TENNESSEE VALLEY AUTHORITY	EXAMINATION SUMMARY AND RESOLUTION SHEET	REPORT NUMBER: R.P0305

PROJECT: *WBN* UNIT: *2* CYCLE *00*				COMPONENT ID: *SIF-D197-09*	
EXAMINATION METHOD				SYSTEM: SIS	ISI DWG NO: *ISI-2063-W-06 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	N	N
LEVEL: II	A	A	A
	LEVEL:	LEVEL:	LEVEL:

Total coverage calculated to be approximately 74.26 %

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

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

Examination was a one sided exam due to Valve geometry and performed from the elbow side.

No recordable indications observed.

74.26% examination volume coverage achieved.

RESOLUTION BY:	REVIEWED BY:	ANII:
Jose Alejandro		DATE: 5/13/09
LEVEL II DATE: 04-29-09	LEVEL: II DATE: 5-11-09	Page: 1 OF 6

ACCESS: FORMS DATABASE R-10/04/01

TENNESSEE VALLEY AUTHORITY	DIGITAL ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER R.D0305

PROJECT WBN UNIT/CYCLE 2/00
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 RG174 LENGTH: 72.0 # CNT: N/A

MODE: ☒ SHEAR ☐ LONG ☐ RL

CALIBRATION DATE: 04-29-09
CALIBRATION BLOCK NO. WB 83 TEMP: 74.3 °F
SIMULATOR BLOCK: Rompas
THERMOMETER S/N: 558271 DUE DATE: 06-24-09
COUPLANT: Ultragel II BATCH: 06225 F

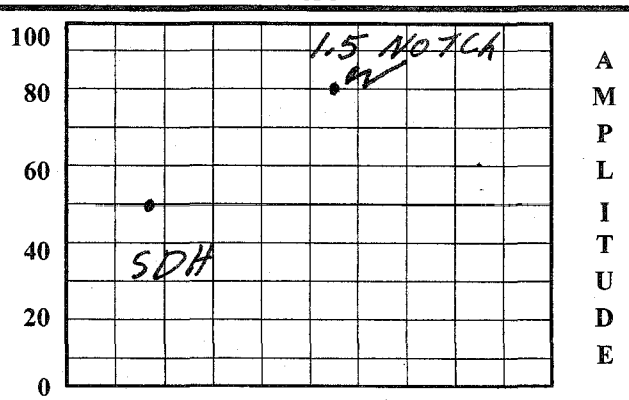
ANGLE VERIFICATION

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

INSTRUMENT

MANUFACTURER: KrautKramer DUE DATE: 06-23-09
MODEL NO.: USN 60 S/N: E36304

DAC



DISPLAY WIDTH 3.800 inches

REFLECTOR SCAN DIRECT.	NTC	SDH	REFERENCE SENSITIVITY	MEMORY NUMBER
AXIAL	☒	☐	30.4 dB	45°-10in-SS
CIRC.	☒	☐	30.4 dB	45-10in-SS

RANGE: 3.800 inches *FREQ: 2.25 MHz
PROBE DELA 6.5831 msec *RECTIFY: Fullwave
VELOCITY 0.1198 msec DUAL ☐ ON ☒ OFF
DISP DELAY: 0.00 *REJECT: Ø %
*ENERGY: High *DISP. START: IP
*DAMPING: 1K ohms DET: ☐ Peak ☒ Flank
*PRR/PRF: Auto High TCG: ☐ ON ☒ OFF
ANGLE: 45 deg
ZERO: N/A msec *PULSER: Single

REF. REFLECTOR: Rompas SDH GAIN: 35.3 dB
AMPLITUDE: 50 % METAL PATH: .442

CALIBRATION TIMES

INITIAL TIME: 0821 FINAL TIME: 1132

VERIFICATION TIMES	1) 0910	2) 0932	3) 0948	4) 1028	5) 1047	6) 1053	7) 1104	8) 1125	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-088 SIF-D197-10
	SIS089
	SIF-D197-08
	SIF-D197-09
	SIS-090
	SIS-091

EXAMINER: Jose Alejandro [signature] LVL.: II
EXAMINER: Eddie Reed [signature] LVL.: I
REVIEWER: [signature] LVL.: III DATE: 5-11-09

ANII: [signature]
DATE: 5/13/09
PAGE 2 OF 6

ACCESS: FORMS DATABASE 07-25-07

DO 5-11-09

TENNESSEE VALLEY AUTHORITY	DIGITAL ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER R. P0305

