TENNESSEE VALLEY AUTHORITY	EXAMINATION SUMMARY AND RESOLUTION SHEET	REPORT NUMBER: R-P0488

PROJECT: *WBN* UNIT: *2* CYCLE *00*				COMPONENT ID: *SIF-D196-11*	
EXAMINATION METHOD				SYSTEM: SIS	ISI DWG NO: *ISI-2063-W-09* REV 8
MT ☐	PT ☐	UT ☑	VT ☐	CONFIGURATION:	CATEGORY
PROCEDURE: *N-UT-84*		REV 0	TC: N/A	*VLV* TO *EL*	*B-J*

EXAMINER:	EXAMINER:	EXAMINER:	EXAMINER:
Jason Nissen	N	N	N
LEVEL: II	A LEVEL:	A LEVEL:	A LEVEL:

Total coverage calculated to be approximately 75 %

A single sided phased array ultrasonic examination 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 sector scan display was utilized to perform the examination.

A phased array 1.5 MHz, dual 15 element probe with a 40°-70° refracted longitudinal wave sector scan display was also utilized to perform the examination.

No recordable indications observed.

75% examination volume achieved due to valve.

RESOLUTION BY:	REVIEWED BY:	ANII:
Jason Nissen	Darlene Culley	DATE: 7/8/09
LEVEL II DATE: 6-17-09	LEVEL: III DATE: 6-18-09	Page: 1 OF 6

ACCESS: FORMS DATABASE R-10/04/01

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R-P0488

PROJECT: WBN UNIT 2 CYCLE: Ø	CALIBRATION DATE: 6-16-09
PROC.: N-UT-84 REV: Ø TC: N/A	CALIBRATION BLOCK NO.: WB 83 TEMP: 75.9F
INSTR. MFG: GEIT DUE DATE: 8-6-09	SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASORXS M & TE ID: E41821	THERMOMTER S/N: E39054 DUE DATE: 8/12/09
SOFTWARE REVISION: 1.2	COUPLANT Ultragel II BATCH: 06225 F
EXAM TYPE: SHEAR☒ LONG☐ RL☐	EXAM: ISI☐ PSI☒ LIMITATIONS: Y☒ N☐
CABLE TYPE: 1D LENGTH: 2 M #CNT: Ø	

ANGLE VERIFICATION

BLOCK TYPE: ROMPAS	S/N: 789629		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	1.00	N/A	9.0 / 80	50° / 1.539	24.0
CIRCUMFERENTAIL	1.00	N/A	9.0 / 80	50° / 1.539	28.0

INSTRUMENT SETTINGS

GAIN TOGGLE:	dBD: Ø	dBA: 24.0

PROBE DATA		SCAN DATA	
		ELECTRONIC	*SCAN PATTERN*
PROBE MFG: GEIT	MODEL: 115-000-441	TYPE: Sector	ANGLE START: 25.0°
S/N: 01RLFK	APERTURE SIZE: .630	FOCAL POINT: Unfocused	ANGLE STOP: 70.0°
ELEMENTS: 16	PITCH: .040	WAVE TYPE: Shear	ANGLE STEP: 1.0°
FREQ: 1.5	ELEVATION: .472	RL FOCAL LAW: N/A	
CONFIGURATION: ARRAY	SHAPE: RECTANGLE	LEG: 1.0	MATERIAL THICKNESS: 1.00

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: .472	APERTURE SIZE: 16	APERTURE STEP: 1
WEDGE ANGLE: 38°	Z OFFSET: .512	DISPLAY DATA	ANGLE CORRECTION ☒ON ☐OFF
CONTOUR: FLAT	ELEMENT 1 POSITION: LOW END		

PART DATA		UT DATA			
		BASE	*PULSER*	*RECIEVER*	*NRM/TCG*
MATERIAL: Stainless Steel	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: 1240	FINAL TIME: 1548	MATERIAL: STAINLESS STEEL	PRF VALUE: AH		
VERF. TIMES 1338	1452 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:
	SIF-D196-10
	SIF-D196-11
	SIS-141

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
	N		DATE: 7/8/09
LEVEL: II	LEVEL: A	LEVEL: III DATE: 6-18-09	PG. 2 OF 6

