TENNESSEE VALLEY AUTHORITY	EXAMINATION SUMMARY AND RESOLUTION SHEET	REPORT NUMBER: R-P0620

PROJECT: *WBN* UNIT: *2* CYCLE *00*				COMPONENT ID: *SIF-D197-11A*	
EXAMINATION METHOD				SYSTEM: SIS	ISI DWG NO: *ISI-2063-W-10-R1*
MT ☐	PT ☐	UT ☑	VT ☐	CONFIGURATION:	CATEGORY
PROCEDURE: *N-UT-* 84		REV 0	TC: N/A	*VLV* TO *P*	*B-J*
EXAMINER: PATRICK MAHONEY		EXAMINER: JASON POLISENSKY		EXAMINER: N/A	EXAMINER: N/A
LEVEL: II		LEVEL: II		LEVEL:	LEVEL:

Total coverage calculated to be approximately 50 %

A SINGLE SIDED PHASED ARRAY UT EXAM WAS PERFORMED TO MEET THE REQUIREMENTS OF ASME SECTION XI PRESERVICE INSPECTION

A PHASED ARRAY 1.5 MHZ, 16 ELEMENT PROBE WITH A 25°-70° SHEAR WAVE WAS USED IN SECTOR SCAN DISPLAY MODE. A 1.5 MHZ DUAL ELEMENT PROBE WAS ALSO USED @ 40°-70° IN THE SECTOR SCAN MODE. (REFRACTED LONGITUDINAL) SCAN LIMITATION DUE TO VALVE CONFIGURATION

No Reportable Indications

RESOLUTION BY:	REVIEWED BY:	ANII:
PATRICK MAHONEY		DATE: 7/29/09
LEVEL II DATE: 6/30/09	LEVEL: III DATE: 7-2-09	Page: 1 OF 6

ACCESS: FORMS DATABASE R-10/04/01

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R-P0620

PROJECT: WBN UNIT 2 CYCLE: 0	CALIBRATION DATE: 06/30/09
PROC.: N-UT-84 REV: 0 TC: N/A	CALIBRATION BLOCK NO.: SQ-116 TEMP: 72.9°F
INSTR. MFG: GEIT DUE DATE: 12/19/09	SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASOR XS M & TE ID: E41379	THERMOMTER S/N: E39053 DUE DATE: 08/12/09
SOFTWARE REVISION: 1.20	COUPLANT ULTRAGEL II BATCH: 06225 F
EXAM TYPE: SHEAR ☒ LONG ☐ RL ☐	EXAM: ISI ☐ PSI ☒ LIMITATIONS: Y ☒ N ☐
CABLE TYPE: 1D LENGTH: 2M #CNT: 0	

ANGLE VERIFICATION

BLOCK TYPE: ALT	S/N: SQ-116		NOMINAL ANGLE		ACTUAL ANGLE
REFLECTOR			LOW: 25 HIGH: 70		LOW: 25 HIGH: 70
SCAN DIRECTION	NOTCH DEPTH	SDH. DEPTH	REF. SENS/AMPL	ANGLE / METAL PATH	EXAM SENS.
AXIAL	1.0"T	N/	4.0 / 80	45 / 1.411	13.0
CIRCUMFERENTAIL	1.0"T	/A	4.0 / 80	45 / 1.411	13.0

INSTRUMENT SETTINGS

GAIN TOGGLE:	dBD: 0.0	dBA: 13.0

PROBE DATA		SCAN DATA	
		ELECTRONIC	SCAN PATTERN
PROBE MFG: GEIT	MODEL: 115-000-441	TYPE: SECTOR	ANGLE START: 25
S/N: 01RLFL	APERTURE SIZE: 0.630	FOCAL POINT: UNFOCUSED	ANGLE STOP: 70
ELEMENTS: 16	PITCH: 0.040	WAVE TYPE: SHEAR	ANGLE STEP: 1.0
FREQ: 1.5MHZ	ELEVATION: 0.472	RL FOCAL LAW: N/A	
CONFIGURATION: ARRAY	SHAPE: RECT	LEG: 1.0	MATERIAL THICKNESS: 1.0"