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: 04-29-09
CALIBRATION BLOCK NO. WB 83 TEMP: 74.3 °F
SIMULATOR BLOCK: Rompas
THERMOMETER S/N: 558271 DUE DATE: 06-24-09
COUPLANT: Ultragel II BATCH: 06225 F

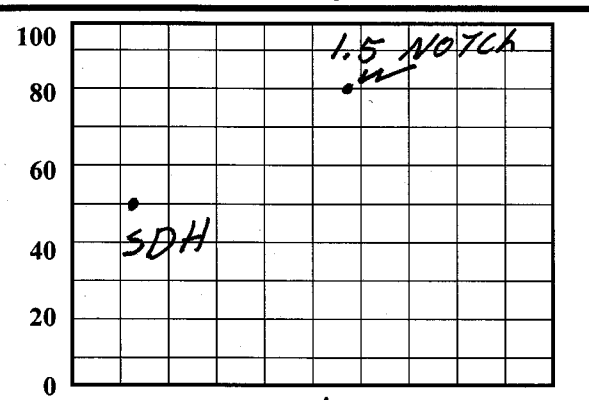
ANGLE VERIFICATION

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

INSTRUMENT

MANUFACTURER: Krautkramer DUE DATE: 06-23-09
MODEL NO.: USN 60 S/N: E36304

DAC



DISPLAY WIDTH 7.500 inches

REFLECTOR SCAN DIRECT.	NTC	SDH	REFERENCE SENSITIVITY	MEMORY NUMBER
AXIAL	☒	☐	67.5 dB	70°RL-10in-SS
CIRC.	☐	☐	N/A dB	N/A

RANGE: 7.500 inches
PROBE DELA 25.4634 msec
VELOCITY 0.2274 msec
DISP DELAY: 0.00
*ENERGY: High
*DAMPING: 1k ohms
*PRR/PRF: Auto High
ANGLE: 70 RL deg
ZERO: N/A msec

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

REF. REFLECTOR: Rompas SDH GAIN: 64.0 dB
AMPLITUDE: 50 % METAL PATH: .920

CALIBRATION TIMES

INITIAL TIME: 0850 FINAL TIME: ~~1020~~ *

VERIFICATION TIMES	1) 1001	2) 1020	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
* Final calibration time - 1133 JA	SIF-D197-08
	SIF-D197-09

EXAMINER: Jose Alejandro [signature] LVL.: II
EXAMINER: Eddie Reed [signature] LVL.: I
REVIEWER: [signature] LVL.: III DATE: 5-11-09

ANII: [signature]
DATE: 5/13/09
PAGE 3 OF 6

ACCESS: FORMS DATABASE 07-25-07

TENNESSEE VALLEY AUTHORITY	MANUAL ULTRASONIC PIPING EXAMINATION DATA SHEET	REPORT NUMBER R.P0305

PROJECT: WBN UNIT/CYCLE 2/00
SYSTEM: SIS
WELD I.D.: SIF-D197-09
CONFIG.: VLV TO EL
FLOW

EXAMINATION DATE 04-29-09
START TIME: ~~1105~~ (*) JA 04-28-09 END TIME: ~~1131~~ (*) JA 04-29-09
EXAM SURFACE ☐ ID ☒ OD
MATERIAL TYPE: ☐ CS ☒ SS ☐ CSCL ☐ CCSS
SURFACE TEMP.: 77.9 PYRO NO. 558271

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	40.2 dB	64.5 dB
CIRC. SCAN SENSITIVITY	44.6 dB	NA dB

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

(*) Examination start 1004 - STOP 1027

REMARKS/LIMITATIONS No examination scans from valve side. Examination performed maintaining 5-20% ID roll. Scanned on weld.

EXAMINER: Jose Alejandro [signature] LEVEL: II
EXAMINER: Eddie Reed [signature] LEVEL: I
REVIEWED BY: Darlene Duley LEVEL: III DATE: 5-11-09

ANII: [signature]
DATE: 5/13/09
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ACCESS: FORMS DATABASE 10/18/01

