



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

September 13, 2007

Stephen J. Bethay
Director, Nuclear Assessment

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

Response to NRC Request for Additional Information Related to Third Ten-Year Pilgrim Relief Request, PRR-42, Examinations of Component Welds with Less Than Essentially 100% Examination Coverage

- REFERENCES
1. Entergy (BEC) Letter No. 2.95.091, ASME Section XI, Third Interval Inservice Inspection Plan, Pilgrim Nuclear Power Station, dated September 1, 1995
 2. Entergy Letter No. 2.06.054, Third Ten-Year ISI Interval Pilgrim Relief Request, PRR-42, Examinations of Component Welds with Less Than Essentially 100% Examination Coverage, dated June 28, 2006
 3. Entergy Letter No. 2.07.051, Third Ten-Year ISI Interval Pilgrim Relief Request, PRR-42, Examinations of Component Welds with Less Than Essentially 100% Examination Coverage, dated May 16, 2007
 4. ASME Section XI, Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1"

LETTER NO. 2.07.076

Dear Sir or Madam:

By Reference 1, Entergy submitted Pilgrim's 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; with the exceptions of certain components that 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. 4). 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 (Attachment 1), and Response to NRC Request for Additional Information, PRR-42 Rev. 1 (Attachment 2) for NRC review and approval.

A047
NRR

In March 2007, the NRC requested additional information to complete their review of PRR-42. Subsequently, NRC Staff and Entergy held a conference call to discuss the scope of the NRC request and Entergy informed the Staff that they would respond to the NRC request by September 15, 2007 (References 2 and 3).

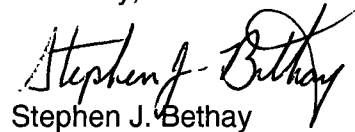
PRR-42 proposes alternatives where the requirement of "essentially 100%" volumetric examination was not feasible due to construction limitations, obstructions, accessibility, and examination techniques. The alternatives and justifications are explained in the attached relief request which provides a list of components that requires relief from the "essentially 100%" volumetric examination requirements 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.

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 me at 508-830-7800.

Sincerely,



Stephen J. Bethay

SJB/wgl

Attachments: 1. Pilgrim Relief Request, PRR-42 and Program Data Sheets for Examinations
with less than "Essentially 100% coverage (248 pages)
2. Response to NRC Request for Additional Information, PRR-42 Rev. 1
52 pages)

cc: Mr. James Kim, Project Manager
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Senior Resident Inspector
Pilgrim Nuclear Power Station

PILGRIM RELIEF REQUEST PRR-42

Attachment 1 to Entergy Letter 2.07.076

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 Impracticability - 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-2500-1 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

PILGRIM RELIEF REQUEST PRR-42

Subarticle IWC-2500 states in part, "Components shall be examined and pressure tested as specified in Table IWC-2500-1." 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. Impracticality of Compliance

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

PILGRIM RELIEF REQUEST PRR-42

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 (Table 3).

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TABLE 3

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	<u>COMBINED NDE COVERAGE</u>		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
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

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COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	<u>COMBINED NDE COVERAGE</u>		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
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

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COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	<u>COMBINED NDE COVERAGE</u>		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
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	---	LIMITED 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	---	LIMITED 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	---	LIMITED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO

PILGRIM RELIEF REQUEST PRR-42

COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE						
CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	<u>COMBINED NDE COVERAGE</u>		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
						MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
B-O	B14.10	RPV-CRD- HSG-4	CRD HOUSING WELD	65	---	LIMITED 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

**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

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GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.:
PIL-R15-05-002Site: Pilgrim Nuclear Power Station Component ID:RPV-BH-C1Outage: RF-015HEAD CIRCUMF WELD

System

RPVASME 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	TP04-018 (GE-UT-300)	PIL-5E	Scott Erickson	II	4/28/2005
60° Long.	UT-087	N/A	TP04-018 (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: IIIDate: 4-30-05Utility Review: [Signature]Date: 5-4-05ANII Review: [Signature]Date: 5/4/05

RWP: 0081

Dose: 110 mr.

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: **Pilgrim Nuclear Power Station / 1**

Data Report Number: **PIL-R15-05-002** Linearity Sheet: **L-002**

Outage: **RF-015**

Data Sheet Number: **UT-006**

Procedure: **TP04-018 (GE-UT-300)**

Rev.: **R0 (Y0)**

DRR: **N/A**

Calibration Block: **PIL-5B**

CS Fla: 4.35"
Material Size Thickness
Initial Cal: **1254** Exam Start: **1330**
Cal Check: **N/A** Exam End: **1540**
Cal Check: **N/A** **Ultracal II** **01225**
Final Cal: **1631** 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%	7.2"	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:

00

72° F

Exam Surface:

Component Temperature

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

Search Unit Data

Sigma **22BC-03006** **21.1"x.62" V 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

RQ-174 **12'** **0**
Cable Type: Length: Connectors:

Instrument Settings

Panometrics / Epoch 4 **031526704**
Manufacturer/Model: Serial Number:
9.59 us **0.236 in./usec.** **0.8 - 3.0 MHz**
Delay/Zero: Velocity: Narrowband Filter:
Auto **Fullwave** **12.0 in.** **Sa / Mod**
Rep Rate: Rectification: Range: Pulsar:
400 Ohms **0** **3.03 MHz** **Dual**
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

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:

N/A

N/A

Initials: Examiner

Level:

4-30-05

GE Reviewed By:

Level:

Date:

Utility Reviewed By:

Date:

ANII Reviewed By:

Date:



GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: **Pilgrim Nuclear Power Station / 1**

Data Report Number: **PIL-R15-05-002** Linearity Sheet: **L-002**

Outage: **RF-015**

Data Sheet Number: **UT-087**

Procedure: **TP04-018 (GE-UT-300)**

Rev.: **R0 (V3)**

DRR: **N/A**

Calibration Block: **CAL-IIW2-033**

CS **N/A** **4.0"**
Material Size Thickness
Initial Cal: **1258** Exam Star: **1330**
Cal Check: **N/A** Exam End: **1540**
Cal Check: **N/A** **Ultrason II** **01225**
Final Cal: **1634** 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.
1/4	0.8"	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

Exam Data for Weld: **RPV-BH-C1**

HEAD CIRCUMF WELD

Configuration:

OR

12°F

Exam Surface:

Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
Plate	I	74.8	NFI	60°
Plate CW/CCW	E	74.8	NFI	60°

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

RQ-174 **12'** **0**
Cable Type: Length: Connectors:

Instrument Settings

Panometrics / Epoch 4 **031526704**
Manufacturer/Model: Serial Number:
9.59 us **0.238 in./us/c.** **0.8 - 3.0 MHz**
Delay/Zero: Velocity: Narrowband Filter:
Auto **Fullwave** **4.0 in.** **So / Med**
Rep Rate: Rectification: Range: Pulsar:
400 Ohms **0** **3.03 MHz** **Dual**
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

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.

SE **Scott Erickson**

II **4/28/2005**

Initials: Examiner

Level Cal/Exam Date:

N/A

N/A

Initials: Examiner

Level

4-30-05

GE Reviewed By:

Level:

Date:

UT L. TL **5-4-05**
Utility Reviewed By: Date:

5/4/05
ANII Reviewed By: Date:

**GE ENERGY, NUCLEAR****Ultrasonic Calibration and Examination Record
RPV Components**Site/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-002 Linearity Sheet: L-004Outage: RF-015Data Sheet Number: UT-088Procedure: TP04-018 (GE-UT-300)Rev.: R0 (V8)DRR: N/ACalibration 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 Ultracel II 01225
Final Cal: 1643 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.
1/4	<u>0.6"</u>	1X	<u>80%</u>	<u>1.6"</u>	<u>.61"</u>	<u>3.0</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC 1X= 58.0 dBSweep 0-10 4.0" DepthNote N/A dB difference between 3/8 and 5/8 VeeExam Data for Weld: RPV-BH-C1**HEAD CIRCUMF WELD**

Configuration:

QQ72° F

Exam Surface:

Component Temperature

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

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' 2
Cable Type: Length: Connectors:

Instrument Settings

Panametrics / Epoch 4 031574111
Manufacturer/Model: Serial Number:
9.33 us 0.233 in./usec. 0.8 - 3.0 MHz
Delay/Zero: Velocity: Narrowband Filter:
Auto Fullwave 4.0 in. So. / Med
Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 3.03 MHz Dual
Damping: Reject: Frequency: Mode:
Off Off Off Off
DAC: TVG: CSC: DGS:

Calibration VerificationField Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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 meridional weld RPV-BH-M3 thru RPV-BH-M7.

Single sided exam due to component configuration.

ES Steve SnyderII4/28/2005

Initials: Examiner

Level Cal/Exam Date:

N/AN/A

Initials: Examiner

Level

4-30-05

GE Reviewed By:

Level:

Date:

HT L. J. III 5-4-05

Utility Reviewed By:

Date:

ANII Reviewed By:

Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV ComponentsSite/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-002 Linearity Sheet: L-004Outage: RF-015Data Sheet Number: UT-089Procedure: TP04-018 (GE-UT-300)Rev.: R0 (VB)DRR: N/ACalibration Block: PIL-5B

CS File: 4.35"
Material Size Thickness
Initial Cal: 1307 Exam Start: 1330
Cal Check: N/A Exam End: 1540
Cal Check: N/A Ultracal 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	<u>4.1"</u>	1X	<u>80%</u>	<u>7.5"</u>	<u>4.35"</u>	<u>7.3</u>
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 60.5 dBSweep 0-10 6" DepthNote N/A dB difference between 3/8 and 5/8 VeeExam Data for Weld: RPV-BH-C1

HEAD CIRCUMF WELD

Configuration:

02 72°F
Exam Surface: Component Temperature

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

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

Panemetrics / Epoch 4 031574111
Manufacturer/Model: Serial Number:
9.33 us 0.233 in./uscc 0.8 - 3.0 MHz
Delay/Zero: Velocity: Narrowband Filter:
Auto Fullwave 12.0 in. Sa / Mod
Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 3.03 MHz Dual
Damping: Reject: Frequency: Mode:
Off Off Off Off
DAC: TVG: CSC: DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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".

SS Steve SnyderI 4/28/2005

Initials: Examiner

Level Cal/Exam Date:

N/AN/A

Initials: Examiner

Level

GE Reviewed By:

Level:

Date:

Utility Reviewed By:

Date:

ANIL Reviewed By:

Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1

Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002

Outage: RF-015

Data Sheet Number: UT-020

Procedure: TP04-018 (GE-UT-300)

Rev.: R01V8

DRR: N/A

Calibration Block: PIL-5B

CS Flat 4.35"
 Material Size Thickness
 Initial Cal: 1303 Exam Star: 1330
 Cal Check: N/A Exam End: 1540
 Cal Check: N/A Ultracal II 01225
 Final Cal: 1646 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.
1/4	<u>1.1"</u>	1X	<u>80%</u>	<u>1.1"</u>	<u>1.1"</u>	<u>1.5</u>
1/2	<u>2.2"</u>	1X	<u>55%</u>	<u>2.2"</u>	<u>2.2"</u>	<u>3.0</u>
3/4	<u>3.3"</u>	1X	<u>34%</u>	<u>3.3"</u>	<u>3.3"</u>	<u>4.5</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC 1X= 18.9 dB

Sweep 0-10 Z" Depth

Note N/A dB difference between 3/8 and 5/8 Vee

Search Unit Data

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

Search Unit Cable

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

Instrument Settings

Panametrics / Epoch 4 031526704
 Manufacturer/Model: Serial Number:
13.91 us 0.1278 in./usec. 0.8 - 3.0 MHz
 Delay/Zero: Velocity: Narrowband Filter:
Auto Fullwave 10.0 in. So / Med
 Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 1.0 MHz P/E
 Damping: Reject: Frequency: Mode:
Off Off Off Off
 DAC: TVG: CSC: DGS:

Exam Data for Weld: RPV-BH-C1

HEAD CIRCUMF WELD

Configuration:

02 72° F
 Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>Plate</u>	<u>UPST</u>	<u>32.0</u>	<u>NFI</u>	<u>45°</u>

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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.

SES Steve Snyder

II

4/28/2005

Initials: Examiner

Level Cal/Exam Date:

N/A

N/A

Initials: Examiner

Level

4-30-05

GE Reviewed By:

Level:

Date:

IT Lvl. III
Utility Reviewed By:

Date:

5/4/05
ANII Reviewed By:

Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV ComponentsSite/Unit: Pilgrim Nuclear Power Station / 1
Outage: RF-015Data Report Number: PIL-R15-05-002 Linearity Sheet: L-002
Data Sheet Number: UT-091Procedure: TP04-018 (GE-UT-300)Rev.: R0 (V2)DRR: N/ACalibration Block: PIL-5B

CS Fla: 4.35"
Material Size Thickness

Initial Cal: 1301 Exam Start: 1330
Cal Check: N/A Exam End: 1540
Cal Check: N/A Ultracal II 01225
Final Cal: 1644 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.
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 dBSweep 0-10 Z" DepthNote N/A dB difference between 3/8 and 5/8 VeeExam Data for Weld: RPV-BH-C1

HEAD CIRCUMF WELD

Configuration:

OR 72°F
Exam Surface: Component Temperature

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

Search Unit Data

KBA E02110 0.5"x1.0"/Rect
Manufacturer: Serial Number: Size / Shape:

0.65" 45° 45°
Incident Point: Nominal Angle: Measured Angle:

2.25 MHz 113-292-600 Shear
Frequency: Model: Mode:

Search Unit Cable

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

Instrument Settings

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

11.94 us 0.126 in./ussec 0.8 - 3.0 MHz
Delay/Zero: Velocity: Narrowband Filter:

Auto Fullwave 10.0 in. Sq. / Med
Rep Rate: Rectification: Range: Pulsar:

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	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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.

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

N/A N/A
Initials: Examiner Level
B/M TLC 4-30-05
GE Reviewed By: Level: Date:

UT L. III 5-4-05
Utility Reviewed By: Date:
Chris Johnson 5/4/05
ANII Reviewed By: Date:

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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

1.0 MHz 45° Cal. Sheet: UT-090

FV 60° Cal. Sheet: UT-089

2.25 MHz 45° Cal. Sheet: UT-091

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: JS Examiner: Steve Snyder

Level

4/28/05
Date:

Utility Reviewed By:

5-21-05
Date:

GE Reviewed By:

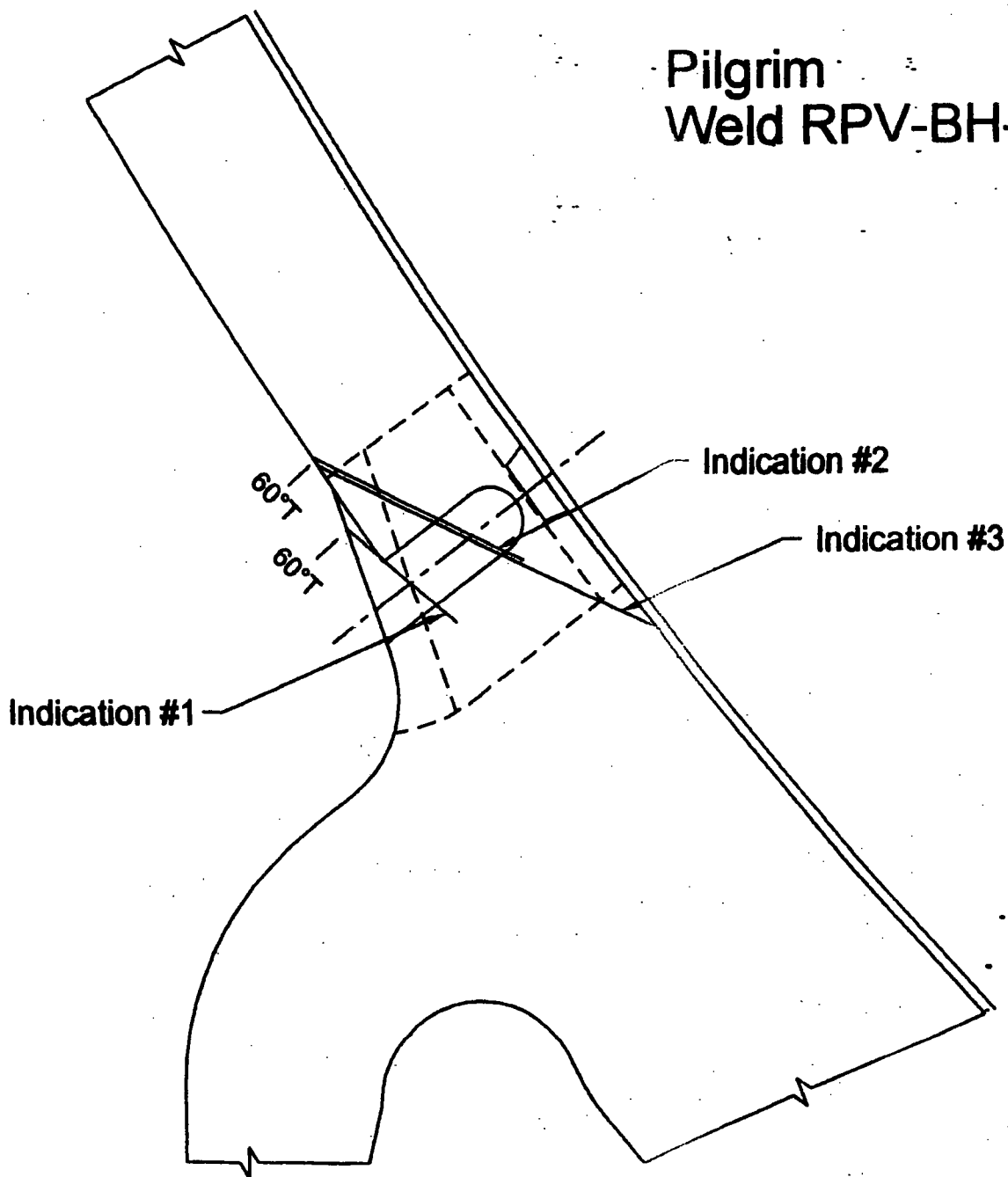
Level

4-30-05
Date:

AND Reviewed By:

5/4/05
Date:

Pilgrim Weld RPV-BH-C1



Pilgrim RF015, 2005

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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.

BK 0761 III 5-4-05

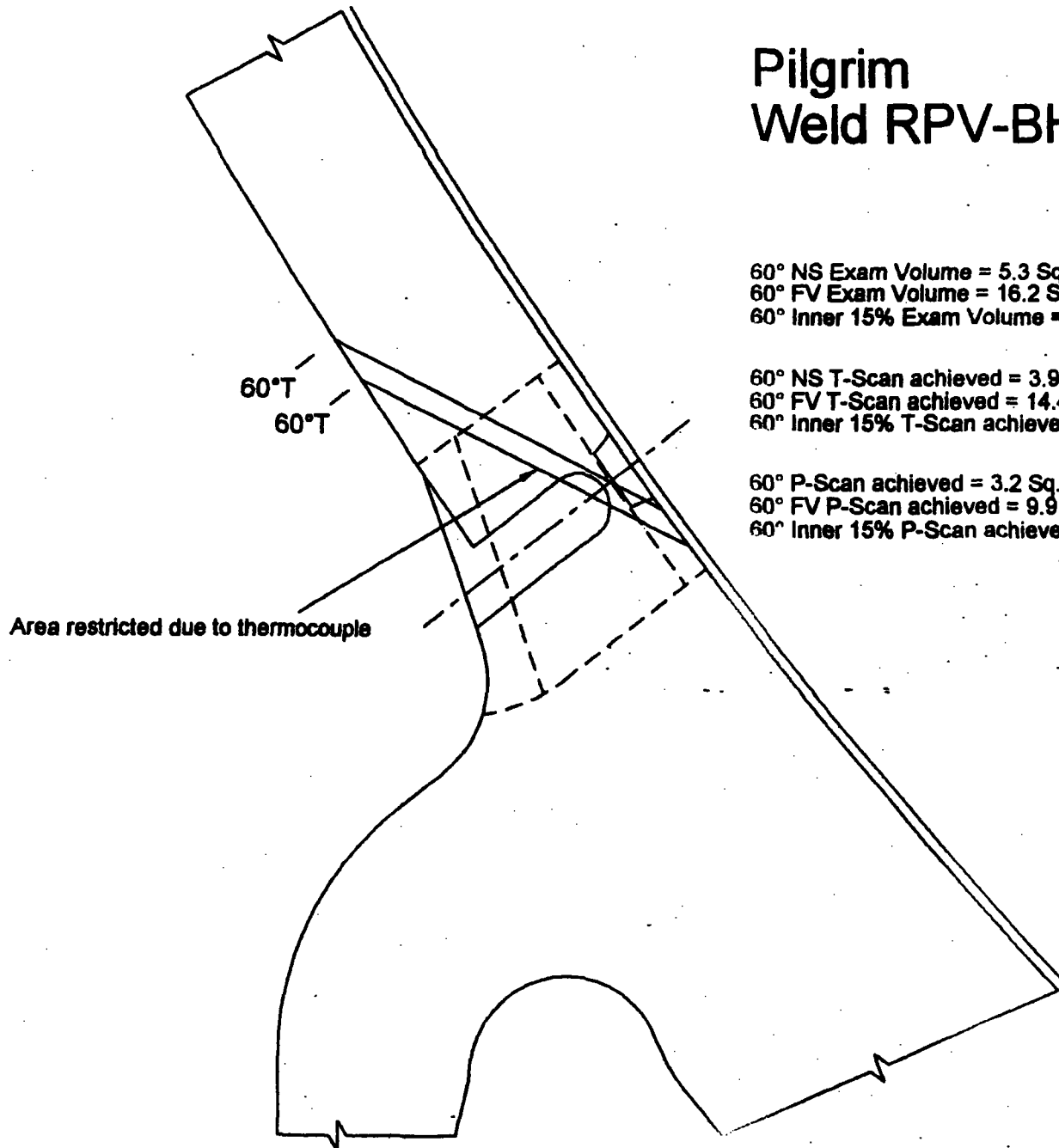
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Pilgrim Weld RPV-BH-C1

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.



Pilgrim RF015, 2005

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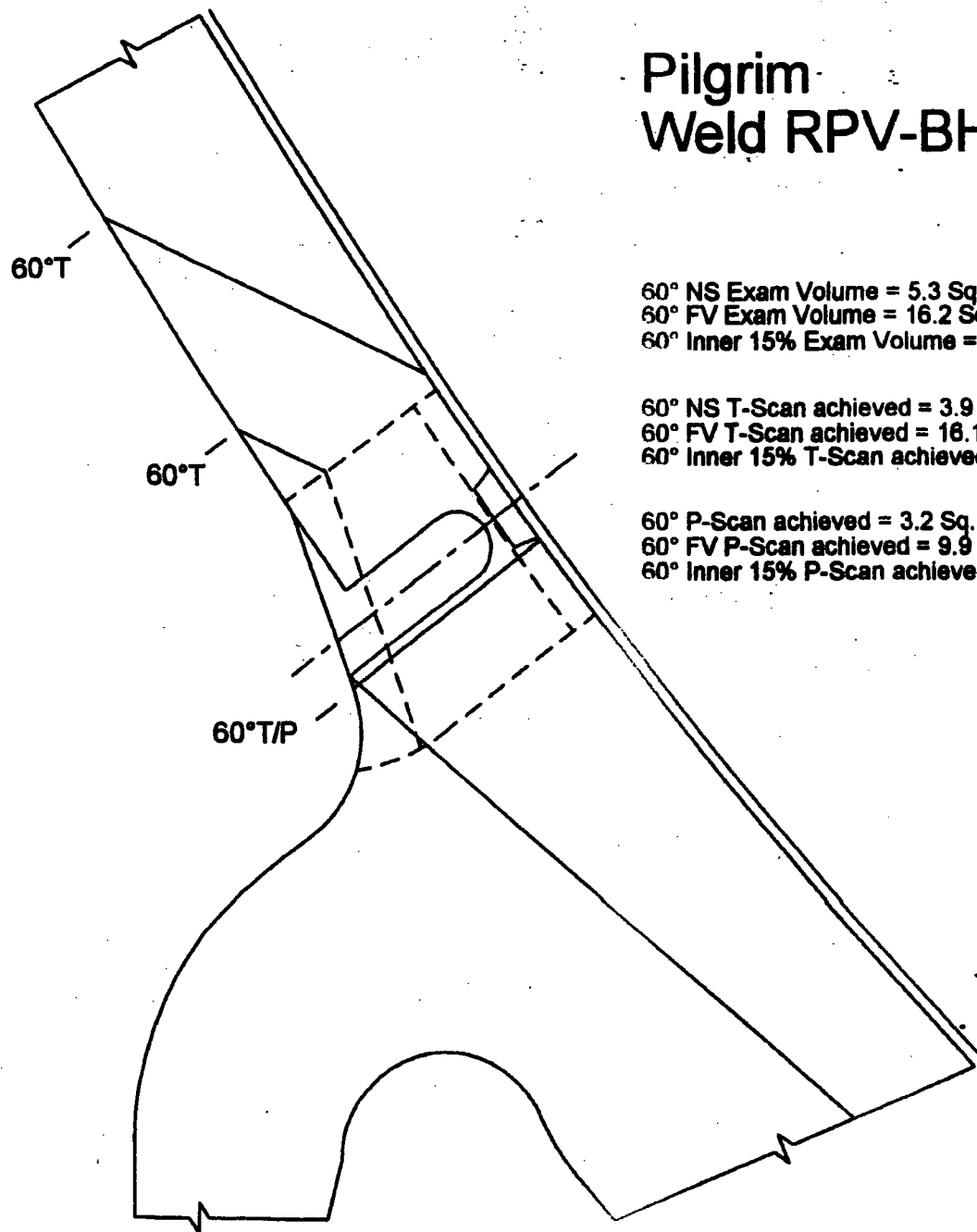
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Pilgrim Weld RPV-BH-C1

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.



Pilgrim RF015, 2005

John
01/11/01 5-4-05

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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 RPV-L-2-338C	Ring 1 Vertical Weld at 78-deg Ring 1 Vertical Weld at 318-deg	Proximity of Baffle Plate & Baffle Gusset Proximity of Baffle Plate, Baffle Gusset, Core Shroud Tie Rod, & N2K Nozzle
RPV-L-1-338A RPV-L-1-338C	Ring 2 Vertical Weld at 60-deg Ring 2 Vertical Weld at 300-deg	Proximity of Jet Pump Riser Support Proximity of Jet Pump Riser Support, Surveillance Specimen Holder & Support Brackets, and Shroud Tie Rod

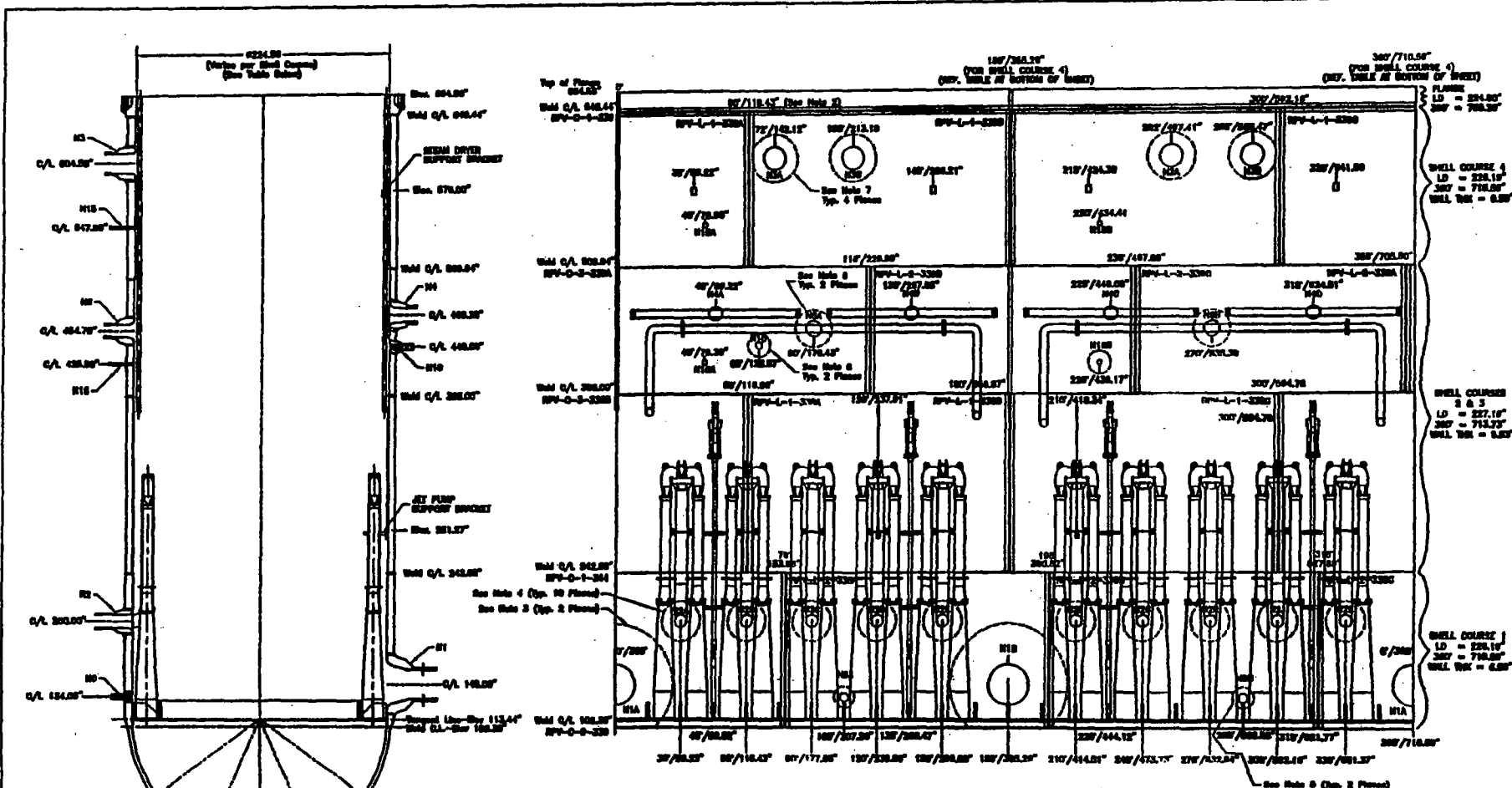
Table 4. Examination Limitations from RFO14

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

G-1



- 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 and base metal is 7.00" in this region (103.00" diameter from N1 nozzle centerline), per Construction Engineering Dep. No. 232-345-B, Rev. E.
 4. Thickness of shell and base metal is 7.00" in this region (54.75" diameter from N2 nozzle centerline), per Construction Engineering Dep. No. 232-345-B, Rev. E.
 5. Thickness of shell and base metal is 7.00" in this region (18.00" diameter from N3 nozzle centerline), per Construction Engineering Dep. No. 232-345-B, Rev. E.
 6. Thickness of shell and base metal is 6.00" in this region (33.12" diameter from N4 nozzle centerline), per Construction Engineering Dep. No. 232-345-B, Rev. E.
 7. Thickness of shell and base metal is 7.00" in this region (42.18" diameter from N5 nozzle centerline), per Construction Engineering Dep. No. 232-345-B, Rev. E.

VESSEL INSIDE DIAMETER VARIES ACCORDING TO SHELL COURSE AS FOLLOWS:					
LOCATION	VESSSEL ID	1 DEGREE =	50 DEGREES =	CRD. WELD NAME	LOCATION OF ID TRANSITION
FLANGE	224.50"	1.9931"	709.35"	RPV-C-1-330	AT WELD CENTERLINE
SHELL COURSE 4	223.15"	1.9730"	710.50"	RPV-C-3-330A	ABOVE WELD CENTERLINE
SHELL COURSE 3	221.15"	1.9528"	713.75"	RPV-C-3-330B	NO TRANSITION (SAME DIA)
SHELL COURSE 2	217.15"	1.9326"	713.75"	RPV-C-1-344	BELOW WELD CENTERLINE
SHELL COURSE 1	223.15"	1.9730"	710.50"	RPV-C-3-330	NO TRANSITION
LOWER HEAD	R=113.44"	N/A	N/A		

Pilgrim Station
ID Vessel Rollout
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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.	N O R T I H	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 during RFO14.
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTSLIC40T	80033,80034	exam 22-24	X -	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTO	80035	exam 22-24	X -	N/A	N/A	
AUT	ISwT-PDI-AUT1/0/0/1,2	AUT55T	0800301,0800302	exam 19-21	X -	N/A	N/A	AUTO for thickness measurement only.
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	AUTO	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	AUTO	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

Summary Sheet No.: 000400

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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	Exam Date: 24 Apr. 04	Examination Time: Start 1741, End 1746
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			Surface Temperature °F: 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	11282	Lower Limit	23188	23188	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	12526	12503	Upper Limit	27880	24464	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	0800301	
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800302	
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800303	
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
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	

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				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 15	11282	12503	23188	24464	Channel 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:	
					Channel 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1A & 1B	
					Channel 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A & B	
					Channel 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Analyst / SNT Level / Date:	Joel G. Godwin / III / 24 Apr. 05	<i>Joel G. Godwin</i>
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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: 24 Apr. 04	Examination Time: Start 1646, End 1656
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			Surface Temperature °F: 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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	0800301	
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	0800302	
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	0800303	
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Upper scan axis limited due to jet pump riser brace. Lower scan axis
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	limited due to welded lug.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop	Channel 1	Channel 2	Channel 3		
1 - 15	11266	12538	24360	26960	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 5	<input type="checkbox"/>	<input type="checkbox"/>		
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>		
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>		
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05

Paul A. Godwin

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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	Exam Date: 24 Apr. 04	Examination Time: Start 1804, End 1809
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			Surface Temperature °F: 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	27877	27877	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	12526	12526	Upper Limit	32101	32101	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	0800301	
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800302	
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800303	
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to jet pump riser brace.
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				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 15	11260	12526	27877	32101	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1A & 1B	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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

Joel G. Godwin



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	Exam Date: 25 Apr. 05	Examination Time: Start 0112, End 0130
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			Surface Temperature °F: Start 85, End 85

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	24138	24138	Lower Limit	11146	11146	Beam Direction:	Cow/Cw
Scan:	X Axis	Upper Limit	27918	26298	Upper Limit	12646	12646	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:	43
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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to jet pump riser brace.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 25	24138	26298	11146	12646	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A & 1B	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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

Joel G. Godwin



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	Exam Date: 25 Apr. 05	Examination Time: Start 0319, End 0324
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			Surface Temperature °F: Start 85, End 85

Data Acquisition

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	24138		26298	Lower Limit	11146	11146	Beam Direction:	Cw/Ccw
Scan:	X Axis	Upper Limit	27918		27542	Upper Limit	12646	12646	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:	43
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		
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0803301	
Channel 3	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803302	
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803303	
Channel 5	On	0T	(+)	- 4.40(in)	+ 1.00(in)	0803304	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803305	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to jet pump riser brace.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
25 - 39	26298	27542	11146	12646	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 1A & 1B	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: A & B	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin



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	Exam Date: 25 Apr. 05	Examination Time: Start 0153, End 0210
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			Surface Temperature °F: Start 85, End 85

Data Acquisition

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	27877		30307	Lower Limit	11146	11146	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	33997		33997	Upper Limit	12646	12646	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:	69
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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
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	Examination Remarks:
Channel 5	On	OT	(+)	+ 4.40(in)	- 1.00(in)	0803305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to jet pump riser brace.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
28 - 69	30307	33997	11146	12646	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: IA & IB	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: A & B	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

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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	Exam Date: 25 Apr. 05	Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II		Examination Time	
		Start: 0216	End: 0237
		Start: 85	End: 85

Data Acquisition

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	33907	33907	Lower Limit	11146	11146	Beam Direction:	CCW/CW
Scan:	X Axis	Upper Limit	40027	40027	Upper Limit	12646	12646	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:	69
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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305	Entergy/Pilgrim Procedure TP04-020
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	

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				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 69	33907	40027	11146	12646	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A & 1B
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel A. Godwin

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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.	N R I	O T H	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	AUTO 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	AUTO	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
 Steven J. Todd - Project Engineer

Date: 4/30/05

Page 1 of 1

Summary Sheet No.: 000600

ASST. Chief Human Factors

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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	Exam Date: 25 Apr. 05	Examination Time: Start 0811, End 0835
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II Alan Scheafer / N/A			Surface Temperature °F: Start 83, End 83

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	58938		58958	Lower Limit	23538	23538	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	60018		60018	Upper Limit	40550	24878	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:	13
Scan Motion:	Bi-directional	Conversion Units In.	1.00			Conversion Units In.	1.00		Device Position:	A (-90)
Correction:	Default	EDAS Radius In.	113.60							

Module Parameters: A-07-1B Cal 23						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-23	Check for limitations due to the proximity of the jet pump, the jet
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0802301	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0802302	holder.
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)	0802303	
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)	0802304	Examination Remarks:
Channel 5	On	OT	(+)	+ 4.40(in)	+ 1.00(in)	0802305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Exam continued on exam ID-35b.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 13	58938	60018	23538	24878	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date: Joel G. Godwin / III / 25 Apr. 05 *Paul S. Jordan*

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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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II Alan Scheafer / N/A		25 Apr. 05	Start End
		0845 0903	Start End
		83 83	

Scan Controller Parameters	Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	58938	58943	Lower Limit	23538	24642	Beam Direction: Dn/Up
Scan: Y Axis	Upper Limit	60018	60038	Upper Limit	40550	25342	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: 13
Scan Motion: Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position: A (-90)
Correction: Default	EDAS Radius In.	113.60					

Module Parameters:	A-07-1B	Cal 23	Calibration Records:	Examination Notes:			
Status	Angle	Direction	Scan Offset	Step Offset	PNS-23	Check for limitations due to the proximity of the jet pump, the jet	
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0802301	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0802302	holder.
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)	0802303	
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)	0802304	Examination Remarks:
Channel 5	On	0T	(+)	+ 4.40(in)	+ 1.00(in)	0802305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Exam continued on exam ID-35c.
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	

Increment & Scan Positions Actual	Recordable Indications	Analyst Remarks					
Scan No.(s)	Increment Position	Scan Position	Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 13	58943	60038	24642	25342	Channel 1 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Further Evaluation	
					Channel 2 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Required:	
					Channel 3 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 4 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 5 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	1A & 1B	
					Channel 6 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 7 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	A & B	
					Channel 8 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>		

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

Joel G. Godwin

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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	Exam Date: 25 Apr. 05	Examination Time: Start 0938 End 0940
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II Alan Scheafer / N/A			Surface Temperature °F: Start 80 End 80

Data Acquisition

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	58938		59935	Lower Limit	23538	30942	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	60018		59245	Upper Limit	40550	31526	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:	13
Scan Motion:	Bi-directional	Conversion Units In.	1.00			Conversion Units In.	1.00		Device Position:	A (-90)
Correction:	Default	EDAS Radius In.	113.60							

Module Parameters:						Cal 23	Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset				
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-23	Check for limitations due to the proximity of the jet pump, the jet	
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0802301	pump riser bracket, the N2 nozzle, and the surveillance capsule	
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)	0802302	holder.	
Channel 4	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)	0802303		
Channel 5	On	OT	(+)	+ 4.40(in)	+ 1.00(in)	0802304	Examination Remarks:	
Channel 6	Off	N/A	N/A	N/A	N/A	0802305	Entergy/Pilgrim Procedure TP04-020	
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	No exam from 25320 to 30942 due to specimen holder and	
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	riser support brackets.	

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				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 5	58933	59245	30942	31526	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A & 1B	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin



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	Exam Date: 25 Apr. 05	Examination Time: Start End
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			Surface Temperature °F: Start End

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	58938	N/A	Lower Limit	23538	N/A	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	60018	N/A	Upper Limit	40550	N/A	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:	13
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	A (90)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-07-1A Cal 23						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	PNS-23	Check for limitations due to the proximity of the jet pump, the jet
Channel 2	On	55	(-)	+ 7.00(in)	+ 0.00(in)	0802301	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 3	On	SLIC-40	(+)	- 4.40(in)	+ 1.00(in)	0802302	holder.
Channel 4	On	SLIC-40	(-)	+ 4.40(in)	- 1.00(in)	0802303	
Channel 5	On	0T	(+)	- 4.40(in)	- 1.00(in)	0802304	Examination Remarks:
Channel 6	On	0T	(+)	+ 4.40(in)	+ 1.00(in)	0802305	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	0802306	
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	NO EXAMINATION DUE TO SHROUD
							TIE ROD REPAIR MECHANISM

Data Analysis

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
N/A	N/A	N/A	N/A	N/A	Channel 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:	Joel G. Godwin / III / 25 Apr. 05	<i>Joel G. Godwin</i>
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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
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II Alan Schaefer / N/A		25 Apr. 05	Start End
		1340 1414	Start End
		88 88	

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	24069	24068	Lower Limit	58396	58396	Beam Direction:	Cw
Scan:	X Axis	Upper Limit	40089	25766	Upper Limit	60020	60020	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:	179
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (-90)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters:						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	45	(+)	+ 1.40(in)	- 1.21(in)	PNS-34	Check for limitations due to the proximity of the jet pump, the jet
Channel 2	On	55	(+)	- 1.40(in)	- 1.21(in)	0803401	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0803402	holder.
Channel 4	On	SLIC-40	(+)	- 1.97(in)	+ 1.69(in)	0803403	
Channel 5	On	SLIC-40	(-)	+ 0.00(in)	+ 1.69(in)	0803404	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803405	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Exam limited due to surveillance capsule holder.
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	Continued on exam ID-37b.

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					
1 - 17	24068	25548	58396	60020	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
18 - 20	25638	25766	58396	59430	Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2A & 2B	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin



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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II Alan Schaefer / N/A		25 Apr. 05	Start End
		1431	1619
		Start End	88 88

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	24069	31163	Lower Limit	58396	58396	Beam Direction:	Cw
Scan:	X Axis	Upper Limit	40089	40082	Upper Limit	60020	60020	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:	179
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (-90)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters:						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-34	Check for limitations due to the proximity of the jet pump, the jet
Channel 1	On	45	(+)	+ 1.40(in)	- 1.21(in)	0803401	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 2	On	55	(+)	- 1.40(in)	- 1.21(in)	0803402	holder.
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0803403	
Channel 4	On	SLIC-40	(+)	- 1.97(in)	+ 1.69(in)	0803404	Examination Remarks:
Channel 5	On	SLIC-40	(-)	+ 0.00(in)	+ 1.69(in)	0803405	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Exam limited due to surveillance capsule holder and
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	holder support bracket.
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				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
80 - 106	31163	33546	58396	59200	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
107 - 120	33636	34729	58396	58912	Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:
121 - 171	34819	39329	58396	59200	Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
172 - 179	39419	40082	58396	60020	Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2A & 2B
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel A. Godwin



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	Exam Date: 25 Apr. 05	Examination Time: Start End
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II			Start End
			N/A N/A

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	24069	N/A	Lower Limit	58936	N/A	Beam Direction:	Ccw
Scan:	X Axis	Upper Limit	40089	N/A	Upper Limit	60560	N/A	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:	179
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (90)
Correction:	Default	EDAS Radius In.	113.60						

Module Parameters: A-08D Cal 34						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	PNS-34	Check for limitations due to the proximity of the jet pump, the jet
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803401	pump riser bracket, the N2 nozzle, and the surveillance capsule
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803402	holder.
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803403	
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803404	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803405	Entergy/Pilgrim Procedure TP04-020
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	NO EXAMINATION DUE TO SHROUD TIE ROD REPAIR MECHANISM

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
N/A	N/A	N/A	N/A	N/A	Channel 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin



IHI SOUTHWEST TECHNOLOGIES
AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Nuclear Station	Weld Identification: RPV-L-1-338C	Pro/Rev/Chg/ICN: ISwT-PDI-AUT 1/0/0/1,2	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	Exam Date: 25 Apr. 05	Examination Time: Start 0629, End 0637	Surface Temperature °F: Start 85, End 85
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II				

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	33907		39397	Lower Limit	58728	58728	Beam Direction:	CCW/CW
Scan:	X Axis	Upper Limit	40027		40098	Upper Limit	60228	60228	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:	69
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:						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803301	
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803302	
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803303	
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803304	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803305	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to specimen bracket.
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop					
62- 70	39397	40098	60228	60228	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A & 1B	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	

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

Joel A. Godwin

ISWT FORM No. UT 50 (Rev. 05/03)

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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 O R T I H	Resolution Record	CNF Number	Remarks
AUT	ISWT-PDI-AUT1/0/0/1,2	AUTO	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	AUTO 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	AUTO	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/D70389-1

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

Date: 4/30/05

Page 1 of 1

Summary Sheet No.: 000100

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Data Acquisition

Data Analysis

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05

Paul S. Jordan



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: 24 Apr. 04	Examination Time: Start 1453, End 1501
Data Acquisition Operator (s) / SNT Level: David Kleinjan / II Alan Schaefer / N/A			Surface Temperature °F: Start 85, End 85

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	14766	14673	Lower Limit	12413	13781	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	16026	15948	Upper Limit	15041	15041	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	0800301	
Channel 2	On	55	(+)	+ 1.40(in)	- 1.21(in)	0800302	
Channel 3	On	SLIC-40	(-)	- 1.97(in)	+ 1.69(in)	0800303	
Channel 4	On	SLIC-40	(+)	+ 1.97(in)	+ 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited examination due to vessel to baffle plate gusset.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	14673	15948	13781	15041	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 1A & 1B	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: A & B	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05

Joel A. Godwin

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

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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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A		24 Apr. 04	Start End
		1528 1536	Start End
		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	14749	Lower Limit	17563	17563	Beam Direction: Up/Dn
Scan: Y Axis	Upper Limit	16026	16021	Upper Limit	20191	20191	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	0800301	
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	0800302	
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	0800303	
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
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	

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					
1 - 15	14749	16021	17563	20191	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Further Evaluation Required:				
					<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 A. Godwin

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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: 24 Apr. 04	Examination Time: Start 1547, End 1552
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			Surface Temperature °F: Start 85, End 85

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	14766	14748	Lower Limit	20138	20138	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	16026	16013	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:						Calibration Records:	Examination Notes:
Status	A-07A Angle	Cal 03 Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	0800301	
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	0800302	
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	0800303	
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	14748	16012	20138	22766	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05

Joel G. Godwin

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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	Exam Date: 24 Apr. 04	Examination Time: Start 1557, End 1604
Data Acquisition Operator (s) / SNT Level: Alan Schaefer / N/A			Surface Temperature °F: Start 85, End 85

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	14766	14750	Lower Limit	22713	22713	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	16026	16033	Upper Limit	25341	25341	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	0800301	
Channel 2	On	55	(-)	- 1.40(in)	+ 1.21(in)	0800302	
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	- 1.69(in)	0800303	
Channel 4	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0800304	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	0800305	Entergy/Pilgrim Procedure TP04-020
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 15	14750	16034	22713	25341	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A & 1B	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 24 Apr. 05

Joel G. Godwin

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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	Exam Date: 24 Apr. 05	Examination Time: Start 2228 End 2240
Data Acquisition Operator(s) / SNT Level: Richard Riddles / II			Surface Temperature °F: Start 80 End 80

Data Acquisition

Scan Controller Parameters		Increment Axis/Device		Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	10488		14718	Lower Limit	14646	14646	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	17508		17508	Upper Limit	16146	16146	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to vessel baffle plate gusset.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
48 - 80	14707	17508	14646	16146	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 25 Apr. 05

Joel G. Godwin

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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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II		24 Apr. 05	Start End
		2345	0011
		Start End	Start End
		80	80

Scan Controller Parameters	Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	17418	17418	Lower Limit	14646	14646	Beam Direction: CCW/CW
Scan: X Axis	Upper Limit	24438	24438	Upper Limit	16146	16146	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the jet pump diffuser and the baffle plate.
Channel 2	On	55	(+)	- 7.00(in)	+ 0.00(in)	0803301	
Channel 3	On	SLIC-40	(-)	+ 4.40(in)	+ 1.00(in)	0803302	
Channel 4	On	SLIC-40	(+)	- 4.40(in)	- 1.00(in)	0803303	
Channel 5	On	0T	(+)	+ 4.40(in)	- 1.00(in)	0803304	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803305	Entergy/Pilgrim Procedure TP04-020
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	

Increment & Scan Positions Actual				Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	
	Start	Stop	Start	Stop				
1 - 79	17418	24438	14646	16146	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 1A & 1B
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.: A & B
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Paul A. Godwin

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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 O R T I 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	AUTO 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	AUTO	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 - Project Engineer

Date:

4/30/05

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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: 26 Apr. 05	Examination Time: Start 0255 End 0309	Surface Temperature °F: Start 48 End 88
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II				

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	62139	62139	Lower Limit	9888	14050	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	63399	62693	Upper Limit	25040	15550	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:	A (90)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters:						Calibration Records:	Examination Notes:
Status	A-07-1A Angle	Cal 23 Direction	Scan Offset	Step Offset		PNS-23	Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.
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	Examination Remarks:
Channel 5	On	0T	(+)	- 4.40(in)	- 1.00(in)	0802305	Entergy/Pilgrim Procedure TP04-020
Channel 6	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to the proximity of the baffle plate.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 8	62139	62693	14050	15550	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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

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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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II		25 Apr. 05	Start End
		1719 1810	88 88

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	10419	13898	Lower Limit	62178	62178	Beam Direction:	Ccw
Scan:	X Axis	Upper Limit	24549	15657	Upper Limit	63986	63986	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:	158
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (90)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters:						Calibration Records:	Examination Notes:
Status	A-08D Angle	Cal 34 Direction	Scan Offset	Step Offset			
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	PNS-34	Check for limitations due to the proximity of the jet pump diffusers,
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803401	the tie rod, the N2 nozzle, and the baffle plate.
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803402	
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803403	
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803404	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803405	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to the jet pump diffusers.
Channel 8	Off	N/A	N/A	N/A	N/A	N/A	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Further Evaluation Required:
	Start	Stop	Start	Stop					
41 - 59	13898	15657	62178	63986	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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

Joel G. Godwin



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: SPLONGSHI&4SS	Exam Date: 25 Apr. 05	Examination Time: Start 1819, End 1855
Data Acquisition Operator (s) / SNT Level: D. Kleinjan / II			Surface Temperature °F: Start 88, End 88

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	10419	15728	Lower Limit	62178	62178	Beam Direction:	Ccw
Scan:	X Axis	Upper Limit	24549	19382	Upper Limit	63986	63986	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:	158
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (90)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters:						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	PNS-34	Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803401	
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803402	
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803403	
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803404	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803405	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to the N2K nozzle.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
60 - 100	15728	19382	62178	63986	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2A & 2B	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A & B	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Joel G. Godwin / III / 26 Apr. 05

Joel A. Godwin

Boor 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	Exam Date: 25 Apr. 05	Examination Time: Start 2051, End 2145
Data Acquisition Operator (s) / SNT Level: Richard Riddles / II			Surface Temperature °F: Start 88, End 88

Data Acquisition

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	10419	22029	Lower Limit	62178	62178	Beam Direction:	Ccw
Scan:	X Axis	Upper Limit	24549	23019	Upper Limit	63986	63986	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:	158
Scan Motion:	Bi-directional	Conversion Units In.	1.00		Conversion Units In.	1.00		Device Position:	D (90)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters:						Calibration Records:	Examination Notes:
	Status	A-08D Angle	Cal 34 Direction	Scan Offset	Step Offset		
Channel 1	On	45	(-)	- 1.40(in)	+ 1.21(in)	PNS-34	Check for limitations due to the proximity of the jet pump diffusers, the tie rod, the N2 nozzle, and the baffle plate.
Channel 2	On	55	(-)	+ 1.40(in)	+ 1.21(in)	0803401	
Channel 3	On	SLIC-40	(-)	- 1.97(in)	- 1.69(in)	0803402	
Channel 4	On	SLIC-40	(-)	+ 1.97(in)	- 1.69(in)	0803403	
Channel 5	On	SLIC-40	(+)	+ 0.00(in)	- 1.69(in)	0803404	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	0803405	Entergy/Pilgrim Procedure TP04-020
Channel 7	Off	N/A	N/A	N/A	N/A	N/A	Limited exam due to the N2K nozzle.
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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop				
130 - 141	21924	23019	62178	63986	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 2A & 2B
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: A & B
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:

Joel G. Godwin / III / 26 Apr. 05

Joel G. Godwin

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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	Exam Date: 1-May-03	Examination Time: Start End
Data Acquisition Operator (s) / SNT Level: Harper Jacoby / N/A			Surface Temperature 9F: Start End 87 87

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		Cdr. % 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	Calibration Records:	Examination Notes:			
Status	Angle	Direction	Scan Offset	Step Offset	PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.	
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 Remarks: No exam due to proximity of baffel plate gusset.

