TENNESSEE VALLEY AUTHORITY	EXAMINATION SUMMARY AND RESOLUTION SHEET	REPORT NUMBER: R-P0440

PROJECT: *WBN* UNIT: *2* CYCLE *00*				COMPONENT ID: *SIF-D196-07*	
EXAMINATION METHOD				SYSTEM: SIS	ISI DWG NO: *ISI-2063-W-09 Rev. 0*
MT ☐	PT ☐	UT ☑	VT ☐	CONFIGURATION:	CATEGORY
PROCEDURE: *N-UT-* 64		REV 11	TC: N/A	*VLV* TO *EL*	*B-J*

EXAMINER:	EXAMINER:	EXAMINER:	EXAMINER:
Jose Alejandro	N A	N A	N A
LEVEL: II	LEVEL:	LEVEL:	LEVEL:

Total coverage calculated to be approximately 73.815 %

An ultrasonic examination was performed to meet the requirements of ASME Section XI preservice inspection.

A 45° shear wave and a 70° refracted longitudinal wave were calibrated and used for this examination.

Examination limited to one side due to valve.

No recordable indications observed.

73.815% examination volume coverage achieved.

RESOLUTION BY:	REVIEWED BY:	ANII:
[signature]	[signature]	DATE: 6/29/09
LEVEL II DATE: 06-08-09	LEVEL: III DATE: 6-9-09	Page: 1 OF 6

ACCESS: FORMS DATABASE R-10/04/01

TENNESSEE VALLEY AUTHORITY	DIGITAL ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER R.P 0446

PROJECT WBN UNIT/CYCLE 2100
PROCEDURE: N-UT-64 REV: 11 TC: N/A

TRANSDUCER
MANUFAC KBA MODEL: Comp G
ELEMENTS: 1 SHAPE: Round
S/N 01FH9T SIZE: .375 FREQ: 1.5 MHz
CONTOUR: N/A FOCUS: N/A
CABLE TYPE RG 174 LENGTH: 72 in # CNT: N/A

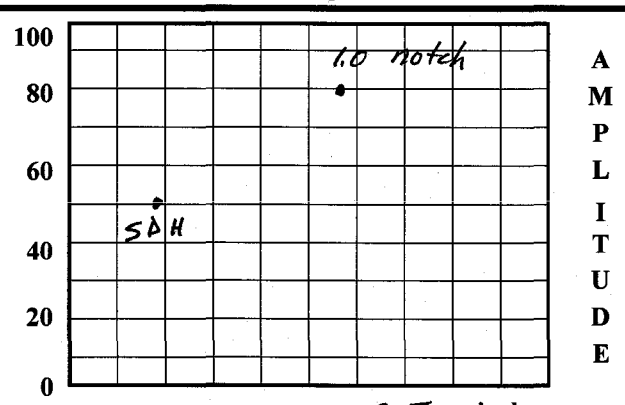
MODE: ☒ SHEAR ☐ LONG ☐ RL

CALIBRATION DATE: 06-04-09
CALIBRATION BLOCK NO. WB83 TEMP: 77.4 °F
SIMULATOR BLOCK: Rompas
THERMOMETER S/N: 562776 DUE DATE: 12-22-09
COUPLANT: Ultrage II BATCH: 06225F

ANGLE VERIFICATION
BLOCK TYPE Rompas S/N: 790390
NOMINAL ANGLE: 45 ACTUAL ANGLE 45 °

INSTRUMENT
MANUFACTURER: Krautkramer DUE DATE: 08-18-09
MODEL NO.: USN60 S/N: E37688

DAC



DISPLAY WIDTH 2.5 inches

REFLECTOR SCAN DIRECT.	NTC	SDH	REFERENCE SENSITIVITY	MEMORY NUMBER
AXIAL	☒	☐	30.6 dB	45°-6-SS
CIRC.	☒	☐	30.6 dB	45°-6-SS

RANGE: 2.5 inches *FREQ: 2.25 MHz
PROBE DELA 8.1928 msec *RECTIFY: Fullwave
VELOCITY .1198 msec DUAL ☐ ON ☒ OFF
DISP DELAY: 0.000 *REJECT: 0 %
*ENERGY: High *DISP. START: IP
*DAMPING: 1K ohms DET: ☐ Peak ☒ Flank
*PRR/PRF: Autohigh TCG: ☐ ON ☒ OFF
ANGLE: 45 deg *PULSER: Single
ZERO: N/A msec

REF. REFLECTOR: Rompas SDH GAIN: 32.4 dB
AMPLITUDE: 50 % METAL PATH: .441

CALIBRATION TIMES
INITIAL TIME: 1206 FINAL TIME: 1332

VERIFICATION TIMES	1) 1250	2) 1304	3) 1311	4) 1321	5) N/A	6) N/A	7) N/A	8) N/A	9) N/A

***PDI QUALIFIED INSTRUMENT SETTINGS:**
VERIFY INSTRUMENT SETTINGS AND CALIBRATION SEQUENCE ARE IN ACCORDANCE WITH TABLE 2 OF THE APPLICABLE PDI QUALIFICATION IMPLEMENTATION PROCEDURE!

