

TENNESSEE VALLEY AUTHORITY		EXAMINATION SUMMARY AND RESOLUTION SHEET		REPORT NUMBER: <u>R. D1129</u>	
PROJECT: <u>WBN UNIT: 2</u> CYCLE <u>00</u>			COMPONENT ID: <u>SIF-D118-02</u>		
EXAMINATION METHOD			SYSTEM: <u>SIS</u> ISI DWG NO: <u>ISI-2063-W-15</u>		
MT <input type="checkbox"/>	PT <input type="checkbox"/>	UT <input checked="" type="checkbox"/>	VT <input type="checkbox"/>	CONFIGURATION:	
PROCEDURE: <u>N-UT-64</u>		REV <u>11</u>	TC: <u>N/A</u>	<u>EL TO VLV</u>	
EXAMINER: <u>Brad Langston</u> <u>[Signature]</u> LEVEL: <u>II</u>		EXAMINER: <u>Brandon Calvey</u> <u>[Signature]</u> LEVEL: <u>Trainee</u>		EXAMINER: <u>D/A</u> <u>[Signature]</u> LEVEL:	
Total coverage calculated to be approximately <u>75</u> %					
<p style="text-align: center;"><u>An ultrasonic examination was performed on this elbow to valve configuration weld.</u></p> <p style="text-align: center;"><u>This examination was performed to meet the requirements of ASME section II preservice inspection.</u></p> <p style="text-align: center;"><u>A 45° shearwave and a 60° refracted longitudinal wave was calibrated and used to perform this examination.</u></p> <p style="text-align: center;"><u>Examination was limited due to elbow to valve configuration. Scan 4 was not performed EXAM was single sided.</u></p> <p style="text-align: center;"><u>No recordable indications observed</u></p> <p style="text-align: center;"><u>75% examination volume coverage achieved.</u></p>					
RESOLUTION BY: <u>Brad Langston</u> <u>[Signature]</u> LEVEL: <u>II</u> DATE: <u>6/8/10</u>		REVIEWED BY: <u>Deanne Duley</u> <u>[Signature]</u> LEVEL: <u>III</u> DATE: <u>6-6-10</u>		ANII: <u>RONALD W ROBERTS</u> <u>Ronald W Roberts</u> DATE: <u>7-16-10</u> Page: <u>1</u> OF <u>5</u>	

**TENNESSEE VALLEY
AUTHORITY**

**DIGITAL ULTRASONIC
CALIBRATION
DATA SHEET**

REPORT NUMBER

R.P1129

PROJECT WBN UNIT/CYCLE 21 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: Krautkrantz 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"/>	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

DISP DELAY: 0.000

*ENERGY: High

*DAMPING: 1k ohms

*PRR/PRF: Auto high

ANGLE: 45 deg

ZERO: N/A msec

DUAL ☐ ON ☒ OFF

*REJECT: 0 %

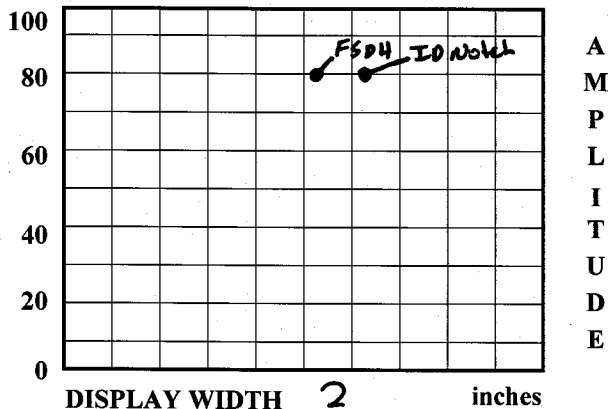
*DISP. START: IF

DET: ☒ Peak ☐ Flank

TCG: ☐ ON ☒ OFF

*PULSER: Single

DAC



A
M
P
L
I
T
U
D
E

DISPLAY WIDTH 2 inches

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 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 D. Dwyer LVL: III DATE: 6-8-10

