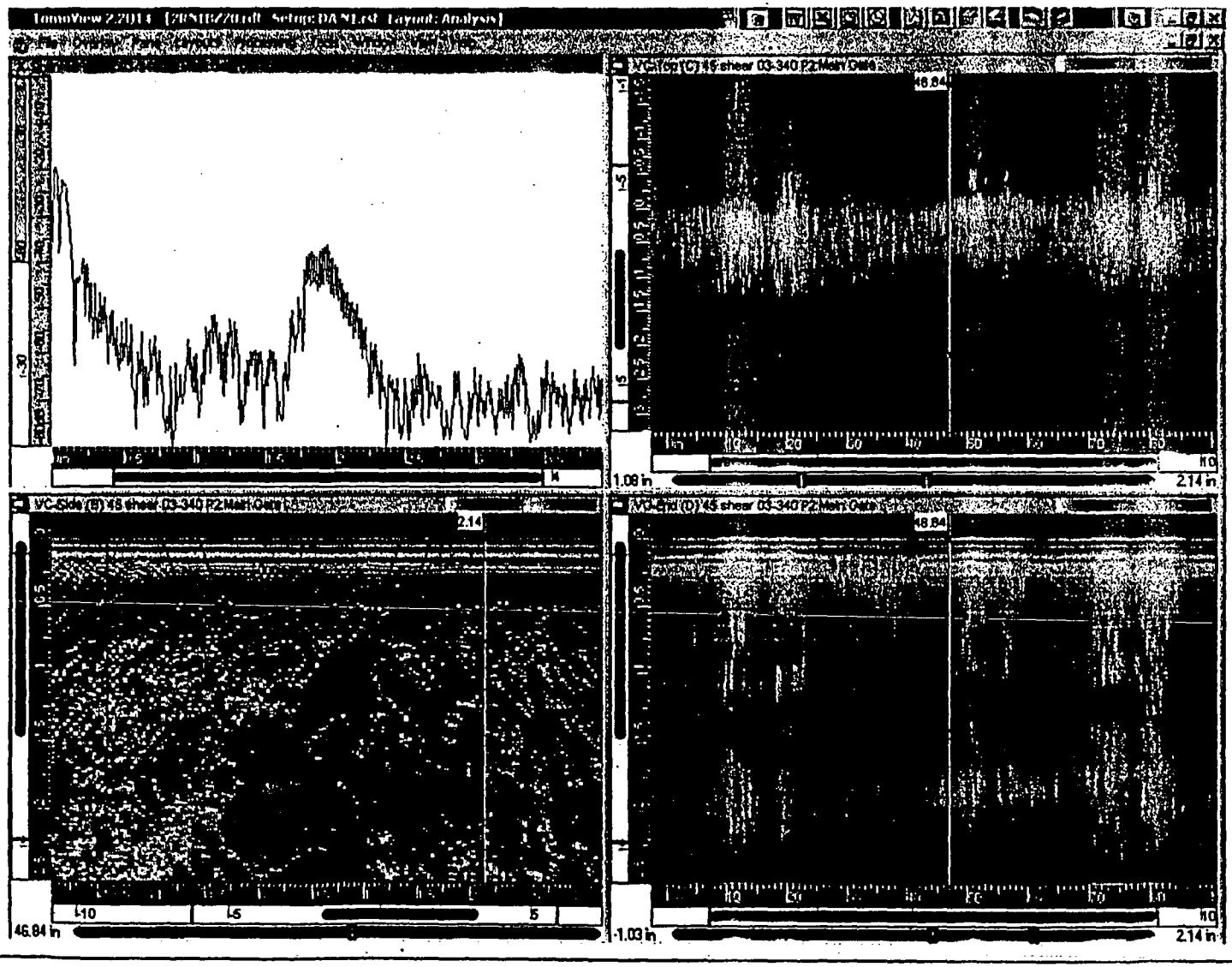
N1B Nozzle to Safe End

45°RL LKUP Typical Geometry



Page 129/240

N1B Nozzle to Safe End 45°Shear LKUP Typical Root Geometry



Page 130/240

GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power Station	Procedure: TP04-016 (GE-UT-209)	System: RPV	Report No.: APR-007
Unit: 1	Version / Revision: R1 (V17)	Weld No.: 2R-N1B-1	Data Sheet No.: APD-001
Project No.: RF-015	DRR: N/A	Configuration: NOZZLE TO SAFE END	Calibration Sheet No.

Scanner Information

Weld Reference, (GE-ADM-1005): Lo: Top Dead Center Wo: Weld Centerline Motor Steps: Cir: 1710 Tra: 2500

Examination Surface: OD Exam Surface Temperature: 94 °F Thermometer S/N: 241687 Exam Start: 4/21/2005 5:50:00 AM

Exam End: 4/22/2005 9:09:00 AM

Nominal Pipe Size 28" Nominal Thickness: 1.90" Weld Width: 1.93" Weld Length: 92"

Scanner: NOVA Track Diameter: 32" Arm Length: 18" Track Location: 8" DOWNSTREAM OF SE TAPER

X Positive Scan Direction: DOWNSTREAM Y Positive Scan Direction: CW

Resolution: ≤ 0.036" Index Ax / Circ: ≤ 0.19" ≤ 0.05" Axial Scan Speed: ≤ 2.0 in./Sec. Circ Scan Speed: ≤ 1.0 in./Sec.

Scanner Zero Positions: CIR: TOP DEAD CENTER TRA: WELD CENTERLINE ROT Zero: LKDN

Scan Parameters and Results

Scan:	Skew:	File ID:	Disk:	X-Start:	X-Stop:	Y-Start:	Y-Stop:	Gain:	Results:	Comments:
Z11	0	2RN1B1Z11	D-01	-5.6"	2.3"	0.0"	93.0"	Log	C,D,H,K	Bi-directional
Z20	180	2RN1B1Z20	D-02	-2.3"	5.7"	0.0"	93.0"	Log	C,D,H,K	Bi-directional
Z30	0	2RN1B1Z30	D-01	0.0"	93.0"	-3.7"	0.0"	Log	C	Uni-directional
Z31	0	2RN1B1Z31	D-02	0.0"	93.0"	0.0"	3.7"	Log	C	Uni-directional
Z40	180	2RN1B1Z40	D-03	0.0"	93.0"	-3.7"	0.0"	Log	C	Bi-directional
Z41	180	2RN1B1Z41	D-04	0.0"	93.0"	0.0"	3.7"	Log	C	Bi-directional

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
B - NON-GEOMETRIC INDICATIONS
C - NON-RELEVANT INDICATIONS
D - ACOUSTIC INTERFACE
E - INSIDE SURFACE
F - OUTSIDE SURFACE
G - WELD DISCONTINUITY
H - ROOT GEOMETRY
I - COUNTERBORE
J - SHEAR COMPONENT
K - BEAM RE-DIRECT

Comments:

Axial scans were limited from a 'L' of 26" to 41.25" with a 'W' of -1.7" to -0.9" and a 'L' of 49" - 86" with a 'W' of -1.5" to 0".
Upstream circ scans were limited from a 'L' of 11" to 39" and 49.6" to 84".

Examiner:	Level:	Date:	GE Review:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Richard Jasken	II	4/21/2005			4-23-05		4/24/05		4/25/05

Page 131/240

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-007
Calibration Sheet No.: APC-001

Weld: 2R-N1B-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)		18121-09 (System Serial No.)			2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)		
Search Unit	RTD (Manufacturer)	04-430 (Serial No.)	2(15x25) mm (Element Size)	1.0 MHz (Freq. (MHz))	45° / RL (Angle / Mode)	1.39" (FD,FS/SA,RA)	45° (Measured Angle)	0.75" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)					
Calibration Standard	PIL-79 (Serial No.)	SS (Material)	2.1" (Nominal Thickness)	2.1" (Measured Thickness)				
Thermometer	241576 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)			

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	2.10 in.	2.10 in.	2.10 in.
Amplitude / dB	80%	-43.9 dB	-20.7 dB
Sweep	2.95 in.	2.95 in.	2.95 in.
Gain (dB)	34	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-11.30 dB
Sweep	1.06"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0907	4/12/2005	PIL 79	MW/RJ
Verified	1413	4/21/2005	CAL-RHOM-095	RJ
Verified				
Verified				
Final	0902	4/22/2005	CAL-RHOM-095	RSG

Channel Name: 45° RL 04-430 P1/R1

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 326 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P1 | Receiver: R1
Voltage: 300 V | Scale Type: LOG
Width (Ns): 500 ns | Rectification: Unsigned
Smoothing: 1 MHz

Probe

Wave Type: Longitudinal | Scan offset: 0 in.
Velocity: 0.2272 in./sec. | Index offset: 0.00 in.
Wedge Delay: 12.229 µsec. | Angle: 45°
Skew: 0/180

N1 - 45° RL - Circ scan

Richard Jasken (Operator)	II (Level)	4/21/2005 (Date)	Utility Review	II (Level)	4/21/05 (Date)	
Analyst	III (Level)	4/23/05 (Date)	ANIII Review		4/23/05 (Date)	Page 7 of 12

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Weld: 2R-N1B-1

Report Number: APR-007

Calibration Sheet No.: APC-002

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	03-677	2(20X34) mm	1.0 MHz	45° / RL	2.23"	45°	0.95"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	PIL-79	SS	2.1"	2.1"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241576	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	2.10 in.	2.10 in.	2.10 in.
Amplitude / dB	80.3%	-36.4 dB	-12.2 dB
Sweep	2.91 in.	2.91 in.	2.91 in.
Gain (dB)	27.0	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-15.4 dB
Sweep	1.06"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	1315	4/11/2005	PIL 79	MW/RJ
Verified	0550	4/21/2005	CAL-RHOM-095	RSG
Verified				
Verified				
Final	1329	4/21/2005	CAL-RHOM-095	RSG

Channel Name: 45° RL 03-677 P1/R1

General

Timebase	Start 0.0 in.	Range	5.5 in.
Units	Half Path		

Digitizer

Synchro	Pulse	☑ A Scan	Sample Size: 8 Bit
Averaging	1		Acquisition Rate: 326 Hz
Digitizing Frequency	6.25 MHz		Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration	Conventional Pitch Catch		
Pulser	P1	Receiver	R1
Voltage	300 V	Scale Type	LOG
Width (Ns)	500 ns	Rectification	Unsigned
		Smoothing	1 MHz

Probe

Wave Type	Longitudinal	Scan offset	0 in.
Velocity	0.2272 in./sec.	Index offset	0.00 in.
Wedge Delay	12.017 µsec.	Angle	45°
		Skew	0/180

N1 - 45° RL - Ax scan

Richard Jasken (Operator)	II (Level)	4/21/2005 (Date)	Utility Review	III (Level)	4/26/05 (Date)
Analyst	III (Level)	4-23-05 (Date)	ANIII Review		4/26/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-007
Calibration Sheet No.: APC-003

Weld: 2R-N1B-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRP: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	RTD (Manufacturer)	03-340 (Serial No.)	Ell(24x17) mm (Element Size)	1.5 MHz (Freq. (MHz))	45° / S (Angle / Mode)	N/A (FD,FS/SA,RA)	45° (Measured Angle)	0.52" (Incident to Wedge Front)

Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)

Calibration Standard	PIL-79 (Serial No.)	SS (Material)	2.1" (Nominal Thickness)	2.1" (Measured Thickness)

Thermometer	241576 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)

Calibration

Orientation: Circ
Type: ID Notch
Depth: 2.10 in.
Amplitude / dB: -8.2 dB
Sweep: 2.97 in.
Gain (dB): Log
Screen: Half Path | 25 dB Booster: Inactive

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector: Far SDH
Max Amplitude/dB: -27.9 dB
Sweep: 1.03"
Gain (dB): Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	1250	4/11/2005	PIL 79	RJ/MW
Verified	0555	4/21/2005	CAL-RHOM-095	RSG
Verified	1410	4/21/2005	CAL-RHOM-095	RJ
Verified	1332	4/21/2005	CAL-RHOM-095	RSG
Final	0905	4/22/2005	CAL-RHOM-095	RSG

Channel Name: 45° Shear 03-340 P2

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 326 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pulse Echo
Pulser: P2 | Receiver: N/A
Voltage: 300 V | Scale Type: LOG
Width (Ns): 333 ns | Rectification: Unsigned
Smoothing: 2 MHz

Probe

Wave Type: Transverse | Scan offset: 0 in.
Velocity: 0.1240 in./sec. | Index offset: -2.50 in.
Wedge Delay: 11.951 usec. | Angle: 45°
Skew: 0/180

N1 - 45° Shear
Ax scan index offset -2.50"
Circ scan offset -2.50"

Richard Jasken (Operator)	II (Level)	4/21/2005 (Date)	Utility Review	III (Level)	4/26/05 (Date)
Analyst	III (Level)	4-23-05 (Date)	ANIII Review		4/25/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-007
Calibration Sheet No.: APC-004

Weld: 2R-N1B-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	04-345	2(20x34) mm	1.0 MHz	60° / RL	1.38"	60°	1.0"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	CAL-DPTH-063	SS	1.4"	1.4"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241576	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	1.40 in.	1.40 in.	1.40 in.
Amplitude / dB	80.8%	-30.7 dB	-6.6 dB
Sweep	2.78 in.	2.78 in.	2.78 in.
Gain (dB)	21.0	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-11.9 dB
Sweep	1.56"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	1350	4/11/2005	CAL-DPTH-063	RJ/MW
Verified	0600	4/21/2005	CAL-RHOM-095	RSG
Verified				
Verified				
Final	1335	4/21/2005	CAL-RHOM-095	RSG

Channel Name: 60° RL 04-345 P3 / R3

General

Timebase: Start 0.0 in. | Range 8.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 326 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P3	Receiver	R3
Voltage	300 V	Scale Type	LOG
Width (Ns)	500 ns	Rectification	Unsigned
		Smoothing	1 MHz

Probe

Wave Type	Longitudinal	Scan offset	0 in.
Velocity	0.2272 in./sec.	Index offset	-5.00 in.
Wedge Delay	13.593 µsec.	Angle	60°
		Skew	0/180

N1 - 60° RL - Ax Scan

Richard Jasken (Operator)	II (Level)	4/21/2005 (Date)	Utility Review	III (Level)	4/22/05 (Date)
Analyst	III (Level)	4-23-05 (Date)	ANII Review		4/25/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-007
Calibration Sheet No.: APC-006

Weld: 2R-N1B-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	04-431	2(15x25) mm	1.0 MHz	60° / RL	0.89"	60°	0.75"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	CAL-DPTH-063	SS	0.9"	0.9"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241576	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.90 in.	0.90 in.	0.90 in.
Amplitude / dB	80.4%	-55.2 dB	-31.4 dB
Sweep	1.87 in.	1.87 in.	1.87 in.
Gain (dB)	45.5	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-33.6 dB
Sweep	1.53"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0925	4/12/2005	CAL-DPTH-063	MW/RJ
Verified	1411	4/21/2005	CAL-RHOM-095	RJ
Verified				
Verified				
Final	0909	4/22/2005	CAL-RHOM-095	RSG

Channel Name: 60° RL 04-431 P3 / R3

General

Timebase: Start 0.0 in. | Range 8.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 326 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P3 | Receiver: R3
Voltage: 300 V | Scale Type: LOG
Width (Ns): 500 ns | Rectification: Unsigned
Smoothing: 1 MHz

Probe

Wave Type: Longitudinal | Scan offset: -5 in.
Velocity: 0.2272 in./sec. | Index offset: 0.00 in.
Wedge Delay: 12.955 usec. | Angle: 60°
Skew: 0/180

N1 - 60° RL - Circ Scan

Richard Jasken (Operator)	II (Level)	4/21/2005 (Date)	Utility Review	III (Level)	4/26/05 (Date)
Analyst	III (Level)	4-23-05 (Date)	ANIII Review		4/28/05 (Date)

GE Energy, Nuclear

Micro-Tomo (Smart 2000) - Auto Piping Weld Examination Checklist

Pilgrim Unit 1, 2005
2R-NIB-1

2RN1B1Z10 LKDN	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	RJ	MJK	MJK	MJK	MJK	Lift off due to OD contour
45° RL	☑	☑	☑	☑	☐	☐	☐						
60° RL	☑	☑	☑	☑	☐	☐	☐						

2RN1B1Z20 LKUP	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	RJ	MJK	MJK	MJK	MJK	Lift off due to OD contour
45° RL	☑	☑	☑	☑	☐	☐	☐						
60° RL	☑	☑	☑	☑	☐	☐	☐						

2RN1B1Z30 LKCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	MW	MJK	MJK	MJK	MJK	Lift off due to OD contour on upstream side
45° RL	☑	☑	☑	☑	☐	☐	☐						
60° RL	☑	☑	☑	☑	☐	☐	☐						

2RN1B1Z40 LKCCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	MW	MJK	MJK	MJK	MJK	Lift off due to OD contour on upstream side
45° RL	☑	☑	☑	☑	☐	☐	☐						
60° RL	☑	☑	☑	☑	☐	☐	☐						

Notes: Circ scans separated to upstream and downstream sides of weld centerline.

Page 137/240

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: APR-009

Site: Pilgrim Nuclear Power Station **Component ID:** 2R-N2E-1

Outage: RF-015 SAFE END TO NOZZLE

System RPV **ASME Cat.:** B-F **ASME Item** B5.10 **Aug Req** IGSCC D

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° / S	N/A	APC-071	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Robert Scott Getz	II	4/22/2005
45° / RL	N/A	APC-072	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Robert Scott Getz	II	4/22/2005
45° / RL	N/A	APC-073	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Robert Scott Getz	II	4/22/2005
60° / RL	N/A	APC-074	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Robert Scott Getz	II	4/22/2005
60° / RL	N/A	APC-075	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Robert Scott Getz	II	4/22/2005
N/A	APD-005	N/A	TP04-016 (GE-UT-209) R1 (V17)	N/A	Robert Scott Getz	II	4/22/2005

Examination Results:

During the automated ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC or any reportable indications were recorded with the "SMART 2000" system utilizing a 45° shear wave, 45° and 60° refracted longitudinal wave search units.

The 45° shear wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, beam redirect and non-relevant indications were recorded.

The 45° RL wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, acoustic interface, inside surface geometry and non-relevant indications were recorded.

The 60° RL wave examinations were performed from both the upstream and downstream sides of the weld. Acoustic interface and non-relevant indications were recorded.

The outside surface weld crown did not meet procedure requirements from 11° to 23°. 79.1% coverage was obtained per the procedure and 81.2% coverage of the code required examination volume.

Previous automated electronic data and automated reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 95-E-403 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: 031166227 ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-25-05 Utility Review: [signature] Level: III Date: 4/28/05

ANII Review: [signature] Date: 4/28/05

RWP: 0062

Dose: 1850 mr.

Page 1 of 13

Page 138/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-009

System: RPV

Component ID Number: 2R-N2E-1

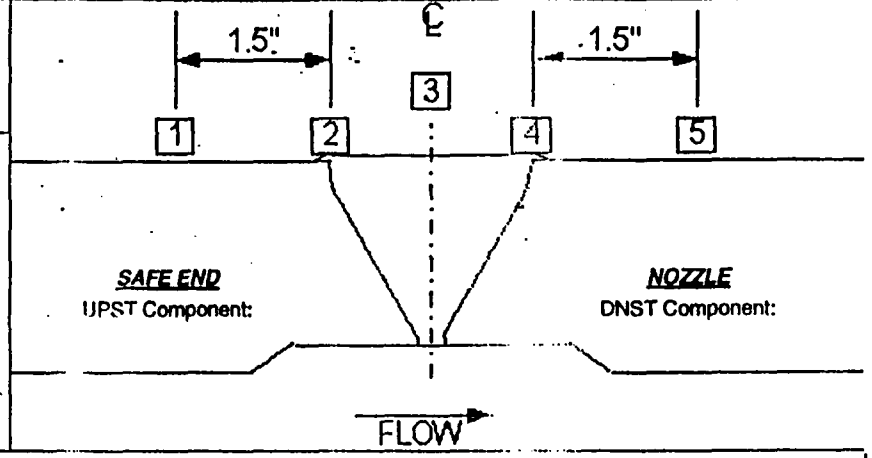
Position	0°	90°	180°	270°
1	1.09"	N/A	N/A	N/A
2	1.20"	N/A	N/A	N/A
3	1.21"	N/A	N/A	N/A
4	1.08"	N/A	N/A	N/A
5	1.09"	N/A	N/A	N/A

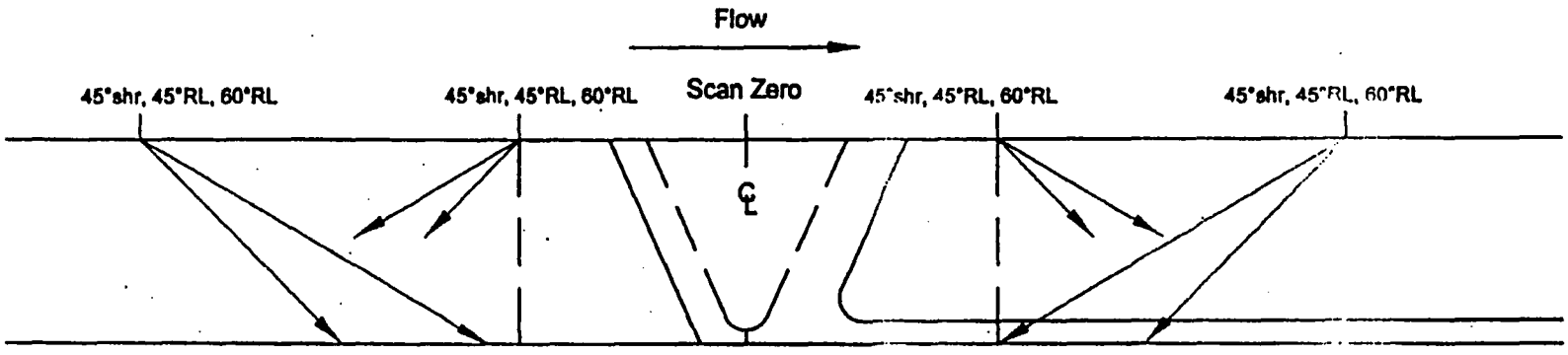
Crown Height: FLUSH

Crown Width: 1.15"

Nominal Diameter: 12.0"

Weld Length: 42.0"





Safe End (-) Procedural Exam Volume Nozzle (+)

Thickness obtained from previous data
Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.1"
Bottom of SE taper to Inc/CS interface = 7.5"

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
CB Charles Barrett	II	4/25/2005	[signature]	III	4/25/05	[signature]	L-III 4/28/05	[signature]	4/28/05

Boy 139/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-009

System: RPV

Component ID Number: 2R-N2E-1

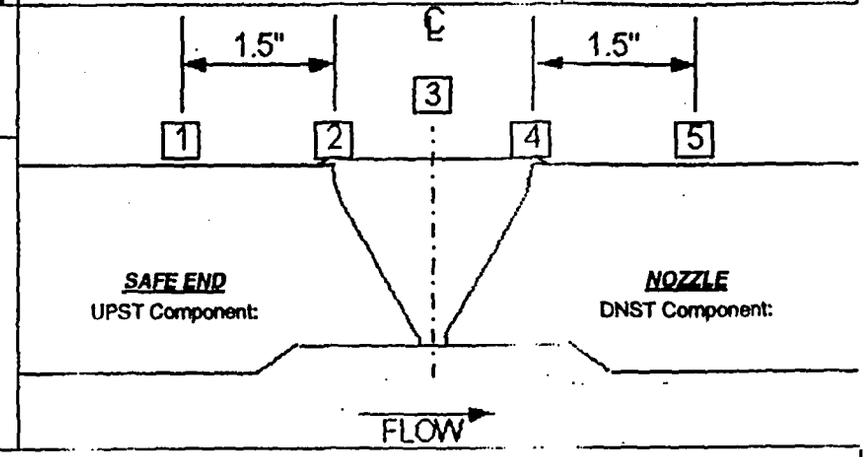
Position	0°	90°	180°	270°
1	1.09"	N/A	N/A	N/A
2	1.20"	N/A	N/A	N/A
3	1.21"	N/A	N/A	N/A
4	1.08"	N/A	N/A	N/A
5	1.09"	N/A	N/A	N/A

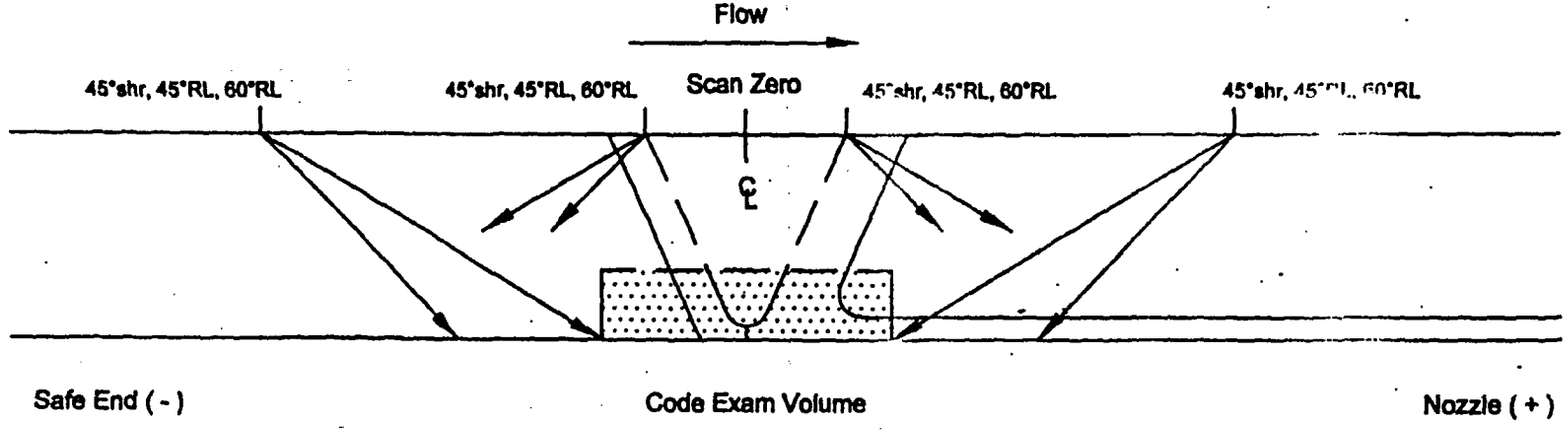
Crown Height: FLUSH

Crown Width: 1.15"

Nominal Diameter: 12.0"

Weld Length: 42.0"





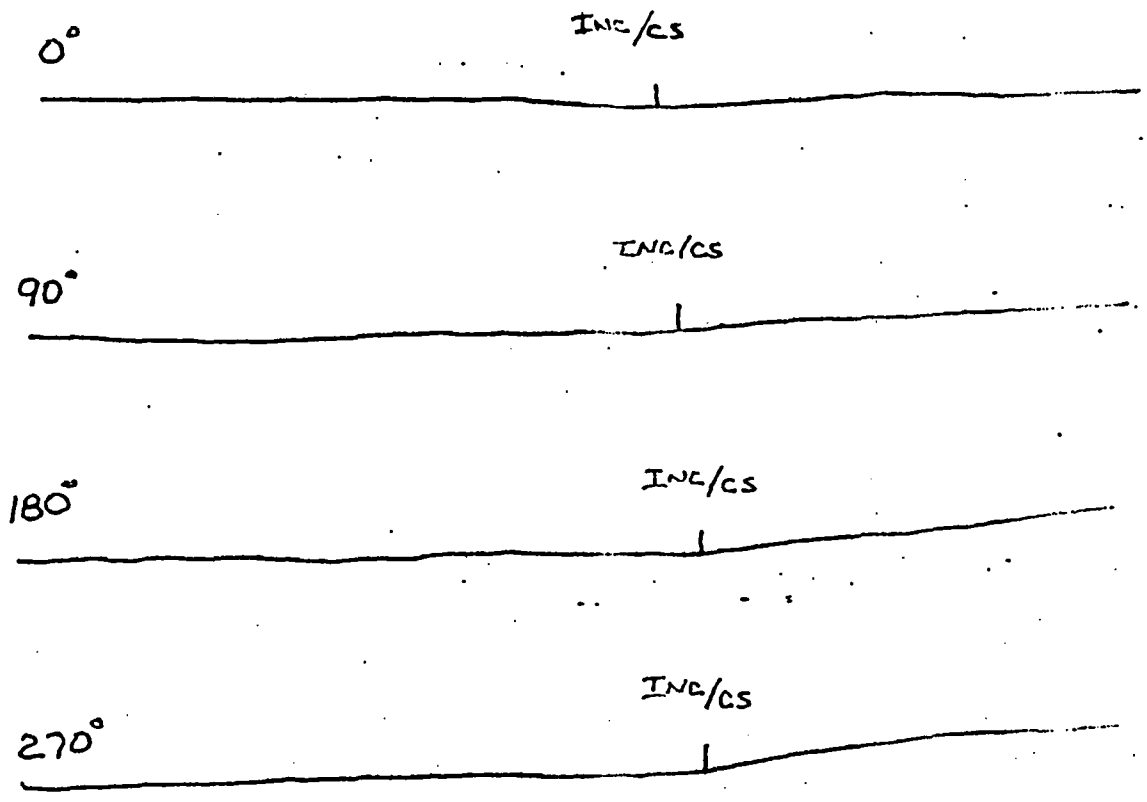
Thickness obtained from previous data
Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.1"
Bottom of SE taper to Inc/CS interface = 7.5"

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Charles Barrett	II	4/25/2005	[illegible] III		4-25-05	[illegible] LIII	4/26/05	[illegible]	4/26/05

Page 140/240

GE ENERGY, NUCLEAR	Indication / Coverage Plot Sheet	Site: Pilgrim Nuclear Power Station Unit: 1 Project: RF-015	Report Number.: APR-009

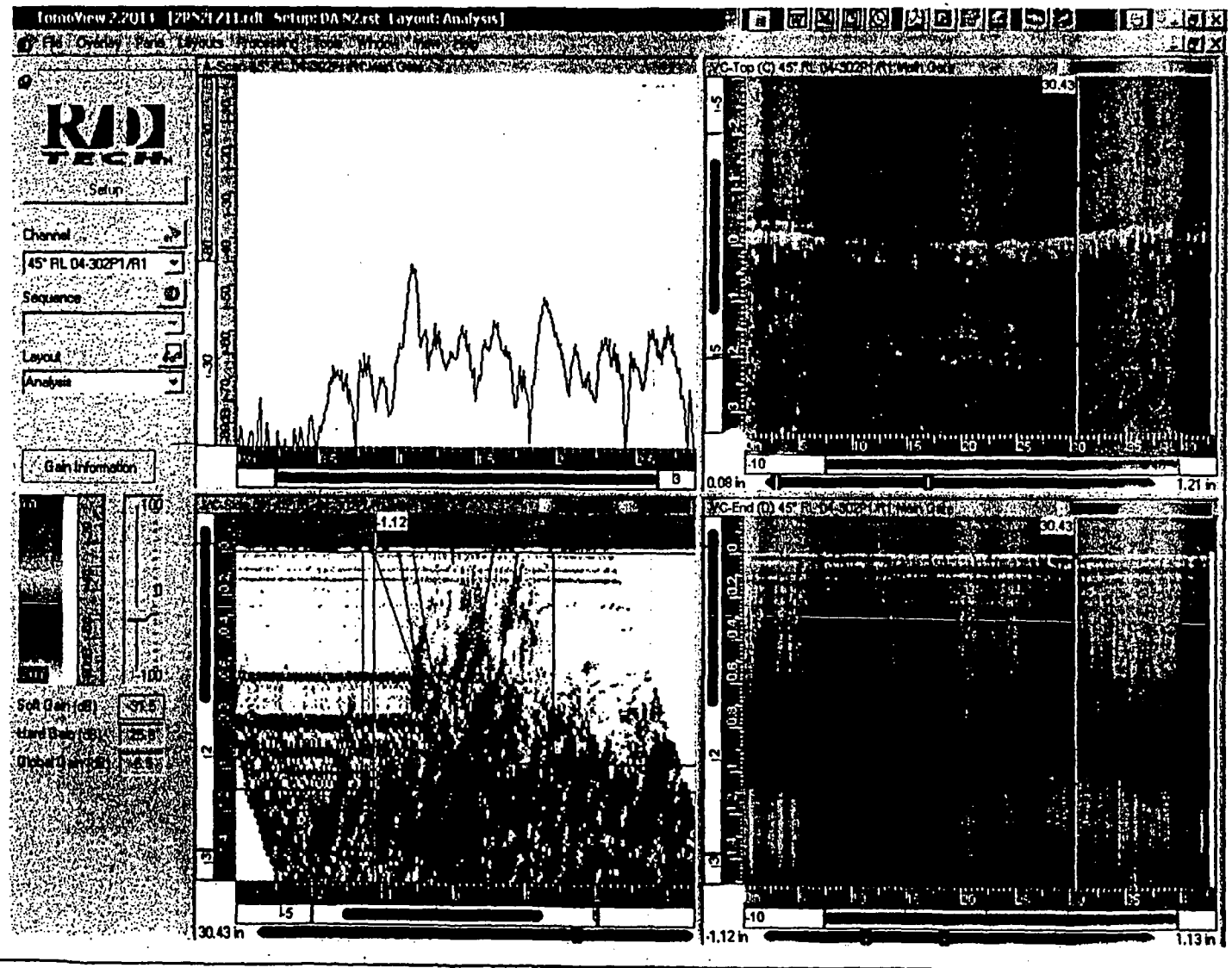
System: RPV Component ID Number: 2R-N2E-1 Configuration: SAFE END NOZZLE



Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Reviewed By:	Date:	ANII Reviewed By:	Date:
CB Charles Barrett	II	4/25/2005	[illegible]	III	4.25.05	[illegible]	L-III	4/26/05	[illegible]	4/26/05

N2E Safe End to Nozzle

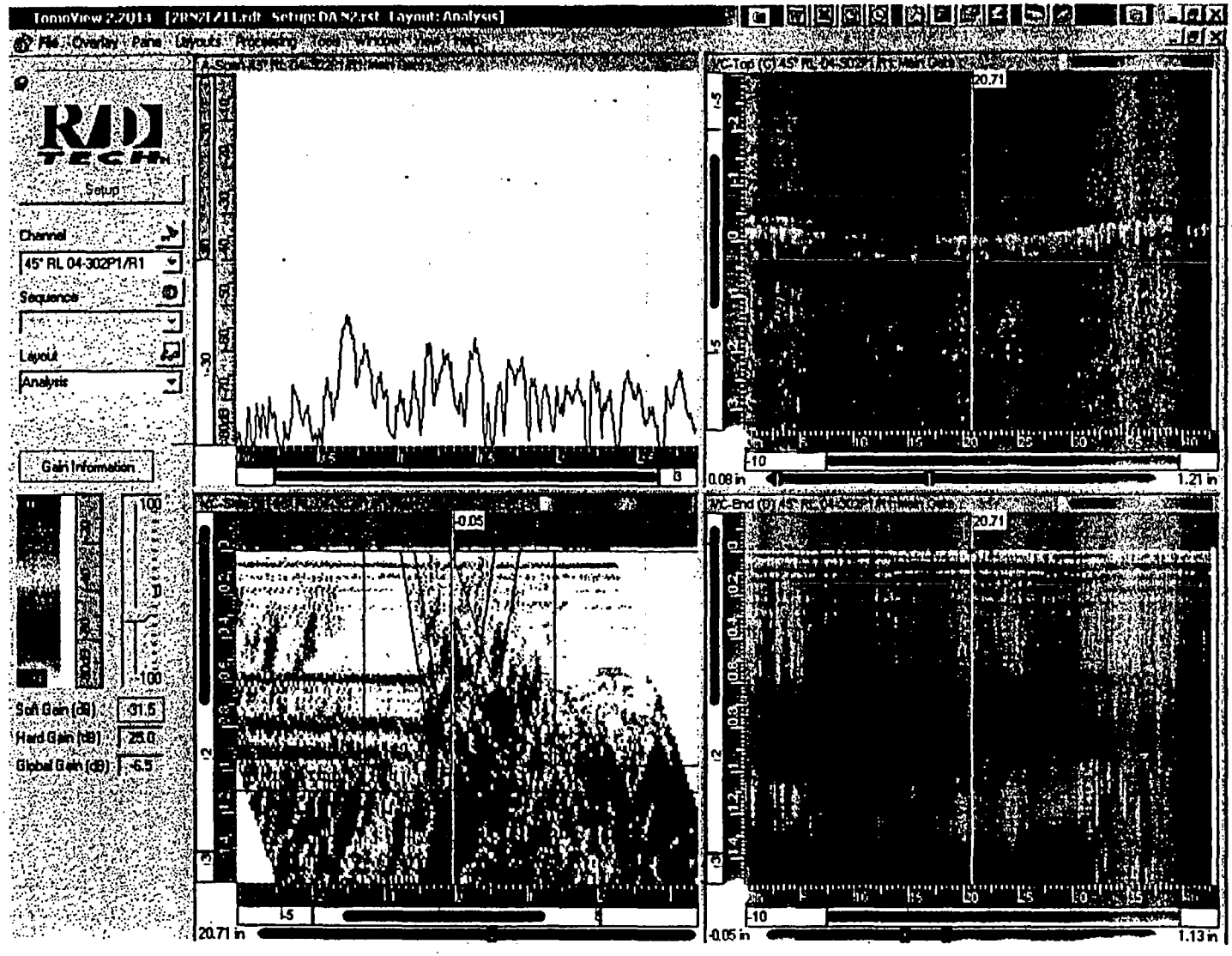
45°RL LKDN Root Geometry



Page 142/240

N2E Safe End to Nozzle

45°RL LKDN Acoustic Interface



page 143/240

GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power Station	Procedure: TP04-016 (GE-UT-209)	System: RPV	Report No.: APR-009
Unit: 1	Version / Revision: R1 (V17)	Weld No.: 2R-N2E-1	Data Sheet No.: APD-005
Project No.: RF-015	DRR: N/A	Configuration: SAFE END TO NOZZLE	Calibration Sheet No.

Scanner Information

Weld Reference, (GE-ADM-1005): Lo: TDC Wo: Weld Centerline Motor Steps: Clr: 2088 Tra: 2500

Examination Surface: OD Exam Surface Temperature: 92 °F Thermometer S/N: 241878 Exam Start: 4/22/2005 3:25:00 PM

Exam End: 4/23/2005 7:20:00 AM

Nominal Pipe Size 12" Nominal Thickness: 1.1" Weld Width: 1.12" Weld Length: 42"

Scanner: NOVA Track Diameter: 16" Arm Length: 18" Track Location: 14" FROM INTERFACE UPSTREAM

X Positive Scan Direction: CW Y Positive Scan Direction: DOWNSTREAM

Resolution: ≤ 0.036" Index Ax / Circ: ≤ 0.18" ≤ 0.05" Axial Scan Speed: ≤ 1.98 in./Sec. Circ Scan Speed: ≤ 0.98 in./Sec.

Scanner Zero Positions: CIR: TOP DEAD CENTER TRA: WELD CENTERLINE ROT Zero: LOOKING DOWNSTREAM

Scan Parameters and Results

Scan:	Skew:	File ID:	Disk:	X-Start:	X-Stop:	Y-Start:	Y-Stop:	Gain:	Results:	Comments:
Z11	0	2RN2EZ11	D-09	-4.0"	2.1"	0.0"	43.0"	Log	C,D,H	Uni-directional
Z20	180	2RN2EZ20	D-09	-2.0"	4.1"	0.0"	43.0"	Log	K,C	Bi-directional
Z30	0	2RN2EZ30	D-09	0.0"	43.0"	-2.7"	2.9"	Log	C	Uni-directional
Z40	180	2RNZEZ40	D-09	0.0"	43.0"	-2.7"	2.9"	Log	C,E	Uni-directional

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
B - NON-GEOMETRIC INDICATIONS
C - NON-RELEVANT INDICATIONS
D - ACOUSTIC INTERFACE
E - INSIDE SURFACE
F - OUTSIDE SURFACE
G - WELD DISCONTINUITY
H - ROOT GEOMETRY
I - COUNTERBORE
J - SHEAR COMPONENT
K - BEAM RE-DIRECT

Comments:

High weld crown from a 'L' of 11"- 23" does not meet procedure requirements.
Load A01 files for Z11 and Z20 scans.

Examiner:	Level:	Date:	GE Review:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Robert Scott Getz	II	4/22/2005		III	4-25-05		4/28/05		4/28/05

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-009
Calibration Sheet No.: APC-071

Weld: 2R-N2E-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRF: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board: R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)	

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	03-341	Ell(24x17) mm	1.5 MHz	45° / S	N/A	45°	0.52"

Cable: RG-58/RG-58/RG-174 (Type) | 250' / 25' / 3' (Length) | 2 (No. of Intermediate Connectors)

Calibration Standard: PIL-78 (Serial No.) | SS (Material) | 1.3" (Nominal Thickness) | 1.3" (Measured Thickness)

Thermometer: 241878 (Serial No.) | 75 °F (Temp (°F)) | Couplant: Demin Water (Type) | N/A (Batch No.)

Calibration

Orientation	Circ	Circ
Type	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.
Amplitude / dB	85.4%	-9.4 dB
Sweep	1.91 in.	1.91 in.
Gain (dB)	1.0	Log

Screen: Half Path | 25 dB Booster: Inactive

Field Simulator: CS Romose | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-19.5 dB
Sweep	1.01"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0847	4/11/2005	PIL 78	RJ
Verified	1528	4/22/2005	CAL-RHOM-095	SG
Verified	2224	4/22/2005	CAL-RHOM-095	MW
Verified	1030	4/23/2005	CAL-RHOM-095	RJ
Final	0120	4/24/2005	CAL-RHOM-095	PK

Channel Name: 03-341 45° Shear P2

General

Timebase: Start 0.0 in. | Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pulse Echo
Pulser: P2 | Receiver: N/A
Voltage: 300 V | Scale Type: LOG
Width (Ns): 333 ns | Rectification: Unsigned
Smoothing: 2 MHz

Probe

Wave Type: Transverse | Scan offset: 0.00 in.
Velocity: 0.1240 in./sec. | Index offset: 0.00 in.
Wedge Delay: 11.778 µsec. | Angle: 45°
Skew: 0/180

N2 - 45° Shear - Ax/Circ Scan
Ax scan offset: 0 Index offset: -2.60
Circ scan offset: -2.60 Index offset: 0
Calibration verification at 1703, 4/23/04, Block CAL-RHOM-095

Robert Scott Getz (Operator)	II (Level)	4/22/2005 (Date)	Utility Review	III (Level)	4/28/05 (Date)
Analyst	III (Level)	4/25/05 (Date)	ANII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Weld: 2R-N2E-1

Report Number: APR-009

Calibration Sheet No.: APC-072

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRF: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)	
Search Unit	RTD (Manufacturer)	04-302 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	45° / RL (Angle / Mode)	1.0" (FD,FS/SA,RA)	45° (Measured Angle) / 0.55" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	PIL-78 (Serial No.)	SS/INC (Material)	1.3" (Nominal Thickness)	1.3" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	82.4%	-32.0 dB	-7.2 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	23.0	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-5.3 dB
Sweep	1.04"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0900	4/11/2005	PIL 78	RJ
Verified	1526	4/22/2005	CAL-RHOM-095	SG
Verified				
Verified				
Final	2223	4/22/2005	CAL-RHOM-095	MW

Channel Name: 45° RL 04-302 P1/R1

General

Timebase: Start 0.0 in. | Range 4.0 in.

Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit

Averaging: 1 | Acquisition Rate: 301 Hz

Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P1	Receiver	R1
Voltage	300 V	Scale Type	LOG
Width (Ns)	250 ns	Rectification	Unsigned
		Smoothing	2 MHz

Probe

Wave Type	Longitudinal	Scan offset	0.00 in.
Velocity	0.2272 in./sec.	Index offset	0.00 in.
Wedge Delay	9.675 µsec.	Angle	45°
		Skew	0/180

N2 - 45° RL - Ax Scan

Robert Scott Getz (Operator)	II (Level)	4/22/2005 (Date)	Utility Review	III (Level)	4/28/05 (Date)
Analyst	II (Level)	4/25/05 (Date)	ANII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power Unit: 1 Project: RF-015

Weld: 2R-N2E-1

Report Number: APR-009
Calibration Sheet No.: APC-073

Procedure No.: TP04-016 (GE-UT-209) Version: R1 (V17) DRR: N/A

Instrument	Zetec / uTomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	04-310	2(10x18) mm	1.0 MHz	45° / RL	0.84"	45°	0.55"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	PIL-78	SS/INC	1.3"	1.3"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241878	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	83.9%	-46.4 dB	-23.5 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	37	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Rompas S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-17.3 dB
Sweep	1.0"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0706	4/23/2005	PIL 78	RJ
Verified	1026	4/23/2005	CAL-RHOM-095	RJ
Verified	1700	4/23/2005	CAL-RHOM-095	SG
Verified				
Final	0120	4/24/2005	CAL-RHOM-095	PK

Channel Name: 45° RL 04-310 P1/R1

General

Timebase: Start 0.0 in. Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse ☑ A Scan Sample Size: 8 Bit
Averaging: 1 Acquisition Rate: 301 Hz
Digitizing Frequency: 6.25 MHz Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P1 Receiver: R1
Voltage: 300 V Scale Type: LOG
Width (Ns): 500 ns Rectification: Unsigned
Smoothing: 1 MHz

Probe

Wave Type: Longitudinal Scan offset: 0.00 in.
Velocity: 0.2272 in./sec. Index offset: 0.00 in.
Wedge Delay: 12.318 usec. Angle: 45°
Skew: 0/180

N2 - 45° RL - Circ Scan

Robert Scott Getz (Operator)	II (Level)	4/22/2005 (Date)	Utility Review	III (Level)	4/28/05 (Date)
Analyst	III (Level)	4-25-05 (Date)	ANIII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-009
Calibration Sheet No.: APC-074

Weld: 2R-N2E-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)		
Search Unit	RTD (Manufacturer)	04-305 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	60° / RL (Angle / Mode)	0.77" (FD,FS/SA,RA)	61° (Measured Angle)	0.52" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	CAL-DPTH-063 (Serial No.)	SS (Material)	0.8" (Nominal Thickness)	0.8" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.80 in.	0.80 in.	0.80 in.
Amplitude / dB	81.5%	-33.9 dB	-9.4 dB
Sweep	1.65 in.	1.65 in.	1.65 in.
Gain (dB)	24	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Romose | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-7.2 dB
Sweep	1.55"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0920	4/11/2005	CAL-DPTH-063	RJ
Verified	1531	4/22/2005	CAL-RHOM-095	SG
Verified				
Verified				
Final	2226	4/22/2005	CAL-RHOM-095	MW

Channel Name: 60° RL 04-305 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P3 | Receiver: R3
Voltage: 300 V | Scale Type: LOG
Width (Ns): 250 ns | Rectification: Unsigned
Smoothing: 2 MHz

Probe

Wave Type: Longitudinal | Scan offset: 0.00 in.
Velocity: 0.2272 in./sec. | Index offset: -5.20 in.
Wedge Delay: 10.637 µsec. | Angle: 60°
Skew: 0/180

N2 - 60° RL - Ax Scan

Robert Scott Getz (Operator)	II (Level)	4/22/2005 (Date)	Utility Review	III (Level)	4/28/05 (Date)
Analyst	III (Level)	4-25-05 (Date)	ANIII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-009
Calibration Sheet No.: APC-075

Weld: 2R-N2E-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	00-349	2(10x18) mm	1.0 MHz	60° / RL	0.59"	60°	0.50"

Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)

Calibration Standard	CAL-DPTH-063 (Serial No.)	SS (Material)	0.6" (Nominal Thickness)	0.6" (Measured Thickness)

Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.60 in.	0.60 in.	0.60 in.
Amplitude / dB	84.3%	-42.0 dB	-18.8 dB
Sweep	1.18 in.	1.18 in.	1.18 in.
Gain (dB)	32	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Near SDH	N/A
Max Amplitude/dB	-18.8 dB	N/A
Sweep	0.78"	N/A
Gain (dB)	+ Log	N/A

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0733	4/23/2005	CAL-DPTH-063	RJ
Verified	1025	4/23/2005	CAL-RHOM-095	RJ
Verified	1705	4/23/2005	CAL-RHOM-095	SG
Verified				
Final	0120	4/24/2005	CAL-RHOM-095	PK

Channel Name: 60° RL 00-349 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P3	Receiver	R3
Voltage	300 V	Scale Type	LOG
Width (Ns)	500 ns	Rectification	Unsigned
		Smoothing	1 MHz

Probe

Wave Type	Longitudinal	Scan offset	-5.20 in.
Velocity	0.2272 in./sec.	Index offset	0.00 in.
Wedge Delay	9.597 usec.	Angle	60°
		Skew	0/180

N2 - 60° RL - Circ Scan

Robert Scott Getz (Operator)	II (Level)	4/22/2005 (Date)	Utility Review	III (Level)	4/28/05 (Date)
Analyst	III (Level)	4-25-05 (Date)	ANIII Review		4/28/05 (Date)

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: APR-011

Site: Pilgrim Nuclear Power Station Component ID: 2R-N2G-1

Outage: RF-015 SAFE END TO NOZZLE

System RPV ASME Cat.: B-F ASME Item B5.10 Aug Req N/A

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° / S	N/A	APC-059	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Kyle Davidson	I-L	4/25/2005
45° / RL	N/A	APC-060	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Kyle Davidson	I-L	4/25/2005
45° / RL	N/A	APC-061	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Kyle Davidson	I-L	4/25/2005
60° / RL	N/A	APC-062	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Kyle Davidson	I-L	4/25/2005
60° / RL	N/A	APC-063	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Kyle Davidson	I-L	4/25/2005
N/A	APD-006	N/A	TP04-016 (GE-UT-209) R1 (V17)	N/A	Kyle Davidson	I-L	4/25/2005

Examination Results:

During the automated ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC were recorded with the "SMART 2000" system utilizing a 45° shear wave, 45° and 60° refracted longitudinal wave search units.

The 45° shear wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, inside surface geometry, beam redirect and non-relevant indications were recorded.

The 45° RL wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, acoustic interface, welding discontinuity, inside surface geometry and non-relevant indications were recorded.

The 60° RL wave examinations were performed from both the upstream and downstream sides of the weld. Acoustic interface, inside surface geometry, welding discontinuity, and non-relevant indications were recorded.

A welding discontinuity was detected and sized to IWB 3514-1. It was found to be acceptable. The indication had the following parameters:
Length: 8.83"-12.43"
Through wall: none
This indication was recorded but not reported in the previous automated data.

The outside surface weld crown did not meet procedure requirements from 0" to 4", 23" to 28", 31" to 34" and 38" to 42" circumferentially.
71.8% procedural coverage obtained.
75.3% code coverage obtained.

Previous automated electronic data and automated reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 97-E-357 *from* 1997 *outage with* ☐ *No Change*

These examinations were performed under Work Order: 03116627 ☑ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-27-05

Utility Review: [signature] UT Lvl. III Date: 4-28-05

ANII Review: [signature] Date: 4/29/05

RWP: 0082

Dose: 1250 mr.

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-011

System: RPV

Component ID Number: 2R-N2G-1

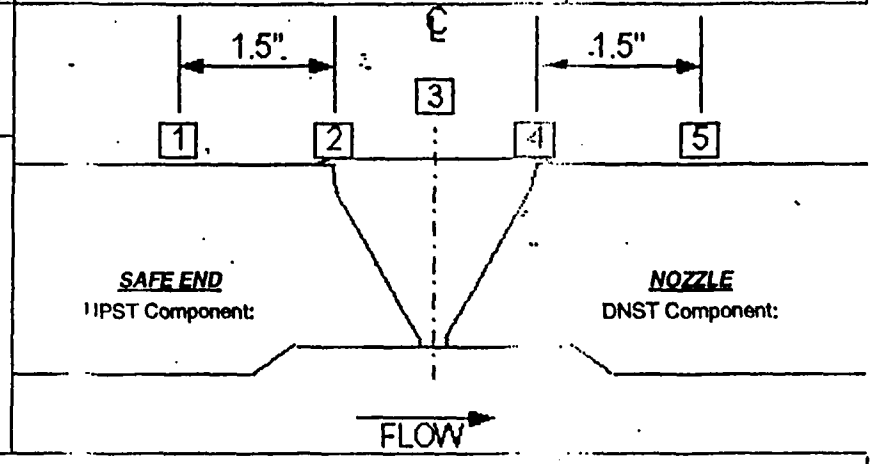
Position	0°	90°	180°	270°
1	1.18"	N/A	N/A	N/A
2	1.17"	N/A	N/A	N/A
3	1.20"	N/A	N/A	N/A
4	1.14"	N/A	N/A	N/A
5	1.16"	N/A	N/A	N/A

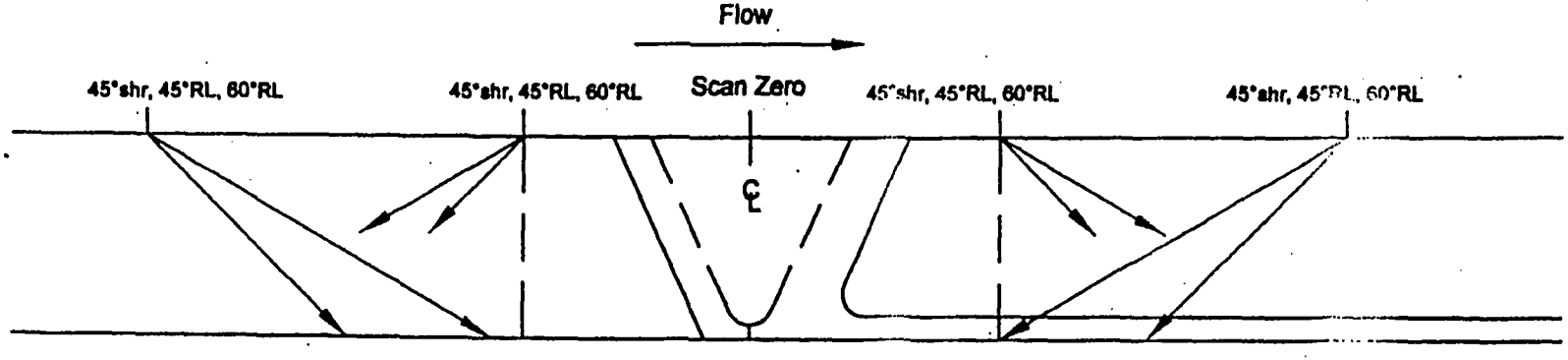
Crown Height: FLUSH

Crown Width: 1.4"

Nominal Diameter: 12.0"

Weld Length: 42.25"





Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.0"
Bottom of SE taper to Inc/CS interface = 8.0"

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
CB Charles Barrett	II	4/25/2005	[signature]	III	4-27-05	[signature]	4-28-05	[signature]	4/29/05

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-016

Report No.: APR-011

System: RPV

Component ID Number: 2R-N2G-1

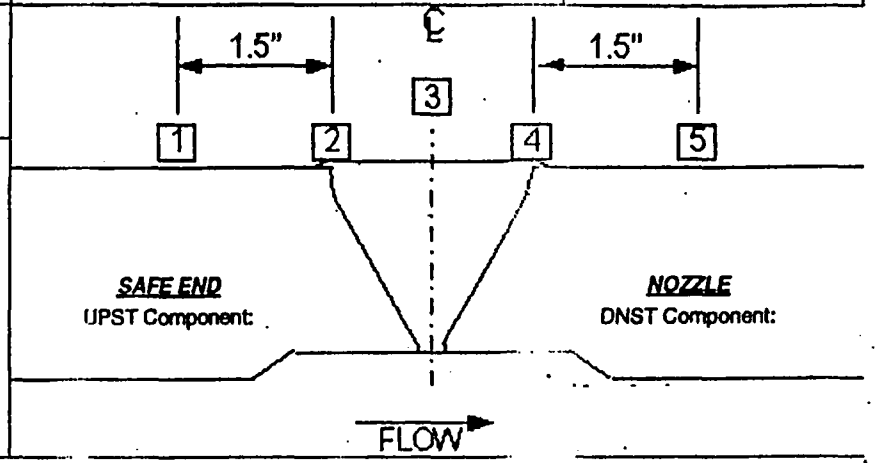
Position	0°	90°	180°	270°
1	1.18"	N/A	N/A	N/A
2	1.17"	N/A	N/A	N/A
3	1.20"	N/A	N/A	N/A
4	1.14"	N/A	N/A	N/A
5	1.16"	N/A	N/A	N/A

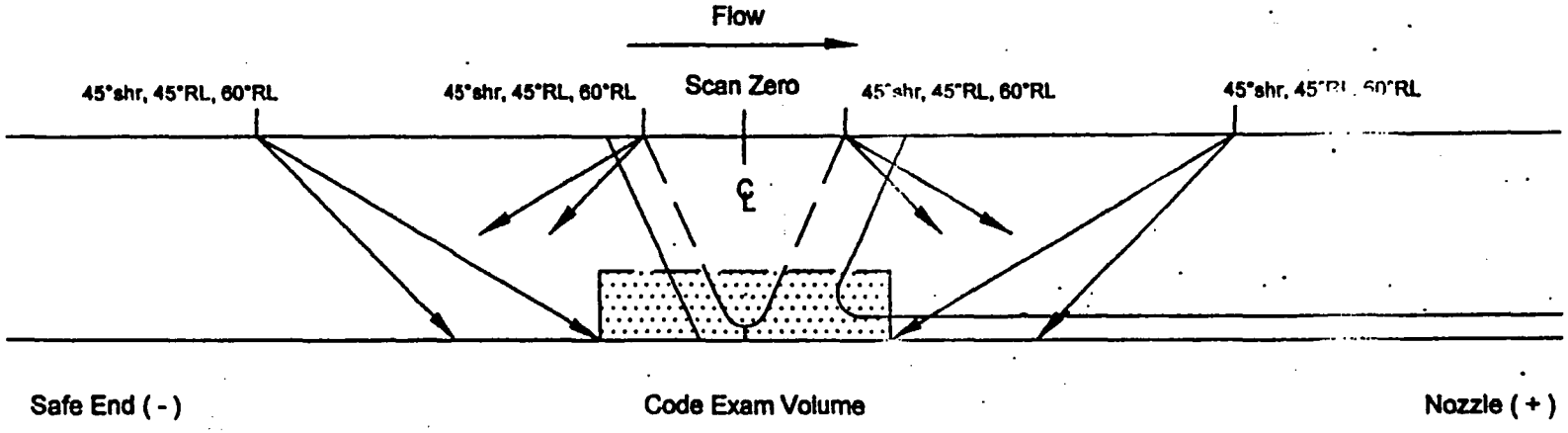
Crown Height: FLUSH

Crown Width: 1.4"

Nominal Diameter: 12.0"

Weld Length: 42.25"





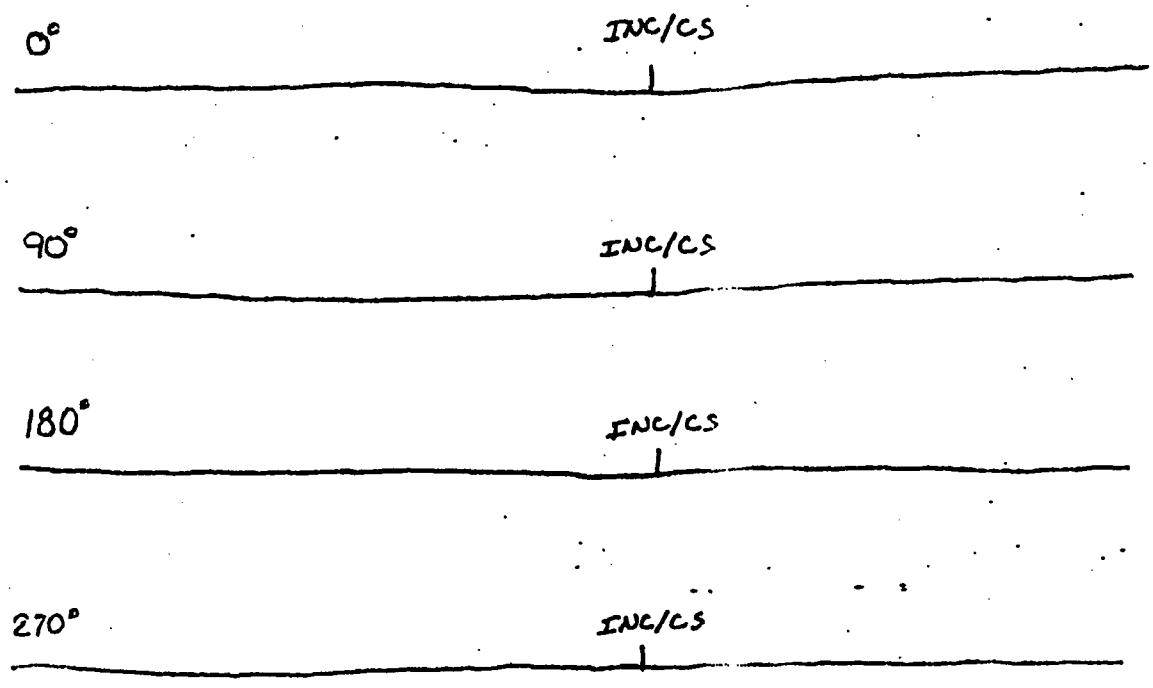
Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.0"
Bottom of SE taper to Inc/CS interface = 8.0"

Initials:	Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
CB	Charles Barrett	II	4/25/2005	[signature]	III	4-27-05	[signature] UT Lvl. III	4-28-05	[signature]	4/29/05

Page 152/240

GE ENERGY, NUCLEAR	Indication / Coverage Plot Sheet	Site: Pilgrim Nuclear Power Station Unit: 1 Project: RF-015	Report Number.: APR-011

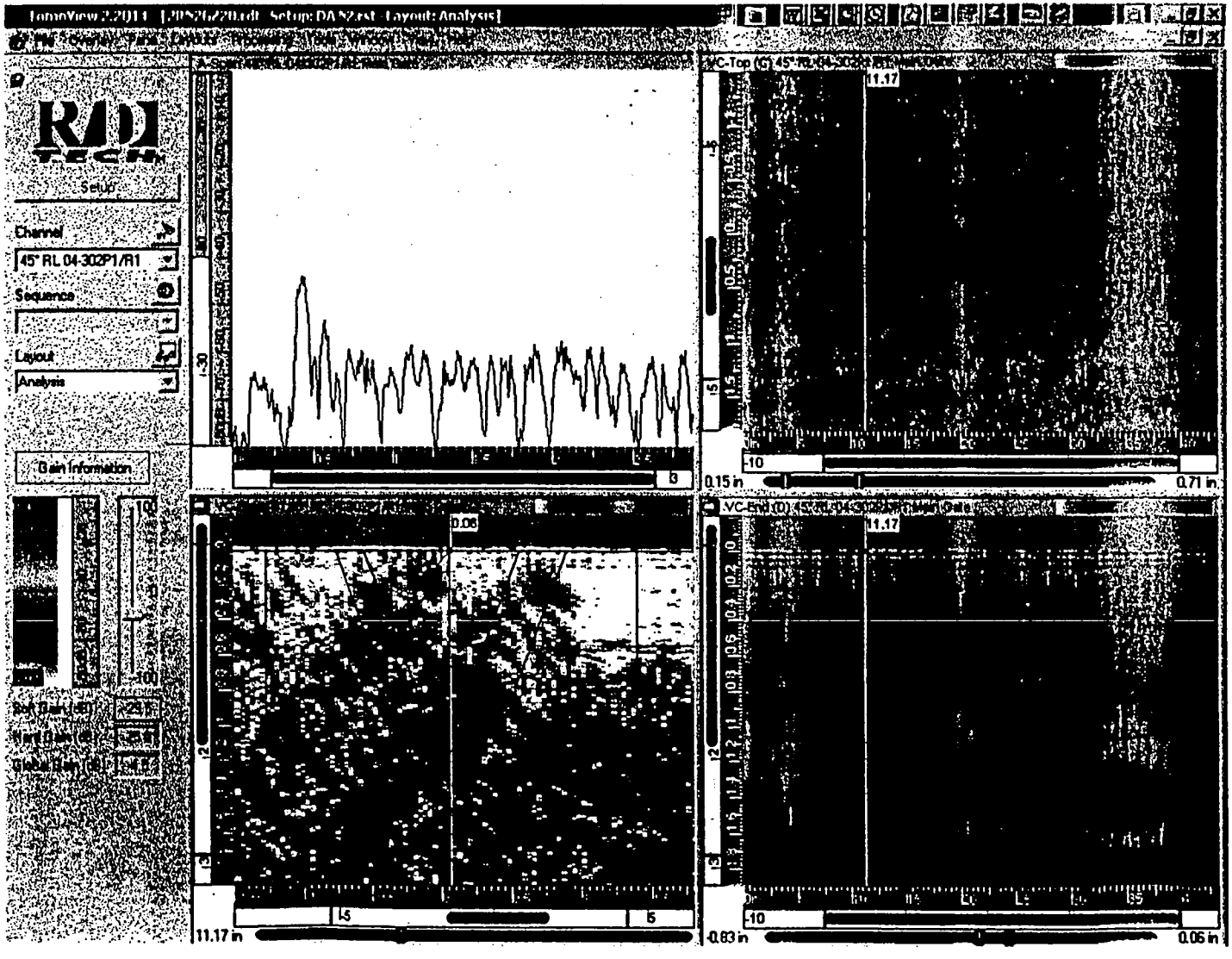
System: RPV Component ID Number: 2R-N2G-1 Configuration: SAFE END NOZZLE



