DUKE POWER COMPANY	NDE-91-1
Limited Examination Coverage Worksheet	Revision 0

Examination Volume/Area Defined

Base Metal ☒ Weld ☒ Near Surface ☐ Bolting ☐ Inner Radius ☐

Area Calculation	Volume Calculation
	.8 x 2.5 x 106.5 = 213 cu. in.

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45L	CCW	2.0	106.5	213	213	100%
2	45L	CW	2.0	106.5	213	213	100%
3	45L	1	2.0	99	198	198.6 ÷ 213	93.24%
3	45L	1	.08	7.5	.6		
4	45L	2	0	0	0	213	0
					624.6	852	73.31%

Aggregate % 73.30%

Item No: C09.011.019

Prepared BY: Wm. D C Leeper Level: II Date: 10-24-95

Reviewed By: Larry L Bibb Level: III Date: 10-25-95

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1450 | Form NDE-UT-2A

Exam Finish: 1518 | Revision 4

Date: 10/25/95

Station: CATAWBA | Unit: 2 | Component/Weld ID: 2ND-37A

Weld Length (in.): 43" | Surface Condition: AS GROUND | * 2.2.2 L0: 9.1.1.6 9 10/25/95

Surface Temperature: 20 ° C

Pyrometer S/N: MCNDE27011

Cal Due: 960614

Examiner: [signature] Level: II

Examiner: [signature] Level: II

Procedure: NDE-630 Rev: 1

Calibration Sheet No: 9502053 9502054, 55 & 56

FC: 95-02

Scans:

45 ☑ 58 dB 70 ☐ ____ dB

45T ☑ 58 dB 70T ☐ ____ dB

60 ☑ 69 dB

60T ☐ ____ dB

Other: 45°L - 72 dB

Configuration: CIRC.

VALVE BODY Flow BONNET

52 to 51

Scan Surface: OD

Applies to NDE-680 only

Skew Angle: N/A

IND #	4	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir	Exam surf.	Scan Stamps
	DO NOT WRITE IN THIS SPACE					20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	DO NOT WRITE IN THIS SPACE		
45°	NO RECORDABLE INDICATIONS (CIRC. & AXIAL)													
45° L-WAVE	NO RECORDABLE INDICATIONS (AXIAL)													
60°	NO RECORDABLE INDICATIONS (AXIAL)													

Remarks: * B&W #5 - UPSTREAM APEX OF BRANCH CONNECTION

Limitations: (see NDE-UT-4) ☑ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 6

Reviewed By: Level: Date:

Guy L. Bibb III 10-27-95

Authorized Inspector Date

Robert McGill

Item No: BIZ.040.002D

(12)

DUKE POWER COMPANY

ISI LIMITATION REPORT

FORM NDE- UT-4

Revision 1

Component/Weld ID: 2ND-37A Item No: B12.040.002D

remarks:

☑ NO SCAN SURFACE BEAM DIRECTION

☐ LIMITED SCAN ☐ 1 ☑ 2 ☑ 1 ☐ 2 ☐ cw ☐ ccw

FROM L 0+0" to L 0+63" INCHES FROM WO 1.5" to BEYOND

ANGLE: ☐ 0 ☑ 45 ☑ 60 other _____ FROM 0 DEG to 360 DEG

← VALVE BODY

☐ NO SCAN SURFACE BEAM DIRECTION

☑ LIMITED SCAN ☐ 1 ☑ 2 ☑ 1 ☐ 2 ☐ cw ☐ ccw

FROM L 0+0" to L 0+63" INCHES FROM WO ℄ to 1.5"

ANGLE: ☐ 0 ☑ 45 ☑ 60 other FROM 0 DEG to 360 DEG

← VALVE BODY

☐ NO SCAN SURFACE BEAM DIRECTION

☑ LIMITED SCAN ☑ 1 ☐ 2 ☐ 1 ☑ 2 ☐ cw ☐ ccw

FROM L 0+0" to L 0+63" INCHES FROM WO + 1" to + 2.2"