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

Analyst / SNT Level / Date:
Hector Diaz

III

1-May-03



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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	38452	38451	Lower Limit	12413	13700	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	39712	39712	Upper Limit	15041	15041	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the NI nozzle, and the baffle plate.
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	Examination Remarks: Limited exam due to proximity of baffle plate gusset.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 5	38471	39552	13621	15041	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
6 - 15	38909	39728	13700	15041	Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

III

1-May-03



IHI SOUTHWEST TECHNOLOGIES AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-338B	Pro/Rev/Chg/ICN: ISwT-PDI-AUT1/0/1,2	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	Exam Date	Examination Time
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	/ N/A	1-May-03	Start End
		1256	1314
		87	87

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	38452	38452	Lower Limit	14988	14988	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	39712	39712	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	Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset			PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	38451	39712	14988	17616	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	38452	38452	Lower Limit	17563	17563	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	39712	39712	Upper Limit	20191	20191	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:						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	38451	29796	17563	20191	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 5A	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

Hector Diaz

III

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

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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the NI nozzle, and the baffle plate.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	38451	39714	20138	22766	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 5A	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

Hector Diaz

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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller:	ID Device	Lower Limit	38452	38452	Lower Limit	22713	22241	Beam Direction: Up/Dn
Scan:	Y Axis	Upper Limit	39712	39712	Upper Limit	25341	25341	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop	Channel 1	Channel 2	Channel 3		
1 - 15	38451	39694	22713	25341	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Analyst / SNT Level / Date:
Hector Diaz

Hector Diaz

III

1-May-03



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
Data Acquisition Operator (s) / SNT Level: R.A. Riddles	/ II	1-May-03	Start End 0543 0600
			Surface Temperature °F Start End 87 87

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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the jet pump diffuser, the NI nozzle, and the baffle plate.
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	Examination Remarks:
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335	Limited exam due to proximity of baffle plate gusset.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
36 - 79	13631	17569	38332	39832	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Channel 6 inactive.
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

Hector Diaz

III

1-May-03



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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	17418	17431	Lower Limit	38332	38332	Beam Direction:	Cw/Ccw
Scan:	X Axis	Upper Limit	24438	24432	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 (180)
Correction:	Default	EDAS Radius In.	113.10						

Module Parameters: A-07-1C Cal 33						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the jet pump diffuser, the N1 nozzle, and the baffle plate.
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 N2F nozzle.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop	Channel 1	Channel 2	Channel 3		
1 - 20	17431	19155	38332	39832	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Channel 6 inactive.
21 - 34	19237	20410	38332	39050	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
35 - 43	20499	21175	38332	39090	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
44 - 50	21284	21804	38332	38950	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
51 - 73	21897	23886	38332	39560	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
74 - 79	23978	24427	38332	39832	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>		
					Channel 8	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date: Hector Diaz	III	I-May-03
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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.	N O R T I H	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTO	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	AUTO 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	AUTO	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/D70380 1

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

Date: 04-May-03

Page 1 of 1

Summary Sheet No.: 000700

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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
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	/ N/A	28-Apr-03	Start End 1154 1206
			Surface Temperature °F Start End 96 96

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						Calibration Records:		Examination Notes:	
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.		
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	Examination Remarks:		
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			

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 15	69950	71210	38750	42806	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3A
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date: Hector Diaz	III	29-Apr-03
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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: 28-Apr-03	Examination Time: Start 1129, End 1144
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	N/A		Surface Temperature °F: Start 96, End 96

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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset	PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.	
Channel 1	On	55	(+)	+ 1.40(in)	80031		
Channel 2	On	55	(-)	- 1.40(in)	80032		
Channel 3	On	SLIC-40	(+)	+ 1.97(in)	80033		
Channel 4	On	SLIC-40	(-)	- 1.97(in)	80034	Examination Remarks:	
Channel 5	On	0T	(+)	+ 0.00(in)	80035	Limited exam due to proximity of core spray sparger.	
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		

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 7	69950	70339	42763	46115	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
6 - 15	70351	71210	42763	46827	Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3A
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date: Hector Diaz
Hector Diaz



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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	69950	69950	Lower Limit	46776	46760	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	71210	71210	Upper Limit	52096	50400	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.
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	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	80035	Limited exam due to proximity of core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	69950	71210	46760	50400	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 3A	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

III

29-Apr-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.: JD-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: 28-Apr-03	Examination Time: Start 1004, End 1010
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	N/A		Surface Temperature °F: Start 96, End 96

Scan Controller Parameters	Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	69950	69950	Lower Limit	46776	50300	Beam Direction: Up/Dn
Scan: Y Axis	Upper Limit	71210	71210	Upper Limit	51744	51744	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035	Limited exam due to proximity of core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop					
1 - 15	69950	71210	50300	51700	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3A	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	

Analyst / SNT Level / Date:
Hector Diaz

III

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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	39650	39638	Lower Limit	69830	69830	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	43340	43330	Upper Limit	71330	71330	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rail.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 42	39646	43340	69830	71330	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4A	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

Hector Diaz

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29-Apr-03



IHI SOUTHWEST TECHNOLOGIES AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISWT-EDI-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	Exam Date: 29-Apr-03	Examination Time: Start 0213, End 222
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II			Surface Temperature °F: Start 87, End 78

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	43213	43215	Lower Limit	69830	69830	Beam Direction:	Cw/Ccw
Scan:	X Axis	Upper Limit	46903	45114	Upper Limit	71330	71330	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 (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	
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.
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 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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
I - 22	43213	45108	69830	71330	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4A	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	

Analyst / SNT Level / Date: Hector Diaz	III	29-Apr-03
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IHI SOUTHWEST TECHNOLOGIES AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant: Pilgrim Station	Weld Identification: RPV-L-2-339A	Pro/Rev/Chg/ICN: ISwT-PDI-AUT 1/0/0/1,2	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	Exam Date: 29-Apr-03	Examination Time: Start 0213, End 0222
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II			Surface Temperature °F: Start 87, End 78

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller:	ID Device	Lower Limit	46776	47745	Lower Limit	69830	69830	Beam Direction: Ccw/Cw
Scan:	X Axis	Upper Limit	51186	50620	Upper Limit	71330	71330	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						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.
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	Examination Remarks:
Channel 6	On	0T	(+)	- 4.40(in)	+ 1.00(in)	80335	Limited exam due to proximity of core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
12 - 44	47738	50620	69830	71330	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Channel 6 inactive.
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

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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	Surface Temperature °F:
Mod.Conf.: A-07-1C	Scan Path Drawing: SPLONGSH2&3DS	Exam Date: 29-Apr-03	Start: 0116
Data Acquisition Operator (s) / SNT Level: R.A. Riddles	II	Examination Time: 0121	End: 0121
		Start: 87	End: 78

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters
Controller:	ID Device	Lower Limit	46776	50533	Lower Limit	69830	69830	Beam Direction: Ccw/Cw
Scan:	X Axis	Upper Limit	51276	51296	Upper Limit	71330	71330	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: 51
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	
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers and the guide rod.
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 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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
43 - 51	50617	51281	69830	71330	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:
Hector Diaz

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29-Apr-03

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.	N O R T I H	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTO	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	AUTO 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	AUTO	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/D7030/L1

Prepared by:

Steven J. Todd
 Steven J. Todd - Project Engineer

Date: 2 July 2003

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Summary Sheet No.: 000800

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

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	22368	22348	Lower Limit	38750	38750	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	23628	23615	Upper Limit	42814	42402	Transducer Size:	1.00
Increment:	X Axis	Increment Interval	90		DCI	4		Gate % 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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035	Limited exam due to proximity of core spray sparge.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop					
1 - 11	22376	23144	38750	42402	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
12	23317	-	39434	42402	Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
13 - 15	23481	33628	39674	42402	Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4AA	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	

Analyst / SNT Level / Date:
Hector Diaz

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29-Apr-03



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

Scan Controller Parameters	Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	22368	22348	Lower Limit	42763	42400	Beam Direction: Up/Dn
Scan: Y Axis	Upper Limit	23628	23628	Upper Limit	46827	44800	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	80035	Limited exam due to proximity of core spray sparge.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	22368	23628	42390	44815	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 4AA
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date: Hector Diaz	III	29-Apr-03
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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	Exam Date: 28-Apr-03	Examination Time: Start 1810, End 1919
Data Acquisition Operator (s) / SNT Level: Steven J. Todd / III			Surface Temperature °F: Start 96, End 96

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	22368	22368	Lower Limit	46776	47550	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	23628	23628	Upper Limit	52096	48350	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	80031	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	+ 1.69(in)	80035	Limited exam due to proximity of core spray, feedwater spargers and ID taper on weld RPV-C-3-339A.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop	Channel 1	Channel 2	Channel 3		
1 - 15	22343	23549	47550	48350	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 4AA
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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



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

Scan Controller Parameters	Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	22368	22345	Lower Limit	46776	50300	Beam Direction: Up/Dn
Scan: Y Axis	Upper Limit	23628	23591	Upper Limit	52096	52092	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 5	On	0T	(+)	+ 0.00(in)	- 1.69(in)	80035	Limited exam due to proximity of core spray and feedwater spargers.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	22368	23628	50300	52096	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 4AA
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:
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IHI SOUTHWEST TECHNOLOGIES AUTOMATED ULTRASONIC EXAMINATION RECORD

Site/Plant : Pilgrim Station	Weld Identification: RPV-L-2-339B	Pro/Rev/Chg/ICN: ISWT-PDI-AUT10/0/1,2	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	Exam Date: 27-Apr-03	Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: R.A. Riddles	I II	Examination Time Start: 2027 End: 2102	Start: 96 End: 96

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	39650	39637	Lower Limit	22248	22248	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	43340	40783	Upper Limit	23748	23748	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-33	
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	OT	(+)	+ 4.40(in)	- 1.00(in)	80335	Limited exam due to proximity of the Core Spray Sparger.
Channel 6	On	OT	(+)	- 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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 14	39666	40807	22248	23748	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3A	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	

Analyst / SNT Level / Date:
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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-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	Exam Date: 27-Apr-03	Examination Time: Start 2118, End 2251
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II			Surface Temperature °F: Start 96, End 96

Scan Controller Parameters				Increment Axis/Arm			Positional Parameters		
Controller:	ID Device	Planned	Actual	Scan Axis/Device	Planned	Actual	Beam Direction:	Cw/Ccw	
Scan:	X Axis	Lower Limit 43213	40820	Lower Limit	22248	22248	Transducer Size:	1.00	
Increment:	Y Axis	Upper Limit 46903	45017	Upper Limit	23748	23748	Code % of Overlap:	10	
Mode:	Automatic Scan	Increment Interval 90		DCI	4		Number of Scans:	42	
Scan Motion:	Bi-directional	Conversion Counts 100		Conversion Counts	100		Device Position:	A (180)	
Correction:	Default	Conversion Units In. 1.00		Conversion Units In.	1.00				
		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	OT	(+)	- 4.40(in)	+ 1.00(in)	80335	Limited exam due to proximity of the Core Spray Sparger.		
Channel 6	On	OT	(+)	+ 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			

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1 - 50	40795	45017	22248	23748	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3A	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	

Analyst / SNT Level / Date:

Hector Diaz

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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	Exam Date	Examination Time	Surface Temperature °F
Data Acquisition Operator (s) / SNT Level: Harper Jacoby / N/A		27-Apr-03	Start 1844	End 1905
			Start 96	End 96

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	46776	47465	Lower Limit	22248	22248	Beam Direction:	Ccw/Cw
Scan:	X Axis	Upper Limit	51186	50037	Upper Limit	23748	23748	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						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		FNS-33	
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
9 - 37	47468	50016	22248	23725	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
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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	Exam Date: 27-Apr-03	Examination Time: Start 1820, End 1825
Data Acquisition Operator (s) / SNT Level: Harper Jacoby / N/A			Surface Temperature °F: Start 96, End 96

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters
Controller:	ID Device	Lower Limit	46776	49824	Lower Limit	22248	22248	Beam Direction: Cw/Ccw
Scan:	X Axis	Upper Limit	51186	51194	Upper Limit	23748	23748	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 (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	
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop					
35 - 50	49828	51186	22248	23748	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3A
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A

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

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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.	N R T I H	Resolution Record	CNF Number	Remarks
AUT	ISwT-PDI-AUT1/0/0/1,2	AUTO	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	AUTO 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	AUTO	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

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Summary Sheet No.: 000900

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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	Exam Date: 28-Apr-03	Surface Temperature °F:
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	N/A	Examination Time: Start 1425, End 1432	Start 96, End 96

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 Cat 03						Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop	Channel 1	Channel 2	Channel 3		
1 - 15	46146	47392	38750	40862	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Analyst / SNT Level / Date: Hector Diaz	III	29-Apr-03
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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: 28-Apr-03	Surface Temperature °F:
Data Acquisition Operator (s) / SNT Level: Harper Jacoby / N/A		Examination Time: Start: 1324 End: 1420	Start: 96 End: 96

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	46159	46160	Lower Limit	42763	40763	Beam Direction:	Up/Dn
Scan:	Y Axis	Upper Limit	47419	47420	Upper Limit	46827	44795	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:						Calibration Records:	Examination Notes:
A-07A		Cal 03					
Status	Angle	Direction	Scan Offset	Step Offset			
Channel 1	On	55	(+)	+ 1.40(in)	+ 1.21(in)	PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	80035	Limited exam due to proximity of the core spray line.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	46159	47318	40763	44840	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

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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-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	Exam Date: 28-Apr-03	Examination Time: Start 1552, End 1611	Surface Temperature °F: Start 96, End 96
Data Acquisition Operator (s) / SNT Level: Harper Jacoby / N/A				

Scan Controller Parameters		Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	46159	46146	Lower Limit	46776	47550	Beam Direction:	Dn/Up
Scan:	Y Axis	Upper Limit	47419	47420	Upper Limit	52096	50402	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						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	55	(-)	- 1.40(in)	- 1.21(in)	PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 6	Off	N/A	N/A	N/A	N/A	80035	Limited exam due to proximity of core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
1 - 15	46159	47414	47550	50402	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Required:	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:	
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3A	
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Analysis Tape/CD No.:	
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A	
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

III

29-Apr-03



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	Exam Date: 28-Apr-03	Examination Time: Start 1617, End 1621
Data Acquisition Operator (s) / SNT Level: Harper Jacoby	N/A		Surface Temperature °F: Start 96, End 96

Scan Controller Parameters	Increment Axis/Arm	Planned	Actual	Scan Axis/Device	Planned	Actual	Positional Parameters
Controller: ID Device	Lower Limit	46159	46160	Lower Limit	46776	50300	Beam Direction: Up/Dn
Scan: Y Axis	Upper Limit	47419	47460	Upper Limit	51744	51744	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				Calibration Records:	Examination Notes:
Status	Angle	Direction	Scan Offset	Step Offset		PNS-03	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Start	Stop	Start	Stop					
1 - 15	46159	47451	50300	51700	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:
Hector Diaz

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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: 29-Apr-03	Examination Time: Start: 0430 End: 0457	Surface Temperature °F: Start: 99 End: 99
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II				

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						Calibration Records:	Examination Notes:
	Status	Angle	Direction	Scan Offset	Step Offset		
Channel 1	On	55	(-)	+ 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks: Limited exam due to proximity of the core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Start	Stop	Start	Stop					
1 - 37	39650	42867	46050	47630	Channel 1 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
					Channel 2 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.: 4A	
					Channel 3 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.: 1A	
					Channel 4 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 5 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 6 <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
					Channel 7 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
					Channel 8 <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

Analyst / SNT Level / Date:

Hector Diaz

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29-Apr-03



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	Exam Date: 29-Apr-03	Examination Time: Start 0512, End 0522	Surface Temperature °F: Start 99, End 99
Data Acquisition Operator (s) / SNT Level: R.A. Riddles / II				

Scan Controller Parameters		Increment Axis/Device	Planned	Actual	Scan Axis/Arm	Planned	Actual	Positional Parameters	
Controller:	ID Device	Lower Limit	43213	42943	Lower Limit	46039	46030	Beam Direction:	Cw/Ccw
Scan:	X Axis	Upper Limit	46903	45020	Upper Limit	47539	47515	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 (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		
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	PNS-33	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	Examination Remarks:
Channel 6	On	0T	(+)	+ 4.40(in)	- 1.00(in)	80335	Limited exam due to proximity of the core spray sparger.
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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	
	Start	Stop	Start	Stop					
1 - 24	42943	45015	46039	47539	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Channel 6 inactive.
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
								Further Evaluation Required:	
								<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
								Archive Tape/CD No.:	
								4A	
								Analysis Tape/CD No.:	
								1A	

Analyst / SNT Level / Date:
Hector Diaz

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29-Apr-03



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: 29-Apr-03	Examination Time: Start 2046, End 2109
Data Acquisition Operator (s) / SNT Level:			Surface Temperature °F: Start 82, End 82

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				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	OT	(+)	+ 4.40(in)	- 1.00(in)	80335	Limited exam due to the proximity of the core spray sparger.
Channel 6	On	OT	(+)	- 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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
9 - 50	47476	51154	46039	47539	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4A
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.:
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:
Hector Diaz

log 8/2/40



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: 29-Apr-03	Examination Time: Start 0608, End 0615
Data Acquisition Operator(s) / SNT Level: R.A. Riddles / II			Surface Temperature °F: Start 99, End 99

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	
Channel 1	On	55	(+)	- 7.00(in)	+ 0.00(in)	80331	Check for limitations due to the proximity of the feedwater and core spray spargers.
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	OT	(+)	- 4.40(in)	+ 1.00(in)	80335	Limited exam due to proximity of the core spray sparger.
Channel 6	On	OT	(+)	+ 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	

Increment & Scan Positions Actual					Recordable Indications			Analyst Remarks	
Scan No.(s)	Increment Position		Scan Position		Yes	No	N/A	Attachment:	Channel 6 inactive.
	Start	Stop	Start	Stop				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
34 - 52	49718	51287	46039	47539	Channel 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Further Evaluation Required:
					Channel 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
					Channel 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Archive Tape/CD No.:
					Channel 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4A
					Channel 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analysis Tape/CD No.:
					Channel 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1A
					Channel 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
					Channel 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Analyst / SNT Level / Date:
Hector Diaz

III

29-Apr-03

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-
 2A00*

NDE Method	Proc/Rev/Chg/ICN	NDE Examination	Calibration Sheet No.	Date Sheet No.	N O R T I H	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	808033	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

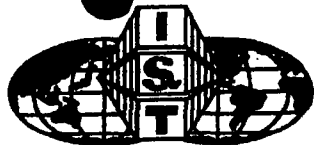
Prepared by: Steven J. Todd
 Steven J. Todd - Project Engineer

Date: 3 July 2003

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Summary Sheet No.: 001300

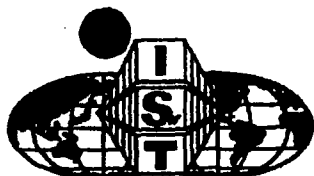
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PILGRAIM NUCLEAR POWER STATION **COVERAGE REPORT** **RFO 14**

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					
	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					
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
	Parallel	73	347.79	362.79	508.29	578.82	1058.0					
		74	347.74	362.79	578.82	647.94	1040.3					2098
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					
	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					

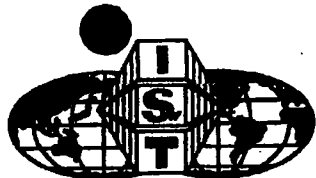
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PILGRAIM NUCLEAR POWER STATION **COVERAGE REPORT** **RFO 14**

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					
	Parallel	42	699.50	712.10	504.00	517.00	163.8	1211	1481	82%		
		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					
RPV-L-2-339B Ring 3 Vert @ 116°	Transverse	46	698.30	713.30	506.20	512.81	99.1	1350	1701	79%	75%	Limitations due to the proximity of the feedwater and core spray spargers and ID taper at circ weld C-3-339A.
		47-1	223.76	231.41	387.50	424.02	279.4					
		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					
	Parallel	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%		
		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					
RPV-L-2-339C Ring 3 Vert @ 236°	Transverse	54	222.48	237.48	500.16	511.86	175.5	1360	1701	80%	83%	Limitations due to the proximity of the feedwater and core spray spargers.
		55	461.59	473.92	387.50	408.62	260.4					
		56	461.59	473.18	408.62	448.40	461.1					
		57	461.59	474.19	475.50	504.02	359.4					
	Parallel	58	461.59	474.19	504.02	517.00	163.5	1244	1481	84%		
		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					
	Parallel	62	460.39	475.39	511.54	512.87	19.9	1391	1701	82%		

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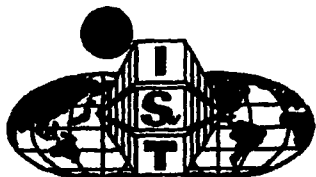


PILGRAIM NUCLEAR POWER STATION COVERAGE REPORT

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%		

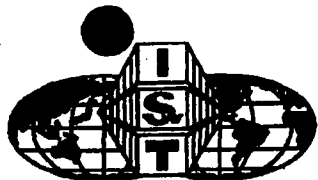
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PILGRAIM NUCLEAR POWER STATION **COVERAGE REPORT** **RFO 14**

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%		

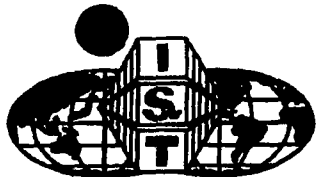
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PILGRAIM NUCLEAR POWER STATION **COVERAGE REPORT** **RFO 14**

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					

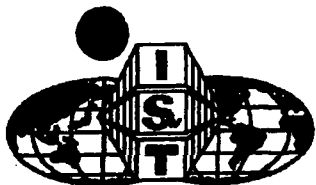
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PILGRAIM NUCLEAR POWER STATION **COVERAGE REPORT** **RFO 14**

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					

log 9/14/40



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					
	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 measure in inches from vessel 0°.

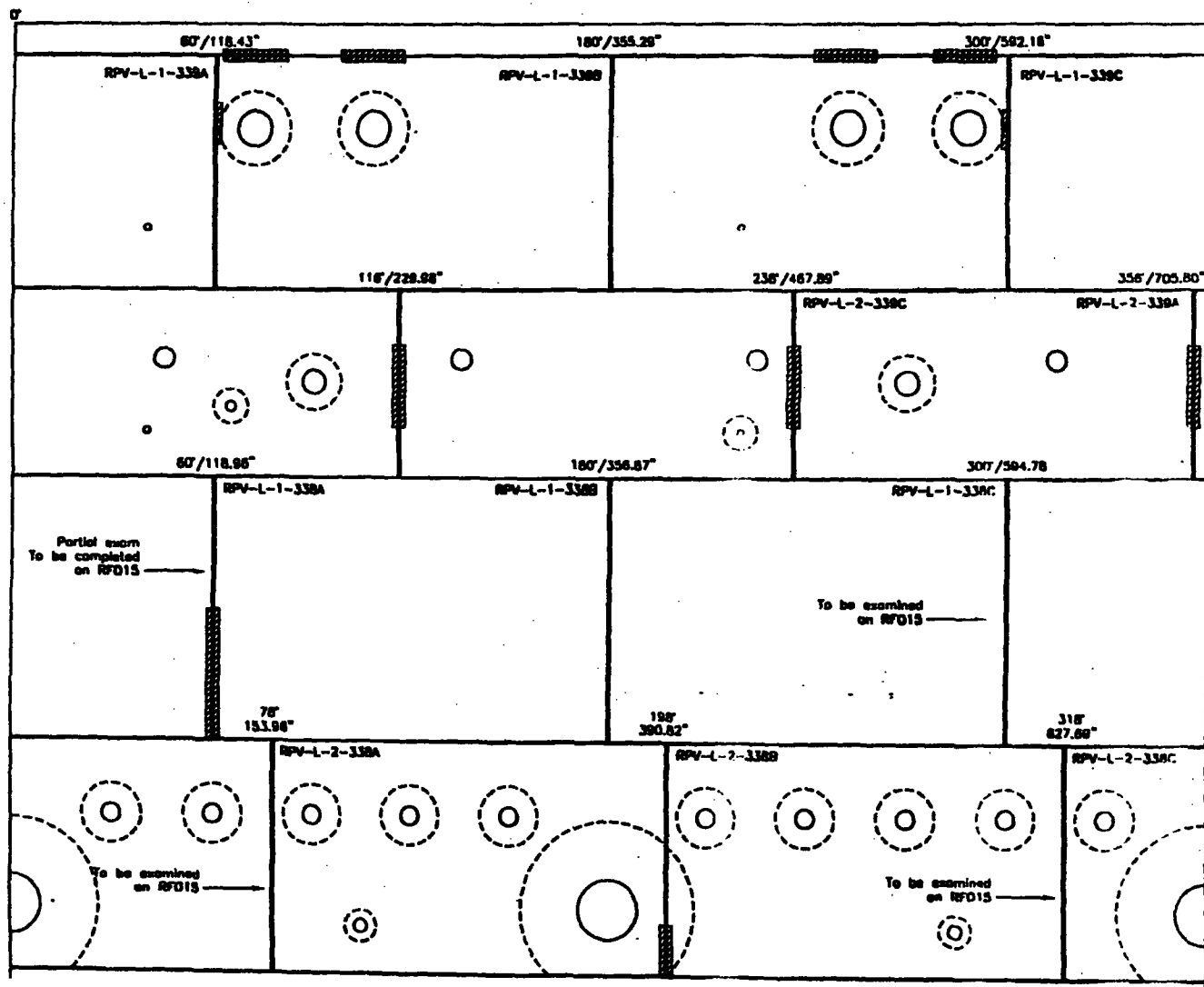
Y is the dimension in elevation measured in inches from vessel 0°.

For the Transverse examinations, X is the increment axis, and the Y is the scan axis.

For the Parallel examinations, X is in the scan axis, and Y is the increment axis.

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Pilgrim RPV
OD Vessel Rollout (Limitations)
May 2003
Limit RPV.dwg



GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.:
PIL-R15-05-028

Site: Pilgrim Nuclear Power Station Component ID: RPV-N7A-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-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 from 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.

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**GE ENERGY, NUCLEAR****Ultrasonic Calibration and Examination Record
RPV Components**Site/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-026 Linearity Sheet: L-006Outage: RF-015Data Sheet Number: UT-003Procedure: TP04-018 (GE-UT-300)Rev.: R0 (V8)DAR: N/ACalibration Block: PIL-5B

CS File: 4.35"
Material Size Thickness
Initial Cal: 0945' Exam Start: 1400
Cal Check: N/A Exam End: 1440
Cal Check: N/A Ultracal 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	<u>4.1"</u>	1X	<u>80%</u>	<u>7.8"</u>	<u>8.2"</u>	<u>4.1</u>
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 62 dBSweep 0-10 10.0" DepthNote 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
Manufacturer/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. Sa / Med
Rep Rate: Rectification: Range: Pulsar:
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-NVNOZZLE TO VESSEL

Configuration:

02 72° F
Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>TOP</u>	<u>02</u>	<u>68</u>	<u>NRI</u>	<u>60°</u>

Calibration VerificationField Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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
W. H. Kelly JH 4-24-05
GE Reviewed By: Level: Date:

Scott L. III 4/22/05
Utility Reviewed By: Date:
Chris Ham 4/22/05
ANII Reviewed By: Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: **Pilgrim Nuclear Power Station / 1**

Data Report Number: **PIL-R15-05-026** Linearity Sheet: **L-006**

Outage: **RF-015**

Data Sheet Number: **UT-004**

Procedure: **TP04-018 (GE-UT-300)**

Rev.: **R0 (V3)**

DRR: **N/A**

Calibration Block: **CAL-IIW2-017**

<u>CS</u>	<u>N/A</u>	<u>4.0"</u>
Material	Size	Thickness
Initial Cal: 0945		Exam Start: 1400
Cal Check: N/A		Exam End: 1440
Cal Check: N/A	Ultracel 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	0.8"	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

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
------------------------	-------------	---------	------------------------	------------

1/2	OD	72	NRI	60°
------------	-----------	-----------	------------	------------

Search Unit Data

<u>Sigma</u>	22BC-02004	2(1.1"x.62")/Recl.
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

<u>Panametrics / Epoch 4</u>	031540506
Manufacturer/Model:	Serial Number:
9.615 us	0.234 in./usec.
Delay/Zero:	Velocity:
0.5 - 3.0 MHz	Narrowband Filter:
Auto	Fullwave
Rep Rate:	Rectification:
400 Ohms	0
Damping:	Reject:
Off	Off
DAC:	TVG:
Off	Off
Off	Off
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

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	Bred Dummer	III	4/22/2005
Initials:	Examiner	Level	Cal/Exam Date:

N/A	N/A
Initials:	Examiner
N/A	N/A
Initials:	Examiner
4-24-05	4-24-05
GE Reviewed By:	Date:

4/27/05	4/27/05
Utility Reviewed By:	Date:
4/27/05	4/27/05
ANII Reviewed By:	Date:

**GE ENERGY, NUCLEAR****Ultrasonic Calibration and Examination Record
Inner Radius Examinations**Site/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-026 Linearity Sheet: L-004Outage: RF-016Data Sheet Number: UT-028Procedure: 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 Ultracal II 01225
Final Cal: 1405° Couplant: Batch
241880 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	<u>4.1"</u>	1X	<u>80%</u>	<u>7.8"</u>	<u>9.18"</u>	<u>4.6</u>
<u>N/A</u>	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC @ 1X 41 dBSweep 0-10 20 Metal PathAcceptable Linearity performed: 4/15/2005**Search Unit Data**

K6A 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 0.128 in/us/sec 0.8 - 3.0 MHz
Zero: Velocity: Narrowband Filter:
Auto Fullwave 20.0 in. Sa / Med
Rep Rate: Rectification: Range: Pulsar/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:

00 70° F
Exam Surface: 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 VerificationField Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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 Kent Montgomery

Initials: Examiner:

Level

4/22/2005

Cal/Exam Date:

Scott T. L-115

Utility Reviewed By:

Date:

B/M

GE Reviewed By:

III

Level:

4-24-05

Date:

Chris L-115

ANII Reviewed By:

4/24/05

Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1

Data Report Number: PIL-R15-05-026 Linearity Sheet: L-004

Outage: RF-015

Data Sheet Number: UT-029

Procedure: TP04-029 (GE-UT-311)

Rev: R0 (V10) DRR: N/A

Calibration Data for Block: PIL-5B

CS Flt 4.35"
Material: " Size Thickness

Initial Cal: 1020° Exam Start: 14:00
Cal Check: N/A Exam End: 14:45
Cal Check: N/A Ultracel 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	<u>4.1"</u>	<u>1X</u>	<u>80%</u>	<u>4.1"</u>	<u>6.19"</u>	<u>3.1</u>
<u>N/A</u>	<u>N/A</u>	<u>1X</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC @ 1X 35.5 dB

Sweep 0-10 20° Metal Path

Acceptable Linearity performed: 4/15/2005

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

Panometrics / Epoch 4 031574111
Manufacturer/Model: Serial No.:

12.35 us 0.128 in/ussec 0.8 - 3.0 MHz
Zero: Velocity: Narrowband Filter:

Auto Fullwave 20.0 in. Sq. / Mod
Rep Rate: Rectification: Range: Pulsar/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 70° F
Exam Surface: Component Temp.

Examination Area	Exam Angle	Rotation Angle	Wedge S/N	Scan dB	Recordable Indications
<u>0-8°</u>	<u>45°</u>	<u>15° - 85°</u>	<u>N/A</u>	<u>49.5</u>	<u>NRI</u>

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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

JWM J. Kent Montgomery

II

4/22/2005

Initials: Examiner:

Level

Cal/Exam Date:

Utility Reviewed By:

Date:

JLM

II

4-24-05

GE Reviewed By:

Level:

Date:

ANII Reviewed By:

Date:

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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 MR	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
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6"	12.9"	1 MHz
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6"	13.4"	1 MHz
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
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"	80.0°	± 56°	FLAT	6.8"	2.25 MHz
ZONE 1-2A (M)	PLATE	0 - 7.5"	70.0°	± 30°	FLAT	9.7"	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

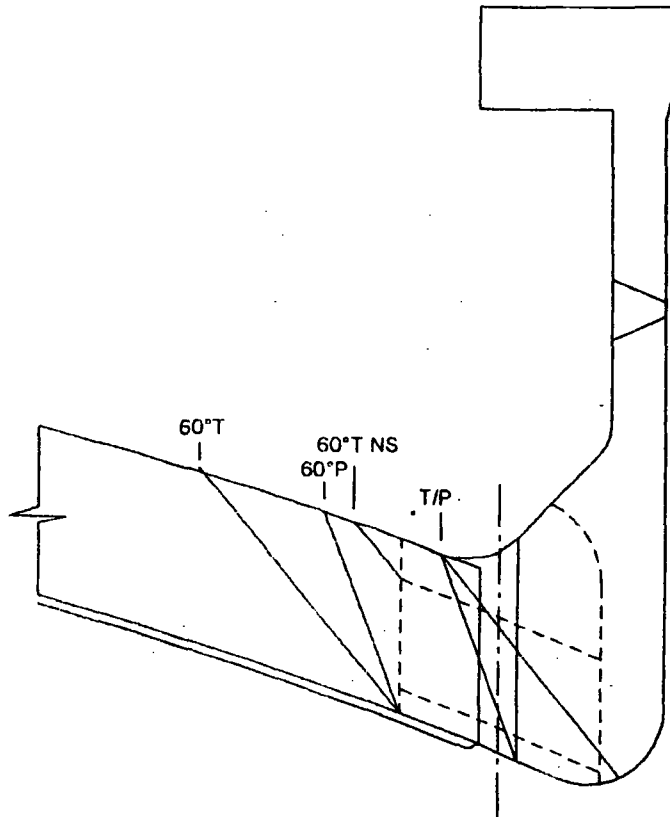
Pilgrim - RFO15
Weld RPV-N7A-NV Top Head Spray
Spring 2005

Weld Length = 360. Exam Volume = 28.		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	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.



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.

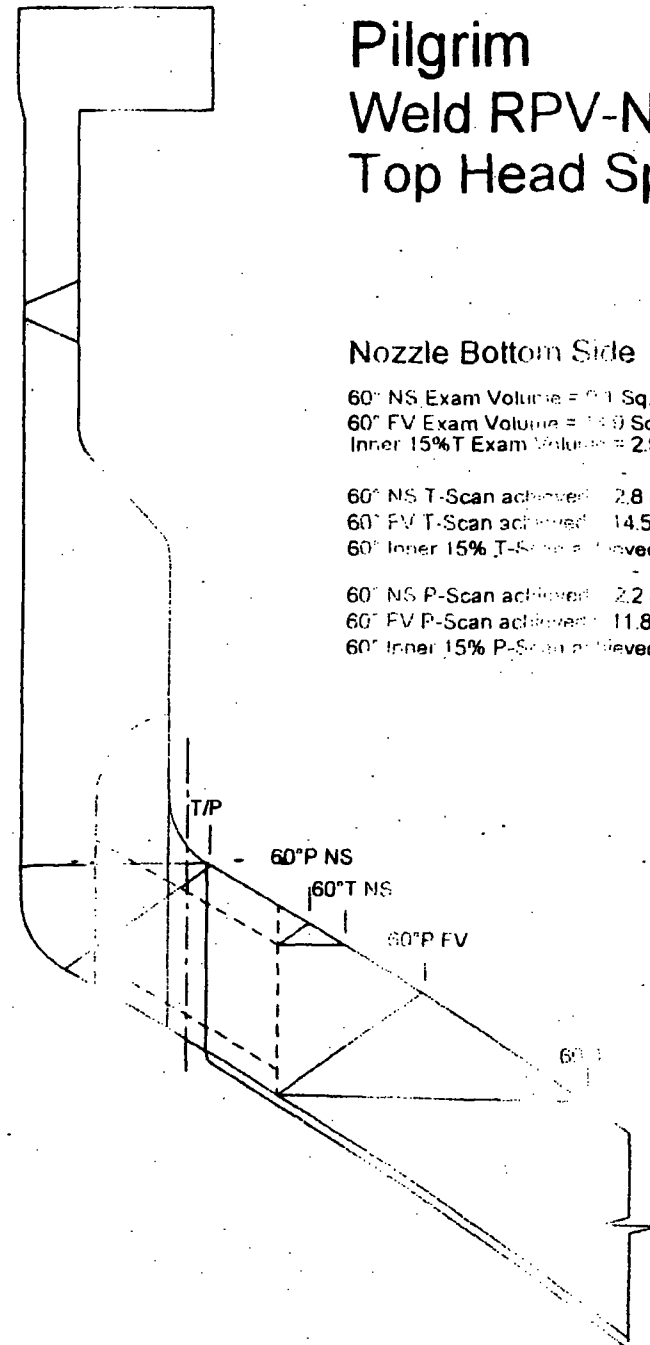
Pilgrim Weld RPV-N7A-NV Top Head Spray

Nozzle Bottom Side

60° NS Exam Volume = 9.1 Sq. In.
 60° FV Exam Volume = 14.9 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-R15-05-028Site: Pilgrim Nuclear Power Station Component ID:RPV-N7B-NVOutage: RF-015NOZZLE TO VESSEL

System

RPVASME Cat.: B-DASME 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	I	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 = 58.7%.

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:

4-24-05

Date:

Utility Review:

ANII Review:

4/28/05

Date:

4/28/05

Date:

RWP: 0065

Dose: 1 mr.

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1

Data Report Number: PIL-R15-05-028 Linearity Sheet: L-006

Outage: RF-015

Data Sheet Number: UT-006

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: 1446
Cal Check: N/A Exam End: 1535
Cal Check: N/A Ultracal II 01225
Final Cal: 1445 Couplant: Batch
241690 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	<u>0.6"</u>	1X	<u>80%</u>	<u>1.0"</u>	<u>.58"</u>	<u>2.8</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC 1X= 58 dB

Sweep 0-10 2.0" Depth

Note N/A dB difference between 3/8 and 5/8 Vee

Exam Data for Weld: RPV-N7B-NV

NOZZLE TO VESSEL

Configuration:

00

72° F

Exam Surface:

Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>Plate</u>	<u>I</u>	<u>72</u>	<u>NRI</u>	<u>60°</u>
<u>Plate CW/CCW</u>	<u>P</u>	<u>72</u>	<u>NRI</u>	<u>60°</u>

Search Unit Data

Sigma 22BC-02005 2(1.1"x.62")/Rect.
Manufacturer: Serial Number: Size / Shape:
0.65" 60° 58°
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
Manufacturer/Model: Serial Number:
9.615 us 0.234 in./usec. 0.8 - 3.0 MHz
Delay/Zero: Velocity: Narrowband Filter:
Auto Fullwave 4.0 in. Sa / 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:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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.

BA Brad Dummer III 4/22/2005
Initials: Examiner Level Cal/Exam Date:
N/A N/A
Initials: Examiner Level
N/A II 4-25-05
GE Reviewed By: Level: Date:

Scott L. L... 4/28/05
Utility Reviewed By: Date:
Chris... 4/28/05
ANII Reviewed By: Date:



GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record
RPV ComponentsSite/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-028 Linearity Sheet: L-008Outage: RF-015Data Sheet Number: UT-005Procedure: TP04-018 (GE-UT-300)Rev.: R0 (V8)DRR: N/ACalibration Block: PIL-5B

CS Flat 4.35"
 Material Size Thickness
 Initial Cal: 0945" Exam Stan: 1445
 Cal Check: N/A Exam End: 1535
 Cal Check: N/A Ultracal 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 dBSweep 0-10 10.0" DepthNote N/A dB difference between 3/8 and 5/8 VeeExam Data for Weld: RPV-N7B-NVNOZZLE TO VESSEL

Configuration:

OD 72° F
 Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>Plate</u>	<u>I</u>	<u>68"</u>	<u>NRI</u>	<u>60"</u>
<u>Plate CW/CCW</u>	<u>P</u>	<u>68"</u>	<u>NRI</u>	<u>60"</u>

Search Unit Data

Sigma 22BC-02004 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
 Manufacturer/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. Sg. / Med
 Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 3.03 MHz Dual
 Damping: Reject: Frequency: Mode:
Off Off Off Off
 DAC: TVG: CSC: DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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

Initials: Examiner

III 4/22/2005

Level Cal/Exam Date:

N/AN/A

Initials: Examiner

Level

GE Reviewed By: [Signature]Level: IIIDate: 4-24-05[Signature] L-008 4/28/05

Utility Reviewed By:

Date:

ANII Reviewed By: [Signature]

Date:

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1

Data Report Number: PIL-R15-05-029 Linearity Sheet: L-004

Outage: RF-015

Data Sheet Number: UT-034

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 15:35
Cal Check: N/A Exam End 16:25
Cal Check: N/A Ultracel II 01225
Final Cal: 1405° 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	<u>4.1"</u>	<u>1X</u>	<u>80%</u>	<u>7.8"</u>	<u>9.18"</u>	<u>4.6</u>
<u>N/A</u>	<u>N/A</u>	<u>1X</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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 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 0.128 in/ussec 0.8 - 3.0 MHz
Zero: Velocity: Narrowband Filter:
Auto Fullwave 20.0 in. Sc / Mod
Rep Rate: Rectification: Range: Pulsar/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-N7B-NV

NOZZLE TO VESSEL

Configuration:

02 70° F
Exam Surface: Component Temp.
Examination Area Exam Angle Rotation Angle Wedge S/N Scan Recordable
Area Angle Angle dB Indications
0-5" 60° 15° - 85° N/A 55 NRI

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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

Initials: Examiner:

Level

Cal/Exam Date:

Utility Reviewed By:

Date:

RIM

III

4-24-05

Chris Ham

4/24/05

GE Reviewed By:

Level:

Date:

ANII Reviewed By:

Date:

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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 - 8.0"	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
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6"	12.9"	1 MHz
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6"	13.4"	1 MHz
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
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 - 8.0"	60.0°	± 35°	FLAT	6.6"	2.25 MHz
ZONE 1-2A (M)	PLATE	0 - 7.0"	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

W-071
W-070
W-069

W-072

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

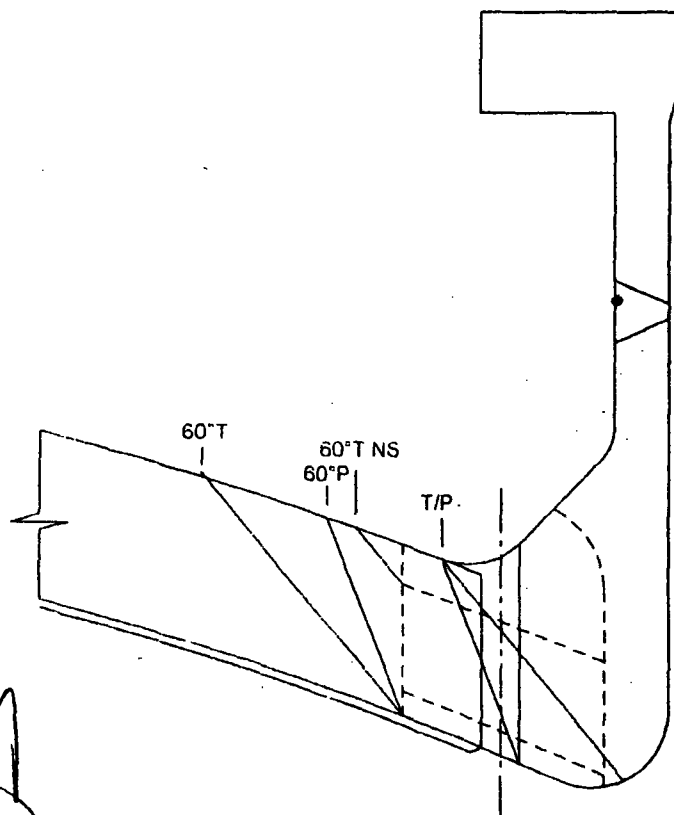
Weld Length = 360. Exam Volume = 28.		CODE CROSS-SECTIONAL AREA		TOTAL CODE COVERAGE		
		Required Exam Area Sq. In.	Area Scanned Manual	Percent of Area Manual	Weld Length Manual	Percent Manual
60° NS T-Scan	A	10.2	1.7	5.1%	180	1.5%
60° S6 T-Scan	A	14.7	11.3	45.4%	180	10.1%
60° S4 / IRS Scan	A	3.1	3.1	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.

Scott 4/28/05



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.

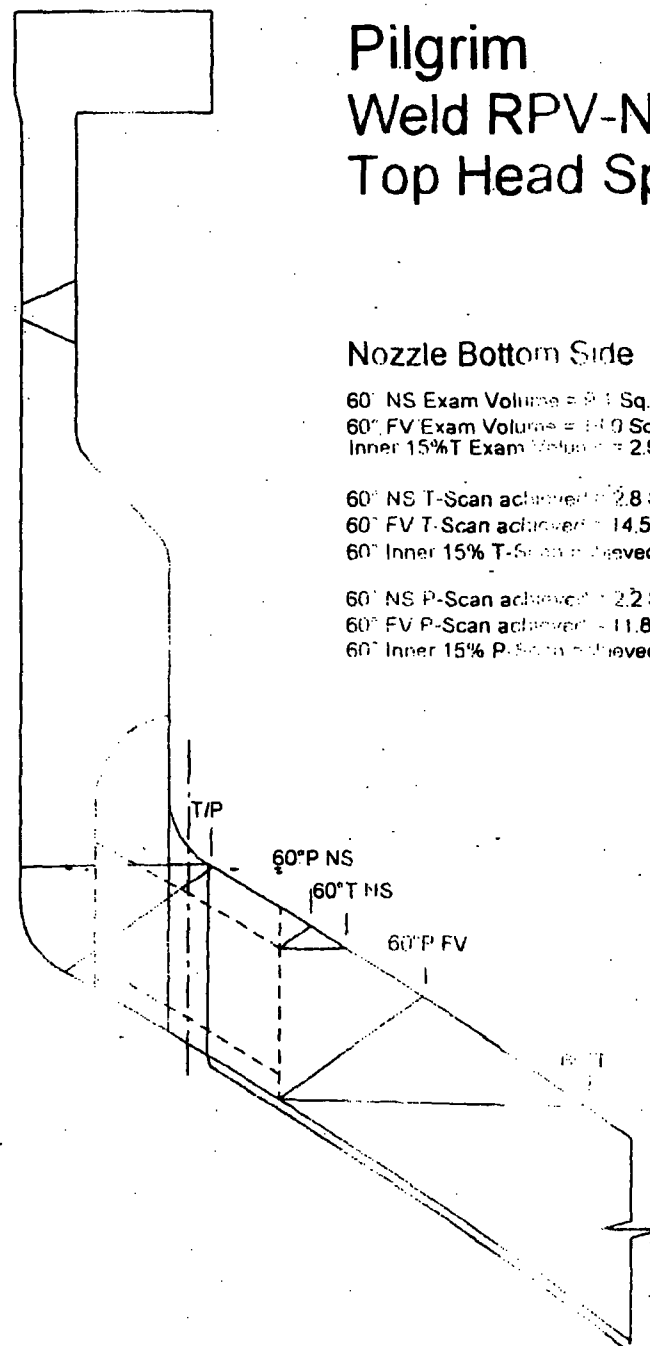
Pilgrim Weld RPV-N7B-NV Top Head Spray

Nozzle Bottom Side

60° NS Exam Volume = 9.1 Sq. In.
 60° FV Exam Volume = 14.0 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-R15-05-030Site: Pilgrim Nuclear Power Station Component ID:RPV-N8-NVOutage: RF-015NOZZLE TO VESSELSystem 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
80° Shear	UT-025	N/A	TP04-028 (GE-UT-311)	PIL-5B	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 TP04-028 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: R/M Level: III Date: 4-24-05 Utility Review: [Signature] Date: 4/28/05
ANII Review: [Signature] Date: 4/28/05

RWP: 0065

Dose: 1 mr.

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GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1

Data Report Number: PIL-R15-05-030 Linearity Sheet: L-006

Outage: RF-015

Data Sheet Number: UT-008

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: 1540
Cal Check: N/A Exam End: 1605
Cal Check: N/A Ultracal 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	<u>0.6"</u>	1X	<u>80%</u>	<u>1.0"</u>	<u>58"</u>	<u>2.8</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
N/A	<u>N/A</u>	1X	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

DAC 1X= 58 dB

Sweep 0-10 2.0" Depth

Note N/A dB difference between 3/8 and 5/8 Vee

Exam Data for Weld: RPV-N8-NV

NOZZLE TO VESSEL

Configuration:

QD 72° F
Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>Plate</u>	<u>I</u>	<u>72</u>	<u>NRI</u>	<u>60°</u>
<u>Plate CW/CCW</u>	<u>E</u>	<u>72</u>	<u>NRI</u>	<u>60°</u>

Search Unit Data

Sigma 22BC-02005 2(1.1"x.62")/Rect.
Manufacturer: Serial Number: Size / Shape:
0.65" 60° 52°
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
Manufacturer/Model: Serial Number:
9.615 in 0.234 in./usec. 0.8 - 3.0 MHz
Delay/Zero: Velocity: Narrowband Filter:
Auto Fullwave 4.0 in. So / Mod
Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 3.03 MHz Dual
Damping: Reject: Frequency: Mode:
Off Off Off Off
DAC: TVG: CSC: DGS:

Calibration Verification

Field Simulator Block S/N: N/A

Reflector	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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.

AD Brad Dummer III 4/22/2005
Initials: Examiner Level Cal/Exam Date:
N/A N/A
Initials: Examiner Level
[Signature] II 4-24-05
GE Reviewed By: Level: Date:

[Signature] 4/24/05
Utility Reviewed By: Date:
[Signature] 4/24/05
ANII Reviewed By: Date:



GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record RPV Components

Site/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-030 Linearity Sheet: L-006Outage: RF-015Data Sheet Number: UT-007Procedure: TP04-018 (GE-UT-300)Rev.: R0 (V8)DRR: N/ACalibration Block: PIL-5B

CS **Flat** **4.35"**
 Material Size Thickness
 Initial Cal: 0945 Exam Stan 1540
 Cal Check: N/A Exam End 1605
 Cal Check: N/A Ultrason 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"	9.2"	4.1
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC 1X= 62 dBSweep 0-10 10.0" DepthNote N/A dB difference between 3/8 and 5/8 VeeExam Data for Weld: RPV-N8-NVNOZZLE TO VESSEL

Configuration:

00 **72° F**
 Exam Surface: Component Temperature

Weld Examination Area:	Exam Access	Scan dB	Recordable Indications	Exam Angle
<u>Plate</u>	<u>I</u>	<u>68</u>	<u>NRI</u>	<u>60°</u>
<u>Plate CW/CCW</u>	<u>P</u>	<u>68</u>	<u>NRI</u>	<u>60°</u>

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**
 Manufacturer/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.** **So / Mod**
 Rep Rate: Rectification: Range: Pulsar:
400 Ohms 0 3.03 MHz Dual
 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

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.

RD Brad Dummer III 4/22/2005
 Initials: Examiner Level Cal/Exam Date:

N/A N/A
 Initials: Examiner Level
4-24-05
 GE Reviewed By: Level: Date:

Scott L. Lee 4/28/05
 Utility Reviewed By: Date:
Chris Hanson 4/30/05
 ANII Reviewed By: Date:



GE ENERGY, NUCLEAR

Ultrasonic Calibration and Examination Record

Inner Radius Examinations

Site/Unit: Pilgrim Nuclear Power Station / 1Data Report Number: PIL-R15-05-030 Linearity Sheet: L-004Outage: RF-015Data Sheet Number: UT-025Procedure: TP04-029 (GE-UT-311)Rev: R0 (V10)DRR: N/ACalibration Data for Block: PIL-5B

CS **Flat** **4.35"**
 Material Size Thickness
 Initial Cal: 1030° Exam Start 14:40
 Cal Check: N/A Exam End 15:30
 Cal Check: N/A Ultracel II 01225
 Final Cal: 1405° 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	<u>4.1"</u>	1X	<u>80%</u>	<u>7.8"</u>	<u>9.18"</u>	<u>4.6</u>
N/A	N/A	1X	N/A	N/A	N/A	N/A

DAC @ 1X 41 dBSweep 0-10 20 Metal PathAcceptable Linearity performed: 4/15/2005Exam Data for Component: RPV-N8-NVNOZZLE TO VESSEL

Configuration:

QD **70°F**
 Exam Surface: Component Temp.
 Examination Area Exam Angle Rotation Angle Wedge S/N Scan Recordable dB 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

BG-174 **12'** **0**
 Cable Type: Length: Connectors:

Instrument Settings

Panametrics / Epoch 4 **031574111**
 Manufacturer/Model: Serial No.:

14.27 us 0.126 in./us 0.8 - 3.0 MHz
 Zero: Velocity: Narrowband Filter:
Auto **Fullwave** **20.0 in.** **Sa / Mod**
 Rep. Rate: Rectification: Range: Pulsar/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	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Amplitude	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Gain (dB)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Sweep (SD)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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

Initials: Examiner:

Level

Cal/Exam Date:

Utility Reviewed By:

Date:

GE Reviewed By:

Level:

Date:

ANII Reviewed By:

Date:

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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
Zone 1 (M)	ODBR	35° - 90°	32.9°	82.2°	6.6"	12.9"	1 MHz
Zone 2a (M)	ODBR	35° - 90°	41.2°	48.9°	6.6"	13.4"	1 MHz
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
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°	±58°	FLAT	6.8"	2.25 MHz
ZONE 1-2A (M)	PLATE	0 - 7.0"	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

W-071
W-070
W-069

W-072

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

Box 112/240

% Total Composite Coverage = 75.5%

Note - Rounding methods may affect calculated values.

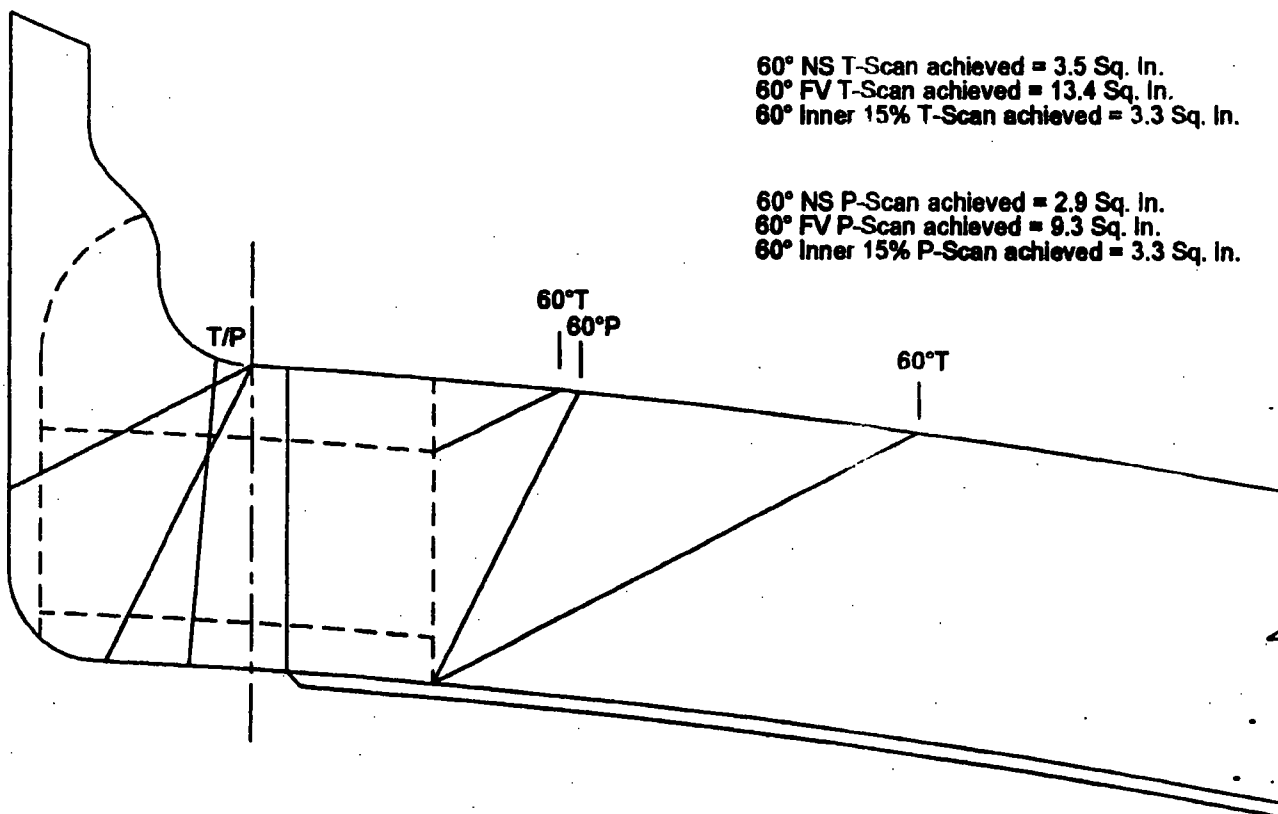
4/28/25


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.



 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							
Exame 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 <input checked="" type="checkbox"/> No Change These examinations were performed under Work Order: 03116843 <input type="checkbox"/> Change							
This Summary and the following data sheets have been reviewed and accepted by the following personnel: <div style="display: flex; justify-content: space-between;"> <div> Prepared By: <u><i>Mr. Halz</i></u> Level: <u>III</u> Date: <u>5-2-05</u> </div> <div> Utility Review: <u><i>[Signature]</i></u> Date: <u>5-2-05</u> </div> </div>						RWP: 0080 Dose: 133 mr.	
ANII Review: <u><i>[Signature]</i></u> Date: <u>5/4/05</u>						Page <u>1</u> of <u>8</u>	

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pikarim Nuclear Power Station Unit: 1

Project: RF-015

Report No.:

APR-002

System: CS

Component ID Number: 14-A-10A

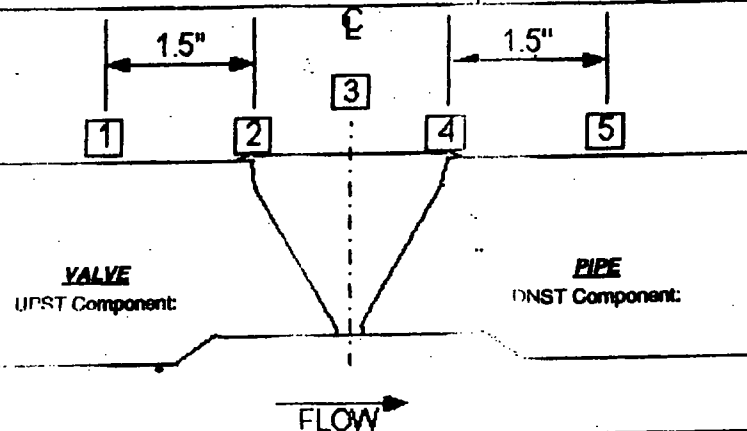
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.683	N/A	N/A	N/A
4	0.595	N/A	N/A	N/A
5	0.596	N/A	N/A	N/A

Crown Height: 0.1

Crown Width: 0.8"

Nominal Diameter: 10.0"

Weld Length: 34.0"



14-A-10A



Valve

Exam Volume

Pipe

Thickness obtained from previous data

Randy Linden

Initials: Examiner:

III 4/28/2005

Level: Date:

[Signature]

GE Reviewed By:

III 5-2-05

Level: Date:

[Signature]

Utility Review:

III 5-2-05

Date:

[Signature]

ANII Review:

[Signature]

Date:

Page 2 of 8

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pikerm Nuclear Power Station Unit: 1

Report No.:

Project: RF-018

APR-002

System: CS

Component ID Number: 14-A-104

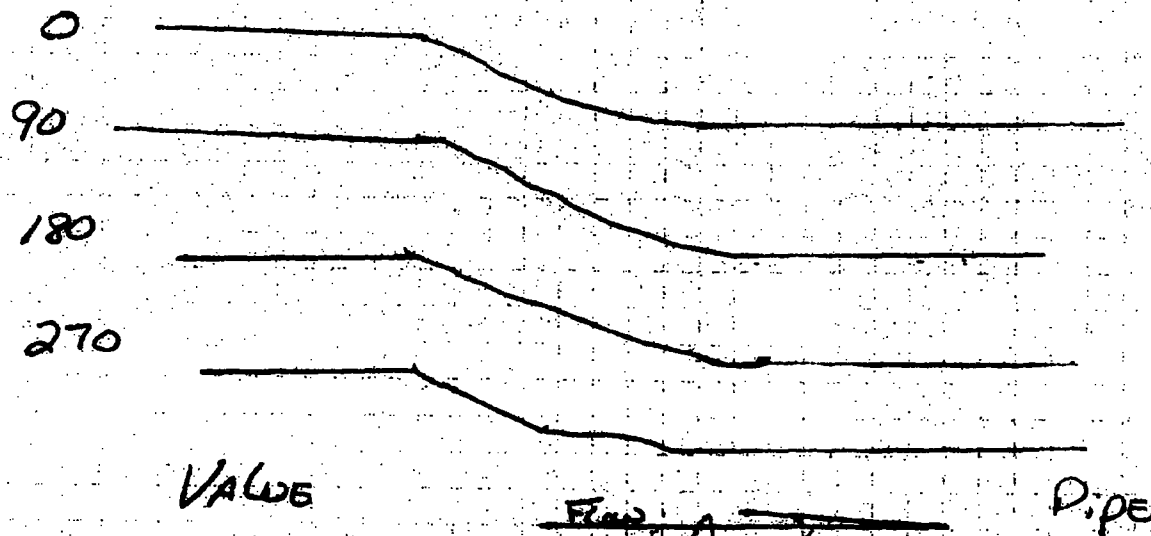
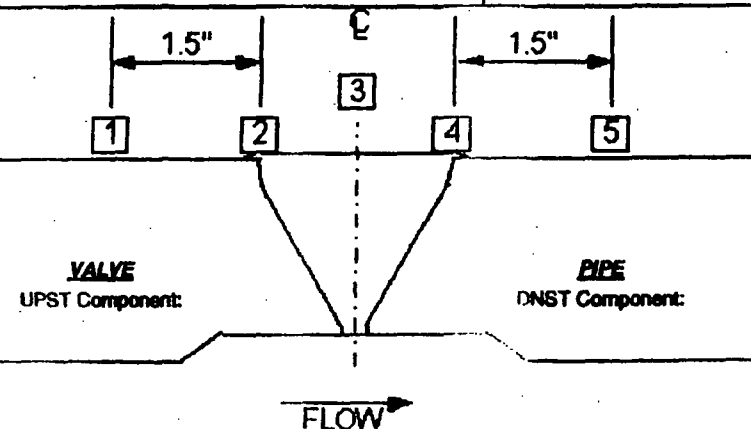
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.683	N/A	N/A	N/A
4	0.585	N/A	N/A	N/A
5	0.586	N/A	N/A	N/A

Crown Height: 0.1

Crown Width: 0.9"

Nominal Diameter: 10.0"

Weld Length: 24.0"



 Initials: Examiner: <u>Randy Linden</u>	Level: <u>III</u> Date: <u>4/28/2005</u>	GE Reviewed By: Level: <u>III</u> Date: <u>5-2-05</u>	Utility Review: Date: <u>4/28/05</u>	ANIL Review: Date: <u>5/4/05</u>
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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-078**
Linearity Sheet: **L-003**

Calibration Data for Block: **PIL-115**

Procedure: **ENN-NDE-8.10**

Ver / Rev: **0**

DRP: **N/A**

CS	10"	0.594"	Calibration	Cal Time
Material	Size	Thick	Initial Cal:	0740
Ultracal II	01225		Cal Check:	0817
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: **5.0 Div**
Signal dB: **9.0 dB**
Sweep 0-10 = **1.5 in Metal Path**

Calibration Verification

Field Simulator Block S/N: **CAL-FW2-017**

Reflector	0.60"	N/A
Amplitude	40%	N/A
Gain (dB)	9 dB	N/A
Sweep (SD)	5.0	N/A

Acceptable Linearity performed: **4/15/2005**

Exam Data for Weld: **14-A-10A**

VALVE TO PIPE

Configuration:

QD **88° 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°

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 **Comp-G** **Shear** **1**
Frequency: Style: Mode: Elements:

Search Unit Cable

BG-174 **6'** **0**
Cable Type: Length: Connectors:

Instrument Settings

Parametrica / Epoch 4 **031573611**
Manufacturer/Model: Serial Number:
6.285 us **0.128 in./us** **0.8 - 3.0 MHz**
Zero: Velocity: Narrowband Filter:
Auto **Fullwave** **1.5 in** **Sa / Max**
Rep Rate: Rectification: Range: Pulsar/Energy:
400 Ohms **Off** **2.0 MHz** **P/E**
Damping: Reject: Frequency: 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**

(12)

Randy Linden

III

Initials: Examiner:

Level:

N/A

N/A

Initials: Examiner 2:

Level:

Initial Cal/Exam Date: **4/28/2005**

GE Reviewed By:

Level:

Date:

Utility Review:

Date:

ANII Review:

Date:

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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-078
Linearity Sheet: L-003

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10

Ver / Rev: 1

DRR: N/A

<u>CS</u>	<u>10"</u>	<u>0.594"</u>	Calibration:	Cal Time
Material:	Size	Thick	Initial Cal:	<u>0730</u>
<u>Ultrason II</u>	<u>01225</u>		Cal Check:	<u>0905</u>
Couplant:	Couplant batch		Cal Check:	<u>0955</u>
<u>241890</u>	<u>68° F</u>		Final Cal:	<u>1102</u>
Thermometer S/N	Cal Temp.			

Search Unit Data

RTD 03-177 20x100 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

RQ-174 5' 2
Cable Type: Length: Connectors:

Instrument Settings

Panametrics / Epoch 4 031573611
Manufacturer/Model: Serial Number:
7.535 in 0.236 in/μsec 0.5 - 3.0
Zero: Velocity: Narrowband Filter:
Auto Fullwave 2.0 in Sa / Max
Rep Rate: Rectification: Range: Pulsar/Energy:
400 Ohms Off 2.0 MHz Dual
Damping: Reject: Frequency: Mode:

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-11W2-017

Reflector	<u>0.60"</u>	<u>N/A</u>
Amplitude	<u>80%</u>	<u>N/A</u>
Gain (dB)	<u>30.3</u>	<u>N/A</u>
Sweep (SD)	<u>5.6</u>	<u>N/A</u>

Acceptable Linearity performed: 4/15/2005

Exam Data for Weld: 14-A-10A

VALVE TO PIPE

Configuration:

02 65° F 241890
Exam Surface: Exam Temp. Exam Thermometer

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Maintained a 20% ID roll during examination.

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
<u>Axial</u>	<u>DNST</u>	<u>43.9</u>	<u>NFI</u>	<u>45°</u>
<u>Circ</u>	<u>DNST</u>	<u>43.9</u>	<u>NFI</u>	<u>45°</u>

Exam Start: 0908 Exam End: 0940

Randy Linden III
Initials: Examiner: Level:
N/A N/A
Initials: Examiner 2: Level:
Initial Cal/Exam Date: 4/29/2005

UT 5-2-05
GE Reviewed By: Level: Date:
UT 5-2-05
Utility Review: Date:
5/2/05
Date:

ANII Review:

Date:

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Ultrasonic Calibration and Examination Record Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
Outage: RE-015

Report Number: APR-002
Data Sheet Number: UT-077
Linearity Sheet: L-008

Calibration Data for Block: PIL-115

Procedure: ENN-NDE-9.10

Ver / Rev: 0

DRR: N/A

CS	10"	0.564"	Calibrator:	Cal Time
Material	Size	Thick	Initial Cal:	0800
<u>Ultrason II</u>	<u>01225</u>		Cal Check:	0830
Couplant:	Couplant batch		Cal Check:	N/A
<u>241890</u>	<u>68°F</u>		Final Cal:	1100
Thermometer S/N	Cal Temp.			