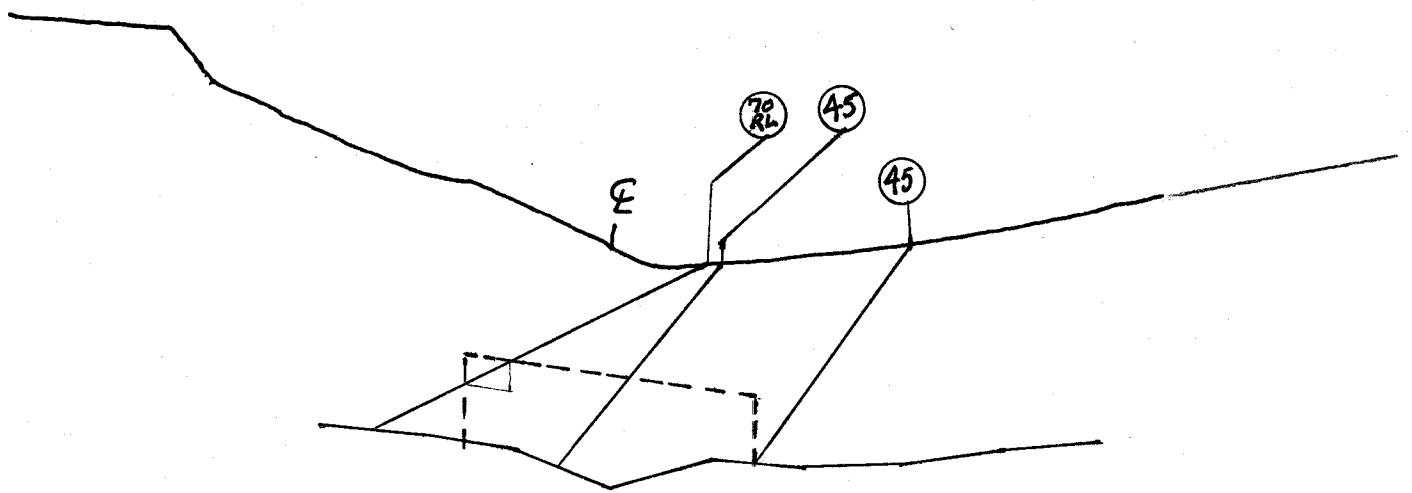
TVA Office of Nuclear Power	PROJECT: WATTS BAR NUCLEAR SYSTEM: SIS UNIT: 2 WELD NO: SIF-D197-09	REPORT NO.: R P0305

FLOW

VALVE

ELBOW

0°



BY: Jose Alejandro LEVEL: II DATE: 04-28-09 PAGE 5 OF 6

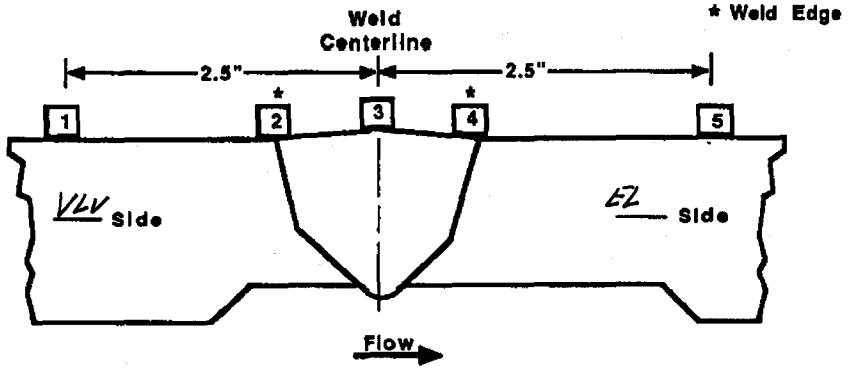
TVA	WALL THICKNESS PROFILE SHEET	REPORT NO: R-P0305