WEDGE DATA		APERTURE	
PROBE CHECK: ☒ PRE-EXAM ☒ POST EXAM			
WEDGE MFG: GEIT	VELOCITY: .0920	NUMBER OF STEPS: 1	FIRST ELEMENT: 1
MODEL: 360-141-162	X OFFSET: 0.472	APERTURE SIZE: 16	APERTURE STEP: 1
WEDGE ANGLE: 38°	Z OFFSET: 0.512	DISPLAY DATA	ANGLE CORRECTION ☒ ON ☐ OFF
CONTOUR: FLAT	ELEMENT 1 POSITION: LOW		

PART DATA		UT DATA			
		BASE	PULSER	RECIEVER	NRM/TCG
MATERIAL: STEEL STNLSS	VELOCITY: .1220	DELAY: 0.0	VOLT: 150	FREQ: BB 0.6-6.5	CYC GAIN CNTL 0.0
CALIBRATION TIMES			WIDTH: 330	ASCAN RECT: FULLWAVE	
INITIAL TIME: 1250	FINAL TIME: 1505	MATERIAL: STEEL STNLSS	PRF VALUE: AH		

VERF. TIMES	1338	N/A	N/A	N/A

LINEARITY CHECK

VERTICAL											
SIGNAL 1	100	90	80	70	60	50	40	30	20	10	
SIGNAL 2	50	45	40	35	30	25	20	15	10	5	

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

COMMENTS:	WELDS/ITEMS EXAMINED:
	S1F-D197-11A

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
PATRICK MAHONEY	JASON POLISENSKY		DATE: 7/29/09
LEVEL: II	LEVEL: II	LEVEL: III DATE: 7-2-09	PG. 2 OF 6

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R-P0620

PROJECT: WBN	UNIT 2	CYCLE: 00	CALIBRATION DATE: 06/30/09
PROC.: N-UT-84	REV: 0	TC: N/A	CALIBRATION BLOCK NO.: SQ-116 TEMP: 72.9°F
INSTR. MFG: GE IT	DUE DATE: 12/19/09		SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASORXS	M & TE ID: E41379		THERMOMTER S/N: E39053 DUE DATE: 8/12/09
SOFTWARE REVISION: 1.20			COUPLANT ULTRAGEL II BATCH: 06225F
EXAM TYPE: SHEAR ☐	LONG ☐	RL ☒	EXAM: ISI ☐ PSI ☒ LIMITATIONS: Y ☒ N ☐
CABLE TYPE: 2D	LENGTH: 2M	#CNT: 0	

ANGLE VERIFICATION

BLOCK TYPE: ALT C/B	S/N: SQ-116	NOMINAL ANGLE		ACTUAL ANGLE	
REFLECTOR		LOW: 40	HIGH: 70	LOW: 40	HIGH: 70
SCAN DIRECTION	NOTCH DEPTH	SDH. DEPTH	REF. SENS/AMPL	ANGLE / METAL PATH	EXAM SENS.
AXIAL	1.0" T	N/A	12.0 / 80	50 / 1.557	22.0
CIRCUMFERENTAIL	N/A	N/A	N/A / N/A	N/A	N/A

INSTRUMENT SETTINGS

GAIN TOGGLE:	dBD: 0.0	dBA: 22.0

PROBE DATA		SCAN DATA	
		ELECTRONIC	SCAN PATTERN
PROBE MFG: GE IT	MODEL: 115-000-481	TYPE: SECTOR	ANGLE START: 40
S/N: D1TCT7	APERTURE SIZE: 0.748	FOCAL POINT: .750	ANGLE STOP: 70
ELEMENTS: 2 (3 x 5)	PITCH: 4 x 0.150	WAVE TYPE: LONGITUDINAL	ANGLE STEP: 1.0
FREQ: 1.5	ELEVATION: 2 x 0.472	RL FOCAL LAW: D04F075	
CONFIGURATION: ARRAY	SHAPE: RECT	LEG: 1.0	MATERIAL THICKNESS: 1.0"