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R-P0488

PROJECT: WBN UNIT 2 CYCLE: Ø	CALIBRATION DATE: 6-16-09
PROC.: N-UT-84 REV: Ø TC: N/A	CALIBRATION BLOCK NO.: WB 83 TEMP: 75.9F
INSTR. MFG: GEIT DUE DATE: 8-6-09	SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASORXS M & TE ID: E41821	THERMOMTER S/N: E39054 DUE DATE: 8-12-09
SOFTWARE REVISION: 1.2	COUPLANT Ultragel II BATCH: 06225 F
EXAM TYPE: SHEAR☐ LONG☐ RL☒	EXAM: ISI☐ PSI☒ LIMITATIONS: Y☒ N☐
CABLE TYPE: 2D LENGTH: 2M #CNT: Ø	

ANGLE VERIFICATION

BLOCK TYPE: ROMPAS	S/N: 789629		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	1.00	N/A	14.6 / 80	50 / 1.580	26.0
CIRCUMFERENTAIL	N/A	N/A	N/A	N/A	N/A

INSTRUMENT SETTINGS

GAIN TOGGLE:	dBD: Ø	dBA: 26.0

PROBE DATA		SCAN DATA	
		ELECTRONIC	*SCAN PATTERN*
PROBE MFG: GEIT	MODEL: 115-000-481	TYPE: Sector	ANGLE START: 40°
S/N: 01TCT6	APERTURE SIZE: .748	FOCAL POINT: 1.00	ANGLE STOP: 70°
ELEMENTS: 2 (3 x 5)	PITCH: 4 x .150	WAVE TYPE: Longitudinal	ANGLE STEP: 1°
FREQ: 1.5	ELEVATION: 2 x .472	RL FOCAL LAW: D07F100	
CONFIGURATION: ARRAY	SHAPE: RECTANGLE	LEG: 1.3	MATERIAL THICKNESS: 1.00

WEDGE DATA		APERTURE	
PROBE CHECK: ☒ PRE-EXAM ☒ POST EXAM			
WEDGE MFG: GEIT	VELOCITY: .0920	NUMBER OF STEPS: 1	FIRST ELEMENT: 1
MODEL: 360.151-028	X OFFSET: .591	APERTURE SIZE: 10	APERTURE STEP: 1
WEDGE ANGLE: 18°	Z OFFSET: .472	DISPLAY DATA	ANGLE CORRECTION ☒ON ☐OFF
CONTOUR: FLAT	ELEMENT 1 POSITION: LOW END		

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: Fullwave	
		MATERIAL: Custom	PRF VALUE: AH		

CALIBRATION TIMES				
INITIAL TIME: 1248	FINAL TIME: 1543			
VERF. TIMES	1459	1522	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:
	SIF-D196-10
	SIF-D196-11

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
[signature]	N/A	[signature]	[signature]
LEVEL: II	LEVEL:	LEVEL: III DATE: 6-18-09	DATE: 7/8/09
			PG. 3 OF 6

TENNESSEE VALLEY AUTHORITY	MANUAL ULTRASONIC PIPING EXAMINATION DATA SHEET	REPORT NUMBER R-P0488

PROJECT: WBN UNIT/CYCLE 2 / 00
SYSTEM: SIS
WELD I.D.: SIF-D196-11
CONFIG.: VLV TO EL
FLOW →

EXAMINATION DATE 6-16-09
START TIME: 1407 END TIME: 1512
EXAM SURFACE ☐ ID ☒ OD
MATERIAL TYPE: ☐ CS ☒ SS ☐ CSCL ☐ CCSS
SURFACE TEMP.: 77.8 PYRO NO. E39054

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

EXAMINATION ANGLE	25° / 70° DEG.	40 / 70° RL DEG.
AXIAL SCAN SENSITIVITY	35° / 70° 24.0 dB	26.0 dB
CIRC. SCAN SENSITIVITY	25° / 70° 28.0 dB	N / A 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	40° / 70° RL	☒	
								4	35° / 70°	☒	
								5	25° / 70°	☒	
								6	25° / 70°	☒	
										☐	
										☐	

REMARKS/LIMITATIONS Examination scans performed maintaining 5-20% I.D. roll. Exam was one sided due to valve scanned across the weld.