Charles Barrett	II	4/25/2005			4-27-05		4-28-05		4/28/05
Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Reviewed By:		Date:	ANII Reviewed By:	Date:

N2G Safe End to Nozzle

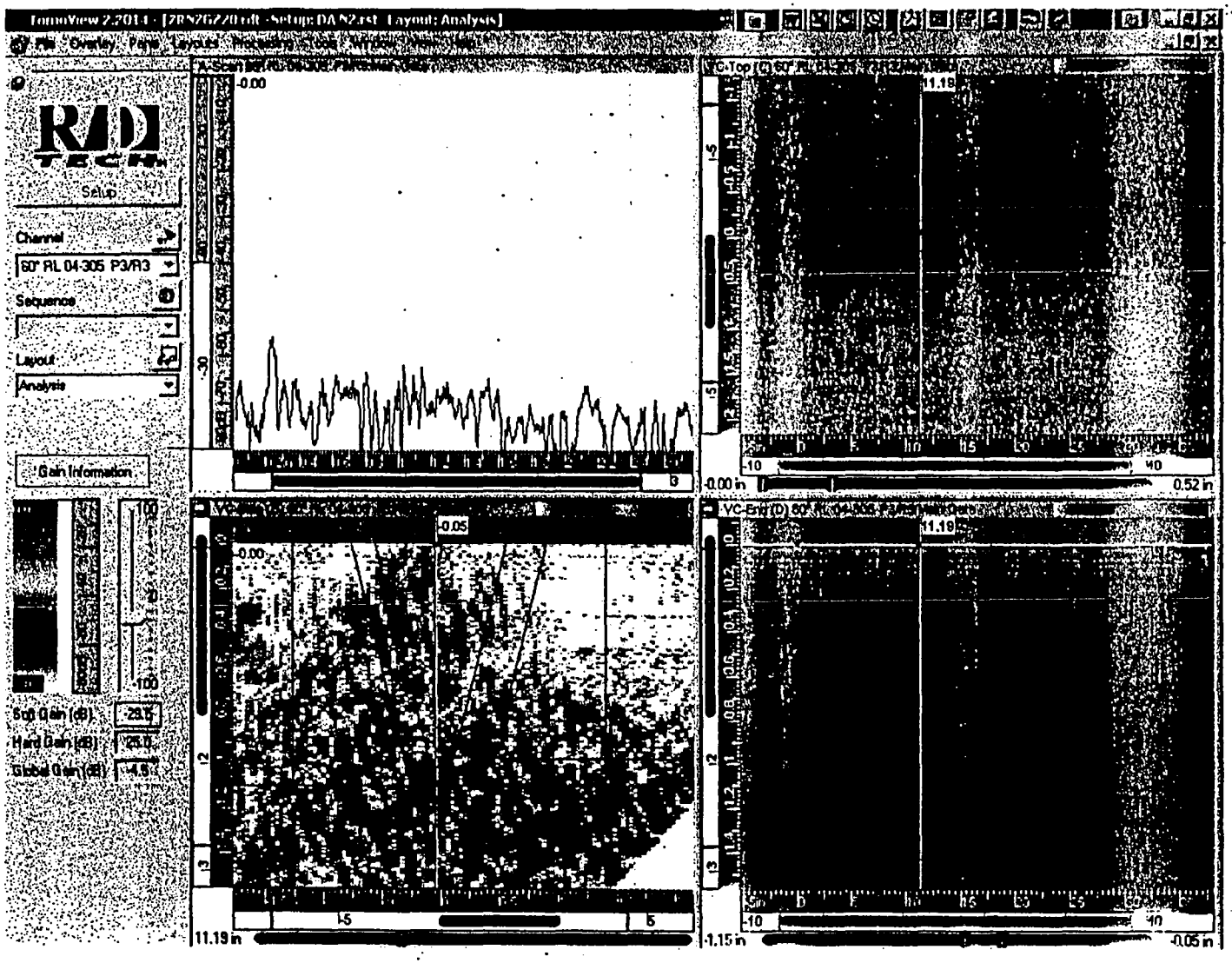
45°RL LKUP Welding Discontinuity



Page 154/240

N2G Safe End to Nozzle

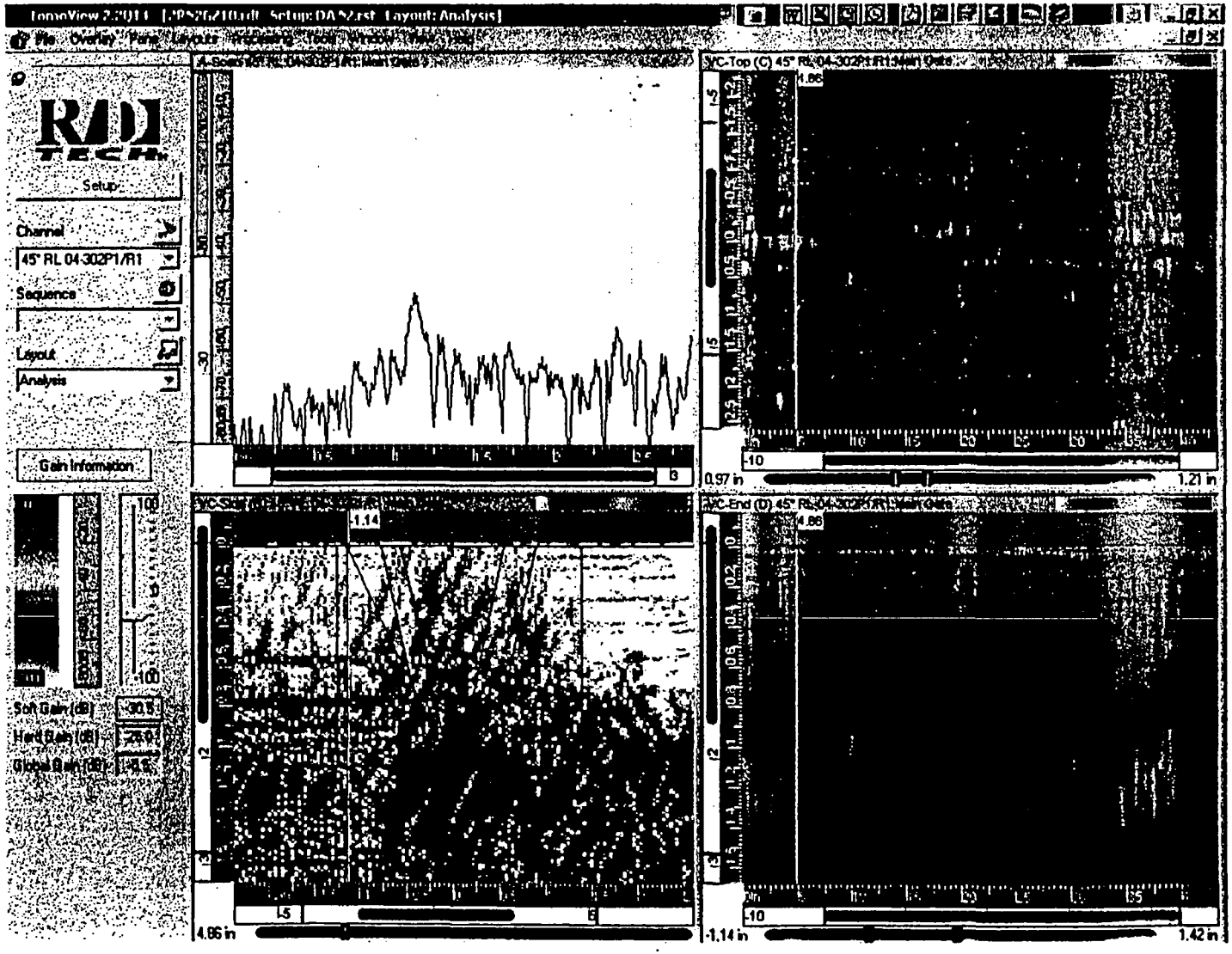
60°RL LKUP Welding Discontinuity



Page 155/240

N2G Safe End to Nozzle

45°RL LKUP Root Geometry



Page 15 of 240

GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power Station	Procedure: TP04-016 (GE-UT-209)	System: RPV	Report No.: APR-011
Unit: 1	Version / Revision: R1 (V17)	Weld No.: 2R-N2G-1	Data Sheet No.: APD-006
Project No.: RF-015	DRR: N/A	Configuration: SAFE END TO NOZZLE	Calibration Sheet No.

Scanner Information

Weld Reference, (GE-ADM-1005) : Lo: TDC Wo: Weld Centerline Motor Steps: Cir: 2092 Tra: 2500

Examination Surface: OD Exam Surface Temperature: 72 °F Thermometer S/N: 241878 Exam Start : 4/25/2005 4:20:00 AM

Exam End : 4/25/2005 10:16:00 PM

Nominal Pipe Size 12" Nominal Thickness: 1.07" Weld Width: 1.12" Weld Length: 42"

Scanner: NOVA Track Diameter: 16" Arm Length: 18" Track Location: 7.5" UPST OF SE TAPER

X Positive Scan Direction: DOWNSTREAM Y Positive Scan Direction: CW

Resolution: ≤ 0.036" Index Ax / Circ: ≤ 0.18" ≤ 0.048" Axial Scan Speed: ≤ 1.94 in./Sec. Circ Scan Speed: ≤ 0.98 in./Sec.

Scanner Zero Positions: CIR: TOP DEAD CENTER TRA: WELD CENTERLINE ROT Zero: LOOKING DOWNSTREAM

Scan Parameters and Results

Scan:	Skew:	File ID:	Disk:	X-Start:	X-Stop:	Y-Start:	Y-Stop:	Gain:	Results:	Comments:
Z10	0	2RN2GZ10	D-10	-4.1"	2.2"	0.0"	43.0"	Log	C,D,E,H	Uni-directional
Z20	180	2RN2GZ20	D-10	-2.4"	4.1"	0.0"	43.0"	Log	C,D,G,E	Uni-directional
Z30	0	2RN2GZ30	D-10	0.0"	43.0"	-2.7"	2.9"	Log	C	Uni-directional
Z40	180	2RN2GZ40	D-10	0.0"	43.0"	-0.6"	2.9"	Log	C	Uni-directional - Downstream side
Z42	180	2RN2GZ42	D-10	0.0"	43.0"	-2.7"	1.1"	Log	C	Upstream side

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
B - NON-GEOMETRIC INDICATIONS
C - NON-RELEVANT INDICATIONS
D - ACOUSTIC INTERFACE
E - INSIDE SURFACE
F - OUTSIDE SURFACE
G - WELD DISCONTINUITY
H - ROOT GEOMETRY
I - COUNTERBORE
J - SHEAR COMPONENT
K - BEAM RE-DIRECT

Comments:

High weld crown from a 'L' of 0"- 4", 23"- 28", 31"- 34" and 38"- 42". These areas do not meet the requirements of the procedure.

Kyle Davidson	I-L	4/25/2005		III	4-27-05		UT LVL III	4-28-05		4/28/05
Examiner:	Level:	Date:	GE Review:	Level:	Date:	Utility Review:		Date:	ANII Review:	Date:

Page 157/240

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Weld: 2R-N2G-1

Report Number: APR-011

Calibration Sheet No.: APC-059

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRF: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board: R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)	

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	03-341	Ell(24x17) mm	1.5 MHz	45° / S	N/A	45°	0.52"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	PIL-78	SS	1.3"	1.3"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241878	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ
Type	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.
Amplitude / dB	85.4%	-9.4 dB
Sweep	1.91 in.	1.91 in.
Gain (dB)	1.0	Log

Screen: Half Path | 25 dB Booster: Inactive

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-19.5 dB
Sweep	1.01"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0847	4/11/2005	PIL 78	RJ
Verified	0250	4/25/2005	CAL-RHOM-095	SG
Verified	0735	4/25/2005	CAL-RHOM-095	SG
Verified	1842	4/25/2005	CAL-RHOM-095	KD
Final	2214	4/25/2005	CAL-RHOM-095	KD

Channel Name: 03-341 45° Shear P2

General

Timebase: Start 0.0 in. | Range 4.0 in.

Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit

Averaging: 1 | Acquisition Rate: 301 Hz

Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pulse Echo

Pulser	P2	Receiver	N/A
Voltage	300 V	Scale Type	LOG
Width (Ns)	333 ns	Rectification	Unsigned
		Smoothing	2 MHz

Probe

Wave Type	Transverse	Scan offset	-2.60 in.
Velocity	0.1240 in./sec.	Index offset	0.00 in.
Wedge Delay	11.778 µsec.	Angle	45°
		Skew	0/180

N2 - 45° Shear - Ax/Circ Scan
Ax: Scan offset - 0.0" Index offset -2.6"
Circ: Scan offset - 2.6" Index offset 0.0"

Kyle Davidson (Operator)	I-L (Level)	4/25/2005 (Date)	Utility Review	UT III (Level)	4-28-05 (Date)
Analyst	III (Level)	4-27-05 (Date)	ANII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-011
Calibration Sheet No.: APC-060

Weld: 2R-N2G-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)		
Search Unit	RTD (Manufacturer)	04-302 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	45° / RL (Angle / Mode)	1.00" (FD,FS/SA,RA)	45° (Measured Angle)	0.55" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	PIL-78 (Serial No.)	SS/NC (Material)	1.3" (Nominal Thickness)	1.3" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	82.4%	-32.0 dB	-7.2 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	23.0	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-5.3 dB
Sweep	1.04"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0900	4/11/2005	PIL 78	RJ
Verified	1840	4/25/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	2216	4/25/205	CAL-RHOM-095	KD

Channel Name: 45° RL 04-302 P1/R1

General

Timebase: Start 0.0 in. | Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P1	Receiver	R1
Voltage	300 V	Scale Type	LOG
Width (Ns)	250 ns	Rectification	Unsigned
		Smoothing	2 MHz

Probe

Wave Type	Longitudinal	Scan offset	0.00 in.
Velocity	0.2272 in./sec.	Index offset	0.00 in.
Wedge Delay	9.675 µsec.	Angle	45°
		Skew	0/180

N2 - 45° RL - Ax Scan

Kyle Davidson (Operator)	I-L (Level)	4/25/2005 (Date)		UT (Utility Review)	III. (Level)	4-28-05 (Date)	
Analyst	II. (Level)	4-27-05 (Date)		ANIII Review		4/29/05 (Date)	Page 10 of 14

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-011
Calibration Sheet No.: APC-061

Weld: 2R-N2G-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRF: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)	
Search Unit	RTD (Manufacturer)	04-310 (Serial No.)	2(10x18) mm (Element Size)	1.0 MHz (Freq. (MHz))	45° / RL (Angle / Mode)	0.84" (FD,FS/SA,RA)	45° (Measured Angle)	0.55" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	PIL-78 (Serial No.)	SS/INC (Material)	1.3" (Nominal Thickness)	1.3" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	83.9%	-46.4 dB	-23.5 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	37	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-17.3 dB
Sweep	1.0"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0708	4/23/2005	PIL 78	RJ
Verified	0255	4/25/2005	CAL-RHOM-095	SG
Verified	0732	4/25/2005	CAL-RHOM-095	SG
Verified				
Final	1840	4/25/2005	CAL-RHOM-095	KD

Channel Name: 45° RL 04-310 P1/R1

General

Timebase: Start 0.0 in. | Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P1	Receiver	R1
Voltage	300 V	Scale Type	LOG
Width (Ns)	500 ns	Rectification	Unsigned
		Smoothing	1 MHz

Probe

Wave Type	Longitudinal	Scan offset	0.00 in.
Velocity	0.2272 in./sec.	Index offset	0.00 in.
Wedge Delay	11.170 µsec.	Angle	45°
		Skew	0/180

N2 - 45° RL - Circ Scan

Kyle Davidson (Operator)	I-L (Level)	4/25/2005 (Date)		Utility Review	ZIT (Level)	4-28-05 (Date)	
Analyst	III (Level)	4-27-05 (Date)		ANII Review		4/28/05 (Date)	Page 11 of 14

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-011
Calibration Sheet No.: APC-062

Weld: 2R-N2G-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)		18121-09 (System Serial No.)			2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)		Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)	
Search Unit	RTD (Manufacturer)	04-305 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	60° / RL (Angle / Mode)	0.77" (FD,FS/SA,RA)	61° (Measured Angle)	0.52" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)		250' / 25' / 3' (Length)		2 (No. of Intermediate Connectors)			
Calibration Standard	CAL-DPTH-063 (Serial No.)		SS (Material)		0.8" (Nominal Thickness)		0.8" (Measured Thickness)	
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)		N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.80 in.	0.80 in.	0.80 in.
Amplitude / dB	81.5%	-33.9 dB	-9.4 dB
Sweep	1.65 in.	1.65 in.	1.65 in.
Gain (dB)	24	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-7.2 dB
Sweep	1.55"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0920	4/11/2005	CAL-DPTH-063	RJ
Verified	1844	4/25/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	2212	4/25/2005	CAL-RHOM-095	KD

Channel Name: 60° RL 04-305 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro.: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P3	Receiver	R3
Voltage	300 V	Scale Type	LOG
Width (Ns)	250 ns	Rectification	Unsigned
		Smoothing	2 MHz

Probe

Wave Type	Longitudinal	Scan offset	0.00 in.
Velocity	0.2272 in./sec.	Index offset	-5.20 in.
Wedge Delay	10.637 µsec.	Angle	60°
		Skew	0/180

N2 - 60° RL - Ax Scan

Kyle Davidson (Operator)	I-L (Level)	4/25/2005 (Date)		UT (Utility Review)	III (Level)	4-28-05 (Date)	
Analyst	III (Level)	4-27-05 (Date)		ANII Review		4/28/05 (Date)	Page 12 of 14

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-011
Calibration Sheet No.: APC-063

Weld: 2R-N2G-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRF: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 096 (Manufacturer / Model)		
Search Unit	RTD (Manufacturer)	00-349 (Serial No.)	2(10x18) mm (Element Size)	1.0 MHz (Freq. (MHz))	60° / RL (Angle / Mode)	0.59" (FD,FS/SA,RA)	60° (Measured Angle)	0.50" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	CAL-DPTH-063 (Serial No.)	SS (Material)	0.6" (Nominal Thickness)	0.6" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.60 in.	0.60 in.	0.60 in.
Amplitude / dB	84.3%	-42.0 dB	-18.8 dB
Sweep	1.18 in.	1.18 in.	1.18 in.
Gain (dB)	32	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Near SDH	N/A
Max Amplitude/dB	-18.8 dB	N/A
Sweep	0.78"	N/A
Gain (dB)	+ Log	N/A

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0733	4/23/2005	CAL-DPTH-063	RJ
Verified	0300	4/25/2005	CAL-RHOM-095	KD
Verified	0738	4/25/2005	CAL-RHOM-095	SG
Verified				
Final	1844	4/25/2005	CAL-RHOM-095	KD

Channel Name: 60° RL 00-349 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P3 | Receiver: R3
Voltage: 300 V | Scale Type: LOG
Width (Ns): 500 ns | Rectification: Unsigned
Smoothing: 1 MHz

Probe

Wave Type: Longitudinal | Scan offset: -5.20 in.
Velocity: 0.2272 in./sec. | Index offset: 0.00 in.
Wedge Delay: 10.240 usec. | Angle: 60°
Skew: 0/180

Blue / System #1
N2 - 60° RL - Circ Scan

Kyle Davidson (Operator)	I-L (Level)	4/25/2005 (Date)	Utility Review	III (Level)	4-28-05 (Date)
Analyst	III (Level)	4-27-05 (Date)	ANIII Review		Date

GE Energy, Nuclear

Micro-Tomo (Smart 2000) - Auto Piping
Weld Examination Checklist

Pilgrim Unit 1, 2005
2R-N2G

2RN2GZ10 LKDN	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☑	☐	☑	KD	MW	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☑	☐	☑			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☑	☐	☑			MJK	MJK	MJK	

2RN2GZ20 LKUP	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☑	☐	☑	KD	KD	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☑	☐	☑			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☑	☐	☑			MJK	MJK	MJK	

2RN2GZ30 LKCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☑	☑	☐	SG	SG	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☑	☑	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☑	☑	☐			MJK	MJK	MJK	

2RN2GZ40 LKCCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☑	☑	☐	SG	SG	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☑	☑	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☑	☑	☐			MJK	MJK	MJK	

Notes: **Weld profile does not meet procedural requirements from 0"-4", 23"-28", 31"-34" and 38"-42"**

UT L-1 III 4-28-05

Page 163/240

GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.: APR-012

Site: Pilgrim Nuclear Power Station Component ID: 2R-N2J-1

Outage: RF-015 SAFE END TO NOZZLE

System RPV ASME Cat.: B-F ASME Item B5.10 Aug Req N/A

Exams Performed	Data Sheet	Cal Sheet	Procedure	Calibration Block	Examination Personnel	Cert Level	Date
45° / RL	N/A	APC-066	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Kyle Davidson	I-L	4/25/2005
45° / RL	N/A	APC-067	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Richard Jasken	II	4/27/2005
60° / RL	N/A	APC-068	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Kyle Davidson	I-L	4/25/2005
60° / RL	N/A	APC-069	TP04-016 (GE-UT-209) R1 (V17)	CAL-DPTH-063	Richard Jasken	II	4/27/2005
45° / S	N/A	APC-065	TP04-016 (GE-UT-209) R1 (V17)	PIL-78	Richard Jasken	II	4/27/2005
N/A	APD-008	N/A	TP04-016 (GE-UT-209) R1 (V17)	N/A	Richard Jasken	II	2/27/2005

Examination Results:

During the automated ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC or any reportable indications were recorded with the "SMART 2000" system utilizing a 45° shear wave and 45° & 60° refracted longitudinal wave search units.

The 45° shear wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, beam redirect and non-relevant indications were recorded.

The 45° RL wave examinations were performed from both the upstream and downstream sides of the weld. Root geometry, acoustic interface, inside surface geometry and non-relevant indications were recorded.

The 60° RL wave examinations were performed from both the upstream and downstream sides of the weld. Inside surface geometry and non-relevant indications were recorded.

The outside surface weld crown did not meet procedure requirements from 13" to 30" on the upstream side of weld centerline and from 0" to 42.0" on the downstream side of the weld centerline to a 'W' of 1.10".

65.7% procedural coverage was obtained.
75% code coverage was obtained.

Previous automated reports and drawings were reviewed prior to this summary.

Examination results were compared to data report 95-E-434 *from* 1995 *outage with* ☑ *No Change*

These examinations were performed under Work Order: 03116627 ☐ *Change*

This Summary and the following data sheets have been reviewed and accepted by the following personnel:

Prepared By: [signature] Level: III Date: 4-28-05

Utility Review: [signature] UT Lvl. III Date: 4-27-05

ANII Review: [signature] Date: 4/28/05

RWP: 0082

Dose: 1500 mr.

Page 164/240

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-012

System: RPV

Component ID Number: 2R-N2J-1

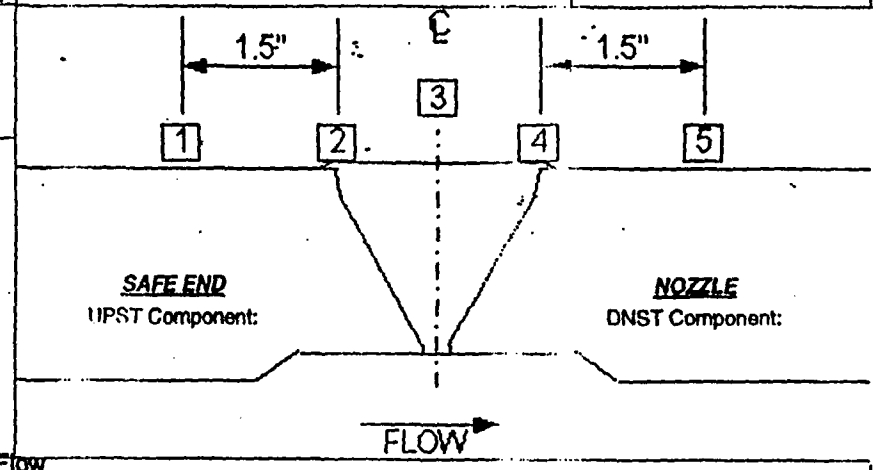
Position	0°	90°	180°	270°
1	1.11"	N/A	N/A	N/A
2	1.11"	N/A	N/A	N/A
3	1.13"	N/A	N/A	N/A
4	1.10"	N/A	N/A	N/A
5	1.14"	N/A	N/A	N/A

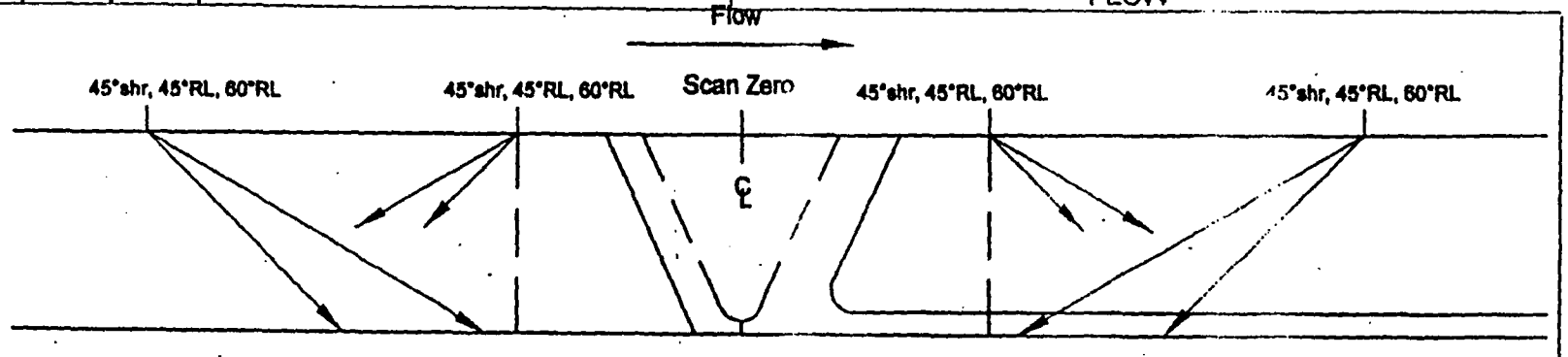
Crown Height: 0.1"

Crown Width: 1.8"

Nominal Diameter: 12.0"

Weld Length: 42.0"





Safe End (-) Procedural Exam Volume Nozzle (+)

Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.1"
Bottom of SE taper to Inc/CS interface = 7.5"

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Michael Krueger	III	4/27/2005		III	4-29-05	UT Lvl III	4-29-05		4/29/05

GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Project: RF-015

Report No.: APR-012

System: RPV

Component ID Number: 2R-N2J-1

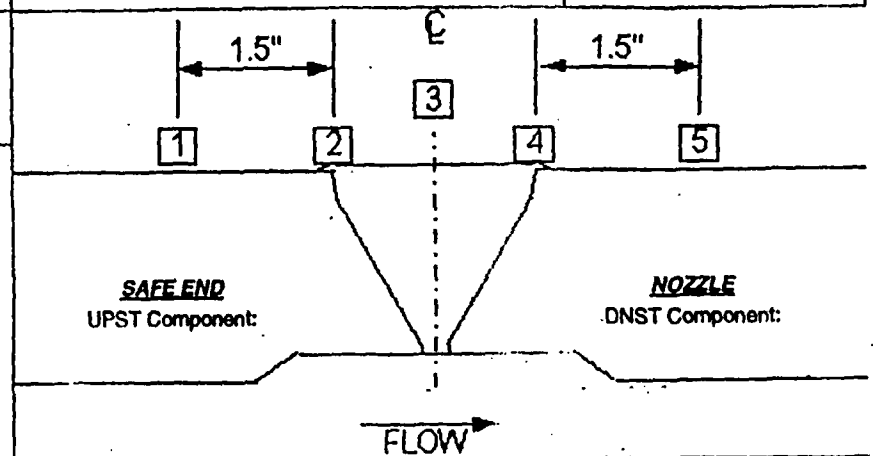
Position	0°	90°	180°	270°
1	1.11"	N/A	N/A	N/A
2	1.11"	N/A	N/A	N/A
3	1.13"	N/A	N/A	N/A
4	1.10"	N/A	N/A	N/A
5	1.14"	N/A	N/A	N/A

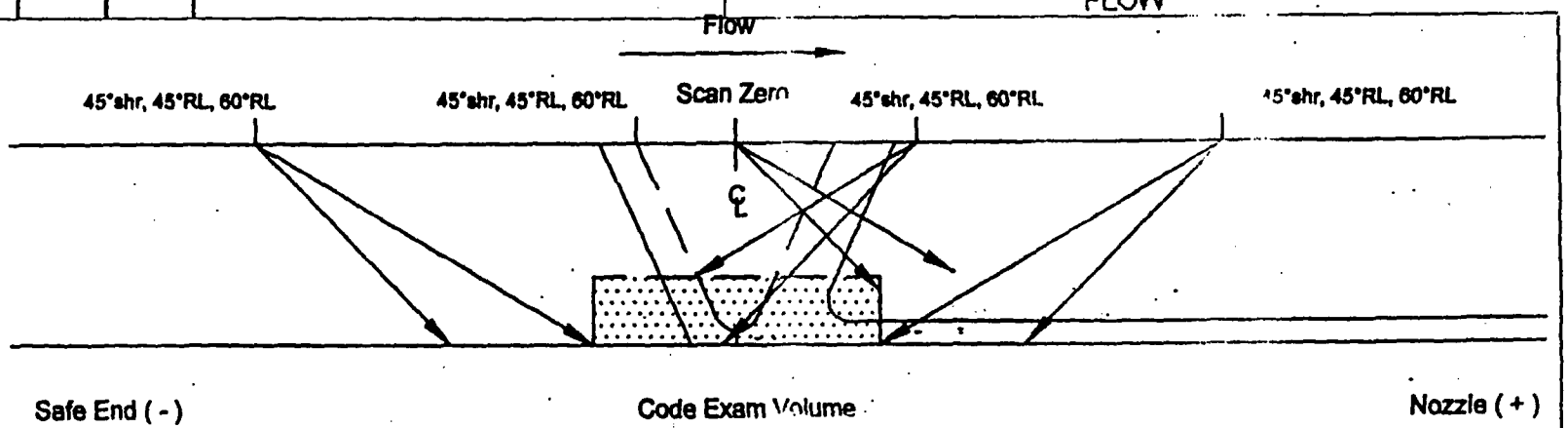
Crown Height: 0.1"

Crown Width: 1.8"

Nominal Diameter: 12.0"

Weld Length: 42.0"