WEDGE DATA		APERTURE	
PROBE CHECK: ☒ PRE-EXAM	☒ POST EXAM		
WEDGE MFG: GE IT	VELOCITY: ~~0.920~~ .0920	NUMBER OF STEPS: 1	FIRST ELEMENT: 1
MODEL: 360-151-028	X OFFSET: 0.591	APERTURE SIZE: 10	APERTURE STEP: 1
WEDGE ANGLE: 18	Z OFFSET: 0.472	DISPLAY DATA	ANGLE CORRECTION ☒ ON ☐ OFF
CONTOUR: FLAT	ELEMENT 1 POSITION: LOW		

PART DATA		UT DATA			
		BASE	PULSER	RECIEVER	NRM/TCG
MATERIAL: CUSTOM	VELOCITY: .2283	DELAY: 0.0	VOLT: 150	FREQ: BB 0.6-6.5	CYC GAIN CNTL 0.0
			WIDTH: 330	ASCAN RECT: FULL WAVE	
		MATERIAL: CUSTOM	PRF VALUE: Auto HIGH		

CALIBRATION TIMES

INITIAL TIME: 1245	FINAL TIME: 1500		
VERF. TIMES 1428	N/A	N/A	N/A

LINEARITY CHECK

SIGNAL 1	100	90	80	70	60	50	40	30	20	10	
SIGNAL 2	50	45	40	35	30	25	20	15	10	5	

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

COMMENTS:	WELDS/ITEMS EXAMINED:
	SIF-D197-11A

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
PATRICK MAHONEY	JASON POLISENSKY		DATE: 7/29/09
LEVEL: II	LEVEL: II	LEVEL: II DATE: 7-2-09	PG. 3 OF 6

TENNESSEE VALLEY AUTHORITY	MANUAL ULTRASONIC PIPING EXAMINATION DATA SHEET	REPORT NUMBER R-P0620

PROJECT: WBN UNIT/CYCLE 2/00
SYSTEM: SIS
WELD I.D.: SIF-D197-11A
CONFIG.: VLV TO P
FLOW

EXAMINATION DATE 6/30/09
START TIME: 1338 END TIME: 1440
EXAM SURFACE ☐ ID ☒ OD
MATERIAL TYPE: ☐ CS ☒ SS ☐ CSCL ☐ CCSS
SURFACE TEMP.: 78°F PYRO NO. E39053

PROCEDURE: N-UT-84 REV: 0 TC: N/A
Wo REFERENCE: ℄ Weld
Lo REFERENCE: TDC

EXAMINATION ANGLE	N/A DEG.	40-70 RL DEG.
AXIAL SCAN SENSITIVITY	35-70 13 dB	22 dB
CIRC. SCAN SENSITIVITY	25-70 13 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					
								3	N/A	N/A	No Scan 3 due to Valve
								4	35°-70°	☒	
								5	25°-70°	☒	
								6	25°-70°	☒	
								4	40°-70° RL	☒	40°-70° RL
										☐	

REMARKS/LIMITATIONS SINGLE SIDED EXAMINATION (NO SCAN 3) due to Valve.
MAINTAINED 5% -20% ID Roll

No RECORDABLE INDICATIONS

EXAMINER: Patrick Mahoney LEVEL: II
EXAMINER: Jason Pousensky LEVEL: II
REVIEWED BY: Darlene Culley LEVEL: III DATE: 7-2-09

