TENNESSEE VALLEY AUTHORITY	EXAMINATION SUMMARY AND RESOLUTION SHEET	REPORT NUMBER: R.P 0383

PROJECT: *WBN* UNIT: *2*	CYCLE *00*			COMPONENT ID: *SIF-D199-11*	
EXAMINATION METHOD				SYSTEM: SIS	ISI DWG NO: *ISI-2063-W-08* REV. Ø
MT ☐	PT ☐	UT ☑	VT ☐	CONFIGURATION:	CATEGORY
PROCEDURE: *N-UT-84*	REV Ø	TC: N/A		*VLV* TO *EL*	*B-J*

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

Total coverage calculated to be approximately 73.2%

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.

JPN 5-27-09

73.2% ~~73.6%~~ examination volume achieved due to valve.

RESOLUTION BY:	REVIEWED BY:	ANII:
Jason Nissen	Darlene Hulsey	DATE: 6/10/09
LEVEL II DATE: 5-27-09	LEVEL: III DATE: 5-28-09	Page: 1 OF 6

ACCESS: FORMS DATABASE R-10/04/01

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R.P0383

PROJECT: WBN UNIT 2 CYCLE: Ø	CALIBRATION DATE: 5-27-09
PROC.: N-UT-84 REV: Ø TC: N/A	CALIBRATION BLOCK NO.: WB 83 TEMP: 73.2F
INSTR. MFG: GEIT DUE DATE: 8-6-09	SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASOR XS M & TE ID: E41821	THERMOMTER S/N: 562773 DUE DATE: 6-20-09
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: 2M #CNT: Ø	

ANGLE VERIFICATION

BLOCK TYPE: ROMPAS	S/N: 790390		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	1.000	N/A	4.6 / 80%	50° / 1.638	24.0
CIRCUMFERENTAIL	1.000	N/A	4.6 / 80%	50° / 1.638	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°
S/N: 01RLFK	APERTURE SIZE: .630	FOCAL POINT: UNFOCUSED	ANGLE STOP: 70°
ELEMENTS: 16	PITCH: .040	WAVE TYPE: SHEAR	ANGLE STEP: 1°
FREQ: 1.5	ELEVATION: .472	RL FOCAL LAW: N/A	
CONFIGURATION: ARRAY	SHAPE: RECTANGLE	LEG: 1.0	MATERIAL THICKNESS: 1.000

WEDGE DATA		APERTURE	
PROBE CHECK: ☒ PRE-EXAM ☒ POST EXAM			
WEDGE MFG: GEIT	VELOCITY: .0920	NUMBER OF STEPS: 1	FIRST ELEMENT: 1
MODEL: 360-141-161	X OFFSET: .827	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
			WIDTH: 330	ASCAN RECT: FULLWAVE	
		MATERIAL: STAINLESS STEEL	PRF VALUE: AH		

CALIBRATION TIMES				
INITIAL TIME: 0810	FINAL TIME: 1108			
VERF. TIMES	0911	1030	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-D199-10
	SIF-D199-11

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
	N		DATE: 6/10/09
LEVEL: II	LEVEL: A	LEVEL: III DATE: 5-29-09	PG. 2 OF 6

TENNESSEE VALLEY AUTHORITY	PHASED ARRAY ULTRASONIC CALIBRATION DATA SHEET	REPORT NUMBER: R.D0383

PROJECT: WBN UNIT 2 CYCLE: Ø	CALIBRATION DATE: 5-27-09
PROC.: N-UT-84 REV: Ø TC: N/A	CALIBRATION BLOCK NO.: WB 83 TEMP: 73.2°F
INSTR. MFG: GEIT DUE DATE: 8-6-09	SIMULATOR BLOCK NO: N/A
MODEL/TYPE: PHASOR XS M & TE ID: E41821	THERMOMTER S/N: 562773 DUE DATE: 6-20-09
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: 2 M #CNT: Ø	

ANGLE VERIFICATION

BLOCK TYPE: ROMPAS	S/N: 790390		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	1.000	N/A	13.8 / 80%	50° / 1.594	20.0
CIRCUMFERENTAIL	N/A	N/A	N/A	N/A	N/A