EXAMINER: [signature] LEVEL: II
EXAMINER: N/A LEVEL: N/A
REVIEWED BY: [signature] LEVEL: III DATE: 6-18-09

ANII: [signature]
DATE: 7/8/09
PAGE 4 OF 6

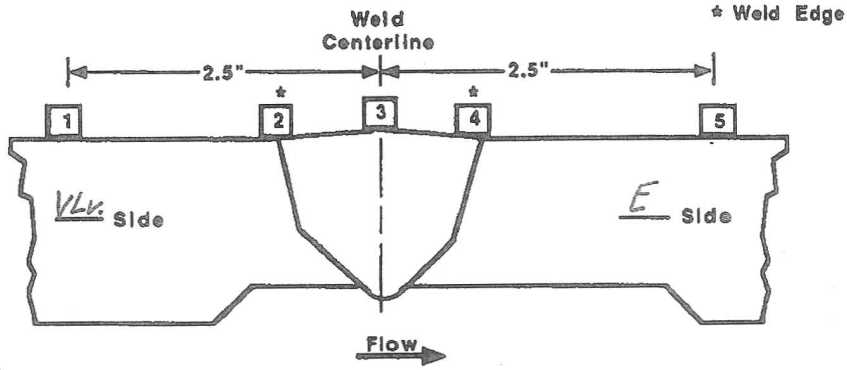
ACCESS: FORMS DATABASE 10/18/01

TVA	WALL THICKNESS PROFILE SHEET	REPORT NO: R-P0488

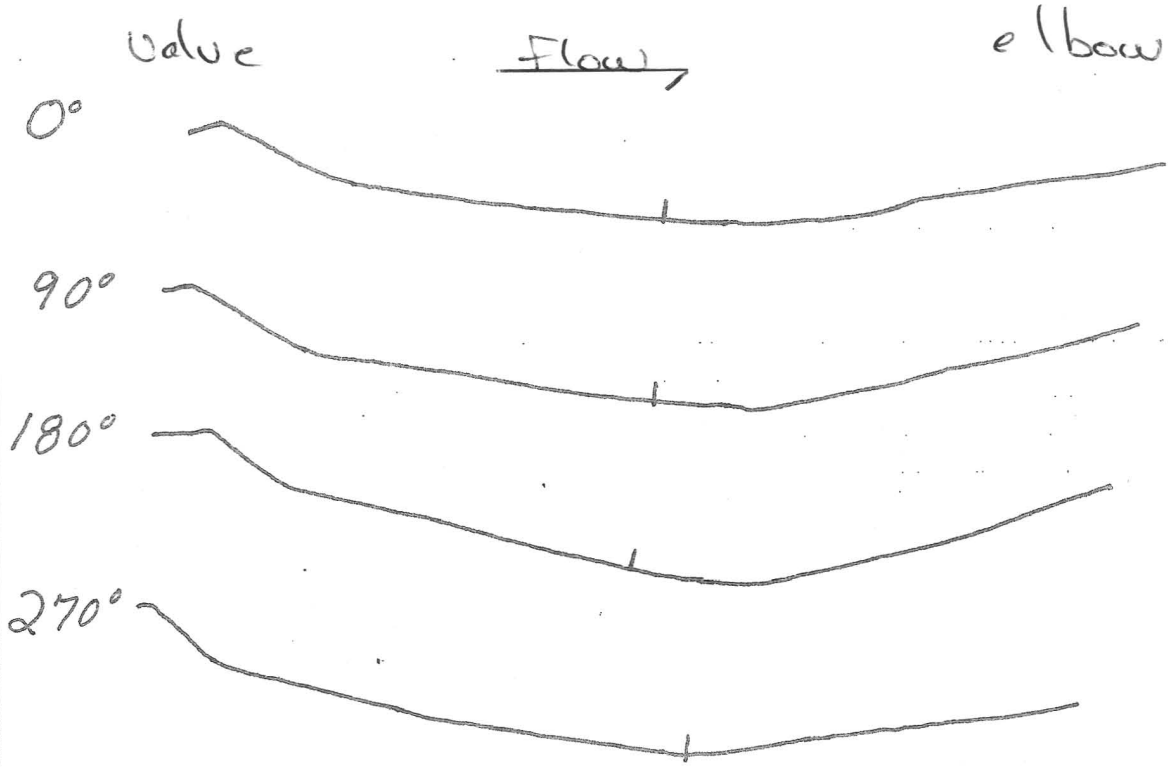
PROJECT: WBN 2
UNIT: 2
WELD NO: SIF-D196-11
SYSTEM: SIs