LINEARITY CHECK

VERTICAL										
SIGNAL 1	100	90	80	70	60	50	40	30	20
SIGNAL 2	50	45	40	35	30	25	20	15	10

ATTENUATOR								
GAIN	SET	-6 dB	-12dB	SET	+12	SET	+6
AMP	80%	32 TO 48	16 TO 24	20%	64 TO 96	40%	64 TO 96
		40	20		80		80

COMMENTS	WELD / ITEMS EXAMINED
	~~SIS-127~~ 6-9-09
	SIF-0196-07

EXAMINER: Jose Alejandro LVL.: II
EXAMINER: Eddie Reed LVL.: II
REVIEWER: Darlene Lindsey LVL.: III DATE: 6-9-09

ANII:
DATE: 6/29/09
PAGE 2 OF 6

ACCESS: FORMS DATABASE 07-25-07

TENNESSEE VALLEY AUTHORITY	DIGITAL ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER R.P 0440

PROJECT WBN UNIT/CYCLE 2/ 00
PROCEDURE: N-UT- 64 REV: 11 TC: N/A

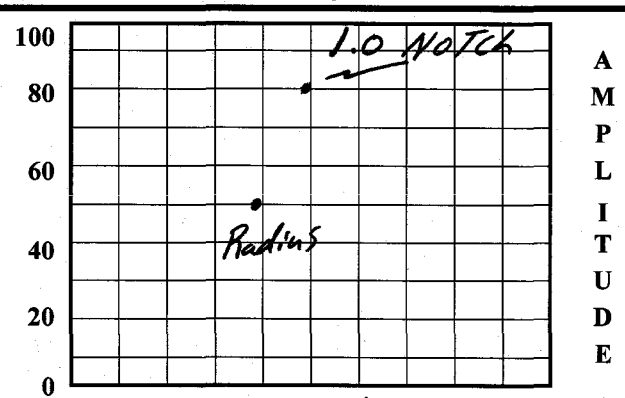
TRANSDUCER
MANUFAC RTD MODEL: TRL-2
ELEMENTS: 2 SHAPE: Rectangle
S/N 85-639 SIZE: 2(8x14) FREQ: 2.0 MHz
CONTOUR: N/A FOCUS: N/A
CABLE TYPE RG174 LENGTH: 72.0 # CNT: N/A
MODE: ☐ SHEAR ☐ LONG ☒ RL

CALIBRATION DATE: 6-04-09
CALIBRATION BLOCK NO. WB 83 TEMP: 77.4 °F
SIMULATOR BLOCK: Rompas
THERMOMETER S/N: 562776 DUE DATE: 12-22-09
COUPLANT: Ultragel II BATCH: 06225 F

ANGLE VERIFICATION
BLOCK TYPE Rompas S/N: 790390
NOMINAL ANGLE: 70RL ACTUAL ANGLE 70RL°

INSTRUMENT
MANUFACTURER: Krautkramer DUE DATE: 8-18-09
MODEL NO.: USN 60 S/N: E37688

DAC



DISPLAY WIDTH 6.0 inches

REFLECTOR			REFERENCE SENSITIVITY	MEMORY NUMBER
SCAN DIRECT.	NTC	SDH		
AXIAL	☒	☐	64.6 dB	70RL-6in-55
CIRC.	☐	☐	N/A dB	

RANGE: 6.0 inches
PROBE DELA 1.0056 msec
VELOCITY .2955 msec
DISP DELAY: 0.000
*ENERGY: High
*DAMPING: 1K ohms
*PRR/PRF: Auto High
ANGLE: 70RL deg
ZERO: N/A msec

*FREQ: 2.25 MHz
*RECTIFY: Full wave
DUAL ☒ ON ☐ OFF
*REJECT: 0 %
*DISP. START: IP
DET: ☐ Peak ☒ Flank
TCG: ☐ ON ☒ OFF
*PULSER: Dual