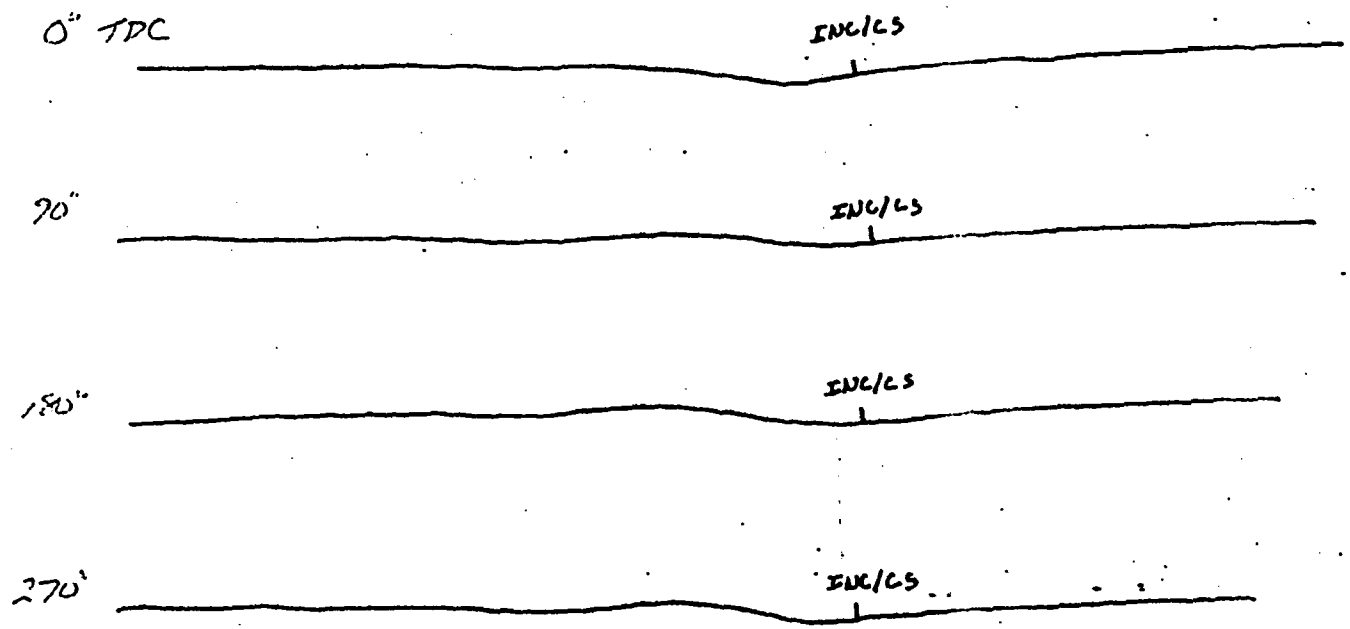


The scans above show the limited areas. The entire volume was scanned.
Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.1"
Bottom of SE taper to Inc/CS interface = 7.5"

Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Review:	Date:	ANII Review:	Date:
Michael Krueger	III	4/27/2005		III	4-29-05	UT Lvl. III	4-29-05		4/28/05

GE ENERGY, NUCLEAR	Indication / Coverage Plot Sheet	Site: Pilgrim Nuclear Power Station Unit: 1 Project: RF-015	Report Number.: APR-012

System: RPV Component ID Number: 2R-N2J-1 Configuration: SAFE END NOZZLE

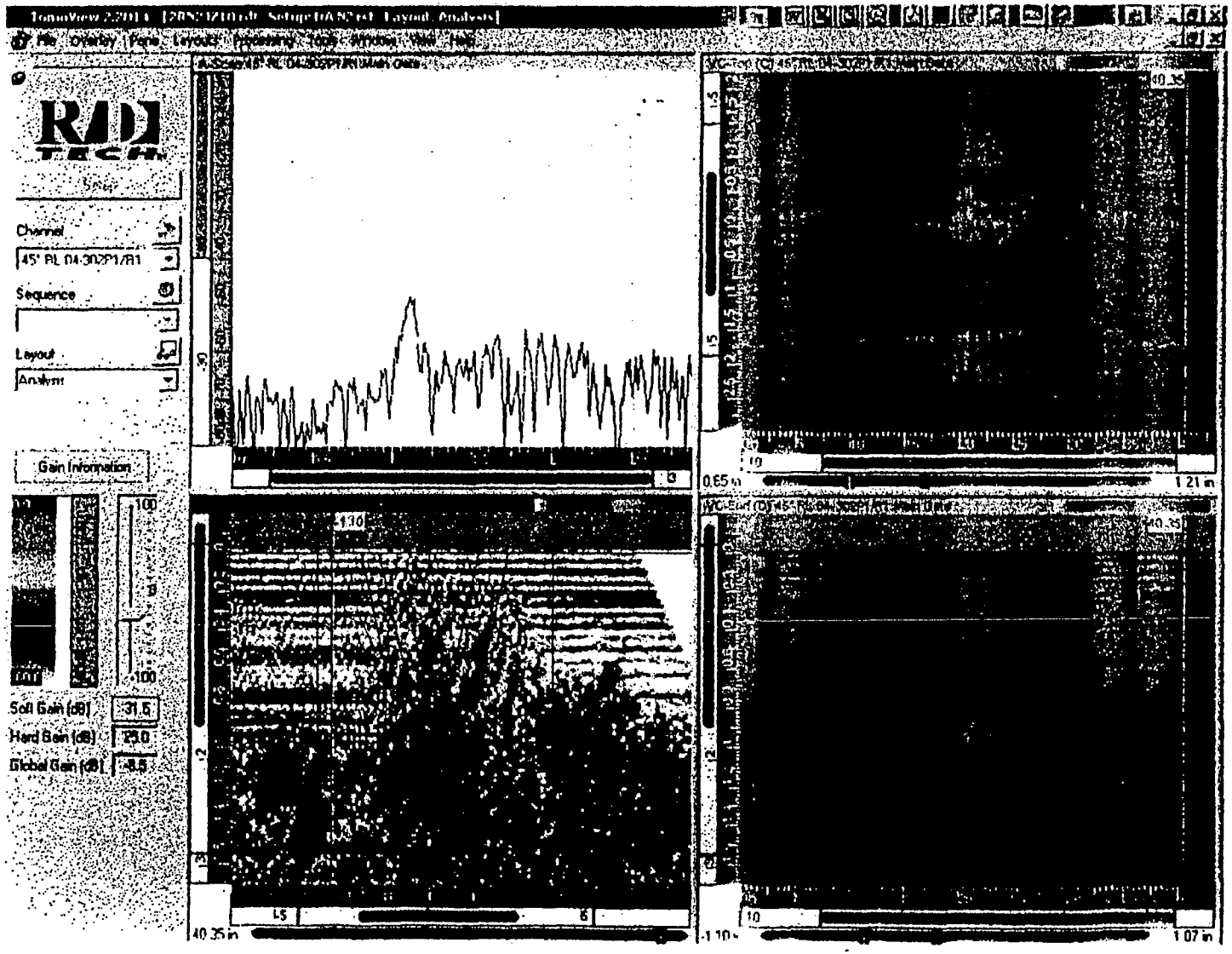


Initials: Examiner:	Level:	Date:	GE Reviewed By:	Level:	Date:	Utility Reviewed By:	Date:	ANII Reviewed By:	Date:
Micheel Krueger	III	4/27/2005		III	4-29-05	LVL III	4-29-05		4/29/05

Page 167/240

N2J Safe End to Nozzle

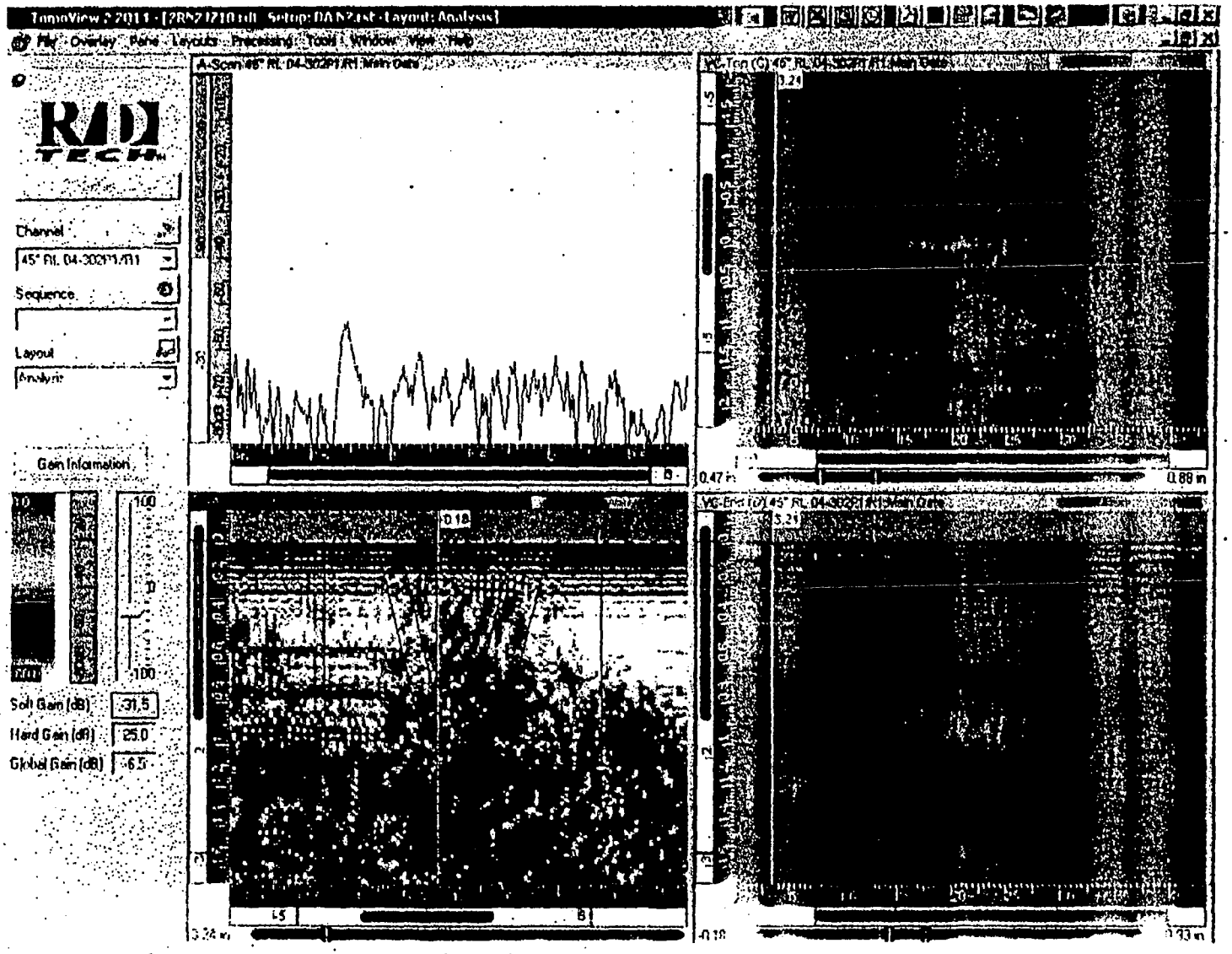
45°RL LKDN Root Geometry



Page 188/240

N2J Safe End to Nozzle

45°RL LKDN Acoustic Interface



Page 169/240

GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power Station	Procedure: TP04-016 (GE-UT-209)	System: RPV	Report No.: APR-012
Unit: 1	Version / Revision: R1 (V17)	Weld No.: 2R-N2J-1	Data Sheet No.: APD-008
Project No.: RF-015	DRR: N/A	Configuration: SAFE END TO NOZZLE	Calibration Sheet No.

Scanner Information

Weld Reference, (GE-ADM-1005): Lo: TDC Wo: Weld Centerline Motor Steps: Cir: 2076 Tra: 2500

Examination Surface: OD Exam Surface Temperature: 81 °F Thermometer S/N: 241878 Exam Start: 4/25/2005 11:30:00 PM

Exam End: 4/27/2005 11:07:00 AM

Nominal Pipe Size 12" Nominal Thickness: 1.10" Weld Width: 1.8" Weld Length: 42"

Scanner: NOVA Track Diameter: 16" Arm Length: 18" Track Location: 15.5" UPST FROM CS/INC INTERFACE

X Positive Scan Direction: DOWNSTREAM Y Positive Scan Direction: CW

Resolution: ≤ 0.036" Index Ax / Circ: ≤ 0.18" ≤ 0.049" Axial Scan Speed: ≤ 2.0 in./Sec. Circ Scan Speed: ≤ 1.0 in./Sec.

Scanner Zero Positions: CIR: TOP DEAD CENTER TRA: WELD CENTERLINE ROT Zero: LOOKING DOWNSTREAM

Scan Parameters and Results

Scan:	Skew:	File ID:	Disk:	X-Start:	X-Stop:	Y-Start:	Y-Stop:	Gain:	Results:	Comments:
Z10	0	2RN2JZ10	D-13	-4.1"	2.4"	0.0"	43.0"	Log	C,D,H,E	Uni-directional
Z20	180	2RN2JZ20	D-13	-2.4"	4.2"	0.0"	43.0"	Log	C,E	Uni-directional
Z30	0	2RN2JZ30	D-13	0.0"	43.0"	-2.7"	2.9"	Log	C,E	Uni-directional *
Z40	180	2RN2JZ40	D-13	0.0"	43.0"	-2.7"	2.9"	Log	C,E	Uni-directional *

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
B - NON-GEOMETRIC INDICATIONS
C - NON-RELEVANT INDICATIONS
D - ACOUSTIC INTERFACE
E - INSIDE SURFACE
F - OUTSIDE SURFACE
G - WELD DISCONTINUITY
H - ROOT GEOMETRY
I - COUNTERBORE
J - SHEAR COMPONENT
K - BEAM RE-DIRECT

Comments:

* Inside surface geometry outside the exam volume.
LKDN limited from a 'L' of 13" to 30" on the upstream side of the weld centerline due to the OD contour.
LKUP limited from a 'L' of 0" to 42.0" on the downstream side of the weld centerline due to the OD contour.

Richard Jasken II 4/27/2005	4-28-05	4-29-05	4/29/05
Examiner: Level: Date:	GE Review: Level: Date:	Utility Review: Date:	ANII Review: Date:

Page 170/240

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-012
Calibration Sheet No.: APC-065

Weld: 2R-N2J-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	03-341	Ell(24x17) mm	1.5 MHz	45° / S	N/A	45°	0.52"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	PIL-78	SS	1.3"	1.3"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241878	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ
Type	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.
Amplitude / dB	85.4%	-9.4 dB
Sweep	1.91 in.	1.91 in.
Gain (dB)	1.0	Log

Screen: Half Path | 25 dB Booster: Inactive

Field Simulator: CS Romoes | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-19.5 dB
Sweep	1.01"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0847	4/11/2005	PIL 78	RJ
Verified	2214	4/25/2005	CAL-RHOM-095	KD
Verified	0142	4/26/2005	CAL-RHOM-095	KD
Verified				
Final	1106	4/27/2005	CAL-RHOM-095	RJ

Channel Name: 03-341 45° Shear P2

General

Timebase: Start 0.0 in. | Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pulse Echo

Pulser	P2	Receiver	N/A
Voltage	300 V	Scale Type	LOG
Width (Ns)	333 ns	Rectification	Unsigned
		Smoothing	2 MHz

Probe

Wave Type	Transverse	Scan offset	
Velocity	0.1240 in./sec.	Index offset	
Wedge Delay	11.778 usec.	Angle	45°
		Skew	0/180

N2 - 45° Shear - Ax/Circ Scan
Ax scan offset 0.0° Index Offset -2.6°
Circ scan offset -2.60° Indiex Offset -2.7°

Richard Jasken (Operator)	II (Level)	4/27/2005 (Date)	UT (Utility Review)	III (Level)	4-29-05 (Date)
(Analyst)	II (Level)	4-28-05 (Date)	(ANII Review)		4/29/05 (Date)

Page 171/246

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-012
Calibration Sheet No.: APC-066

Weld: 2R-N2J-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / u Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 098 (Manufacturer / Model)	
Search Unit	RTD (Manufacturer)	04-302 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	45° / RL (Angle / Mode)	1.00" (FD,FS/SA,RA)	45° (Measured Angle)	0.55" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	PIL-78 (Serial No.)	SS/NC (Material)	1.3" (Nominal Thickness)	1.3" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	82.4%	-32.0 dB	-7.2 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	23.0	Log	+25 Log
Screen	Half Path	25 dB Booster	Active

Field Simulator: CS Romeas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-5.3 dB
Sweep	1.04"
Gain (dB)	Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0900	4/11/2005	PIL 78	RJ
Verified	2216	4/25/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	0140	4/26/2005	CAL-RHOM-095	KD

Channel Name: 45° RL 04-302 P1/R1

General

Timebase: Start 0.0 in. | Range 4.0 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P1 | Receiver: R1
Voltage: 300 V | Scale Type: LOG
Width (Ns): 250 ns | Rectification: Unsigned
Smoothing: 2 MHz

Probe

Wave Type: Longitudinal | Scan offset: 0.00 in.
Velocity: 0.2272 in./sec. | Index offset: 0.00 in.
Wedge Delay: 9.675 usec. | Angle: 45°
Skew: 0/180

N2 - 45° RL - Ax Scan

Kyle Davidson (Operator)	I-L (Level)	4/26/2005 (Date)	Utility Review	LIT (Level)	4-29-05 (Date)	
Analyst	III (Level)	4-28-05 (Date)	ANIII Review		4/28/05 (Date)	Page 9 of 13

Page 172/240

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015 | Report Number: APR-012 | Calibration Sheet No.: APC-067

Weld: 2R-N2J-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board: R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer: R/D Tech EQTX 098 (Manufacturer / Model)	

Search Unit	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
	RTD	04-310	2(10x18) mm	1.0 MHz	45° / RL	0.84"	45°	0.55"

Cable	Type	Length	No. of Intermediate Connectors
	RG-58/RG-58/RG-174	250' / 25' / 3'	2

Calibration Standard	Serial No.	Material	Nominal Thickness	Measured Thickness
	PIL-78	SS/INC	1.3"	1.3"

Thermometer	Serial No.	Temp (°F)	Couplant	Type	Batch No.
	241878	75 °F		Demin Water	N/A

Calibration

Orientation	Circ	Circ	Circ
Type	ID Notch	ID Notch	ID Notch
Depth	1.30 in.	1.30 in.	1.30 in.
Amplitude / dB	83.9%	-46.4 dB	-23.5 dB
Sweep	1.85 in.	1.85 in.	1.85 in.
Gain (dB)	37	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-17.3 dB
Sweep	1.0"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0708	4/23/2005	PIL 78	RJ
Verified	2212	4/25/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	1105	4/27/2005	CAL-RHOM-095	RJ

Channel Name: 45° RL 04-310 P1/R1

General

Timebase: Start 0.0 in. | Range 4.0 in.

Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit

Averaging: 1 | Acquisition Rate: 301 Hz

Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch

Pulser	P1	Receiver	R1
Voltage	300 V	Scale Type	LOG
Width (Ns)	500 ns	Rectification	Unsigned
		Smoothing	1 MHz

Probe

Wave Type	Longitudinal	Scan offset	0.00 in.
Velocity	0.2272 in./sec.	Index offset	-2.70 in.
Wedge Delay	11.170 µsec.	Angle	45°
		Skew	0/180

N2 - 45° RL - Circ Scan

Richard Jasken (Operator)	II (Level)	4/27/2005 (Date)	Utility Review	II	4-29-05 (Date)
Analyst	III (Level)	4-28-05 (Date)	ANII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-012
Calibration Sheet No.: APC-068

Weld: 2R-N2J-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)		18121-09 (System Serial No.)		2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)		Digitizer:	R/D Tech EQTX 096 (Manufacturer / Model)	
Search Unit	RTD (Manufacturer)	04-305 (Serial No.)	2(10x18) mm (Element Size)	2.0 MHz (Freq. (MHz))	60° / RL (Angle / Mode)	0.77" (FD,FS/SA,RA)	61° (Measured Angle)	0.52" (Incident to Wedge Front)
Cable	RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)				
Calibration Standard	CAL-DPTH-063 (Serial No.)	SS (Material)	0.8" (Nominal Thickness)	0.8" (Measured Thickness)			
Thermometer	241878 (Serial No.)	75 °F (Temp (°F))	Couplant	Demin Water (Type)	N/A (Batch No.)		

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.80 in.	0.80 in.	0.80 in.
Amplitude / dB	81.5%	-33.9 dB	-9.4 dB
Sweep	1.65 in.	1.65 in.	1.65 in.
Gain (dB)	24	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Romoss | S/N: CAL-RHOM-095

Reflector	Far SDH
Max Amplitude/dB	-7.2 dB
Sweep	1.55"
Gain (dB)	+ Log

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0920	4/11/2005	CAL-DPTH-063	RJ
Verified	2218	4/25/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	0150	4/26/2005	CAL-RHOM-095	KD

Channel Name: 60° RL 04-305 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 12.5 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P3 | Receiver: R3
Voltage: 300 V | Scale Type: LOG
Width (Ns): 250 ns | Rectification: Unsigned
Smoothing: 2 MHz

Probe

Wave Type: Longitudinal | Scan offset: 0.00 in.
Velocity: 0.2272 in./sec. | Index offset: -5.20 in.
Wedge Delay: 10.640 µsec. | Angle: 60°
Skew: 0/180

N2 - 60° RL - Ax Scan

Kyle Davidson (Operator)	I-L (Level)	4/26/2005 (Date)	Utility Review	III (Level)	4-29-05 (Date)
Analyst	III (Level)	4-28-05 (Date)	ANII Review		4/28/05 (Date)

GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site: Pilgrim Nuclear Power | Unit: 1 | Project: RF-015

Report Number: APR-012
Calibration Sheet No.: APC-069

Weld: 2R-N2J-1

Procedure No.: TP04-016 (GE-UT-209) | Version: R1 (V17) | DRR: N/A

Instrument	Zetec / µ Tomo (Manufacturer / Model)	18121-09 (System Serial No.)	2.2Q14 (Acquisition Software)	2.2Q14 (Analysis Software)	
Pulser/Receiver Main Board:	R/D Tech EQTX 100 (Manufacturer / Model)	Pulser/Receiver Piggy Board:	R/D Tech EQTX 101 (Manufacturer / Model)	Digitizer:	R/D Tech EQTX 096 (Manufacturer / Model)

Search Unit								
RTD (Manufacturer)	00-349 (Serial No.)	2(10x18) mm (Element Size)	1.0 MHz (Freq. (MHz))	60° / RL (Angle / Mode)	0.59" (FD,FS/SA,RA)	60° (Measured Angle)	0.50" (Incident to Wedge Front)

Cable			
RG-58/RG-58/RG-174 (Type)	250' / 25' / 3' (Length)	2 (No. of Intermediate Connectors)	

Calibration Standard				
CAL-DPTH-063 (Serial No.)	SS (Material)	0.6" (Nominal Thickness)	0.6" (Measured Thickness)	

Thermometer		Couplant		
241878 (Serial No.)	75 °F (Temp (°F))	Demin Water (Type)	N/A (Batch No.)	

Calibration

Orientation	Circ	Circ	Circ
Type	SDH	SDH	SDH
Depth	0.60 in.	0.60 in.	0.60 in.
Amplitude / dB	84.3%	-42.0 dB	-18.8 dB
Sweep	1.18 in.	1.18 in.	1.18 in.
Gain (dB)	32	Log	+25 Log

Screen: Half Path | 25 dB Booster: Active

Field Simulator: CS Rompas | S/N: CAL-RHOM-095

Reflector	Near SDH	N/A
Max Amplitude/dB	-18.8 dB	N/A
Sweep	0.78"	N/A
Gain (dB)	+ Log	N/A

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	0733	4/23/2005	CAL-DPTH-063	RJ
Verified	0155	4/26/2005	CAL-RHOM-095	KD
Verified				
Verified				
Final	1107	4/27/2005	CAL-RHOM-095	RJ

Channel Name: 60° RL 00-349 P3 / R3

General

Timebase: Start 0.0 in. | Range 5.5 in.
Units: Half Path

Digitizer

Synchro: Pulse | ☑ A Scan | Sample Size: 8 Bit
Averaging: 1 | Acquisition Rate: 301 Hz
Digitizing Frequency: 6.25 MHz | Max Recurrence: 2000 Hz

Pulser / Receiver

Configuration: Conventional Pitch Catch
Pulser: P3 | Receiver: R3
Voltage: 300 V | Scale Type: LOG
Width (Ns): 500 ns | Rectification: Unsigned
Smoothing: 1 MHz

Probe

Wave Type: Longitudinal | Scan offset: -5.20 in.
Velocity: 0.2272 in./sec. | Index offset: -2.70 in.
Wedge Delay: 10.240 µsec. | Angle: 60°
Skew: 0/180

N2 - 60° RL - Circ Scan

Richard Jasken (Operator)	II (Level)	4/27/2005 (Date)	Utility Review	UT (Level)	4-29-05 (Date)
Analyst	III (Level)	4-28-05 (Date)	ANIII Review		4/29/05 (Date)

Page 175/240

GE Energy, Nuclear

Micro-Tomo (Smart 2000) - Auto Piping
Weld Examination Checklist

Pilgrim Unit 1, 2005
2R-N2J

2RN2JZ10 LKDN	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	MW	MW	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	

2RN2JZ20 LKUP	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	MW	MW	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	

2RN2JZ30 LKCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	SG	SG	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	

2RN2JZ40 LKCCW	Load appropriate setup	Offsets entered into TV correctly	Transducers Skewed IAW Procedure	Files named IAW Scanplan	360° contact achieved	360° Circ coverage achieved	Full Volume Ax Coverage Achieved	Scan saved to computer HD Verified readable	Data transferred to DA Verified received by DA	Data Reviewed	Analysis Complete	Package Complete	NOTES:
45° Shear	☑	☑	☑	☑	☐	☐	☐	SG	SG	MJK	MJK	MJK	
45° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	
60° RL	☑	☑	☑	☑	☐	☐	☐			MJK	MJK	MJK	

Notes: Transducer liftoff due to the outside surface contour. See the data sheet for parameters

MJK 4-29-05

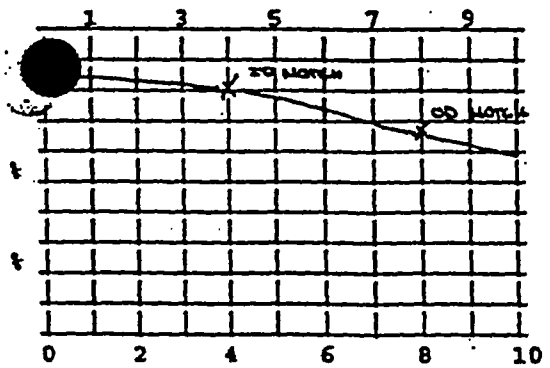
Page 176/3 pc

UT CALIBRATION DATA SHEET

C.D.S. NO 99-C-547
U.T.V. No. 0027A
L.D.S. NO 99-L-351

ROCEDURE NO. 9C1 50.71 REV. 4 DATE 5/22/99
CAMINATION PERSONNEL: NAME Paul Valdez LEVEL II NAME Jim Taylor LEVEL II
NSTRUMENT DATA: MAKE Stanley MODEL Sonic 136 SERIAL NO. 136-849 G
EARCH UNIT DATA: MANUFACTURER KBA TYPE MSWQC GAMMA
SERIAL NO. 0023147 SIZE .60" FREQUENCY 225 MHz
BEAM ANGLE 46° BEAM MODE SHEAR WEDGE TYPE Lucite
ABLE DATA: LENGTH 6' TYPE RG-174
OUPLANT DATA: TYPE Ultragel II BATCH NO. 98275
ALIBRATION STANDARD DATA: SERIAL NO. P16-17A THICKNESS 1.0" DIAMETER 12"
MATERIAL CS SA-106 GR. B
ALIBRATION REFLECTOR(s) DATA: TYPE Notch SIZE .100"d x .125"w x 1.0"L
ORIENTATION (TO PIPE AXIS) Circ
OR DUEL ELEMENT TRANSDUCERS: SPLIT ORIENTATION (TO HOLE CENTERLINE) FOR MAXIMUM RESPONSE
PARALLEL AMPLITUDE N/A TRANSVERSE AMPLITUDE N/A

C CURVE-SCREEN REPRESENTATION



SWEEP RANGE POSITION OR METAL PATH
ID @ 20% @ 40 @ 32.0dB
OD @ 62% @ 80 @ 32.0dB
REFERENCE GAIN 33.0dB
SCANNING GAIN 46.0dB

CALIBRATION TIME - RECORDS

00 DATE	01 ORIG. CAL. TIME	02 CAL. CHECK TIME	03 LAST E.D.S. #	04 LAST E.D.S. LINE #	05 VERIFY 25°F LIMIT YES/NO
5/22/99	1100	1535	99-E-548 (4)	pg 2	Yes

I.D. OF WELD/COMPONENT

6-N4A-1
6-N4B-1
6-N4C-1
6-N4D-1

REVIEWED BY: Philip Hansen Lv. III DATE 5/25/99
DATA REVIEWER

ASME SECTION XI EXAMINATION; X YES - ANII SIGNATURE REQUIRED
___ NO - ANII SIGNATURE NOT REQUIRED

ACCEPTED BY: B Perkins DATE 5/26/99
BECO LEVEL III OR DESIGNEE

REVIEWED BY: [illegible] DATE 5-26-99
ANII

BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET

EXAMINATION PERSONNEL:

Exam proc. 5071 Rev. 4

Name [illegible] Level II

Name [illegible] Level II

Beam Angle 45°s

M. R. No. 19702057
Couplant Ultragel II 98325
Scanning Gain 45dB

EDS No. 99-E-548
CDS No. 99-C-547
L.D.S. 99-L-351
UTV No. 0027A
DATE 5/22/99

(W) DIMENSION (L) DIMENSION

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W_m SP_m	L_1 SP_{L1}	L_m	L_2 SP_{L2}	TIME OF EXAM START	STOP	COMP. TEMP.	REMARKS
6-N4A-1	SE-NOZ	N/A	I/+/-							1337	1342	78°F	NRI
6-N4A-1	SE-NOZ	N/A	I/-/+			N				1342	1347	78°F	NRI
6-N4B-1	SE-NOZ	N/A	I/+/-				A			1245	1250	78°F	NRI
6-N4B-1	SE-NOZ	N/A	I/-/+							1250	1255	78°F	NRI
	N	A			N			A			N	A	

Components meet ASME Section ~~Yes~~ XI Acceptance Criteria:

YES ☐ NO ☑ → FURTHER EVALUATION REQUIRED ☑

REMARKS: N) LIMITED EXAMINATION BETWEEN 26.375" TO 29.625" AND 31.375" TO 34.625" DUE TO THERMAL COUPLE PADS ON WELDS

ASME Section XI Examination:

X YES-ANII Signature Required
___ NO-ANII Signature Not Required

Evaluated By: [illegible] Level III Date 5/25/99

Accepted By: [illegible] Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: [illegible] Date 5-26-99

Page 178/240

BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET

EXAMINATION PERSONNEL:

Exam proc. 5071 Rev. 4

Name [illegible] Level II

Name [illegible] Level II

M. R. No. 19702057
Couplant Ultrasonic II 58325
Scanning Gain 45 dB

EDS No. 99-E-548
CDS No. 99-C-547
L.D.S. 99-L-351
UTV No. 0027A
DATE 5/22/99

Beam Angle 45°s

(W) DIMENSION (L) DIMENSION

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W_m SP_m	L_1 SP_{L1}	L_m	L_2 SP_{L2}	TIME OF EXAM START	STOP	COMP. TEMP.	REMARKS
6-N4C-1	6E-N02	N/A	I/+/-							1310	1315	78°F	A) U21
6-N4C-1	6E-N02	N/A	I/-/+			N				1315	1320	78°F	A) U21
6-N4D-1	5E-N02	N/A	I/+/-				A			1402	1407	78°F	U21
6-N4D-1	6F-N02	N/A	I/-/+							1407	1412	78°F	U21
	N	A			N		A				N	A	

Components meet ASME Section XI Yes Acceptance Criteria:

YES ☐ NO ☑ → FURTHER EVALUATION REQUIRED ☐

REMARKS: Limited Examination Between 26.75° to 29.75° And 31.75° to 33.75° Due To Thermal Couple Pads On Weld.