ANII: WNL

DATE: 7-16-10

PAGE 2 OF 5

**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

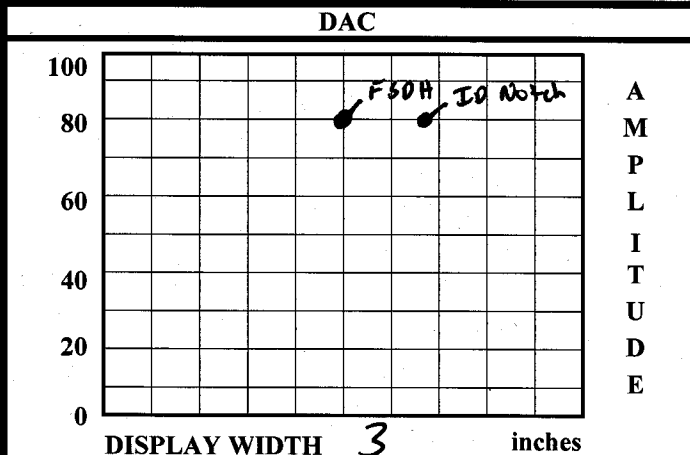
TRANSDUCER
MANUFAC RTD MODEL: TRL4
ELEMENTS: 2 SHAPE: Square
S/N 00-726 SIZE: 4.8" (1.37" x 3.14") FREQ: 2 MHz
CONTOUR: N/A FOCUS: N/A FS-17 (6.49")
CABLE TYPE R6174 LENGTH: 6' # CNT: 0
CONFIG ☒ D-SBS ☐ D-TANDEM ☐ SINGLE
MODE: ☐ SHEAR ☐ LONG ☒ RL

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 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 53022 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"

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
	<u>SIF-D118-02</u>

EXAMINER: Brad Langston LVL: II
EXAMINER: Brandon Culver LVL: Trinee
REVIEWER: Darlene Duley LVL: III DATE: 6-12-10

ANII: Mark
DATE: 7-16-10
PAGE 3 OF 5

**TENNESSEE VALLEY
AUTHORITY**

**MANUAL ULTRASONIC
PIPING EXAMINATION
DATA SHEET**

REPORT NUMBER

R-P1129

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

W₀ REFERENCE: Weld E

L₀ 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"/>	
								4	N A	N <input type="checkbox"/> A	
								5	45° 60°	<input checked="" type="checkbox"/>	
								6	45° 60°	<input checked="" type="checkbox"/>	
										<input type="checkbox"/>	
										<input type="checkbox"/>	

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 Calvery LEVEL: Trainee

VIEWED BY: David S. Dwyer LEVEL: III DATE: 6-12-10

ANII: MLC

DATE: 7-16-10

PAGE 4 OF 5

Watts Bar Unit 2

R. P1129

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.
(width x height) 1 0.25 0.25 sq. in.

Item 2 Number of scan directions 4 directions

Item 3 Total Scan volume in sq. in. 1 sq. in.

Item 4 Total length of weld 14.25 inches

Item 5 Total required exam volume in cubic inches 14.25 cu. in.

Item 6 Exam volume acheived (sq. in.) in direction 1 X length of weld achieved 0.25 14.25 3.5625 cu. In.

Item 7 Exam volume acheived (sq. in.) in direction 2 X length of weld achieved 0 14.25 0 cu. In.

Item 8 Exam volume acheived (sq. in.) in direction 3 X length of weld achieved 0.25 14.25 3.5625 cu. In.

Item 9 Exam volume acheived (sq. in.) in direction 4 X length of weld achieved 0.25 14.25 3.5625 cu. In.

Item 10 Determined the acheived exam volume add 6, 7, 8 & 9 10.6875 cu. In.

Item 11 Exam volume percentage 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