INSTRUMENT SETTINGS

GAIN TOGGLE:	dBD: Ø	dBA: 20.0

PROBE DATA

PROBE MFG: GEIT	MODEL: 115-000-481
S/N: 01TCT6	APERTURE SIZE: .748
ELEMENTS: 2 (3 x 5)	PITCH: 4 x .150
FREQ: 1.5	ELEVATION: 2 x .472
CONFIGURATION: ARRAY	SHAPE: RECTANGLE

WEDGE DATA

PROBE CHECK: ☒ PRE-EXAM ☒ POST EXAM	
WEDGE MFG: GEIT	VELOCITY: .0920
MODEL: 360-151-028	X OFFSET: .591
WEDGE ANGLE: 18°	Z OFFSET: .472
CONTOUR: FLAT	ELEMENT 1 POSITION: LOW END

PART DATA

MATERIAL: Custom	VELOCITY: .2283

CALIBRATION TIMES

INITIAL TIME: 0835	FINAL TIME: 1135		
VERF. TIMES	1033	1048	N/A	N/A

SCAN DATA

ELECTRONIC		SCAN PATTERN	
TYPE:	SECTOR	ANGLE START:	40°
FOCAL POINT:	1.00	ANGLE STOP:	70°
WAVE TYPE:	LONGITUDINAL	ANGLE STEP:	1°
RL FOCAL LAW:	D07F100		
LEG: 1.3	MATERIAL THICKNESS: 1.00		

APERTURE

NUMBER OF STEPS:	1	FIRST ELEMENT:	1
APERTURE SIZE:	10	APERTURE STEP:	1

DISPLAY DATA	ANGLE CORRECTION	☒ON ☐OFF

UT DATA

BASE	PULSER	RECIEVER	NRM/TCG
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		

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-D199-10
	SIF-D199-11

EXAMINER:	EXAMINER:	REVIEWER:	ANII:
LEVEL: II	LEVEL: N/A	LEVEL: III DATE: 5-29-09	DATE: 6/18/09
			PG. 3 OF 6

TENNESSEE VALLEY AUTHORITY	MANUAL ULTRASONIC PIPING EXAMINATION DATA SHEET	REPORT NUMBER R.P0383

PROJECT: WBN UNIT/CYCLE 2/00
SYSTEM: SIS
WELD I.D.: SIF-D199-11
CONFIG.: VLV TO EL
FLOW →

PROCEDURE: N-UT-84 REV: Ø TC: N/A
Wo REFERENCE: WELD 4
Lo REFERENCE: TDC

EXAMINATION DATE 5-27-09
START TIME: 1018 END TIME: 1041
EXAM SURFACE ☐ ID ☒ OD
MATERIAL TYPE: ☐ CS ☒ SS ☐ CSCL ☐ CCSS
SURFACE TEMP.: 82.6 PYRO NO. 562773

EXAMINATION ANGLE	25°/70° DEG.	40°/70° RL DEG.
AXIAL SCAN SENSITIVITY	35°/70° 24.0 dB	20.0 dB
CIRC. SCAN SENSITIVITY	25°/70° 28.0 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	35°/70°	☒	
								4	40°RL/70°RL	☒	
								5	25°/70°	☒	
								6	25°/70°	☒	
										☐	
										☐	

REMARKS/LIMITATIONS Examination scans performed maintaining 5-20% ID ROLL. Exam was one sided due to Valve.