Search Unit Data

RTP 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

Panometrics / Epoch 4 031573611
Manufacturer/Model: Serial Number:
6.155 us 0.222 in./us 0.8 - 3.0
Zero: Velocity: Narrowband Filter:
Auto Fullwave 2.0 in Sq / Max
Rep Rate: Rectification: Range: Pulsar/Energy:
400 Ohms Off 2.0 MHz Dual
Damping: Reject: Frequency: Mode:

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-SW2-017

Reflector	<u>0.60"</u>	<u>N/A</u>
Amplitude	<u>80%</u>	<u>N/A</u>
Gain (dB)	<u>42.4</u>	<u>N/A</u>
Sweep (SD)	<u>6.0</u>	<u>N/A</u>

Acceptable Linearity performed: 4/15/2005

Exam Data for Weld: 14-A-10A

VALVE TO PIPE

Configuration:

00 85°F 241890
Exam Surface: Exam Temp. Exam Thermometer

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Maintained a 20-30% ID roll during examination.

Axel	UPST	Scan dB	Recordable	Exam
Circ	DNST		Indications	Angle
<u>Axial</u>	<u>DNST</u>	<u>47.2</u>	<u>NBI</u>	<u>60°</u>
<u>Circ</u>	<u>DNST</u>	<u>47.2</u>	<u>NBI</u>	<u>60°</u>

Exam Start: 0806 Exam End: 0940

(Signature)

Randy Linden

Initials: Examiner:

Level:

N/A

N/A

Initials: Examiner 2:

Level:

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By: (Signature)

Level: III Date: 5-2-05

Utility Review: (Signature)


Date: 5-2-05

ANII Review: (Signature)

Date: 5/2/05

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 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-8.10	PIL-115	Randy Linden	III	4/28/2005
45° RL	UT-073	N/A	ENN-NDE-8.10	PIL-115	Randy Linden	III	4/28/2005
60° Long.	UT-074	N/A	ENN-NDE-8.10	PIL-115	Randy Linden	III	4/28/2005

Examination Results:

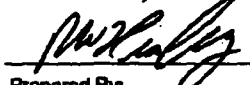
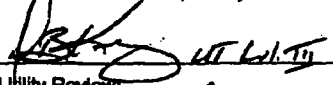
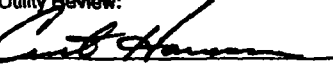
During the manual ultrasonic examination of the above referenced dissimilar metal weld, no indications associated with IGSCC were recorded utilizing a 45° shear wave, 45° and 60° refracted longitudinal wave search units.

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 <input checked="" type="checkbox"/> No Change			
These examinations were performed under Work Order: 03118643 <input type="checkbox"/> Change			

This Summary and the following data sheets have been reviewed and accepted by the following personnel:				RWP: 0080
Prepared By: 	Level: III	Date: 5-2-05	Utility Review: 	Dose: 133 mr.
ANII Review: 				Date: 5/3/05
				Page 1 of 6

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Plaquemine Nuclear Power Station Unit: 1
Project: RF-018

Report No.:
APR-008

System: CS

Component ID Number: 14-B-10A

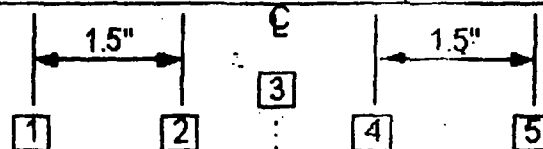
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.728	N/A	N/A	N/A
4	0.545	N/A	N/A	N/A
5	0.557	N/A	N/A	N/A

Crown Height: 0.1

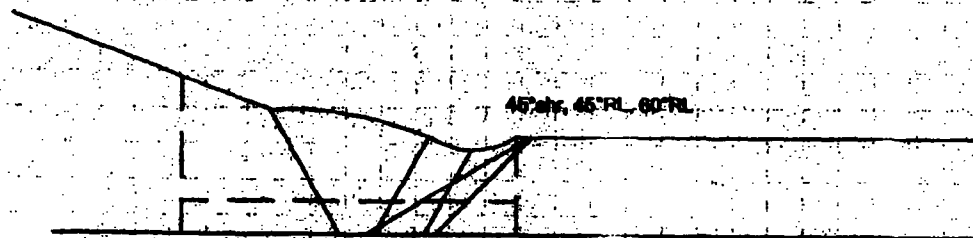
Crown Width: 1.0"

Nominal Diameter: 10.0"

Weld Length: 34.0"



14-B-10A



Valve

Exam Volume

Pipe

Thickness obtained from previous data

Not For Randy Linden
Initials: Examiner:

Level: III Date: 4/28/2005

W. K. Kelly
GE Reviewed By: Level: III Date: 5-3-05

[Signature]
Utility Review: Level: UTL/UTL Date: 5-2-05

[Signature]
ANII Review: Date: 5/3/05

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Piketon Nuclear Power Station Unit: 1
Project: RF-018

Report No.:
APR-005

System: GS

Component ID Number: 14-B-10A

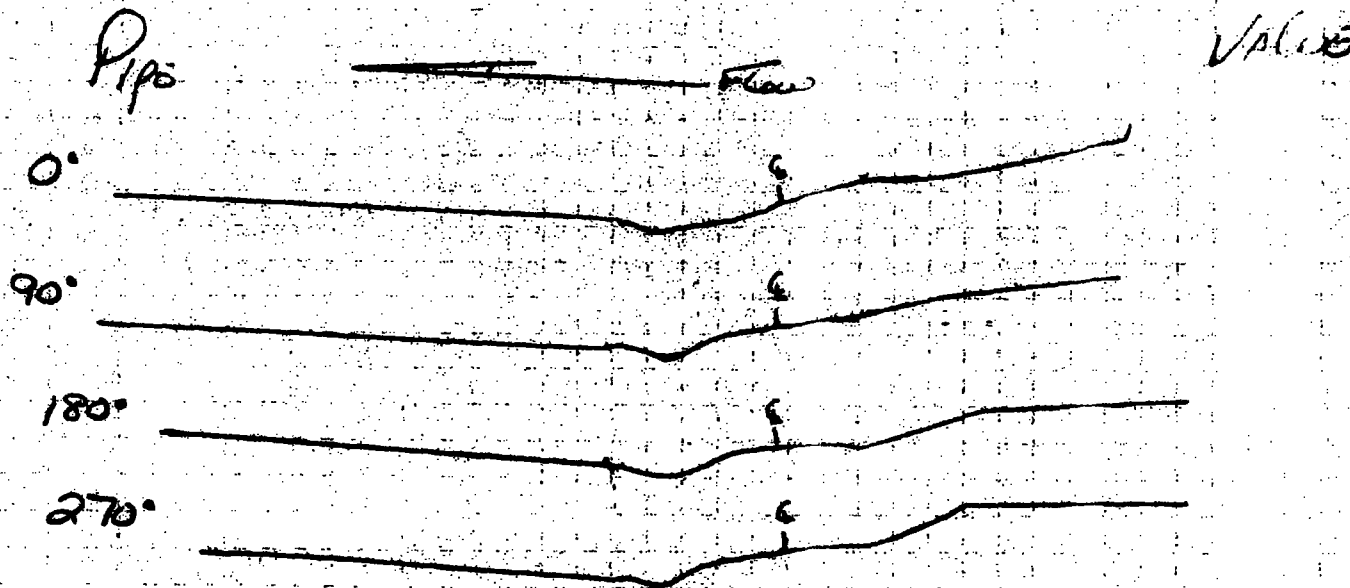
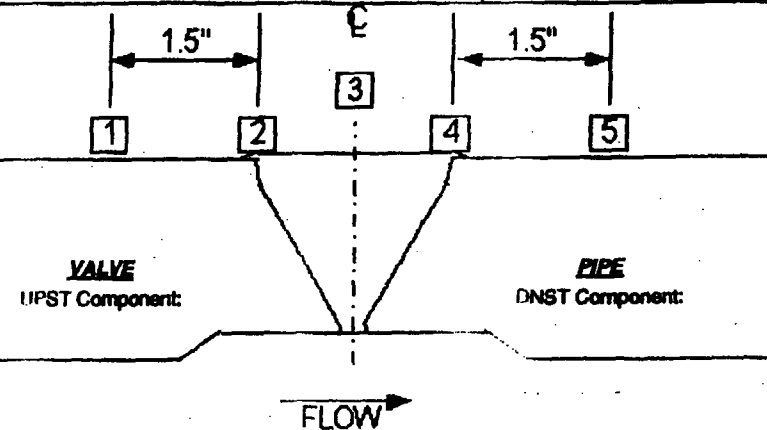
Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	0.728	N/A	N/A	N/A
4	0.545	N/A	N/A	N/A
5	0.557	N/A	N/A	N/A

Crown Height: 0.1

Crown Width: 1.0"

Nominal Diameter: 10.0"

Weid Length: 24.0"



Bandy Linden

III 4/28/2005

Initials: Examiner:

Level: Date:

McKee

III 5-2-05

GE Reviewed By:

Level: Date:

LT L. L. III

Utility Review:

5-2-05

Date:

Carl Hansen

ANII Review:

5/6/05

Date:

GE ENERGY NUCLEAR

Ultrasonic Calibration and Examination Record Manual Piping and Components

Site/Unit: **Pilgrim Nuclear Power Station / 1**
Outage: **RE-016**

Report Number: **APR-005**
Data Sheet Number: **UT-072**
Linearity Sheet: **L-002**

Calibration Data for Block: **PIL-115**

Procedure: **ENN-NDE-9.10**

Ver / Rev: **0**

DRR: **N/A**

CS	10"	0.584"	Calibration:	Cal Time:
Material	Size	Thick	Initial Cal:	0740
Ultracal II	01228		Cal Check:	0917
Couplant:	Couplant batch		Cal Check:	1010
241890	68°F		Final Cal:	1109
Thermometer S/N	Cal Temp.			

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 **Comp-G** **Shear** **1**
Frequency: Style: Mode: Elements:

Search Unit Cable

RG-174 **6'** **0**
Cable Type: Length: Connectors:

Instrument Settings

Panometrics / Epoch 4 **091573811**
Manufacturer/Model: Serial Number:
0.295 in **0.128 in/sec.** **0.8 - 3.0 MHz**
Zero: Velocity: Narrowband Filter:
Auto **Fullwave** **1.5 in** **Sa / Max**
Rep Rate: Rectification: Range: Pulsar/Energy:
400 Ohms **Off** **2.0 MHz** **P/E**
Damping: Reject: Frequency: Mode:

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**

Exam Data for Weld: **14-B-10A**

VALVE TO PIPE

Configuration:

00 **85°F** **241890**
Exam Surface: Exam Temp. Exam Thermometer

Exam Comments / Limitations:

Scanned downstream side only.
Did not scan on weld due to configuration.
Lift-off signals seen due to weld shrinkage.
Maintained a 5% to 20% ID roll during examination.

Axial Ctr	UPST DNST	Scan dB	Recordable Indications	Exam Angle
Axial	DNST	23	NRI	45°
Ctr	DNST	23	NRI	45°

Exam Start: **0945** Exam End: **1025**

RL **Randy Linden** **III**
Initials: Examiner: Level:
NA **NA**
Initials: Examiner 2: Level:
Initial Cal/Exam Date: **4/28/2005**

W. Kaly **III** **5-2-05**
GE Reviewed By: Level: Date:
UT Lvl. 1g **5-02-05**
Utility Review: Date:
5/2/05
ANII Review: Date:

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GE ENERGY NUCLEAR

Ultrasonic Calibration and Examination Record Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
 Outage: RF-01B

Report Number: APR-005
 Data Sheet Number: UT-073
 Linearity Sheet: L-003

Calibration Data for Block: PIL-111

Procedure: ENN-NDE-9.10

Ver / Rev: 0

DRR: N/A

<u>CS</u>	<u>10"</u>	<u>"0.584"</u>	Calibration:	Cal Time
Material	Size	Thick	Initial Cal:	<u>0750</u>
<u>Ultrason II</u>	<u>01225</u>		Cal Check:	<u>0805</u>
Couplant:	Couplant batch		Cal Check:	<u>0855</u>
<u>241880</u>	<u>68°F</u>		Final Cal:	<u>1102</u>
Thermometer S/N	Cal Temp.			

Search Unit Data

RTD 08-177 27x101 mm/Rect.
 Manufacturer: Serial Number Size/Shape:
0.32 in. 45° 44°
 Incident Point: Nominal Angle: Measured Angle:
2.0 MHz TRL2-A100 RL 2
 Frequency: Style: Mode: Elements:

Search Unit Cable

RG-174 6' 0
 Cable Type: Length: Connectors:

Instrument Settings

Parametrics / Epoch 4 031573611
 Manufacturer/Model: Serial Number:
7.535 uS 0.236 in./uS 0.8 - 3.0
 Zero: Velocity: Narrowband Filter:
Auto Fullwave 2.0 in So / Max
 Rep Rate: Rectification: Range: Pulse/Energy:
400 Ohms Off 2.0 MHz Dual
 Damping: Reject: Frequency: Mode:

DAC Construction

Scan Direction As
 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-11W2-01Z

Reflector	<u>0.60"</u>	<u>N/A</u>
Amplitude	<u>80%</u>	<u>N/A</u>
Gain (dB)	<u>30.3</u>	<u>N/A</u>
Sweep (SD)	<u>5.9</u>	<u>N/A</u>

Acceptable Linearity performed: 4/15/2005

Exam Data for Weld: 14-B-10A

VALVE TO PIPE

Configuration:

QD 85°F 241880
 Exam Surface: Exam Temp. Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
<u>Axial</u>	<u>DNST</u>	<u>43.9</u>	<u>NRI</u>	<u>45°</u>
<u>Circ</u>	<u>DNST</u>	<u>43.9</u>	<u>NRI</u>	<u>45°</u>

Exam Comments / Limitations:

Scanned downstream side only.
 Did not scan on weld due to configuration.
 Lift-off signals seen due to weld shrinkage.
 Maintained a 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

[Signature]
 GE Reviewed By:

TU

5-2-05

Level: Date:

[Signature] UT L-19 5-2-05
 Utility Review: Date:

[Signature] 5/2/05
 ANII Review: Date:

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GE ENERGY NUCLEAR

Ultrasonic Calibration and Examination Record Manual Piping and Components

Site/Unit: Pilgrim Nuclear Power Station / 1
 Outage: RE-018

Report Number: APR-008
 Data Sheet Number: UT-074
 Linearity Sheet: L-008

Calibration Data for Block: PIL-115Procedure: ENN-NDE-9.10Ver / Rev: 0DRR: N/A

CS	10"	0.594"	Calibration	Cal Time
Material	Size	Thick	Initial Cal:	0800
<u>Ultrason II</u>	<u>01228</u>		Cal Check:	0830
Couplant:	Couplant batch		Cal Check:	N/A
<u>241880</u>	<u>68°F</u>		Final Cal:	1100
Thermometer S/N	Cal Temp.			

Search Unit Data

RTD 08-179 207x10 mm Rect
 Manufacturer: Serial Number Size/Shape:
0.32 in. 60° 60°
 Incident Point: Nominal Angle: Measured Angle:
2.0 MHz TRL2-Auss Long 2
 Frequency: Style: Mode: Elements:

Search Unit Cable

RG-174 6' 0
 Cable Type: Length: Connectors:

Instrument Settings

Panemetrics / Epoch 4 031573811
 Manufacturer/Model: Serial Number:
6.155 in 0.222 in/μsec 0.8 - 3.0
 Zero: Velocity: Narrowband Filter:
Auto Fullwave 2.0 in Sa / Max
 Rep Rate: Rectification: Range: Pulsar/Energy:
400 Ohms Off 2.0 MHz Dual
 Damping: Reject: Frequency: Mode:

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 VerificationField Simulator Block S/N: CAL-WW2-017

Reflector	<u>0.60"</u>	<u>N/A</u>
Amplitude	<u>80%</u>	<u>N/A</u>
Gain (dB)	<u>42.4</u>	<u>N/A</u>
Sweep (SD)	<u>6.0</u>	<u>N/A</u>

Acceptable Linearity performed: 4/15/2005Exam Data for Weld: 14-B-10AVALVE TO PIPE

Configuration:

QD 85°F 241880
 Exam Surface: Exam Temp. Exam Thermometer

Axial Circ	UPST DNST	Scan dB	Recordable Indications	Exam Angle
<u>Axial</u>	<u>DNST</u>	<u>47.2</u>	<u>NFI</u>	<u>60°</u>
<u>Circ</u>	<u>DNST</u>	<u>47.2</u>	<u>NFI</u>	<u>60°</u>

Exam Comments / Limitations:

Scanned downstream side only.
 Did not scan on weld due to configuration.
 *Weld shrinkage caused lift-off signals, causing geometric reflectors.
 Maintained a 20 -30% ID roll during examination.

Exam Start: 0945 Exam End: 1025

Randy Linden

Initials: Examiner:

Level:

N/AN/A

Initials: Examiner 2:

Level:

Initial Cal/Exam Date: 4/28/2005

GE Reviewed By:

Level:

Date:

Utility Review:

Date:

ANII Review:

Date:

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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 1985 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] Date: 4/26/05
ANII Review: [Signature] Date: 4/29/05

RWP: 0082
Dose: 2200 mr.

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilarim Nuclear Power Station Unit: 1

Report No.: APR-007

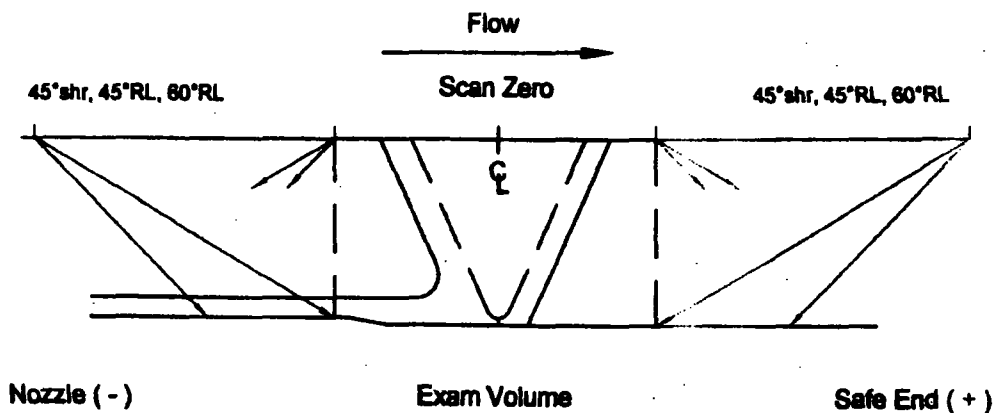
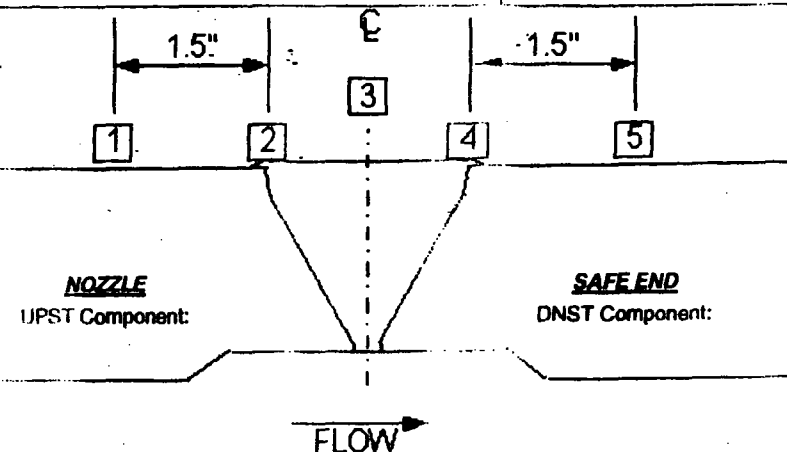
Project: RF-015

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: 0
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.

CAR

Charles Barrett

Level: II Date: 4/20/2005

Initials: Examiner:

Level: Date:

GE Reviewed By: [Signature]

Level: III Date: 4-23-05

Utility Review: [Signature]

Date: 4/26/05

ANII Review: [Signature]

Date: 4/29/05

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GE ENERGY, NUCLEAR

Indication / Coverage Plot Sheet

Site: Pilarim Nuclear Power Station Unit: 1

Project: RF-015

Report Number: APR-007

APR-007

System: RPV

Component ID Number: 2R-N1B-1

Configuration: NOZZLE

SAFE END

NOZZLE

0°

CS / INC

SAFE END

90°

CS / INC

180°

CS / INC

270°

CS / INC

FLOW

CS

Charles Barrett

II 4/20/2005

Initials: Examiner:

Level: Date:

GE Reviewed By:

Level:

Date:

Utility Reviewed By:

Date:

ANII Reviewed By:

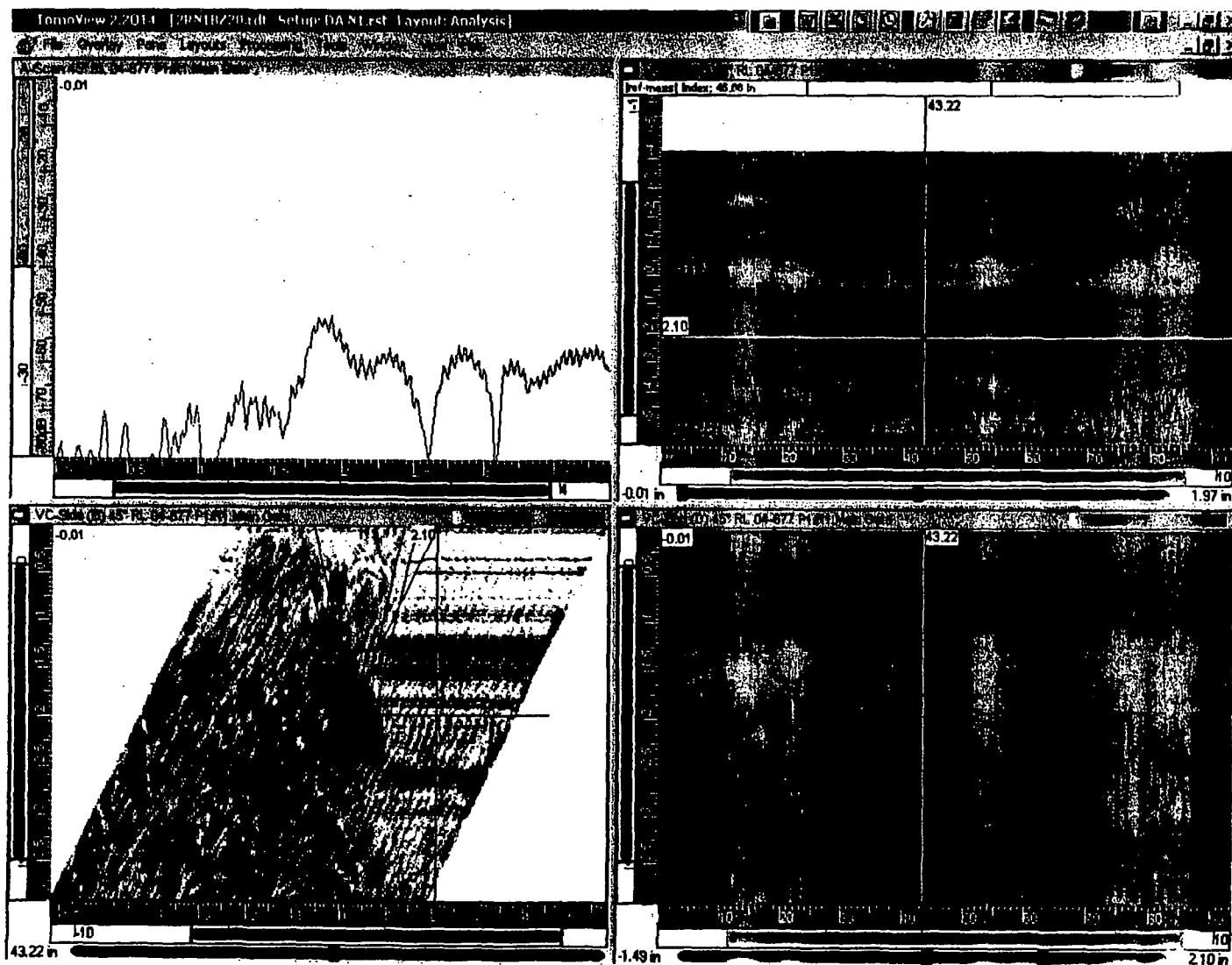
Date:

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N1B Nozzle to Safe End

45°RL LKUP Typical Geometry

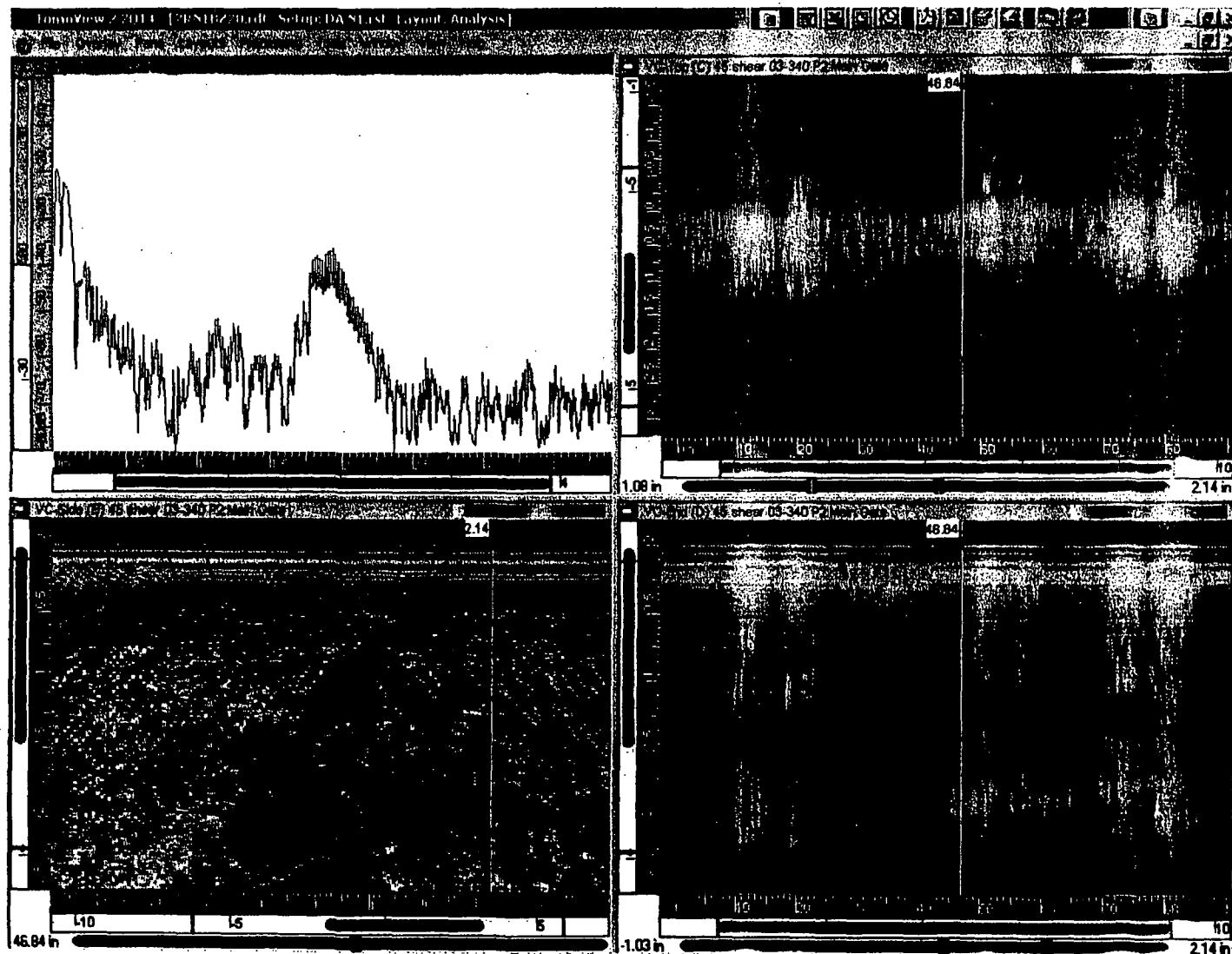


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N1B Nozzle to Safe End

45°Shear LKUP Typical Root Geometry



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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: 84 °F Thermometer S/N: 241887 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: 1.83" 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: ≤ 0.038" 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:
<u>Z11</u>	<u>0</u>	<u>2RN1B1Z11</u>	<u>D-01</u>	<u>-5.6"</u>	<u>2.3"</u>	<u>0.0"</u>	<u>93.0"</u>	<u>Log</u>	<u>C,D,H,K</u>	<u>Bi-directional</u>
<u>Z20</u>	<u>180</u>	<u>2RN1B1Z20</u>	<u>D-02</u>	<u>-2.3"</u>	<u>5.7"</u>	<u>0.0"</u>	<u>93.0"</u>	<u>Log</u>	<u>C,D,H,K</u>	<u>Bi-directional</u>
<u>Z30</u>	<u>0</u>	<u>2RN1B1Z30</u>	<u>D-01</u>	<u>0.0"</u>	<u>93.0"</u>	<u>-3.7"</u>	<u>0.0"</u>	<u>Log</u>	<u>C</u>	<u>Uni-directional</u>
<u>Z31</u>	<u>0</u>	<u>2RN1B1Z31</u>	<u>D-02</u>	<u>0.0"</u>	<u>93.0"</u>	<u>0.0"</u>	<u>3.7"</u>	<u>Log</u>	<u>C</u>	<u>Uni-directional</u>
<u>Z40</u>	<u>180</u>	<u>2RN1B1Z40</u>	<u>D-03</u>	<u>0.0"</u>	<u>93.0"</u>	<u>-3.7"</u>	<u>0.0"</u>	<u>Log</u>	<u>C</u>	<u>Bi-directional</u>
<u>Z41</u>	<u>180</u>	<u>2RN1B1Z41</u>	<u>D-04</u>	<u>0.0"</u>	<u>93.0"</u>	<u>0.0"</u>	<u>3.7"</u>	<u>Log</u>	<u>C</u>	<u>Bi-directional</u>

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
E - INSIDE SURFACE
I - COUNTERBORE

B - NON-GEOMETRIC INDICATIONS
F - OUTSIDE SURFACE
J - SHEAR COMPONENT

C - NON-RELEVANT INDICATIONS
G - WELD DISCONTINUITY
K - BEAM RE-DIRECT

D - ACOUSTIC INTERFACE
H - ROOT GEOMETRY

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".

Richard Jaskan

II

4/21/2005

Examiner:

Level: Date:

GE Review:

Level:

Date:

Utility Review:

Date:

ANII Review:

Date:



GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET
(Automated with Micro TomoScan)Site Pilgrim Nuclear Power Unit 1Project RF-015Report Number APR-007Calibration Sheet No. APC-001Weld 2R-N1B-1Procedure No. TP04-016 (GE-UT-209)Version R1 (V17) DRR N/A

Instrument	<u>Zetec / u Tomo</u>	<u>18121-09</u>	<u>2.2014</u>	<u>2.2014</u>
	Manufacturer / Model	System Serial No.	Acquisition Software	Analysis Software
Pulser/Receiver Main Board)	<u>R/D Tech EQTX 100</u>	<u>R/D Tech EQTX 101</u>	Digitizer:	<u>R/D Tech EQTX 098</u>
	Manufacturer / Model	Piggy Board: Manufacturer / Model		Manufacturer / Model
Search Unit	<u>RTD</u>	<u>04-430</u>	<u>2/15x25 mm</u>	<u>1.0 Mhz</u>
	Manufacturer	Serial No.	Element Size	Angle / Mode
Cable	<u>RG-58/RG-58/RG-174</u>	<u>250' / 25' / 3'</u>	<u>1.39"</u>	<u>45"</u>
	Type	Length	FD,FS/SA,RA	Measured Angle
Calibration Standard	<u>PIL-79</u>	<u>SS</u>	<u>2.1"</u>	<u>2.1"</u>
	Serial No.	Material	Nominal Thickness	Measured Thickness
Thermometer	<u>241576</u>	<u>75 °F</u>	<u>Demin Water</u>	<u>N/A</u>
	Serial No.	Couplant	Type	Batch No.

<u>Calibration</u>				Channel Name <u>45° RL 04-430 P1/R1</u>	
Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>	<u>General</u>	
Type	<u>ID Notch</u>	<u>ID Notch</u>	<u>ID Notch</u>	Timebase	Start <u>0.0 in.</u> Range <u>5.5 in.</u>
Depth	<u>2.10 in.</u>	<u>2.10 in.</u>	<u>2.10 in.</u>	Units	<u>Half Path</u>
Amplitude / dB	<u>80%</u>	<u>-43.9 dB</u>	<u>-20.7 dB</u>	<u>Digitizer</u>	
Sweep	<u>2.95 in.</u>	<u>2.95 in.</u>	<u>2.95 in.</u>	Synchro	<u>Pulse</u> <input checked="" type="checkbox"/> A Scan Sample Size <u>8 Bk</u>
Gain (dB)	<u>34</u>	<u>Log</u>	<u>+25 Log</u>	Averaging	<u>1</u> Acquisition Rate <u>326 Hz</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>	Digitizing Frequency	<u>6.25 Mhz</u> Max Recurrence <u>2000 Hz</u>
Field Simulator	<u>CS Rompage</u>	S/N	<u>CAL-RHOM-085</u>	<u>Pulser / Receiver</u>	
Reflector	<u>Far SDH</u>	Configuration <u>Conventional Pitch Catch</u>			
Max Amplitude/dB	<u>-11.30 dB</u>	Pulser <u>P1</u> Receiver <u>R1</u>			
Sweep	<u>1.06"</u>	Voltage <u>300 V</u> Scale Type <u>LOG</u>			
Gain (dB)	<u>+ Log</u>	Width (Ns) <u>500 ns</u> Rectification <u>Unsigned</u>			
<u>Calibration Verification</u>				<u>Probe</u>	
Time	Date	Block(s)	Operator	Wave Type	<u>Longitudinal</u> Scan offset <u>0 in.</u>
Initial	<u>0907</u>	<u>4/12/2005</u>	<u>PIL 79</u>	Velocity	<u>0.2272 in./sec.</u> Index offset <u>0.00 in.</u>
Verified	<u>1413</u>	<u>4/21/2005</u>	<u>CAL-RHOM-085</u>	Wedge Delay	<u>12.229 usec.</u> Angle <u>45°</u>
Verified					Skew <u>0/180</u>
Verified				<u>N1 - 45° RL - Circ scan</u>	
Final	<u>0902</u>	<u>4/22/2005</u>	<u>CAL-RHOM-085</u>		

Richard Jasken

II 4/21/2005

Operator

Level Date

Analyst

Level Date

Utility Review

ANIII Review

Level

Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET
(Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-007
Weld 2R-N1B-1 Calibration Sheet No. APC-002

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRF N/A

Instrument Zetec / u Tomo 18121-09 2.2Q14 2.2Q14
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 098
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model
Search Unit RTD 03-677 2(20X34) mm 1.0 MHz 45° / RL 2.23° 45° 0.95°
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Angle Incident to Wedge Front
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2
Type Length No. of Intermediate Connectors
Calibration Standard PIL-79 SS 2.1" 2.1"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241576 75 °F Demin Water N/A
Serial No. Temp (°F) Couplant Type 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 80.3% -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 Rompage 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 Unstained
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 usec. Angle 45°
Skew 0/180

N1 - 45° RL - Ax scan

Richard Jasken II 4/21/2005
Operator Level Date
Analyst RJ 4-23-05
Level Date

Utility Review

ANII Review

4/26/05
Level Date
4/26/05
Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-007
Weld 2R-N1B-1 Calibration Sheet No. APC-003

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRP N/A

Instrument	<u>Zetec / u Tomo</u>	<u>18121-08</u>	<u>2.2Q14</u>	<u>2.2Q14</u>
	Manufacturer / Model	System Serial No.	Acquisition Software	Analysis Software
Pulser/Receiver	<u>R/D Tech EQTX 100</u>	<u>R/D Tech EQTX 101</u>	Digitizer:	<u>R/D Tech EQTX 098</u>
Main Board:	Manufacturer / Model	Manufacturer / Model		Manufacturer / Model
Search Unit	<u>RTD</u>	<u>03-340</u>	<u>ELI(24x17) mm</u>	<u>1.5 MHz</u>
	Manufacturer	Serial No.	Element Size	Freq. (MHz)
				<u>45° / S</u>
Cable	<u>RG-58/RG-58/RG-174</u>	<u>250' / 25' / 3'</u>		<u>N/A</u>
	Type	Length	No. of Intermediate Connectors	<u>45°</u>
				<u>0.52"</u>
Calibration Standard	<u>PIL-79</u>	<u>SS</u>	<u>2.1"</u>	<u>2.1"</u>
	Serial No.	Material	Nominal Thickness	Measured Thickness
Thermometer	<u>241576</u>	<u>75 °F</u>	<u>Demin Water</u>	<u>N/A</u>
	Serial No.	Couplant	Type	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 Unaligned

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 II 4/21/2005
Operator Level Date
[Signature] TIL 4-23-05
Analyst Level Date

[Signature]
Utility Review
[Signature]
ANIII Review

TIL 4/26/05
Level Date
[Signature] 4/28/05
Date

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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.

2.2014

Acquisition Software

2.2014

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 088

Manufacturer / Model

Search Unit

RTD

04-345

Manufacturer

Serial No.

2(20x34) mm

Element Size

1.0 MHz

Freq. (MHz)

60° / RL

Angle / Mode

1.38"

FD, FS/SA, RA

60°

Measured Angle

1.0°

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

1.4"

Nominal Thickness

1.4"

Measured Thickness

Thermometer

241576

Serial No.

75 °F

Temp (°F)

Couplant

Demin Water

Type

N/A

Batch No.

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>SDH</u>	<u>SDH</u>	<u>SDH</u>
Depth	<u>1.40 in.</u>	<u>1.40 in.</u>	<u>1.40 in.</u>
Amplitude / dB	<u>80.8%</u>	<u>-30.7 dB</u>	<u>-6.6 dB</u>
Sweep	<u>2.78 in.</u>	<u>2.78 in.</u>	<u>2.78 in.</u>
Gain (dB)	<u>21.0</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

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

Uniaigned

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 usec.

Angle

60°

Skew

0/180

N1 - 60° RL - Ax Scan

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

Richard Jasken

II

4/21/2005

Operator

Level

Date

Analyst

Level

Date

Utility Review

ANII Review

Level

Date

Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-007
Weld 2R-N1B-1 Calibration Sheet No. APC-006

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRR N/A

Instrument Zetec / uTomo 18121-09 2.2Q14 2.2Q14
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 098
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model Manufacturer / Model
Search Unit RTD 04-431 2(15x25) mm 1.0 MHz 60° / RL 0.89" 60° 0.75"
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2 Angle Wedge Front
Type Length No. of Intermediate Connectors
Calibration Standard CAL-DPTH-063 SS 0.9" 0.9"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241576 75 °F Demin Water N/A
Serial No. Temp (°F) Couplant Type Batch No.

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 Rompage 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 II 4/21/2005
Operator Level Date
Analyst TL 4-23-05
Level Date

Utility Review
ANIII Review

4/26/05
Level Date
4/29/05
Date

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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	<u>NOTES:</u>
45° Shear	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RJ	MJK				Lift off due to OD contour
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
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	<u>NOTES:</u>
45° Shear	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RJ	MJK				Lift off due to OD contour
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
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	<u>NOTES:</u>
45° Shear	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MW	MJK				Lift off due to OD contour on upstream side
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
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	<u>NOTES:</u>
45° Shear	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MW	MJK				Lift off due to OD contour on upstream side
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

Notes: Circ scans separated to upstream and downstream sides of weld centerline.

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Date 12 of 12



GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.:
APR-009Site: Pilgrim Nuclear Power Station Component ID:2R-N2E-1Outage: RF-015SAFE END TO NOZZLESystem RPVASME Cat.: B-FASME 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-76	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] Date: 4/28/05
ANII Review: [Signature] Date: 4/29/05

RWP: 0082

Dose: 1850 mr.

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Report No.: APR-009

Project: RF-015

System: RPV

Component ID Number: 2R-N2E-1

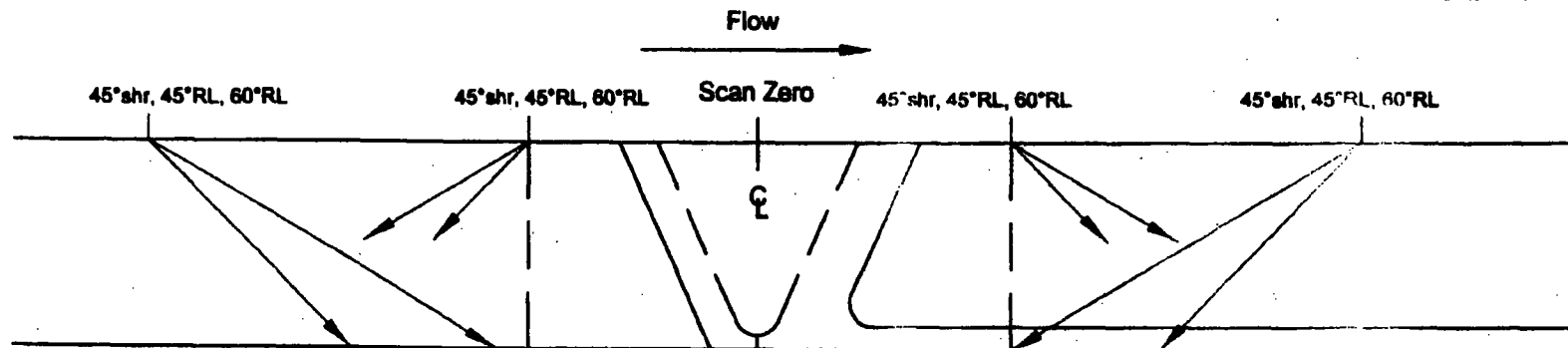
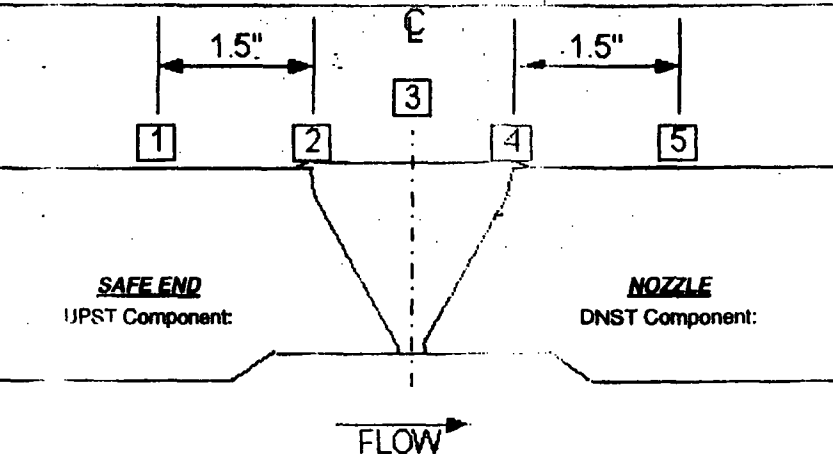
Position	0°	90°	180°	270°
1	1.09"	N/A	N/A	N/A
2	1.20"	N/A	N/A	N/A
3	1.21"	N/A	N/A	N/A
4	1.08"	N/A	N/A	N/A
5	1.09"	N/A	N/A	N/A

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"

CRB

Charles Barrett

II

4/25/2005

Initials: Examiner:

Level: Date:

GE Reviewed By:

Level:

Date:

Utility Review:

Date:

ANII Review:

Date:

Boqr 139/240



GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Report No.: APR-009

Project: RF-015

APR-009

System: RPV

Component ID Number: 2R-N2E-1

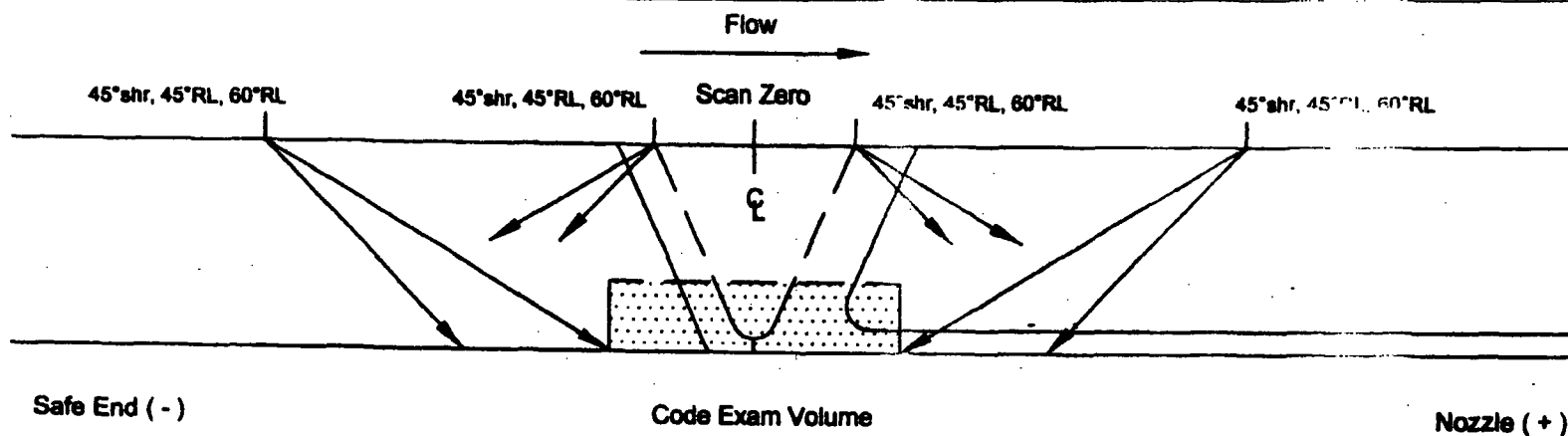
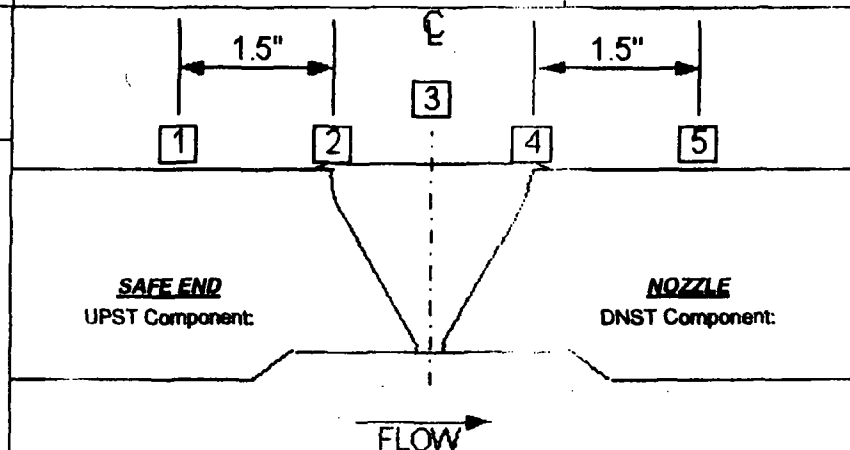
Position	0°	90°	180°	270°
1	1.09"	N/A	N/A	N/A
2	1.20"	N/A	N/A	N/A
3	1.21"	N/A	N/A	N/A
4	1.08"	N/A	N/A	N/A
5	1.09"	N/A	N/A	N/A

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"

Charles Barrett

Examiner:

Level: II Date: 4/25/2005

Level: Date:

M. J. Brown III

GE Reviewed By:

Level:

Date: 4/25/05

Date:

Scott D. Lee

Utility Review:

Date: 4/25/05

Date:

Chris Hannon

ANII Review:

Date: 4/25/05

Date:

8092 140/24-0



GE ENERGY, NUCLEAR

Indication / Coverage Plot Sheet

Site: Pilaris Nuclear Power Station Unit: 1

Project: RF-015

Report Number.: APR-009

APR-009

System: RPV

Component ID Number: 2R-N2E-1

Configuration: SAFE END

NOZZLE

0°

INC/CS

90°

INC/CS

180°

INC/CS

270°

INC/CS

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CAB

Charles Barrett

II 4/25/2005

Initials: Examiner:

Level: Date:

GE Reviewed By:

Level: Date:

Utility Reviewed By:

Date:

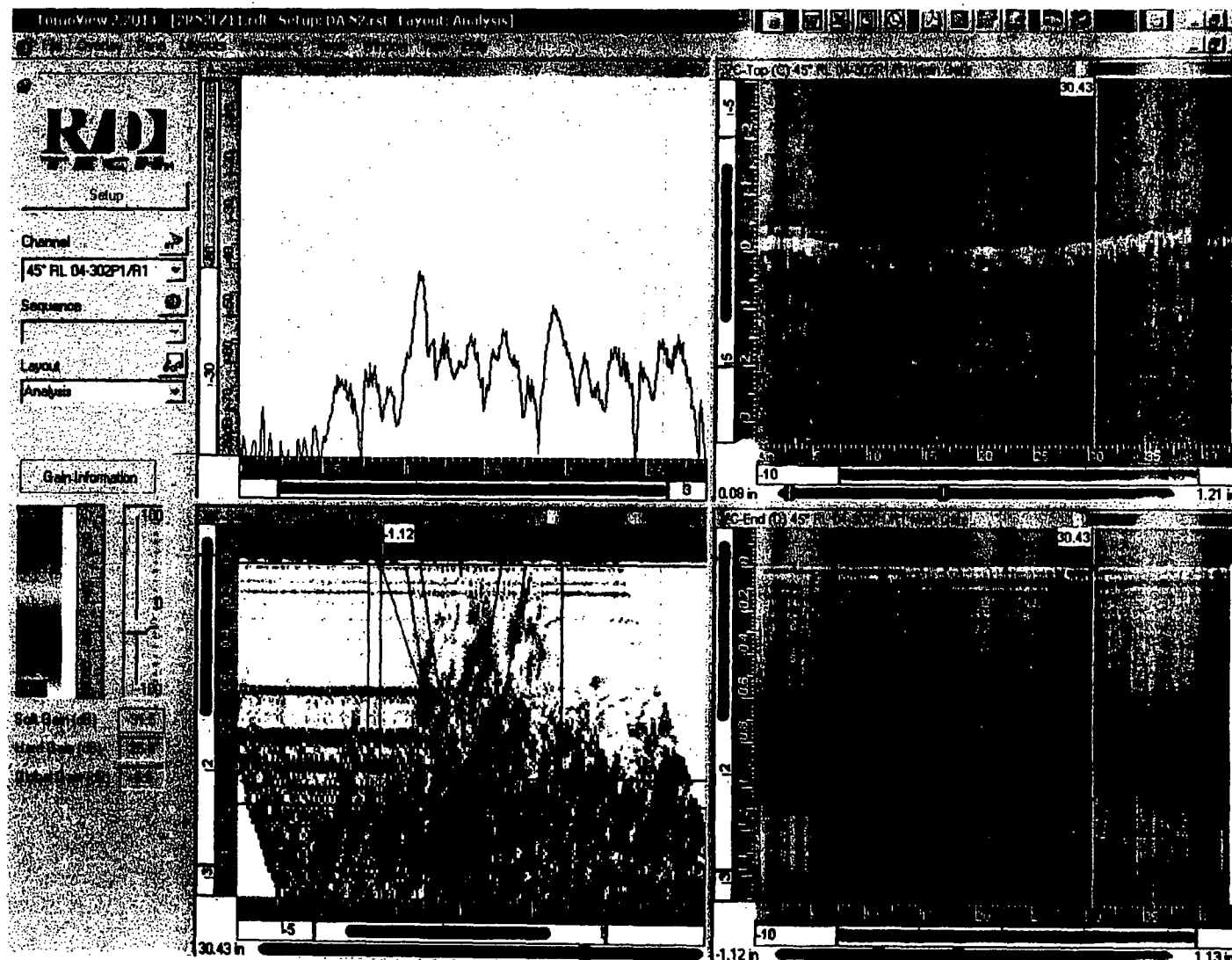
ANII Reviewed By:

Date:



N2E Safe End to Nozzle

45°RL LKDN Root Geometry

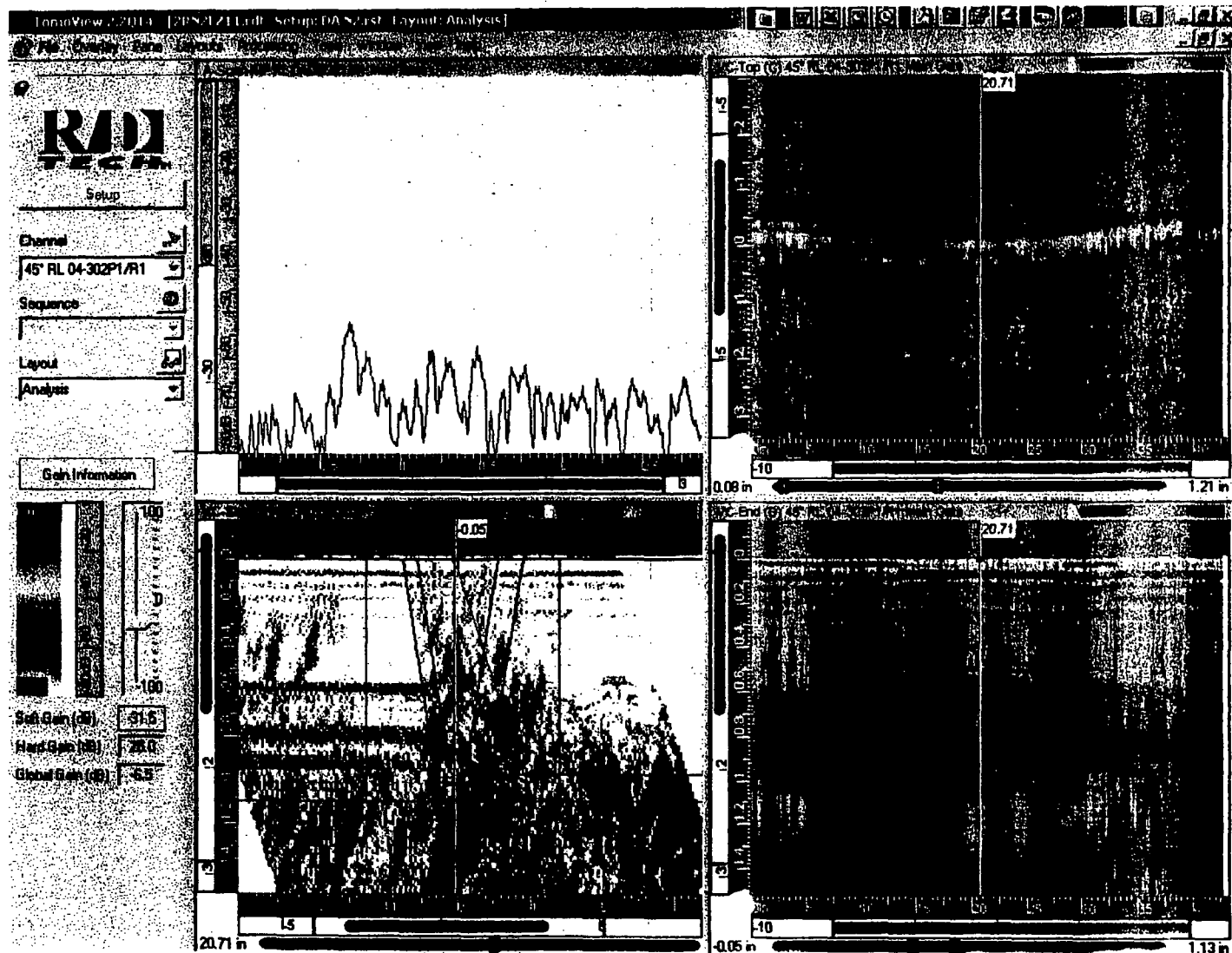


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N2E Safe End to Nozzle

45°RL LKDN Acoustic Interface



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GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet
(Automated with Micro TomoScan)

Site: <u>Pilarim Nuclear Power Station</u>	Procedure: <u>TP04-016 (GE-UT-209)</u>	System: <u>RPV</u>	Report No.: <u>APR-009</u>
Unit: <u>1</u>	Version / Revision: <u>R1 (V17)</u>	Weld No.: <u>2R-N2E-1</u>	Data Sheet No.: <u>APD-005</u>
Project No.: <u>RF-015</u>	DRR: <u>N/A</u>	Configuration: <u>SAFE END TO NOZZLE</u>	Calibration Sheet No.

Scanner Information

Weld Reference, (GE-ADM-1005): Lo: TPC Wo: Weld Centerline Motor Steps: Cir: 2099 Tra: 2500
Examination Surface: OD Exam Surface Temperature: 82 °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.

Robert Scott Getz II 4/22/2005
Examiner: Level: Date:

GE Review

4/25/05
Level: Date:

Utility Review

4/28/05
Date:

ANII Review

Date:

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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 / uTomo
Manufacturer / Model

18121-09
System Serial No.

2.2014 2.2014
Acquisition Software Analysis Software

Pulser/Receiver R/D Tech EQTX 100
Main Board: Manufacturer / Model

Pulser/Receiver R/D Tech EQTX 101
Piggy Board: Manufacturer / Model

Digitizer: R/D Tech EQTX 098
Manufacturer / Model

Search Unit RTD 03-341
Manufacturer Serial No.

Ell(24x17) mm
Element Size

1.5 MHz 45° / S
Freq. (MHz) Angle / Mode

N/A
FD, FS/SA, RA

45° 0.52°
Measured Angle Incident to Wedge Front

Cable RG-58/RG-59/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

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 usec. Angle 45°
Skew 0/180

Field Simulator CS Romoss 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

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

II 4/22/2005

Operator

Level Date

Analyst

Level Date

Utility Review

Level

Date

ANII Review

Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-009
Weld 2R-N2E-1 Calibration Sheet No. APC-072

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRF N/A

Instrument Zetec / uTomo 18121-09 2.2014 2.2014
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 098
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model
Search Unit RTD 04-302 2(10x18) mm 2.0 MHz 45° / RL 1.0° 45° 0.55"
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2 No. of Intermediate Connectors
Type Length
Calibration Standard PIL-78 SSING 1.3" 1.3"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241878 75 °F
Serial No. Couplant Demin Water N/A
Type 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	1528	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 usec. Angle 45°
Skew 0/180

N2 - 45° RL - Ax Scan

Robert Scott Getz II 4/22/2005
Operator Level Date
[Signature] II 4/25/05
Analyst Level Date

[Signature]
Utility Review
[Signature]
ANIII Review

II 4/25/05
Level Date
II 4/25/05
Level Date

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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-073

Weld 2R-N2E-1

Procedure No. TP04-016 (GE-UT-209)

Version: R1 (V17)

DRR

N/A

Instrument

Zetec / uTomo

18121-09

2.2Q14

2.2Q14

Manufacturer / Model

System Serial No.

Acquisition Software

Analysis Software

Pulser/Receiver
Main Board:

R/D Tech EQTX 100

Pulser/Receiver
Piggy Board:

R/D Tech EQTX 101

Digitizer:

R/D Tech EQTX 098

Manufacturer / Model

Manufacturer / Model

Manufacturer / Model

Search Unit

RTD

04-310

2(10x18) mm

1.0 MHz

45° / RL

0.84"

45°

0.55"

Manufacturer

Serial No.

Element Size

Freq. (MHz)

Angle / Mode

FD,FS/SA,RA

Measured Angle

Incident to Wedge Front

Cable

RG-58/RG-58/RG-174

250' / 25' / 3'

2

Type

Length

No. of Intermediate Connectors

Calibration Standard

PIL-78

SS/NC

1.3"

1.3"

Serial No.