REF. REFLECTOR: 1.0 Radius GAIN: 50.2 dB
AMPLITUDE: 50 % METAL PATH: .820

CALIBRATION TIMES
INITIAL TIME: 1203 FINAL TIME: 1338

VERIFICATION TIMES	1) 1253	2) N/A	3) N/A	4) N/A	5) N/A	6) N/A	7) N/A	8) N/A	9) N/A

***PDI QUALIFIED INSTRUMENT SETTINGS:**
VERIFY INSTRUMENT SETTINGS AND CALIBRATION SEQUENCE ARE IN ACCORDANCE WITH TABLE 2 OF THE APPLICABLE PDI QUALIFICATION IMPLEMENTATION PROCEDURE!

LINEARITY CHECK

VERTICAL	SIGNAL 1		100	90	80	70	60	50	40	30	20
	SIGNAL 2		50	45	40	35	30	25	20	15	10
ATTENUATOR	GAIN	SET	-6 dB		-12dB		SET		+12	SET	+6
	AMP	80%	32 TO 48		16 TO 24		20%		64 TO 96	40%	64 TO 96
			40		20				80		80

COMMENTS	WELD / ITEMS EXAMINED
	SIF-D196-07

EXAMINER: Jose Alejandro LVL.: II
EXAMINER: Eddie Reed LVL.: II
REVIEWER: Darlene Dudley LVL.: III DATE: 6-9-09

ANII:
DATE: 6/29/09
PAGE 3 OF 6

ACCESS: FORMS DATABASE 07-25-07

TENNESSEE VALLEY AUTHORITY	MANUAL ULTRASONIC PIPING EXAMINATION DATA SHEET	REPORT NUMBER R.P0440

PROJECT: WBN UNIT/CYCLE 2100
SYSTEM: SIS
WELD I.D.: SIF-D196-07
CONFIG.: VLV TO EL
FLOW

EXAMINATION DATE 06-04-09
START TIME: 1254 END TIME: 1302
EXAM SURFACE ☐ ID ☒ OD
MATERIAL TYPE: ☐ CS ☒ SS ☐ CSCL ☐ CCSS
SURFACE TEMP.: 85.1 PYRO NO. 562776

PROCEDURE: N-UT-64 REV: 11 TC: N/A
Wo REFERENCE: ℄ of weld
Lo REFERENCE: TDC

EXAMINATION ANGLE	45 DEG.	70RL DEG.
AXIAL SCAN SENSITIVITY	38.1 dB	66.1 dB
CIRC. SCAN SENSITIVITY	43.1 dB	N/A dB

IND NO.	L (in) FROM REF.			AT MAX AMP			MAX AMP % DAC	EXAM NO. 3-14	NOM. ANG.	NRI	INDICATION INFORMATION: TYPE, DAMPING, ETC.
	L1	L Max	L2	W MAX	MP MAX	D MAX					
								4	45°	☒	
								5	45°	☒	
								6	45°	☒	
								4	70°RL	☒	
										☐	
										☐	

REMARKS/LIMITATIONS Examination limited to one side of weld due to valve. Examination performed maintaining 5-20% ID roll. Scanned on weld.

EXAMINER: Jose Alejandro [signature] LEVEL: II
EXAMINER: Edward Reed [signature] LEVEL: II
REVIEWED BY: [signature] LEVEL: III DATE: 6-9-09

ANII: [signature]
DATE: 6/29/09
PAGE 4 OF 6

ACCESS: FORMS DATABASE 10/18/01

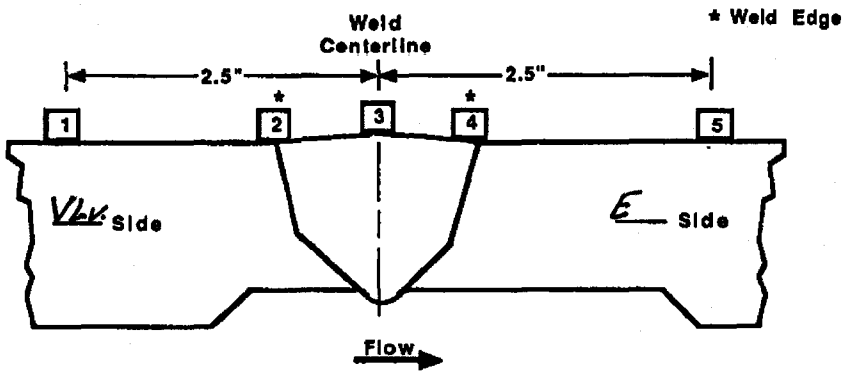
TVA	WALL THICKNESS PROFILE SHEET	REPORT NO: R-P0440