ANII:
DATE: 7/29/09
PAGE 4 OF 6

ACCESS: FORMS DATABASE 10/18/01

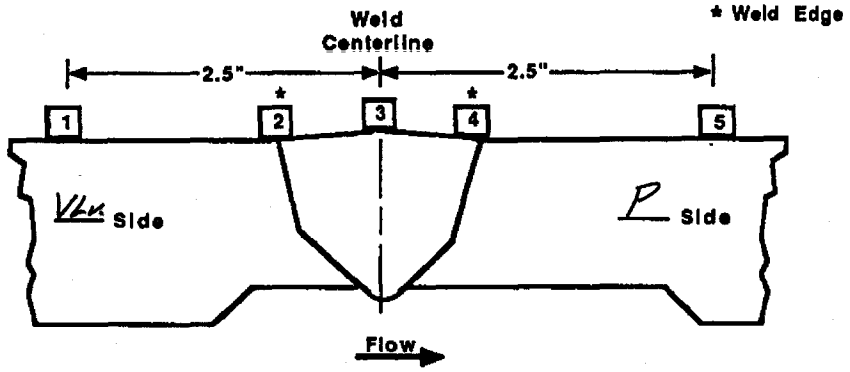
TVA	WALL THICKNESS PROFILE SHEET	REPORT NO: R-P0620

PROJECT: WATTS BAR NUCLEAR
UNIT: 2

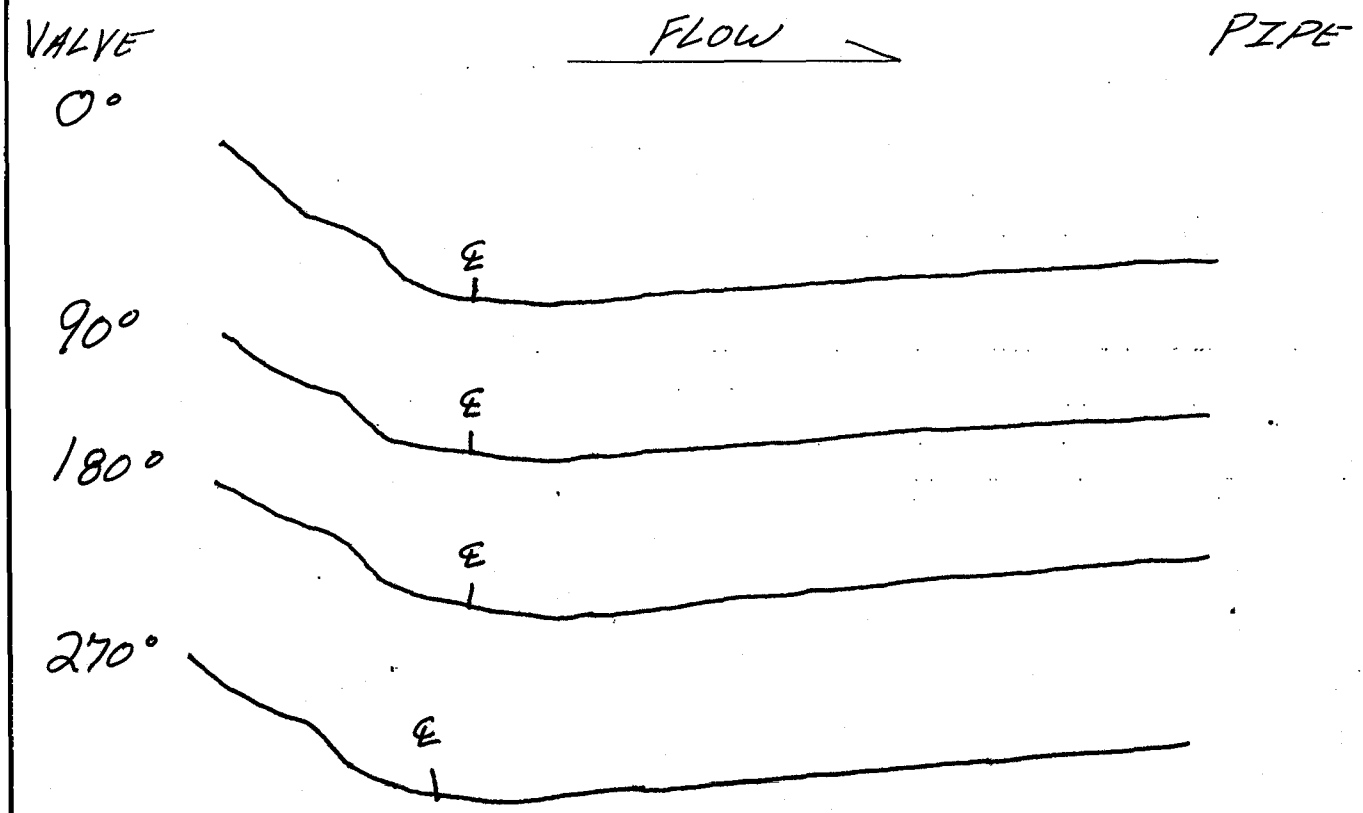
WELD NO: SIF-D197-11A
SYSTEM: SIS

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	1.26	1.28	1.24	1.23
3	.97	.94	.86	.92
4	.77	.77	.71	.71
5	.76	.75	.70	.71