Material

Nominal Thickness

Measured Thickness

Thermometer

241878

75 °F

Couplant

Demin Water

N/A

Serial No.

Temp (°F)

Type

Batch No.

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>ID Notch</u>	<u>ID Notch</u>	<u>ID Notch</u>
Depth	<u>1.30 in.</u>	<u>1.30 in.</u>	<u>1.30 in.</u>
Amplitude / dB	<u>83.9%</u>	<u>-46.4 dB</u>	<u>-23.5 dB</u>
Sweep	<u>1.85 in.</u>	<u>1.85 in.</u>	<u>1.85 in.</u>
Gain (dB)	<u>37</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

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

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	<u>0708</u>	<u>4/23/2005</u>	<u>PIL 78</u>	<u>RJ</u>
Verified	<u>1026</u>	<u>4/23/2005</u>	<u>CAL-RHOM-095</u>	<u>RJ</u>
Verified	<u>1700</u>	<u>4/23/2005</u>	<u>CAL-RHOM-095</u>	<u>SG</u>
Verified				
Final	<u>0120</u>	<u>4/24/2005</u>	<u>CAL-RHOM-095</u>	<u>PK</u>

Robert Scott Getz

II

4/22/2005

Operator

Level

Date

Utility Review

Level

Date

Analyst

Level

Date

ANIII Review

Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-009
Weld 2R-N2E-1 Calibration Sheet No. APC-074

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRF N/A

Instrument Zetes / uTomo System Serial No. 18121-08 Acquisition Software 2.2Q14 Analysis Software 2.2Q14
Manufacturer / Model
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 098
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model
Search Unit RTD 04-305 2(10x18)mm 2.0 MHz 60° / RL 0.77" 61° 0.52"
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' " 2
Type Length No. of Intermediate Connectors
Calibration Standard CAL-DPTH-063 SS 0.8" 0.8"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241878 75 °F Couplant Demin Water N/A
Serial No. Temp (°F) Type 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	0820	4/11/2005	CAL-DPTH-063	RJ
Verified	1531	4/22/2005	CAL-RHOM-095	SG
Verified				
Verified				
Final	2228	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 usec. Angle 60°
Skew 0/180

N2 - 60° RL - Ax Scan

Robert Scott Getz II 4/22/2005
Operator Level Date
Analyst [Signature] III 4.25.05
Level Date

[Signature] III 4/25/05
Utility Review Level Date
[Signature] 4/25/05
ANIII Review 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 / uTomo
Manufacturer / Model

18121-08
System Serial No.

2.2014 2.2014
Acquisition Software Analysis Software

Pulser/Receiver R/D Tech EQTX 100
Main Board: Manufacturer / Model

Pulser/Receiver R/D Tech EQTX 101
Piggy Board: Manufacturer / Model

Digitizer: R/D Tech EQTX 098
Manufacturer / Model

Search Unit RTP 00-349
Manufacturer Serial No.

2(10x18) mm
Element Size

1.0 MHz 60° / RL
Freq. (MHz) Angle / Mode

0.59"
FD, FS/SA, RA

60° 0.50"
Measured Angle 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	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>SDH</u>	<u>SDH</u>	<u>SDH</u>
Depth	<u>0.60 in.</u>	<u>0.60 in.</u>	<u>0.60 in.</u>
Amplitude / dB	<u>84.3%</u>	<u>-42.0 dB</u>	<u>-18.8 dB</u>
Sweep	<u>1.18 in.</u>	<u>1.18 in.</u>	<u>1.18 in.</u>
Gain (dB)	<u>32</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

Field Simulator CS Rompage S/N CAL-RHOM-095

Reflector	<u>Near SDH</u>	<u>N/A</u>
Max Amplitude/dB	<u>-18.8 dB</u>	<u>N/A</u>
Sweep	<u>0.78"</u>	<u>N/A</u>
Gain (dB)	<u>+ Log</u>	<u>N/A</u>

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	<u>0733</u>	<u>4/23/2005</u>	<u>CAL-DPTH-063</u>	<u>RJ</u>
Verified	<u>1025</u>	<u>4/23/2005</u>	<u>CAL-RHOM-095</u>	<u>RJ</u>
Verified	<u>1705</u>	<u>4/23/2005</u>	<u>CAL-RHOM-095</u>	<u>SG</u>
Verified				
Final	<u>0120</u>	<u>4/24/2005</u>	<u>CAL-RHOM-095</u>	<u>PK</u>

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 Unclamped
Smoothing 1 MHz

Probe

Wave Type Longitudinal Scan offset -5.20 in.
Velocity 0.2372 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 II 4/22/2005
Operator Level Date
[Signature] TIL 4-25-05
Analyst Level Date

Utility Review

ANIII Review

Level

Date

Date

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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: 03118627 ☒ Change

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

Prepared By: [Signature] Level: UT Date: 4-27-05 Utility Review: [Signature] Date: 4-28-05
ANII Review: [Signature] Date: 4/29/05

RWP: 0082

Dose: 1250 mr.

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilaris Nuclear Power Station Unit: 3

Project: RF-015

Report No.: APR-011

System: RPV

Component ID Number: 2R-N2G-1

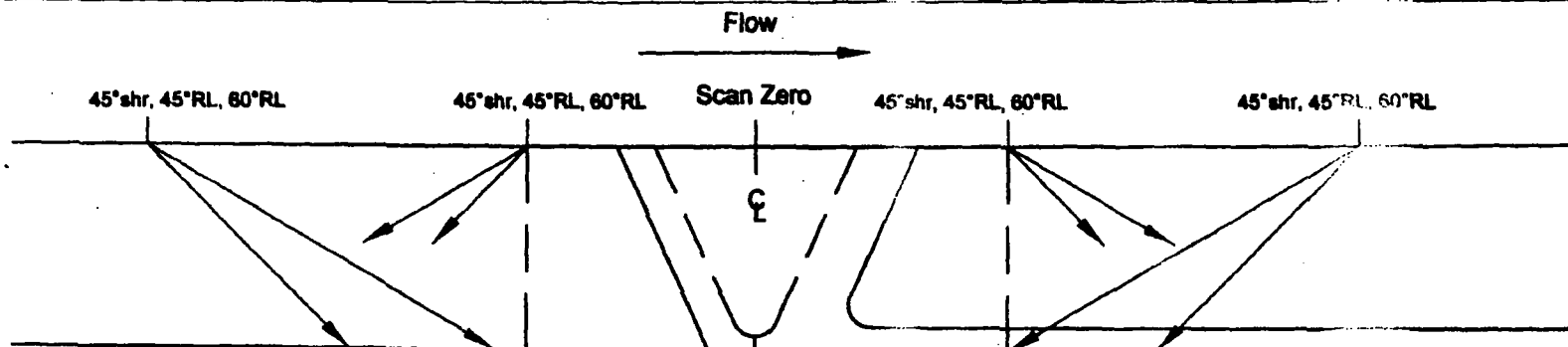
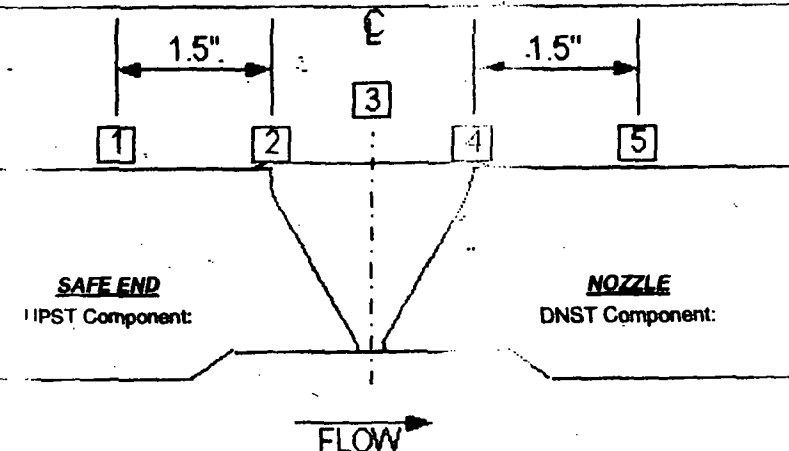
Position	0°	90°	180°	270°
1	1.18"	N/A	N/A	N/A
2	1.17"	N/A	N/A	N/A
3	1.20"	N/A	N/A	N/A
4	1.14"	N/A	N/A	N/A
5	1.16"	N/A	N/A	N/A

Crown Height: FLUSH

Crown Width: 1.4"

Nominal Diameter: 12.0"

Weld Length: 42.25"



Safe End (-)

Procedural Exam Volume

Nozzle (+)

Weld preps obtained from drawings; 137C8066 and M1A73 sheet 2
Bottom of nozzle bore to Inc/CS interface = 4.0"
Bottom of SE taper to Inc/CS interface = 8.0"

CB

Charles Barrett

II 4/25/2005

Initials: Examiner:

Level: Date:

MR

GE Reviewed By:

III 4/27/05

Level: Date:

UT

Utility Review:

UT 4/28/05

Date:

ANII

ANII Review:

4/29/05

Date:

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Report No.:

Project: RF-016

APR-011

System: RPV

Component ID Number: 2R-N2G-1

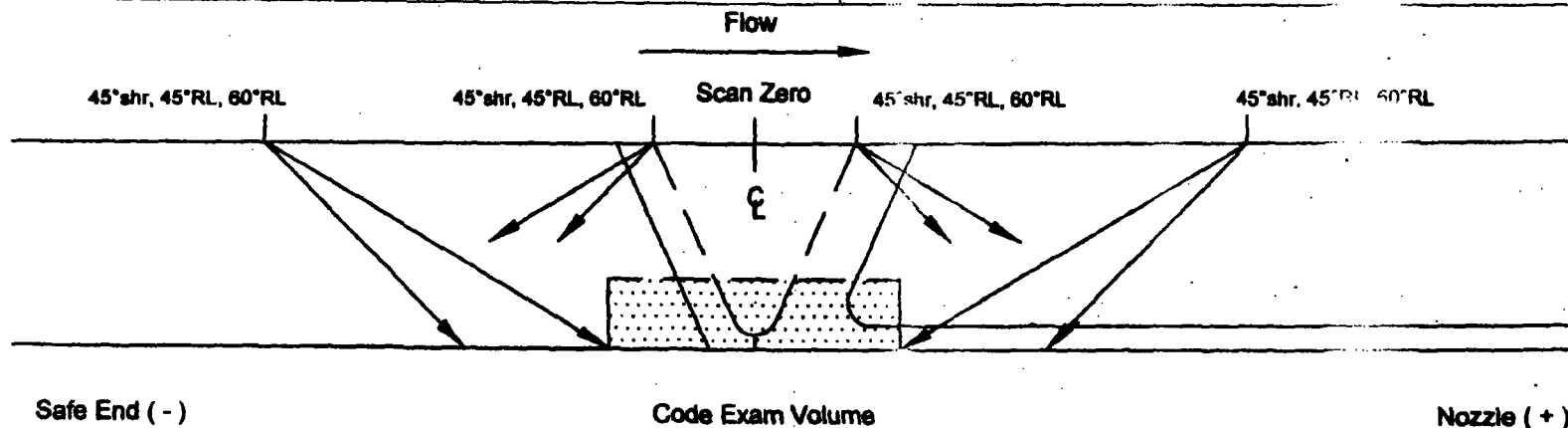
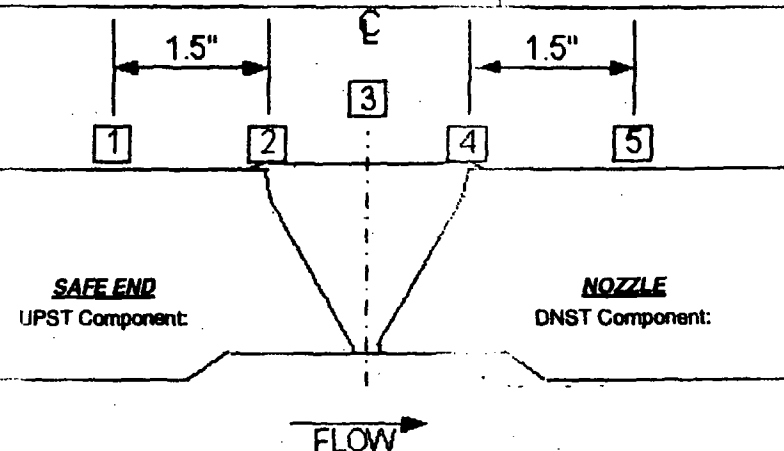
Position	0°	90°	180°	270°
1	1.18"	N/A	N/A	N/A
2	1.17"	N/A	N/A	N/A
3	1.20"	N/A	N/A	N/A
4	1.14"	N/A	N/A	N/A
5	1.16"	N/A	N/A	N/A

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"

BB

Charles Barrett

II 4/25/2005

Initials: Examiner:

Level: Date:

GE Reviewed By:

Level: Date:

Utility Review:

Date:

ANII Review:

Date:

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GE ENERGY, NUCLEAR

Indication / Coverage Plot Sheet

Site: Pillarim Nuclear Power Station Unit: 1

Project: RF-015

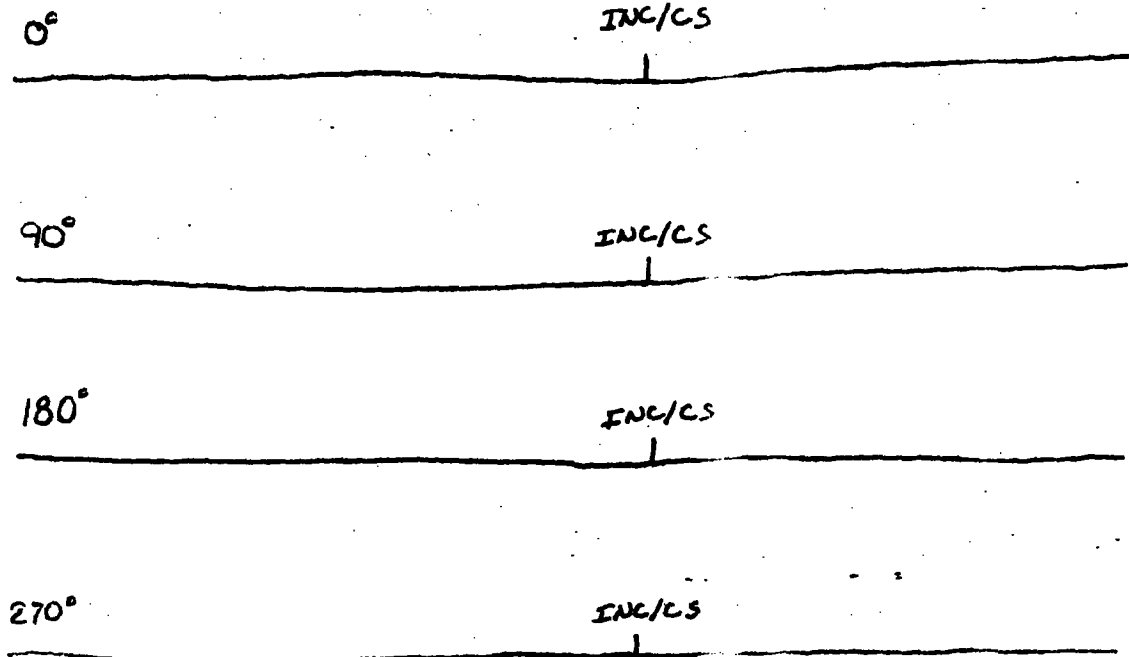
Report Number.: APR-011

System: RPV

Component ID Number: 2R-N2G-1

Configuration: SAFE END

NOZZLE



CB

Charles Barrett

II 4/25/2005

Initials: Examiner:

Level: Date:

GE Reviewed By:

Level:

Date:

Utility Reviewed By:

Date:

ANII Reviewed By:

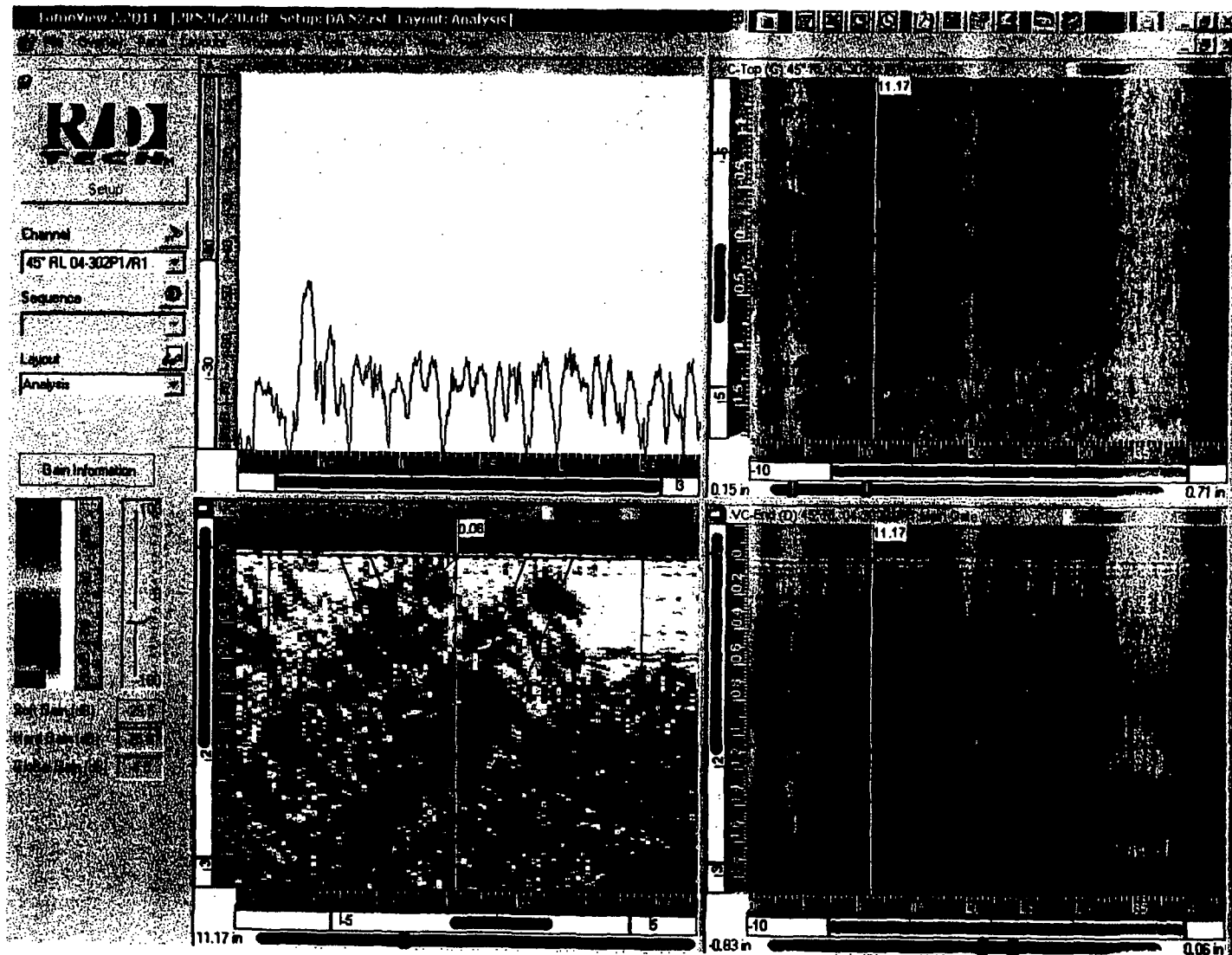
Date:

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N2G Safe End to Nozzle

45°RL LKUP Welding Discontinuity

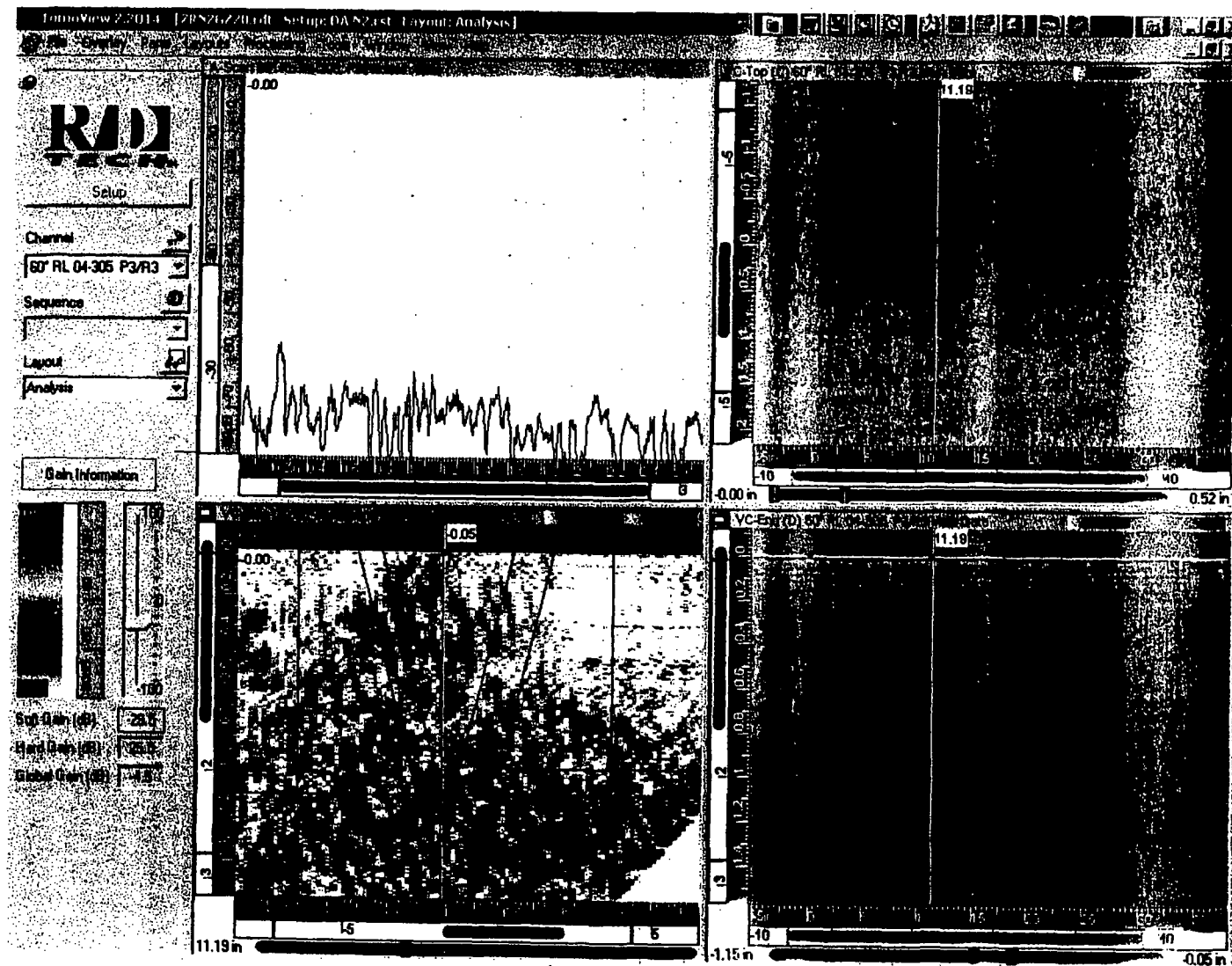


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N2G Safe End to Nozzle

60°RL LKUP Welding Discontinuity

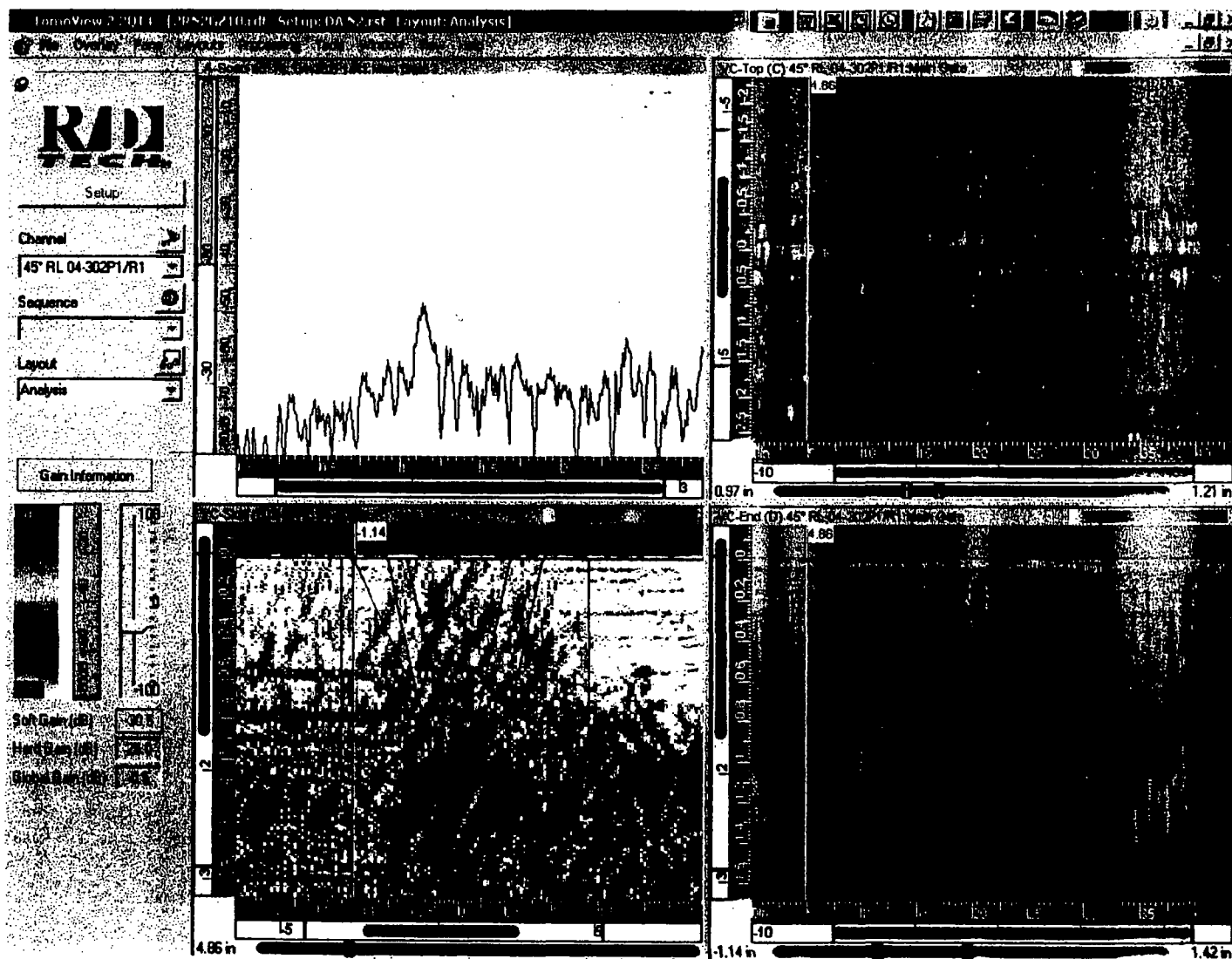


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N2G Safe End to Nozzle

45°RL LKUP Root Geometry



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GE Nuclear Energy

Ultrasonic Data / Scan Parameter Sheet
(Automated with Micro TomoScan)

Site: <u>Pilarim Nuclear Power Station</u>	Procedure: <u>TP04-016 (GE-UT-209)</u>	System: <u>RPV</u>	Report No.: <u>APR-011</u>
Unit: <u>1</u>	Version / Revision: <u>R1 (V17)</u>	Weld No.: <u>2R-N2G-1</u>	Data Sheet No.: <u>APD-006</u>
Project No.: <u>RF-015</u>	DRR: <u>N/A</u>	Configuration: <u>SAFE END TO NOZZLE</u>	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: 16" 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: ≤ 0.88 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:
<u>Z10</u>	<u>0</u>	<u>2RN2GZ10</u>	<u>D-10</u>	<u>-4.1"</u>	<u>2.2"</u>	<u>0.0"</u>	<u>43.0"</u>	<u>Log</u>	<u>C,D,E,H</u>	<u>Uni-directional</u>
<u>Z20</u>	<u>180</u>	<u>2RN2GZ20</u>	<u>D-10</u>	<u>-2.4"</u>	<u>4.1"</u>	<u>0.0"</u>	<u>43.0"</u>	<u>Log</u>	<u>C,D,G,E</u>	<u>Uni-directional</u>
<u>Z30</u>	<u>0</u>	<u>2RN2GZ30</u>	<u>D-10</u>	<u>0.0"</u>	<u>43.0"</u>	<u>-2.7"</u>	<u>2.9"</u>	<u>Log</u>	<u>C</u>	<u>Uni-directional</u>
<u>Z40</u>	<u>180</u>	<u>2RN2GZ40</u>	<u>D-10</u>	<u>0.0"</u>	<u>43.0"</u>	<u>-0.6"</u>	<u>2.9"</u>	<u>Log</u>	<u>C</u>	<u>Uni-directional - Downstream side</u>
<u>Z42</u>	<u>180</u>	<u>2RN2GZ42</u>	<u>D-10</u>	<u>0.0"</u>	<u>43.0"</u>	<u>-2.7"</u>	<u>1.1"</u>	<u>Log</u>	<u>C</u>	<u>Upstream side</u>

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

FL

4/25/2005

Examiner:

Level: Date:

GE Review

Level:

4/27/05

Date:

Utility Review:

4/28/05

Date:

ANII Review:

Date:

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-011
Weld 2R-N2G-1 Calibration Sheet No. APC-059

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRF N/A

Instrument Zetec / uTomo 18121-08 2.2Q14 2.2Q14
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 099
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model Manufacturer / Model
Search Unit RTD 03-341 ELK(24x17)mm 1.5 MHz 45°/S N/A 45° 0.52°
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2
Type Length No. of Intermediate Connectors
Calibration Standard PIL-78 SS 1.3" 1.3"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241878 75 °F Demin Water N/A
Serial No. Temp (°F) Couplant Type 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 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 Unstated
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 usec. Angle 45°
Skew 0/180

N2 - 45° Shear - Ax/Circ Scan
Ax: Scan offset - 0.0" Index offset -2.6"
Circ: Scan offset - 2.6" Index offset 0.0"

Kyle Davidson I-L 4/25/2005
Operator Level Date
[Signature] TIL 4-27-05
Analyst Level Date

Utility Review
[Signature]
ANIII Review

[Signature] UT 112 4-28-05
Level Date
[Signature] 4/28/05
Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-011
Weld 2R-N2G-1 Calibration Sheet No. APC-060

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRR N/A

Instrument Zetec / uTomo 18181-09 2.2Q14 2.2Q14
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 098
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model
Search Unit: RTD 04-302 2(10x18) mm 2.0 MHz 45° / RL 1.00° 45° 0.55°
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2 No. of Intermediate Connectors
Type Length
Calibration Standard PIL-78 SS/INC 1.3" 1.3"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241878 75 °F
Serial No. Couplant Demin Water N/A
Type 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	4/25/2005	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 I-L 4/25/2005
Operator Level Date
Analyst [Signature] IL 4-27-05
Level Date

[Signature] UT III 4-28-05
Utility Review Level Date
[Signature] 4/29/05
ANIII Review 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

Weld 2R-N2G-1

Calibration Sheet No. APC-061

Procedure No. TP04-016 (GE-U7-209)

Version R1 (V17) DRF

N/A

Instrument Zetec / u Tomo

Manufacturer / Model

18121-08

System Serial No.

2.2014

Acquisition Software

2.2014

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

04-310

Manufacturer

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

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 usec.

Angle

45°

Skew

0/180

N2 - 45° RL - Circ Scan

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

Kyle Davidson

I-L

4/25/2005

Operator

Level

Date

Analyst

Level

Date

Utility Review

ANIII Review

Level

Date

Date

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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 / uTomo
Manufacturer / Model

18121-02
System Serial No.

2.2Q14 • 2.2Q14
Acquisition Software Analysis Software

Pulser/Receiver R/D Tech EQTX 100
Main Board: Manufacturer / Model

Pulser/Receiver R/D Tech EQTX 101
Piggy Board: Manufacturer / Model

Digitizer: R/D Tech EQTX 089
Manufacturer / Model

Search Unit RTD 04-305
Manufacturer Serial No.

2(10x18) mm
Element Size

2.0 MHz 60° / RL
Freq. (MHz) Angle / Mode

0.77°
FD, FS/SA, RA

61° 0.52°
Measured Incident to
Angle 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 0.8"
Material Nominal Thickness

0.8"
Measured Thickness

Thermometer 241878
Serial No.

73 °F
Temp (°F)

Couplant Demin Water
Type

N/A
Batch No.

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>SDH</u>	<u>SDH</u>	<u>SDH</u>
Depth	<u>0.80 in.</u>	<u>0.80 in.</u>	<u>0.80 in.</u>
Amplitude / dB	<u>81.5%</u>	<u>-33.9 dB</u>	<u>-9.4 dB</u>
Sweep	<u>1.65 in.</u>	<u>1.65 in.</u>	<u>1.65 in.</u>
Gain (dB)	<u>24</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

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 Bk
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 usec. Angle 60°
Skew 0/180

N2 - 60° RL - Ax Scan

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	<u>0820</u>	<u>4/11/2005</u>	<u>CAL-DPTH-063</u>	<u>RJ</u>
Verified	<u>1844</u>	<u>4/25/2005</u>	<u>CAL-RHOM-095</u>	<u>KD</u>
Verified				
Verified				
Final	<u>2212</u>	<u>4/25/2005</u>	<u>CAL-RHOM-095</u>	<u>KD</u>

Kyle Davidson

Operator

Analyst

IL 4/25/2005

Level Date

IL 4-27-05
Level Date

Utility Review

ANII Review

Level

Date

4-28-05

Date

4/29/05
Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-011
Weld 2R-N2G-1 Calibration Sheet No. APC-063

Procedure No. TP04-016 (GE-UT-209) Version: R1/V17 DRE N/A

Instrument Zetec / uTomo 18121-00 2.2Q14 2.2Q14
Manufacturer / Model System Serial No. Acquisition Software Analysis Software
Pulser/Receiver R/D Tech EQTX 100 Pulser/Receiver R/D Tech EQTX 101 Digitizer: R/D Tech EQTX 089
Main Board: Manufacturer / Model Piggy Board: Manufacturer / Model
Search Unit RTD 00-349 2(10x18) mm 1.0 MHz 60° / RL 0.59" 60° 0.50"
Manufacturer Serial No. Element Size Freq. (MHz) Angle / Mode FD,FS/SA,RA Measured Incident to
Cable RG-58/RG-58/RG-174 250' / 25' / 3' 2 No. of Intermediate Connectors
Type Length
Calibration Standard CAL-DPTH-063 SS 0.6" 0.6"
Serial No. Material Nominal Thickness Measured Thickness
Thermometer 241878 75 °F
Serial No. Temp. / °F Couplant Demin Water N/A
Type 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 Rompage 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 I-L 4/25/2005
Operator Level Date
[Signature] TL 4-27-05
Analyst Level Date

Utility Review

ANIII Review

[Signature] ETT TL 4-28-05
Level Date
[Signature] 4/28/05
Date

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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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	KD	MW	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	KD	KD	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SG	SG	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SG	SG	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
Notes: Weld profile does not meet procedural requirements from 0"-4", 23"-28", 31"-34" and 38"-42"													

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[Signature] HT L-1. III 4-28-05



GE ENERGY, NUCLEAR

EXAMINATION SUMMARY SHEET

Report No.:
APR-012Site: Pilgrim Nuclear Power Station Component ID:2R-N2J-1Outage: RF-015SAFE 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-76	Kyle Davidson	I-L	4/25/2005
45° / RL	N/A	APC-067	TP04-016 (GE-UT-209) R1 (V17)	PIL-76	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-76	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: 03118627 ☐ Change

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

Prepared By: <u>[Signature]</u>	Level: <u>III</u>	Date: <u>4-28-05</u>	Utility Review: <u>[Signature]</u> UT LVL: <u>II</u>	Date: <u>4-29-05</u>	RWP: 0082
ANII Review: <u>[Signature]</u>					Date: <u>4/29/05</u>
					Dose: 1500 mr.
					Page 1 of 13

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Report No.:

Project: RF-015

APR-012

System: RPV

Component ID Number: 2R-N2-J-1

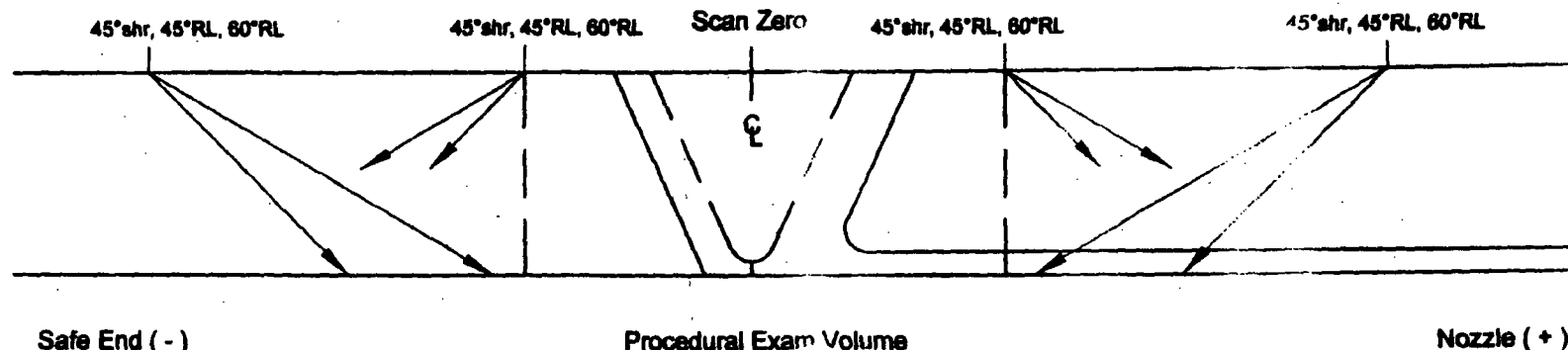
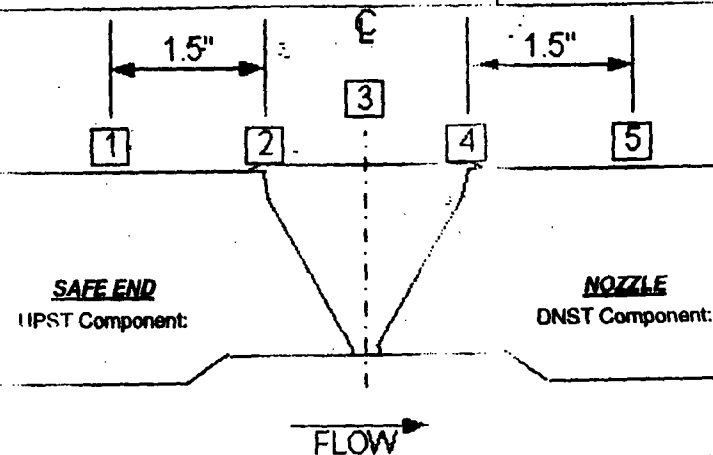
Position	0°	90°	180°	270°
1	1.11"	N/A	N/A	N/A
2	1.11"	N/A	N/A	N/A
3	1.13"	N/A	N/A	N/A
4	1.10"	N/A	N/A	N/A
5	1.14"	N/A	N/A	N/A

Crown Height: 0.1"

Crown Width: 1.8"

Nominal Diameter: 12.0"

Weird Length: 42.0"



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"

Michael Krueger
Initials: Examiner:

III 4/27/2005
Level: Date:

Michael Krueger
GE Reviewed By:

III 4-29-05
Level: Date:

Michael Krueger UT LVI-III
Utility Review:

4-29-05
Date:

Michael Krueger
ANII Review:

4/29/05
Date:

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GE ENERGY, NUCLEAR

Wall Thickness Profile Sheet

Site: Pilarim Nuclear Power Station Unit: 1

Report No.:

Project: RF-015

APR-012

System: RPV

Component ID Number: 2R-N2-L-1

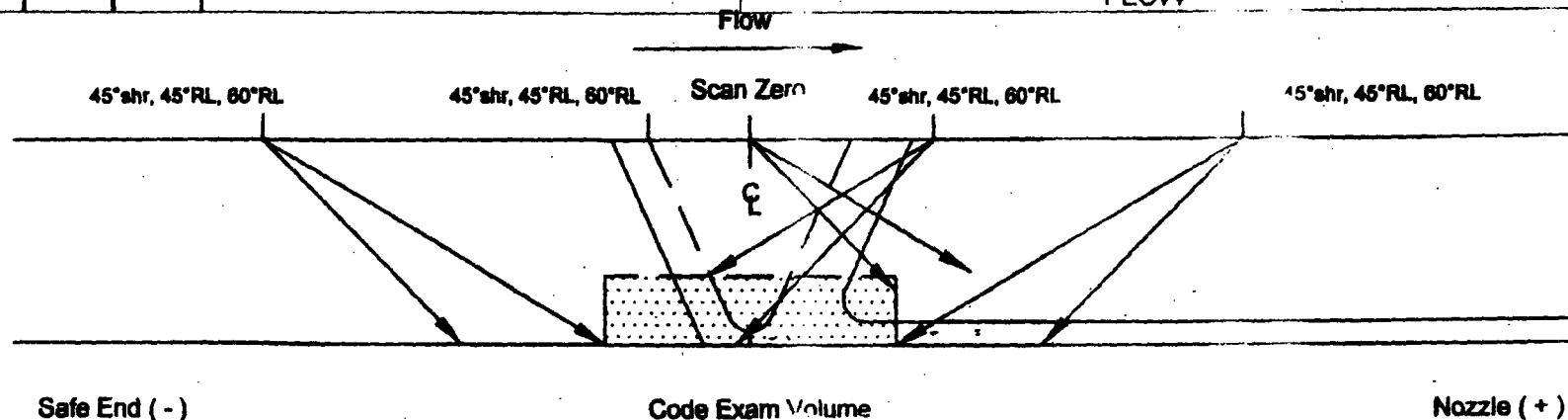
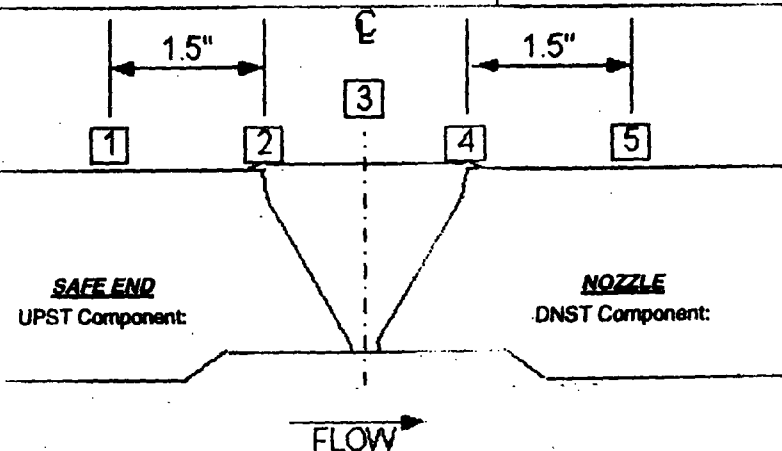
Position	0°	90°	180°	270°
1	1.11"	N/A	N/A	N/A
2	1.11"	N/A	N/A	N/A
3	1.13"	N/A	N/A	N/A
4	1.10"	N/A	N/A	N/A
5	1.14"	N/A	N/A	N/A

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"

Michael Krueger III 4/27/2005
Initials: Examiner: Level: Date:

GE Reviewed By: Level: Date: 4-29-05

Utility Review: Date: 4-29-05

ANII Review: Date: 4/29/05

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GE ENERGY, NUCLEAR

Indication / Coverage Plot Sheet

Site: Pilgrim Nuclear Power Station Unit: 1

Report Number.:

Project: RF-015

APR-012

System: RPV

Component ID Number: 2B-N2-L-1

Configuration: SAFE END

NOZZLE

0° TDC

ENC/CS

90°

ENC/CS

180°

ENC/CS

270°

ENC/CS

MK Michael Krueger III 4/27/2005
Initials: Examiner: Level: Date:

Paul H. Galt III 4-29-05
GE Reviewed By: Level: Date:

Bob T L U I III 4-29-05
Utility Reviewed By: Date:

Chris 4/29/05
ANII Reviewed By: Date:

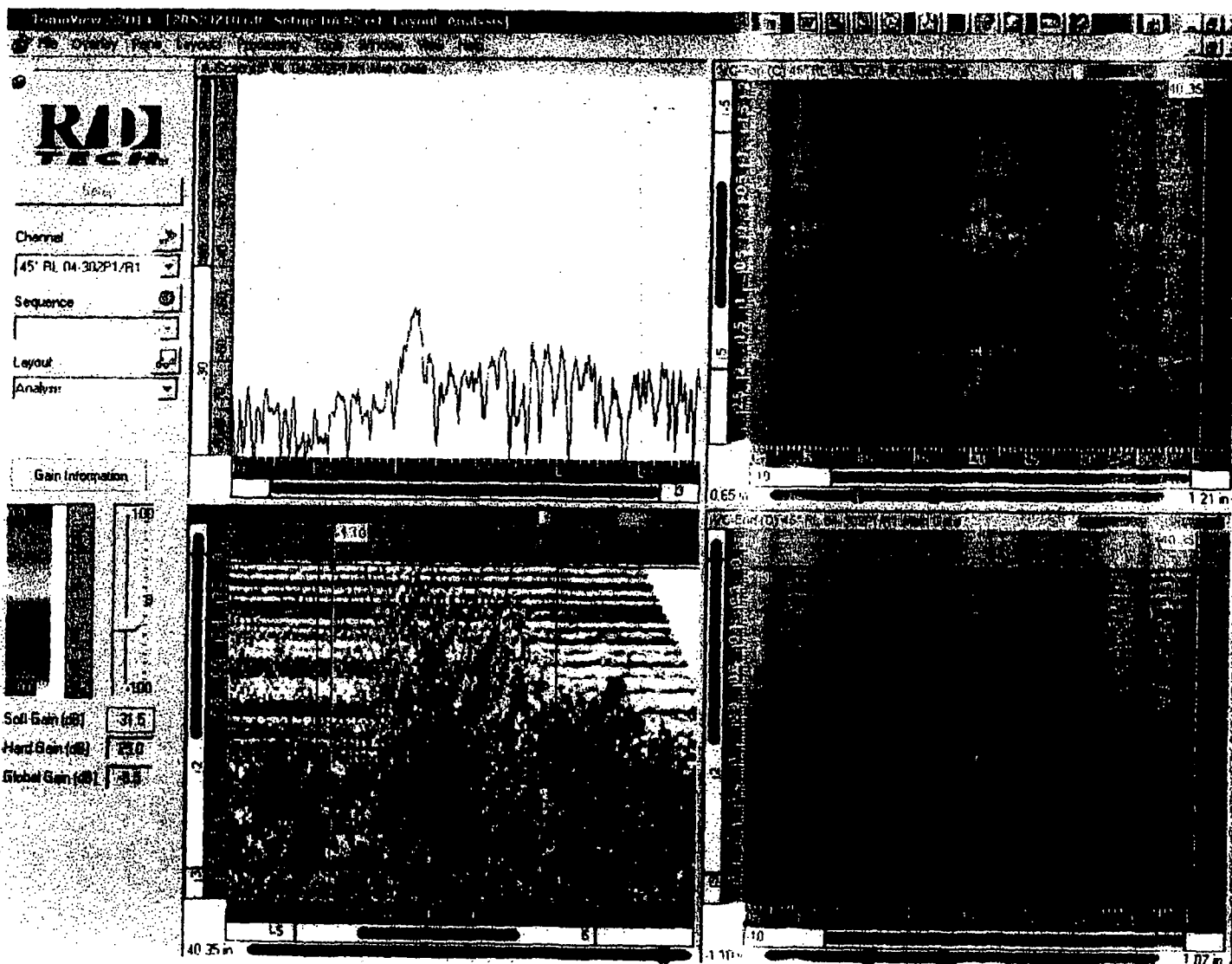
Log 167/240



GE Energy, Nuclear

N2J Safe End to Nozzle

45°RL LKDN Root Geometry

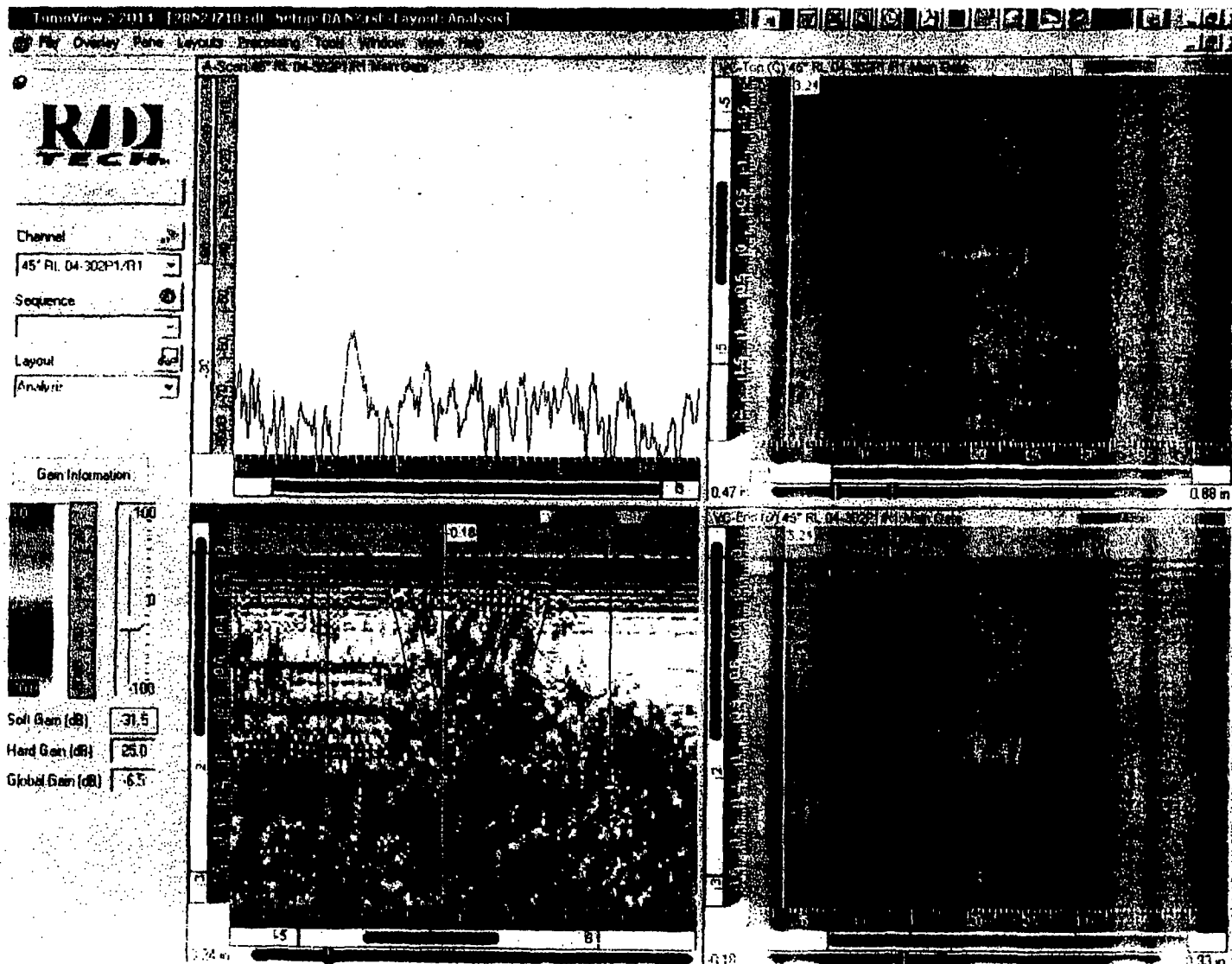


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N2J Safe End to Nozzle

45°RL LKDN Acoustic Interface



Log 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-N2-J-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:
<u>Z10</u>	<u>0</u>	<u>2RN2JZ10</u>	<u>D-13</u>	<u>-4.1"</u>	<u>2.4"</u>	<u>0.0"</u>	<u>43.0"</u>	<u>Loa</u>	<u>G.D.H.E</u>	<u>Uni-directional</u>
<u>Z20</u>	<u>180</u>	<u>2RN2JZ20</u>	<u>D-13</u>	<u>-2.4"</u>	<u>4.2"</u>	<u>0.0"</u>	<u>43.0"</u>	<u>Loa</u>	<u>G.E</u>	<u>Uni-directional</u>
<u>Z30</u>	<u>0</u>	<u>2RN2JZ30</u>	<u>D-13</u>	<u>0.0"</u>	<u>43.0"</u>	<u>-2.7"</u>	<u>2.9"</u>	<u>Loa</u>	<u>G.E</u>	<u>Uni-directional</u>
<u>Z40</u>	<u>180</u>	<u>2RN2JZ40</u>	<u>D-13</u>	<u>0.0"</u>	<u>43.0"</u>	<u>-2.7"</u>	<u>2.9"</u>	<u>Loa</u>	<u>G.E</u>	<u>Uni-directional</u>

EXAMINATION RESULTS LEGEND

A - NO RECORDABLE INDICATIONS
E - INSIDE SURFACE
I - COUNTERBORE

B - NON-GEOMETRIC INDICATIONS
F - OUTSIDE SURFACE
J - SHEAR COMPONENT

C - NON-RELEVANT INDICATIONS
G - WELD DISCONTINUITY
K - BEAM RE-DIRECT

D - ACOUSTIC INTERFACE
H - ROOT GEOMETRY

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 Jaskan

II

4/27/2005

Examiner:

Level: Date:

GE Review:

Level:

Date:

Utility Review:

Date:

ANII Review:

Date:

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-012
Weld 2R-N2J-1 Calibration Sheet No. APC-065

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRR N/A

Instrument	<u>Zetec / u Tomo</u>	<u>18121-09</u>	<u>2.2Q14</u>	<u>2.2Q14</u>
	Manufacturer / Model	System Serial No.	Acquisition Software	Analysis Software
Pulser/Receiver	<u>R/D Tech EQTX 100</u>	<u>R/D Tech EQTX 101</u>	Digitizer:	<u>R/D Tech EQTX 088</u>
Main Board:	Manufacturer / Model	Piggy Board:	Manufacturer / Model	
Search Unit	<u>RTD</u> <u>03-341</u>	<u>ELI(24x17) mm</u> <u>1.5 MHz</u> <u>45° / S</u>	<u>N/A</u> <u>45°</u> <u>0.52°</u>	
	Manufacturer Serial No.	Element Size Freq. (MHz) Angle / Mode	FD,FS/SA,RA Measured Angle Incident to Wedge Front	
Cable	<u>RG-58/RG-58/RG-174</u>	<u>250' / 25' / 3'</u>	<u>2</u>	
	Type	Length	No. of Intermediate Connectors	
Calibration Standard	<u>PIL-78</u>	<u>SS</u> <u>1.3"</u> <u>1.3"</u>		
	Serial No.	Material	Nominal Thickness	Measured Thickness
Thermometer	<u>241878</u>	<u>75 °F</u>	<u>Demin Water</u>	<u>N/A</u>
	Serial No.	Temp (°F)	Type	Batch No.

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>
Type	<u>ID Notch</u>	<u>ID Notch</u>
Depth	<u>1.30 in.</u>	<u>1.30 in.</u>
Amplitude / dB	<u>85.4%</u>	<u>-9.4 dB</u>
Sweep	<u>1.91 in.</u>	<u>1.91 in.</u>
Gain (dB)	<u>1.0</u>	<u>Log</u>
Screen	<u>Half Path</u>	<u>25 dB Booster</u> <u>Inactive</u>

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	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" Index Offset -2.7"

Richard Jasken II 4/27/2005
Operator Level Date
[Signature] II 4-28-05
Analyst Level Date

[Signature] UT
Utility Review
[Signature]
ANII Review

II 4-29-05
Level Date
[Signature] 4/29/05
Date

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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-N2-J-1

Procedure No. TP04-016 (GE-UT-209)

Version R1 (V17) DRF N/A

Instrument	<u>Zetec / uTomo</u>	<u>18121-08</u>	<u>2.2014</u>	<u>2.2014</u>
	Manufacturer / Model	System Serial No.	Acquisition Software	Analysis Software
Pulser/Receiver	<u>R/D Tech EQTX 100</u>	<u>R/D Tech EQTX 101</u>	Digitizer:	<u>R/D Tech EQTX 098</u>
Main Board:	Manufacturer / Model	Piggy Board:	Manufacturer / Model	
Search Unit	<u>RTD</u>	<u>04-302</u>	<u>2(10x18)mm</u>	<u>2.0 MHz</u>
	Manufacturer	Serial No.	Element Size	Freq. (MHz)
			<u>45° / RL</u>	<u>1.00"</u>
			Angle / Mode	FD,FS/SA,RA
Cable	<u>RG-58/RG-58/RG-174</u>	<u>250' / 25' / 3'</u>	<u>2</u>	<u>45°</u>
	Type	Length	No. of Intermediate Connectors	Measured Angle
				Incident to Wedge Front
Calibration Standard	<u>PIL-78</u>	<u>SS/NC</u>	<u>1.3"</u>	<u>1.3"</u>
	Serial No.	Material	Nominal Thickness	Measured Thickness
Thermometer	<u>241978</u>	<u>75 °F</u>	<u>Demin Water</u>	<u>N/A</u>
	Serial No.	Temp (°F)	Type	Batch No.

Calibration			
Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>ID Notch</u>	<u>ID Notch</u>	<u>ID Notch</u>
Depth	<u>1.30 in.</u>	<u>1.30 in.</u>	<u>1.30 in.</u>
Amplitude / dB	<u>82.4%</u>	<u>32.0 dB</u>	<u>-7.2 dB</u>
Sweep	<u>1.85 in.</u>	<u>1.85 in.</u>	<u>1.85 in.</u>
Gain (dB)	<u>23.0</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

Field Simulator CS Rompage 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	Range	
Units	<u>0.0 in.</u>	<u>4.0 in.</u>	
	<u>Half Path</u>		

Digitizer			
Synchro	<u>Pulse</u>	<input checked="" type="checkbox"/> A Scan	Sample Size <u>8 Bit</u>
Averaging	<u>1</u>	Acquisition Rate	<u>301 Hz</u>
Digitizing Frequency	<u>12.5 MHz</u>	Max Recurrence	<u>2000 Hz</u>

Pulser / Receiver			
Configuration	<u>Conventional Pitch Catch</u>		
Pulser	<u>P1</u>	Receiver	<u>R1</u>
Voltage	<u>300 V</u>	Scale Type	<u>LOG</u>
Width (Ns)	<u>250 ns</u>	Rectification	<u>Unsigned</u>
		Smoothing	<u>2 MHz</u>

Probe			
Wave Type	<u>Longitudinal</u>	Scan offset	<u>0.00 in.</u>
Velocity	<u>0.2272 in./sec.</u>	Index offset	<u>0.00 in.</u>
Wedge Delay	<u>9.675 usec.</u>	Angle	<u>45°</u>
		Skew	<u>0/180</u>

N2 - 45° RL - Ax Scan

Kyle Davidson	I-L	4/26/2005
Operator	Level	Date
<u>[Signature]</u>	<u>III</u>	<u>4-28-05</u>
Analyst	Level	Date

Utility Review

ANIR Review

Level

Date

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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 / u Tomo
Manufacturer / Model

18121-09
System Serial No.

2.2Q14 2.2Q14
Acquisition Software Analysis Software

Pulser/Receiver R/D Tech EQTX 100
Main Board: Manufacturer / Model

Pulser/Receiver R/D Tech EQTX 101
Piggy Board: Manufacturer / Model

Digitizer: R/D Tech EQTX 098
Manufacturer / Model

Search Unit RTD 04-310
Manufacturer Serial No.