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

Position	0°	90°	180°	270°
1	1.70	1.68	1.65	1.64
2	1.29	1.24	1.36	1.23
3	1.23	1.19	1.12	1.16
4	1.09	1.06	1.09	1.12
5	1.18	1.17	1.34	1.20



CROWN HEIGHT: Flush
CROWN WIDTH: 1.0"
DIAMETER: 10"
WELD LENGTH: 37.0"



EXAMINER: Jason Nissen
LEVEL: II
DATE: 6-9-09

REVIEWED BY: Dadone Dulay
LEVEL: III
DATE: 6/8/09

ANII:
DATE: 7/8/09
PAGE 5 OF 6

TVA 19668 (NP-5-89)

1-108-999-44

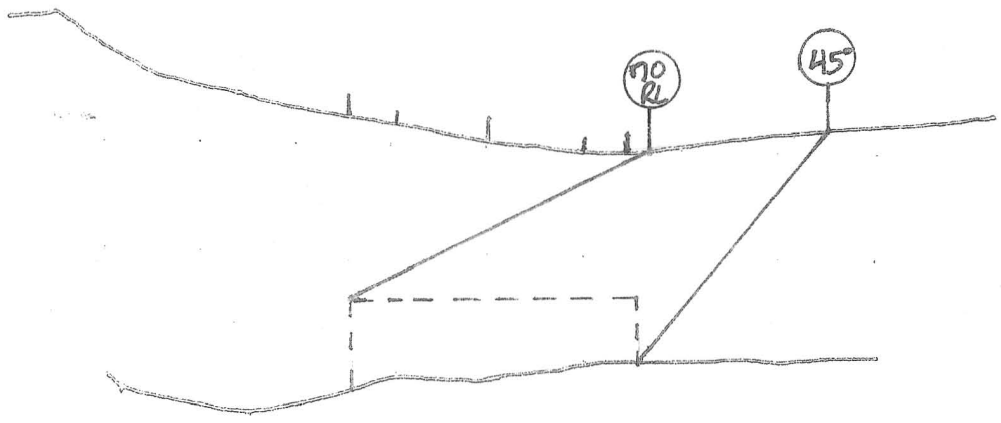
TVA Office of Nuclear Power	PROJECT: WBN SYSTEM: SIS UNIT: 2 WELD NO: SIF-D196-11	REPORT NO.: R-P0488

Valve

Elbow

FLOW

0°



Plot shown represents primary angle of 45°, phased array angles used 25°-70°. RL angles used 40°-70°

BY: Jason Nissen LEVEL: II DATE: 6-9-09 PAGE 6 OF 6

R - P0488

TVA Procedure
N-GP-31

Attachment 3

SIF-D196-11

Item 1	Required examination Volume in sq. in. **(width x height)**	1.5	0.4	0.6 sq. in.
Item 2	Number of **scan directions**			4 directions
Item 3	Total Scan **volume** in sq. in.			2.4 sq. in.
Item 4	Total **length** of weld			37 inches
Item 5	Total required **exam volume** in cubic inches			88.8 cu. in.
Item 6	**Exam volume achieved** (sq. in.) in direction 3 X **length of weld achieved**	0	37	0 cu. In.
Item 7	**Exam volume achieved** (sq. in.) in direction 4 X **length of weld achieved**	0.6	37	22.2 cu. In.
Item 8	**Exam volume achieved** (sq. in.) in direction 5 X **length of weld achieved**	0.6	37	22.2 cu. In.
Item 9	**Exam volume achieved** (sq. in.) in direction 6 X **length of weld achieved**	0.6	37	22.2 cu. In.
Item 10	Determined the **achivied exam volume** add 6, 7, 8 & 9			66.6 cu. In.
Item 11	Exam **volume percentage** item 10/item 5 x 100			75 %

one sided due to valve

JPN 6-17-02

II

INFORMATION ONLY