ASME Section XI Examination:

X YES-ANII Signature Required
___ NO-ANII Signature Not Required

Evaluated By: [illegible] Level III Date 5/26/99

Accepted By: [illegible] Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: [illegible] Date 5-26-99

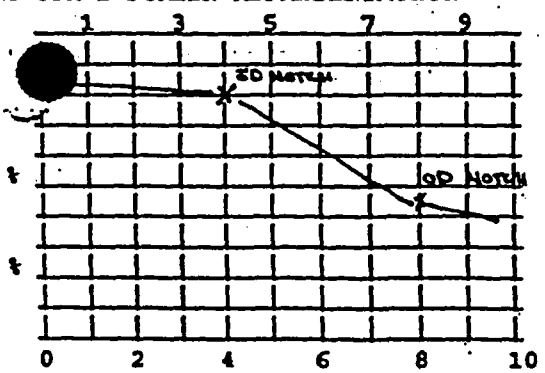
Page 171 240

UT CALIBRATION DATA SHEET

C.D.S. NO 99-C-549
U.T.V. No 00371A
L.D.S. NO 99-L-351

ROCEDURE NO. QCI 5071 REV. 4 DATE 5/22/99
CAMINATION PERSONNEL: NAME [illegible] LEVEL II NAME [illegible] LEVEL II
NSTRUMENT DATA: MAKE STANLEY MODEL [illegible] 136 SERIAL NO. 136-5496
LARCH UNIT DATA: MANUFACTURER KBA TYPE MSWOC GAMMA
SERIAL NO. 00BW4R SIZE .60" FREQUENCY 2.25 MHz
BEAM ANGLE 60° BEAM MODE SHEAR WEDGE TYPE LUCITE
BLE DATA: LENGTH 12' TYPE RG-174
NPLANT DATA: TYPE [illegible] II BATCH NO. 98375
LIBRATION STANDARD DATA: SERIAL NO. PL-17A THICKNESS 1.00 DIAMETER 12"
MATERIAL CS SA-106 GR. B
LIBRATION REFLECTOR(S) DATA: TYPE NOTCH SIZE .100"d x .125"w x 10"L
ORIENTATION (TO PIPE AXIS) Circ
R DUEL ELEMENT TRANSDUCERS: SPLIT ORIENTATION (TO HOLE CENTERLINE) FOR MAXIMUM RESPONSE
PARALLEL AMPLITUDE N/A TRANSVERSE AMPLITUDE N/A

C CURVE-SCREEN REPRESENTATION



SWEEP RANGE POSITION OR METAL PATH
ID @ 20% @ 40 @ 512dB
OD @ 44% @ 80 @ 512dB
Reference Gain 612dB
Scanning Gain 60.0dB

CALIBRATION TIME - RECORDS

00 DATE	01 ORIG. CAL. TIME	02 CAL. CHECK-TIME	03 LAST E.D.S. #	04 LAST E.D.S. LINE #	05 VERIFY 25°F LIMIT YES/NO
5/22/99	1055	1838	99-E-550(4)	pg 2	YES

I.D. OF WELD/COMPONENT

6-N4A-1
6-N4B-1
6-N4C-1
6-N4E-1 Dissimilar

REVIEWED BY: [illegible] Lvl III DATE 5/25/99
DATA REVIEWER

ASME SECTION XI EXAMINATION; X YES - ANII SIGNATURE REQUIRED
___ NO - ANII SIGNATURE NOT REQUIRED

ACCEPTED BY: B Perkins DATE 5/26/99
BECO LEVEL III OR DESIGNEE

REVIEWED BY: [illegible] DATE 5-26-99
ANII

BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET

EXAMINATION PERSONNEL:

Name [illegible] Level II

Name Jamie Mason Level II

Beam Angle 60°S

M. R. No. 19702057
Couplant Ultragel II 98325
Scanning Gain 600

(W) DIMENSION (L) DIMENSION

Exam proc. 50.11 Rev. 4

EDS No. 99-E-550
CDS No. 99-C-549
L.D.S. 99-L-351
UTV No. 0027A
DATE 5/22/99

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W_m SP_m	L_1 SP_{L1}	L_m	L_2 SP_{L2}	TIME OF EXAM START	STOP	COMP. TEMP.	REMARKS
6-N4A-1	5E-N02	N/A	I/+/-							1347	1353	78°F	N21
6-N4A-1	5E-N02	N/A	I/-/+			N				1353	1359	78°F	N21
6-N4B-1	5E-N02	N/A	I/+/-				A			1255	1301	78°F	N
6-N4B-1	5E-N02	N/A	I/-/+							1301	1307	78°F	N
	N	A				N	A				N	A	

Components meet ASME Section XI Acceptance Criteria: YES

ASME Section XI Examination:

X YES-ANII Signature Required
___ NO-ANII Signature Not Required

YES ☐ NO ☑ → FURTHER EVALUATION REQUIRED ☐

REMARKS: A) LIMITED EXAMINATION BETWEEN 22.875" TO 29.625" TO AND 31.875" TO 34.625" DUE TO THERMO COUPLE PADS ON WELD

Evaluated By: [illegible] Level III Date 5/26/99

Accepted By: [illegible] Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: [illegible] Date 5-26-99

Page 181/240

BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET

EXAMINATION PERSONNEL:

Exam proc. 5071 Rev. 4

Name [illegible] Level II

Name [illegible] Level II

M. R. No. 19702057
Couplant Ultrage II 98325
Scanning Gain 60.0

EDS No. 99-E-550
CDS No. 99-C-549
L.D.S. 99-L-351
UTV No. 00278
DATE 5/22/99

Beam Angle 60°s

(W) DIMENSION (L) DIMENSION

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W_m SP_m	L_1 SP_{L1}	L_m	L_2 SP_{L2}	TIME OF EXAM START	STOP	COMP. TEMP.	REMARKS
6-N4C-1	SE-NOZ	N/A	I/+/-							1320	1326	78°F	A) NRI
6-N4C-1	SE-NOZ	N/A	I/-/+				N			1326	1332	78°F	A) NRI
6-N4D-1	SE-NOZ	N/A	I/+/-				A			1412	1418	78°F	NRI
6-N4D-1	SE-NOZ	N/A	I/-/+							1418	1424	78°F	NRI
		N	A			N	A				N	A	

Components meet ASME Section XI 1965 Acceptance Criteria:

YES ☐ NO ☑ → FURTHER EVALUATION REQUIRED ☐

REMARKS: A) LIMITED EXAMINATION BETWEEN 26.75" TO 29.75" AND 31.75" TO 33.75" DUE TO THERMAL COVER PAD ON WELD

ASME Section XI Examination:

X YES-ANII Signature Required
___ NO-ANII Signature Not Required

Evaluated By: [illegible] Level III Date 5/26/99

Accepted By: [illegible] Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: [illegible] Date 5-26-99

BOSTON EDISON COMPANY RECORD OF MAGNETIC PARTICLE EXAMINATION	DATA SHEET # 97-M-119

ITEM ID/PIECE #	SYSTEM 54 LOCATION DRYWELL	MR #	ISO/DWG NUMBER
RPV-5BW-0		19600304	ISI-1-54-1

A. MATERIAL	TYPE C.S.

CROSS SECTION THICKNESS	MAX	MIN	GEOMETRY	PIPE	PLATE	ROD	OTHER
				___	X	___	___

FABRICATION PROCESS	CAST	WORKED	(WELDED)	OTHER ___

SURFACE	MACHINED	GROUND	(AS FABRICATED)	OTHER	INSPECTION HOLD PT
					FINAL ISI

SURFACE IS SUITABLE FOR SCHEDULED X MT N/A UT EXAMINATION (YES)/NO

SKETCH OR OTHER DETAIL ATTACHED YES/(NO) | WEIGHT X 10 LB. ___ 40 LB

B.			
	PROCEDURE #	QCI 50.20	EQUIPMENT IDENTIFICATION
	VALIDATION #	N/A	X AC ___ HWAC
	POLE SPACING	6" MAX	S/N 5156

C. EVALUATION

LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY.)
1		NRI - ACCEPT	EXAMINED 12" OF TOP SURFACE
2			
3			
4			
5			
6			
7			

D. CRITERIA: ASME SECT. XI 1989

E. ATTEST

COMPONENTS (MEET)/DO NOT MEET ASME SECTION XI ACCEPTANCE CRITERIA, FURTHER EVALUATION REQUIRED ___ YES X NO

D. M. Wood — II — 3/5/97
RESPONSIBLE CERTIFIED PERSONNEL — LEVEL — DATE

REVIEWED BY: Michael [illegible] LV III 03/5/97

B Perkins — 3/5/97
BECO LEVEL III — DATE

[illegible] — 3/6/97
ANII — DATE

Entergy

Calibration Data Sheet

CDS No: 05-C-450
LDS No: 05-L-422-151
Page: 1 of 1

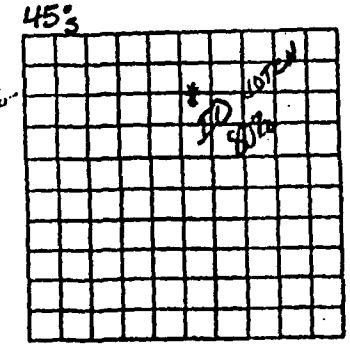
Plant/Unit: PILGRIM STATION
System: RHR A
Component: 10-1A-15 / 10-1A-14
Line No.: "18-DCA-10
Procedure: END-NDE 9.23 Rev.: 0
Thermometer S/N: 230
Cal. Blk Temp.: 64 Comp Temp.: 75
Cal. Block No.: PIL 23A
☐ Carbon Steel ☑ Stainless Steel
Size: 18 Sch.: .755
Cal Direction ☐ Axial ☐ Circ ☑ Both
Scan Area ☑ ⊥ to weld
Scan Area ☑ ∥ to weld

Work Order: 03116631
DWG No.: ISI-I-10-1 Sht 1 of 10

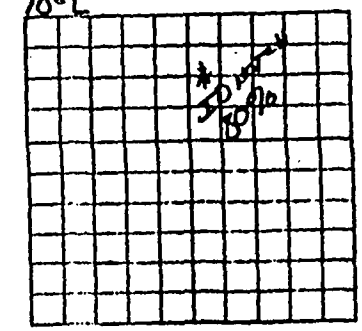
Cal Checks	Time
Initial Cal.:	1104 / 1105
Date:	4/29/05
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	1752 / 1753
Date:	4/29/05

Couplant
Type: ULTRAGEL II
Batch: 01225

45°



70°



Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
10-1A-14	SINGLE SIDE	N/A	X	NO	37.6 / 72.8
10-1A-15	SINGLE SIDE	N/A	X	NO	37.6 / 72.8

Remarks

Further Evaluation Required: ☐ Yes ☑ No

Examiner: [signature] Level: II Date: 4/30/05
Examiner: Level: Date:
Reviewer: [signature] Level: III Date: 4/30/05
ANII: [signature] Date: 5/1/05

Search Unit # 1
Manufacturer: KBA
Model: Comp-6
Serial No.: 005C4
Size: .375 Shape: Round
Freq.: 1.5 # Elm: 1
Angle: 45 Mode: SHEAR
Measured Angle: 45°
Wedge Style: MSWDC

Search Unit Cable
Type: RG-174
Length: 6.0" # Con.: 0

Instrument Settings
Manufacturer: STAVELEY
Model: Sonic 136
Serial No.: 136P1200404457
Linearity Due: 5/2/05
Delay: .283 Range: 2.0
Mtl. Vel.: .123 Pulser: 334
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: P/E

Reference Sensitivity
Axial: 29.6 Circ: 29.6

Search Unit # 2
Manufacturer: RTD
Model: TRL2
Serial No.: 00-727
Size: 2(8x14) Shape: SP
Freq.: 2 # Elm: 2
Angle: 70 Mode: LONG
Measured Angle: 70
Wedge Style: INTEGRAL

Search Unit Cable
Type: RG-174
Length: 6.0" # Con.: 0

Instrument Settings
Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136P1200404457
Linearity Due: 5/2/05
Delay: .943 Range: 4.0
Mtl. Vel.: .250 Pulser: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL

Reference Sensitivity
Axial: 70.8 Circ: N/A

Entergy

Examination Data Sheet

EDS No: 05-E-451-151
CDS No: 05-C-450-151
LDS No: 05-L-422-151
Page: 1 of 2

Plant/Unit:	System:	Component:	Procedure: END-NDE-9.23
PILGRAM STATION	RHR-A	10-1A-14	Revision: 0
Work Order: 03116631	DWG No.: ISI-I-~~1-10~~ 10-1	☐ Carbon Steel ☒ Stainless Steel	Start Time/Date: 1345 4/30/05 Finish Time/Date: 1415 4/30/05
Examination Area / Weld No.: 10-1A-14	Line No.: 18"-DCA-10	Size: 18" Schedule: 155	Lo Location: TDC Wo Location: ℄

Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:
			L1	L Max	L2	W	MP			
NRI										

Further Evaluation Required: ☐ Yes ☒ No

Limitations: SINGLE SIDE EXAM 50% COVERAGE

Remarks

Examiner: [signature] Level: II Date: 4/30/05		Examiner: N/A Level: ____ Date: ____	
Reviewer: [signature] Level: III Date: 4/30/05		ANII: [signature] Date: 5/7/05	

Page 185/240

Entergy

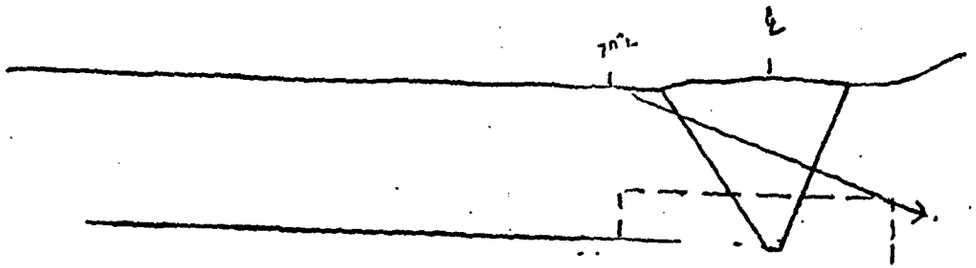
Sketch Sheet

Data Sheet No: 05-E-451-151
Page: 2 of 2

Plant/Unit:	System:	Component:	Procedure: END-NDE-9.23
PILGRIM STATION	RHR A	10-1A-14	Revision: 0
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
10-1A-14	~~IST-I-1-10~~ 10-1 IMS 5/5/05	18"-DCA-10	03116631

PIPE

FLUED HEAD
X51A



FLOW

Examiner: [signature] Level: II Date: 4/30/05		Examiner: N/A Level: ___ Date: ___	
Reviewer: [signature] Level: III Date: 4/30/05		ANII: [signature] Date: 5/1/05	

Page 1 of 1

Entergy

Examination Data Sheet

EDS No: 05-E-452-151
CDS No: 05-C-450-151
LDS No: 05-L-422-151
Page 1 of 2

Plant/Unit:	System:	Component:	Procedure: END-NDE 923
PILGRIM STATION	RHR -A	10-1A-15	Revision: 0
Work Order: 03116631	DWG No.: ISI-I-10.1	☐ Carbon Steel ☒ Stainless Steel	Start Time/Date: 1416 4/30/05 Finish Time/Date: 1441 4/29/05
Examination Area / Weld No.: 10-1A-15	Line No.: 18"-DCA-10	Size: 18" Schedule: .755	Lo Location: TDC Wo Location: 4

Ind. #	Angle	% of DAC	Indication Length L1	L Max	L2	Max Location W	MP	OD SU Loc.	Scan Direct.	Remarks:
NDA										

Further Evaluation Required: ☐ Yes ☒ No

Limitations: SINGLE SIDE EXAM 50% COVERAGE

Remarks

Examiner: [signature]	Level: II	Date: 4/30/05	Examiner: N/A	Level:	Date:
Reviewer: [signature]	Level: III	Date: 4/30/05	ANII: [signature]		Date: 5/7/05

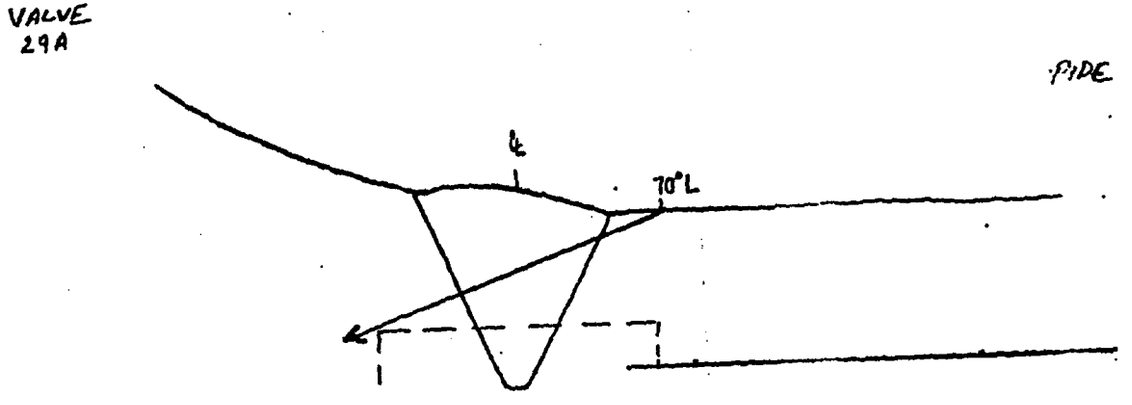
Page 187/240

Entergy

Sketch Sheet

Data Sheet No: 05-E-452-131
Page: 2 of 2

Plant/Unit:	System:	Component:	Procedure: END-NDE-9.23 Revision: 0
PILGRIM STATION	RHR-A	10-1A-15	
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
10-1A-15	ISI-I-~~1-10~~ 10-1 MAS 5/5/05	18"-DCA-10	03116631



FLOW

Examiner: [signature] Level: II Date: 4/30/05		Examiner: N/A Level: ___ Date: ___	
Reviewer: [signature] Level: III Date: 4/30/05		ANII: [signature] Date: [illegible]	

Page 188 of 240

Figure 5

Calibration Data Sheet

PDI

CDS 03-C-~~126~~ 135

LDS 03-L-123 BP 4/23/03

Page 1 of 1

Plant/Unit Pilgrim 1

Company Scientech

Comp/System 10R-1A-6

Procedure No. 50.87

Rev/Chng. No. 1

Cal. Block No. P1-64

Cal. Block Temp 69° ~~124538~~ Therm S/N

Size 18" Sch. 0.755 "T"

☐ Ferritic ☒ Austenitic

Each Major CRT Div. = .3"/.3"

Cal. Direction: (Axial) Circ. Both

Scan Area: ⊥ to Weld ✓

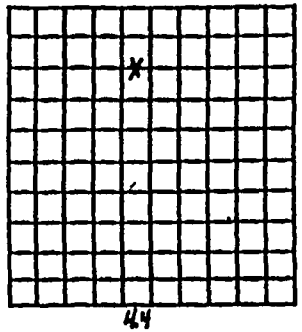
|| to Weld ✓

Cal. Checks	Time
Initial Calib.	1335
Initial Calib. Date	4/21/03
Intermediate	
Intermediate	
Final Calib.	1832
Final Calib. Date	4/21/03

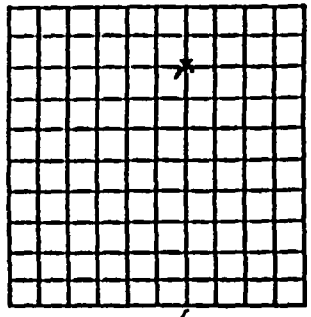
Couplant

Type: Ultragel II

Batch: 00325

80% 

44

20% 

6

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
10R-1A-6	UPST		X		38.4
10R-1A-6	UPST	X		X	69
	N				
		A			

Remarks/Reason for Incomplete Scan(s)

① Single sided exam due to component configuration (Pipe to Valve)

② Maintained 5-20% ID roll

Examiners: [signature] Level II Date 4/21/03

Level Date

ERO Reviewers: B Perkins 4/23/03 Further Evaluation Required? Yes (No)

Entergy III

Search Unit #1

Manufacture: KBA

Serial No.: 00W8K0

Size: 0.50" Shape: round

Freq: 1.5 MHz Style:

Exam Angle: 45° Mode: Shear

Measured Angle: 45°

Wedge Style: MSWQC

Search Unit #2

Manufacture: Megasonics

Serial No.: J1111

Size: 2(25x60) Shape: rect

Freq: 2 MHz Style: CGD

Exam Angle: 60° Mode: Long

Measured Angle: 60°

Wedge Style: integral

Search Unit Cable

Type: RG-174

Length: 6' No. Ø

Search Unit Cable

Type: RG-174

Length: 6' No. Ø

Instrument Settings

Make/Model: Stavely/Sonic 136

Serial No: 850K

Delay: .458 Range:

M'tl Cal/Vel: .125 Pulser: 334ns

Damping: 500Ω Reject: OFF

Rep.Rate: 4KHz Freq: 2.25

Filter: 1 Mode: P-E

Reference Sensitivity (Sens.)

Axial: 32.4 Circ: 32.4

SCAN SENS: 38.4

Instrument Settings

Make/Model: Stavely/Sonic 136

Serial No: 850K

Delay: .830 Range: 3.0"

M'tl Cal/Vel: .235 Pulser: 250

Damping: 500Ω Reject: OFF

Rep.Rate: 4KHz Freq: 2.25

Filter: 1 Mode: Dual

Reference Sensitivity (Sens.)

Axial: 69dB Circ: N/A

SCAN SENS: 69dB

PDI

Ultrasonic Examination Indication Report Sheet

CDS No: 03-C-135	EDS No: 03-E-136	Lo Location: TDC	Start Time 1633	Examiner: TC-1A-Level [redacted]
Item Identification: Weld: 10R-1A-6		Wo Location: Weld E	Finish Time 1700	Examiner: TC-1A-Level [redacted]
Component Information: Diameter(nom): 18" Thickness: 0.84"		Procedure No. 50.87.	Rev. 1	Date: 4/24/03 Weld Crown Width: 1.1"

Ind #	Angle Used	% of DAC	Indication Length L1	Max	L2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45°				N	A				NRI
1	60°L	100% -7dB		6.5"		1.4"	1.8"	upST	⊥	Previously recorded root Geometry observed at higher amplitude due to the use of an RL wave mode
								N/A		

ANII: [signature] Date 4-23-03

ERD Reviewer(s) [signature] Date 4/23/03 Reviewer(s) N/A Date N/A

Entergy III

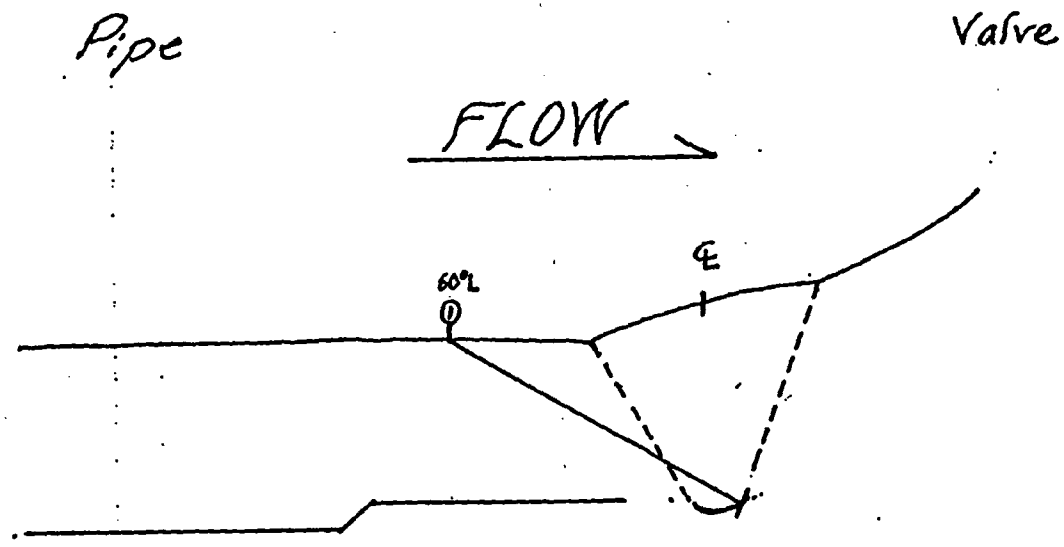
Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

Further Evaluation Required Yes ____ No X

Figure 6

Page 140/240

Component: 10R-1A-6
Data Sheet: 03-E-136



* Reviewed original radiographs and root convexity present. Supports plots.
B Perkins III
4/22/03

Examiner Paul T. Hayes Level II Date 4/21/03

Page 91/240

Figure 5

Calibration Data Sheet

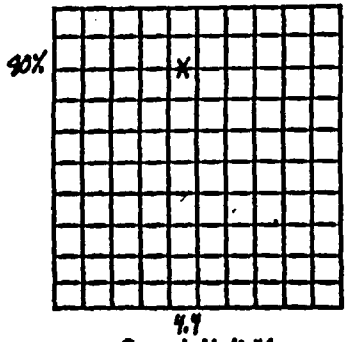
PDI

CDS 03-C-137
LDS 03-L-123
Page 1 of 1

Plant/Unit Pilgrim 1
Company Scientech
Comp/System 10R-1A-7/RHR
Procedure No. 50.87
Rev/Chng. No. 1
Cal. Block No. P1-64
Cal. Block Temp 69° 129558 Therm S/N
Size 18" Sch. 0.735 "T"
☐ Ferritic ☒ Austenitic
Each Major CRT Div. = .3"/.3"
Cal. Direction: (Axial) Circ. Both
Scan Area: ⊥ to Weld ✓
|| to Weld ✓

Cal. Checks	Time
Initial Calib.	0817
Initial Calib. Date	4/22/03
Intermediate	
Intermediate	
Final Calib.	1155
Final Calib. Date	4/22/03

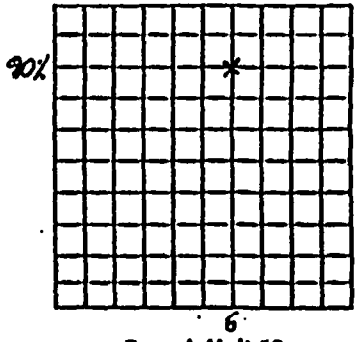
Couplant
Type: Ultragel II
Batch: 00325



Search Unit #1
Manufacture: KBA
Serial No.: 00W8K0
Size: 0.50" Shape: round
Freq: 1.5 MHz Style:
Exam Angle: 45° Mode: Shear
Measured Angle: 45°
Wedge Style: MSWQC

Search Unit Cable
Type: RG-174
Length: 6' No. Ø

Instrument Settings
Make/Model: Staveley/Sonic 136
Serial No: 850K
Delay: .458 Range: 3.0"
M'tl Cal/Vel: .125 Pulser: 334ns
Damping: 500Ω Reject: off
Rep.Rate: 4KHz Freq: 2.25
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 32.4 Circ: 32.4
SCAN SENS: 38.4



Search Unit #2
Manufacture: Megasonics
Serial No.: J1111
Size: 2(.25X.50) Shape: rect
Freq: 2 MHz Style: CGD
Exam Angle: 60° Mode: Long
Measured Angle: 60°
Wedge Style: integral

Search Unit Cable
Type: RG-174
Length: 6' No. Ø

Instrument Settings
Make/Model: Staveley/Sonic 136
Serial No: 850K
Delay: .930 Range: 3.0"
M'tl Cal/Vel: .235 Pulser: 250
Damping: 500Ω Reject: off
Rep.Rate: 4KHz Freq: 2.25
Filter: 1 Mode: Dual
Reference Sensitivity (Sens.)
Axial: 70dB Circ: N/A
SCAN SENS: 70dB

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
10R-1A-7	DNST	X		X	38.4
10R-1A-7	DNST	X		X	70dB

Remarks/Reason for Incomplete Scan(s)
① Single Sided exam due to component configuration (Valve to Pipe)
② Maintained 5-20% 10 roll

Examiners: [signature] Level II Date 4/22/03
Level Date
ERD
Reviewers: B Perkins Further Evaluation Required? Yes (No)
Entergy III 4/23/03

Page 192/240

Ultrasonic Examination Indication Report Sheet

CDS No: 03-C-137	EDS No: 03-E-138	Lo Location: TDC	Start Time 0926	Examiner: TC-1A-Level [signature] II
Item Identification: Weld: 10R-1A-7		Wo Location: Weld E	Finish Time 0955	Examiner: TC-1A-Level [signature]
Component Information: Diameter(nom): 18" Thickness: 0.88"		Procedure No. 50.87	Rev. 1	Date: 4/22/03 Weld Crown Width: 1.1"

Ind #	Angle Used	% of DAC	Indication Length L1	Max	L 2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
1	45°	50%		6.5"		0.8"	1.38"	DNST	⊥	ROOT Geometry
2	60°L	100% -8dB		6.5"		1.35	1.6	DNST	⊥	Previously recorded root Geometry observed at higher amplitudes due to the use of an RL wave mode.
								N	A	

ANII: [signature] Date 4-23-03

ERD Reviewer(s) [signature] Date 4/23/03 Reviewer(s) N/A Date N/A

Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

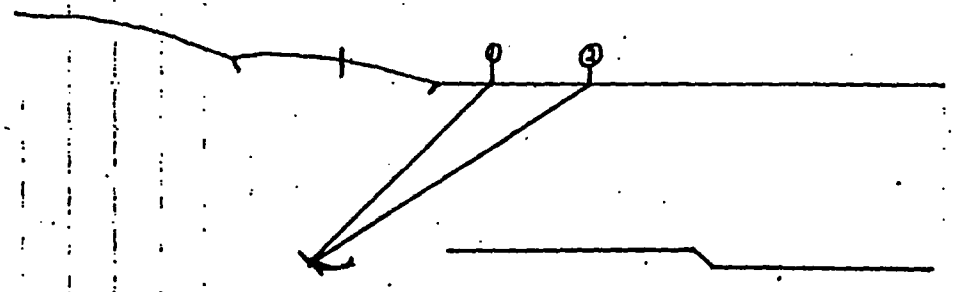
Further Evaluation Required Yes ____ No X

Entergy III

Page 13/24

Figure 6

Component: 10A-1A-7
Data Sheet: 03-E-138



*also reviewed original Radiographs of these welds. Convex root pass supports plots.
B Perkins
NDE III
4/23/03

Examiner: [signature] Paul T. Hayes Level: II Date: 4/22/03
PRO

Figure 5

Calibration Data Sheet

PDI

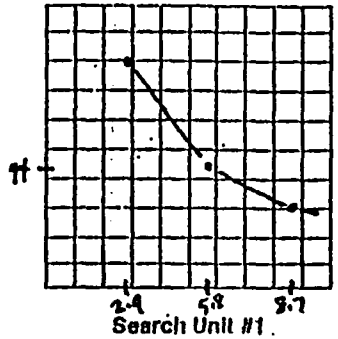
L.D.S. No. 01-L-199

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: RWCU
Procedure No. III 50.87
Rev/Chng. No. 0
Cal. Block No. PIL-8A
Cal. Block Temp. 64 15461 Therm S/N
Size 6" Sch. "T"
☐ Ferritic ☑ Austenitic
Each Major CRT Div. = .2"/.25"
Cal. Direction: (Axial) Circ. Both
Scan Area: I to Weld / II to Weld

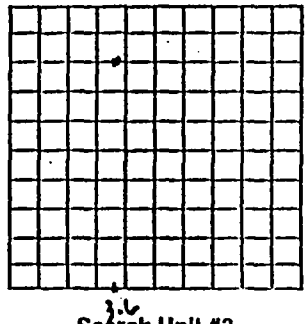
C. Data Sheet # 01-C-316
Page 1 of 1

Cal. Checks	Time
Initial Calib.	1035/1146
Initial Calib. Date	5-4-01
Intermediate	N/A
Intermediate	
Final Calib.	1803/1804
Final Calib. Date	5-4-01

Couplant
Type: ULTRAGEL II
Batch: 00325



Search Unit #1
Manufacture: KBA
Serial No.: 00BV60
Size: .375" Shape: Round
Freq: 2.25 MHz Style: Comp G
Exam Angle: 45° Mode: Shear
Measured Angle: 46°
Wedge Style: Non-Integral