2(10x18) mm
Element Size

1.0 MHz 45° / RL
Freq. (MHz) Angle / Mode

0.84"
FD,FS/SA,RA

45° 0.55"
Measured Incident to
Angle 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	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>ID Notch</u>	<u>ID Notch</u>	<u>ID Notch</u>
Depth	<u>1.30 in.</u>	<u>1.30 in.</u>	<u>1.30 in.</u>
Amplitude / dB	<u>83.9%</u>	<u>-46.4 dB</u>	<u>-23.5 dB</u>
Sweep	<u>1.85 in.</u>	<u>1.85 in.</u>	<u>1.85 in.</u>
Gain (dB)	<u>37</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	<u>25 dB Booster</u>	<u>Active</u>

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 usec. Angle 45°
Skew 0/180

N2 - 45° RL - Circ Scan

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	<u>0708</u>	<u>4/23/2005</u>	<u>PIL 78</u>	<u>RJ</u>
Verified	<u>2212</u>	<u>4/25/2005</u>	<u>CAL-RHOM-095</u>	<u>KD</u>
Verified				
Verified				
Final	<u>1105</u>	<u>4/27/2005</u>	<u>CAL-RHOM-095</u>	<u>RJ</u>

Richard Jasken II 4/27/2005

Operator Level Date

4-28-05

Analyst Level Date

Utility Review

ANIII Review

Level Date

Date

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GE Energy, Nuclear

ULTRASONIC CALIBRATION DATA SHEET (Automated with Micro TomoScan)

Site Pilgrim Nuclear Power Unit 1 Project RF-015 Report Number APR-012
Weld 2R-N2J-1 Calibration Sheet No. APC-068

Procedure No. TP04-016 (GE-UT-209) Version R1 (V17) DRF N/A

Instrument	<u>Zetec / uTomo</u>		<u>18121-09</u>		<u>2.2Q14</u>		<u>2.2Q14</u>	
	Manufacturer / Model		System Serial No.		Acquisition Software		Analysis Software	
Pulser/Receiver	<u>R/D Tech EQTX 100</u>		<u>R/D Tech EQTX 101</u>		Digitizer:		<u>R/D Tech EQTX 098</u>	
Main Board:	Manufacturer / Model		Manufacturer / Model		Manufacturer / Model		Manufacturer / Model	
Search Unit	<u>RTD</u>	<u>04-305</u>	<u>2(10x18) mm</u>	<u>2.0 MHz</u>	<u>60° / RL</u>	<u>0.77"</u>	<u>61°</u>	<u>0.52"</u>
	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
Cable	<u>RG-58/RG-58/RG-174</u>		<u>250' / 25' / 3'</u>	<u>2</u>				
	Type		Length	No. of Intermediate Connectors				
Calibration Standard	<u>CAL-DPTH-063</u>		<u>SS</u>	<u>0.8"</u>	<u>0.8"</u>			
	Serial No.		Material	Nominal Thickness	Measured Thickness			
Thermometer:	<u>241878</u>	<u>75 °F</u>	Couplant	<u>Demin Water</u>	<u>N/A</u>			
	Serial No.	Temp (°F)	Type	Batch No.				

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>SDH</u>	<u>SDH</u>	<u>SDH</u>
Depth	<u>0.80 in.</u>	<u>0.80 in.</u>	<u>0.80 in.</u>
Amplitude / dB	<u>81.5%</u>	<u>-33.9 dB</u>	<u>-9.4 dB</u>
Sweep	<u>1.65 in.</u>	<u>1.65 in.</u>	<u>1.65 in.</u>
Gain (dB)	<u>24</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

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	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 Unstated
Smoothing 2 MHz

Probe
Wave Type Longitudinal Scan offset 0.00 in.
Velocity 0.2372 in./sec. Index offset -5.20 in.
Wedge Delay 10.640 usec. Angle 60°
Skew 0/180

N2 - 60° RL - Ax Scan

Kyle Davidson I-L 4/26/2005
Operator Level Date
Analyst TL 4/28/05
Level Date

Utility Review

ANIII Review

Level

Date

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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) DRP N/A

Instrument	<u>Zetec / uTomo</u>		<u>18121-09</u>		<u>2.2Q14</u>		<u>2.2Q14</u>	
	Manufacturer / Model		System Serial No.		Acquisition Software		Analysis Software	
Pulser/Receiver	<u>R/D Tech EQTX 100</u>		<u>R/D Tech EQTX 101</u>		Digitizer:		<u>R/D Tech EQTX 098</u>	
Main Board:	Manufacturer / Model		Piggy Board:		Manufacturer / Model		Manufacturer / Model	
Search Unit	<u>RTD</u>	<u>00-349</u>	<u>2(10x18) mm</u>	<u>1.0 MHz</u>	<u>60° / RL</u>	<u>0.59"</u>	<u>60°</u>	<u>0.50"</u>
	Manufacturer	Serial No.	Element Size	Freq. (MHz)	Angle / Mode	FD,FS/SA,RA	Measured Angle	Incident to Wedge Front
Cable	<u>RG-58/RG-58/RG-174</u>		<u>250' / 25' / 3'</u>	<u>2</u>				
	Type		Length	No. of Intermediate Connectors				
Calibration Standard	<u>CAL-DPTH-063</u>		<u>SS</u>	<u>0.6"</u>	<u>0.6"</u>			
	Serial No.		Material	Nominal Thickness	Measured Thickness			
Thermometer	<u>241878</u>	<u>75 °F</u>	Couplant	<u>Demin Water</u>	<u>N/A</u>			
	Serial No.	Temp (°F)		Type	Batch No.			

Calibration

Orientation	<u>Circ</u>	<u>Circ</u>	<u>Circ</u>
Type	<u>SDH</u>	<u>SDH</u>	<u>SDH</u>
Depth	<u>0.60 in.</u>	<u>0.60 in.</u>	<u>0.60 in.</u>
Amplitude / dB	<u>84.3%</u>	<u>-42.0 dB</u>	<u>-18.8 dB</u>
Sweep	<u>1.18 in.</u>	<u>1.18 in.</u>	<u>1.18 in.</u>
Gain (dB)	<u>32</u>	<u>Log</u>	<u>+25 Log</u>
Screen	<u>Half Path</u>	25 dB Booster	<u>Active</u>

Field Simulator CS Rompas S/N CAL-RHOM-095

Reflector	<u>Near SDH</u>	<u>N/A</u>
Max Amplitude/dB	<u>-18.8 dB</u>	<u>N/A</u>
Sweep	<u>0.78"</u>	<u>N/A</u>
Gain (dB)	<u>+ Log</u>	<u>N/A</u>

Calibration Verification

	Time	Date	Block(s)	Operator
Initial	<u>0733</u>	<u>4/23/2005</u>	<u>CAL-DPTH-063</u>	<u>RJ</u>
Verified	<u>0155</u>	<u>4/26/2005</u>	<u>CAL-RHOM-095</u>	<u>KD</u>
Verified				
Verified				
Final	<u>1107</u>	<u>4/27/2005</u>	<u>CAL-RHOM-095</u>	<u>RJ</u>

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 usec. Angle 60°
Skew 0/180

N2 - 60° RL - Circ Scan

Richard Jasken	II	4/27/2005
Operator	Level	Date
<u>[Signature]</u>	<u>III</u>	<u>4-28-05</u>
Analyst	Level	Date

Utility Review

ANIII Review

Level

Date

Date

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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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MW	MW	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MW	MW	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SG	SG	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SG	SG	MJK	MJK	MJK	
45° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	
60° RL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			MJK	MJK	MJK	

Notes: Transducer liftoff due to the outside surface contour. See the data sheet for parameters

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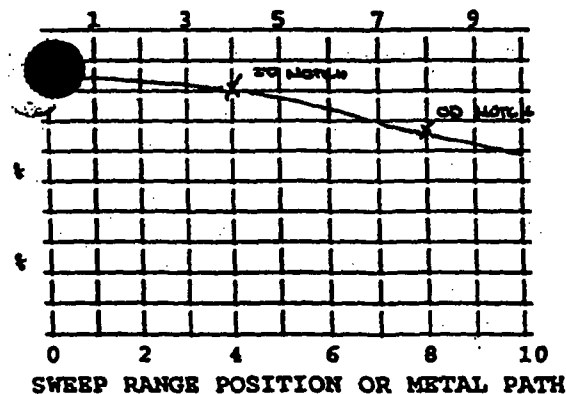
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UT CALIBRATION DATA SHEET

C.D.S. NO. 99-C-547
 U.T.V. NO. 0027A
 L.D.S. NO. 99-L-351

PROCEDURE NO. QCL 50.71 REV. 4 DATE 5/22/99
 EXAMINATION PERSONNEL: NAME Paul V. Kelly LEVEL II NAME John H. H. H. LEVEL II
 INSTRUMENT DATA: MAKE STANLEY MODEL 5000 126 SERIAL NO. 126-5496
 ARCH UNIT DATA: MANUFACTURER KBA TYPE M3WQL GAMMA
 SERIAL NO. 002447 SIZE .50" FREQUENCY 225 MHz
 BEAM ANGLE 45° BEAM MODE 6WEAR WEDGE TYPE LUCITE
 BLE DATA: LENGTH 6 TYPE 26-174
 UPLANT DATA: TYPE ULTRABEL II BATCH NO. 98325
 LIBRATION STANDARD DATA: SERIAL NO. PL-17A THICKNESS 1.0" DIAMETER 12"
 MATERIAL C9 SA-106 GR.B
 LIBRATION REFLECTOR(S) DATA: TYPE Notch SIZE .100" d x .125" w x 1.0" l
 ORIENTATION (TO PIPE AXIS) Line
 OR DUAL ELEMENT TRANSDUCERS: SPLIT ORIENTATION (TO HOLE CENTERLINE) FOR
 MAXIMUM RESPONSE
 PARALLEL AMPLITUDE N/A TRANSVERSE AMPLITUDE N/A

C CURVE-SCREEN REPRESENTATION



CALIBRATION TIME - RECORDS

00	01	02	03	04	05
ORIG.	CAL.	LAST	LAST	VERIFY	
DATE	CAL.	CHECK - E.D.S.	E.D.S.	25°F LIMIT	
TIME	TIME	#	LINE #	YES/NO	
<u>5/22/99</u>	<u>1100</u>	<u>1535</u>	<u>99-E-548 (4)</u>	<u>pg 2</u>	<u>486</u>

I.D. OF WELD/COMPONENT

G-NAA-1
G-NAB-1
G-NAC-1
G-NAD-1

TP @ 27% 40 @ 32.0 dB
 OD @ 63% 20 @ 32.0 dB

REFERENCE GAIN 32.0 dB
 SCANNING GAIN 46.0 dB

REVIEWED BY: Philip Thomas L. 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: 1/1/99 DATE 5-26-99
 ANII

**BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET**

EXAMINATION PERSONNEL:

Name John P. Miller Level II

Name Samuel M. Miller Level II

Beam Angle 45°

M. R. No. 19702057

Couplant ULTRACON II 98325

Scanning Gain 46.0dB

Exam proc. 5011 Rev. 4

EDS No. 99-E-548

CDS No. 99-C-547

L.D.S. 99-L-351

UTV No. 0027A

DATE 5/26/99

(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/-/+				I			1250 1255	78°F	NRI
	N	A			N			A		N	A	

Components meet ASME Section XI Acceptance Criteria: Yes

ASME Section XI Examination:

YES ☐ NO ☒ → FURTHER EVALUATION REQUIRED ☒

☒ YES-ANII Signature Required
☐ NO-ANII Signature Not Required

REMARKS: A) LIMITED EXAMINATION BETWEEN 26.875" TO 29.625" AND 31.875" TO 34.625" DUE TO THERMO COUPLER POS ON WELDS

Evaluated By: D. Miller Level III Date 5/26/99

Accepted By: B. Miller Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: P. Miller Date 5-26-99

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**BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET**

EXAMINATION PERSONNEL:

Name *R. Allen* Level *II*
Name *Samir Nasir* Level *II*

M. R. No. 19702057
Couplant *Water II* 98325
Scanning Gain 450dB

Exam proc. 50-11 Rev. 4

EDS No. 99-E-548
CDS No. 99-C-547
L.D.S. 99-L-351
UTV No. 0021A
DATE 7/22/99

Beam Angle 45°

(W) DIMENSION (L) DIMENSION

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W _a SP _a	L ₁ SP _{L1}	L ₂	L ₂ SP _{L2}	TIME OF EXAM START STOP	COMP. TEMP.	REMARKS
G-N4C-1	6E-N02	N/A	I/+/-							1310 1315	78°F	N) u21
G-N4C-1	6E-N02	N/A	I/-/+							1315 1320	78°F	N) u21
G-N4D-1	6E-N02	N/A	I/+/-							1402 1407	78°F	u21
G-N4D-1	6F-N02	N/A	I/-/+							1407 1412	78°F	u21

Components meet ASME Section XI Acceptance Criteria:

ASME Section XI Examination:

YES ☐ NO ☒ → FURTHER EVALUATION REQUIRED ☐

X YES-ANII Signature Required
NO-ANII Signature Not Required

REMARKS: LIMITED EXAMINATION BETWEEN 26.75° TO 29.75° AND
31.75° TO 33.75° DUE TO TUBING COUPLER PARTS ON WELD.

Evaluated By: *D. Thomas* Level *III* Date 5/26/99

Accepted By: *B. P. Harris* Level *III* Date 5/26/99
BeCo Level III or Designee

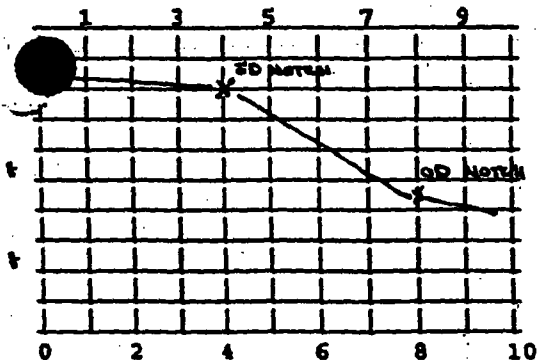
ANII Review By: *V. Hyatt* Date 5-26-99

UT CALIBRATION DATA SHEET

C.D.S. NO. 99-C-549
 U.T.V. No. 00214
 L.D.S. NO. 99-L-351

PROCEDURE NO. QC-1 50.71 REV. 4 DATE 5/22/99
 EXAMINATION PERSONNEL: NAME P. Valdez LEVEL II NAME John Miller LEVEL II
 INSTRUMENT DATA: MAKE SONOTEST MODEL 6mm 126 SERIAL NO. 126-5496
 ARCH UNIT DATA: MANUFACTURER KDA TYPE M500C GAMMA
 SERIAL NO. 002142 SIZE .60" FREQUENCY 2.25 MHz
 BEAM ANGLE 60° BEAM MODE SMAL WEDGE TYPE Luxite
 BLE DATA: LENGTH 12' TYPE D-174
 UPLANT DATA: TYPE ULTRAS II BATCH NO. 58325
 LIBRATION STANDARD DATA: SERIAL NO. PL-17A THICKNESS 1.00 DIAMETER 12"
 MATERIAL C6 SA-106 GR. B
 LIBRATION REFLECTOR(S) DATA: TYPE Notch SIZE 100'd x 125'd 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



CALIBRATION TIME - RECORDS

00	01	02	03	04	05
ORIG.	CAL.	LAST	LAST	VERIFY	
DATE	CAL.	CHECK	E.D.S.	E.D.S.	25°F LIMIT
TIME	TIME	#	LINE	#	YES/NO
<u>5/22/99</u>	<u>1055</u>	<u>1838</u>	<u>99-E-350(4)</u>	<u>pg 2</u>	<u>yes</u>

I.D. OF WELD/COMPONENT

SWEEP RANGE POSITION OR METAL PATH

TO 80% 400512dB
 OD 44% 200512dB
 REFERENCE GAIN 612dB
 SCANNING GAIN 60.0dB

6-NAA-1
6-NAB-1
6-NAC-1
6-NAG-1
 Done

REVIEWED BY: [Signature] DATE 5/25/99
 DATA REVIEWER

ASME SECTION XI EXAMINATION; X YES - ANII SIGNATURE REQUIRED
 NO - ANII SIGNATURE NOT REQUIRED

ACCEPTED BY: [Signature] DATE 5/26/99
 BECO LEVEL III OR DESIGNEE

REVIEWED BY: [Signature] DATE 5/26/99
 ANII

**BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET**

EXAMINATION PERSONNEL:

Name *[Signature]* Level II

Name *[Signature]* Level IV

Beam Angle 60°

M. R. No. 19702067
Couplant Ultrasonic II 98375
Scanning Gain 600

Exam proc. 50.11 Rev. 4

EDS No. 99-E-550
CDS No. 99-C-549
L.D.S. 99-L-351
UTV No. 6027A
DATE 5/26/99

(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
G-N4A-1	SE-N02	N/A	I/+/-							1347 1353	78°F	N21
G-N4A-1	SE-N02	N/A	I/-/+			N				1353 1359	78°F	N21
G-N4B-1	SE-N02	N/A	I/+/-				A			1255 1301	78°F	N
G-N4B-1	SE-N02	N/A	I/-/+							1301 1307	78°F	N
	N	A				N	A			N	A	

Components meet ASME Section XI Yes Acceptance Criteria:

YES ☐ NO ☒ → FURTHER EVALUATION REQUIRED ☐

REMARKS: A) LIMITED EXAMINATION BETWEEN 21.875" TO 21.625" IS AND
31.875" TO 31.625" DUE TO THERMO COUPLER PASS ON WELD

ASME Section XI Examination:

X YES-ANII Signature Required
NO-ANII Signature Not Required

Evaluated By: *[Signature]* Level III Date 5/26/99

Accepted By: *[Signature]* Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: *[Signature]* Date 5-16-99

**BOSTON EDISON COMPANY
ULTRASONIC EXAMINATION DATA SHEET**

EXAMINATION PERSONNEL:

Name Am. Veldin Level II

Name Samir Mada Level II

Beam Angle 60°

M. R. No. 19702057
Couplant ULTRAC-11 98325
Scanning Gain 60.0

Exam proc. 6071 Rev. 4

EDS No. 99-E-550
CDS No. 99-C-549
L.D.S. 99-L-351
UTV No. 00274
DATE 5/26/99

(W) DIMENSION (L) DIMENSION

WELD COMP#	CONFIG	IND #	SCAN NO. DIRECTION & SURFACE	MAX. AMP.	LO WO	W _n SP _n	L ₁ SP _{L1}	L _n	L ₂ SP _{L2}	TIME OF EXAM START STOP	COMP. TEMP.	REMARKS
G-NAL-1	SG-NOZ	N/A	I/+/-							1320 1326	78°F	N NB1
G-NAL-1	SG-NOZ	N/A	I/-/+				N			1326 1332	78°F	N NB1
G-NAD-1	GE-NOZ	N/A	I/+/-				A			1412 1418	78°F	NB1
G-NAD-1	GE-NOZ	N/A	I/-/+							1418 1424	78°F	NB1
		N	A			N	A					

Components meet ASME Section XI Acceptance Criteria:

ASME Section XI Examination:

YES ☐ NO ☒ → FURTHER EVALUATION REQUIRED ☐

X YES-ANII Signature Required
____ NO-ANII Signature Not Required

REMARKS: A) Limited Examination Between 21.75" to 21.75" and
21.75" to 22.75" Due To Insufficient Probe On Weld

Evaluated By: P. Hesse Level III Date 5/26/99

Accepted By: B. Pauli Level III Date 5/26/99
BeCo Level III or Designee

ANII Review By: V. G. F. C. Date 5-26-99

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BOSTON EDISON COMPANY RECORD OF MAGNETIC PARTICLE EXAMINATION				DATA SHEET # 97-M-119	
ITEM ID/PIECE # RPV-SBW-0		SYSTEM 54 LOCATION DAYWELL		MR # 19600309	ISO/DWG NUMBER 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 # VALIDATION # POLE SPACING	QCI 50.20 N/A 6" MAX		EQUIPMENT IDENTIFICATION X AC HWAC SIN 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: M. Perkins 3/5/97 AV III 3/5/97 B. Perkins 3/5/97 AV III 3/6/97 BECO LEVEL III DATE ANI DATE			



Calibration Data Sheet

CDS No: 05-C-450
LDS No: 05-L-422-151
Page: 1 of 1
70°

Plant/Unit: DILLON STATION
System: RHR A
Component: 10-1A-15 / 10-1A-14
Line No.: 18-DEA-10
Procedure: END-NDE 9.23 Rev.: 0
Thermometer S/N: 230
Cal. Blk Temp.: 64 Comp Temp.: 75
Cal. Block No.: DIL 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-1-10

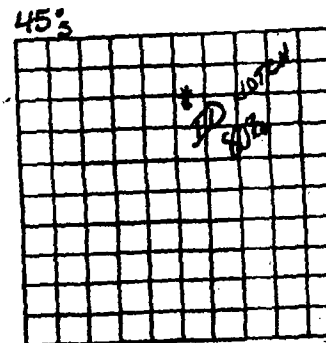
Cal Checks	Time
Initial Cal.:	<u>1104 / 1105</u>
Date:	<u>4/29/05</u>
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	<u>1752 / 1753</u>
Date:	<u>4/29/05</u>

Couplant

Type: ULTRAGEL II
Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>10-1A-14</u>	<u>SINGLE SIDE</u>	<u>N/A</u>	<u>X</u>	<u>NO</u>	<u>32.6</u> <u>72.8</u>
<u>10-1A-15</u>	<u>SINGLE SIDE</u>	<u>N/A</u>	<u>X</u>	<u>NO</u>	<u>32.6</u> <u>72.8</u>
Remarks:					
Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

Examiner: [Signature] Level: II Date: 4/30/05
Examiner: [Signature] 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.: 0075C4
Size: .375 Shape: Round
Freq.: 1.5 # Elm: 1
Angle: 45 Mode: SINE
Measured Angle: 45°
Wedge Style: MSWQL

Search Unit Cable

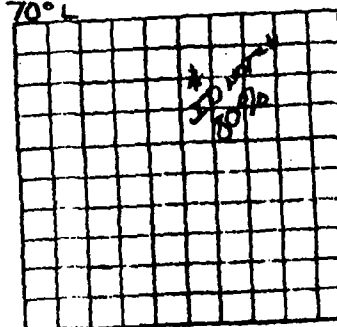
Type: RG-174
Length: 6.0' # Con.: 0

Instrument Settings

Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136P1200404157
Linearity Due: 5/2/05
Delay: 1.23 Range: 2.0
Mtl. Vel.: 123 Pulsar: 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: 39
Freq.: 2 # Elm: 2
Angle: 70 Mode: LOVE
Measured Angle: 70
Wedge Style: INTSICAL

Search Unit Cable

Type: RG-174
Length: 6.0' # Con.: 0

Instrument Settings

Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136P1200404157
Linearity Due: 5/2/05
Delay: 1.943 Range: 4.0
Mtl. Vel.: 230 Pulsar: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL

Reference Sensitivity

Axial: 70.8 Circ: 13.4

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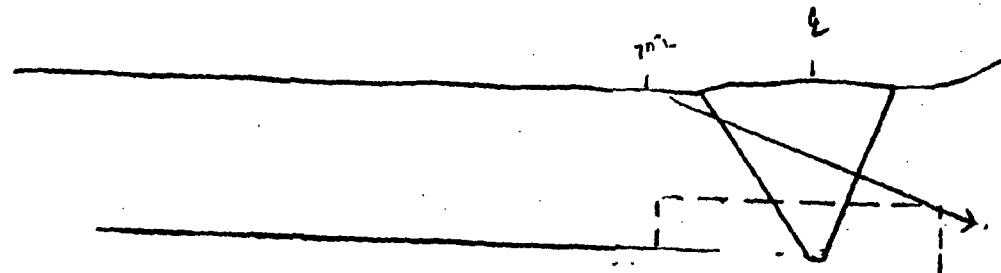


Sketch Sheet

Data Sheet No: 05-E-451-151Page: 2 of 2

Plant/Unit: <u>PILGRIM STATION</u>	System: <u>RHR A</u>	Component: <u>10-1A-14</u>	Procedure: <u>END-NDE-9.23</u> Revision: <u>0</u>
Examination Area / Weld No.: <u>10-1A-14</u>	DWG No.: <u>10-1 ^{Weld} _{10-1A-14}</u> <u>ISI-I-1-10</u>	Line No.: <u>18"-OCA-10</u>	Work Order: <u>03116631</u>

PIPE

FLUED HEAD
X51A1 FLOWExaminer: [Signature] Level: II Date: 4/30/05Examiner: N/A Level: Date: Reviewer: [Signature] Level: III Date: 4/30/05ANII: [Signature] Date: [Signature]

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Entergy

Examination Data Sheet

EDS No: 05-6-452-131

CDS No: 05-C-450-151

LDS No: 05-6-422-151

Page 52 of 2

Plant/Unit: PILGRIM STATION			System: RHR - A			Component: 10-1A-15			Procedure: END-NDE 923		
Work Order: 03116631			DWG No.: ISI-I-1-10 <i>10-1 7ms 5/1/05</i>			<input type="checkbox"/> Carbon Steel <input checked="" type="checkbox"/> Stainless Steel			Revision: 0 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: 8		
Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:	
			L1	L Max	L2	W	MP				
NDA											
Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Limitations: SINGLE SIDE EXAM 50% COVERAGE			
Remarks											
<div style="display: flex; justify-content: space-between;"> <div> Examiner: <u><i>[Signature]</i></u> Level: <u>II</u> Date: <u>4/30/05</u> </div> <div> Examiner: <u>DA</u> Level: <u> </u> Date: <u> </u> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> Reviewer: <u><i>[Signature]</i></u> Level: <u>III</u> Date: <u>4/30/05</u> </div> <div> ANII: <u><i>[Signature]</i></u> Date: <u>5/7/05</u> </div> </div>											

Back 187/240



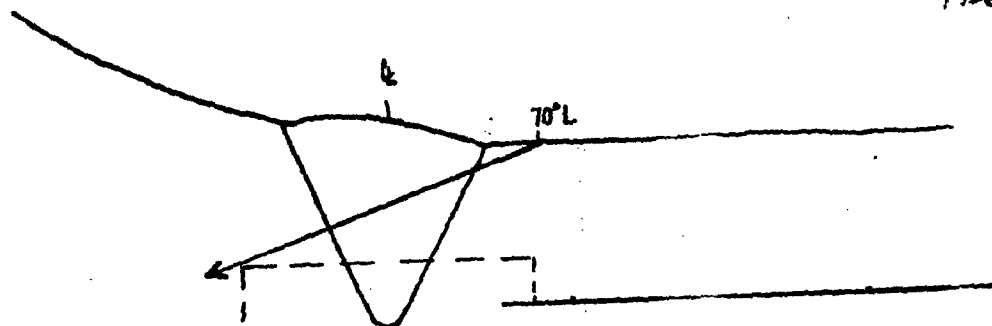
Sketch Sheet

Data Sheet No: 05-6-452-131Page: 2 of 2

Plant/Unit: <u>PILGRIM STATION</u>	System: <u>RHR-A</u>	Component: <u>10-1A-15</u>	Procedure: <u>END-NDE-9.23</u> Revision: <u>0</u>
Examination Area / Weld No.: <u>10-1A-15</u>	DWG No.: <u>ISI-I-1-10</u> ^{10-1 TMS status}	Line No.: <u>18" DCA-10</u>	Work Order: <u>03116631</u>

VALVE
29A

PIPE

1 FLOW

Examiner: <u>[Signature]</u> Level: <u>II</u> Date: <u>4/30/05</u>	Examiner: <u>N/A</u> Level: <u> </u> Date: <u> </u>
Reviewer: <u>Go Thel Schum</u> Level: <u>III</u> Date: <u>4/30/05</u>	ANII: <u>Carl Hanson</u> Date: <u>4/30/05</u>

Beca 1881240



Calibration Data Sheet

Figure 5

Plan/Unit Pilgrim 1
Company Scientech

Comp/System 10A-1A-6

Procedure No. 50.87

Rev/Chng. No. 1

Cal. Block No. 7.1-64

Cal. Block Temp 19 Therm S/N

Size 18" Sch. 0.755 "T"

☐ Ferritic ☒ Austenitic

Each Major CRT Div. = .3"/.5"

Cal. Direction: Axial Circ. Both

Scan Area: 1 to Weld ☒

11 to Weld ☒

CDS 03-C-136 135

LDS 03-L-123 8P 4/23/03

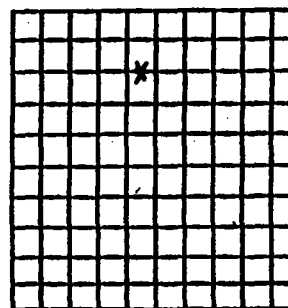
Page 1 of 1

Cal. Checks	Time
Initial Calib.	1335
Initial Calib. Date	4/21/03
Intermediate	
Intermediate	
Final Calib.	1432
Final Calib. Date	4/21/03

Couplant

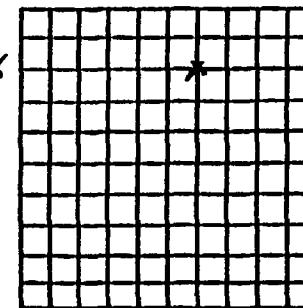
Type: Ultragel II

Batch: 00325



Search Unit #1

Manufacture: KBA
Serial No.: 00W8KO
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.: J111
Size: 2(25x50) Shape: rect
Freq: 2 MHz Style: GGP
Exam Angle: 60° Mode: Long
Measured Angle: 60°
Wedge Style: integral

Search Unit Cable
Type: RG-174
Length: 6' No. 0

Instrument Settings

Make/Model: Stavely/Sonic 136
Serial No.: 850K
Delay: .459 Range:
M'll Cal/Vol: .125 Pulsar: 334us
Damping: 500Ω Reject: OFF
Rep. Rate: 4 KHz Freq: 2.25
Filter: 1 Mode: P-E
Reference Sensitivity (Sens.)
Axial: 32.4 Circ: 32.4
SCAN SENS: 36.4

Search Unit Cable
Type: RG-174
Length: 6' No. 0

Instrument Settings

Make/Model: Stavely/Sonic 136
Serial No.: 850K
Delay: .630 Range: 3.0"
M'll Cal/Vol: .235 Pulsar: 250
Damping: 500Ω Reject: OFF
Rep. Rate: 4 KHz Freq: 2.25
Filter: 1 Mode: Real
Reference Sensitivity (Sens.)
Axial: 69dB Circ: 1/10
SCAN SENS: 69dB

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
10A-1A-6	upst		X		38.4
10A-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

EOB
Reviewers: [Signature] Further Evaluation Required? Yes ☐ No ☒

4/23/03

Entropy III

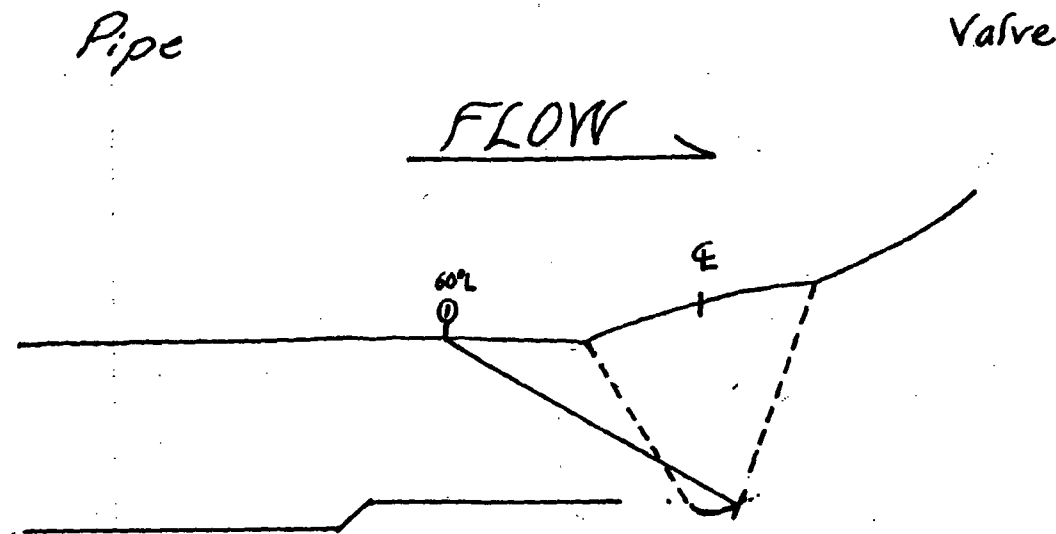
Page 189/240

[illegible]

Figure 6

log 190/242

Page: 2 of 2
Component: 10K-1A-6
Data Sheet: 03-E-136



✓ reviewed original
radiographs and
root convexity present.
Supports plots.

13 Pustais III
4/22/03

Examiner: *Paul T. Hayes*
Paul T. Hayes

Level II

Date 4/21/03

Page 191240



Calibration Data Sheet

Figure 5

Plan/Unit Pilgrim 1
Company Scientech

Comp/System 10R-1A-7/RHR

Procedure No. 50.87

Rev/Chng. No. 1

Cal. Block No. P11-64

Cal. Block Temp 60 Therm S/N

Size 1/2" Sch. 0.735 "T"

☐ Ferritic ☒ Austenitic

Each Major CRT Div. = 3"/1.3"

Cal. Direction: axial Circ. Both

Scan Area: 1 to Weld ☒
11 to Weld ☒

CDS 03-C-137

LDS 03-L-123

Page 1 of 1

Cal. Checks	Time
Initial Calib.	<u>0817</u>
Initial Calib. Date	<u>4/22/03</u>
Intermediate	
Intermediate	
Final Calib.	<u>1155</u>
Final Calib. Date	<u>4/22/03</u>

Couplant

Type: Ultragel II

Batch: 00325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>10R-1A-7</u>	<u>DNST</u>	<u>X</u>		<u>X</u>	<u>38.4</u>
<u>10R-1A-7</u>	<u>DNST</u>	<u>X</u>		<u>X</u>	<u>70dB</u>

Remarks/Reason for Incomplete Scan(s)

- ① Single Sided exam due to component configuration (Valve to Pipe)
- ② Maintained 5-20% ID roll

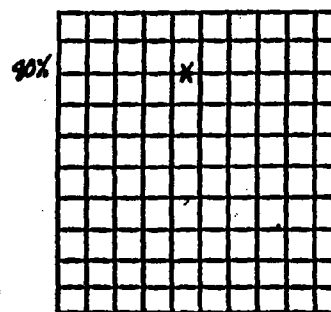
Examiners: [Signature] Level II Date 4/22/03

Level _____ Date _____

BRD

Reviewers: B. Perkins Further Evaluation Required? Yes ☐ No ☒

Entang II 4/23/03



Search Unit #1

Manufacture: KBA

Serial No.: 00W850

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. 0

Instrument Settings

Make/Model: Staveland/Sonic 136

Serial No.: 850K

Delay: .458 Range: 30"

M'll Cal/Vel: .125 Pulser: 334us

Damping: 500Ω Reject: OFF

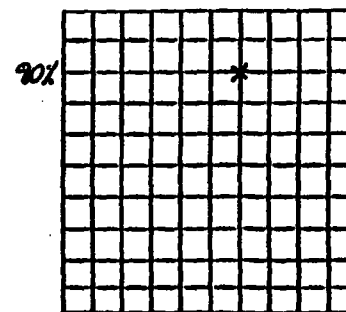
Rep. Rate: 4 KHz Freq: 2.25

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.: 51111

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. 0

Instrument Settings

Make/Model: Staveland/Sonic 136

Serial No.: 850K

Delay: .430 Range: 30"

M'll Cal/Vel: .235 Pulser: 250

Damping: 500Ω Reject: OFF

Rep. Rate: 4 KHz Freq: 2.25

Filter: 1 Mode: Dual

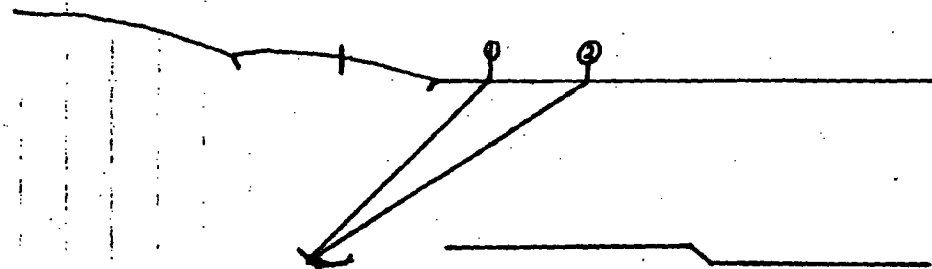
Reference Sensitivity (Sens.)

Axial: 70dB Circ: N/A

SCAN SENS: 70dB

Page 192/240

Page: 2 of 2
Component: 10K-1A-7
Data Sheet: 03-E-138



*also reviewed original
Radiographs of these
welds. Convex root pass
supports plots.

Examiner: ~~Paul T. Hayes~~ Level: II Date: 4/23/03

PRO

TB Perkins
NDE III
4/23/03

Boq 194/240



Calibration Data Sheet

Figure 5

Plant/Unit PNPS
 Company ENERGY
 Comp/System RWCU
 Procedure No. 11 50.87
 Rev/Clng. No. 0
 Cal. Block No. PIL-8A
 Cal. Block Temp. 14 1541 Therm S/N
 Size 6" Sch. "T"
☐ Ferritic ☒ Austenitic
 Each Major CRT Div. = 2"/.25"

L.D.S. No. 01-L-199
 C. Data Sheet # 01-C-316
 Page 1 of 1

Cal. Checks	Time
Initial Calib.	<u>1035/1146</u>
Initial Calib. Date	<u>5-4-01</u>
Intermediate	<u>N/A</u>
Intermediate	<u>N/A</u>
Final Calib.	<u>1802/1804</u>
Final Calib. Date	<u>5-4-01</u>

Couplant

Type: ULTRAGEL II
 Batch: 00325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>12-0-24 (45°)</u>	<u>DS</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>49.0dB</u>
<u>12-0-24 (70°)</u>	<u>DS</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>52.2dB</u>
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

Remarks/Reason for Incomplete Scan(s)

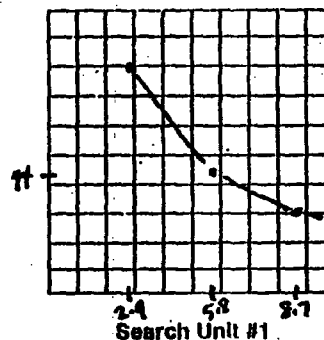
SINGLE SIDE SCAN DUE TO FLANGED HEAD TO PIPE CONFIGURATION.
56.64% COVERAGE
BP

Examiners: Daniel P. Thiel Level II Date 5-4-01

N/A Level N/A Date N/A

Reviewers: BP Thiel Further Evaluation Required? Yes ☒ No ☐

NOT III

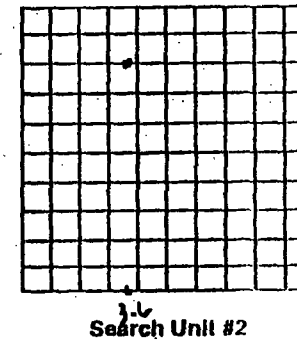


Manufacture: K6A
 Serial No.: 008V60
 Size: 375" Shape: Round
 Freq: 2.25 MHz Style: Comp G
 Exam Angle: 45° Mode: Shear
 Measured Angle: 46°
 Wedge Style: Non-Integral

Search Unit Cable
 Type: RG-174 U
 Length: 6' No. 0

Instrument Settings

Make/Model: STANLEY/SONIC 136
 Serial No.: 1009L
 Delay: 0.329" Range: 2.5"
 M'll Cal/Vol: 0.127% Pulsar: 222ns
 Damping: 500n Reject: OFF
 Rep. Rate: 4 kHz Freq: 2.25 MHz
 Filter: 1 Mode: P-E
 Reference Sensitivity (Sens.)
 Axial: 37.0dB Circ: 37.0dB
 SDH Sensitivity: 43.0dB/49.0dB



Manufacture: K6A
 Serial No.: 008V5R
 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

Instrument Settings

Make/Model: STANLEY/SONIC 136
 Serial No.: 1009L
 Delay: 0.469" Range: 2.5"
 M'll Cal/Vol: 0.127% Pulsar: 222ns
 Damping: 500n Reject: OFF
 Rep. Rate: 4 kHz Freq: 2.25 MHz
 Filter: 1 Mode: P-E
 Reference Sensitivity (Sens.)
 Axial: 53.2dB Circ: N/A
 SDH Sensitivity: 53.2dB

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Ultrasonic Examination Indication Report Sheet

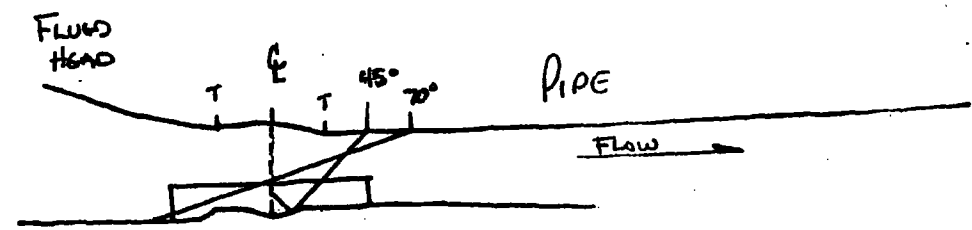
Page 1 of 2

Calibration Data Sheet Number: <u>01-C-316</u>		EDS: <u>01-E-317</u>		Lo Location: <u>Weld Center</u>		Start Time <u>1520</u>		Examiner: TC-1A-Level <u>Dennis P. Strickland</u>		
Item Identification: <u>12-0-24</u>		TEMP: <u>80°F</u>		Wo Location: <u>Weld E</u>		Finish Time <u>1600</u>		Examiner: TC-1A-Level <u>N/A</u>		
Component Information: Diameter(nom): <u>6"</u> Thickness: <u>.432"</u>				Procedure No. <u>50.87</u>		Rev. <u>0</u>		Date: <u>5-04-01</u> Weld Crown Width: <u>.55"</u>		
Ind #	Angle Used	% of DAC	Indication Length			Max		OD S.U. Loc.	Scan Direction I II	Remarks
			L 1	Max	L 2	W	MP			
<u>N/A</u>	<u>45°</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>N/A</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>I II</u>	<u>No RECORDABLE INDICATIONS</u>
<u>N/A</u>	<u>70°</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>N/A</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>I</u>	<u>No RECORDABLE INDICATIONS</u>
<u>N/A</u>										
Additional Remarks: <u>AMW V.176 DATE 5-5-01</u>										
Reviewer(s): <u>B. Pickens 5-5-01</u>										
Further Evaluation Required Yes <u>---</u> No <u>X</u>										

NOT III

Figure 6

WELD 12-0-24



Dennis P. Strickland II 5-4-01
DENNIS P. STRICKLAND

TOTAL AREA = .1659"		
SCANNED FROM:	59"	% : 05 54.01
(AX) DS	.12254"	76.56% 76.56%
(AX) US	.0859"	50.00%
(CIRC) CW	.0859"	50.00%
(CIRC) CCW	.0859"	50.00%
		226.56%

$226.56\% \div 4 (\text{SCAN DIRECTIONS}) = 56.64\%$

TOTAL COVERAGE = 56.64%

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Calibration Data Sheet

CDS No: 05-C-457-151
LDS No: 05-C-422-151
Page: 1 of 1


Plant/Unit: PILGRIM
System: CORE SPRAY
Component: 14-A-19
Line No.: 10-DC-14
Procedure: ENHANCE-923 Rev.: 0
Thermometer S/N: 230
Cal. Blk Temp.: 64° Comp Temp.: 67°
Cal. Block No.: PIL BA
☐ 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: ULTRAGER II
Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
14-A-19	SINGLE				39.0

Remarks

Further Evaluation Required: ☐ Yes ☒ No

Examiner: D. A. David on Level II Date: 4-24-05

Examiner: 4/12 Level: 3/1 Date: 4/12

Reviewer: CS Robert Shiner Level: III Date: 4/30/05

ANII: Curt Hanson Date: 2/10

FD X MATCH

Search Unit # 1

Manufacturer: KPA
Model: COMP 6
Serial No.: 0075C4
Size: .375 Shape: Round
Freq.: 1.5 # Elm: 1
Angle: 45° Mode: SHEAR
Measured Angle: 45°
Wedge Style: MSWCL

Search Unit Cable

Type: RG-174
Length: 6' # Con.: 0

Instrument Settings

Manufacturer: STANLEY
Model: SMIL 136
Serial No.: 06P1200NO41457
Linearity Due: 6-2-05
Delay: .283 Range: 2.00
Mtl. Vel.: 123 Pulser: 334
Damping: 500 Reject: 0.95
Rep Rate: 4K Freq.: 2.25
Filter: Z Mode: PE

Reference Sensitivity

Axial: 33.0 Circ: 33.0

10 ID * NOTCH

Search Unit # 2

Manufacturer: K&A RTO
Model: LONG TRLA
Serial No.: 00-728
Size: (2) 8 x 14 Shape: sq
Freq.: 20 # 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.: 136P1Z00H04H57
Linearity Due: 5-2-05
Delay: 943 Range: 4.0
Mtl. Vel.: 230 Pulsar: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 225
Filter: 2 Mode: DUAL

Reference Sensitivity

Axial: 68.6 Circ: $\frac{2}{1}$



Examination Data Sheet

EDS No: 05-E-458-151CDS No: 05-C-457-151LDS No: 05-L-422-151

Page: _____ of _____

Plant/Unit: <u>PILGRIM</u>			System: <u>CORE SPRAY</u>			Component: <u>VALVE TO PIPE</u> <u>14-A-19</u>			Procedure: <u>ENH-NDE-223</u> Revision: <u>0</u>		
Work Order: <u>03116643</u>			DWG No.: <u>ISI I 14-1</u>			<input type="checkbox"/> Carbon Steel <input checked="" type="checkbox"/> Stainless Steel			Start Time/Date: <u>1510 4-29-05</u> Finish Time/Date: <u>1540 4-29-05</u>		
Examination Area / Weld No.: <u>14-A-19</u>			Line No.: <u>10-DC-14</u>			Size: <u>10"</u> Schedule: <u>.593 THK.</u>			Lo Location: <u>T.D.C.</u> Wo Location: <u>WELD 2</u>		
Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:	
			L1	L Max	L2	W	MP				
										<u>NO RECORDABLE INDICATIONS</u>	
Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Limitations: <u>VALVE</u>					
Remarks											
Examiner: <u>D/-1</u> Level: <u>II</u> Date: <u>4-29-05</u>						Examiner: <u>N/A</u> Level: <u>N/A</u> Date: <u>N/A</u>					
Reviewer: <u>W. Thibault</u> Level: <u>III</u> Date: <u>4/30/05</u>						ANII: <u>Curtis</u> Date: <u>5/1/05</u>					

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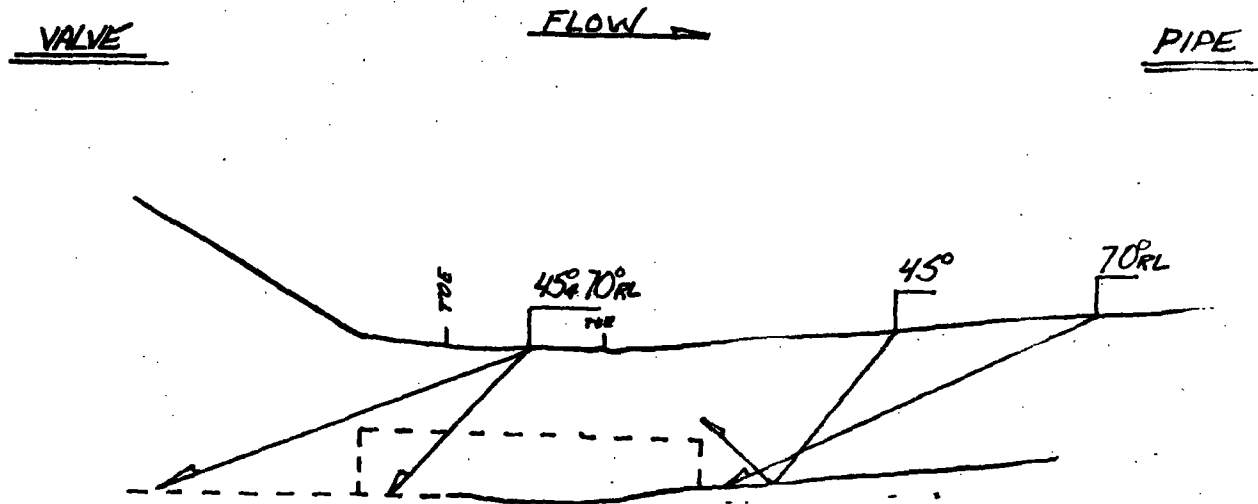


Sketch Sheet

Data Sheet No: 05-E-458-131

Page: 2 of 2

Plant/Unit: <u>PILGRIM</u>	System: <u>CORE SPRAY</u>	Component: <u>14-A-19</u>	Procedure: <u>ENN-NDE - 9.23</u> Revision: <u>0</u>
Examination Area / Weld No.: <u>14-A-19</u>	DWG No.: <u>ISI I 14-1</u>	Line No.: <u>10-DL-14</u>	Work Order: <u>03116643</u> <u>ISI I 14-1 DWG NO.</u>



50% CRV. DUE TO SINGLE SIDE EXAM
AS PER ENN-NDE - 9.23 REV. 0 PAR. 1.8

Examiner: [Signature] Level: II Date: 4-29-05

Examiner: [Signature] Level: II Date: 4/29

Reviewer: [Signature] Level: III Date: 4/30/05

ANII: [Signature] Date: 5/1/05

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Calibration Data Sheet

Figure 5

Plant/Unit PNPS
 Company ENERGY
 Comp/System CORG SPRAY
 Procedure No. ITI 50.87
 Rev/Chng. No. 0
 Cal. Block No. PIL-8A
 Cal. Block Temp. 62.75 Therm S/N
 Size 10" Sch. .513" T
☐ Ferritic ☒ Austenitic
 Each Major CRT Div. = .25"
 Cal. Direction: ☒ Axial ☐ Circ. ☐ Doli
 Scan Area: ☒ to Weld ☐ to Weld

CDS 01-C-193

LDS 01-L-141

Cal. Checks	Time
Initial Calib.	0130/1015
Initial Calib. Date	4-26-01
Intermediate	N/A
Intermediate	N/A
Final Calib.	1553/1554
Final Calib. Date	4-26-01

Compliant
 Type: ULTRAGEL II
 Batch: 00323

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
14-B-17	US	N/A	✓	N/A	47.2 67.8
14-B-20	US	N/A	✓	N/A	47.2 67.8
	N				
	A				

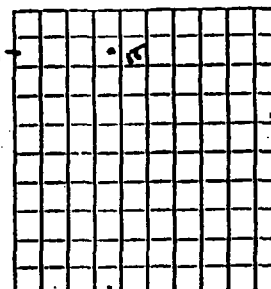
Remarks/Reason for Incomplete Scan(s)

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 ☒



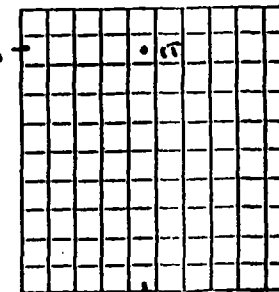
Search Unit #1

Manufacture: KBA
 Serial No.: 00804R
 Size: 3.75" Shape: ROUND
 Freq: 1.5 MHz Style: Comp G
 Exam Angle: 45° Mode: SE
 Measured Angle: 48°
 Wedge Style: Non-Integral

Search Unit Cable
 Type: RG-174V
 Length: 6' No. 0

Instrument Settings

Make/Model: SMUTLEY/Sonic 136
 Serial No.: 1009L
 Delay: 0.323" Range: 2.5"
 M'II Cal/Vol: 0.25% Pulsar: 334uS
 Damping: 500u Reject: OFF
 Rep. Rate: 4 KHz Freq: 2.25 MHz
 Filter: 2 Mode: P/E
 Reference Sensitivity (Sens.)
 Axial: 35.2 dB Circ: 35.2 dB
 SCAN SENS.: 47.2 dB / 47.2 dB



Search Unit #2

Manufacture: MEGASONIC
 Serial No.: J1121
 Size: 2.25" x 2.25" Shape: Rect.
 Freq: 2 MHz Style: CGD
 Exam Angle: 60° Mode: Comp
 Measured Angle: 58.9°
 Wedge Style: Integral

Search Unit Cable
 Type: RG-174V
 Length: 6' No. 0

Instrument Settings

Make/Model: SMUTLEY/Sonic 136
 Serial No.: 1009L
 Delay: 0.614" Range: 2.5"
 M'II Cal/Vol: 0.232% Pulsar: 250uS
 Damping: 500u Reject: OFF
 Rep. Rate: 4 KHz Freq: 2.25 MHz
 Filter: 2 Mode: Duplex
 Reference Sensitivity (Sens.)
 Axial: 61.0 dB Circ: N/A
 SCAN SENS.: 67 dB

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Ultrasonic Examination Indication Report Sheet

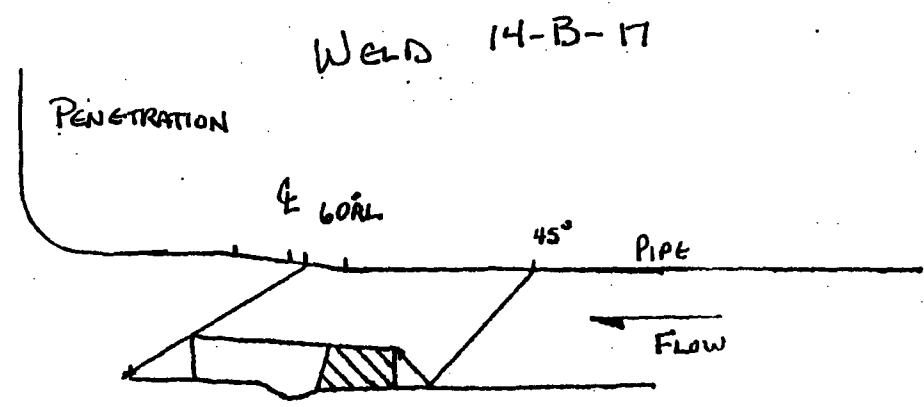
Page 2 of 4

EDS No: <u>Q1-E-194</u>		CDS No: <u>Q1-C-193</u>		Lo Location: <u>For Demo Curve</u>		Start Time: <u>1450</u>		Examiner: TC-1A-Level <u>II</u> <u>Dennis P. Strickland</u>		
Item Identification: <u>14-B-17</u>		TEMP: <u>80°F</u>		Wo Location: <u>Weld 4</u>		Finish Time: <u>1530</u>		Examiner: TC-1A-Level <u>II</u> <u>Dan M. Smith</u>		
Component Information: Diameter(nom): <u>10"</u> Thickness: <u>.593"</u>				Procedure No: <u>ITI 50.87</u>		Rev: <u>0</u>		Date: <u>4-26-01</u> Weld Crown Width: <u>.6"</u>		
Ind #	Angle Used	% of DAC	Indication Length			Max		OD S.U. Loc.	Scan Direction I II	Remarks
			L 1	Max	L 2	W	MP			
N/A	45°				N/A				I II	No RECORDABLE INDICATIONS
N/A	60° RL				N/A				I	No RECORDABLE INDICATIONS
N A										
ANII: <u>[Signature]</u> Date <u>4-28-01</u>										
Reviewer(s) <u>[Signature]</u> Date <u>4/27/01</u> Reviewer(s) <u>B. P. [Signature]</u> Date <u>4/26/01</u>										
Component <input checked="" type="checkbox"/> Meets, <input type="checkbox"/> Does Not Meet ASME Section XI 1989 Further Evaluation Required Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>										

Figure 6

Page 203/240

CDS 01-C-193
 LDS 01-L-141



Dennis P. Strickland 4-26-01
 DENNIS P. STRICKLAND

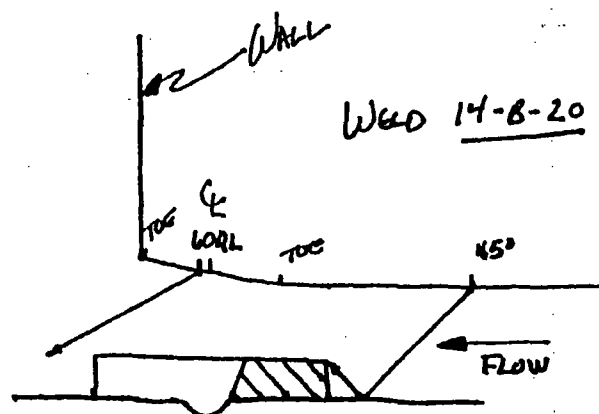
Total Area = .23 sq"

SCANNING 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 %
		<u>234.82 %</u>

$\frac{234.82\%}{4} = 58.7\%$ TOTAL COVERAGE
 (Scan Directions)

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PAGE 4 4
 CDS 01-C-193
 LDS 01-L-141



TOTAL AREA = .26 sq"

Dennis P. Strickland 4-26-01
 DENNIS P. STRICKLAND

SCANNED FROM :	Sq " :	% :
(AX) DS SIDE	.09859"	37.69%
(AX) US SIDE	.269"	100.00%
(Circ) CW SCANS	.1359"	50.00%
(Circ) CCW SCANS	.1359"	50.00%
		<u>237.69%</u>

237.69%
 4 (SCAN DIRECTIONS) = 59.42% TOTAL COVERAGE

Bag 205/240



Calibration Data Sheet

Figure 5

Plan/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. 161°F Therm S/N
Size 3" Sch. 438" T

Each Major CRT Div. = .25"
Cal. Direction: ☒ Axial ☐ Circ. Both
Scan Area: 1 to Weld
11 to Weld

CDS 01-C-252

LDS 01-L-199

Cal. Checks	Time
Initial Calib.	<u>0824/0837</u>
Initial Calib. Date	<u>05-01-01</u>
Intermediate	<u>N</u>
Intermediate	<u>A</u>
Final Calib.	<u>1533/1536</u>
Final Calib. Date	<u>05-01-01</u>

Couplant

Type: ULTRAGEL II

Batch: 00325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>1-SD-10R</u>	<u>US</u>	<u>N/A</u>	<u>✓</u>	<u>N/N</u>	<u>52.0dB</u> <u>68.0dB</u>
		<u>N</u>			
			<u>A</u>		

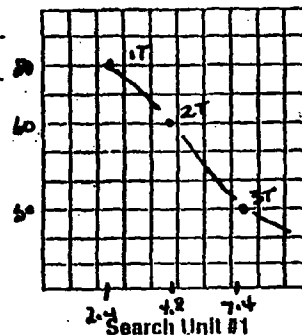
Remarks/Reason for Incomplete Scan(s)
SINGLE SIDED EXAM DUE TO PIPE TO VALVE CONFIGURATION.

