

TENNESSEE VALLEY AUTHORITY		EXAMINATION SUMMARY AND RESOLUTION SHEET		REPORT NUMBER: <i>R. DIBA</i>	
PROJECT: <i>WBN UNIT: 2</i> CYCLE <i>00</i>			COMPONENT ID: <i>SIF-D118-02</i>		
EXAMINATION METHOD			SYSTEM: <i>SIS</i>	ISI DWG NO: <i>ISI-2063-W-15</i>	
MT <input type="checkbox"/>	PT <input type="checkbox"/>	UT <input checked="" type="checkbox"/>	VT <input type="checkbox"/>	CONFIGURATION:	CATEGORY
PROCEDURE: <i>N-UT-64</i>		REV <i>11</i>	TC: <i>N/A</i>	<i>EL TO VLV</i>	<i>C-F-1</i>
EXAMINER: <i>Brad Langston</i>		EXAMINER: <i>Brandon Calvey</i>		EXAMINER: <i>V/A</i>	EXAMINER: <i>V/A</i>
LEVEL: <i>II</i>		LEVEL: <i>Trainee</i>		LEVEL:	LEVEL:
<p>Total coverage calculated to be approximately <i>75</i> %</p> <p><i>An ultrasonic examination was performed on this elbow to valve configuration weld.</i></p> <p><i>This examination was performed to meet the requirements of ASME section II preservice inspection.</i></p> <p><i>A 45° shearwave and a 60° refracted longitudinal wave was calibrated and used to perform this examination.</i></p> <p><i>Examination was limited due to elbow to valve configuration. Scan 4 was not performed EXAM was single sided.</i></p> <p><i>No recordable indications observed</i></p> <p><i>75% examination volume coverage achieved.</i></p>					
RESOLUTION BY: <i>Brad Langston</i>		REVIEWED BY: <i>Darlene Duley</i>		ANII: <i>RONALD W ROBERTS</i> <i>Ronald W Roberts</i>	
LEVEL: <i>II</i> DATE: <i>6/8/10</i>		LEVEL: <i>III</i> DATE: <i>6-12-10</i>		DATE: <i>7-16-10</i>	
				Page: <i>1</i> OF <i>5</i>	

TENNESSEE VALLEY  
AUTHORITY

DIGITAL ULTRASONIC  
CALIBRATION  
DATA SHEET

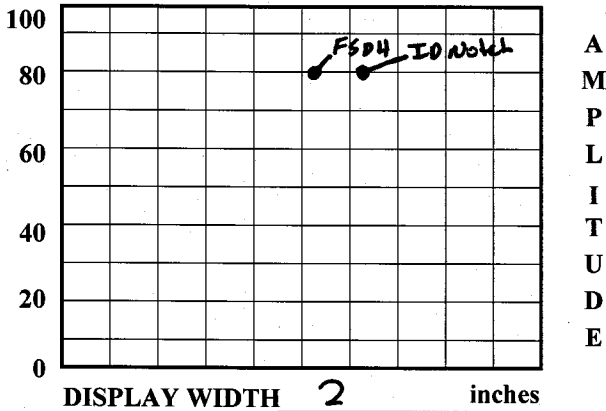
REPORT NUMBER

R.P.1129

PROJECT WBN UNIT/CYCLE 2/00  
 PROCEDURE: N-UT-64 REV: 11 TC: N/A  
 TRANSDUCER  
 MANUFAC KBA MODEL: Comp 6  
 # ELEMENTS: 1 SHAPE: Round  
 S/N 000PPK SIZE: .25 FREQ: 2.25 MHz  
 CONTOUR: N/A FOCUS: N/A  
 CABLE TYPE R6174 LENGTH: 6' # CNT: 0  
 CONFIG  D-SBS  D-TANDEM  SINGLE  
 MODE:  SHEAR  LONG  RL

CALIBRATION DATE: 6-8-10  
 CALIBRATION BLOCK NO. WBN 98 TEMP: 74 °F  
 SIMULATOR BLOCK: 792210  
 THERMOMETER S/N: E44479 DUE DATE: 2-3-11  
 COUPLANT: Ultracel BATCH: 07225E  
 ANGLE VERIFICATION  
 BLOCK TYPE Kompac S/N: 792210  
 NOMINAL ANGLE: 45 ACTUAL ANGLE 45°  
 INSTRUMENT  
 MANUFACTURER: Krautkrans DUE DATE: 8-25-10  
 MODEL NO.: USN 60 S/N: E36310