Search Unit #2
Manufacture: KBA
Serial No.: 00BV5R
Size: .375" Shape: Round
Freq: 2.25 MHz Style: Comp G
Exam Angle: 70° Mode: Shear
Measured Angle: 67°
Wedge Style: Non-Integral

Search Unit Cable
Type: RG-174 U
Length: 6' No. 0

Search Unit Cable
Type: RG-174 U
Length: 6' No. 0

Instrument Settings
Make/Model: Stavely/Sonic 136
Serial No: 1009L
Delay: 0.329" Range: 2.0"
M'll Cal/Vel: 0.127"/µs Pulser: 222nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 2.25MHz
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 37.0 dB Circ: 37.0 dB
SDH Sensitivity: 43.0 dB / 49.0 dB

Instrument Settings
Make/Model: Stavely/Sonic 136
Serial No: 1009L
Delay: 0.469" Range: 2.5"
M'll Cal/Vel: 0.127"/µs Pulser: 222nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 2.25MHz
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 53.2 dB Circ: N/A
SDH Sensitivity: 53.2 dB

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
12-0-24 (45°)	DS	N/A	✓	N/A	43.0 dB / 49.0 dB
12-0-24 (70°)	DS	N/A	✓	N/A	53.2 dB
	N/A				

Remarks/Reason for Incomplete Scan(s)
SINGLE SIDED EXAM DUE TO FLUGD HEAD TO PIPE CONFIGURATION. 56.64% COVERAGE
TJP

Examiners: [signature] Level II Date 5-4-01
N/A Level N/A Date N/A
Reviewers: [signature] NDT III Further Evaluation Required? Yes (No)

Page 195/240

PDI

Ultrasonic Examination Indication Report Sheet

Calibration Data Sheet Number: Φ1-C-316	EDS: Φ1-E-317	Lo Location: Fold Center	Start Time 1520	Examiner: TC-1A-Level DENNIS P. STRICKLAND II
Item Identification: 12-0-24	TEMP: 80°F	Wo Location: Weld 2	Finish Time 1600	Examiner: TC-1A-Level N/A
Component Information: Diameter(nom): 6" Thickness: .432"		Procedure No. 50.87	Rev. 0	Date: 5-04-01 Weld Crown Width: .55"

Ind #	Angle Used	% of DAC	Indication Length L 1	Max	L 2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45°				N/A				⊥ ∥	NO RECORDABLE INDICATIONS
N/A	70°				N/A				⊥	NO RECORDABLE INDICATIONS
								N/A		

Additional Remarks: ANII [signature] DATE 5-5-01 COMPONENT MEETS / DOES NOT MEET ASME SECT. XI 1989

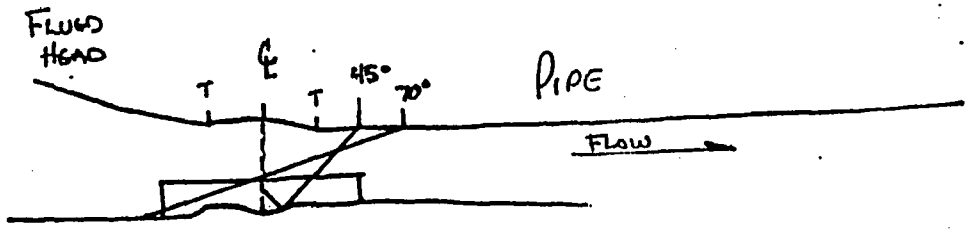
Reviewer(s): [signature] 5-5-01 NDT III

Further Evaluation Required Yes ____ No X

Figure 6

Page 196/240

WELD 12-0-24



TOTAL AREA = .1659"

SCANNED FROM:	59":	% :
(Ax) DS	.12259"	~~76.56%~~ 76.56%
(Ax) US	.0859"	50.00%
(CIRC) CW	.0859"	50.00%
(CIRC) CCW	.0859"	50.00
		226.56%

226.56% ÷ 4 (SCAN DIRECTIONS) = 56.64%

TOTAL COVERAGE = 56.64%

Dennis P. Strickland II 5-4-01

DENNIS P. STRICKLAND

Entergy

Calibration Data Sheet

CDS No: 05-C-457-151
LDS No: 05-L-422-151
Page: 1 of 1

Plant/Unit: PILGRIM
System: CORE SPRAY
Component: 14-A-19
Line No.: 10-DC-14
Procedure: ENG-NDE-923 Rev.: 0
Thermometer S/N: 230
Cal. Blk Temp.: 64° Comp Temp.: 67°
Cal. Block No.: PIL 8A
☐ Carbon Steel ☒ Stainless Steel
Size: 10.0" Sch.: .593 THK
Cal Direction ☒ Axial ☐ Circ ☐ Both
Scan Area ☒ ⊥ to weld
Scan Area ☒ ∥ to weld

Work Order: 03116643
DWG No.: ISI I 14-1

Cal Checks	Time
Initial Cal.:	850 / 910
Date:	4-29-05
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	1645
Date:	4-29-05

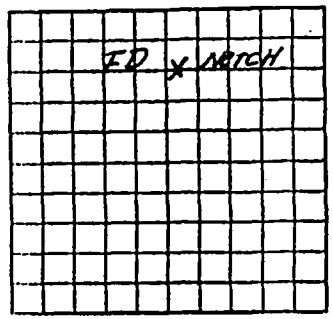
Couplant
Type: ULTRAGEL II
Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
14-A-19	SINGLE		X		39.0

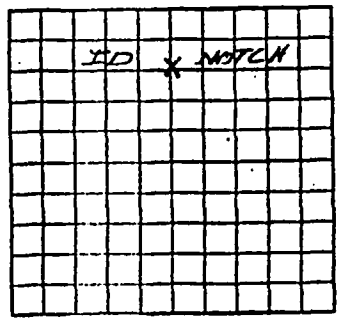
Remarks

Further Evaluation Required: ☐ Yes ☒ No

Examiner: [signature] Level: II Date: 4-29-05
Examiner: N/A Level: N/A Date: N/A
Reviewer: [signature] Level: III Date: 4/30/05
ANII: [signature] Date: [illegible]



Search Unit # 1
Manufacturer: KBA
Model: COMP 6
Serial No.: 00T5C4
Size: .375 Shape: Round
Freq.: 1.5 # Elm: 1
Angle: 45° Mode: SHEAR
Measured Angle: 45°
Wedge Style: MSWGC
Search Unit Cable
Type: RG-174
Length: 6' # Con.: 0
Instrument Settings
Manufacturer: STANLEY
Model: SONIC 136
Serial No.: 06P1200H041457
Linearity Due: 5-2-05
Delay: .283 Range: 2.00
Mtl. Vel.: .123 Pulser: 334
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: P.E
Reference Sensitivity
Axial: 33.0 Circ: 33.0



Search Unit # 2
Manufacturer: ~~KBA~~ RTD
Model: ~~COMP 6~~ TRLA
Serial No.: 00-728
Size: (2) 8X14 Shape: SQ
Freq.: 2.0 # Elm: 2
Angle: 70° Mode: LONG.
Measured Angle: 70°
Wedge Style: INTEGRAL
Search Unit Cable
Type: (2) RG-174
Length: 6' # Con.: 0
Instrument Settings
Manufacturer: STANLEY
Model: SONIC 136
Serial No.: 136P1200H041457
Linearity Due: 5-2-05
Delay: .943 Range: 4.0
Mtl. Vel.: .230 Pulser: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL
Reference Sensitivity
Axial: 68.6 Circ: N/A

Page 108/240

Entergy

Examination Data Sheet

EDS No: 05-E-458-151
CDS No: 05-C-457-151
LDS No: 05-L-422-151
Page: ____ of ____

Plant/Unit: PILGRIM	System: CORE SPRAY	Component: VALVE TO PIPE 14-A-19	Procedure: EWI-NDE-923 Revision: 0
Work Order: 05116643	DWG No.: ISI I 14-1	☐ Carbon Steel ☒ Stainless Steel	Start Time/Date: 1510 4-29-05 Finish Time/Date: 1540 4-29-05
Examination Area / Weld No.: 14-A-19	Line No.: 10-DC-14	Size: 10" Schedule: .593 THK.	Lo Location: T.D.C. Wo Location: WELD ℄

Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:
			L1	L Max	L2	W	MP			
										NO RECORDABLE INDICATIONS

Further Evaluation Required: ☐ Yes ☒ No

Limitations: VALVE

Remarks

Examiner: [signature] Level: II Date: 4-29-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4/30/05		ANII: [signature] Date: 5/9/05	

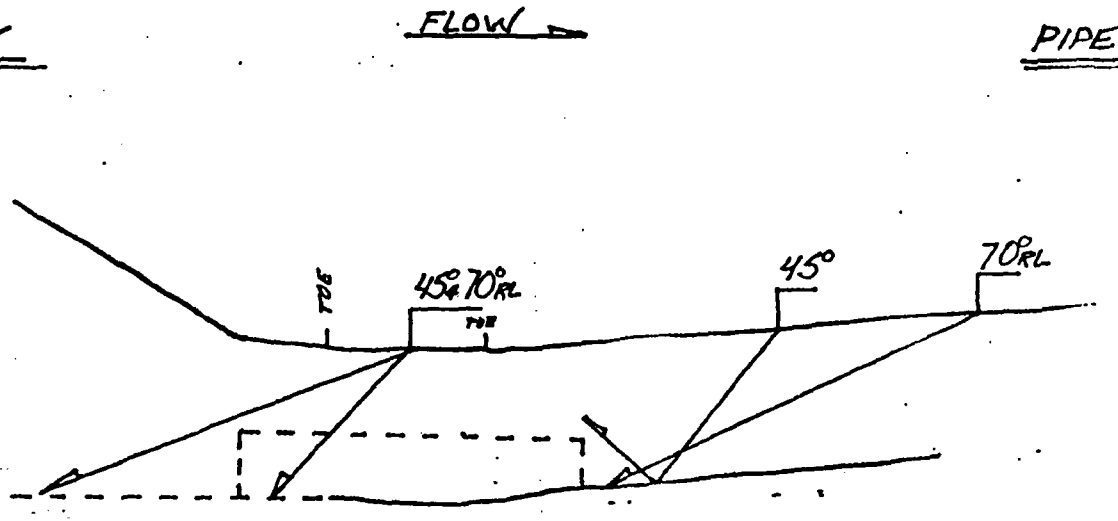
Page 19/340

Entergy

Sketch Sheet

Data Sheet No: 05-E-458-131
Page: 2 of 2

Plant/Unit:	System:	Component:	Procedure: ENN-NDE - 9.23
PILGRIM	CORE SPRAY	14-A-19	Revision: 0
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:** 03116643
14-A-19	ISI I 14-1	10-DC-14	ISI I 14-1 DWG NO.



50% C.R.V. DUE TO SINGLE SIDE EXAM
AS PER. ENN-NDE - 9.23 REV. 0 PARG. 1.8

Examiner: [signature] Level: II Date: 4-29-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4/30/05		ANII: [signature] Date: 5/4/05	

Page 200/240

Figure 5

Calibration Data Sheet

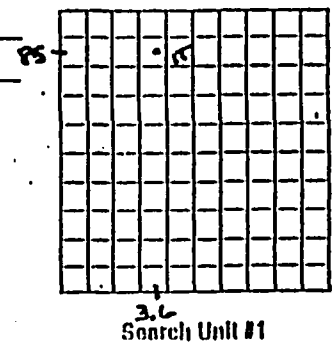
PDI

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: CORE SPRAY
Procedure No.: ITI 50.87
Rev/Chng. No.: 0
Cal. Block No: PIL-8A
Cal. Block Temp.: 62° Therm S/N: 15661
Size: 10" Sch.: .593" T
☐ Ferritic ☑ Austenitic
Each Major CRT Div. = .25"
Cal. Direction: (Axial) Circ. Both
Scan Area: ⊥ to Weld / ∥ to Weld

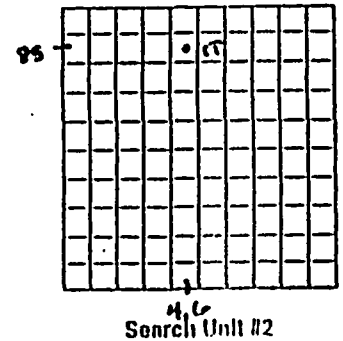
CDS: Ø1-C-193
LDS: Ø1-L-141

Cal. Checks	Time
Initial Calib.	0930/1015
Initial Calib. Date	4-26-01
Intermediate	N/A
Intermediate	
Final Calib.	1553/1556
Final Calib. Date	4-26-01

Couplant
Type: ULTRAGEL II
Batch: 00325



Search Unit #1
Manufacture: KBA
Serial No.: 008OLR
Size: .375" Shape: ROUND
Freq: 1.5 MHz Style: CONE G
Exam Angle: 45° Mode: SHEAR
Measured Angle: 48°
Wedge Style: NON-INTEGRAL



Search Unit #2
Manufacture: MEGASONIC
Serial No.: J1121
Size: 2.25"x.90" Shape: RECT.
Freq: 2 MHz Style: CGD
Exam Angle: 60° Mode: LONG
Measured Angle: 58.9°
Wedge Style: INTEGRAL

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1009L
Delay: 0.323" Range: 2.5"
M'tl Cal/Vel: 0.125"/μs Pulser: 334nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 2.25MHz
Filter: 2 Mode: P/E
Reference Sensitivity (Sens.)
Axial: 35.2dB Circ: 35.2dB
SCAN SENS.: 47.2dB/47.2dB

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1009L
Delay: 0.694" Range: 2.5"
M'tl Cal/Vel: 0.232"/μs Pulser: 250nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 2.25MHz
Filter: 2 Mode: DUAL
Reference Sensitivity (Sens.)
Axial: 61.0dB Circ: N/A
SCAN SENS. 67 dB

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
14-B-17	US	N/A	✓	N/A	47.2/67.0
14-B-20	US	N/A	✓	N/A	47.2/67.0
	N/A				

Remarks/Reason for Incomplete Scan(s)
SEE ATTACHED COVERAGE PLOTS

Examiners: [signature] Level II Date 4-26-01
[signature] Level III Date 4/26/01
Reviewers: [signature] Further Evaluation Required? Yes (No)

PDI

Ultrasonic Examination Indication Report Sheet

EDS No: Ø1-E-194	CDS No: Ø1-C-193	Lo Location: Top Dead Center	Start Time 1250	Examiner: TC-1A-Level II Dennis P. Strickland
Item Identification: 14-B-20	TEMP. 80°F	Wo Location: Wed ℄	Finish Time 1330	Examiner: TC-1A-Level Dale Murdock III
Component Information: Diameter(nom): 10" Thickness: .593"		Procedure No. 171 50.87	Rev. 0	Date: 4-26-01 Weld Crown Width: .8"

Ind #	Angle Used	% of DAC	Indication Length L1	Max	L2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45°	—			N/A	—			⊥ ∥	No Recordable Indications
N/A	60° RL	—			N/A	—			⊥	No Recordable Indications
							N	A		

ANII: [signature] Date 4-28-01

Reviewer(s) [signature] Date 4/27/01 Reviewer(s) [signature] NDT III Date 4/28/01

Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

Further Evaluation Required Yes ____ No X

Figure 6

PDI

Ultrasonic Examination Indication Report Sheet

EDS No: Ø1-E-194	CDS No: Ø1-C-193	Lo Location: Top Dead Center	Start Time 1450	Examiner: TC-1A-Level II Dennis P. Strickland
Item Identification: 14-B-17	TEMP. 80°F	Wo Location: Weld ℄	Finish Time 1530	Examiner: TC-1A-Level III
Component Information: Diameter(nom): 10" Thickness: .593"		Procedure No. ITI 50.87	Rev. 0	Date: 4-26-01 Weld Crown Width: .6"

Ind #	Angle Used	% of DAC	Indication Length L1	Max	L 2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45°				N/A				⊥ ∥	No Recordable Indications
N/A	60° RL				N/A				⊥	No Recordable Indications
							N	A		

ANII: [signature] Date 4-28-01

Reviewer(s) [signature] Date 4/27/01 Reviewer(s) [signature] NDT-III Date 4/28/01

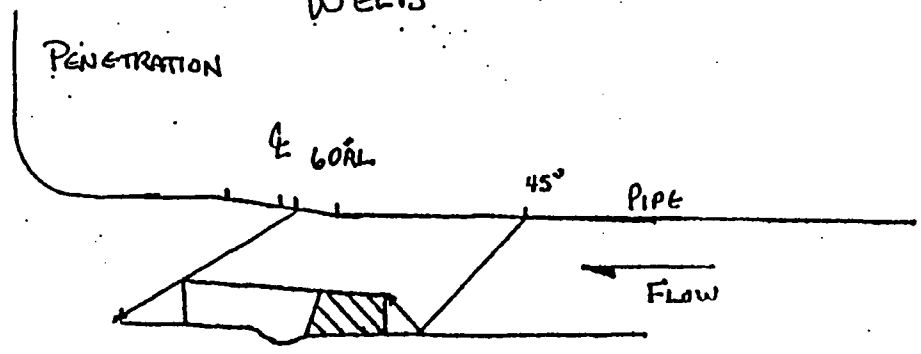
Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

Further Evaluation Required Yes ____ No X

Figure 6

CDS Ø1-C-193
LDS Ø1-L-141

WELD 14-B-17



Dennis P. Strickland III. 4-26-01
DENNIS P. STRICKLAND

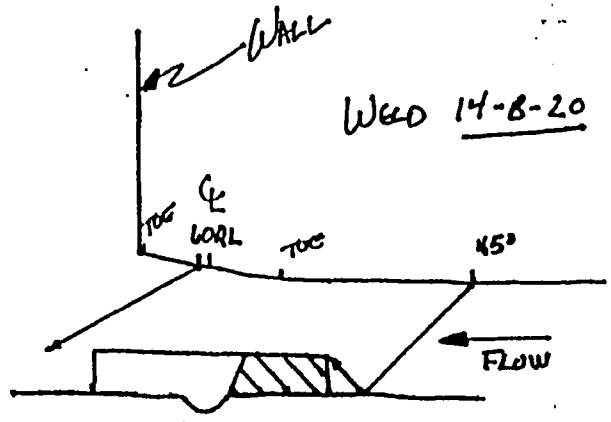
TOTAL AREA = .23 sq"

SCANNED FROM:	Sq":	%:
(Ax) DS SIDE	.08"	34.82%
(Ax) US SIDE	.29"	100.00%
(Circ) CW SCANS	.145 sq"	50.00%
(Circ) CCW SCANS	.145 sq"	50.00%
		234.82%

$\frac{234.82\%}{4}$ = 58.7% TOTAL COVERAGE (SCAN DIRECTIONS)

CDS 01-C-193

LDS 01-L-141



TOTAL AREA = .26 sq"

SCANNED FROM :	Sq" :	% :
(AX) DS SIDE	.0989"	37.69%
(AX) US SIDE	.269"	100.00%
(CIRC) CW SCANS	.135sq"	50.00%
(CIRC) CCW SCANS	.135sq"	50.00%
		237.69%

$\frac{237.69\%}{4 \text{ (SCAN DIRECTIONS)}}$ = 59.42% TOTAL COVERAGE

Dennis P. Strickland III 4-26-01

DENNIS P. STRICKLAND

Page 205/240

Figure 5

Calibration Data Sheet

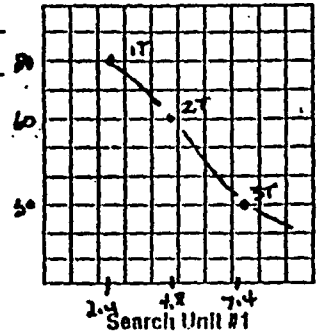
PDI

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: MAIN STEAM
Procedure No.: ITI 50.71
Rev/Chng. No.: 5
Cal. Block No: PIL-117
Cal. Block Temp.: 66°F Therm S/N
Size: 3" Sch.: .438" "T"
☒ Ferritic ☐ Austenitic
Each Major CRT Div. = .25"
Cal. Direction: (Axial) Circ. Both
Scan Area: ⊥ to Weld, ∥ to Weld

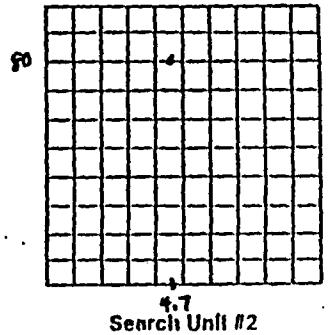
CDS: Ø1-C-252
LDS: ØV-L-199

Cal. Checks	Time
Initial Calib.	0824/0837
Initial Calib. Date	05-01-01
Intermediate	N
Intermediate	A
Final Calib.	1533/1536
Final Calib. Date	05-01-01

Couplant
Type: ULTRAGEL II
Batch: 00325



Search Unit #1
Manufacture: KBA
Serial No.: 006N3L
Size: .125" Shape: ROUND
Freq: 5.0 MHz Style: COMP G
Exam Angle: 45° Mode: SHEAR
Measured Angle: 45°
Wedge Style: NON-INTEGRAL



Search Unit #2
Manufacture: KBA
Serial No.: 006YWK
Size: .125" Shape: ROUND
Freq: 5.0 MHz Style: COMP G
Exam Angle: 70° Mode: SHEAR
Measured Angle: 70°
Wedge Style: NON-INTEGRAL

Examination Area/Weld	Access	Recordable Indications Yes.	No	Geom	Exam Sens.
1-SD-10R	US	N/A	✓	N/N	52.0dB / 68.0dB
		N			
			A		

Remarks/Reason for Incomplete Scan(s)
SINGLE SIDED EXAM DUE TO PIPE TO VALVE CONFIGURATION.

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1009L
Delay: 0.236" Range: 2.5"
M'tl Cal/Vel: 0.130"/µs Pulser: 100nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 5.0MHz
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 40.0dB Circ: 40.0dB
SCAN SENS.: 52.0dB/52.0dB

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1009L
Delay: 0.399" Range: 2.5"
M'tl Cal/Vel: 0.131"/µs Pulser: 100nS
Damping: 500Ω Reject: OFF
Rep.Rate: 4KHz Freq: 5.0MHz
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 68.0dB Circ: N/A
SCAN SENS.: 68.0dB

Examiners: [signature] Level II Date 05-01-01
[signature] Level III Date 5/1/01
Reviewers: [signature] NDT III Further Evaluation Required? Yes (No)

PDI

Page 1 of 2

Ultrasonic Examination Indication Report Sheet

CDS No: Ø1-C-252	EDS No: Ø1-E-253	Lo Location: Top Dead Center	Start Time 1000	Examiner: TC-1A-Level Dennis P. Strickland II
Item Identification: 1-SD-10R	TEMP. 72°F	Wo Location: Weld ℄	Finish Time 1100	Examiner: TC-1A-Level
Component Information: Diameter(nom): 3" Thickness: .438"		Procedure No. ITI 50.71	Rev. 5	Date: 05-01-01 Weld Crown Width: 1.1"

Ind #	Angle Used	% of DAC	Indication Length L 1	Max	L 2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45°				N/A				⊥ ∥	No Recordable Indications
N/A	70°				N/A				⊥	No Recordable Indications
								N	A	

ANII: [signature] Date 5-3-01

Reviewer(s) N/A Date N/A Reviewer(s) B Perkins NDT-III Date 5/2/01

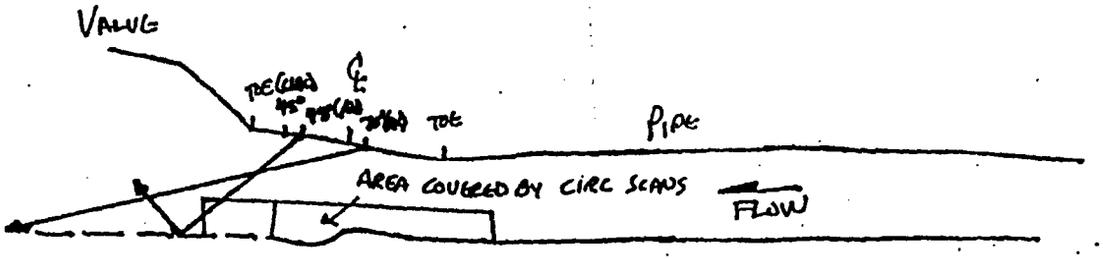
Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

Further Evaluation Required Yes ____ No X

Figure 6

EDS: 01-E-253

WELD 1-SD-10R



TOTAL AREA = .28 sq"

SCAN FROM:	sq":	%:
(AX) DS SCAN	.28 sq"	100%
(AX) US SCAN	.28 sq"	100%
(CIRC) CCW SCANS	.245 sq"	75%
(CIRC) CW SCANS	.245 sq"	75%
		350%

350% ÷ 4 (SCAN DIRECTIONS) = 87.5% TOTAL COVERAGE

Dennis P. Hill II 5-01-01

Page 2 of 2

Figure 5

Calibration Data Sheet

PDI

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: 2R-HB-1
Procedure No.: III-5087
Rev/Chng. No.: 0
Cal. Block No.: PIL-63
Cal. Block Temp. 72 Therm S/N
Size 12" Sch. .850" "T"
☐ Ferritic ☒ Austenitic
Each Major CRT Div. = 45°: 205/60°: 285°
Cal. Direction: Axial Circ. Both
Scan Area: I to Weld
II to Weld

LDS No: 01-L-140
C. Data Sheet # 01-C-155
Page 1 of 2

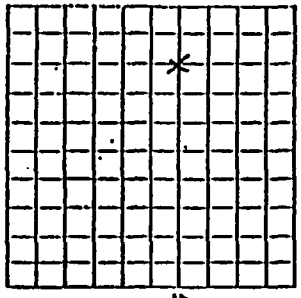
Cal. Checks	Time
Initial Calib.	1220
Initial Calib. Date	04/22/01
Intermediate	N/A
Intermediate	
Final Calib.	1830
Final Calib. Date	04/22/01

Couplant
Type: ULTRAGEL
Batch: 98325

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
2R-HB-1 45°	D/S	N/A	X	N/A	53.0
2R-HB-1 60°	D/S	X	N/A	X	62.6

Remarks/Reason for Incomplete Scan(s)
ONE SIDED EXAM DUE TO REDUCER, D/S SIDE ONLY. TOTAL COVERAGE ACHIEVED IS 75%. SEE ATTACHED PLOT.

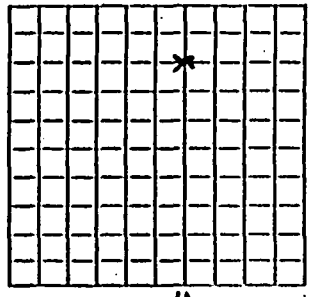
Examiners: [illegible] Level II Date 04/22/01
[illegible] Level II Date 4-22-01
Reviewers: [illegible] NDT III Further Evaluation Required? Yes No



Search Unit #1
Manufacture: KBA
Serial No.: 0080L-R
Size: .375 Shape: ROUND
Freq: 1.5MHz Style: MSWSC-Comp
Exam Angle: 45° Mode: SHEAR
Measured Angle: 44°
Wedge Style: NON-INTEGRAL

Search Unit Cable
Type: RG-174
Length: 12" No. 1

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1008L
Delay: .293 Range: 2.05
M'll Cal/Vel: .121 Pulser: 334
Damping: 500Ω Reject: OFF
Rep.Rate: 4K Freq: 2.25
Filter: 1 Mode: PE
Reference Sensitivity (Sens.)
Axial: 41.0 Circ: 41.0
SDH Sensitivity: N/A



Search Unit #2
Manufacture: KBA
Serial No.: M1511G
Size: .50" Shape: ROUND
Freq: 1.5" Style: MSWS
Exam Angle: 60° Mode: SHEAR
Measured Angle: 58°
Wedge Style: NON-INTEGRAL

Search Unit Cable
Type: RG-174
Length: 6' No. 1

Instrument Settings
Make/Model: STAVELEY/SONIC 136
Serial No: 1008L
Delay: .274 Range: 2.88"
M'll Cal/Vel: .121 Pulser: 334
Damping: 500Ω Reject: ___
Rep.Rate: 4K Freq: 2.25
Filter: 1 Mode: PE
Reference Sensitivity (Sens.)
Axial: 56.6 Circ: 56.6
SDH Sensitivity: N/A

Page 209/240

Figure 5

Calibration Data Sheet

PDI

LDS No: 01-L-148

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: 2B-HB-1
Procedure No.: ITI 50.87
Rev/Chng. No.: 0
Cal. Block No.: PIL-63
Cal. Block Temp.: 72 M8699 Therm S/N
Size: 12" Sch.: .850" "T"
☐ Ferritic ☒ Austenitic
Each Major CRT Div. = .269
Cal. Direction: Axial Circ. (Both)
Scan Area: (I) to Weld; II to Weld

C. Data Sheet #: 01-C-155
Page 2 of 2

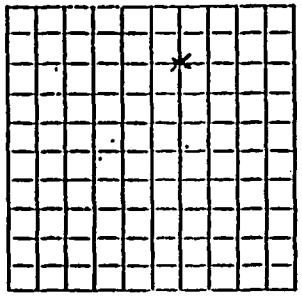
Cal. Checks	Time
Initial Calib.	1225
Initial Calib. Date	4-22-01
Intermediate	N/A
Intermediate	
Final Calib.	1830
Final Calib. Date	4-22-01

Couplant
Type: ULTRAGEL
Batch: 98325

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
2B-HB-1	D/S	N/A	X	N/A	71.2

Remarks/Reason for Incomplete Scan(s)
SCANNED AT REFERENCE SENSITIVITY, MAINTAINED 20% ID ROLL

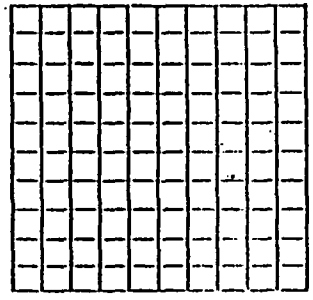
Examiners: Gary E Krauser Level II Date 04/22/01
[illegible] Level II Date 4-22-01
Reviewers: [illegible] NDT III Further Evaluation Required? Yes (No)



Search Unit #1
Manufacture: SIGMA
Serial No.: 22AF9001
Size: 2(14x8) Shape: RECT.
Freq: 2MHz Style: SDA
Exam Angle: 60° Mode: LONG
Measured Angle: 59°
Wedge Style: INTEGRAL

Search Unit Cable
Type: BUCLIMO
Length: 6' No. 2

Instrument Settings
Make/Model: STAVELEH SONIC
Serial No: 1008L
Delay: .848 Range: 2.69"
M'll Cal/Vel: .233 Pulser: .250
Damping: 500 Reject: OFF
Rep.Rate: 4Hz Freq: 2.25
Filter: 2 Mode: PE
Reference Sensitivity (Sens.)
Axial: 71.2 Circ: 71.2
SDH Sensitivity: N/A



Search Unit #2
Manufacture:
Serial No.:
Size: Shape:
Freq: Style:
Exam Angle: Mode:
Measured Angle:
Wedge Style:

N/A

Search Unit Cable
Type:
Length: No.