PROJECT: WATTS BAR NUCLEAR
UNIT: 2

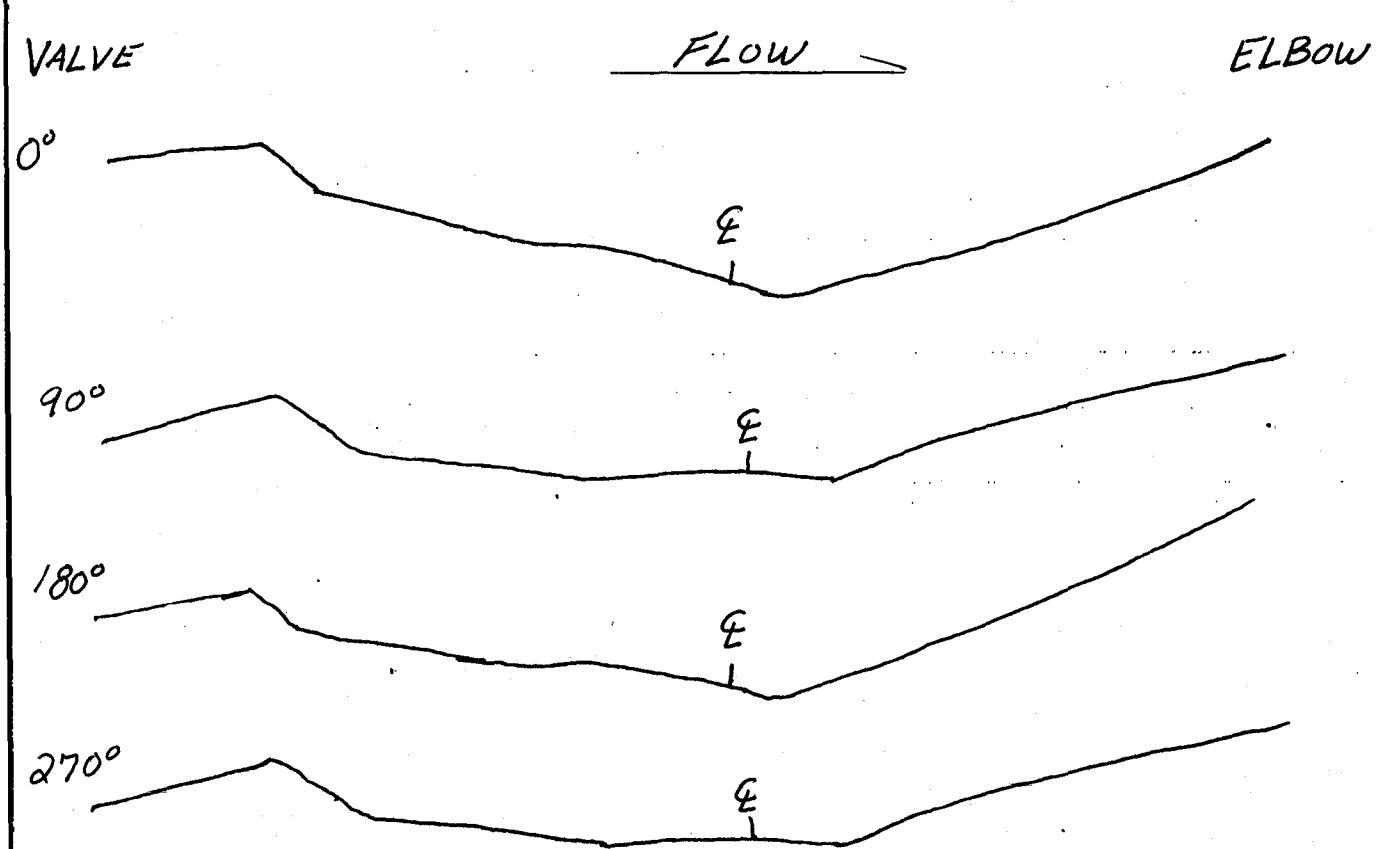
WELD NO: SIF-D197-09
SYSTEM: SIS

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	1.310	1.400	1.377	1.530
3	1.280	1.720	1.190	1.148
4	1.054	1.149	1.067	1.052
5	1.206	1.840	1.281	1.189



CROWN HEIGHT: Flush
CROWN WIDTH: 1.0
DIAMETER: 10.0
WELD LENGTH: 35.750



EXAMINER: [signature]
LEVEL: II
DATE: 04-28-09

REVIEWED BY: [signature]
LEVEL: II
DATE: 5-11-09

ANII: [signature]
DATE: 5/13/09
PAGE 6 OF 6

TVA 19668 (NP-5-89)

1-108-999-44

R-P 0305

TVA Procedure
N-GP-31

Weld# SIF-D197-09

Attachment 3

Item 1	Required examination Volume in sq. in. **(width x height)**	1.5	0.45		0.675
Item 2	Number of **scan directions**				4
Item 3	Total Scan **volume** in sq. in.				2.7
Item 4	Total **length** of weld				35.75
Item 5	Total required **exam volume** in cubic inches				96.525
Item 6	**Exam volume achieved** (sq. in.) in direction 1 X **length of weld achieved**	0	0		0
Item 7	**Exam volume achieved** (sq. in.) in direction 2 X **length of weld achieved**	0.656	35.75		23.452
Item 8	**Exam volume achieved** (sq. in.) in direction 3 X **length of weld achieved**	0.675	35.75		24.13125
Item 9	**Exam volume achieved** (sq. in.) in direction 4 X **length of weld achieved**	0.675	35.75		24.13125
Item 10	Determined the **achivied exam volume** add 6, 7, 8 & 9				71.7145
Item 11	Exam **volume percentage** item 10/item 5 x 100				74.2963

JA
04-29-09

Limitation
One sided examination due to valve

INFORMATION ONLY