CROWN HEIGHT: As welded
DIAMETER: 6.0
CROWN WIDTH: .90
WELD LENGTH: 20.938



EXAMINER: P. Mahoney
LEVEL: II
DATE: 6/30/09

REVIEWED BY: Darlene Dudley
LEVEL: III
DATE: 7-2-09

ANII:
DATE: 7/29/09
PAGE 5 OF 6

TVA 19668 (NP-5-89)

1-108-999-44

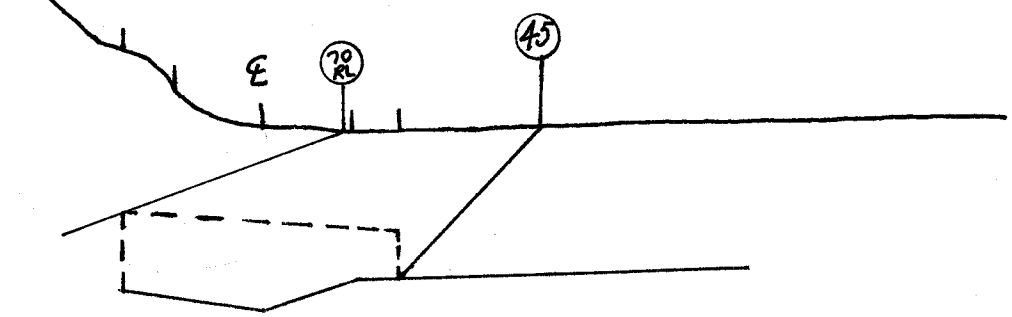
TVA Office of Nuclear Power	PROJECT: WATTS BAR NUCLEAR SYSTEM: SIS UNIT: 2 WELD NO: SIF-D197-11A	REPORT NO.: R-P0620

FLOW →

VALVE

PIPE

0°



THE EXAMINATION WAS PERFORMED TO QUALIFIED SECTOR SCAN ANGLES 35°-70°(Ax), 25°-70°(CIRC), & 40°-70°(Ax. R/L)

BY: Patrick Mahoney LEVEL: II DATE: 6/30/09 PAGE 6 OF 6

R.P0620

TVA Procedure
N-GP-31

Weld # SIF-D197-11A

Attachment 3

Item 1	Required examination Volume in sq. in. **(width x height)**	1.45	0.35	0.5075	sq. in.
Item 2	Number of **scan directions**			4	directions
Item 3	Total Scan **volume** in sq. in.			2.03	sq. in.
Item 4	Total **length** of weld			20.938	inches
Item 5	Total required **exam volume** in cubic inches			42.50414	cu. in.
Item 6	**Exam volumé achieved** (sq. in.) in direction 1 X **length of weld achieved**			0	cu. In.
Item 7	**Exam volume achieved** (sq. in.) in direction 2 X **length of weld achieved**	0.5075	20.938	10.626035	cu. In.
Item 8	**Exam volume achieved** (sq. in.) in direction 3 X **length of weld achieved**	0.25375	20.938	5.3130175	cu. In.
Item 9	**Exam volume achieved** (sq. in.) in direction 4 X **length of weld achieved**	0.25375	20.938	5.3130175	cu. In.
Item 10	Determined the **achivied exam volume** add 6, 7, 8 & 9			21.25207	cu. In.
Item 11	Exam **volume percentage** item 10/item 5 x 100			50	%

This was a single sided examination

P. Mahoney Level: II Date: 6/30/09

INFORMATION ONLY