EXAMINER: [signature] LEVEL: II
EXAMINER: N/A LEVEL: N/A
REVIEWED BY: [signature] LEVEL: III DATE: 5-28-09

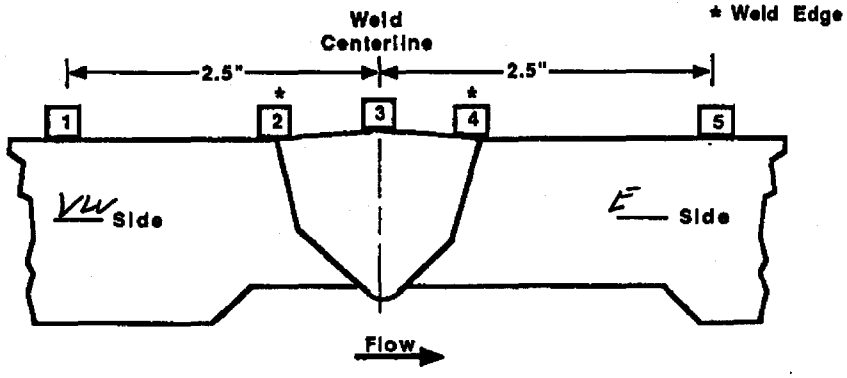
ANII: [signature]
DATE: 6/10/09
PAGE 4 OF 6

TVA	WALL THICKNESS PROFILE SHEET	REPORT NO: R.P0383

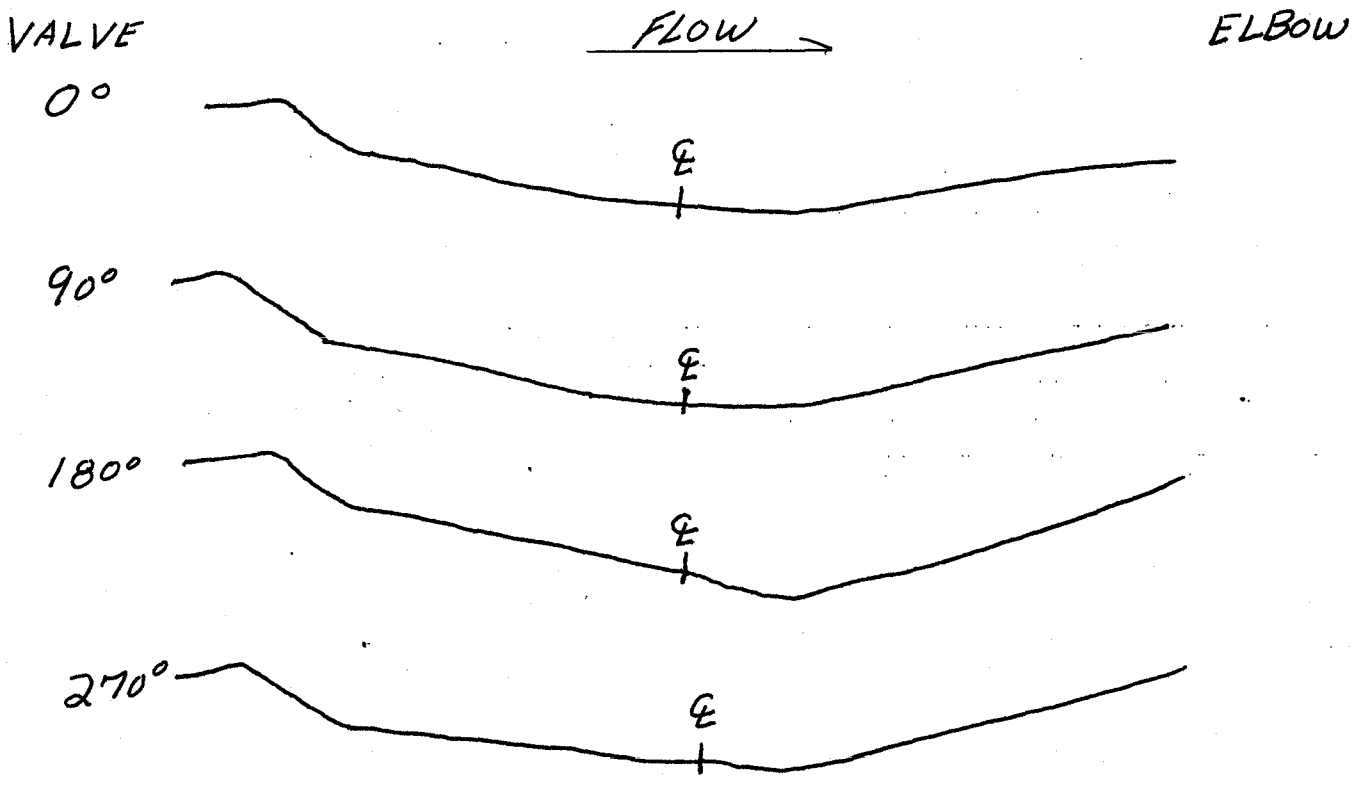
PROJECT: WATTS BAR NUCLEAR
UNIT: 2
WELD NO: SIF-D199-11
SYSTEM: SIS