Examiners: Dennis P. Hurd Level II Date 05-01-01

[Signature] Level III Date 5/1/01

Reviewers: B. Perkins Further Evaluation Required? Yes ☐ No ☒

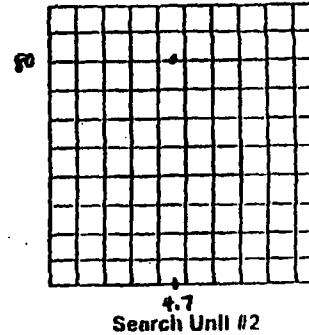
PDI-TL



Manufacture: KBA
Serial No.: 006N3L
Size: 1.25" Shape: ROUND
Freq: 5.0MHz Style: Comp G
Exam Angle: 45° Mode: Shear
Measured Angle: 45°
Wedge Style: Non-Integral

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Instrument Settings
Make/Model: STANLEY/SONIC 136
Serial No: 1009L
Delay: 0.236" Range: 2.5"
M'll Cal/Vol: 0.130% Pulser: POAS
Damping: 500u 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



Manufacture: KBA
Serial No.: 006YWK
Size: 1.25" Shape: ROUND
Freq: 5.0MHz Style: Comp G
Exam Angle: 70° Mode: Shear
Measured Angle: 70°
Wedge Style: Non-Integral

Search Unit Cable
Type: RG-174U
Length: 6' No. 0

Instrument Settings
Make/Model: STANLEY/SONIC 136
Serial No: 1009L
Delay: 0.236" Range: 2.5"
M'll Cal/Vol: 0.131% Pulser: POAS
Damping: 500u 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



Ultrasonic Examination Indication Report Sheet

Page 1 of 4

CDS No: <u>PI-C-252</u>		EDS No: <u>PI-E-253</u>		Lo Location: <u>Top Deck Center</u>		Start Time: <u>1000</u>		Examiner: TC-1A-Level <u>Dennis P. Sprickland II</u>		
Item Identification: <u>1-SD-10R</u>		TEMP. <u>72°F</u>		Wo Location: <u>Weld 6</u>		Finish Time: <u>1100</u>		Examiner: TC-1A-Level <u>[Signature]</u>		
Component Information: Diameter(nom): <u>3"</u> Thickness: <u>.438"</u>				Procedure No. <u>ITI 50.71</u>		Rev. <u>5</u>		Date: <u>05-01-01</u> Weld Crown Width: <u>1.1"</u>		
Ind #	Angle Used	% of DAC	Indication Length			Max		OD S.U. Loc.	Scan Direction	Remarks
			L 1	Max	L 2	W	MP			
N/A	45°				N/A				↓ II	No RECORDABLE INDICATIONS
N/A	70°				N/A				↓	No RECORDABLE INDICATIONS
N A										
ANII: <u>[Signature]</u> Date <u>5-3-01</u>										
Reviewer(s) <u>N/A</u> Date <u>N/A</u> Reviewer(s) <u>B. P. [Signature]</u> Date <u>5/6/01</u>										
Component <input checked="" type="checkbox"/> Meets, <input type="checkbox"/> Does Not Meet ASME Section XI 1989 Further Evaluation Required Yes <u> </u> No <u>X</u>										

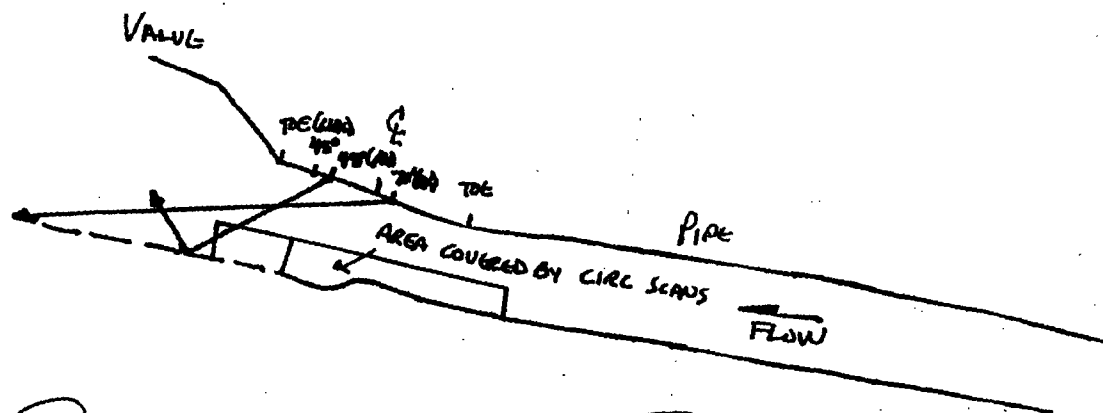
Figure 6

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Instruction No. 50.71
Rev. 5
Attachment A
Page 24 of 26

Page 2 of 2
 EDS: 01-E-253

WELD 1-SD-10R



Dennis P. Hild II 501-01

TOTAL AREA .28 sq"

SCAN FROM:		
(Ax)	DS SCAN	59° : 0%
(Ax)	US SCAN	.28 sq" 100%
(Circ)	CCW SCANS	.28 sq" 100%
		.245 sq" 75%
(Circ)	CW SCANS	.245 sq" 75%
		<u>350%</u>

350% ÷ 4 (SCAN DIRECTIONS) = 87.5% TOTAL COVERAGE

Page 2 of 2



Calibration Data Sheet

Figure 5

Plant/Unit PNP3
Company ENTERGY

LDS NO: 01-L-140
C. Data Sheet # 01-C-155
Page 1 of 2

Comp/System 2B-HB-1
Procedure No. ITI-5087
Rev/Chng. No. 0
Cal. Block No. P11-63
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: Bolt

Scan Area: 11 to Weld
11 to Weld

Cal. Checks	Time
Initial Calib.	<u>1220</u>
Initial Calib. Date	<u>04/22/01</u>
Intermediate	<u>N</u>
Intermediate	<u>A</u>
Final Calib.	<u>1830</u>
Final Calib. Date	<u>04/22/01</u>

Couplant

Type: ULTRAGEL
Batch: 98325

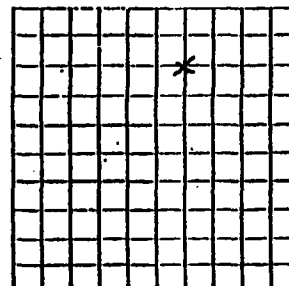
Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>2B-HB-1 45°</u>	<u>D/S</u>	<u>N</u>	<u>A</u>	<u>N</u>	<u>53.0</u>
<u>2B-HB-1 60°</u>	<u>D/S</u>	<u>X</u>	<u>N</u>	<u>A</u>	<u>62.6</u>

Remarks/Reason for Incomplete Scan(s)
ONE SIDED EXAM DUE TO REDUCER, D/S
SIDE ONLY. TOTAL COVERAGE ACHIEVED
15 75%. SEE ATTACHED PLOT.

Examiners: Amey Chavara Level II Date 04/22/01

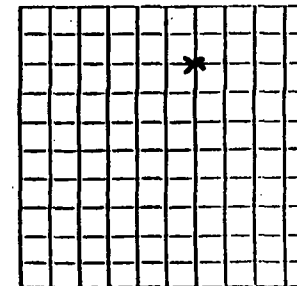
Mike A. Level II Date 4-22-01

Reviewers: B. P. ... Further Evaluation Required? Yes No
NOT III



Search Unit #1

Manufacture: KBA
Serial No.: 0080LR
Size: 3.75 Shape: Round
Freq: 1.5MHz Style: M5000-Comp
Exam Angle: 45° Mode: SHEAR
Measured Angle: 44°
Wedge Style: ADD- INTEGRAL



Search Unit #2

Manufacture: KBA
Serial No.: M15116
Size: .50" Shape: Round
Freq: 1.5" Style: M5000
Exam Angle: 60° Mode: SHEAR
Measured Angle: 58°
Wedge Style: NON- INTEGRAL

Search Unit Cable

Type: BG-174
Length: 12' No. 1

Search Unit Cable

Type: BG-174
Length: 6' No. 1

Instrument Settings

Make/Model: STANLEY/SUNC 136
Serial No: 1008L
Delay: 293 Range: 2.05
M'll Cal/Vel: 121 Pulser: 334
Damping: 5000 Reject: OFF
Rep. Rate: 4K Freq: 2.25
Filter: 1 Mode: PIE
Reference Sensitivity (Sens.)
Axial: 41.0 Circ: 41.0
SDH Sensitivity: N/A

Instrument Settings

Make/Model: STANLEY/SUNC 136
Serial No: 1008L
Delay: 274 Range: 2.88"
M'll Cal/Vel: 121 Pulser: 334
Damping: 5000 Reject: OFF
Rep. Rate: 4K Freq: 2.25
Filter: 1 Mode: PE
Reference Sensitivity (Sens.)
Axial: 56.6 Circ: 56.6
SDH Sensitivity: N/A

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Figure 5



Calibration Data Sheet

Plant/Unit PNP3Company EUTRACYComp/System 2R-HB-1Procedure No. ITI 50.87Rev/Chng. No. 0Cal. Block No. PIL-63Cal. Block Temp. 12.17899 Therm S/NSize 12" Sch. .850" "T"
☐ Ferritic
 ☒ Austenitic
Each Major CRT Div. = .269Cal. Direction: Axial Circ. BothScan Area  Weld

to Weld

 LOS No: 01-L-148
 C. Data Sheet # 01-C-155
Page 2 of 2

Cal. Checks	Time
Initial Calib.	<u>1225</u>
Initial Calib. Date	<u>4-22-01</u>
Intermediate	<u>N/A</u>
Intermediate	<u>N/A</u>
Final Calib.	<u>1830</u>
Final Calib. Date	<u>4-22-01</u>

Couplant

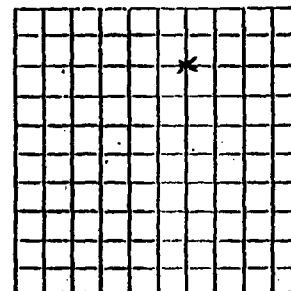
Type: ULTRAGELBatch: 98325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>2R-HB-1</u>	<u>D13</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>	<u>71.2</u>

Remarks/Reason for Incomplete Scan(s)

SCANNED AT REFERENCE SENSITIVITY,
MAINTAINED 20% ID ROLL
Examiners: [Signature] Level II Date 04/22/01Level II Date 4-22-01Reviewers: [Signature] Further Evaluation Required? Yes ☐ No ☒

NDT III



Search Unit #1

Manufacture: SIGMASerial No.: 22AF9001Size: 2(14x8) Shape: RECT.Freq: 2MHz Style: SDAExam Angle: 60° Mode: LONGMeasured Angle: 59°Wedge Style: INTEGRAL

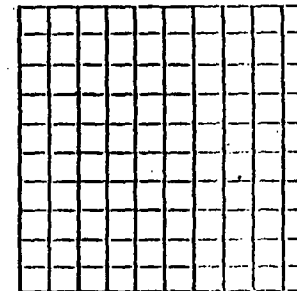
Search Unit Cable

Type: BXLIMOLength: 6' No. 2

Instrument Settings

Make/Model: STANLEY/SONICSerial No.: 1008LDelay: 848 Range: 2.69°M'll Cal/Vol: 233 Pulsar: 250Damping: 500 Reject: OFFRep. Rate: 4K Freq: 225Filter: 2 Mode: PE

Reference Sensitivity (Sens.)

Axial: 71.2 Circ: 71.2SDH Sensitivity: N/A

Search Unit #2

Manufacture: _____

Serial No.: _____

Size: _____ Shape: _____

Freq: _____ Style: _____

Exam Angle: _____ Mode: _____

Measured Angle: _____

Wedge Style: _____

Search Unit Cable

Type: _____

Length: _____ No. _____

Instrument Settings

Make/Model: _____

Serial No.: _____

Delay: _____ Range: _____

M'll Cal/Vol: _____ Pulsar: _____

Damping: _____ Reject: _____

Rep. Rate: _____ Freq: _____

Filter: _____ Mode: _____

Reference Sensitivity (Sens.)

Axial: _____ Circ: _____

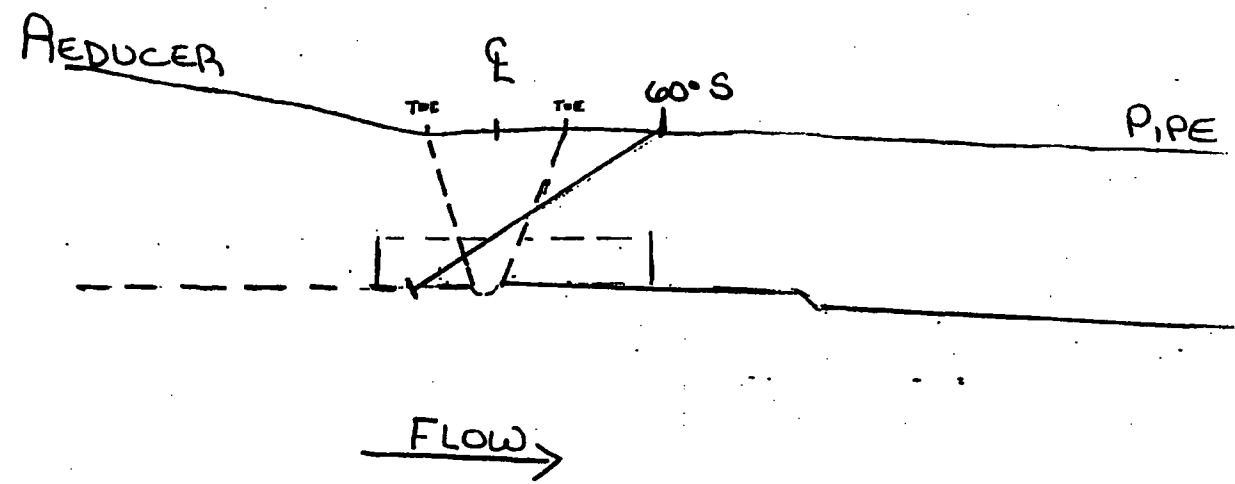
SDH Sensitivity: _____

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[illegible]

Figure 6

COMPONENT
2R-HB-1

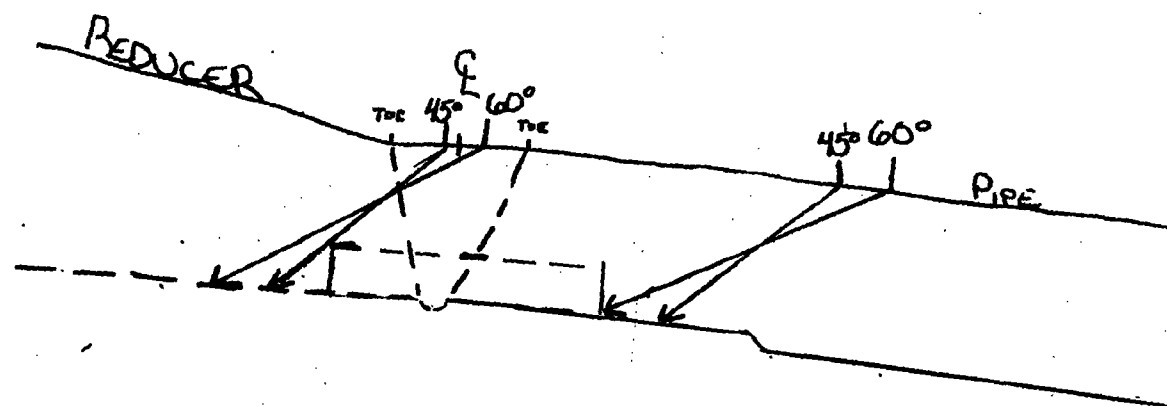


Qeg 2/2/240

Amy E Krauser LVII
04/22/01
[Signature] LVII
4-22-01

EDS# 01 156
P9 383

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%

Amy C Krauser LV II
04/22/01

[Signature] LV II
4-22-01

Page 2/3/240



Calibration Data Sheet

Figure 5

Plant/Unit PWP3
Company ENTERGY

LOS No: 01-L-140
C. Data Sheet # 01-C-157
Page 1 of 2

Comp/System 2R-HB-4
Procedure No. TTI-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° 20560° 288°

Cal. Direction: Axial Circ. Bolt

Scan Area: 11 to Weld

Cal. Checks	Time
Initial Calib.	<u>1220</u>
Initial Calib. Date	<u>04/22/01</u>
Intermediate	<u>N</u>
Intermediate	<u>A</u>
Final Calib.	<u>1830</u>
Final Calib. Date	<u>04/22/01</u>

Couplant

Type: ULTRAGEI
Batch: 98325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>2R-HB-4 45°</u>	<u>D/S</u>	<u>N</u>	<u>A</u>	<u>N</u>	<u>53.0</u>
<u>2R-HB-4 60°</u>	<u>D/S</u>	<u>N</u>	<u>A</u>	<u>N</u>	<u>62.6</u>

Remarks/Reason for Incomplete Scan(s)

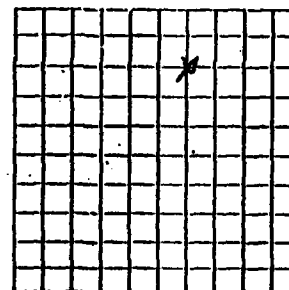
ONE SIDED EXAM DUE TO REDUCER. SCANNED D/S ONLY. TOTAL COVERAGE ACHIEVED IS 75%. SEE ATTACHED PLOT

Examiners: Jimmy E. Kramer Level II Date 04/22/01

Jim H.A. Level II Date 4-22-01

Reviewers: B. Parker Further Evaluation Required? Yes ☒ No ☐

NOT III



ID
Search Unit #1

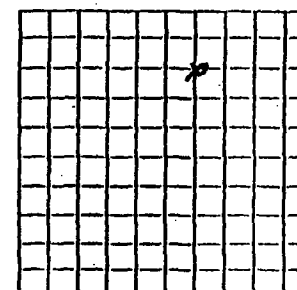
Manufacture: KBA
Serial No.: 00804R
Size: 375 Shape: Round
Freq: 1.5MHz Style: Misc. Comp
Exam Angle: 45° Mode: SHEAR
Measured Angle: 44°
Wedge Style: ADD- INTEGRAL

Search Unit Cable

Type: RG-174
Length: 12' No. 1

Instrument Settings

Make/Model: STANLEY/Sonic 136
Serial No: 1008L
Delay: 293 Range: 2.05
M'll Cal/Vel: 121 Pulsar: 334
Damping: 500n Reject: OFF
Rep. Rate: 4K Freq: 2.25
Filter: 1 Mode: PIE
Reference Sensitivity (Sens.)
Axial: 41.0 Circ: 41.0
SDH Sensitivity: N/A



ID
Search Unit #2

Manufacture: KBA
Serial No.: M15116
Size: 50" Shape: Round
Freq: 1.5" Style: Misc. Comp
Exam Angle: 60° Mode: SHEAR
Measured Angle: 58°
Wedge Style: ADD- INTEGRAL

Search Unit Cable

Type: RG-174
Length: 6' No. 1

Instrument Settings

Make/Model: STANLEY/Sonic 136
Serial No: 1008L
Delay: 274 Range: 2.88"
M'll Cal/Vel: 121 Pulsar: 334
Damping: 500n Reject: OFF
Rep. Rate: 4K Freq: 2.25
Filter: 1 Mode: PE
Reference Sensitivity (Sens.)
Axial: 56.6 Circ: 56.6
SDH Sensitivity: N/A



Calibration Data Sheet

Figure 5

Plant/Unit PNPS
Company ENTERGY

LOS No: 01-L-140
C. Data Sheet # 01-C-157
Page 2 of 2

Comp/System 2B-HB-4
Procedure No. ITI 50.87
Rev/Chng. No. 0
Cal. Block No. PIL-63
Cal. Block Temp. 72 Merg S/N
Size 12" Sch. 850 T"

☐ Ferritic ☒ Austenitic

Each Major CRT Div. = 269

Cal. Direction: Axial Circ. Both

Scan Area 1 to Weld
11 to Weld

Cal. Checks	Time
Initial Calib.	<u>1225</u>
Initial Calib. Date	<u>04/22/01</u>
Intermediate	<u>N/A</u>
Intermediate	<u>N/A</u>
Final Calib.	<u>1830</u>
Final Calib. Date	<u>04/22/01</u>

Couplant

Type: ULTRAGEL
Batch: 98325

Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>2B-HB-4</u>	<u>D/S</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>	<u>71.2</u>

Remarks/Reason for Incomplete Scan(s)

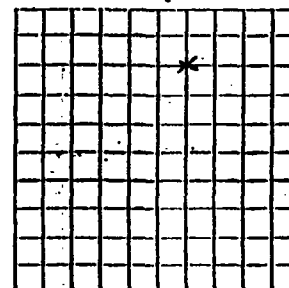
SCANNED AT REFERENCE SENSITIVITY, MAINTAINING
20% ID ROLL

Examiners: Amy E. Krause Level II Date 04/22/01

John J. Hoff Level II Date 4-22-01

Reviewers: B. P. P. Further Evaluation Required? Yes ☒ No ☐

NOT III



Search Unit #1

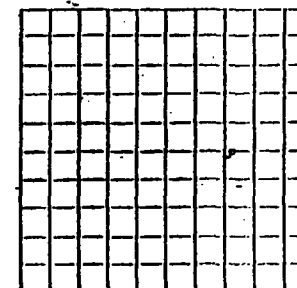
Manufacture: SIGMA
Serial No.: 22AF9001
Size: 2(14x8) Shape: RECT.
Freq: 2MHZ Style: SDA
Exam Angle: 60° Mode: LONG
Measured Angle: 59°
Wedge Style: INTEGRAL

Search Unit Cable

Type: Box/Limo
Length: 6' No. 2

Instrument Settings

Make/Model: STAVELAND/SONIC
Serial No: 1008L
Delay: 848 Range: 2.69
M'll Cal/Vol: 233 Pulsar: 250
Damping: 500 Reject: OFF
Rep. Rate: 4K Freq: 225
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: _____

Search Unit Cable

Type: _____
Length: _____ No. _____

Instrument Settings

Make/Model: _____
Serial No: _____
Delay: _____ Range: _____
M'll Cal/Vol: _____ Pulsar: _____
Damping: _____ Reject: _____
Rep. Rate: _____ Freq: _____
Filter: _____ Mode: _____
Reference Sensitivity (Sens.)
Axial: _____ Circ: _____
SDH Sensitivity: _____

Ultrasonic Examination Indication Report Sheet

Page 1 of 2[illegible]

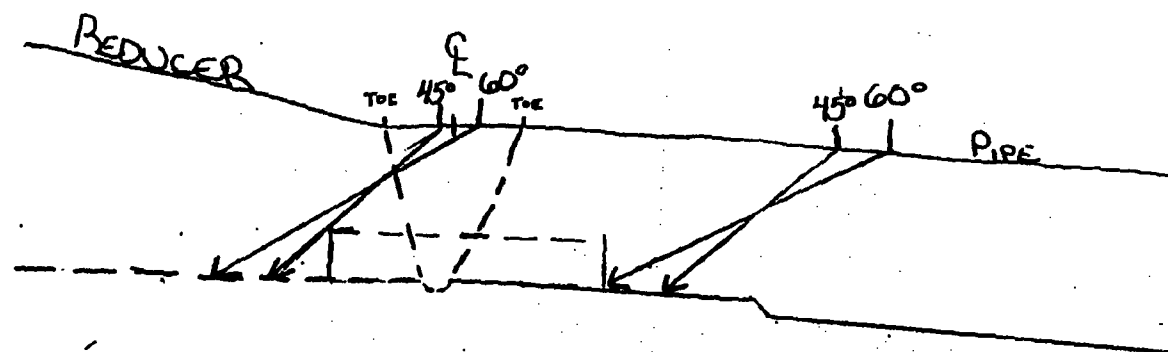
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Instruction No. 50.87
Rev. 0
Page 25 of 27

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%

Amy Elkammer LVII
04/22/01

[Signature] LVII
4-22-01

Log 217240


**Entergy****ENN
NUCLEAR
MANAGEMENT
MANUAL****QUALITY RELATED
NON-ADMINISTRATIVE PROCEDURE****INFORMATIONAL USE****ENN-NDE-9.41 Revision 0****Page 15 of 20****ATTACHMENT 9.4****LIQUID PENETRANT EXAMINATION REPORT**

Page 1 of 1

<input type="checkbox"/> IP2	<input type="checkbox"/> IP3	<input type="checkbox"/> JAF	<input checked="" type="checkbox"/> PNPS	<input type="checkbox"/> VY	Report No: 05-P-432-151
WORK AUTHORIZATION 03116627		ISO/DWG N/A	COMPONENT/WELD/ITEM # CRDM		Procedure No: ENN-NDE-9.41 REV. 0
MAT'L TYPE <input type="checkbox"/> CS <input checked="" type="checkbox"/> SS	TEMPERATURE EXAM SURF. 80°F	TEMP. INST. # 208 DUE DATE 8-9-05 <input checked="" type="checkbox"/> M&E LOGGED	SURFACE CONDITION <input checked="" type="checkbox"/> WELDED <input type="checkbox"/> GROUND <input type="checkbox"/> FORGED <input type="checkbox"/> COATED <input type="checkbox"/> BRUSHED <input type="checkbox"/> MACHINED <input type="checkbox"/> SAND-BLASTED <input type="checkbox"/>		
TECHNIQUE <input checked="" type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> WATER WASHABLE					
METHOD <input checked="" type="checkbox"/> VISIBLE <input type="checkbox"/> 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 # 524641		PENETRANT Manufacturer: SHERWIN Type: DOUBL CHEK DP-40 BATCH # B/N 517-E1	DEVELOPER Manufacturer: SHERWIN Type: DOUBL CHEK D-100 BATCH # A19887 CB 8766		
EXAMINATION RESULTS					
PART IDENTIFICATION	ACC	REJ	IND. CODE	REMARKS*	
CRDM WELD - Loc 30-51	<input checked="" type="checkbox"/>		4	LIMITED TO 50% WELD AREA DUE TO ACCESSABILITY	
CRDM WELD - Loc 14-51	<input checked="" type="checkbox"/>		4	LIMITED TO 70% WELD AREA DUE TO ACCESSABILITY	
ACCEPTANCE CRITERIA: ASME SEC. XI LD 4-11.25					
% 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 Douglas L Bockay 4-19-05			EXAMINED BY/LEVEL/DATE N/A		
Company FINAL REVIEW LEVEL/DATE CS Patrick Shum 111 4/24/05			ANII REVIEW/DATE Chris Hansen 5/8/05		

* QA Category and ASME XI Class

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 Entergy ENN NUCLEAR MANAGEMENT MANUAL	QUALITY RELATED NON-ADMINISTRATIVE PROCEDURE	ENN-NDE-9.41 Revision 0
	INFORMATIONAL USE	Page 15 of 20

ATTACHMENT 9.4
LIQUID PENETRANT EXAMINATION REPORT

Page 1 of 1

<input type="checkbox"/> IP2	<input type="checkbox"/> IP3	<input type="checkbox"/> JAF	<input checked="" type="checkbox"/> PNPS	<input type="checkbox"/> VY	Report No: <u>05-P-433-151</u>
WORK AUTHORIZATION <u>03116627</u>		ISO/DWG <u>N/A</u>	COMPONENT/WELD/ITEM # <u>CRDM</u>		Procedure No: <u>ENN-NDE-9.41</u> REV. <u>0</u>
MAT'L TYPE <input type="checkbox"/> CS <input checked="" type="checkbox"/> SS	TEMPERATURE <u>EXAM SURF. 80°F</u>	TEMP. INST. # <u>208</u> DUE DATE <u>8-9-05</u> <input checked="" type="checkbox"/> M&TE LOGGED	SURFACE CONDITION <input checked="" type="checkbox"/> WELDED <input type="checkbox"/> GROUND <input type="checkbox"/> FORGED <input type="checkbox"/> COATED <input type="checkbox"/> BRUSHED <input type="checkbox"/> MACHINED <input type="checkbox"/> SAND-BLASTED <input type="checkbox"/>		
TECHNIQUE <input checked="" type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> WATER WASHABLE					
METHOD <input checked="" type="checkbox"/> VISIBLE <input type="checkbox"/> FLUORESCENT		BLACK LIGHT MODEL <u>N/A</u> SN <u>N/A</u>	BLACK LIGHT METER: <u>N/A</u> CAL DUE DATE: <u>N/A</u>		
CLEANER Manufacturer: <u>SHERWIN</u> Type: <u>DOUGL CHEK DR-60</u> BATCH # <u>524641</u>		PENETRANT Manufacturer: <u>SHERWIN</u> Type: <u>DOUGL CHEK</u> BATCH # <u>B/N 517-E1</u>		DEVELOPER Manufacturer: <u>SHERWIN</u> Type: <u>DOUGL CHEK - D-100</u> BATCH # <u>A19881/CB 8766</u>	
EXAMINATION RESULTS					
PART IDENTIFICATION	ACC	REJ	IND. CODE	REMARKS *	
<u>CRDM WELD - LOC. 42-47</u>	<input checked="" type="checkbox"/>		<u>4</u>	<u>Limited to 50% weld area due to accessibility</u>	
<u>CRDM WELD - LOC. 48-11</u>	<input checked="" type="checkbox"/>		<u>4</u>	<u>Limited to 65% weld area due to accessibility</u>	
ACCEPTANCE CRITERIA: <u>ASME SEC. XI</u> <u>WS 4-19-05</u>					
% COMPLETE: <u>SEE REMARKS</u> LIMITATIONS: <u>SEE REMARKS</u>					
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 <u>Kenneth R. Webb II</u> <u>4-19-05</u>			EXAMINED BY/LEVEL/DATE <u>MP</u>		
Company FINAL REVIEW LEVEL/DATE <u>WS 7/26/05</u> <u>111</u> <u>4/26/05</u>			ANII REVIEW/DATE <u>Chris Hansen</u> <u>5/8/05</u>		

* QA Category and ASME XI Class

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**BOSTON EDISON COMPANY
RECORD OF MAGNETIC PARTICLE EXAMINATION**

DATA SHEET #

97-M-334

pg 1 of 2

ITEM ID/PIECE # EB-23-13HL1 (4)	SYSTEM d3 LOCATION Torus	MR # 19600295	ISO/DWG NUMBER ISI-I-23-2
---	---	-------------------------	-------------------------------------

REV. E4

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 $\frac{1}{2}$ AUT EXAMINATION	YES NO
---	---------------

SKETCH OR OTHER DETAIL ATTACHED YES NO	WEIGHT X 10 LB. 40 LB
---	------------------------------

B.	PROCEDURE # VALIDATION # POLE SPACING	EQUIPMENT IDENTIFICATION
	QCI 50.20 N-A 4" to 6"	X AC HWAC 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
-----------	--

RESPONSIBLE CERTIFIED PERSONNEL	C. Ellis	LEVEL	DATE
REVIEWED BY	J. R. Perry	LEVEL	II / I 3/18/97
	B. Perkins	DATE	3/19/97
BECO LEVEL III	DATE	DATE	3/19/97

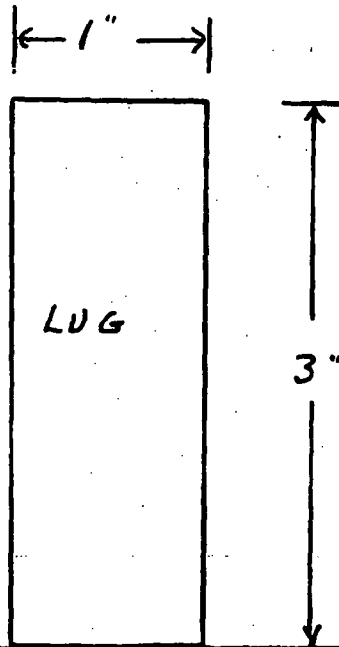
Page 1 of 2

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SKETCH SHEET

ITEM ID # EB-23-13HL1 (4)

MR # 19600295



TYPICAL
1 of 4

HANGER CLAMP TYPICAL

LIMITED EXAM DUE TO HANGER CLAMP,
CODE COVERAGE 87.5%

CEP/LL A II 3-18-97

RECORD OF MAGNETIC PARTICLE EXAMINATION			DATA SHEET # <u>01-M-272</u>	
ITEM ID/PIECE #	SYSTEM <u>(23) HPCI</u>	MR#	ISO/DWG NUMBER	
<u>EB-23-59HL1 (4)</u>	LOCATION <u>HPCI Room</u> <u>ELV. 10'</u>	<u>10000542</u>	<u>151-1-23-2</u>	
A. MATERIAL	TYPE <u>CARBON STEEL</u>			
CROSS SECTION THICKNESS	MAX <u>N/A</u>	MIN <u>N/A</u>	GEOMETRY	PIPE PLATE ROD OTHER <u>N/A N/A N/A LUG TO PIPE WELDS</u>
FABRICATION PROCESS	CAST WORKED <u>WELDED</u> OTHER _____			
SURFACE	MACHINED GROUND AS OTHER <u>FABRICATED</u>	INSPECTION HOLD PT <u>1.5.1.</u>		
SURFACE IS SUITABLE FOR SCHEDULE <input checked="" type="checkbox"/> MT <input checked="" type="checkbox"/> UT EXAMINATION <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
SKETCH OR OTHER DETAIL ATTACHED YES/NO <input type="checkbox"/> WEIGHT <input checked="" type="checkbox"/> 10 LB <input type="checkbox"/> 40 LB				
B. PROCEDURE # VALIDATION # POLE SPACING	<u>IT 50.20</u> <u>N/A</u> <u>6"</u>		EQUIPMENT IDENTIFICATION AC <input checked="" type="checkbox"/> HWAC <input type="checkbox"/> S/N <u>69</u>	
C. EVALUATION <u>N.R.I. OBTAINED 83.3% COVERAGE DUE TO LUG TO CLAMP CONFIGURATION.</u>				
LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY)	
1.				
2.				
3.				
4.				
5.				
6.				
7.				
D. CRITERIA	COMPONENTS MEET/DO NOT MEET ASME SECTION XI CRITERIA FURTHER EVALUATION REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
E. ATTEST	<u>ASME SECT. XI 1989</u> RESPONSIBLE CERTIFIED PERSONNEL <u>[Signature]</u> LEVEL <u>III</u> DATE <u>5/3/01</u> NOT LEVEL III DATE <u>5/4/01</u> ANII <u>[Signature]</u> DATE <u>5/4/01</u>			

B. Perkins 5/3/01
ENTERGY III DATE

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**BOSTON EDISON COMPANY
RECORD OF MAGNETIC PARTICLE EXAMINATION**

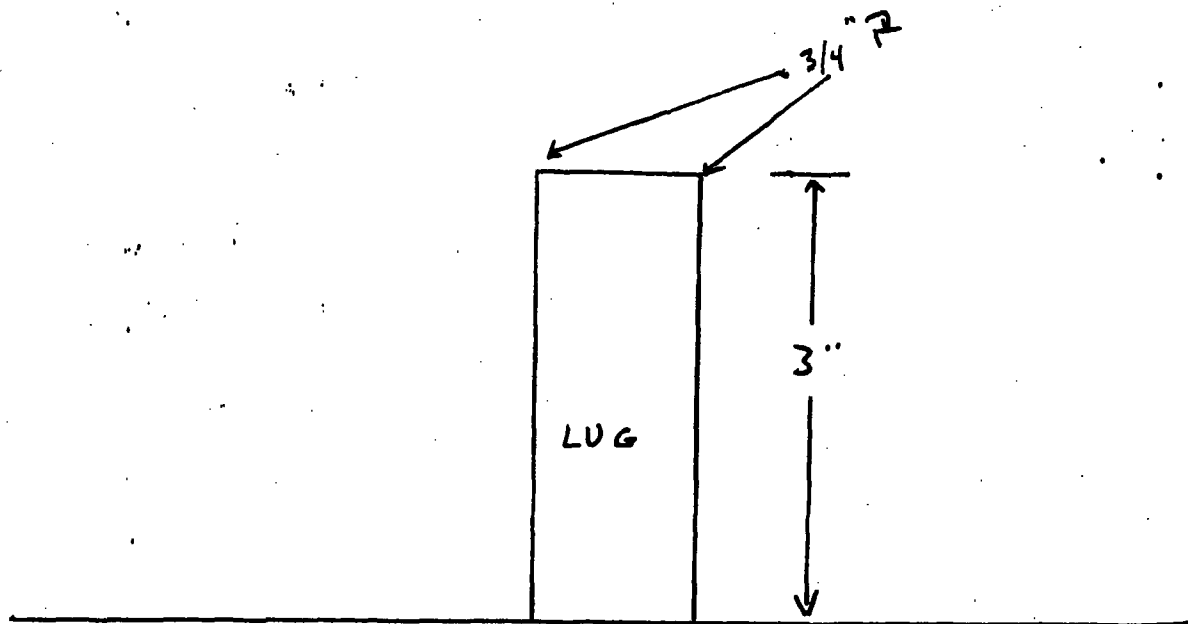
DATA SHEET # *Page 1 of 2*
97-M-302

ITEM ID/PIECE # HL-10-200HL(4)		SYSTEM <u>10</u> LOCATION <u>RUE A quad</u>		MR # 19600301	ISO/DWG NUMBER ISI-I-10-4A-SH-1	Rev. E4	
A. MATERIAL		TYPE <u>CS</u>					
CROSS SECTION THICKNESS	MAX <u>VARIOUS</u>	MIN	GEOMETRY				PIPE PLATE ROD OTHER <u>X LUG'S</u>
FABRICATION PROCESS		CAST WORKED <u>WELDED</u> OTHER _____					
SURFACE	MACHINED <u>GROUND</u> AS FABRICATED	OTHER		INSPECTION HOLD PT <u>FINAL MT</u>			
SURFACE IS SUITABLE FOR SCHEDULED <u>X</u> MT ^{N/A} UT EXAMINATION. <u>YES</u> /NO							
SKETCH OR OTHER DETAIL ATTACHED <u>YES</u> /NO				WEIGHT <u>X</u> 10 LB. <u>40</u> LB			
B.	PROCEDURE # VALIDATION # POLE SPACING	<u>QCI 50.20</u> <u>N-A</u> <u>4"-6"</u>		EQUIPMENT IDENTIFICATION <u>X</u> AC <u>HWAC</u> <u>5156</u>			
C. EVALUATION							
LOCATION	SIZE (INCHES)	DESCRIPTION		ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY.)			
1	<u>NO</u>	<u>RECORDABLE INDICATIONS</u>		<u>LIMITED EXAMINATION ACCEPT</u>			
2				<u>(LIMITED ON UPSTREAM SIDE of Lug's by</u>			
3				<u>HANGER CLAMP SEE SKETCH.)</u>			
4							
5				<u>CODE COVERAGE 90%</u>			
6							
7							
D. CRITERIA		<u>ASME Sect. IX 1989</u>					
E. ATTEST		COMPONENTS <u>MEET</u> /DO NOT MEET ASME SECTION XI ACCEPTANCE CRITERIA, FURTHER EVALUATION REQUIRED <u>YES</u> <u>X</u> NO					
		<u>C. Ellis</u> <u>II</u> <u>3/14/97</u> RESPONSIBLE CERTIFIED PERSONNEL LEVEL DATE <u>GE REVIEWED BY: M. Jones</u> <u>LV III</u> <u>3/14/97</u> <u>B. Perkins</u> <u>3/14/97</u> <u>ANL</u> <u>3/14/97</u> BECO LEVEL III DATE DATE					

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%

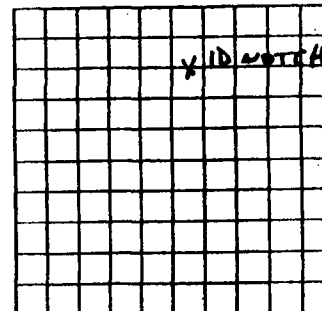


Calibration Data Sheet

CDS No: 05-C-377-151LDS No: 05-L-377-151 *7/15/05*Page: 4 of 4Plant/Unit: PILGRIM / 1System: CORE SPRAYComponent: GB-14-F34Line No.: 6" - GB-14Procedure: ENR-ME-9.10 Rev.: 0Thermometer S/N: 232Cal. Blk Temp.: 63°F Comp Temp.: 64°FCal. Block No.: PIL-96☐ Carbon Steel ☒ Stainless SteelSize: 6" Sch.: .432"Cal Direction: ☒ Axial ☐ Circ ☐ BothScan Area ☒ \perp to weldScan Area ☐ \parallel to weldWork Order: 03116642DWG No.: ISI I 14-2B

Cal Checks	Time
Initial Cal.:	<u>0945</u>
Date:	<u>4-25-05</u>
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	<u>1603</u>
Date:	<u>4-25-05</u>

Couplant

Type: ULTRAGEL IIBatch: 01225

Search Unit # 1

Manufacturer: RTD
Model: TRLA
Serial No.: 98-1082
Size: 2(7K10) Shape: RECT
Freq.: 2 MHz # Elm: 2
Angle: 70° Mode: LONG
Measured Angle: 71°

Wedge Style: INTEGRAL

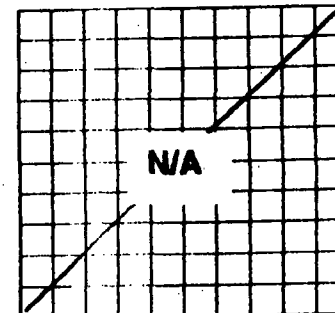
Search Unit Cable

Type: RG 174
Length: 6' # Con.: 0

Instrument Settings

Manufacturer: STANLEY
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

Manufacturer: N/A
Model: _____
Serial No.: _____
Linearity Due: _____
Delay: _____ Range: _____
Mtl. Vel.: _____ Pulser: _____
Damping: _____ Reject: _____
Rep Rate: _____ Freq.: _____
Filter: _____ Mode: _____

Reference Sensitivity

Axial: _____ Circ: _____

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>GB-14-F34</u>	<u>SINGLE</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>66.2*</u>

Remarks

* SCANNED BELOW REFERENCE DUE TO HIGH NOISE LEVELSFurther Evaluation Required: ☐ Yes ☐ NoExaminer: [Signature] Level: III Date: 4-25-05Examiner: N/A Level: N/A Date: N/AReviewer: [Signature] Level: III Date: 4/27/05ANII: [Signature] Date: 4/25

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Examination Data Sheet

EDS No: 05-E-⁴⁹³380-151
CDS No: 05-C-379-151 492-151
LDS No: 05-L-378-16+491-151 700/5/15
Page: 1 of 4

Plant/Unit: PILGRIM / 1			System: CORE SPRAY			Component: GB-14-F34			Procedure: ENN-NDE-9.10 Revision: 0								
Work Order: 03116642			DWG No.: ISI I 14-2B			<input checked="" type="checkbox"/> Carbon Steel <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Limitations: ONE SIDED EXAM - 29.75% C.R.V.									
Remarks: N/A																	
Examiner: <u></u>			Level: <u>III</u>			Date: <u>4-25-05</u>			Examiner: <u>N/A</u>			Level: <u>N/A</u>			Date: <u>N/A</u>		
Reviewer: <u>W. N. Lesh</u>			Level: <u>III</u>			Date: <u>4/27/05</u>			ANII: <u></u>			Date: <u>5/2/05</u>					

log 03/24



Sketch Sheet

Data Sheet No: ⁴⁷³05-E-350-151 ^{7/28} 5/7/05
Page: 2 of 4

Plant/Unit: <u>PILGRIM / 1</u>	System: <u>CORE SPRAY</u>	Component: <u>GB-14-F34</u>	Procedure: <u>ENW-NDE-9.6</u>
Examination Area / Weld No.: <u>GB-14-F34</u>	DWG No.: <u>ISI I 14-2B</u>	Line No.: <u>6"-GB-14</u>	Revision: <u>0</u>
			Work Order: <u>03116642</u>

VALVE

PIPE

0°

90°

FLOW

* FORWARD POINT OF 60° & 70° SHEAR EXAMS.

Examiner: <u>[Signature]</u> Level: <u>III</u> Date: <u>4-25-05</u>	Examiner: <u>N/A</u> Level: <u>N/A</u> Date: <u>N/A</u>
Reviewer: <u>[Signature]</u> Level: <u>II</u> Date: <u>4/27/05</u>	ANII: <u>[Signature]</u> Date: <u>5/2/05</u>

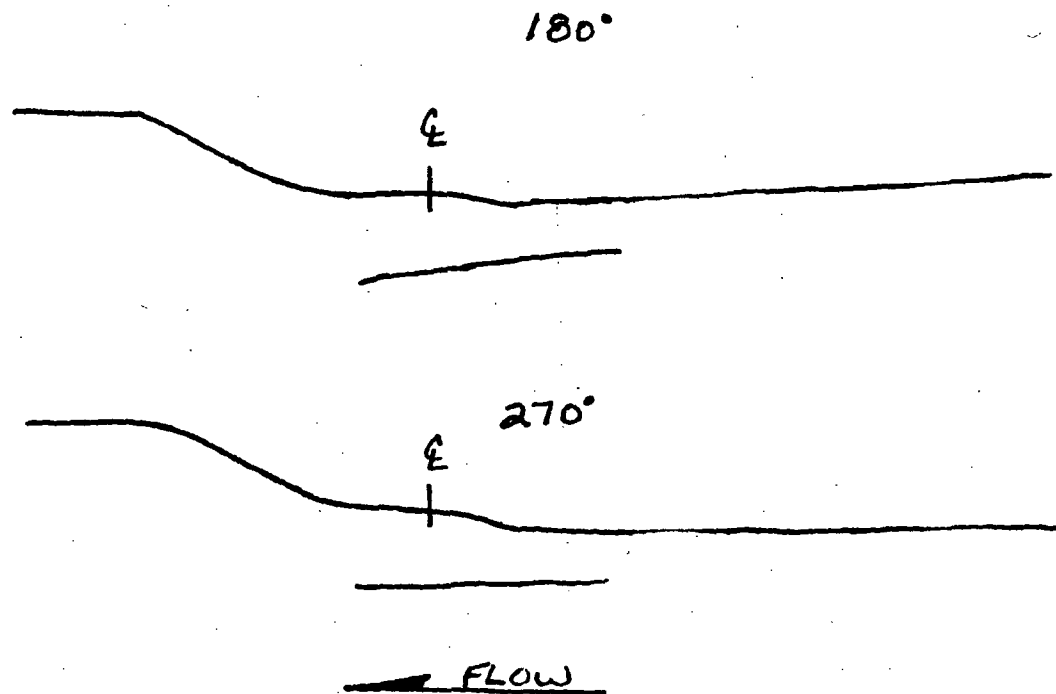
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Sketch Sheet

Data Sheet No: ⁴⁹³05-E-384-151 ^{may 15/05}
Page: 3 of 4

Plant/Unit: <u>PILGRIM / 1</u>	System: <u>CORE SPRAY</u>	Component: <u>GB-14-F34</u>	Procedure: <u>ENR-NDE-900</u>
Examination Area / Weld No.: <u>GB-14-F34</u>	DWG No.: <u>ISI I 14-28</u>	Line No.: <u>6"-GB-14</u>	Revision: <u>0</u>
			Work Order: <u>03116642</u>



Examiner: <u>[Signature]</u> Level: <u>III</u> Date: <u>4-25-05</u>	Examiner: <u>N/A</u> Level: <u>N/A</u> Date: <u>N/A</u>
Reviewer: <u>[Signature]</u> Level: <u>III</u> Date: <u>4/22/05</u>	ANII: <u>[Signature]</u> Date: <u>5/2/05</u>

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Sketch Sheet

Data Sheet No: ⁴⁹³05-E-~~388~~-151 ^{2nd} 5/17/05
Page: 4 of 4

Plant/Unit: <u>PILGRIM / 1</u>	System: <u>CORE SPRAY</u>	Component: <u>GB-14-F34</u>	Procedure: <u>ENN-NDE-9.10</u> Revision: <u>0</u>
Examination Area / Weld No.: <u>GB-14-F34</u>	DWG No.: <u>ISI I 14-2B</u>	Line No.: <u>6" - GB-14</u>	Work Order: <u>03116642</u>

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:

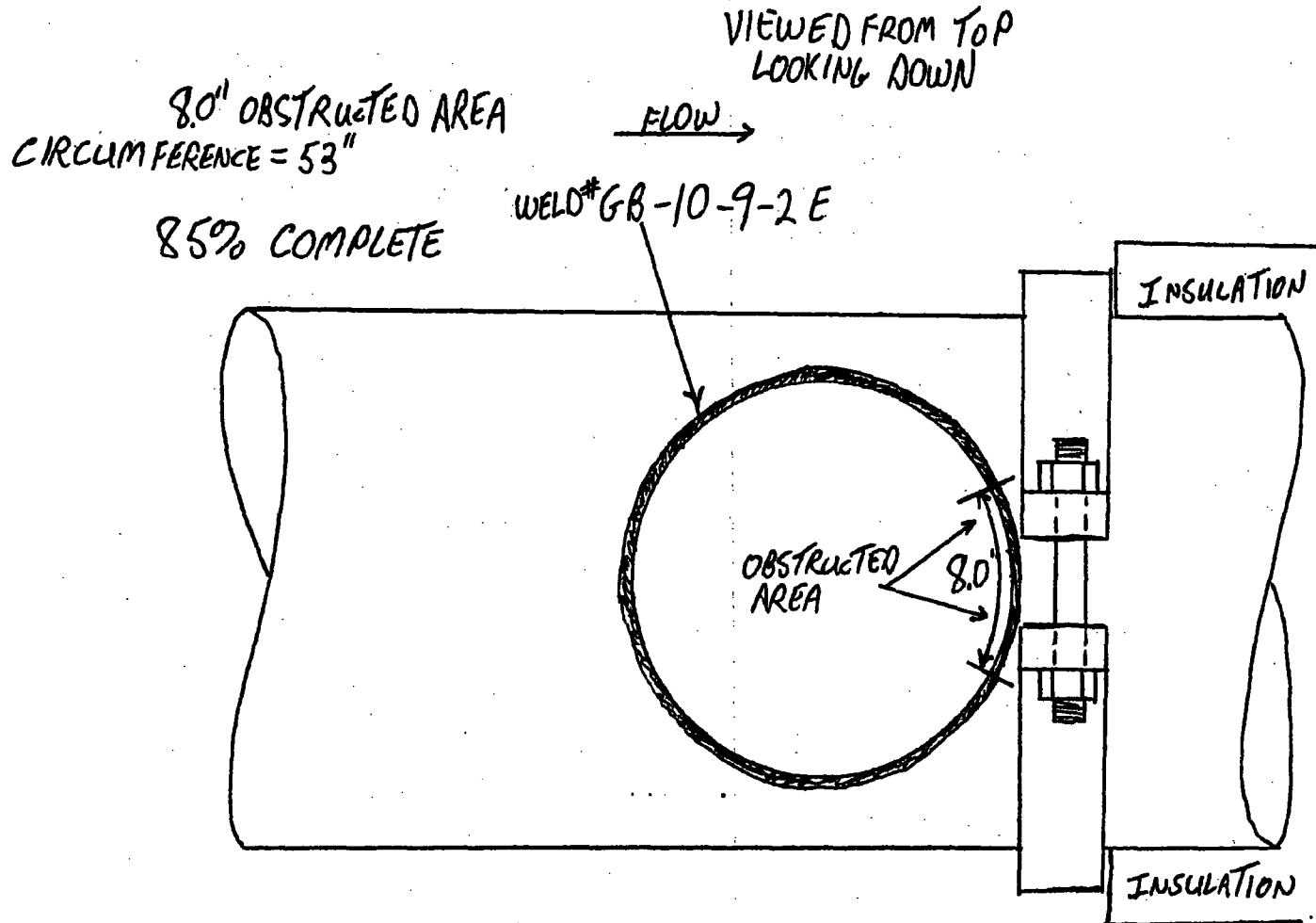
AXIAL SCANS - 40%
CIRC SCANS - 19.5%
CRV - 29.75%

^{Box} ^W
(.112 x 1.40) ^{4.2305}
TOTAL EXAM AREA - .154 in²
AXIAL AREA SCANNED - .0735 in²
CIRC AREA SCANNED - .0131 in²

Examiner: <u>[Signature]</u> Level: <u>III</u> Date: <u>4-25-05</u>	Examiner: <u>N/A</u> Level: <u>N/A</u> Date: <u>N/A</u>
Reviewer: <u>[Signature]</u> Level: <u>III</u> Date: <u>5/23/05</u>	ANII: <u>[Signature]</u> Date: <u>5/2/05</u>

Boq 228/240

RECORD OF MAGNETIC PARTICLE EXAMINATION			DATA SHEET # <u>03-17-064</u>	
ITEM ID/PIECE #	SYSTEM	MR#	ISO/DWG NUMBER	
<u>GB-10-9-2E</u>	<u>KKR</u> LOCATION <u>TORUS ROOM</u>	<u>0115999</u>	<u>ISI-I-10-4B 5H.1</u>	
A. MATERIAL		TYPE <u>C.S.</u>		
CROSS SECTION THICKNESS	MAX <u>.375"</u>	MIN <u>N/A</u>	GEOMETRY <u>✓</u>	PIPE PLATE ROD OTHER
FABRICATION PROCESS		CAST WORKED <u>(WELDED)</u> OTHER		
SURFACE		<u>MACHINED GROUND</u> AS OTHER FABRICATED		INSPECTION HOLD PT <u>I.S.I.</u>
SURFACE IS SUITABLE FOR SCHEDULE <input checked="" type="checkbox"/> MT <input checked="" type="checkbox"/> UT EXAMINATION <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
SKETCH OR OTHER DETAIL ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO WEIGHT <input checked="" type="checkbox"/> 10 LB <input type="checkbox"/> 40 LB				
B. PROCEDURE #		<u>50.20</u>		
VALIDATION #		<u>N/A</u>		
POLE SPACING		<u>6"</u>		
		EQUIPMENT IDENTIFICATION AC <input checked="" type="checkbox"/> HWAC <input type="checkbox"/> SN <u>70</u>		
C. EVALUATION				
LOCATION	SIZE (INCHES)	DESCRIPTION	ACTION (ACCEPT, REWORK, REJECT AND COMMENT AS NECESSARY)	
1.			<u>NRI- ACCEPT</u>	
2.			<u>85% coverage obtained.</u>	
3.			<u>BP</u>	
4.				
5.		<u>ISI GLOOP NOTED.</u>		
6.		<u>BP 4/1/03</u>		
7.				
D. CRITERIA		COMPONENTS <u>DO NOT MEET</u> ASME SECTION XI CRITERIA FURTHER EVALUATION REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
E. ATTEST		<u>ASME XI 1989</u>		
		RESPONSIBLE CERTIFIED PERSONNEL	LEVEL	DATE
		<u>BP</u>	<u>II</u>	<u>3/27/03</u>
		NOT LEVEL III	DATE	DATE
		<u>4-1-03</u>	<u>AMII</u>	<u>7/11/03</u>



EXAMINER Shawn R. Dwyer LEVEL II DATE 3-27-03



Calibration Data Sheet

Figure 5

Plant/Unit PILGRIM / U1
 Company ENTERGY
 Comp/System RHA
 Procedure No. 5071
 Rev/Chng. No. 610
 Cal. Block No. PIL-47A
 Cal. Block Temp. 67° 11297 Therm S/N
 Size 18" Sch. 0375" T
☒ Ferritic ☐ Austenitic
 Each Major CRT Div. = 0.2 / 0.25"
 Cal. Direction: Axial Circ. Both
 Scan Area: II to Weld ☒
II to Weld

LOS NO. 03-L-046
 Data Sheet # 03-C-072
 Page 1 of 1

Cal. Checks	Time
Initial Calib.	<u>1745</u> <u>1740</u>
Initial Calib. Date	<u>3-27-03</u>
Intermediate	<u>N</u>
Intermediate	<u>A</u>
Final Calib.	<u>2049</u> <u>2050</u>
Final Calib. Date	<u>3-27-03</u>

Couplant

Type: ULTRAFEL II
 Batch: 00325

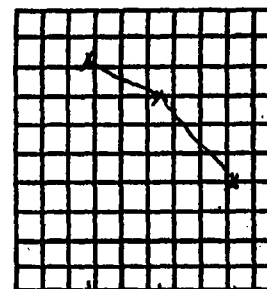
Examination Area/Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom	
<u>GB-10-9-2E</u>	<u>PIPE SIDE</u>	<u>N</u>	<u>X</u>	<u>N</u>	<u>62</u>
	<u>N</u>				
	<u>A</u>				

Remarks/Reason for Incomplete Scan(s) SEE ATTACHED DRAWING FOR INCOMPLETE AREAS

EXAM IS 63.75% COMPLETE

Examiners: William P. Brown Level III Date 3-27-03
NA Level NA Date NA

Reviewers: B. P. Perkins Further Evaluation Required? Yes ☒ No ☐
Entertry III 4-2-03



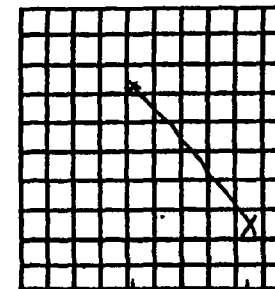
Search Unit #1

Manufacture: KBA
 Serial No.: 00WPL4
 Size: 0.25" Shape: ROUND
 Freq: 5.0 Style: COMP-6
 Exam Angle: 45 Mode: SHEAR
 Measured Angle: 40
 Wedge Style: ST

Search Unit Cable
 Type: RG-174/U
 Length: 6' No. 0

Instrument Settings

Make/Model: STAVLEY/SONIC-136
 Serial No.: 8011300
 Delay: 0.167 Range: 2.0
 M'tl Cal/Vol: 0125 Pulsar: LODS
 Damping: 500.52 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



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

Search Unit Cable
 Type: RG-174/U
 Length: 6' No. 0

Instrument Settings

Make/Model: STAVLEY/SONIC-136
 Serial No.: 8011300
 Delay: 0.371 Range: 2.5
 M'tl Cal/Vol: 0126 Pulsar: LODS
 Damping: 500.52 Reject: OFF
 Rep. Rate: 4K Freq: 5.0
 Filter: 1 Mode: P/E
 Reference Sensitivity (Sens.)
 Axial: 60.0 Circ: NA
 SCAN SENS: 62.0

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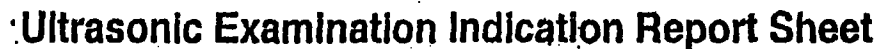
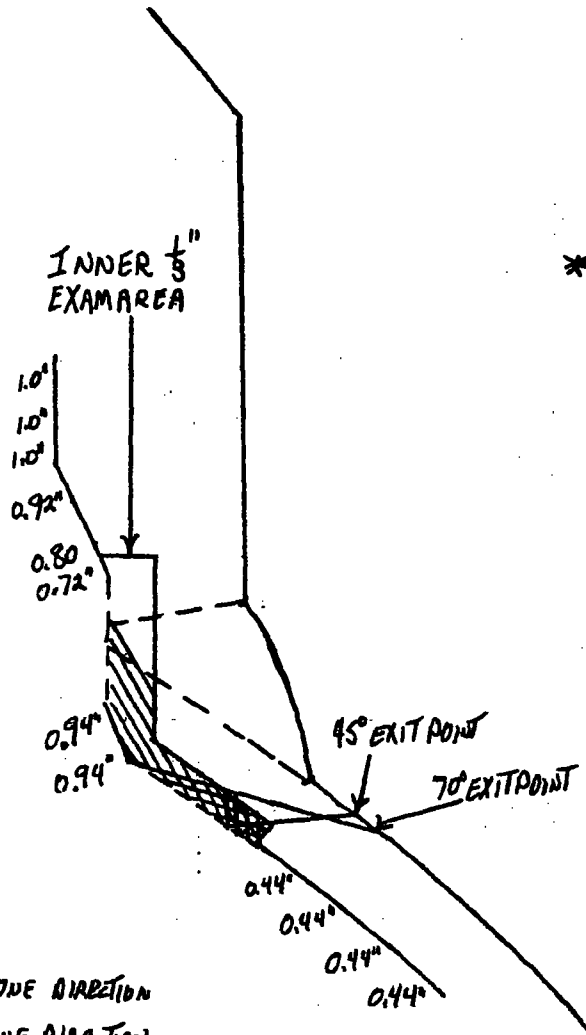
Page 4 of 2[illegible]

Figure 6

Instruction No. 50.71
Rev. 5
Attachment A
Page 24 of 26



* GEOMETRY IS
 worse on this
 side as compare
 to profile side.
 B Perkins
 4-2-03

$$19.292 - 3.185 = 16.107$$

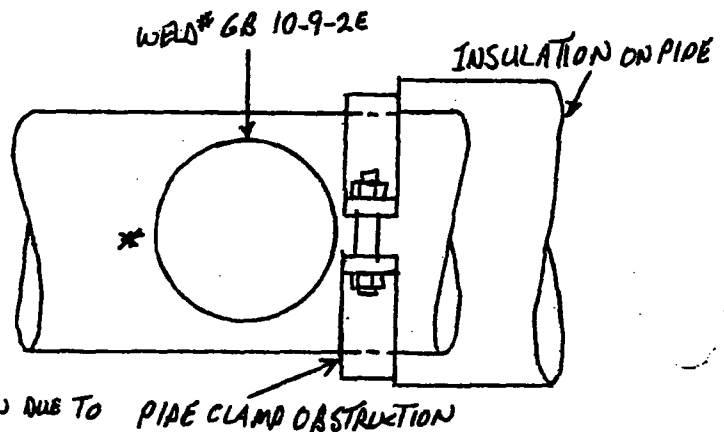
$$19.292 - 10.803 = 8.489$$

$$16.107 \div 19.292 = 83.5\% \text{ ONE DIRECTION}$$

$$8.489 \div 19.292 = 44\% \text{ ONE DIRECTION}$$

$$127.5\% \div 2 = 63.75\% \text{ TOTAL COVERAGE}$$

CIRCUMFERENCE = 53"
 INNER $\frac{1}{8}$ = 0.364 SQ IN.
 TOTAL CU IN = 19.292 5.096
 14" NO SCAN TOTAL CU IN = 4.356 32.703
 MISSED SCAN AREA
 70° = 3.185 CU IN MISSED ONE DIRECTION
 70° = 10.803 CU IN MISSED ONE DIRECTION



EXAMINER Shawn R. Hawn LEVEL III DATE 3-28-03

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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 SN: 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.:	<u>1620/1625</u>
Date:	<u>3-28-05</u>
Inter. Cal.:	
Date:	
Inter. Cal.:	<u>N/A</u>
Date:	
Final Cal.:	<u>1910/1913</u>
Date:	<u>2-28-05</u>

Couplant

Type: ULTRAGEL II

Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>HE-26-F238</u>	<u>BOTH</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>400/300</u>
	<u>SINGLE</u>				

Remarks

LAMINATION SCAN - N.R.I.