PROJECT: WATTS BAR NUCLEAR
UNIT: 2

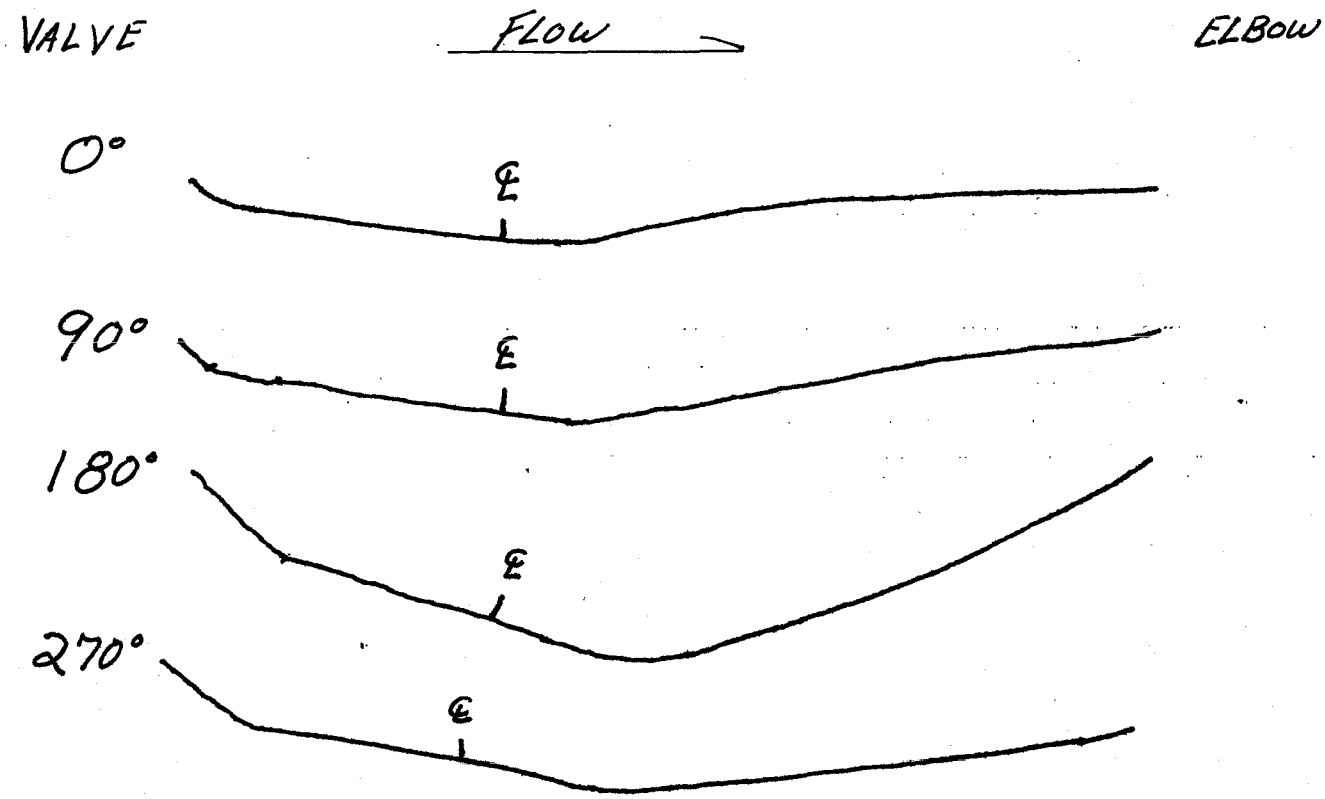
WELD NO: SIF-D196-07
SYSTEM: SIS

Record Thickness Measurements As Indicated, Including Weld Width, Edge-To-Edge At 0°

Position	0°	90°	180°	270°
1	N/A	N/A	N/A	N/A
2	1.025	1.046	1.140	1.120
3	.944	.852	.853	.858
4	.720	.754	.815	.738
5	.800	.765	.865	.784