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	1.419	1.319	1.296	1.438
3	1.343	1.546	1.210	1.416
4	1.024	1.013	1.123	1.107
5	1.200	1.181	1.335	1.167



CROWN HEIGHT: FLUSH
CROWN WIDTH: 1.250
DIAMETER: 10.0
WELD LENGTH: 35.250



EXAMINER: [signature] II
LEVEL:
DATE: 05-21-09

REVIEWED BY: [signature]
LEVEL: III DATE: 5-29-09

ANII: [signature] 6/10/09
DATE: 6/10/09
PAGE 5 OF 6

TVA 19668 (NP-5-89) 1-108-999-44

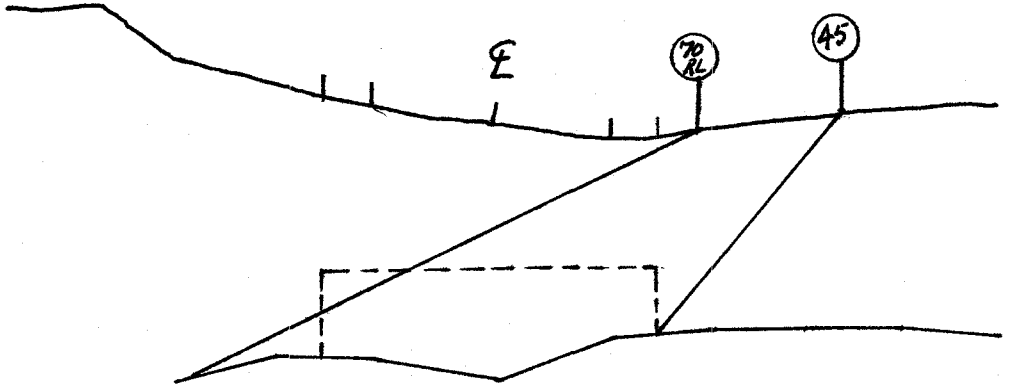
TVA Office of Nuclear Power	PROJECT: WATTS BAR NUCLEAR SYSTEM: SIS UNIT: 2 WELD NO: SIF-D199-11	REPORT NO.: R.P0383

FLOW

VALVE

0°

ELBOW



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

BY: Jose Alejandro LEVEL: II DATE: 05-21-09 PAGE 6 OF 6

R. P0383

TVA Procedure
N-GP-31

Weld # SIF-D199-11

Attachment 3

Item 1	Required examination Volume in sq. in. **(width x height)**	1.75	0.45		0.7875
Item 2	Number of **scan directions**				4
Item 3	Total Scan **volume** in sq. in.				3.15
Item 4	Total **length** of weld				35.25
Item 5	Total required **exam volume** in cubic inches				111.0375
Item 6	**Exam volume achieved** (sq. in.) in direction 1 X **length of weld achieved**	0	35.25		0
Item 7	**Exam volume achieved** (sq. in.) in direction 2 X **length of weld achieved**	0.73125	35.25		25.77656
Item 8	**Exam volume achieved** (sq. in.) in direction 3 X **length of weld achieved**	0.7875	35.25		27.75938
Item 9	**Exam volume achieved** (sq. in.) in direction 4 X **length of weld achieved**	0.7875	35.25		27.75938
Item 10	Determined the **achivied exam volume** add 6, 7, 8 & 9				81.29531
Item 11	Exam **volume percentage** item 10/item 5 x 100				73.21429

one sided due to value
5-27-09
Jason Kim II

INFORMATION ONLY