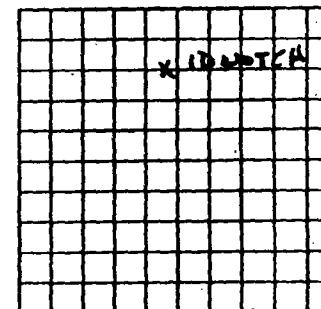
Further Evaluation Required: ☐ Yes ☒ No

Examiner: [Signature] Level: III Date: 3-28-05

Examiner: N/A Level: N/A Date: N/A

Reviewer: [Signature] Level: III Date: 4-4-05/4/15

ANII: [Signature] Date: 4/1/05



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.: 0

Instrument Settings

Manufacturer: KRAUTKRAMER

Model: USN 52L

Serial No.: 00HFX2

Linearity Due: 4-4-05

Delay: 5.651 Range: 1.500

Mtl. Vel.: 1370 Pulsar: SINGLE

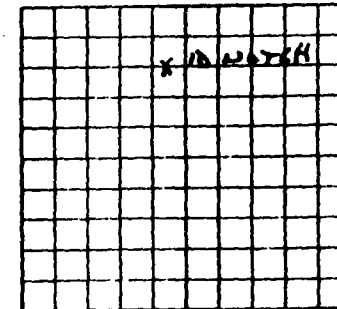
Damping: 1000 Reject: OFF

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.: 0

Instrument Settings

Manufacturer: KRAUTKRAMER

Model: USN 52L

Serial No.: 00HFX2

Linearity Due: 4-4-05

Delay: 2.336 Range: 1.000

Mtl. Vel.: 1262 Pulsar: SINGLE

Damping: 1000 Reject: OFF

Rep Rate: HIGH Freq.: 2-8

Filter: FULL Mode: SINGLE

Reference Sensitivity

Axial: N/A Circ: 18.0

8094 234/240



Examination Data Sheet

EDS No: 05-E-339-151CDS No: 05-C-338-151LDS No: 05-L-333-151Page: 1 of 2

Plant/Unit: <u>PILGRIM / 1</u>			System: <u>RCIC</u>			Component: <u>HE-26-F238</u>			Procedure: <u>ENH-NDE-9.04</u> Revision: <u>1</u>						
Work Order: <u>03116633</u>			DWG No.: <u>ISI I 13-5</u>			<input checked="" type="checkbox"/> Carbon Steel <input type="checkbox"/> Stainless Steel			Start Time/Date: <u>1735</u> Finish Time/Date: <u>1815</u>						
Examination Area / Weld No.: <u>HE-26-F238</u>			Line No.: <u>6"-HE-26</u>			Size: <u>6"</u> Schedule: <u>.280"</u>			Lo Location: <u>N/A</u> Wo Location: <u>N/A</u>						
Ind. #	Angle	% of DAC	Indication Length			Max Location		OD SU Loc.	Scan Direct.	Remarks:					
			L1	L Max	L2	W	MP								
<u>NRI</u>															
Further Evaluation Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									Limitations: <u>ONE SIDED EXAM</u>						
Remarks: <u>NO RECORDABLE IND FOR LAMINATION SCAN</u>															
Examiner: <u>[Signature]</u>			Level: <u>III</u>			Date: <u>3-28-05</u>			Examiner: <u>N/A</u>			Level: <u>N/A</u>		Date: <u>N/A</u>	
Reviewer: <u>[Signature]</u>			Level: <u>III</u>			Date: <u>4-4-05</u>			ANII: <u>[Signature]</u>			Date: <u>4/26/05</u>			
Reviewer: <u>Nickel Shum</u>			Level: <u>III</u>			Date: <u>4/4/05</u>									

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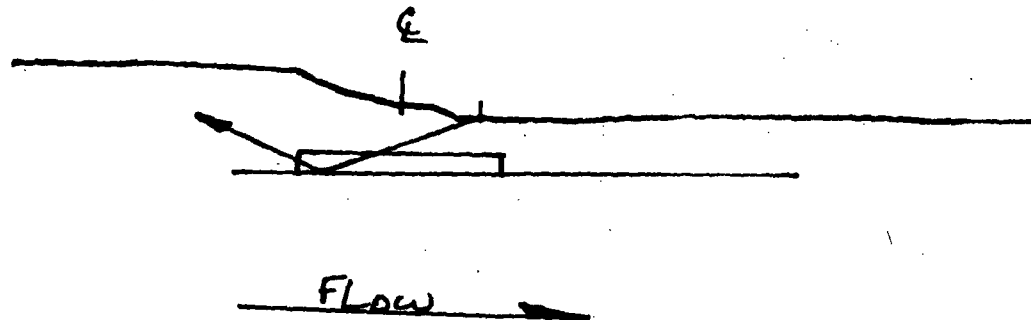


Sketch Sheet

Data Sheet No: 05-E-339-151

Page: 2 of 2

Plant/Unit: <u>PILGRIM / 1</u>	System: <u>RCIC</u>	Component: <u>HE-26-F238</u>	Procedure: <u>ENW-NDE-9.04</u>
Examination Area / Weld No.: <u>HE-26-F238</u>	DWG No.: <u>ISI I 13-5</u>	Line No.: <u>6" HE-26</u>	Revision: <u>1</u>
			Work Order: <u>03116633</u>



AXIAL SCAN - 87.5%

CIRC SCAN - 50%

TOTAL CODE REQUIRED VOLUME - 68.75%

Examiner: <u>[Signature]</u>	Level: <u>III</u> Date: <u>3-28-05</u>	Examiner: <u>N/A</u>	Level: <u>N/A</u> Date: <u>N/A</u>
Reviewer: <u>[Signature]</u>	Level: <u>III</u> Date: <u>4-4-05</u>	ANII: <u>[Signature]</u>	Date: <u>4/2/05</u>
REVISIONS: <u>Revised</u>	<u>III</u> <u>4/4/05</u>		

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RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

Attachment 2 to Entergy Letter No. 2.07.076

Response to NRC Request for Additional Information

2.2.1 *The licensee requested relief for several RPV longitudinal shell welds. It was noted that no relief for circumferential shell welds (with exception of RPV-BH-C1) was included, and it is assumed that PNPS has submitted an alternative in accordance with "BWR [boiling-water reactor] Vessel and Internals Project, BWR Reactor Pressure Vessel Shell Weld Inspection Recommendations (BWRVIP-05)" to exclude examination of the RPV circumferential shell welds. Please list the date of the NRC SER which authorizes the use of BWRVIP-05, or include a copy of the SER when responding to this RAI.*

2.2.1 RESPONSE:

NRC approval of Pilgrim Relief Request (PRR)-28, Rev. 1 provides for the use of BWRVIP-05 to exclude circumferential shell welds [Reference: NRC SER, "Pilgrim Nuclear Power Station-Pilgrim relief Request No. 28, relief From ASME Code , Section XI, Examinations of Reactor Pressure Vessel Circumferential Shell Welds (TAC No. MB6074), dated April 11, 2003].

2.2.2 *The coverage sketches included in ultrasonic reports for bottom head-to-shell circumferential Weld RPV-BH-C1 are unclear. Please re-submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques (near surface, inner 15%, and full volume) used on this weld. Summarize the scanning directions and techniques, list the materials for the base metal and weld, and clarify whether the methods used have been qualified in accordance with performance demonstration requirements per ASME Section XI, Appendix VIII.*

2.2.2 RESPONSE:

Total ultrasonic examination coverage of weld RPV-BH-C1 is impractical due to obstructions or limiting component configuration that adversely affect the scan paths for required ultrasonic beam projections required to achieve complete examination coverage.

Weld RPV-BH-C1 is the Reactor Pressure Vessel bottom head to shell weld. Both the base and weld material are carbon steel.

This weld was ultrasonically examined manually utilizing General Electric Energy Nuclear Procedure GE-UT-300 Version 8. This procedure is qualified by EPRI PDI to ASME Section XI, Appendix VIII, Supplements 4 & 6 for ultrasonic examination of reactor pressure vessel welds with dual or single side access. Report No. PIL-R15-05-002 is attached as Reference A.

Scanning was performed from one side of the weld due to the configuration of the reactor vessel support skirt assembly configuration. Scans were performed in both the Transverse (scanning transverse or perpendicular to the weld) and Parallel (scanning parallel to the weld in two directions 180 degrees to each other) directions. In the attached UT report, the Transverse scans are referred to as "T-Scans" and the Parallel scans as "P-Scans."

Limitations in weld coverage were identified due to both the Reactor Pressure Vessel (RPV) support skirt configuration (proximity to the weld) and three thermocouple pads each about 5" in length. The limitation caused by the support skirt exists for the entire weld length. The thermocouple limitation locations are identified on Report No. PIL-R15-05-002, Data Sheet Numbers UT-086 and UT-089 in the "Comments" section. Modified coverage sketches from Report No. PIL-R15-05-002, identified as Attachment A Sketch 1 and Sketch 2, are also attached and indicate the weld examination volume required by ASME Section XI, Appendix VIII Supplements 4 & 6. These sketches also indicate the limited coverage areas for both the T and P scans. The Table on page 10 of 12 of Report No. PIL-R15-05-002, summarize the limitation percentages. Total composite coverage for this weld is 75%.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

2.2.3 Similarly, the examination reports for the remaining RPV longitudinal shell and shell-to-flange welds do not adequately describe completed examination coverages. Please submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques (near surface, inner 15%, and full volume) used on the following welds:

Weld ID	Weld Type
RPV-L-1-338A	Lower Intermediate Shell Vertical Weld
RPV-L-1-338C	Lower Intermediate Shell Vertical Weld
RPV-L-2-338A	Lower Shell Vertical Weld
RPV-L-2-338B	Lower Shell Vertical Weld
RPV-L-2-338C	Lower Shell Vertical Weld
RPV-L-2-339A	Upper Intermediate Shell Vertical Weld
RPV-L-2-339B	Upper Intermediate Shell Vertical Weld
RPV-L-2-339C	Upper Intermediate Shell Vertical Weld
RPV-BH-C1	Bottom Head-to-Shell Circumferential Weld
RPV-SF-0-120	Shell to Flange Weld (0 to 120 degrees)
RPV-SF-120-240	Shell to Flange Weld (120 to 240 degrees)
RPV-SF-240-360	Shell to Flange Weld (240 to 360 degrees)

In addition, summarize the scanning directions and techniques, list the materials for the base metal and welds, and clarify whether the methods used have been qualified in accordance with performance demonstration requirements per ASME Section XI, Appendix VIII.

2.2.3 RESPONSE:

Total ultrasonic examination coverage of welds RPV-L-1-338A, RPV-L-1-338C, RPV-L-2-338A, RPV-L-2-338B, RPV-L-2-338C, RPV-L-2-339A, RPV-L-2-339B, RPV-L-2-339C and RPV-C-4-339 is impractical due to obstructions or limiting configuration that adversely affect positioning of the automated scanning tool and thus the scan paths for required ultrasonic beam projections required to achieve complete examination coverage.

These welds are carbon steel RPV shell course vertical welds and RPV shell to flange weld. These welds are all carbon steel component parts welded with carbon steel weld metal. Ultrasonic scanning was performed using the equipment described in Attachment B. The physical dimensions and mode of operation of this tooling are important relative to understanding the limitations described in the table below. All of the limitations associated with these welds are directly associated with issues of the scanner access to the required locations to allow complete ultrasonic coverage. Ultrasonic coverage is based on scanner encoder inputs and calculated from automated data parameters.

These ultrasonic examinations were conducted in accordance with IHI Procedures ISwT-PDI-AUT1, Rev.0 and ISwT-PDI-AUT2, Rev.0. These procedures are qualified by the Performance Demonstration Initiative (PDI) and satisfy the examination requirements of ASME Section XI, Appendix VIII, Supplements 4 and 6. Scanning was performed both in the transverse and parallel directions relative to the welds unless limited by access or configuration.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

Attachment B describes the ultrasonic techniques that were utilized for these examinations as well as a sketch of the various projected beam angles and the Code required examination volume.

Attachment C is a roll out sketch of the RPV identifying the location of the various obstructions relative to specific welds. For each of the welds identified in the table below, a number is assigned in () after each identified limitation in the "Description of Obstruction / Limitation" column. The corresponding number appears on Attachment C for that location.

Weld Number	Weld Description	Description of Obstruction / Limitation
RPV-L-1-338A	Intermediate Shell Weld @ 60°	Jet Pump riser brace welded to the RPV wall is directly in the scan path for the transducer array. (1)
RPV-L-1-338C	Intermediate Shell Weld @ 300°	Jet Pump riser brace (2) and RPV Surveillance Specimen Holder and Support Brackets (3) welded to the RPV walls are directly in the scan path for the transducer array. Shroud Tie Bar @ 315° prevents maneuvering of the scanner tooling to fully access the weld. (4)
RPV-L-2-338A	Lower Shell Vertical Weld @ 75°	The Shroud Support and associated gusset plates would not allow the scanner tooling to completely position the transducer array to the bottom of the weld, i.e. where the RPV vertical weld intersects with the shroud support plate. (5)
RPV-L-2-338B	Lower Shell Vertical Weld @ 195°	The Shroud Support and associated gusset plates would not allow the scanner tooling to completely position the transducer array to the bottom of the weld, i.e. where the RPV vertical weld intersects with the shroud support plate. (6)
RPV-L-2-338C	Lower Shell Vertical Weld @ 315°	The Shroud Support and associated gusset plates would not allow the scanner tooling to completely position the transducer array to the bottom of the weld, i.e. where the RPV vertical weld intersects with the shroud support plate. (7) Shroud Tie Bar @ 315° prevents maneuvering of the scanner tooling to fully access the weld. (8) N2K Nozzle radius prevents even contact of the scanner tooling thus scanning in area of the N2K Nozzle inner radius is not possible. (9)
RPV-L-2-339A	Upper Shell Vertical Weld @ 355°	Feedwater (10) and Core Spray Spargers (11) prevent maneuvering of the scanner tooling to fully access the weld.
RPV-L-2-339B	Upper Shell Vertical Weld @ 115°	Feedwater (12) and Core Spray Spargers (13) prevent maneuvering of the scanner tooling to fully access the weld. Angle of ID taper due to RPV shell course plate thickness change (14)
RPV-L-2-339C	Upper Shell Vertical Weld @ 235°	Feedwater (15) and Core Spray Spargers (16) prevent maneuvering of the scanner tooling to fully access the weld.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

Weld Number	Weld Description	Description of Obstruction / Limitation
RPV-C-4-339 (previously identified as RPV-SF-0-120, RPV-SF-120- 240 and RPV- SF-240-360)	Shell to Flange Weld from 0° to 360°	The proximity of the Main Steam Nozzles (17) , Main Steam Nozzle Plugs (and necessary support tooling) (18) , Dryer/Separator Guide Rods at 0° and 180° (19) and configuration of the Shell to Flange weld (see Attachment C).

2.3.1 *The coverage sketches included in ultrasonic reports for nozzle-to-shell Welds RPV-N7A-NV, RPV-N7B-NV, and RPV-N8-NV are unclear. Please re-submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques (near surface, inner 15%, and full volume) used on this weld. Summarize the scanning directions and techniques, list the materials for the base metal and weld, and clarify whether the methods used have been qualified in accordance with performance demonstration requirements per ASME Section XI, Appendix VIII.*

2.3.1 RESPONSE:

Total ultrasonic examination coverage of welds RPV-N7A-NV, RPV-N7B-NV and RPV-N8-NV is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Welds RPV-N7A-NV, RPV-N7B-NV and RPV-N8-NV are Reactor Pressure Vessel nozzle to vessel top head welds. Welds RPV-N7A-NV and RPV-N7B-NV are identical in configuration being of the same size, material and configuration. Both are situated tangential to the circumference of the top head surface and are addressed together. Weld RPV-N8-NV differs in that its location is at the apex or top of the RPV head and is addressed separately.

Both base and weld material are carbon steel for all three nozzle to vessel welds.

These welds were ultrasonically examined manually utilizing General Electric Energy Nuclear Procedures GE-UT-300 Version 8 and GE-UT-311 Version 10. These procedures are qualified by EPRI PDI to ASME Section XI, Appendix VIII, Supplements 4, 5 & 6 for ultrasonic examination of reactor pressure vessel welds with dual or single side access and nozzle inner radius bore and selected nozzle to vessel regions. Refer to Report Nos. PIL-R15-05-026, 028 & 030 for reference.

Scanning was performed from the vessel [head] side of the weld due to the configuration of the nozzle assembly configuration. Scans were performed in both the Transverse (scanning transverse or perpendicular to the weld) and Parallel (scanning parallel to the weld in two directions 180 degrees to each other) directions. In the respective UT reports, PIL-R15-05-026, 028 and 030, the Transverse scans are referred to as "T-Scans" and the Parallel scans as "P-Scans."

Welds RPV-N7A-NV & RPV-N7B-NV

Limitations in weld coverage were identified due to the nozzle configuration (proximity to the weld). This limitation exists at varying degrees for the entire weld length. The limitation locations are identified for the top and bottom side of the nozzle to contrast the configuration differences at these two extreme locations. Report Nos. PIL-R15-05-026 and 028 indicate identical coverage and will be discussed together. Modified coverage sketches from Report No. PIL-R15-05-026, identified as Sketch 3 is included in Attachment A and indicates the weld examination volume required by ASME Section XI, Appendix VIII Supplements 4, 5 & 6. These sketches also indicate the limited coverage areas for both the T and P scans. The Table on page 7 of 8 of Report Nos. PIL-R15-05-026 & 028, summarize the limitation percentages. Note that there were no limitations associated with the inner radius and inner 15% volume coverage (these areas received 100 % coverage by either or both of the Supplement 4 and 5 scanning techniques).

Weld RPV-N8-NV

Nozzle to vessel weld RPV-N8-NV is similar to the configuration described above differing only in the fact that the configuration limitation is uniform around the entire circumference due to its location on the RPV Head.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

A modified coverage sketch from Report No. PIL-R15-05-030, identified as Sketch 4 in Attachment A is also attached and indicates the weld examination volume required by ASME Section XI, Appendix VIII Supplements 4, 5 & 6. This sketch also indicates the limited coverage areas for both the T and P scans. The Table on page 6 of 7 of Report No. PIL-R15-05-30, summarizes the limitation percentages. Note that there were no limitations associated with the inner radius and inner 15% volume coverage (these areas received 100 % coverage by either or both of the Supplement 4 and 5 scanning techniques).

2.4.1 Table 3 of relief request PRR-42 contains a listing of multiple limited examinations for Class 1 dissimilar metal piping and nozzle-to-safe end welds that have occurred during the third 10-year interval. The table lists ASME Code Examination Category B-F for each piping and nozzle-to-safe end weld, which would normally indicate that a conventional ISI program has been implemented. Typically, if a risk-informed inservice inspection (RI-ISI) program is being implemented, a new Examination Category R-A is used, which lists welds, or elements, according to expected forms of degradation. However, ASME Item Numbers for both a conventional and RI-ISI program are listed, e.g., R1.11 (B5.10). Item Number R1.11 refers to welds susceptible to thermal fatigue and B5.10 is the conventional designation for RPV nozzle-to-safe end butt welds in piping greater than 4-inch NPS. In addition, Item Number R1.20 (B5.130) is also referenced, but no such Item Number exists within the framework of ASME Code RI-ISI methods (Code Cases N-577 and N-578). Confirm that all Class 1 dissimilar metal welds are part of a RI-ISI program at PNPS, and clarify the designation of Item Number R1.20.

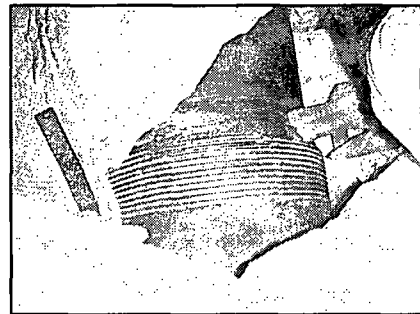
State the total number of Category B-F (new Category R-A) Class 1 dissimilar metal welds that exist at PNPS, the examination sample population of these that are included in the RI-ISI program, and clarify the extent of limited volumetric coverages that resulted during each weld examination. In addition, describe whether PNPS considered performing additional examinations on welds not in the initial RI-ISI examination population to supplement the limited volumetric coverages.

2.4.1 RESPONSE:

Pilgrim received NRC approval on May 2, 2001 to implement a risk-informed inspection program for Class 1 category B-F and B-J piping welds based on the methodology detailed in EPRI Topical Report TR-112657 revision B-A and Code Case N-578 as an alternative to the requirements of the 1989 edition ASME XI code.

The risk-informed methodology used at Pilgrim includes all category B-F and B-J welds in the determination of the final risk-informed inspection sample of 71 Class 1 welds. There are a total of 29 Class 1 dissimilar metal welds at Pilgrim Station with 7 of the DM welds included in the Class 1 risk-informed inspection sample. In accordance with the EPRI risk-informed methodology, augmented programs are relied upon for the inspection of welds not wholly subsumed by the risk-informed process, including IGSCC-susceptible welds. All carbon steel and IGSCC category A austenitic stainless steel welds are subsumed into Pilgrim's risk-informed inspection process while all IGSCC category B, C, D, E and G welds are examined in accordance with the augmented inspection schedules and methods outlined in BWRVIP-75A.

Inspection coverage obtained for six of the seven dissimilar metal welds included in the PNPS risk-informed inspection sample exceeded 90% combined coverage. Reduced coverage for one of the seven welds, Core Spray weld no. 14-A-10A (see PRR-42 Table 3), was caused by a severe valve-to-pipe weld profile (seen in the adjacent photo) that could not be modified to increase inspection coverage without reducing design margin for the configuration. Since this weld is a dissimilar metal weld made with Inconel 182 weld metal, all other similar welds are currently inspected in accordance with BWRVIP-75A Category D weld inspection schedules and methods. As a result, there are no other similarly constructed welds that are not already being inspected that could be added to the risk-informed inspection sample to account for the reduced coverage obtained on 14-A-10A. Additional clarification of the extent of limited volumetric coverages resulting from each weld examination is discussed in LO-WPOLO-2007-00027 CA-7.



RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

Section XI code item numbers such as B5.10 were included in PRR-42 Table 3 in addition to the new risk-informed item numbers for the sake of completeness as risk-informed inspections were not implemented until the second period of the Pilgrim third ten year inspection interval. Inspections performed during the first period of the Pilgrim third ten year inspection interval were completed in accordance with the 1989 ASME XI code.

In 2001, as part of the risk-informed inservice inspection program application, Class 1 circumferential piping welds were assigned alternate examination category and code item numbers that were consistent with ASME Section XI Code Case N-578-1. The numbering system established in Code Case N-578-1 is similar to the one used in Code Case N-578. However, the Code Case N-578-1 numbering system is more complete and more accurately reflects the technical criteria established in EPRI Topical Report No. TR-112657. For these reasons, the numbering system established in Code Case N-578-1 was used instead of the one shown in Code Case N-578, and is carried forward into the fourth interval. Item number R1.20 as shown in Table 3 of PRR-42 is not listed in Code Case N-578 but was included in Code Case N-578-1 as a means to categorize elements that are not subject to a damage mechanism. Inclusion of item number R1.20 in Table 3 has no substantive impact on relief request PRR-42.

2.4.2 *The coverage sketches included in ultrasonic reports for Examination Category B-F dissimilar metal piping and nozzle-to-safe end welds are unclear. For those welds under a conventional ISI program, please re-submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques used on these welds. Summarize the scanning directions and techniques, list the materials for the base metal and weld, and clarify whether the methods used have been qualified in accordance with performance demonstration requirements per ASME Section XI, Appendix VIII.*

2.4.2 RESPONSE:

Total ultrasonic examination coverage of welds 14-A-10A, 14-B-10A, 2R-N1B-1, 2R-N2E-1, 2R-N2G-1, 2R-N2J-1, 6-N4A-1, 6-N4B-1, 6-N4C-1 and 6-N4D-1 is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Welds 14-A-10A and 14-B-10A

Welds 14-A-10A and 14-B-10A are Core Spray System pipe to valve welds. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour.

The valves are stainless steel, welded to carbon steel pipe which had an Inconel 182 welded overlay end preparation on the carbon steel pipe prior to welding. The weld was made utilizing Inconel 182 weld metal.

These welds were ultrasonically examined manually utilizing Entergy Nuclear Procedure ENN-NDE-9.10, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-10 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 10 for ultrasonic examination of dissimilar metal welds. Report Nos. APR-002 and 005 are attached for reference.

Manual scanning was performed from the pipe side of the weld only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Report Nos. APR-002 and 005 contain a sketch that depicts the procedure required examination volume (full thickness) and the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for the 45° shear wave, 45° refracted longitudinal wave and 60° refracted longitudinal wave beams.

Examination coverage is extremely limited on these welds due to the pipe to valve configuration. Qualified examination coverage could only be claimed for the carbon steel base material and weld heat affected zone on the pipe side. Weld 14-B-10A exhibited significantly less coverage due to excessive grinding at the toe of the weld on the pipe side, creating areas of transducer "lift-off." Further conditioning was evaluated but could not be accomplished due to minimum wall considerations. These conditions resulted in examination coverage for these welds as follows: 14-A-10A (22.9% procedural coverage and 37.1% code coverage) and 14-B-10A (10.1% procedural coverage and 22.1% code coverage).

Weld 2R-N1B-1

Weld 2R-N1B-1 is a Reactor Recirculation System RPV outlet safe-end to nozzle weld.

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The safe-end is 316 stainless steel with an Inconel 182 weld overlay end preparation, welded to the carbon steel RPV inlet nozzle which also has an Inconel 182 welded overlay end preparation. The weld was made utilizing Inconel 82 (root pass) and 182 weld metal.

This weld was ultrasonically examined utilizing General Electric Energy Nuclear Procedure GE-UT-209 Version 17. This procedure is qualified by EPRI PDI to ASME Section XI, Appendix VIII, Supplement 10 for automated ultrasonic examination of dissimilar metal welds with single sided access. Report No. APR-007 is attached for reference.

Automated scanning was performed from both sides of the weld in both the Transverse (scanning transverse or perpendicular to the weld) and Parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Report No. APR-007 contains a sketch that depicts the procedure required examination volume (full thickness) which incorporates the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for the 45° shear wave, 45° refracted longitudinal wave and 60° refracted longitudinal wave beams.

The weld examination coverage percentage stated on page 1 of the report was calculated by the UT data analyst utilizing his discretion as to where the ultrasonic transducers were "lifting off" the component surface due surface contour irregularities rendering the data acquired in those areas to be unusable. The data analyst performed coverage calculations using transducer positioning information in the analysis software. These calculations resulted in the following UT examination coverage percentages: 2R-N1B-1 73% procedure coverage & 75% code required coverage.

Welds 2R-N2E-1, 2R-N2G-1 and 2R-N2J-1

Welds 2R-N2E-1, 2R-N2G-1, 2R-N2J-1 are Reactor Recirculation System RPV inlet safe-end to nozzle welds. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour.

The safe-end is 316 stainless steel with an Inconel 182 weld overlay end preparation, welded to the carbon steel RPV inlet nozzle which also has an Inconel 182 welded overlay end preparation. The welds were made utilizing Inconel 82 (root pass) and 182 weld metal.

These welds were ultrasonically examined utilizing General Electric Energy Nuclear Procedure GE-UT-209 Version 17. This procedure is qualified by EPRI PDI to ASME Section XI, Appendix VIII, Supplement 10 for automated ultrasonic examination of dissimilar metal welds with single sided access. Report Nos. APR-009, 011 and 012 are attached for reference.

Automated scanning was performed from both sides of the welds in both the Transverse (scanning transverse or perpendicular to the weld) and Parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Pages 2 and 3 of Report Nos. APR-009, 011 and 012 contain sketches of both the procedure required examination volume (page 2 [full thickness]) and the ASME Code required volume (page 3 [inner 1/3 thickness extending for 1/4" beyond the toe of the weld]). In addition, these sketches show the scanning direction and coverage for the 45° shear wave, 45° refracted longitudinal wave and 60° refracted longitudinal wave beams.

The weld examination coverage percentages stated on page 1 of the reports was calculated by the UT data analyst utilizing his discretion as to where the ultrasonic transducers were "lifting off" the component surface due surface contour irregularities rendering the data acquired in those areas to be unusable. The data analyst performed coverage calculations using transducer positioning information in the analysis software. These calculations resulted in the following UT examination coverage percentages: 2R-N2E-1 79.1% procedure coverage & 81.2% code required coverage, 2R-N2G-1, 71.8% procedure coverage & 75.3% code required coverage, 2R-N2J-1, 65.7% procedure coverage & 75% code required coverage.

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Welds 6-N4A-1, 6-N4B-1, 6-N4C-1 and 6-N4D-1

Welds 6-N4A-1, 6-N4B-1, 6-N4C-1 and 6-N4D-1 are Reactor Feedwater System RPV inlet safe-end to nozzle welds. These welds are essentially constructed identically.

The safe-end is carbon steel as is the RPV nozzle. These welds were made using carbon steel weld metal, thus they do not meet the criteria of a Category B-F dissimilar metal weld. The B-F category was assigned to these welds early in the third interval to ensure that all of the welds immediately off of the RPV were examined (Category B-F required 100% of the population be examined). These welds have since been re-categorized as Category R-A and examined under the Risk Informed Program.

These welds were ultrasonically examined manually utilizing Boston Edison Company (BEC) procedure QCI 50.71, Revision 4. This procedure was not qualified by EPRI PDI to ASME Section XI, Appendix VIII, although the UT examiners that performed the examinations did have ferritic weld examination PDI qualifications. Report Nos. 99-C-547 and 99-C-549 are attached for reference. Scanning was performed from both sides of the welds in both the transverse (scanning transverse or perpendicular to the weld) and Parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions) utilizing both 45° and 60° shear wave techniques.

Since no cross sectional sketches were made of these welds at the time of examination, an assumption was made in calculating the limited examination coverage. This assumption concluded that for areas not identified as being limited, total coverage was achieved. Therefore, the total lengths of limited examination areas were divided by the total weld lengths to determine the percentage of limited examination coverage for each weld resulting in the percentages identified in Table 3.

2.4.3 *In light of recent industry experience with cracking in these weldments, confirm that all Category B-F piping dissimilar metal welds containing Alloy 600, 82, and 182 are being volumetrically examined at PNPS with techniques that have been qualified through ASME Section XI, Appendix VIII, Supplement 10.*

2.4.3 RESPONSE:

There are 21 dissimilar metal welds at Pilgrim that are constructed with Inconel weld material. These welds are classified in accordance with BWRVIP-75A and Generic Letter 88-01 guidance based on their metallurgy, construction history and environmental conditions. One weld is classified as Category A, 17 welds are Category D and 3 are Category E weld overlays as discussed below. Currently, 20 of these 21 DM welds have been volumetrically examined using Appendix VIII/Performance Demonstration Initiative (PDI) methods. The one weld that has not yet been examined using PDI procedures is the Category E jet pump instrumentation nozzle safe end weld (weld no. RPV-N9A-1) that was repaired by weld overlay in 1984. This overlay weld was last examined with pre-PDI UT procedures in 1999 and is currently scheduled for re-examination with PDI procedures in April 2009.

2.5.1 *In addition to the information requested in item 2.1 above, discuss whether any other surface or visual examinations are possible for the remaining unexamined portions of integral attachment Weld RPV-SBW-0. State why 37% coverage is adequate to ensure that degradation, should it occur, will be detected.*

2.5.1 RESPONSE:

Pilgrim has four code category B-H reactor pressure vessel (RPV) stabilizer assemblies, each with one integral attachment to the RPV outside surface. The 1989 ASME XI code used during the PNPS 3rd inspection interval did not require examinations of code category B-H and B-K-1 integral attachments during the 3rd and 4th intervals. An augmented 10% sample of these welds at PNPS was subsequently mandated by the NRC during the 3rd interval. One RPV stabilizer assembly integral attachment weld was selected as part of this augmented inspection sample. Each rectangular integral attachment (dimensions 12 in. wide x 4.375 in. high) is welded on the top and bottom sides only and has a total of 24 inches of weld length.

Only the upper horizontal surface of the attachment weld (12 in. length) is accessible due to the welded attachment being at essentially the same elevation as the upper surface of the reactor bioshield. In addition, the close proximity of the RPV stabilizer assembly itself and the bioshield wall prohibits examination of the bottom side of the attachment. As a result, only 12 inches of a total 24 inches of weld length can be examined on each integral attachment.

In response to the reduced coverage obtained at the selected integral attachment, Pilgrim subsequently inspected during the third interval the upper 12 inch long sides of all four RPV stabilizer assembly integral attachments using surface examination techniques. This ultimately obtained 48 inches of total combined weld coverage. This yields a combined coverage of 200% when compared to the required coverage for one attachment (24 in.). This result, while not obtaining greater than 90% coverage of any one integral attachment, exceeds the required inches of weld length by a factor of two and provides adequate assurance that degradation would be detected if present. Degradation is considered unlikely as no known degradation mechanism has been identified for these welds due to their carbon steel construction and service conditions.

2.6.1 Table 3 of relief request PRR-42 contains a listing of multiple limited examinations for Class 1 piping welds that have occurred during the third 10-year interval. The table lists ASME Code Examination Category B-J for each piping weld, which would normally indicate that a conventional ISI program has been implemented. Typically, if a risk-informed inservice inspection (RI-ISI) program is being implemented, a new Examination Category R-A is used, which lists welds, or elements, according to expected forms of degradation. However, ASME Item Numbers for both a conventional and RI-ISI program are listed, e.g., R1.11 (B9.11). Item Number R1.11 refers to welds susceptible to thermal fatigue and B9.11 is the conventional designation for Circumferential butt welds in piping greater than 4-inch NPS. In addition, Item Number R1.20 (B9.11) is also referenced, but no such Item Number exists within the framework of ASME Code RI-ISI methods (Code Cases N-577 and N-578). Confirm that all Class 1 piping welds are part of a RI-ISI program at PNPS, and clarify the designation of Item Number R1.20.

State the total number of Category B-J (new Category R-A) Class 1 piping welds that exist at PNPS, the examination sample population of these that are included in the RI-ISI program, and clarify the extent of limited volumetric coverages that resulted during each weld examination. In addition, describe whether PNPS considered performing additional examinations on welds not in the initial RI-ISI examination population to supplement the limited volumetric coverages.

2.6.1 RESPONSE:

Pilgrim received NRC approval on May 2, 2001 to implement a risk-informed inspection program for Class 1 category B-F and B-J piping welds based on the methodology detailed in EPRI Topical Report TR-112657 revision B-A and Code Case N-578 as an alternative to the requirements of the 1989 Edition ASME XI code.

The risk-informed methodology used at Pilgrim includes all category B-F and B-J welds in the determination of the final risk-informed inspection sample of 71 Class 1 welds. There are a total of 598 Class 1 code category B-J (now R-A) welds at Pilgrim Station with 60 of these welds included in the Class 1 risk-informed inspection sample. In accordance with the EPRI risk-informed methodology, augmented programs are relied upon for the inspection of welds not wholly subsumed by the risk-informed process, including IGSCC-susceptible welds. All carbon steel and IGSCC category A austenitic stainless steel welds are subsumed into Pilgrim's risk-informed inspection process while all IGSCC category B, C, D, E and G welds are examined in accordance with the augmented inspection schedules and methods outlined in BWRVIP-75A.

Section XI Code item numbers such as B9.11 were included in PRR-42 Table 3 in addition to the new risk-informed item numbers for the sake of completeness as risk-informed inspections were not implemented until the second period of the Pilgrim third ten year inspection interval. Inspections performed during the first period of the Pilgrim third ten year inspection interval were completed in accordance with the 1989 ASME XI code.

In 2001, as part of the risk-informed inservice inspection program application, Class 1 circumferential piping welds were assigned alternate examination category and code item numbers that were consistent with ASME Section XI Code Case N-578-1. The numbering system established in Code Case N-578-1 is similar to the one used in Code Case N-578. However, the Code Case N-578-1 numbering system is more complete and more accurately reflects the technical criteria established in EPRI Topical Report No. TR-112657. For these reasons, the numbering system established in Code Case N-578-1 was used instead of the one shown in Code Case N-578, and is carried forward into the fourth interval. Item number R1.20 as shown in Table 3 of PRR-42 is not listed in Code Case N-578 but was included in Code Case N-578-1 as a means to categorize elements that are not subject to a damage mechanism. Inclusion of item number R1.20 in Table 3 is administrative in nature and has no substantive impact on relief request PRR-42.

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Clarification of the extent of limited volumetric coverages resulting from each weld examination is discussed in LO-WPOLO-2007-00027 CA-11. To summarize, the examinations of seven welds in the PNPS risk-informed inspection program during the 3rd interval failed to obtain greater than 90% coverage. Of those seven welds, one is a dissimilar metal Core Spray pipe-to-valve weld (14-A-10A). All similar DM welds are already included in the BWRVIP-75A inspection sample. Another weld, Main Steam Drain carbon steel pipe-to-valve weld 1-SD-10R had obtained coverage of 87.5%, amounting to one inch of weld length that could not be obtained due to the pipe-to-valve configuration. This difference was considered insignificant when the examination of 21 additional inches of weld metal from the three new welds being added to the inspection sample are considered.

For the remaining five welds in the PNPS risk-informed inspection program that failed to obtain greater than 90% coverage, Entergy will revise the risk-informed inspection program by adding three additional weld examinations to account for the limited volumetric coverage obtained during the third interval risk-informed inspections. Three additional welds are from the same systems, are of equivalent risk ranking and have been scheduled for examination during the next refueling outage in 2009. The table below provides details of the extra coverage provided by the new welds.

WELD No.*	UT COVERAGE IN 3 rd INTERVAL (%)	RISK RANKING	DIA. (in.)	WELD LENGTH MISSED FROM 100% COVERAGE (in.)	WELD LENGTH ADDED (in.)	REMARKS
10R-IA-6	50	HIGH	18	28	---	
10R-IA-7	50	HIGH	18	28	---	
10R-IB-4	---	HIGH	18	---	57	to be added to RISI Program
2R-HB-1	50	MEDIUM	12	19	---	
2R-HB-4	50	MEDIUM	12	19	---	
2R-HB-3	---	MEDIUM	22	---	69	to be added to RISI Program
12-O-24	50	MEDIUM	6	9	---	
12R-O-8	---	MEDIUM	6	---	19	to be added to RISI Program
14-A-10A	37.1	MEDIUM	10	20	---	All DM welds currently included in BWRVIP-75A inspection program
1-SD-10R	87.5	HIGH	3	1	---	
TOTAL	---		---	124 in.	145 in.	

* welds added to PNPS risk-informed program to account for reduced coverage in 3rd interval are shown in **bold font**.

2.6.2 Several of the coverage sketches included in ultrasonic reports for Examination

Category B-J circumferential piping welds are unclear. For example, the sketch shown for Weld 10-1A-14 lists only a 70-degree longitudinal examination; however, the calibration report indicates that both a 45-degree shear and a 70-degree longitudinal technique were used. For those welds under a conventional ISI program, please re-submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques used on these welds. Summarize the scanning directions and techniques, list the materials for the base metal and weld, and clarify whether the methods used have been qualified in accordance with performance demonstration requirements per ASME Section XI, Appendix VIII.

2.6.2 RESPONSE:

Total ultrasonic examination coverage of welds 10-1A-14, 10-1A-15, 10R-1A-6, 10R-1A-7, 12-O-24, 14-A-19, 14-B-17, 14-B-20, 1-SD-10R, 2R-HB-1 and 2R-HB-4 is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Welds 10-1A-14 and 10-1A-15

Weld 10-1A-14 is a Residual Heat Removal (RHR) System stainless steel pipe to stainless steel flued head penetration weld utilizing stainless steel weld metal. Weld 10-1A-15 is a Residual Heat Removal (RHR) System stainless steel pipe to stainless steel valve weld utilizing stainless steel weld metal. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour and in this case utilize the same ultrasonic system calibration.

These welds were ultrasonically examined manually utilizing Entergy Nuclear Procedure ENN-NDE-9.23, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds. Refer to Report CDS No. 05-C-450.

Manual scanning was performed from the pipe side of these welds only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheets EDS No. 05-E-451-ISI and 05-E-452-ISI of Report No. CDS No. 05-C-450 contains a sketch that depicts the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for a 70° refracted longitudinal wave beam.

Procedure ENN-NDE-9.23 paragraph 5.3.6.1 states "Search units designed to produce nominal inspection angles of 45°, 60° or 70° shall be used. The actual angle produced in austenitic material shall be used for technique selection, coverage calculations, and plotting of all indications. All the previously required angles are nominal with a deviation allowance of $\pm 3^\circ$." Further, paragraph 5.3.7.2.1.3 states, "When accessibility is limited to a single side in materials greater than 0.50" thick, a longitudinal wave search unit that provides adequate coverage on the far side of the weld shall be used for the detection and length sizing of flaws on the far side of the weld." In the case of welds 10-1A-14 and 10-1A-15, the examiner conservatively utilized two angles and modes of propagation for the greatest achievable coverage. The 45° shear wave was utilized for pipe side coverage and the 70° longitudinal wave for total coverage. Only the 70° longitudinal wave is portrayed on the sketch to demonstrate complete procedure required coverage on both sides of the weld.

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Examination coverage is limited on these welds due to the pipe to component configurations. Qualified examination coverage could only be claimed for the base material and weld heat affected zone on the pipe side. Procedure ENN-NDE-9.23 paragraph 1.81 states, "Detection of length sizing of circumferentially oriented flaw indications when only single side access is available and the flaw is located on the far side of the weld, however guidance is provided. The techniques identified in this procedure have been demonstrated to be representative of "best effort" technology for single side detection of far side defects parallel to the weld." This condition resulted in claimed examination coverage for these welds as follows: 14-A-10A, 50% code coverage and 14-B-10A, 50% code coverage.

Welds 10R-1A-6 and 10R-1A-7

Welds 10R-1A-6 and 10R-1A-7 are Residual Heat Removal (RHR) System stainless steel pipe to stainless steel valve welds utilizing stainless steel weld metal. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour and in this case utilize the same ultrasonic system calibration.

These welds were ultrasonically examined manually utilizing Procedure 50.87, Revision 1. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds. Refer to Report Nos. CDS 03-C-135 and 03-C-137.

Manual scanning was performed from the pipe side of these welds only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheets EDS No. 03-E-136 and 03-E-138 of Report Nos. CDS 03-C-135 and 03-C-137 contain a sketch that depicts geometric reflector plotting. The Code required volume for inspection of these welds is the inner 1/3 thickness extending for 1/4" beyond the toe of the weld. Coverage for these welds can only be claimed from one side due to the pipe to valve configuration. Procedure 50.87, Revision 1, paragraph 1.4 states in part, "Where access to both sides is not possible, this procedure is qualified for detection of circumferentially oriented flaws from one side of the weld. This procedure is not qualified for the detection of axially oriented flaws or length sizing of any flaw located on the far side of the weld when performing single side access examinations." Therefore, these weld examinations met the single side access requirements of the procedure and thus only 50% Code required volume inspection coverage was achievable for welds 10R-1A-6 and 10R-1A-7.

Weld 12-O-24

Weld 12-O-24 is a Reactor Water Cleanup (RWCU) System stainless steel pipe to stainless steel flued head weld utilizing stainless steel weld metal.

This weld was ultrasonically examined manually utilizing Procedure 50.87, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds. Refer to Report No. CDS 01-C-316.

Manual scanning was performed from the pipe side of this weld only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheets EDS No. 01-E-317 of Report No. CDS 01-C-316 contains a sketch that depicts the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for the 45° and 70° shear wave beams.

Procedure 50.87, Revision 0, paragraph 1.4 states in part, "Where access to both sides is not possible, this procedure is qualified for detection of circumferentially oriented flaws from one side of the weld. This procedure is not qualified for the detection of axially oriented flaws or length sizing of any flaw located on the far side of the weld when performing single side access examinations." Paragraph 4.1.8 of this procedure states in part, "Search unit wedges that produce a nominal angle of 45° shall be used when the examination volume can be effectively covered in two directions. When geometric configuration(s) prohibit full coverage with the 45° search unit a 60° search unit shall be selected. When geometric configurations prohibit coverage with the 45° and 60° search unit, a 70° search unit shall be selected." Page 2 of Data Sheets EDS No. 01-E-317 of Report No. CDS 01-C-316 contains a sketch that depicts the scanning direction and coverage for the 45° and 70° shear wave beams. Since this is single sided examination coverage, greater than 50% of the required examination volume cannot be claimed and therefore the coverage should be revised to 50% not the stated 56.64%.

Weld 14-A-19

Weld 14-A-19 is a Core Spray (CS) System stainless steel pipe to stainless steel valve weld utilizing stainless steel weld metal. Refer to Report CDS No. 05-C-457-ISI.

This weld was ultrasonically examined manually utilizing Entergy Nuclear Procedure ENN-NDE-9.23, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds.

Manual scanning was performed from the pipe side of this weld only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheet No. 05-E-458-ISI contains a sketch that depicts the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for both 45° shear wave and a 70° refracted longitudinal wave beam.

Procedure ENN-NDE-9.23 paragraph 5.3.6.1 states "Search units designed to produce nominal inspection angles of 45°, 60° or 70° shall be used. The actual angle produced in austenitic material shall be used for technique selection, coverage calculations, and plotting of all indications. All the previously required angles are nominal with a deviation allowance of $\pm 3^\circ$." Further, paragraph 5.3.7.2.1.3 states, "When accessibility is limited to a single side in materials greater than 0.50" thick, a longitudinal wave search unit that provides adequate coverage on the far side of the weld shall be used for the detection and length sizing of flaws on the far side of the weld." In the case of weld 14-A-19, the examiner conservatively utilized two angles and modes of propagation for the greatest achievable coverage. The 45° shear wave was utilized for pipe side coverage and the 70° longitudinal wave for total coverage. Only the 70° longitudinal wave is portrayed on the sketch to demonstrate complete procedure required coverage on both sides of the weld. Because the weld contour is flat enough to scan across the entire weld surface, the coverage sketch depicted on Page 2 of Data Sheet No. 05-E-458-ISI indicates the projected beams on both sides of the weld even though coverage can only be claimed for one side.

Examination coverage is limited on this weld due to the pipe to valve configuration. Qualified examination coverage could only be claimed for the base material and weld heat affected zone on the pipe side. Procedure ENN-NDE-9.23 paragraph 1.81 states, "Detection of length sizing of circumferentially oriented flaw indications when only single side access is available and the flaw is located on the far side of the weld, however guidance is provided. The techniques identified in this procedure have been demonstrated to be representative of "best effort" technology for single side detection of far side defects parallel to the weld." This condition resulted in claimed examination coverage for these welds as follows: 14-A-19 50% code coverage.

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Welds 14-B-17 and 14-B-20

Welds 14-B-17 and 14-B-20 are Core Spray (CS) System stainless steel pipe to stainless steel penetration fitting welds utilizing stainless steel weld metal. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour and in this case utilize the same ultrasonic system calibration. Refer to Report No. CDS 01-C-193.

These welds were ultrasonically examined manually utilizing Procedure ITI 50.87, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds. Refer to Report No. CDS 01-C-193.

Manual scanning was performed from the pipe side of these welds only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Pages 3 and 4 of Data Sheets LDS No. 01-L-141 of Report No. CDS 01-C-193 contains a sketch that depicts the coverage projections for the 45° shear wave and 60° refracted longitudinal wave. The Code required volume for inspection of these welds is the inner 1/3 thickness extending for ¼" beyond the toe of the weld. Coverage for these welds can only be claimed from one side due to the pipe to penetration fitting configuration. Procedure 50.87, Revision 0, paragraph 1.4 states in part, "Where access to both sides is not possible, this procedure is qualified for detection of circumferentially oriented flaws from one side of the weld. This procedure is not qualified for the detection of axially oriented flaws or length sizing of any flaw located on the far side of the weld when performing single side access examinations." Therefore, these weld examinations met the single side access requirements of the procedure and thus only 50% Code required volume inspection coverage was achievable for welds 14-B-17 and 14-B-20. Since this is single sided examination coverage, greater than 50% of the required examination volume cannot be claimed and therefore the coverage should be revised to 50% for both welds not the stated 58.7% for weld 14-B-17 and 59.42% for weld 14-B-20.

Weld 1-SD-10R

Weld 1-SD-10R is a Main Steam (MS) System carbon steel pipe to valve weld utilizing carbon steel weld metal. Refer to Report CDS No. 01-C-252.

This weld was ultrasonically examined manually utilizing Procedure ITI 50.71, Revision 5. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-01 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 3 for ultrasonic examination of ferritic piping welds.

Manual scanning was performed from the pipe side of these welds only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheet EDS No. 01-E-253 of Report No. CDS No. 01-C-252 contains a sketch that depicts the ASME Code required volume (inner 1/3 thickness extending for ¼" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for 45° and 70° shear wave.

Paragraph 4.1.8 of procedure ITI 50.71, Revision 5 states in part, "Search unit wedges that produce a nominal angle of 45° shall be used when the examination volume can be effectively covered in two directions. When geometric configuration(s) prohibit full coverage with the 45° search unit a 60° search unit shall be selected. When geometric configurations prohibit coverage with the 45° and 60° search unit, a 70° search unit shall be selected." Page 2 of Data Sheets EDS No. 01-E-317 of Report No. CDS 01-C-316 contains a sketch that depicts the scanning

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direction and coverage for the 45° and 70° shear wave beams. In this case 100% axial scan coverage was achieved but only 75% circumferential coverage due to the downstream weld to valve profile causing transducer "lift-off." The resultant composite coverage for weld 1-SD-10R is 87.5%.

Welds 2R-HB-1 and 2R-HB-4

Welds 2R-HB-1 and 2R-HB-4 are Reactor Recirculation System 316 stainless steel pipe to 316 stainless steel pipe welds utilizing stainless steel weld metal. These welds are essentially constructed identically, differing only in the degree of weld surface preparation/contour and in this case utilize the same ultrasonic system calibration. Refer to Report Nos. CDS 01-C-155 and 01-C-157.

These welds were ultrasonically examined manually utilizing Procedure ITI 50.87, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-2 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 2 for ultrasonic examination of austenitic piping welds. Refer to Report Nos. CDS 01-C-155 and 01-C-157.

Manual scanning was performed from the pipe side of these welds only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 and 3 of Data Sheet EDS No. 01-E-156 and page 3 of Data Sheet EDS No. 01-E-158 of Report Nos. CDS 01-C-155 and 01-C-157 contains a sketch that depicts the Code required volume for inspection of these welds is the inner 1/3 thickness extending for 1/4" beyond the toe of the weld and the projected scans for the 45° shear, 60° shear wave and 60° refracted longitudinal wave beams.

Procedure ITI 50.87, Revision 0, paragraph 1.4 states in part, "Where access to both sides is not possible, this procedure is qualified for detection of circumferentially oriented flaws from one side of the weld. This procedure is not qualified for the detection of axially oriented flaws or length sizing of any flaw located on the far side of the weld when performing single side access examinations." Therefore, these weld examinations were performed utilizing the single side access requirements of the procedure and thus only 50% Code required volume inspection coverage can be claimed for welds 2R-HB-1 and 2R-HB-4. Since this is single sided examination coverage, greater than 50% of the required examination volume cannot be claimed and therefore the coverage should be revised to 50% for both welds not the stated 75%.

At the time these examinations were conducted, it was believed by the inspector that these welds were configured as a pipe to reducer and they were only scanned from the downstream side of the welds. In fact, these welds are a unique pipe to larger pipe configuration and could potentially be scanned from both sides. PNPS will evaluate scanning from both sides of these welds which should yield inspection coverage of > 90%. These welds are currently scheduled for re-examination in the 4th ISI Interval.

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2.7.1 *The licensee elected to perform liquid penetrant examination of the subject control rod drive (CRD) housing welds, as shown by examination reports on pages 218 and 219 of the submittal. However, no sketches indicating the exact cause of the limited examinations are provided. In addition, it is unclear whether the licensee has completed the ASME Code-required 10% of peripheral CRD housing welds by the examinations that were performed.*

Confirm that the four CRD housing welds submitted in PRR-42 represent 10% of the peripheral CRD housing welds on the RPV at PNPS. Alternatively, discuss whether other peripheral CRD housing welds could be examined to compensate for the limited coverage on the subject welds in order to complete the ASME Code-required 10% surface areas.

2.7.1 RESPONSE:

The 1989 ASME Section XI Code, Category B-O, Examination Item B14.10, requires a volumetric or surface examination of 10% of the peripheral CRD housings during the 3rd Interval.

The control rod drive housings are inserted through the control rod drive penetrations in the reactor vessel bottom head and are welded to the Inconel stub tubes extending into the reactor vessel. The housings are fabricated of type 304 austenitic stainless steel. (Refer to Attachment E for a schematic of the CRD housings undervessel.)

PNPS elected to perform a surface examination at 4 locations using the liquid penetrant method during RFO#15 (ref. exam reports 05-P-432-ISI and 05-P-433-ISI). Due to accessibility issues, the surface examinations of the four selected locations were limited to 50%-70% of the weld areas. The undervessel area is congested with horizontal beams, hanger rods, support bars, grids, etc. severely limiting access in this area and the available work space. This and the proximity of adjacent CRD drives accounted for the limited examinations in this area.

Attachment E shows that there are 36 peripheral CRD housings with 2 assembly welds per housing. 10% of 36 peripheral housings rounds up to 4 housings per Interval requiring inspection. The four CRD housing examinations submitted in PRR-42 (ref. exam reports 05-P-432-ISI and 05-P-433-ISI) represent ~11% of the peripheral CRD housings at PNPS.

The net surface examination coverage obtained on the 4 housings that were inspected was approximately 60%. Even though this was performed on >10% of the required housings, the net surface examined still accounts for less than 100% of the Code-required coverage.

To account for the limited surface examination coverage obtained during the 3rd Interval inspections, Entergy will be revising the ISI Program to select additional CRD housings for examination during the 4th Interval in order to be certain that an equivalent 100% inspection of 10% of the peripheral housings is obtained. Assuming an average 55% coverage per housing, examination of 3 additional housings (7 total) will provide the equivalent code required coverage. This will satisfy the examination requirements of the 1998 ASME Code Section XI / 2000 Addenda which is utilized for the 4th Interval.

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2.8.1 Please list the applicable component (vessel, piping, pump, or valve) and system for each of the subject welded attachments:

EB-23-13HL1(4)

EB-23-59HL1(4)

HL-10-200HL1(4)

2.8.1 RESPONSE:

The applicable component (vessel, piping, pump, or valve) and system for each of the subject welded attachments is as follows:

EXAM POINT	SYSTEM	DRAWING	COMPONENT TYPE	CAT.	ITEM NO.
EB-23-13HL1(4)	HPCI	ISI-I-23-2	PIPING WELDED ATTACHMENT	C-C	C3.20
EB-23-59HL1(4)	HPCI	ISI-I-23-2	PIPING WELDED ATTACHMENT	C-C	C3.20
HL-10-200HL1(4)	RHR	ISI-I-10-4ASH1	PIPING WELDED ATTACHMENT	C-C	C3.20

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2.9.1 *There are several discrepancies with the licensee-submitted examination reports for pipe-to-valve Weld GB-14-F34 which affect this evaluation.*

1) *On the Calibration Data Sheet (page 224) a 70-degree refracted longitudinal technique is shown, but on the cross-sectional coverage sketch (page 226) both 60- and 70-degree examinations are indicated. Please confirm the ultrasonic techniques used for examining this weld, and confirm these methods have been qualified by performance demonstration in accordance with ASME Section XI, Appendix VIII. In addition, in the remarks section of this calibration sheet, it is stated that the weld was "scanned below reference due to high noise levels." Further explain the cause of this excessive noise, and state whether scanning below reference level has been successfully demonstrated via Appendix VIII.*

3) *The licensee reports relatively low volumetric coverage (approximately 30%) for Weld GB-14-F34. From the coverage sketch sheets and remarks (pages 226, 227, and 228), it is unclear which examination techniques produced portions of the cumulative coverage. Please re-submit cross-sectional sketches, or full written descriptions, describing ASME Code-required volumes and areas of completed coverage for each of the techniques used on this weld.*

4) *From the remarks on the sketch sheet on page 228, it appears that the outside surface geometry and/or weld crown was not in compliance with the licensee's ultrasonic procedure ENN-NDE-9.10, and displayed surface roughness, or gaps, that exceeded 1/32-inch which significantly impacted the ultrasonic examination. Discuss the surface smoothness criteria, as stated in the procedure, and whether the surface conditions on Weld GB-14-F34 prevented the methods qualified through performance demonstration per ASME Section XI, Appendix VIII to be effective on the subject weld.*

2.9.1 1), 2.9.1 3), and 2.9.1 4) RESPONSES:

Total ultrasonic examination coverage of weld GB-14-F34 is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Weld GB-14-F34 is a Category C-F-1 Core Spray (CS) System carbon steel pipe to stainless steel valve weld utilizing stainless steel weld metal having a nominal wall thickness of 0.432". Refer to Report CDS No. 05-C-492-ISI and Attachment D.

This weld was ultrasonically examined manually utilizing Entergy Nuclear Procedure ENN-NDE-9.10, Revision 0. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-10 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 10 for ultrasonic examination of dissimilar metal piping welds.

Manual scanning was performed from the pipe side of this weld only. Scanning was performed in both the transverse (scanning transverse or perpendicular to the weld) and parallel (scanning parallel to the weld in both the clockwise and counter clockwise directions). Page 2 of Data Sheet No. 05-E-493-ISI contains a sketch that depicts the ASME Code required volume (inner 1/3 thickness extending for 1/4" beyond the toe of the weld). In addition, this sketch depicts the scanning direction and coverage for both 60° and a 70° shear wave beams.

Entergy Nuclear Procedure ENN-NDE-9.10, Revision 0, Section 5.4 required that dissimilar metal welds having thickness < 0.50" be scanned in the axial direction with 60° and 70° shear and longitudinal beams and 45 ° shear and longitudinal beams in the circumferential direction. The sketch identified above depicts the maximum forward movement for the shear wave transducers

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

which was the most limiting aspect of this examination. Coverage calculations are based on transducer positions prior to lifting off the component due to weld crown configuration. Page 4 of Data Sheet 05-E-493-ISI presents the calculation for a total Code required volume coverage of 29.75%. It should also be noted that ENN-NDE-9.10, Revision 0, paragraph 1.0[8] does not allow scanning from the cast stainless steel side of a weld, therefore no scanning could be performed from the valve side even if the physical profile was acceptable.