Instrument Settings
Make/Model:
Serial No:
Delay: Range:
M'll Cal/Vel: Pulser:
Damping: Reject:
Rep.Rate: Freq:
Filter: Mode:
Reference Sensitivity (Sens.)
Axial: Circ:
SDH Sensitivity:

PDI

Ultrasonic Examination Indication Report Sheet

CDS No: Ø1-E-156	CDS No: Ø1-C-155	Lo Location: TDC	Start Time 1500	Examiner: TC-1A-Level Amy E Krauser / Amy E Krauser L2
Item Identification: 2R-HB-1	TEMP 82°	Wo Location: CENTERLINE	Finish Time 1545	Examiner: TC-1A-Level SHANE CHARBONNET / L2
Component Information: HEADER TO BEND (22"→12") Diameter(nom): 12"	Thickness: .8"	Procedure No. ITI 50.87	Rev. 0	Date: 4/22/01 Weld Crown Width: .75"

Ind #	Angle Used	% of DAC	Indication Length L1	Max	L2	Max W'	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
1	60°S	100%	0	1.0"	360°	.9"	1.58	D/S	⊥	ID GEOMETRY SEEN 360° - INTERMITTENT AT VARIOUS LOWER AMPLITUDES
N/A	45°								⊥/∥	NO RECORDABLE INDICATIONS
N/A	60°RL								⊥	NO RECORABLE INDICATIONS
				N						
					A					

ANII: [illegible] Date 4-25-01

Reviewer(s) [illegible] Date 4/24/01 Reviewer(s) [illegible] Date 4/24/01

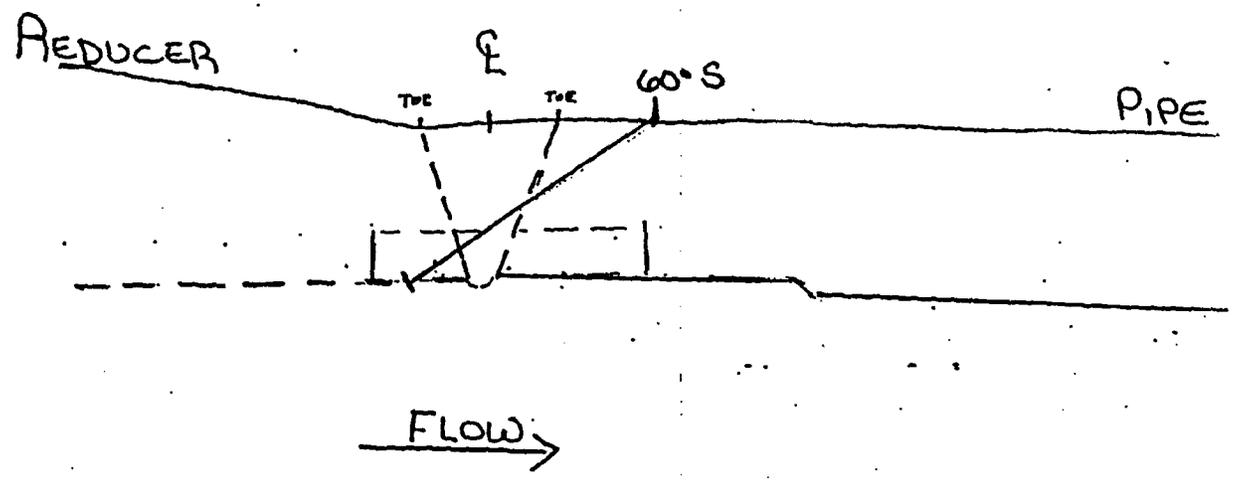
Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

Further Evaluation Required Yes ____ No X

Figure 6

Page 211/240

COMPONENT
2R-HB-1

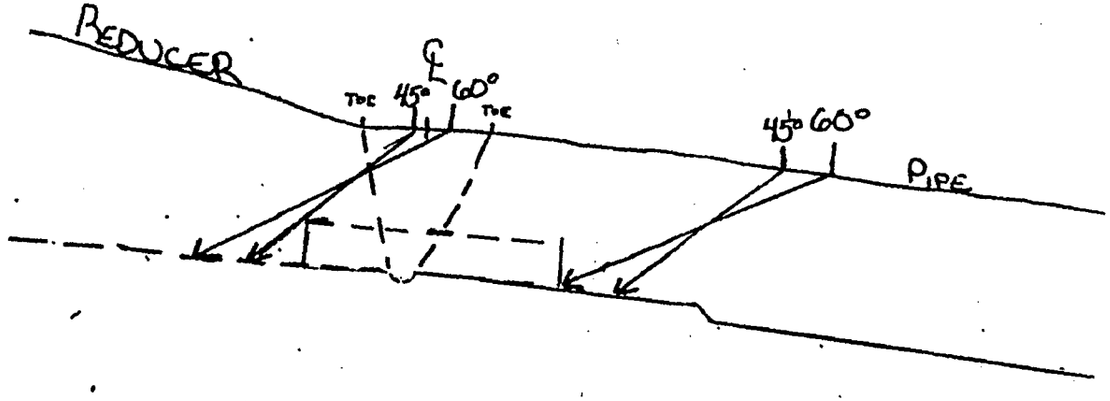


Amy E Kramer LVII
04/22/01

LVII
4-22-01

EDS# 01 156
Pg 3 of 3

COMPONENT
2R-HB-1



FLOW

COVERAGE
SCAN 1 - AXIAL UPSTREAM = 0%
SCAN 2 AXIAL DOWNSTREAM = 100%
SCAN 3 CIRC. CLOCKWISE = 100%
SCAN 4 CIRC. COUNTERCLOCKWISE = 100%
T[illegible] = 75%

Amy C Krauser LV II
04/22/01

LV II
4-22-01

Page 2/3/240

Figure 5

Calibration Data Sheet

PDI

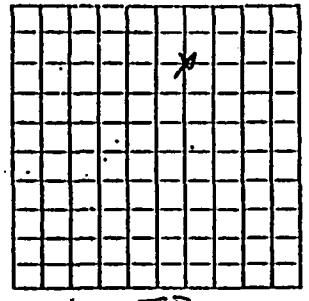
LDS No: 01-L-140

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: 2R-HB-4
Procedure No.: III-5087
Rev/Chng. No.: 0
Cal. Block No.: PIL-63
Cal. Block Temp.: 72 Therm S/N
Size: 12" Sch.: .850" T"
☐ Ferritic ☒ Austenitic
Each Major CRT Div. = 45°: 205/60°: 288"
Cal. Direction: Axial Circ. Both
Scan Area: I to Weld
II to Weld

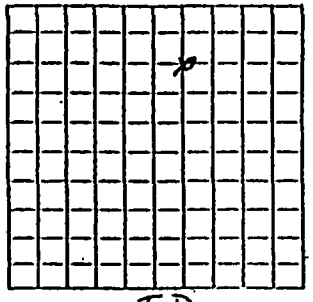
C. Data Sheet #: 01-C-157
Page 1 of 2

Cal. Checks	Time
Initial Calib.	1220
Initial Calib. Date	04/22/01
Intermediate	N
Intermediate	A
Final Calib.	1830
Final Calib. Date	04/22/01

Couplant
Type: ULTRAGEL
Batch: 98325



ID
Search Unit #1
Manufacture: KBA
Serial No.: 0080L-R
Size: .375 Shape: ROUND
Freq: 1.5MHz Style: MSWDC-Comp
Exam Angle: 45° Mode: SHEAR
Measured Angle: 44°
Wedge Style: NON-INTEGRAL



ID
Search Unit #2
Manufacture: KBA
Serial No.: M1511G
Size: .50" Shape: ROUND
Freq: 1.5" Style: MSWS
Exam Angle: 60° Mode: SHEAR
Measured Angle: 58°
Wedge Style: NON-INTEGRAL

Search Unit Cable
Type: RG-174
Length: 12' No. 1

Search Unit Cable
Type: RG-174
Length: 6' No. 1

Instrument Settings
Make/Model: STANLEY/SONIC 136
Serial No: 1008L
Delay: .293 Range: 2.05
M'll Cal/Vel: .121 Pulser: 334
Damping: 500Ω Reject: OFF
Rep.Rate: 4K Freq: 2.25
Filter: 1 Mode: P/E
Reference Sensitivity (Sens.)
Axial: 41.0 Circ: 41.0
SDH Sensitivity: N/A

Instrument Settings
Make/Model: STANLEY/SONIC 136
Serial No: 1008L
Delay: .274 Range: 2.88"
M'll Cal/Vel: .121 Pulser: 334
Damping: 500Ω Reject: ___
Rep.Rate: 4K Freq: 2.25
Filter: 1 Mode: PE
Reference Sensitivity (Sens.)
Axial: 56.6 Circ: 56.6
SDH Sensitivity: N/A

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
2R-HB-4 45°	D/S	N/A	X	N/A	53.0
2R-HB-4 60°	D/S	N/A	X	N/A	62.6

Remarks/Reason for Incomplete Scan(s)
ONE SIDED EXAM DUE TO REDUCER. SCANNED D/S ONLY. TOTAL COVERAGE ACHIEVED IS 75%. SEE ATTACHED PLOT

Examiners: Amy E. Krauser Level II Date 04/22/01
[signature] Level II Date 4-22-01
Reviewers: B Perkins NDT III Further Evaluation Required? Yes (No)

Page 21 of 24

Figure 5

Calibration Data Sheet

PDI

LOS No: 01-L-140

Plant/Unit: PNPS
Company: ENTERGY
Comp/System: 2R-HB-4
Procedure No.: ITT 50.87
Rev/Chng. No.: 0
Cal. Block No.: PIL-63
Cal. Block Temp.: 72 M8699 Therm S/N
Size: 12" Sch.: .850 "T"
☐ Ferritic ☒ Austenitic
Each Major CRT Div. = .269
Cal. Direction: Axial Circ. (Both)
Scan Area: I to Weld, II to Weld

C. Data Sheet #: 01-C-157
Page 2 of 2

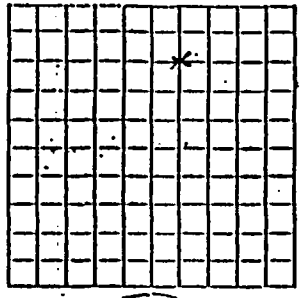
Cal. Checks	Time
Initial Calib.	1225
Initial Calib. Date	04/22/01
Intermediate	N/A
Intermediate	
Final Calib.	1830
Final Calib. Date	04/22/01

Couplant
Type: ULTRAGEL
Batch: 98325

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
2R-HB-4	D/S	N/A	X	N/A	71.2

Remarks/Reason for Incomplete Scan(s)
SCANNED AT REFERENCE SENSITIVITY, MAINTAINED 20% ID ROLL

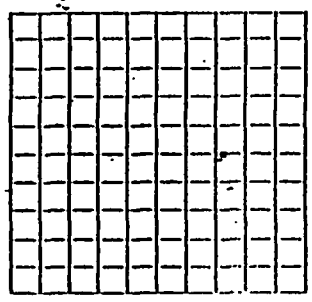
Examiners: Amy E Krauser Level II Date 04/22/01
[signature] Level II Date 4-22-01
Reviewers: B Perkins NOT III Further Evaluation Required? Yes (No)



Search Unit #1
Manufacture: SIGMA
Serial No.: 22AF9001
Size: 2(4x8) Shape: RECT.
Freq: 2MHz Style: SDA
Exam Angle: 60° Mode: LONG
Measured Angle: 59°
Wedge Style: INTEGRAL

Search Unit Cable
Type: BIXLUMO
Length: 6' No. 2

Instrument Settings
Make/Model: STAVELEY/SONIC
Serial No: 10081
Delay: .848 Range: 2.69"
M'll Cal/Vel: .233 Pulser: .250
Damping: 500 Reject: OFF
Rep.Rate: 4K Freq: 2.25
Filter: 2 Mode: PE
Reference Sensitivity (Sens.)
Axial: 71.2 Circ: 71.2
SDH Sensitivity: N/A



Search Unit #2
Manufacture:
Serial No.:
Size: Shape:
Freq: Style:
Exam Angle: Mode:
Measured Angle:
Wedge Style:

N/A

Search Unit Cable
Type:
Length: No.

Instrument Settings
Make/Model:
Serial No:
Delay: Range:
M'll Cal/Vel: Pulser:
Damping: Reject:
Rep.Rate: Freq:
Filter: Mode:
Reference Sensitivity (Sens.)
Axial: Circ:
SDH Sensitivity:

Page 215/240

PDI

Page 1 of 2

Ultrasonic Examination Indication Report Sheet

EDS No: Ø1-E-158	CDS No: Ø1-C-157	Lo Location: TDC	Start Time 1420	Examiner: TC-1A-Level ANDYE KRAUSER LVII
Item Identification: 2R-HB-4	TEMP 82°	Wo Location: CENTERLINE	Finish Time 1450	Examiner: TC-1A-Level SHANE CHARBONNET LVII
Component Information: HEADER-BEND (PDS-12") Diameter(nom): 12" Thickness: .8		Procedure No. ITI-50.87	Rev. 0	Date: 4/22/01 Weld Crown Width: .75

Ind #	Angle Used	% of DAC	Indication Length L 1	Max	L 2	Max W	MP	OD S.U. Loc.	Scan Direction ⊥ ∥	Remarks
N/A	45° S								⊥/∥	NO RECORDABLE INDICATIONS
N/A	60° S								⊥	NO RECORDABLE INDICATIONS
N/A	60° RL								⊥	NO RECORDABLE INDICATIONS

N/A

ANII: [illegible] Date 4-25-01

Reviewer(s) [illegible] Date 4/24/01 Reviewer(s) [illegible] Date 4/24/01

Component ☒ Meets, ☐ Does Not Meet ASME Section XI 1989

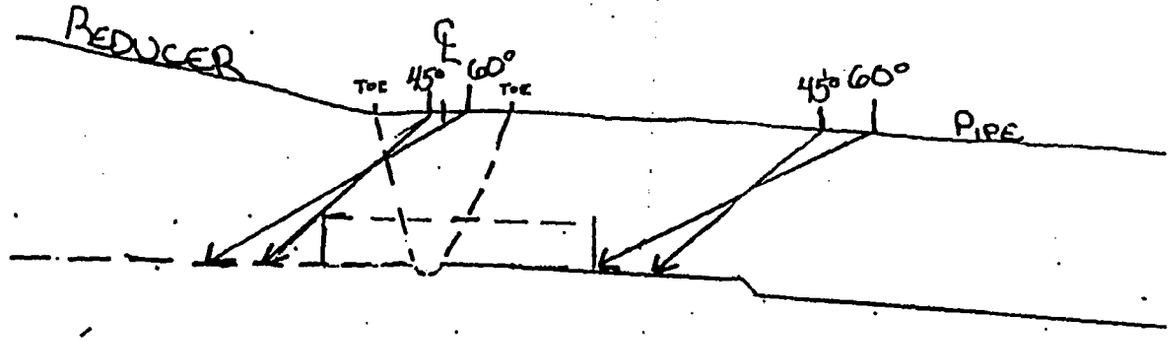
Further Evaluation Required Yes ____ No X

Page 2 of 2

Figure 6

EDS# 01-E-8
P9 2 of 2

COMPONENT
2R-HB-4



FLOW

COVERAGE

SCAN 1 AXIAL UPSTREAM = 0%
SCAN 2 AXIAL DOWNSTREAM = 100%
SCAN 3 CIRC CLOCKWISE = 100%
SCAN 4 CIRC COUNTERCLOCKWISE = 100%
TOTAL COVERAGE = 75%

Amy E Kramer LVII
04/22/01

LVII
4-22-01

Page 21 of 40

ATTACHMENT 9.4 — LIQUID PENETRANT EXAMINATION REPORT

Page 1 of 1

☐ IP2 ☐ IP3 ☐ JAF ☑ PNPS ☐ VY — Report No: 05-P-432-151

WORK AUTHORIZATION	ISO/DWG	COMPONENT/WELD/ITEM #	Procedure No:	REV.
03116627	N/A	CRDM	ENN-NDE-9.41	0

MAT'L TYPE	TEMPERATURE	TEMP. INST. #	SURFACE CONDITION
☐ CS ☑ SS ☐	EXAM SURF. 80°F	208 DUE DATE 8-9-05 ☑ MATE LOGGED	☑ WELDED ☐ GROUND ☐ FORGED ☐ COATED ☐ BRUSHED ☐ MACHINED ☐ SAND-BLASTED ☐

TECHNIQUE: ☑ SOLVENT REMOVABLE ☐ WATER WASHABLE

METHOD: ☑ VISIBLE ☐ FLUORESCENT

BLACK LIGHT: MODEL N/A SN N/A

BLACK LIGHT METER: N/A
CAL DUE DATE: N/A

CLEANER	PENETRANT	DEVELOPER
Manufacturer: SHERWIN	Manufacturer: SHERWIN	Manufacturer: SHERWIN
Type: DOUBL CHEK DR-60	Type: DOUBLCHEK DP-40	Type: DOUBL CHEK- D-100
BATCH # 524641	BATCH # B/N 517-E1	BATCH # A1988/CB 876G

EXAMINATION RESULTS

PART IDENTIFICATION	ACC	REJ	IND. CODE	REMARKS *
CRDM WELD - Loc 30-51	✓		4	LIMITED TO 50% WELD AREA
				DUE TO ACCESSABILITY
CRDM WELD - Loc 14-51	✓		4	LIMITED TO 70% WELD AREA
				DUE TO ACCESSABILITY

ACCEPTANCE CRITERIA: ASME SEC. XI — WO 4-19-05

% COMPLETE: SEE REMARKS — LIMITATIONS: SEE REMARKS

INDICATION CODE: 1: ROUNDED 2: LINEAR 3: NO INDICATIONS 4: NO RELEVANT INDICATIONS. 5: OTHER

SKETCHES OR COMMENTS SKETCH-Indicate size, location, orientation, and distribution of indications. Provide dimensions on all sketches. Use additional sheets if required.

EXAMINED BY/LEVEL/DATE	EXAMINED BY/LEVEL/DATE
Douglas L Bockey 4-19-05	N/A
Company FINAL REVIEW LEVEL III/DATE: WS Nicholas Stum III 4/26/05	ANII REVIEW/DATE: Curt Hansen 5/8/05

* QA Category and ASME XI Class

ATTACHMENT 9.4 — LIQUID PENETRANT EXAMINATION REPORT

Page 1 of 1

☐ IP2 ☐ IP3 ☐ JAF ☑ PNPS ☐ VY — Report No: 05-P-433-151

WORK AUTHORIZATION: 03116627 | ISO/DWG: N/A | COMPONENT/WELD/ITEM #: CRDM | Procedure No: ENN-NDE-9.41 REV. 0

MAT'L TYPE: ☐ CS ☑ SS ☐ | TEMPERATURE: EXAM SURF. 80°F | TEMP. INST. #208 DUE DATE 8-9-05 ☑ M&TE LOGGED | SURFACE CONDITION: ☑ WELDED ☐ GROUND ☐ FORGED ☐ COATED ☐ BRUSHED ☐ MACHINED ☐ SAND-BLASTED ☐

TECHNIQUE: ☑ SOLVENT REMOVABLE ☐ WATER WASHABLE

METHOD: ☑ VISIBLE ☐ FLUORESCENT | BLACK LIGHT MODEL N/A SN N/A | BLACK LIGHT METER: N/A CAL DUE DATE: N/A

CLEANER: Manufacturer: SHERWIN, Type: DOUBL CHEK DR-60, BATCH # 524G41
PENETRANT: Manufacturer: SHERWIN, Type: DOUBL CHEK, BATCH # B/N S17-E1
DEVELOPER: Manufacturer: SHERWIN, Type: DOUBL CHEK - D-100, BATCH # A19881 / CB 8766

EXAMINATION RESULTS

PART IDENTIFICATION	ACC	REJ	IND. CODE	REMARKS *
CRDM WELD - LOC. 42-47	✓		4	Limited to 50% weld area due to accessability
CRDM WELD - LOC. 48-11	✓		4	Limited to 65% weld are due to accessability

ACCEPTANCE CRITERIA: ASME SEC. XI — WS 4-19-05

% COMPLETE: SEE REMARKS — LIMITATIONS: SEE REMARKS

INDICATION CODE: 1: ROUNDED 2: LINEAR 3: NO INDICATIONS 4: NO RELEVANT INDICATIONS. 5: OTHER

SKETCHES OR COMMENTS — SKETCH-Indicate size, location, orientation, and distribution of indications. Provide dimensions on all sketches. Use additional sheets if required.

EXAMINED BY/LEVEL/DATE: Kenneth R. Ellis II 4-19-05 | EXAMINED BY/LEVEL/DATE: N/A

Company FINAL REVIEW LEVEL/TLD#/DATE: WS [signature] III 4/26/05 | ANII REVIEW/DATE: [signature] 5/8/05

* QA Category and ASME XI Class

BOSTON EDISON COMPANY RECORD OF MAGNETIC PARTICLE EXAMINATION	DATA SHEET # 97-M-334 Pg 1 of 2

ITEM ID/PIECE #	SYSTEM 23 LOCATION Torus	MR #	ISO/DWG NUMBER
EB-23-13HL1 (4)		19600295	ISI-I-23-2 REV. E4

A. MATERIAL	TYPE CS

CROSS SECTION THICKNESS	MAX	MIN	GEOMETRY	PIPE	PLATE	ROD	OTHER
	VARIOUS			___	___	___	X LUG'S

FABRICATION PROCESS	CAST	WORKED	WELDED	OTHER ___

SURFACE	MACHINED	GROUND	AS FABRICATED	OTHER	INSPECTION HOLD PT
					FINAL MT

SURFACE IS SUITABLE FOR SCHEDULED X MT N/A UT EXAMINATION YES/NO

SKETCH OR OTHER DETAIL ATTACHED YES/NO | WEIGHT X 10 LB. ___ 40 LB

B.	PROCEDURE #	QCI 50.20	EQUIPMENT IDENTIFICATION
	VALIDATION #	N-A	X AC ___ HWAC
	POLE SPACING	4" TO 6"	5156

C. EVALUATION

LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY.)
1 NO RECORDABLE INDICATIONS			ACCEPT AS LIMITED EXAMINATION
2			DUE TO HANGER CLAMP SEE
3			SKETCH
4			
5			CODE COVERAGE 87.5%
6			
7			

D. CRITERIA: ASME SECT XI 1989

E. ATTEST

COMPONENTS MEET/DO NOT MEET ASME SECTION XI ACCEPTANCE CRITERIA, FURTHER EVALUATION REQUIRED ___ YES X NO

C Gills | R Gurney | II / II | 3/18/97
RESPONSIBLE CERTIFIED PERSONNEL | LEVEL | DATE

GE REVIEWED BY: [illegible] 3/19/97

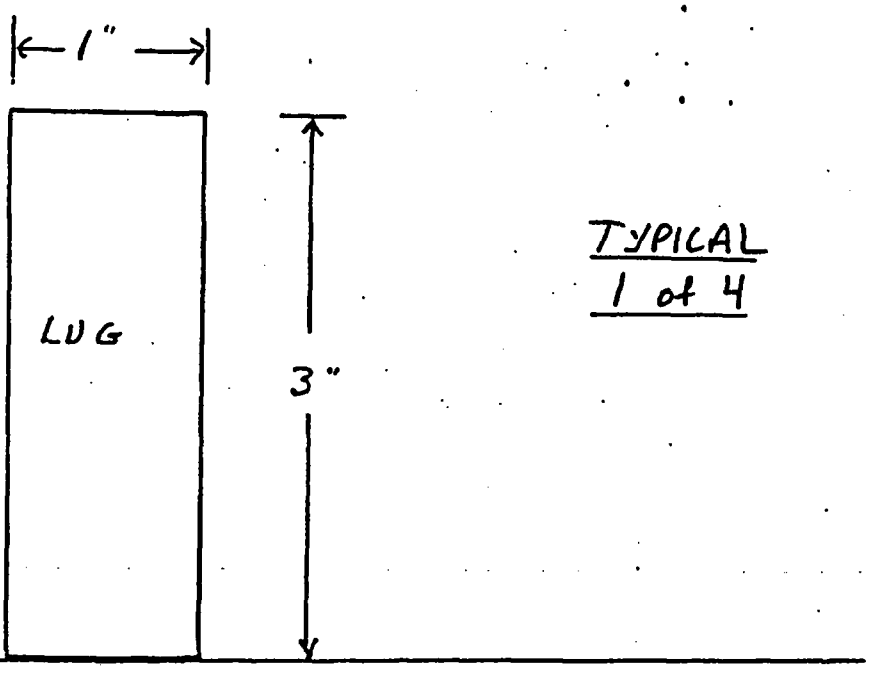
B Pickens 3/19/97 | [illegible] 3/19/97
BECO LEVEL III DATE | ANI DATE

Page 1 of 2

Page 220/240

SKETCH SHEET

ITEM ID# EB-23-13HL1 (4) me# 19600295



TYPICAL
1 of 4

HANGER CLAMP TYPICAL

LIMITED EXAM DUE TO HANGER CLAMP

CODE COVERAGE 87.5%

C. Efell Lvl II 3-18-97

RECORD OF MAGNETIC PARTICLE EXAMINATION			DATA SHEET # 01-M-272
ITEM ID/PIECE #	SYSTEM (23) HPCI	MR#	ISO/DWG NUMBER
EB-23-59HL1 (4)	LOCATION HPCI Room ELV. 10'	10000542	1S1-1-23-2
A. MATERIAL	TYPE CARBON STEEL		

CROSS SECTION THICKNESS	MAX	MIN	GEOMETRY	PIPE	PLATE	ROD	OTHER
	N/A	N/A		N/A	N/A	N/A	LUG TO PIPE WELDS

FABRICATION PROCESS: CAST WORKED WELDED OTHER _____

SURFACE	MACHINED GROUND AS FABRICATED	OTHER	INSPECTION HOLD PT 1.S.1.

SURFACE IS SUITABLE FOR SCHEDULE ☑ MT ~~N/A~~ UT EXAMINATION ☑ YES ☐ NO

SKETCH OR OTHER DETAIL ATTACHED YES/NO | WEIGHT ☑ 10 LB ☐ 40 LB

B. PROCEDURE # IT 50.20
VALIDATION # N/A
POLE SPACING 6"

EQUIPMENT IDENTIFICATION
AC ☑ HWAC ☐
S/N 69

C. EVALUATION
N.R.I. OBTAINED 83.3% COVERAGE DUE TO LUG TO CLAMP CONFIGURATION.

LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY)
1.			
2.			
3.		N	
4.			A
5.			
6.			
7.			

D. CRITERIA: COMPONENTS MEET/DO NOT MEET ASME SECTION XI CRITERIA
FURTHER EVALAUTION REQUIRED ☐ YES ☒ NO

E. ATTEST: ASME SECT. XI 1989

RESPONSIBLE CERTIFIED PERSONNEL		LEVEL II	DATE 5/3/01
NDT LEVEL III	DATE 5/3/01	ANII	DATE 5/4/01

B Perkins 5/3/01
ENTERGY III DATE

BOSTON EDISON COMPANY RECORD OF MAGNETIC PARTICLE EXAMINATION	DATA SHEET # page 1 of 2 97-M-302

ITEM ID/PIECE #	SYSTEM 10 LOCATION RHR A Quad	MR #	ISO/DWG NUMBER	RN. E4
HL-10-200HL1(4)		19600301	ISI-I-10-4A-SH-1	

A. MATERIAL	TYPE CS

CROSS SECTION THICKNESS	MAX VARIOUS	MIN	GEOMETRY	PIPE ___	PLATE ___	ROD ___	OTHER X LUG'S

FABRICATION PROCESS	CAST	WORKED	WELDED	OTHER ___

SURFACE	MACHINED	GROUND	AS FABRICATED	OTHER	INSPECTION HOLD PT FINAL MT

SURFACE IS SUITABLE FOR SCHEDULED X MT N/A UT EXAMINATION (YES)/NO

SKETCH OR OTHER DETAIL ATTACHED (YES)/NO | WEIGHT X 10 LB. ___ 40 LB

B.	PROCEDURE #	QCI 50.20	EQUIPMENT IDENTIFICATION
	VALIDATION #	N-A	X AC ___ HWAC
	POLE SPACING	4"-6"	5156

C. EVALUATION

ATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY.)
1 NO RECORDABLE		INDICATIONS	LIMITED EXAMINATION. ACCEPT
2			(LIMITED ON UPSTREAM SIDE of Lug's by
3			HANGER CLAMP SEE SKETCH.)
4			
5			CODE COVERAGE 90%
6			
7			

D. CRITERIA: ASME SECT. XI 1989

E. ATTEST

COMPONENTS (MEET)/DO NOT MEET ASME SECTION XI ACCEPTANCE CRITERIA, FURTHER EVALUATION REQUIRED ___ YES X NO

C. Ellis / ___ / II / 3/14/97
RESPONSIBLE CERTIFIED PERSONNEL LEVEL DATE

GE REVIEWED BY: [illegible] LV III 3/14/97

B Perkins 3/14/97 | [illegible] 3/14/97
BECO LEVEL III DATE | ANI DATE

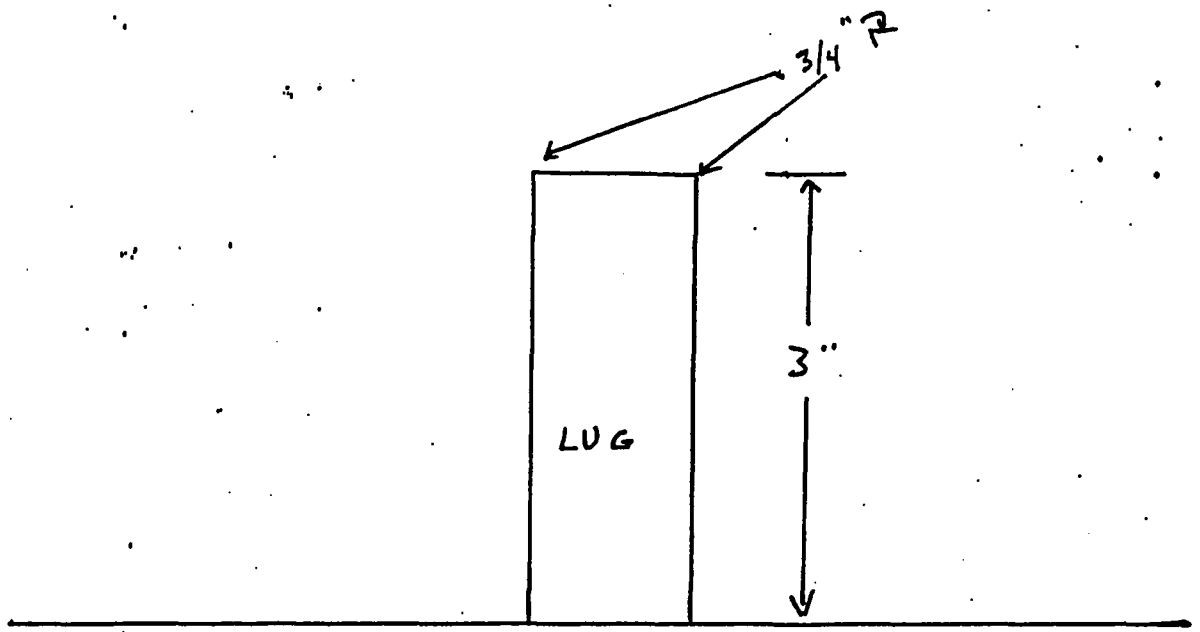
Page 1 of 2

Page 223/240

SKETCH SHEET

ITEM ID # HL-10-200HL (4)

FOR DATA SHEET # 97-M-302
page 2 of 2



HANGER CLAMP

TYPICAL 1 of 4

CODE COVERAGE 90%

C. Schell LL II 3-18-97

PAGE 2 of 2

Calibration Data Sheet

Entergy

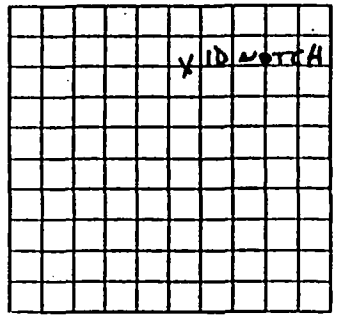
CDS No: 05-C-~~377~~-151
LDS No: 05-L-~~378~~-151 (991)
Page: 4 of 4

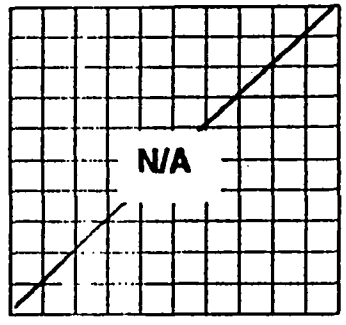
Plant/Unit: PILGRIM / 1
System: CORE SPRAY
Component: GB-14-F34
Line No.: 6" - GB-14
Procedure: ENN-NDE-9.10 Rev.: Ø
Thermometer S/N: 232
Cal. Blk Temp.: 63°F Comp Temp.: 64°F
Cal. Block No.: PIL - 96
☐ Carbon Steel ☒ Stainless Steel
Size: 6" Sch.: .432"
Cal Direction ☒ Axial ☐ Circ ☐ Both
Scan Area ☒ ⊥ to weld
Scan Area ☐ ∥ to weld

Work Order: 03116642
DWG No.: ISI I 14-2B

Cal Checks	Time
Initial Cal.:	0945
Date: 4-25-05	
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	1605
Date: 4-25-05	

Couplant
Type: ULTRAGEL II
Batch: 01225





Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
GB-14 - F34	SINGLE	N/A	✓	N/A	66.2*

Remarks
* SCANNED BELOW REFERENCE DUE TO HIGH NOISE LEVELS

Further Evaluation Required: ☐ Yes ☐ No

Examiner: [signature] Level: III Date: 4-25-05
Examiner: N/A Level: N/A Date: N/A
Reviewer: [signature] Level: III Date: 4/27/05
ANII: [signature] Date: 5/7/05

Search Unit # 1
Manufacturer: RTD
Model: TRLA
Serial No.: 98-1082
Size: 2(7x10) Shape: RECT
Freq.: 2 MHz # Elm: 2
Angle: 70° Mode: LONG
Measured Angle: 71°
Wedge Style: INTEGRAL

Search Unit Cable
Type: RG 174
Length: 6' # Con.: Ø

Instrument Settings
Manufacturer: STANELEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: .815 Range: 2.00
Mtl. Vel.: .230 Pulser: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL

Reference Sensitivity
Axial: 72.2 Circ: N/A

Search Unit # 2
Manufacturer:
Model:
Serial No.:
Size: Shape:
Freq.: # Elm:
Angle: Mode:
Measured Angle:
Wedge Style:

Search Unit Cable
Type:
Length: # Con.:

Instrument Settings
Manufact
Model:
Serial No.:
Linearity Due:
Delay: Range:
Mtl. Vel.: Pulser:
Damping: Reject:
Rep Rate: Freq.:
Filter: Mode:

Reference Sensitivity
Axial: Circ:

N/A

Page 224/240

Entergy

Examination Data Sheet

EDS No: 05-E-~~380~~ 493-151
CDS No: 05-C-~~379-151~~ 492-151
LDS No: 05-L-~~378-151~~ 491-151
Page: 1 of 4

Plant/Unit: PILGRIM / 1	System: CORE SPRAY	Component: GB-14-F34	Procedure: ENN-NDE-9.10 Revision: Ø
Work Order: 03116642	DWG No.: ISI I 14-2B	☒ Carbon Steel ☒ Stainless Steel	Start Time/Date: 1345 / 4-25-05 Finish Time/Date: 1540 / 4-25-05
Examination Area / Weld No.: GB-14-F34	Line No.: 6"-GB-14	Size: 6" Schedule: .280"	Lo Location: N/A Wo Location: N/A

Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:
			L1	L Max	L2	W	MP			
N.R.I.										