DAC



REFLECTOR			REFERENCE SENSITIVITY	MEMORY NUMBER
SCAN DIRECT.	NTC	SDH		
AXIAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	34 dB	D118-06-45
CIRC.	<input type="checkbox"/>	<input type="checkbox"/>	34 dB	D118-06-45

RANGE: 2 inches \* FREQ: 2.25 MHz  
 PROBE DELA 4.3681 msec \* RECTIFY: Fullwave  
 VELOCITY .1230 msec DUAL  ON  OFF  
 DISP DELAY: 0.000 \* REJECT: 0 %  
 \*ENERGY: High \* DISP. START: IF  
 \*DAMPING: 1k ohms DET:  Peak  Flank  
 \*PRR/PRF: Auto high TCG:  ON  OFF  
 ANGLE: 45 deg \* PULSER: Single  
 ZERO: N/A msec

REF. REFLECTOR: Kompac SDH GAIN: 47 dB  
 AMPLITUDE: 80 % METAL PATH: 1.023  
 VERIFICATION TIMES 1) 1007 2) 1015 3) N/A 4) N/A 5) N/A 6) N/A 7) N/A 8) N/A 9) N/A

CALIBRATION TIMES  
 INITIAL TIME: 0725 FINAL TIME: 1117

\*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									
	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-D118-02

EXAMINER: Brad Langston LVL: II  
 EXAMINER: Brandon Calvey LVL: Trainee  
 REVIEWER: James Dwyer LVL: III DATE: 6-13-10

ANII: WNL  
 DATE: 7-16-10  
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TENNESSEE VALLEY  
AUTHORITY

DIGITAL ULTRASONIC  
CALIBRATION  
DATA SHEET

REPORT NUMBER

R.P. 1129

PROJECT WBN UNIT/CYCLE 21 00  
PROCEDURE: N-UT-64 REV: 11 TC: N/A

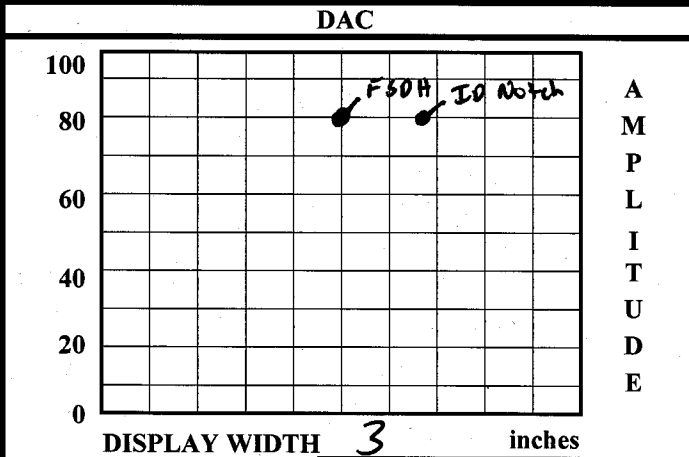
CALIBRATION DATE: 6-8-10  
CALIBRATION BLOCK NO. WBN 98 TEMP: 74 °F  
SIMULATOR BLOCK: 792210

TRANSDUCER  
MANUFAC RTD MODEL: TRL4  
# ELEMENTS: 2 SHAPE: Square  
S/N 00-726 SIZE: 4.8" (1.37 x .314) FREQ: 2 MHz  
CONTOUR: N/A FOCUS: N/A FS-17 (6.69')  
CABLE TYPE R6174 LENGTH: 6' # CNT: 0  
CONFIG  D-SBS  D-TANDEM  SINGLE  
MODE:  SHEAR  LONG  RL

THERMOMETER S/N: E44479 DUE DATE: 2-3-11  
COUPLANT: Ultracel II BATCH: 07225E

ANGLE VERIFICATION  
BLOCK TYPE Kompas S/N: 792210  
NOMINAL ANGLE: 60° ACTUAL ANGLE 60°

INSTRUMENT  
MANUFACTURER: Krautkramer DUE DATE: 8-25-10  
MODEL NO.: USN 60 S/N: E36310



REFLECTOR			REFERENCE SENSITIVITY	MEMORY NUMBER
SCAN DIRECT.	NTC	SDH		
AXIAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	69 dB	D118-RL
CIRC.	<input type="checkbox"/>	<input type="checkbox"/>	69 dB	D118-RL