CROWN HEIGHT: FLUSH
CROWN WIDTH: 1.0
DIAMETER: 6.0
WELD LENGTH: 21.0



EXAMINER: [signature]
LEVEL: II
DATE: 06-04-09

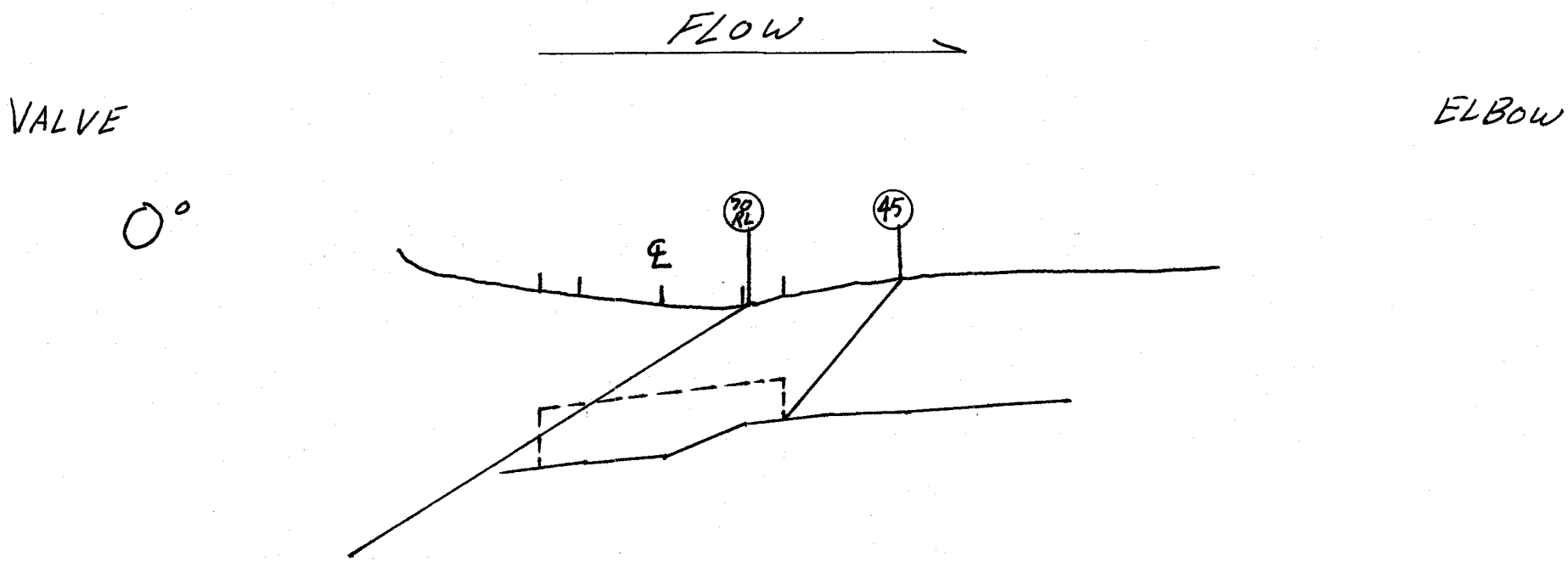
REVIEWED BY: [signature]
LEVEL: III
DATE: 6-9-09

ANII: [signature]
DATE: 6/29/09
PAGE 5 OF 6

TVA 19668 (NP-5-89)

1-108-999-44

TVA Office of Nuclear Power	PROJECT: WATTS BAR NUCLEAR SYSTEM: SIS UNIT: 2 WELD NO: SIF-D196-07	REPORT NO.: R.P0440



BY: Jose Alejandro [signature] LEVEL: II DATE: 06-04-09 PAGE ~~2~~ 6 OF ~~2~~ 6

PO-6-9-09

R-P0440

TVA Procedure
N-GP-31

Weld # SIF-D196-07

Attachment 3

Item 1	Required examination Volume in sq. in. **(width x height)**	1.5	0.38		0.57
Item 2	Number of **scan directions**				4
Item 3	Total Scan **volume** in sq. in.				2.28
Item 4	Total **length** of weld				21
Item 5	Total required **exam volume** in cubic inches				47.88
Item 6	**Exam volume achieved** (sq. in.) in direction 1 X **length of weld achieved**	0.57	0		0
Item 7	**Exam volume achieved** (sq. in.) in direction 2 X **length of weld achieved**	0.543	21		11.403
Item 8	**Exam volume achieved** (sq. in.) in direction 3 X **length of weld achieved**	0.57	21		11.97
Item 9	**Exam volume achieved** (sq. in.) in direction 4 X **length of weld achieved**	0.57	21		11.97
Item 10	Determined the **achivied exam volume** add 6, 7, 8 & 9				35.343
Item 11	Exam **volume percentage** item 10/item 5 x 100				73.815789

JA
06-08-09

Limitation:
One side exam due to valve

INFORMATION ONLY