Further Evaluation Required: ☐ Yes ☒ No

Limitations: ONE SIDED EXAM — 29.75% C.R.V.

Remarks
N/A

Examiner: [signature] Level: III Date: 4-25-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4/27/05		ANII: [signature] Date: 5/7/05	

Page 28 of 40

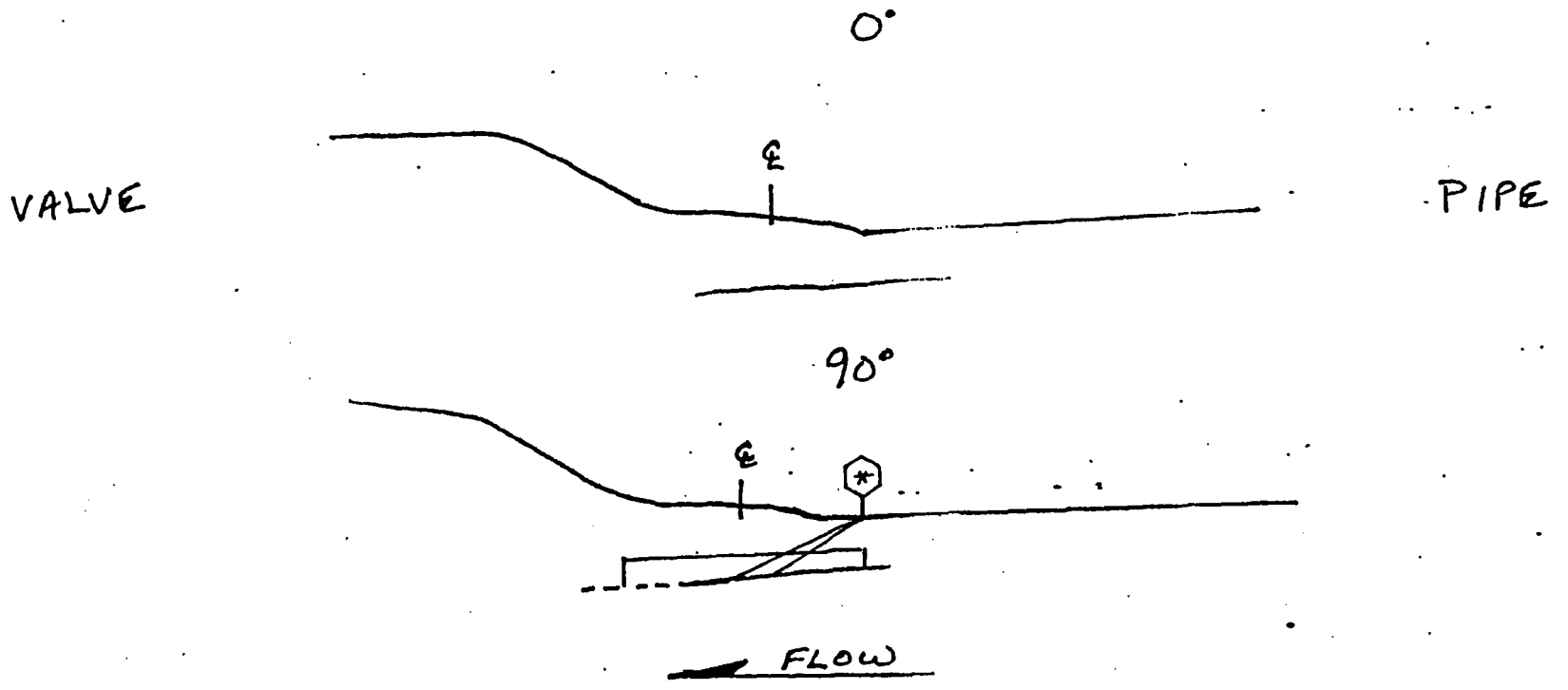
Entergy

Sketch Sheet

Data Sheet No: 05-E-~~330~~ 493-151 MMB 5/9/05

Page: 2 of 4

Plant/Unit:	System:	Component:	Procedure: ENN-NDE-9.6
PILGRIM / 1	CORE SPRAY	GB-14-F34	Revision: 0
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
GB-14-F34	ISI I 14-2B	6"-GB-14	03116642



(*) FORWARD POINT OF 60° & 70° SHEAR EXAMS.

Examiner: [signature] Level: III Date: 4-25-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4/27/05		ANII: [signature] Date: 5/9/05	

Page 226/240

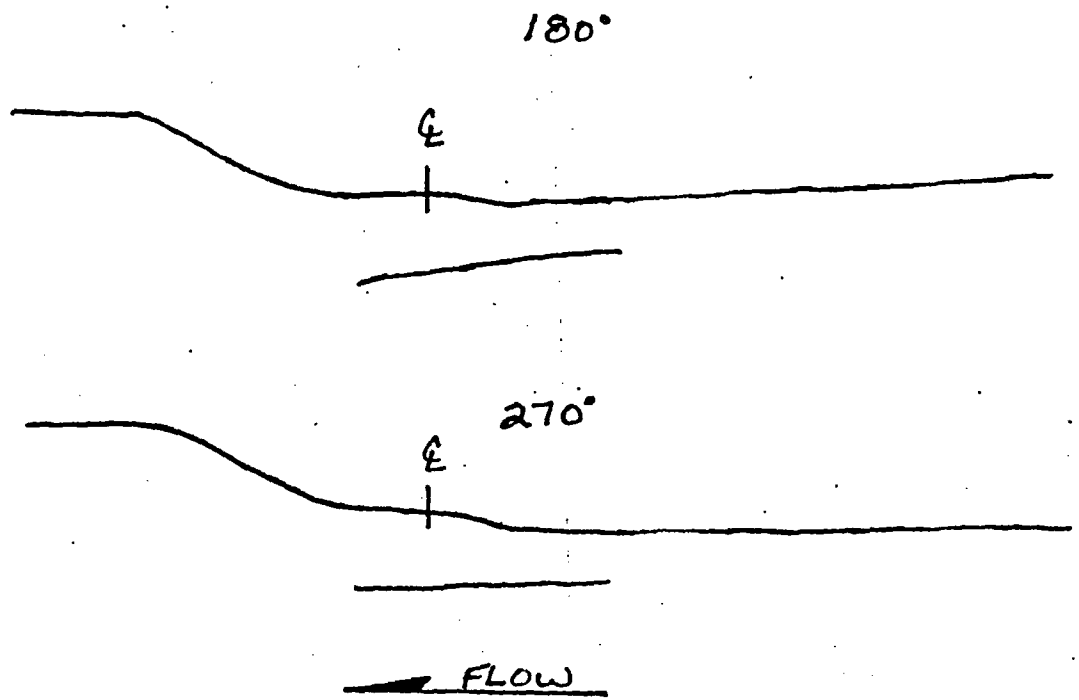
Entergy

Sketch Sheet

Data Sheet No: 05-E-~~384~~ 493-151 [illegible] 5/9/05

Page: 3 of 4

Plant/Unit:	System:	Component:	Procedure: ENN-NDE-910
PILGRIM / 1	CORE SPRAY	GB-14-F34	Revision: Ø
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
GB-14-F34	ISI I 14-2B	6"-GB-14	03116642



Examiner: [signature] Level: III Date: 4-25-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4/27/05		ANII: [signature] Date: 5/7/05	

Page 227/240

Entergy

Sketch Sheet

Data Sheet No: 05-E-~~380~~ 493-151 5/17/05

Page: 4 of 4

Plant/Unit:	System:	Component:	Procedure: ENN-NDE-9.10
PILGRIM / 1	CORE SPRAY	GB-14-F34	Revision: Ø
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
GB-14-F34	ISI I 14-2B	6"-GB-14	03116642

GB-14-F34 PREP DID NOT MEET PARA. 5.3.4.9 OF ENN-NDE-9.10. DUE TO SURFACE GAPS EXCEEDING 1/32" NO COVERAGE WAS CLAIMED ON WELD IN AX OR. CIRC DIRECTIONS. 60° SHEAR WAS SCANNED IN CIRC DIRECTION TO ENHANCE 45° SCAN DUE TO WIDE WELD CROWN. 60° & 70° RL'S WERE SCANNED FROM PIPE SIDE BUT WELD CROWN REINFORCEMENT PRECLUDED SUFFICIENT FORWARD MOVEMENT FOR SOUND TO REACH THE WELD CENTERLINE.

CODE REQUIRED VOLUME:

AXIAL SCANS	-	40%
CIRC SCANS	-	19.5%
CRV	-	29.75%

Box (.11 x 1.40) LO 4-23-05

TOTAL EXAM AREA - .154 in²

AXIAL AREA SCANNED - .0735 in²

CIRC AREA SCANNED - .013 in²

Examiner: [signature]	Level: III Date: 4-25-05	Examiner: N/A	Level: N/A Date: N/A
Reviewer: [signature]	Level: III Date: 4/27/05	ANII: [signature]	Date: 5/2/05

Page 228/240

RECORD OF MAGNETIC PARTICLE EXAMINATION			DATA SHEET # 03-M-064 P2/of2
ITEM ID/PIECE #	SYSTEM	MR#	ISO/DWG NUMBER
GB-10-9-2E	RHR LOCATION TORUS ROOM	01115999	ISI-I-10-4B SH.1
A. MATERIAL	TYPE C.S.		

CROSS SECTION THICKNESS	MAX .375"	MIN N/A	GEOMETRY	PIPE ✓	PLATE	ROD	OTHER

FABRICATION PROCESS: CAST WORKED (WELDED) OTHER _____

SURFACE: (MACHINED GROUND) AS FABRICATED OTHER | INSPECTION HOLD PT: I.S.I.

SURFACE IS SUITABLE FOR SCHEDULE ☑ MT ☑ UT EXAMINATION ☑ YES ☐ NO

SKETCH OR OTHER DETAIL ATTACHED (YES) NO | WEIGHT ☑ 10 LB ☐ 40 LB

BEFORE AND AFTER

B. PROCEDURE # 50.20
VALIDATION # N/A
POLE SPACING 6"

EQUIPMENT IDENTIFICATION
AC ☑ HWAC ☐
S/N 70

C. EVALUATION

LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY)
1.			NRI- ACCEPT
2.			85% coverage obtained.
3.			BP
4.			
5.	ISI GROUP NOTIFIED.		
6.		BP 4/1/03	
7.			

D. CRITERIA: COMPONENTS (MEET) DO NOT MEET ASME SECTION XI CRITERIA
FURTHER EVALAUTION REQUIRED ☐ YES ☑ NO

ASME XI 1989

E. ATTEST

[signature]		II	3/27/03
RESPONSIBLE CERTIFIED PERSONNEL		LEVEL	DATE
[signature]	4-1-03	[signature]	4/1/03
NDT LEVEL III	DATE	ANII	DATE

D.S. No. 03-M-064
Pg 2 of 2

DATA SHEET # 03-M-064
COMPONENT: GB 10-9-2E
PAGE 2 OF 2

Page 230/240

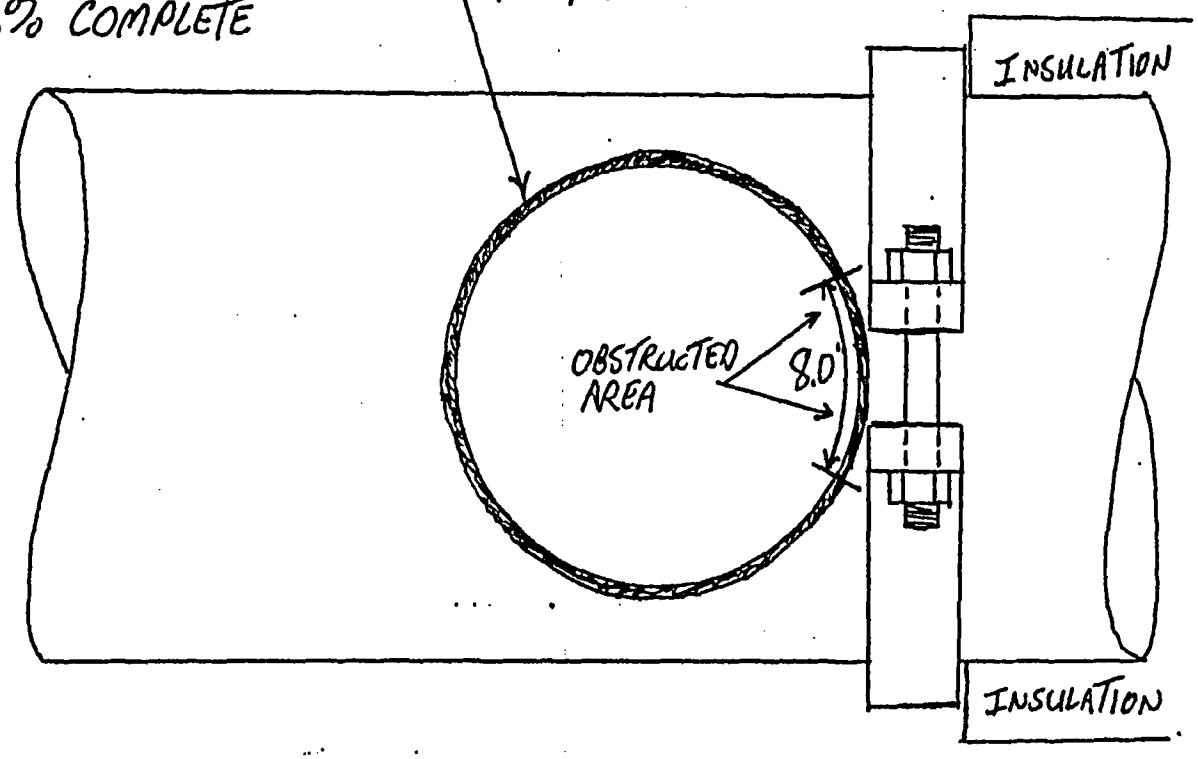
VIEWED FROM TOP
LOOKING DOWN

8.0" OBSTRUCTED AREA
CIRCUMFERENCE = 53"

FLOW →

WELD# GB-10-9-2E

85% COMPLETE



EXAMINER [signature] LEVEL II DATE 3-27-03

Figure 5

Calibration Data Sheet

PDI

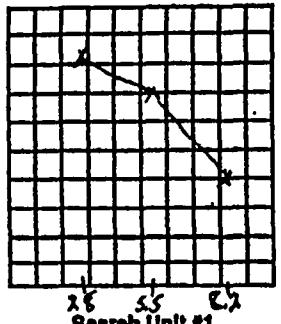
LOS NO. 03-L-046

Plant/Unit: PILGRIM / U1
Company: ENTERGY
Comp/System: RHR
Procedure No.: 5071
Rev/Chng. No.: 6/0
Cal. Block No.: PIL-47A
Cal. Block Temp. 67° 122597 Therm S/N
Size 18" Sch. 0.375" "T"
☒ Ferritic ☐ Austenitic
Each Major CRT Div. = 0.2/0.25"
Cal. Direction: (Axial) Circ. Both
Scan Area: ⊥ to Weld ✓
|| to Weld

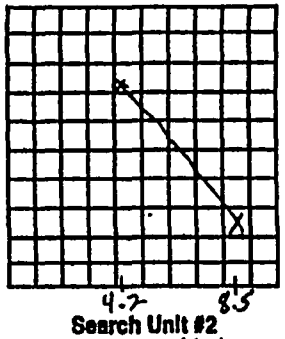
Data Sheet # 03-C-072
Page 1 of 1

Cal. Checks	Time
Initial Calib.	1745 / 1748
Initial Calib. Date	3-27-03
Intermediate	N /
Intermediate	/ A
Final Calib.	2049 / 2050
Final Calib. Date	3-27-03

Couplant
Type: ULTRA GEL II
Batch: 00325



Search Unit #1
Manufacture: KBA
Serial No.: 00WPL4
Size: 0.25" Shape: ROUND
Freq: 5.0 Style: COMP-6
Exam Angle: 45 Mode: SHEAR
Measured Angle: 46
Wedge Style: ST



Search Unit #2
Manufacture: KBA
Serial No.: 00WPL4
Size: 0.25" Shape: ROUND
Freq: 5.0 Style: COMP-6
Exam Angle: 70° Mode: SHEAR
Measured Angle: 71
Wedge Style: ST

Examination Area/Weld	Access	Recordable Indications Yes	No	Geom	Exam Sens.
GB-10-9-2E	DIDE SIDE	N/A	X	N/A	67
	N				
		A			

Search Unit Cable
Type: RG-174/U
Length: 6' No. 0

Search Unit Cable
Type: RG-174/U
Length: 6' No. 0

Instrument Settings
Make/Model: STAVELEY/SONIC-136
Serial No: B011300
Delay: 0.167 Range: 2.0"
M'tl Cal/Vel: 0125 Pulser: 100NS
Damping: 500Ω Reject: OFF
Rep.Rate: 4K Freq: 5.0
Filter: 1 Mode: P/E
Reference Sensitivity (Sens.)
Axial: 34.6 Circ: 34.6
SCAN SENS: 58.0

Instrument Settings
Make/Model: STAVELEY/SONIC-136
Serial No: B011300
Delay: 0.371 Range: 2.5
M'tl Cal/Vel: 0126 Pulser: 100NS
Damping: 500Ω Reject: OFF
Rep.Rate: 4K Freq: 5.0
Filter: 1 Mode: P/E
Reference Sensitivity (Sens.)
Axial: 60.0 Circ: N/A
SCAN SENS: 67.0

Remarks/Reason for Incomplete Scan(s) SEE ATTACHED DRAWING FOR INCOMPLETE AREAS

EXAM IS 63.75% COMPLETE

Examiners: [signature] Level III Date 3-27-03
N/A Level N/A Date N/A

Reviewers: [signature] Entergy III 4-2-03 Further Evaluation Required? Yes (No)

Page 23/240

PDI

Page 1 of 2

Ultrasonic Examination Indication Report Sheet

CDS No: 03-C-072	EDS No: 03-E-073	Lo Location: DATUM "0"	Start Time 1915	Examiner: TC-1A-Level [illegible] III
Item Identification: GR-10-9-2E	TEMP. 76°F	Wo Location: E OF WELD	Finish Time 1945	Examiner: TC-1A-Level N/A
Component Information: Diameter(nom): 18"	Thickness: 0.42"	Procedure No. 50.71	Rev. 6	Date: 3-27-03 Weld Crown Width: 1.1"

Ind #	Angle Used	% of DAC	Indication Length L 1	Max	L 2	Max W	MP	OD B.U. Loc.	Scan Direction J. II	Remarks
	45°									NRI
	70°									NRI

ANII: [illegible] Date 4-1-03

Reviewer(s) B Perkins Date 4-2-03 Reviewer(s) N/A Date N/A

Entergy III

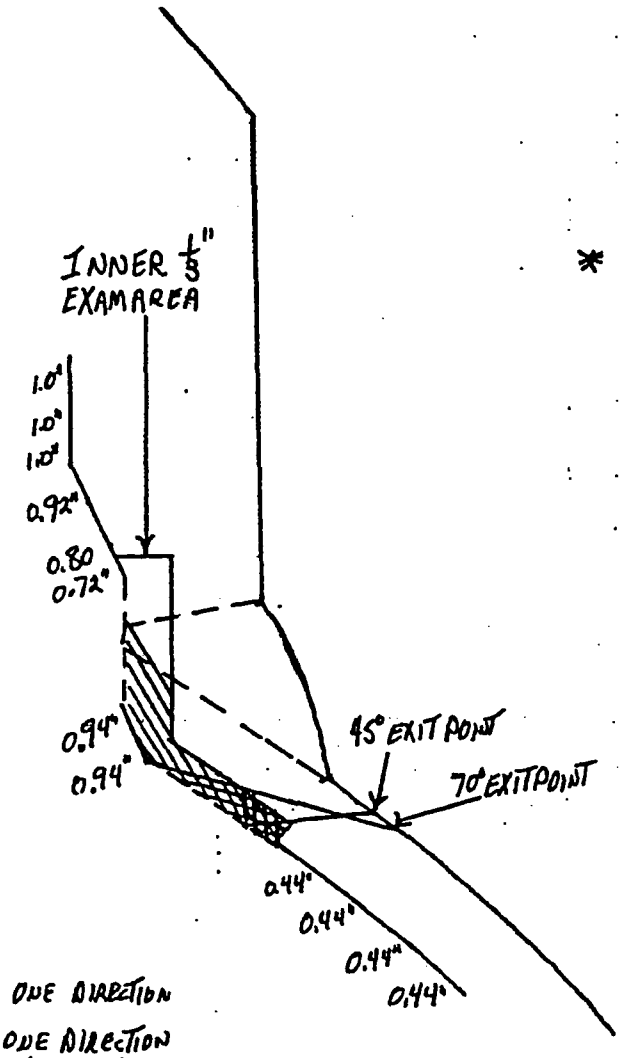
Component ☐ Meets, ☒ Does Not Meet ASME Section XI 1989 COVERAGE.

Further Evaluation Required Yes ____ No X

Figure 6

Page 232/240

EDS NO 03-E-073
COMPONENT NO. 6B-10-9-2E
PAGE 2 OF 2

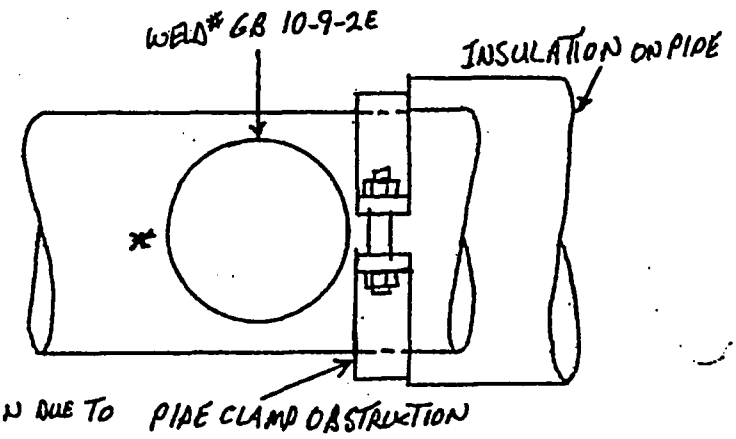


* Geometry is worse on this side as compared to profile side.
B. Perkins
4-2-03

19.292 − 3.185 = 16.107
19.292 − 10.803 = 8.489

16.107 ÷ 19.292 = 83.5% ONE DIRECTION
8.489 ÷ 19.292 = 44 % ONE DIRECTION
127.5% ÷ 2 = 63.75% TOTAL COVERAGE

CIRCUMFERENCE = 53"
INNER 1/3 = 0.364 SQ IN.
TOTAL CU IN = 19.292 5.096
14" NO SCAN TOTAL CU IN = ~~4.356~~ 3.703
MISSED SCAN AREA
70° = 3.185 CU IN MISSED ONE DIRECTION
70° = 10.803 CU IN MISSED ONE DIRECTION



EXAMINER Edward R Dawn LEVEL III DATE 3-28-03

Page 233/240

Entergy

Calibration Data Sheet

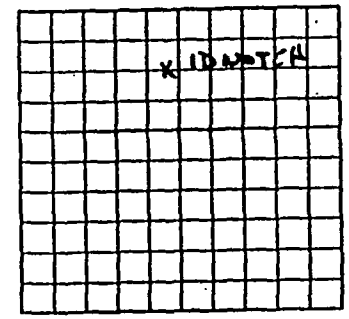
CDS No: 05-C-338-151
LDS No: 05-L-333-151
Page: 1 of 1

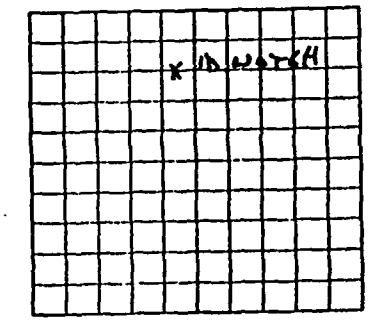
Plant/Unit: PILGRIM / 1
System: RCIC
Component: HE-26-F238
Line No.: 6"-HE-26
Procedure: ENN-NDE-9.04 Rev.: 1
Thermometer S/N: 229
Cal. Blk Temp.: 68°F Comp Temp.: 73°F
Cal. Block No.: PIL-39A
☒ Carbon Steel ☐ Stainless Steel
Size: 6" Sch.: .280"
Cal Direction ☒ Axial ☐ Circ ☐ Both
Scan Area ☒ ⊥ to weld
Scan Area ☒ ∥ to weld

Work Order: 03116633
DWG No.: ISI I 13-5

Cal Checks	Time
Initial Cal.:	1620 / 1625
Date:	3-28-05
Inter. Cal.:	
Date:	
Inter. Cal.:	N/A
Date:	
Final Cal.:	1910 / 1913
Date:	3-28-05

Couplant
Type: ULTRAGEL II
Batch: 01225





Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
HE-26-F238	~~BOTH~~ SINGLE	N/A	✓	N/A	480 / 30.0

Remarks
LAMINATION SCAN - N.R.I.

Further Evaluation Required: ☐ Yes ☒ No

Examiner: [signature] Level: III Date: 3-28-05
Examiner: N/A Level: N/A Date: N/A
Reviewer: [signature] Level: III Date: 4-4-05 / 4/4/05
ANII: [signature] Date: 4/4/05

Search Unit # 1
Manufacturer: KBA
Model: COMP-G
Serial No.: 0114 PT
Size: .25" Shape: ROUND
Freq.: 5 MHz # Elm: 1
Angle: 70° Mode: SHEAR
Measured Angle: 69
Wedge Style: MSWQC

Search Unit Cable
Type: RG 174
Length: 6' # Con.: Ø

Instrument Settings
Manufacturer: KRAUTKRAMER
Model: USN 52L
Serial No.: 00HFX2
Linearity Due: 4-4-05
Delay: 5.651 Range: 1.500
Mtl. Vel.: 1370 Pulser: SINGLE
Damping: 1000 Reject: OFF
Rep Rate: HIGH Freq.: 2-8
Filter: FULL Mode: SINGLE

Reference Sensitivity
Axial: 51.0 Circ: N/A

Search Unit # 2
Manufacturer: KBA
Model: COMP-G
Serial No.: 0114 PW
Size: .25" Shape: ROUND
Freq.: 5 MHz # Elm: 1
Angle: 45° Mode: SHEAR
Measured Angle: 45°
Wedge Style: MSWQC

Search Unit Cable
Type: RG 174
Length: 6' # Con.: Ø

Instrument Settings
Manufacturer: KRAUTKRAMER
Model: USN 52L
Serial No.: 00HFX2
Linearity Due: 4-4-05
Delay: 2.336 Range: 1.000
Mtl. Vel.: 1262 Pulser: SINGLE
Damping: 1000 Reject: OFF
Rep Rate: HIGH Freq.: 2-8
Filter: FULL Mode: SINGLE

Reference Sensitivity
Axial: N/A Circ: 18.0

Page 234 of 240

Entergy

Examination Data Sheet

EDS No: 05-E-337-151
CDS No: 05-C-338-151
LDS No: 05-L-333-151
Page: 1 of 2

Plant/Unit: PILGRIM / 1	System: RCIC	Component: HE-26-F238	Procedure: ENN-NDE-9.04 Revision: 1
Work Order: 03116633	DWG No.: ISI I 13-5	☒ Carbon Steel ☐ Stainless Steel	Start Time/Date: 1735 Finish Time/Date: 1815
Examination Area / Weld No.: HE-26-F238	Line No.: 6"-HE-26	Size: 6" Schedule: .280"	Lo Location: N/A Wo Location: N/A

Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:
			L1	L Max	L2	W	MP			
NRI										

Further Evaluation Required: ☐ Yes ☒ No

Limitations: ONE SIDED EXAM

Remarks: NO RECORDABLE IND FOR LAMINATION SCAN

Examiner: [signature] Level: III Date: 5-28-05		Examiner: N/A Level: N/A Date: N/A	
Reviewer: [signature] Level: III Date: 4-4-05		ANII: [signature] Date: 4/21/05	
Reviewer [signature] III 4/4/05			

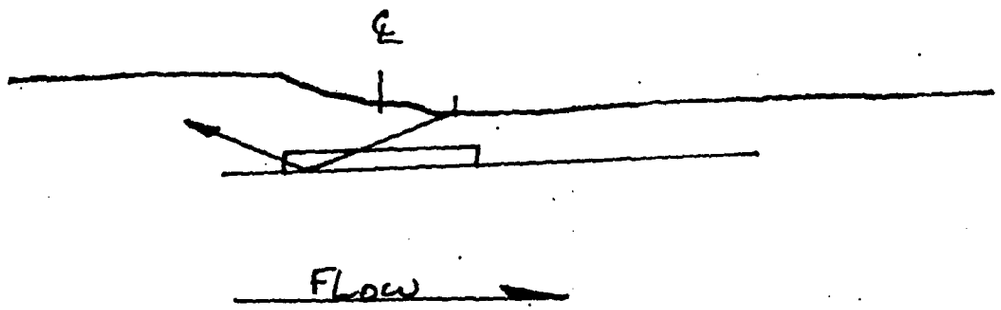
Page 2 of 2

Entergy

Sketch Sheet

Data Sheet No: 05-E-339-151
Page: 2 of 2

Plant/Unit:	System:	Component:	Procedure: ENN-NDE-9.04 Revision: 1
PILGRIM / 1	RCIC	HE-26-F238	
Examination Area / Weld No.:	**DWG No.:**	**Line No.:**	**Work Order:**
HE-26-F238	ISI I 13-5	6" HE-26	03116633



AXIAL SCAN - 87.5%
CIRC SCAN - 50 %

TOTAL CODE REQUIRED VOLUME - 68.75%

Examiner: [signature]	Level: III Date: 3-28-05	Examiner: N/A	Level: N/A Date: N/A
Reviewer: [signature]	Level: III Date: 4-4-05	ANII: [signature]	Date: 4/4/05

REVIEWER [signature] III 4/4/05

Page 236/240

This page intentionally left blank

This page intentionally left blank

This page intentionally left blank