RANGE: 3 inches \*FREQ: 2 MHz  
PROBE DELA S3022 msec \*RECTIFY: Fullwave  
VELOCITY, 2280 msec DUAL  ON  OFF  
DISP DELAY: 0.000 \*REJECT: 0 %  
\*ENERGY: High \*DISP. START: IF  
\*DAMPING: 1k ohms DET:  Peak  Flank  
\*PRR/PRF: Autohigh TCG:  ON  OFF  
ANGLE: 60 deg \*PULSER: Dual  
ZERO: N/A msec

REF. REFLECTOR: Kompas SDH GAIN: 64 dB  
AMPLITUDE: 80 % METAL PATH: 1.5"

CALIBRATION TIMES  
INITIAL TIME: 0705 FINAL TIME: 1117  
VERIFICATION TIMES 1) 1015 2) 1021 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-D118-02

EXAMINER: Brad Langston LVL: II ANII: YML  
EXAMINER: Brandon Culver LVL: Trainee DATE: 7-16-10  
REVIEWER: Darlene Duley LVL: II DATE: 6-12-10 PAGE 3 OF 5

TENNESSEE VALLEY  
AUTHORITY

MANUAL ULTRASONIC  
PIPING EXAMINATION  
DATA SHEET

REPORT NUMBER

R-PI129

PROJECT: WBN UNIT/CYCLE 2100

SYSTEM: SIS

WELD I.D.: SIF-D118-02

CONFIG.: EL TO VLV

FLOW

PROCEDURE: N-UT-64 REV: 11 TC: N/A

W<sub>o</sub> REFERENCE: Weld E

L<sub>o</sub> REFERENCE: TDC

EXAMINATION DATE 6-8-10

START TIME: 1007 END TIME: 1021

EXAM SURFACE  ID  OD

MATERIAL TYPE:  CS  SS  CSCL  CCSS

SURFACE TEMP.: 82 PYRO NO. E44479

EXAMINATION ANGLE 45 DEG. 60 DEG.

AXIAL SCAN SENSITIVITY 40 dB 74 dB

CIRC. SCAN SENSITIVITY 40 dB 74 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	45°/60°	<input checked="" type="checkbox"/>	
			N					4	N/A	<input type="checkbox"/> N <input type="checkbox"/> A	
								5	45°/60°	<input checked="" type="checkbox"/>	N
					A			6	45°/60°	<input checked="" type="checkbox"/>	
									N	<input type="checkbox"/>	
									A	<input type="checkbox"/>	A

REMARKS/LIMITATIONS

Scan 4 not examined due to valve configuration.

Scanned across the weld.

Examination performed maintaining a 5-20% ID roll.

EXAMINER: Brad Langston LEVEL: II

EXAMINER: Brandon Calvey LEVEL: Trainee

VIEWED BY: David Sweeney LEVEL: III DATE: 6-12-10

ANII: MLC

DATE: 7-16-10

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# Watts Bar Unit 2

R. P. 1129

TVA Procedure N-GP-31  
Attachments 3 & 4

Measured  
Fields

Calculated  
Fields

Worksheet Version 2.0 dated 10/21/09

**WELD  
NUMBER**

**SIF-D118-02**

Item 1	Required examination Volume in sq. in. <b>(width x height)</b>	1	0.25	0.25	sq. in.
Item 2	Number of <b>scan directions</b>			4	directions
Item 3	Total Scan <b>volume</b> in sq. in.			1	sq. in.
Item 4	Total <b>length</b> of weld			14.25	inches
Item 5	Total required <b>exam volume</b> in cubic inches			14.25	cu. in.
Item 6	<b>Exam volume acheived</b> (sq. in.) in direction 1 X <b>length of weld achieved</b>	0.25	14.25	3.5625	cu. In.
Item 7	<b>Exam volume acheived</b> (sq. in.) in direction 2 X <b>length of weld achieved</b>	0	14.25	0	cu. In.
Item 8	<b>Exam volume acheived</b> (sq. in.) in direction 3 X <b>length of weld achieved</b>	0.25	14.25	3.5625	cu. In.
Item 9	<b>Exam volume acheived</b> (sq. in.) in direction 4 X <b>length of weld achieved</b>	0.25	14.25	3.5625	cu. In.
Item 10	Determined the <b>acheived exam volume</b> add 6, 7, 8 & 9			10.6875	cu. In.
Item 11	<b>Exam volume percentage</b> item 10/item 5 x 100			75.00	%

Scan 4 not examined  
Due to valve configuration  
Exam was single sided RL was used  
Per Procedure UT-64 Rev11

**Initials**  
BAL

**Date**  
06/08/2010