2.9.1 *There are several discrepancies with the licensee-submitted examination reports for pipe-to-valve Weld GB-14-F34 which affect this evaluation.*

2) The Examination Data Sheet (page 225) shows the component materials to be both carbon steel and stainless steel. List the materials for the base metals and weld, clarify if any Alloy 600/82/182 or stainless steel buttering exists, and if so, discuss whether ultrasonic techniques qualified for dissimilar metal welds should be used for Weld GB-14-F34.

2.9.1 2) RESPONSE:

Weld GB-14-F34 is a pipe-to-valve weld in the Class 2 portion of the Core Spray system with carbon steel pipe welded to the stainless steel valve body of motor-operated valve MO1400-4B. This weld is original plant construction, made in January 1972, and consists of Schedule 40 A106 Gr B carbon steel pipe welded to an A182 F316 forged stainless steel valve body using E309 weld filler metal. No Inconel weld metal or stainless steel buttering was used to make this weld. This weld is not exposed to reactor coolant as it is a Class 2 weld with normal service conditions of 80 degrees F and 300 psig in accordance with Entergy piping specification M-300. Operating temperatures for this weld are well below the accepted IGSCC initiation temperature of 200F as detailed in Generic Letter 88-01 and NUREG 0313. Consequently, IGSCC is not considered to be a potential degradation mechanism for this location. As such, ultrasonic techniques qualified for examining dissimilar metal welds are not applicable to this weld.

This weld has been scheduled to be radiographed during Pilgrim's 2009 refueling outage in accordance with the 1998-2000 addenda ASME Section XI code volumetric inspection requirements in lieu of ultrasonic methods due to the pipe-to-valve configuration which caused UT examination coverage results obtained during the 3rd interval to be less than required.

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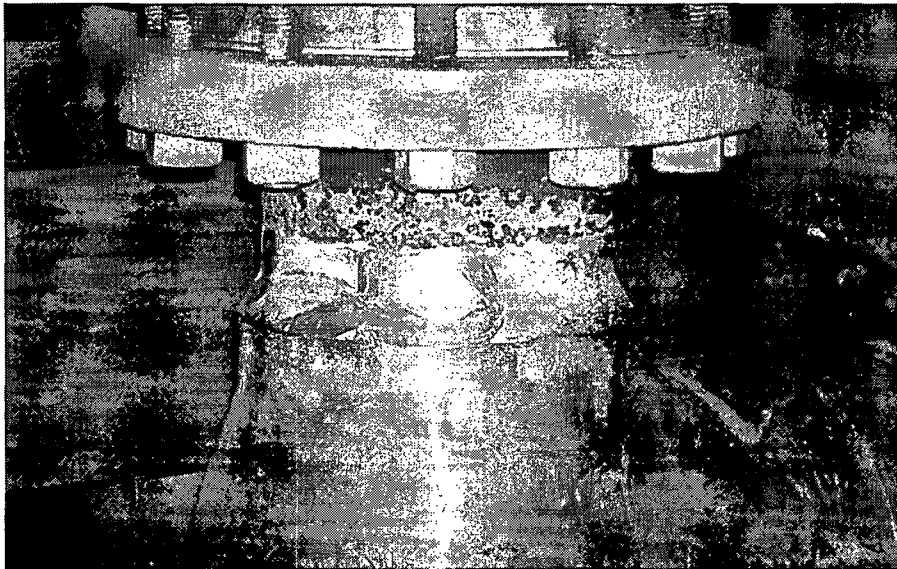
2.9.3 *State the population of other Examination Category C-F-1 welds that were completed to the full extent of ASME Code requirements.*

2.9.3 RESPONSE:

There are twelve Category C-F-1 welds installed at PNPS including welds with wall thickness less than 0.375 inches (i.e. thin-wall). Eleven of the twelve C-F-1 welds were volumetrically examined during the 3rd interval with ten welds achieving documented coverage greater than 90%. Limited coverage was obtained for weld GB-14-F34 and weld GB-14-F33 was not examined as discussed below.

All twelve welds are located in portions of Class 2 standby systems (RHR and Core Spray) that are not exposed to reactor coolant and experience service conditions with normal operating temperatures of 80 degrees F in accordance with Entergy piping specification M-300. IGSCC is not considered as a damage mechanism for austenitic stainless steel welds with normal operating temperatures less than 200 degrees F as documented in Generic Letter 88-01. Correspondingly, these welds are not subject to the requirements of Generic Letter 88-01.

Four of the twelve C-F-1 welds were constructed with nominal pipe wall thickness less than 0.375 inches (0.280 in.). Examination of thin-wall (<0.375 in.) butt welds was not required by the 1989 ASME XI code Table IWC-2500-1 requirements. However, the four thin-wall C-F-1 welds at PNPS were subsequently scheduled for ultrasonic examination during the 3rd interval as part of an augmented sample requested by the regulator. As discussed above, three of the four augmented welds were examined with ultrasonic techniques. Two of these four augmented welds obtained greater than 90% coverage during examinations in 1997 with the examination of a third augmented weld (GB-14-F34) producing limited coverage (as discussed in response to RAI question 2.9.1). The fourth augmented weld (weld no. GB-14-F33) could not be examined during the 3rd interval since the original plant configuration (see photo) is a stainless steel valve-to-carbon steel flange weld that does not allow examination with ultrasonic methods. This weld is scheduled to be volumetrically examined using radiographic methods during the 2009 refueling outage in lieu of ultrasonic techniques in order to obtain the code-required volumetric coverage.



GB-14-F33

2.9.4 *State whether 100% of the ASME Code-required surface examination was completed on Weld GB-14-F34.*

2.9.4 RESPONSE:

100% of the required surface examination was completed.

2.10.1 *The licensee has shown 85% surface examination coverage obtained for Weld GB-10-9-2E, using the magnetic particle (MT) examination method. The sketch (page 230) shows a bolted pipe hanger clamp as being the cause of the obstruction to this MT examination. Discuss whether the examination coverage could be increased by use of other surface methods, e.g., liquid penetrant. Also, state the population of other Examination Category C-F-2 welds that were completed (surface and volumetric) to the full extent of the ASME Code requirements.*

2.10.1 RESPONSE:

There are a total of 1003 category C-F-2 welds at PNPS including those with wall thickness less than 0.375 inches (i.e. thin-wall). The category C-F-2 inspection sample consists of 82 welds that were examined with surface and volumetric techniques during the 3rd ten-year inspection interval. Acceptable (>90%) code coverage was obtained for 80 of the 82 welds in the inspection sample. The two welds where less than the required coverage was obtained are GB-10-9-2E and HE-26-F238, both of which are discussed in detail in this submittal.

The magnetic particle (MT) surface examination of weld GB-10-9-2E (ref. datasheet 03-M-064) yielded a combined coverage of 85% due to a large pipe clamp obstructing access to portions of the weld inspection boundary. As shown in Figure IWC-2500-7 of ASME XI, the surface examination inspection boundary includes the weld surface plus the pipe surface out to a distance of ½ inch from each weld toe. To achieve acceptable coverage, greater than 90% of this surface area must be examined.

The use of other surface examination methods such as liquid penetrant (PT) have been evaluated for the purpose of increasing coverage for this weld. The configuration of weld GB-10-9-2E consists of a vertical 12 inch diameter weldolet (16.9 inch diameter) joined to a horizontal 18 inch diameter carbon steel pipe. No known degradation mechanism affects this weld due to being fabricated entirely of carbon steel materials and the standby operating status of this Class 2 system (RHR) eliminates fatigue as a potential failure mechanism. A heavy-duty 3-bolt 18 inch pipe clamp, a component part of pipe support H-10-1-81, is located on the downstream side of the welded pipe intersection and butts directly against the downstream toe of weld GB-10-9-2E. The pipe clamp is 4.5 inches wide and 0.875 inches thick. The horizontal centerline of the 18 inch horizontal pipe and the associated pipe clamp is 29 feet above the Torus Room floor. For the clamp to be loosened and slid upstream far enough to provide unobstructed access to weld GB-10-9-2E, cribbing or other supports would have to be installed to temporarily support the pipe. Due to the remote location of this pipe support in the ceiling of the Torus Room, no practical means exists to temporarily support this pipe so the clamp can be loosened and moved or completely removed to provide increased inspection access to weld GB-10-9-2E.

The MT examination performed in 2003 reported that an arc length of 8 circumferential inches of weld and adjacent pipe surfaces was obstructed by the adjacent pipe clamp. It is estimated that an additional 2 inches (1 inch at each end of the 8 inch obstructed region) of weld and vertical (12 in.) pipe surface might be gained by the use of PT methods as opposed to the original MT method. No additional coverage however is possible on the horizontal (18 in.) pipe surface due to the pipe clamp obstruction. This 2 inches of potential added coverage on the vertical pipe surface using PT methods adds only approximately 1.5% to the combined coverage, raising the total coverage to only 86.5%. To obtain greater than 90% coverage for this weld, more than 3 inches of additional coverage would need to be examined on both the vertical and horizontal pipe surfaces, an outcome which is not possible without moving the pipe clamp. For these reasons, it is concluded that the use of alternate surface examination methods for weld GB-10-9-2E in order to obtain the required >90% coverage would not be successful.

2.10.2 *In addition, the licensee has reported 63.8% volumetric coverage for Weld GB-10-9-2E, which is described as a "weldolet", and a cross-sectional sketch is included on page 233. However, from this sketch, Weld GB-10-9-2E appears to be a branch connection (Item C5.81) configuration similar to that shown in ASME Figure IWC-2500- 12. As such, only a surface examination is required to be performed on this weld. Please confirm whether this weld is a full penetration circumferential butt weld, or a branch connection, as shown in the licensee-submitted sketch.*

2.10.2 RESPONSE:

The configuration of weld GB-10-9-2E consists of a vertical 12-inch diameter weldolet (16.9-inch diameter) joining line 12"-GB-10 to a horizontal 18-inch diameter carbon steel pipe (line no. 18"-GB-10) in the RHR System. This configuration is depicted on drawing ISI-I-10-4B Sheet 1 and is a branch connection using a circumferential full penetration fillet weld to connect the weldolet to the 18" diameter run pipe, similar to Figure IWC-2500-10. As such, this weld should have been classified as Examination Category C-F-2 Item No. C5.81 instead of Item No. C5.51. The required examination method for this weld is surface only per Table IWC-2500-1. The last inspection of this weld consisted of both surface (MT) and volumetric (UT) examinations.

The station's ISI tracking database has been updated to reflect Code Item No. C5.81 as being the correct classification for this weld. Any future examinations at this location will consist of the MT surface examination method only. As stated in the response to RAI Question 2.10.1, the last magnetic particle (MT) surface examination of this weld (reference datasheet 03-M-064) yielded a combined coverage of 85% due to a large pipe clamp obstructing access to portions of the weld inspection boundary. The use of the PT (liquid penetrant) method does not provide an appreciable gain in the 90% required coverage. Due to the remote location of the obstructing pipe support in the ceiling of the Torus Room, no practical means exists to temporarily support this pipe so that the clamp can be loosened and moved, or completely removed, to provide increased inspection access to weld GB-10-9-2E. As such, future MT surface examinations are expected to average 85% coverage only.

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2.10.3 *If Weld GB-10-9-2E requires a volumetric examination, discuss whether the coverage could be increased by performing scans from the "branch pipe" side of the weld.*

2.10.3 RESPONSE:

Total ultrasonic examination coverage of weld GB-10-9-2E is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Weld GB-10-9-2E is a Residual Heat Removal (RHR) System carbon steel pipe to fitting (weldolet) branch connection weld utilizing carbon steel weld metal. Refer to Report CDS No. 03-C-072.

This weld was ultrasonically examined manually utilizing Procedure ITI 50.71, Revision 6. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-01 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 3 for ultrasonic examination of ferritic piping welds.

After review of NRC comments regarding this weld, PNPS agrees that a possibility exists that additional ultrasonic coverage may be possible. In view of this fact, PNPS has rescheduled this weld for ultrasonic examination in the upcoming refueling outage (RFO-17). Based on the sketch from the above referenced UT report it appears that additional UT coverage can be achieved by scanning from the fitting side. It should be noted however that > 90% coverage may not be achieved due to the adjacent pipe support clamp that cannot be removed due to function and location. Further, given that all Category C-F-2 branch connections are required to be examined, there are no additional branch connections remaining to supplement the required sample.

2.10.4 *Weld HE-26-F238 is listed as a valve-to-pipe configuration. However, from the cross-sectional coverage sketch (page 236), it appears that scans could be performed from both sides of this weld. Please confirm the ultrasonic techniques used for examining this weld, and confirm these methods have been qualified by performance demonstration in accordance with ASME Section XI, Appendix VIII. In addition, state whether the surface examination was completed to the full extent of ASME Code requirements for Weld HE-26-F238.*

2.10.4 RESPONSE:

Total ultrasonic examination coverage of weld HE-26-F238 is impractical due to obstructions or limiting component configuration that adversely affects the scan paths for required ultrasonic beam projections required to achieve complete coverage.

Weld HE-26-F238 is a Category C-F-2 Reactor Core Isolation Cooling (RCIC) System carbon steel pipe to valve weld utilizing carbon steel weld metal. Refer to Report CDS No. 05-C-338-ISI.

This weld was ultrasonically examined manually utilizing Entergy Nuclear Procedure ENN-NDE-9.04, Revision 1. This procedure is the equivalent of EPRI PDI generic procedure PDI-UT-01 which meets the requirements of ASME Section XI, Appendix VIII, Supplement 3 for ultrasonic examination of ferritic piping welds.

This weld was examined in the third ISI Interval as part of an NRC directed augmented inspection requirement of thin wall (<0.375 ") piping welds since these welds were not required to be examined under the 1989 Edition of ASME Section XI, Category C-F-2 selection criteria. The PNPS fourth Interval ISI Program Plan basis is the 1998 Edition though 2000 Addenda of ASME Section XI. As a result of this upgrade, this weld is included in the total required count of Category C-F-2 welds, but was not selected as part of the required examination population percentage. Given this fact, PNPS believes that no further action is required for this weld.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

2.10.5 *List the system(s) on which Welds GB-10-9-2E and HE-26-F238 exist.*

2.10.5 RESPONSE:

GB-10-9-2E is in the RHR System as shown on Drawing ISI-I-10-4B Sheet 1.

For ISI purposes, HE-26-F238 is considered to be in the RCIC System as shown on Drawing ISI-I-13-5. This component is in the RCIC Pump suction (condensate transfer) line from the Condensate Storage Tank (CST).

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TABLE 3 (UPDATED)
COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	COMBINED NDE COVERAGE		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
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
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

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

TABLE 3 (UPDATED)
COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	COMBINED NDE COVERAGE		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
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
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	50	---	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	---	50	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	---	50	PIPE TO PENETRATION FLUED HEAD CONFIGURATION
B-J	R1.20 (B9.11)	14-B-20	PIPE TO PIPE	---	50	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	---	50	REDUCER TO PIPE CONFIGURATION

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)

TABLE 3 (UPDATED)
COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

CODE CATEGORY	CODE ITEM	COMPONENT ID	DESCRIPTION	COMBINED NDE COVERAGE		LIMITATION (CAUSE OF REDUCED COVERAGE)
				MT/PT	UT	
B-J	R1.20 (B9.11)	2R-HB-4	HEADER TO BEND	---	50	REDUCER TO PIPE CONFIGURATION
B-O	B14.10	RPV-CRD- HSG-1	CRD HOUSING WELD	70	---	LIMITED 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	---	LIMITED 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	---	LIMITED EXAM DUE TO ADJACENT DRIVES; DRIVES CHOSEN TO MAXIMIZE COVERAGE; SHOOTOUT STEEL REMOVED FOR EXAM.
B-O	B14.10	RPV-CRD- HSG-4	CRD HOUSING WELD	65	---	LIMITED 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

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)
Attachment A – Response to RAI 2.2.2

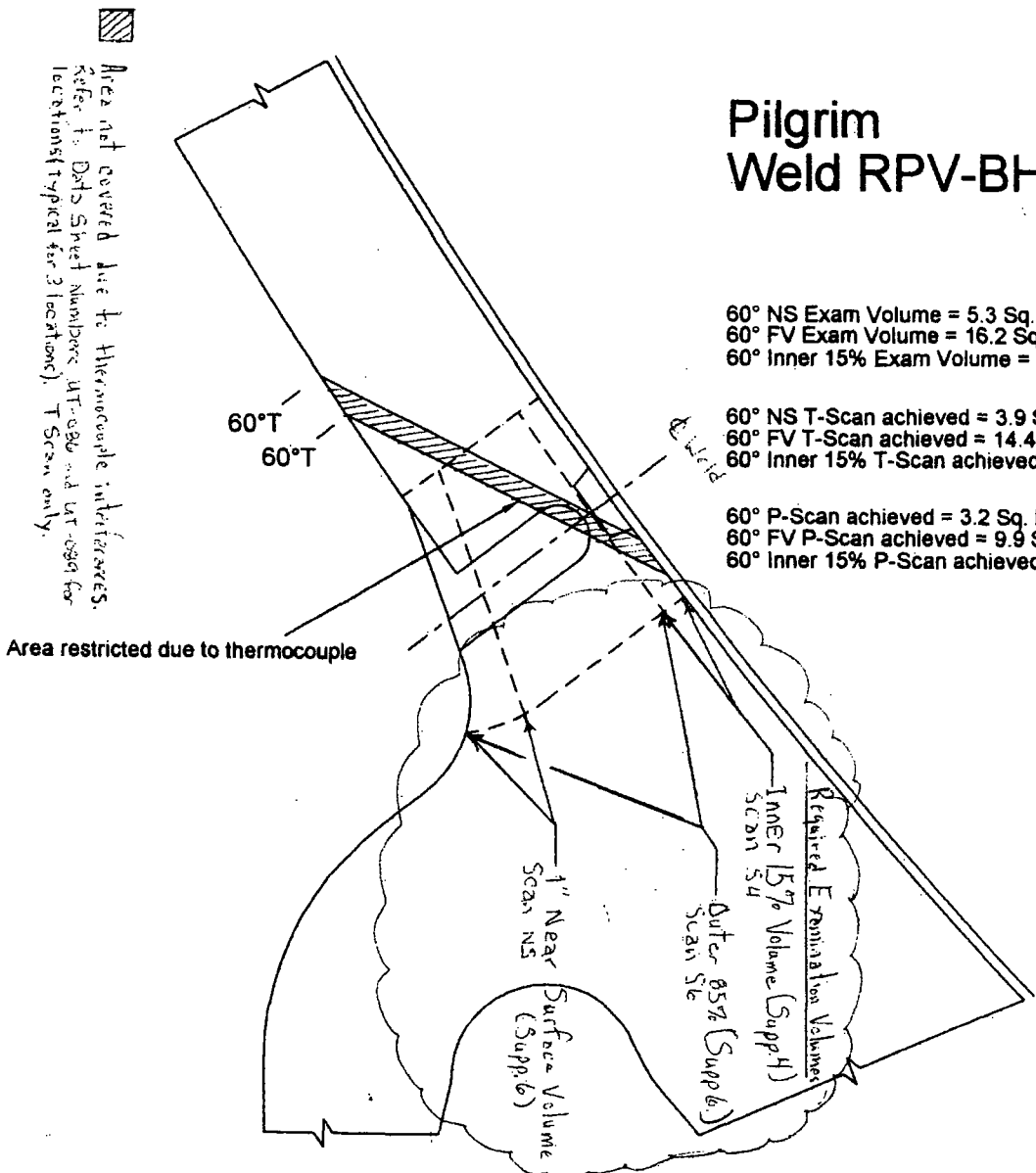
Sketch 1

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.



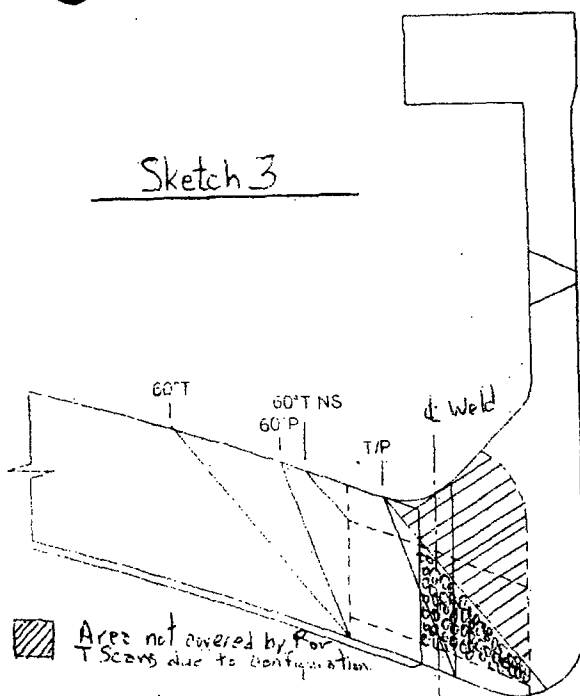
Area not covered due to thermocouple interference.
Refer to Data Sheet Number: UT-080 and UT-089 for
locations (typical for 3 locations). T-Scan only.

Pilgrim RF015, 2005

Page 11 of 12

Sketch not to scale 5-4-05

Sketch 3



- Area not covered by P Scan due to configuration
- Area not covered by T Scans due to configuration

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.

Pilgrim -N7A&B Weld RPV-N7A-NV Top Head Spray

Nozzle Bottom Side

60° NS Exam Volume = 1.8 Sq. In.
 60° FV Exam Volume = 1.9 Sq. In.
 Inner 15% T Exam Volume = 2.9 Sq. In.

60° NS T-Scan achieved = 1.8 Sq. In.
 60° FV T-Scan achieved = 1.5 Sq. In.
 60° Inner 15% T-Scan achieved = 2.9 Sq. In.

60° NS P-Scan achieved = 1.2 Sq. In.
 60° FV P-Scan achieved = 1.8 Sq. In.
 60° Inner 15% P-Scan achieved = 2.9 Sq. In.

Outer 85% Volume
 (Supp. 6)
 Scan 56

Inner 15% Volume
 (Supp. 4)
 Scan 54 & 1R

Required Examination Volume

1" Near Surface Volume
 (Supp. 6)
 Scan NS

Scan 78
 Page 8 of 8

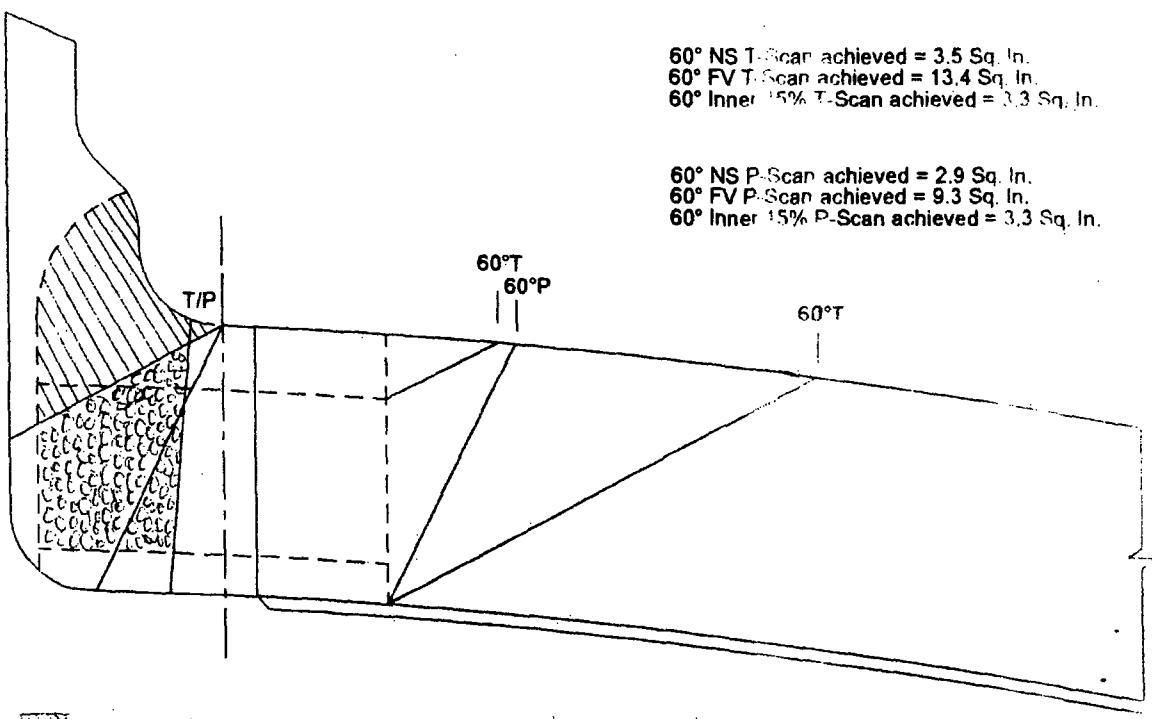
Sketch 4



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.



-  Area not covered by Per T Scans due to configuration
-  Area not covered by P Scan due to configuration

Note: The required examination volumes are as shown for nozzle to vessel configuration on Sketch 3.

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)
Attachment B – Response to RAI 2.2.3



*IHI Southwest Technologies
NDE Examination Services*

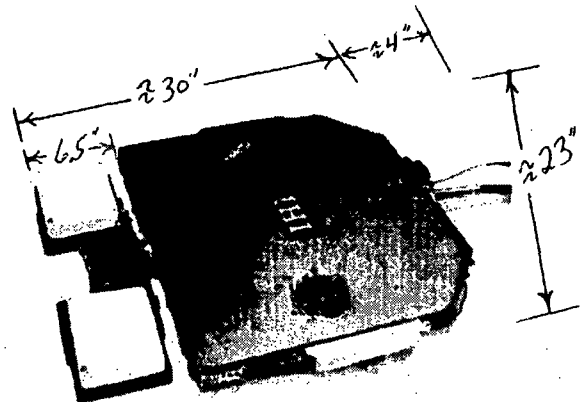
*Pilgrim Nuclear Power Station
April 2005 – RFO15*

Positional location of the AIRIS scanner is accomplished using a combination of measurements integrated and displayed by the control system. An origin reference point is established for each examination zone by locating a specific elevation and azimuth. Elevation can be determined by the use of two high-accuracy water depth sensors, one on the device and one located at a fixed location such as the vessel flange, or it can be determined visually by driving the device to a fixed component inside the vessel whose elevation is known. Azimuth reference location can be accomplished

using optical beam transmitter/receiver system to determine azimuth location based on the known location of internal reactor components, or a physical reference can be obtained from other components such as sparger piping, steam dryer lugs, surveillance specimen holders, or guide rod brackets.

Once the device is on the vessel wall in the referenced position, the encoded drive wheels provide travel distance and a gravity sensor keeps track of device orientation. The control unit integrates this information and provides constant positional information relative to the device location. A graphic display unit also shows the orientation of the device and direction of movement.

The device is controlled through a single umbilical cable bundle, which contains all inputs and outputs to the control system as well as the AUT transducer cables. This device control cable also contains a steel braided cable so that the cable can also function as a device retrieval mechanism in the unlikely event of a power failure or thrust propeller failure. Device operation is monitored visually during the inspections using independent remote video cameras.



Scanner is ≈ 2 " thick

Figure 2. AIRIS-21 Scanner

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)
Attachment B – Response to RAI 2.2.3



IHI Southwest Technologies
NDE Examination Services

Pilgrim Nuclear Power Station
April 2003 – RFO15

2.3 NDE Techniques

The RPV vertical welds were ultrasonically examined utilizing ISwT's Performance Demonstration Initiative (PDI) qualified detection procedures. These procedures were previously qualified for both double-sided and single-sided detection and sizing using SLIC40 and Duplex transducer designs.

For flaw detection on the inner 3.25" of the vessel wall (which includes the Supplement 4 volume), SLIC 40 search unit are used for the detection of both parallel and transverse flaws. When scanning can be accomplished from both sides, two opposing SLIC 40 transducers are used. When scanning can only be accomplished from one side, two SLIC 40s are used side by side.

For flaw detection on the outer portion of the vessel shell, ISwT's "Duplex" transducers were used. These specially designed transducers significantly improve signal-to-noise ratios over standard transducers and were especially valuable during the Supplement 6 qualification for discrimination of buried flaws in the "mid-wall" region of the shell. Two Duplex 55-degree transducers are used in opposing directions when scanning was accomplished from two sides. When scanning can only be accomplished from one side, two Duplex transducers are again used in the same direction, however, one is a 45-degree Duplex. This approach again allows retention of the "two-hit" criterion, but provides a slightly different angle for more reliable flaw confirmation.

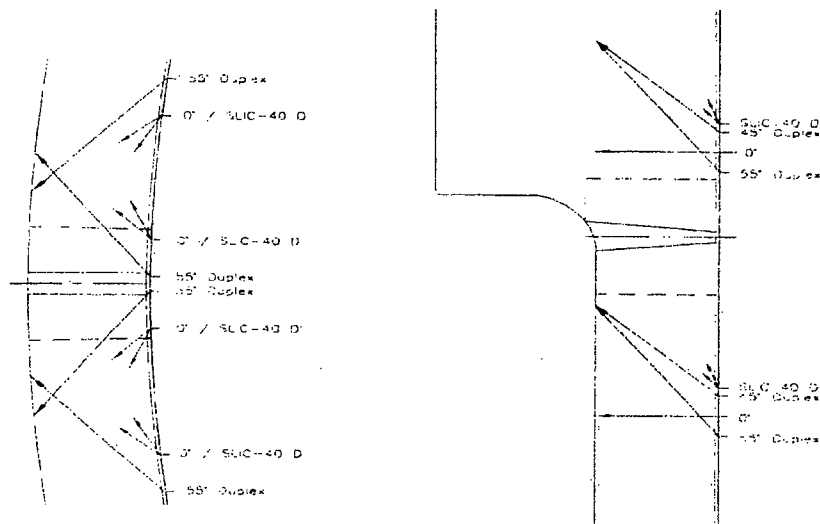
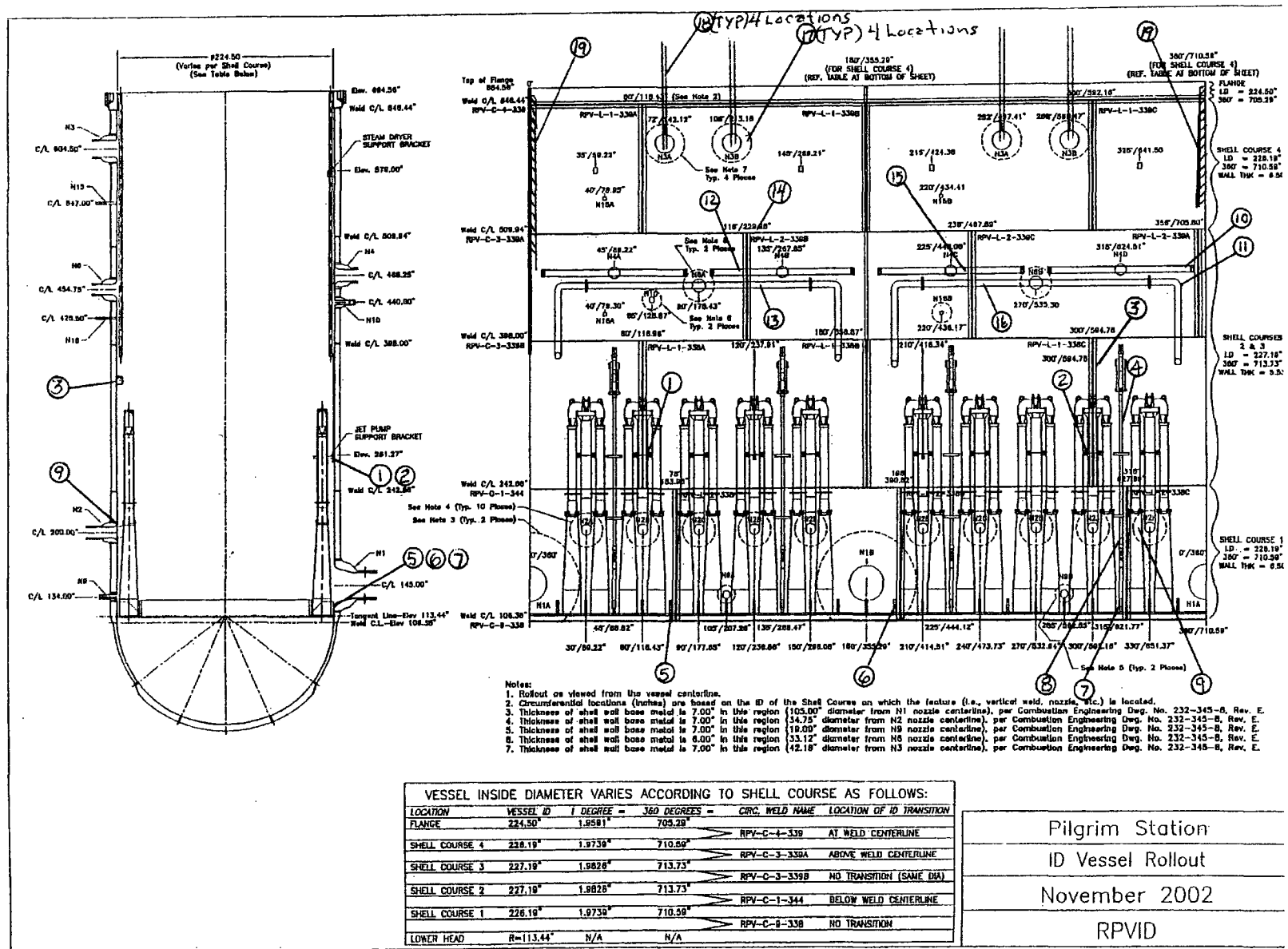
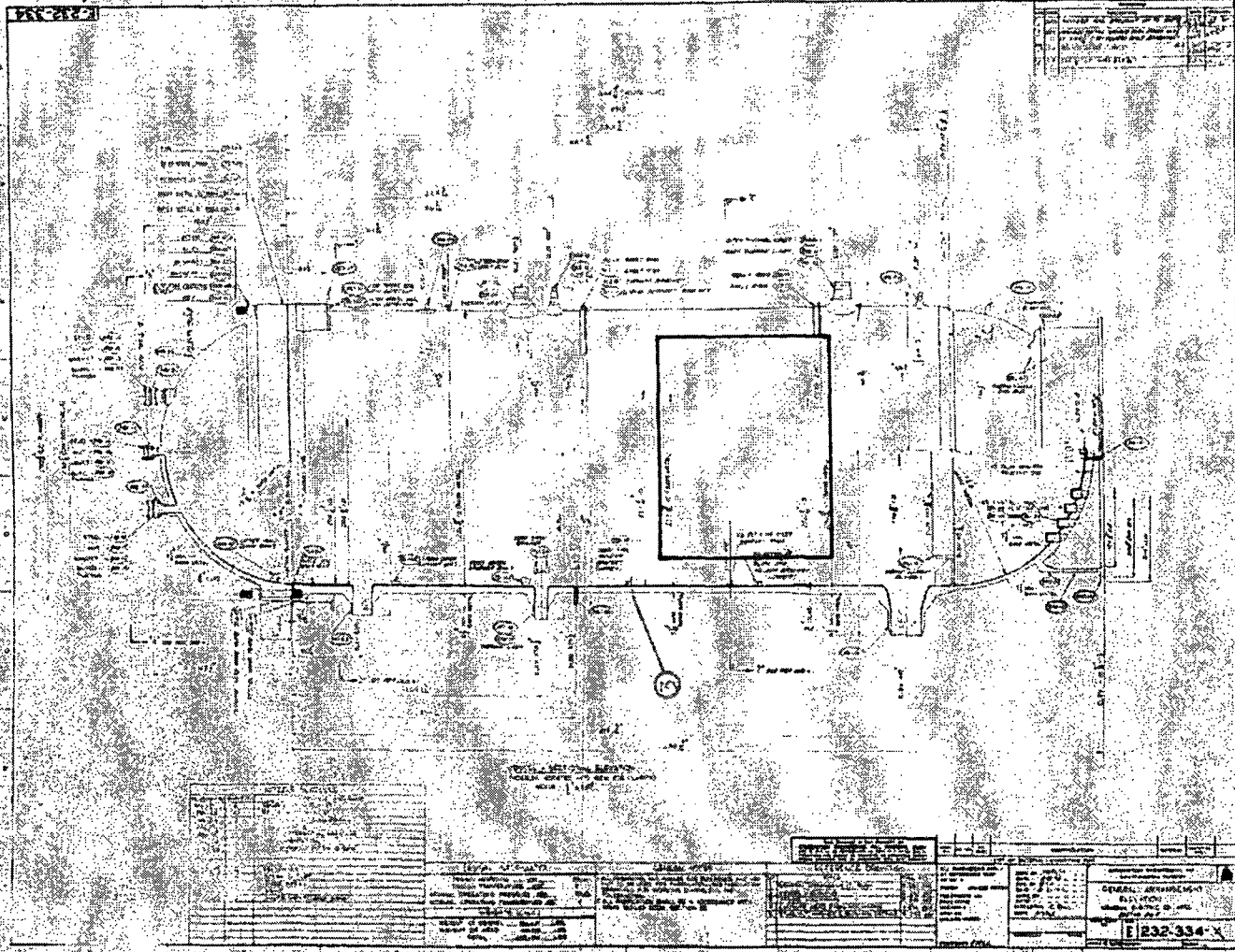


Figure 4. PDI Detection Techniques for RPV

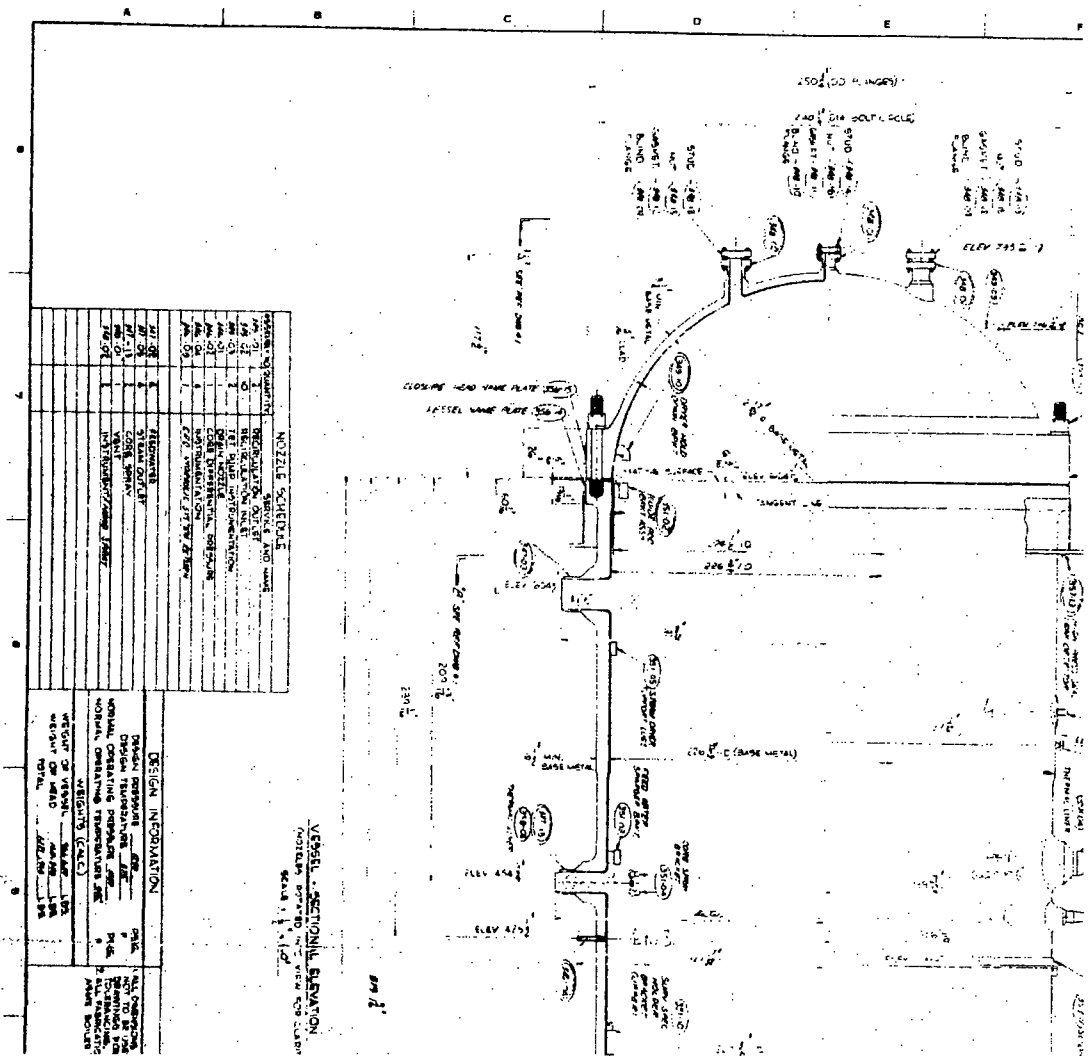
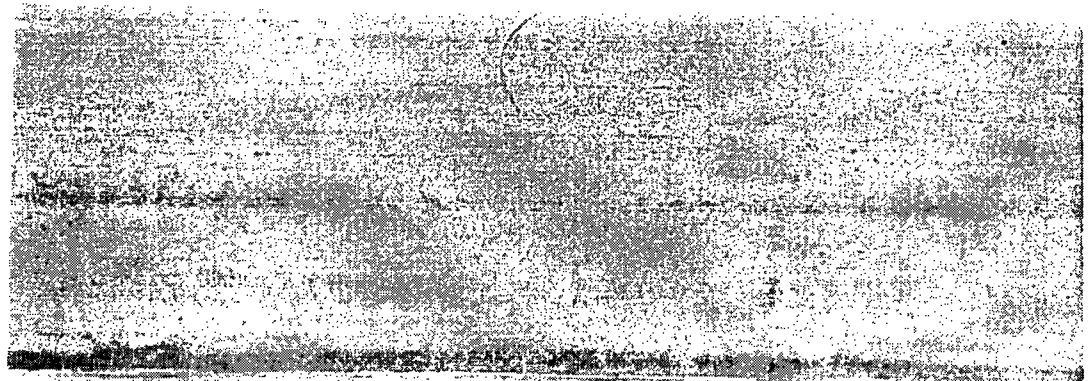


RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)
Attachment C – Response to RAI 2.2.3: RPV Rollout



0 MIA 28-3 10

RESPONSES FOR PRR-42 RAI (PRR-42 Rev. 1)
Attachment C – Response to RAI 2.2.3: RPV Rollout





Calibration Data Sheet

CDS No: 05-C-377-151
LDS No: 05-L-378-151 *4/21/05*
Page: 1 of 14 *4/21/05*

Plant/Unit: PILGRIM / 1
System: CORE SPRAY
Component: GB-14-F34
Line No.: 6"-GB-14
Procedure: ENR-NDE-9.10 Rev.: 0
Thermometer S/N: 232
Cal. Blk Temp.: 63°F Comp Temp.: 64°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: 03116642
DWG No.: ISI I 14-2B

Cal Checks	Time
Initial Cal.:	<u>1000</u>
Date:	<u>4-25-05</u>
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	<u>1609</u>
Date:	<u>4-25-05</u>

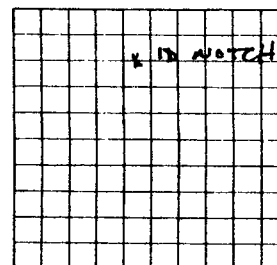
Couplant
Type: ULTRAGEL II
Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>GB-14-F34</u>	<u>SINGLE</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>SD.4</u>

Remarks
N/A

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: II Date: 4/27/05
ANII: [Signature] Date: 5/2/05



Search Unit # 1

Manufacturer: KBA
Model: COMP-G
Serial No.: 00582L
Size: .25" Shape: Round
Freq.: 2.25MHz Elm: 1
Angle: 45° Mode: SHEAR
Measured Angle: 45°
Wedge Style: MSWQC

Search Unit Cable

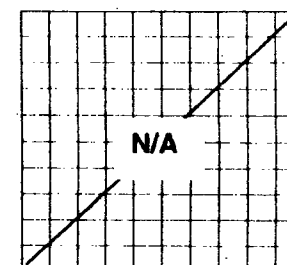
Type: RG 174
Length: 6' # Con.: 0

Instrument Settings

Manufacturer: STAVLEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: 206 Range: 1.00
Mtl. Vel.: 124 Pulser: 222
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: P-E

Reference Sensitivity

Axial: N/A Circ: 44.4



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

Manufacturer: N/A
Model: _____
Serial No.: _____
Linearity Due: _____
Delay: _____ Range: _____
Mtl. Vel.: _____ Pulser: _____
Damping: _____ Reject: _____
Rep Rate: _____ Freq.: _____
Filter: _____ Mode: _____

Reference Sensitivity

Axial: _____ Circ: _____



Calibration Data Sheet

CDS No: 05-C-349-151

LDS No: 05-L-278-151

Page: 2 of 4

Plant/Unit: PILGRIM / 1
System: CORE SPRAY
Component: GB-14-F34
Line No.: 6"-GB-14
Procedure: ENR-NDE-9.10 Rev.: 0
Thermometer S/N: 232
Cal. Blk Temp.: 63°F Comp Temp.: 64°F
Cal. Block No.: PIL-39A
☒ Carbon Steel ☐ Stainless Steel
Size: 6" Sch.: .280"

Work Order: 03116642
DWG No.: ISI I 14-28

Cal Checks	Time
Initial Cal.:	<u>1020 / 1040</u>
Date:	<u>4-25-05</u>
Inter. Cal.:	
Date:	
Inter. Cal.:	
Date:	
Final Cal.:	<u>1614 / 1618</u>
Date:	<u>4-25-05</u>

Cal Direction ☒ Axial ☐ Circ ☐ Both

Scan Area ☒ I to weld

Scan Area ☒ II to weld

Couplant

Type: ULTRAGEL II
Batch: 01225

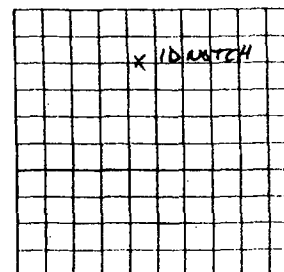
Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>GB-14-F34</u>	<u>SINGLE</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>47.8 / 55.2</u>

Remarks

60° SCANNED IN CIRC DIRECTION TO ENHANCE 45° SCAN.

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: 4/25/05
ANII: [Signature] Date: 5/6/05



Search Unit #1

Manufacturer: KBA
Model: COMP-G
Serial No.: 00YMBR
Size: .375" Shape: ROUND
Freq: 2.25 MHz Elm: 1
Angle: 60° Mode: SHEAR
Measured Angle: 60°
Wedge Style: MSWQC

Search Unit Cable

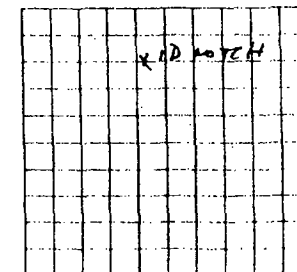
Type: RG 174
Length: 6' # Con.: 0

Instrument Settings

Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: .401 Range: 1.25
Mtl. Vel.: .127 Pulser: 222
Damping: 500 Reject: OFF
Rep Rate: 4K Freq: 2.25
Filter: 2 Mode: P-E

Reference Sensitivity

Axial: 47.8 Circ: 47.8



Search Unit #2

Manufacturer: KBA
Model: COMP-G
Serial No.: 00T96X
Size: .375" Shape: ROUND
Freq: 2.25 MHz Elm: 1
Angle: 70° Mode: SHEAR
Measured Angle: 67°
Wedge Style: MSWQC

Search Unit Cable

Type: RG 174
Length: 6' # Con.: 0

Instrument Settings

Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: .448 Range: 2.00
Mtl. Vel.: .128 Pulser: 222
Damping: 500 Reject: OFF
Rep Rate: 4K Freq: 2.25
Filter: 2 Mode: P-E

Reference Sensitivity

Axial: 55.2 Circ: N/A



Calibration Data Sheet

CDS No: 05-C-374-151
LDS No: 05-L-228-151
Page: 3 of 4

Plant/Unit: PILGRIM / 1
System: COPE SPRAY
Component: GB-14-F34
Line No.: 6"-GB-14
Procedure: ENP-NDE-9.10 Rev.: 0
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 ☒ I to weld
Scan Area ☒ II to weld

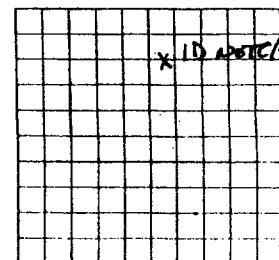
Work Order: 03116642
DWG No.: ISI I 14-28
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Initial Cal.: 0910/0925
Date: 4-25-05
Inter. Cal.:
Date:
Inter. Cal.:
Date:
Final Cal.: 1555/1558
Date: 4-25-05

Couplant
Type: ULTRAGEL II
Batch: 01225

Examination Area / Weld	Access	Recordable Indications			Exam Sens.
		Yes	No	Geom.	
<u>GB-14-F34</u>	<u>SINGLE</u>	<u>N/A</u>	<u>✓</u>	<u>N/A</u>	<u>64.6/64.6*</u>

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: 5/2/05

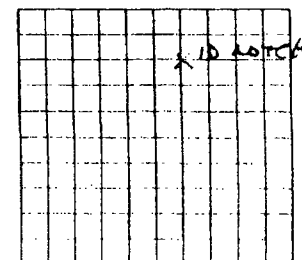


Search Unit #1
Manufacturer: RTD
Model: TRLA
Serial No.: 98-978
Size: 2(7x10) Shape: RECT
Freq.: 2 MHz # Elm: 2
Angle: 45° Mode: LONG
Measured Angle: 45
Wedge Style: INTEGRAL

Search Unit Cable
Type: RG 174
Length: 6' # Con.: 0

Instrument Settings
Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: .786 Range: 1.00
Mtl. Vel.: .232 Pulser: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL

Reference Sensitivity
Axial: N/A Circ: 64.6

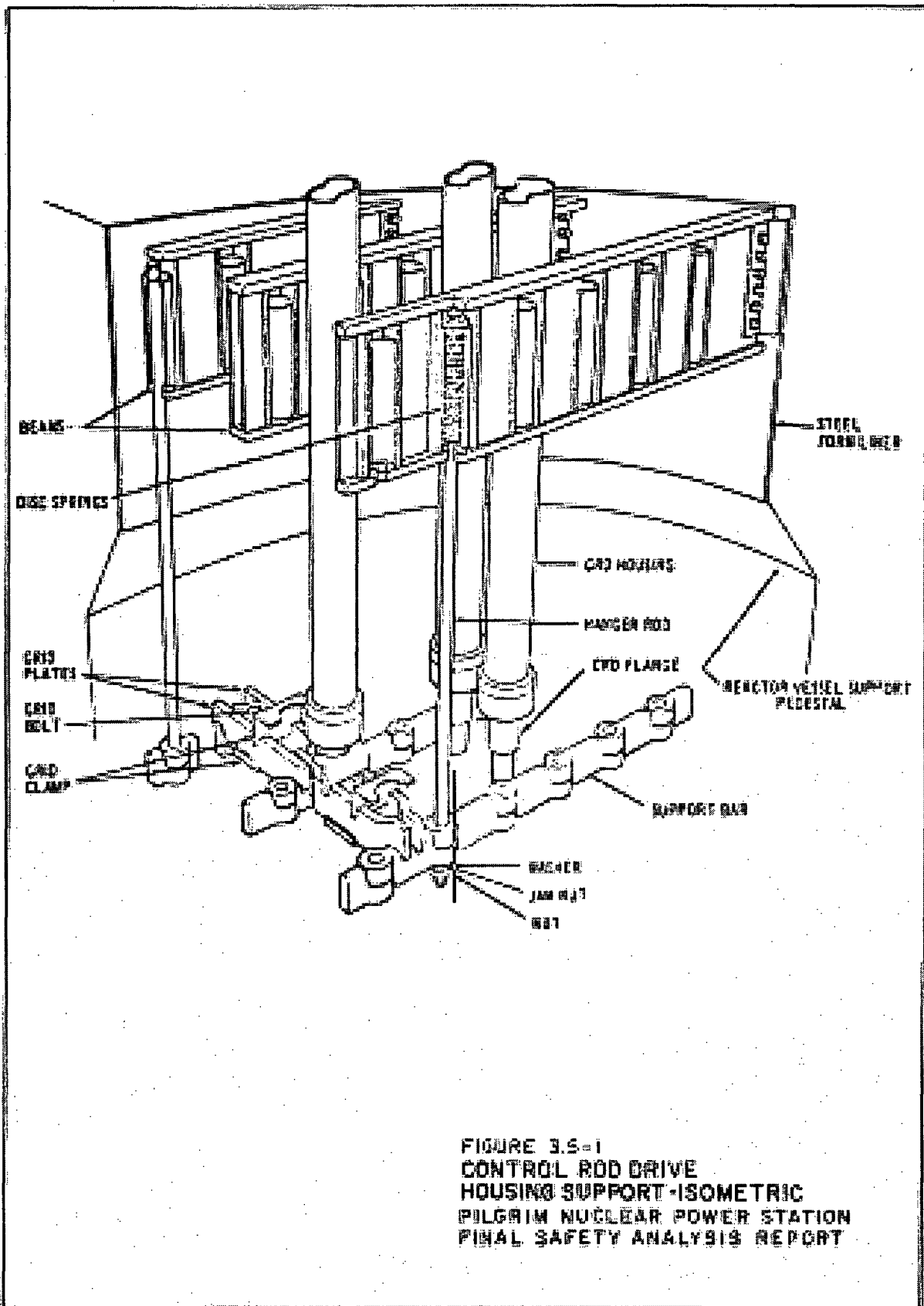


Search Unit #2
Manufacturer: RTD
Model: TRLA
Serial No.: 98-979
Size: 2(7x10) Shape: RECT
Freq.: 2 MHz # Elm: 2
Angle: 60° Mode: LONG
Measured Angle: 60°
Wedge Style: INTEGRAL

Search Unit Cable
Type: RG 174
Length: 6' # Con.: 0

Instrument Settings
Manufacturer: STAVELEY
Model: SONIC 136
Serial No.: 136-875K
Linearity Due: 5-2-05
Delay: .917 Range: 1.25
Mtl. Vel.: .235 Pulser: 250
Damping: 500 Reject: OFF
Rep Rate: 4K Freq.: 2.25
Filter: 2 Mode: DUAL

Reference Sensitivity
Axial: 70.6 Circ: N/A



2.3 LOWER PLENUM ACCESS

The CRD housings, CRD housing caps, and stub tubes shall be inspected by the VT-3 method when accessible. On each of the 145 CRDs there are three welds in this area. CRDH-1 is the CRD cap-to-tube weld, CRDH/ST-1 is the CRD housing-to-stub tube weld, and ST/RPV-1 is the CRD stub tube-to-vessel weld. The housing tubes are 304 stainless steel, the stub tubes are NiCrFe Alloy 600, and the vessel bottom head is low alloy steel. Inspection locations are identified by their CRD location followed by the weld number; e.g., 34-15-CRDH/ST-1.

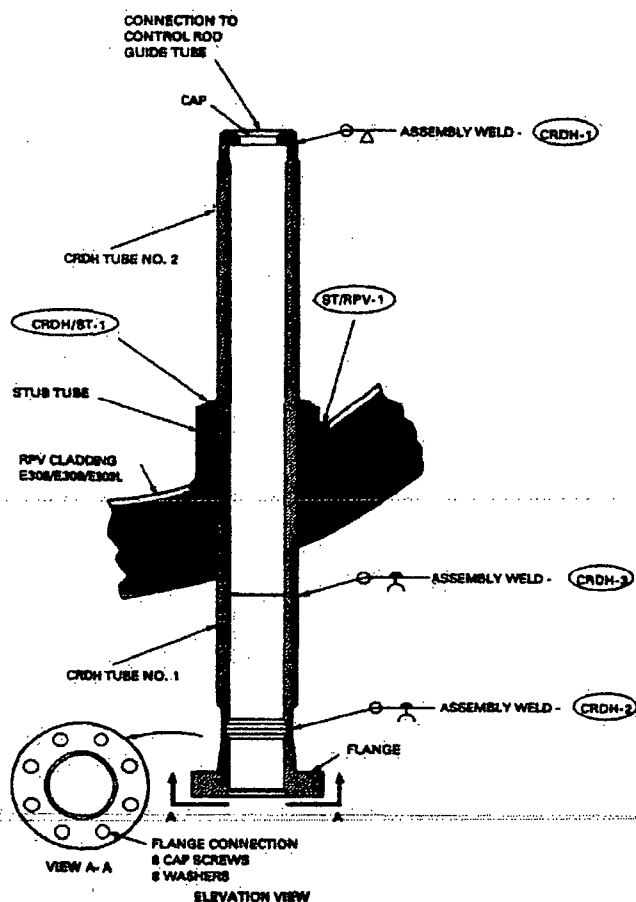


Figure B-2.3 – CRD Stub Tube and Housing

ATTACHMENT 5
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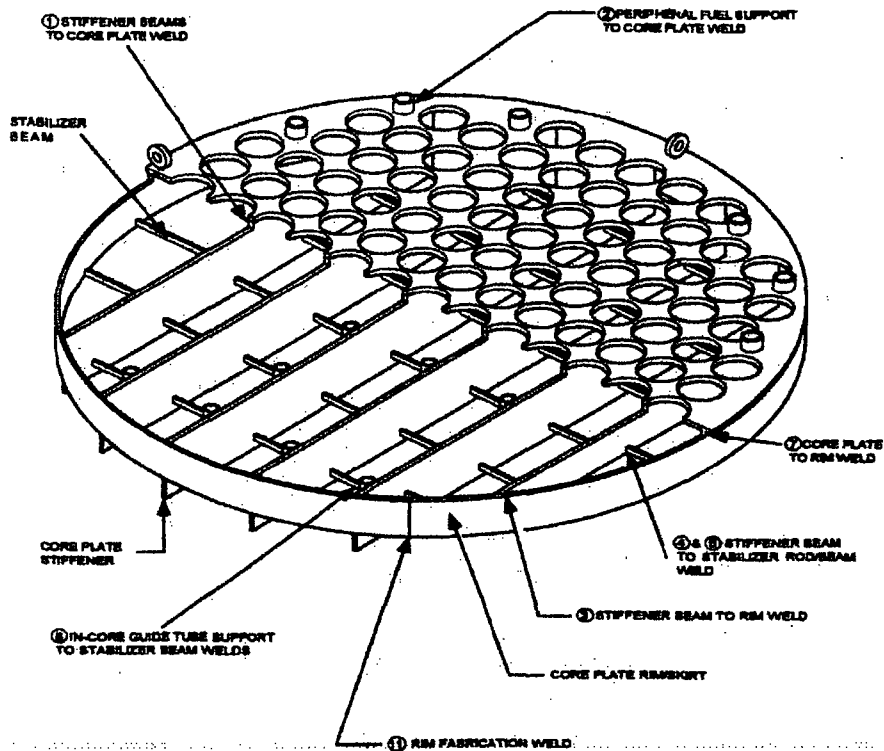


Figure B-3.1 – Core Plate

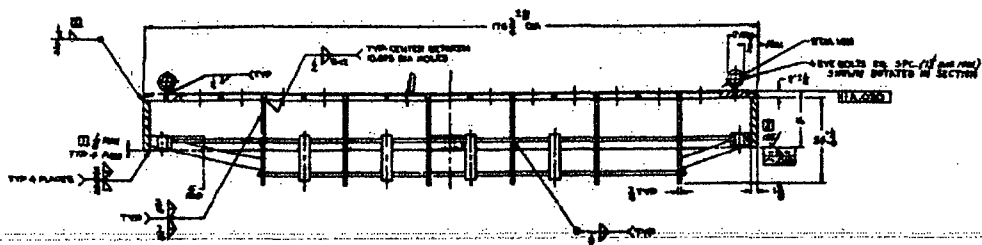


Figure B-3.2 – PNPS Core Plate Section