ANGLE: ☐ 0 ☑ 45 ☑ 60 other FROM 0 DEG to 360 DEG

← TAPER ON BONNET

☐ NO SCAN SURFACE BEAM DIRECTION

☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw

FROM L _____ to L _____ INCHES FROM WO _____ to _____

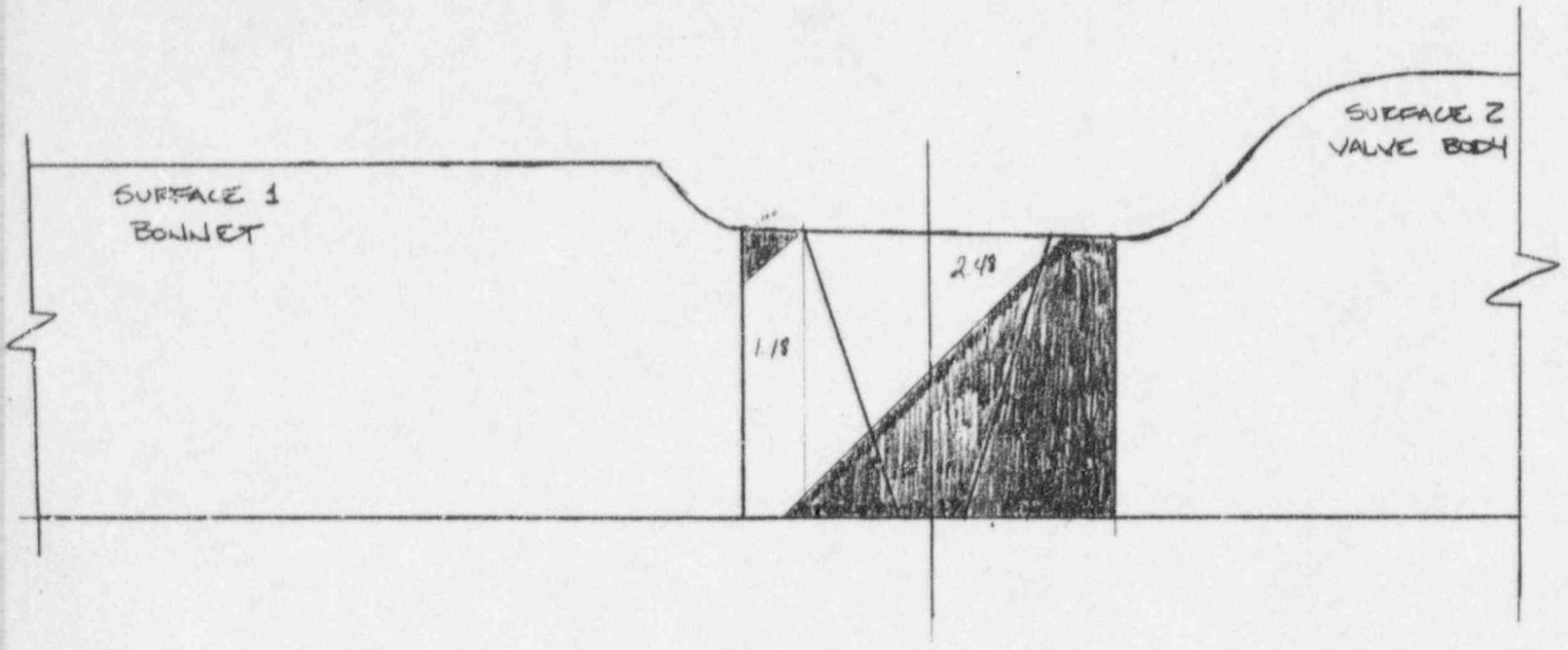
ANGLE: ☐ 0 ☐ 45 ☐ 60 other FROM _____ DEG to _____ DEG

Sketch(s) attached ☑ yes ☐ no

Prepared By: _____ Level: II Date: 10/26/95 Sheet 2 of 6

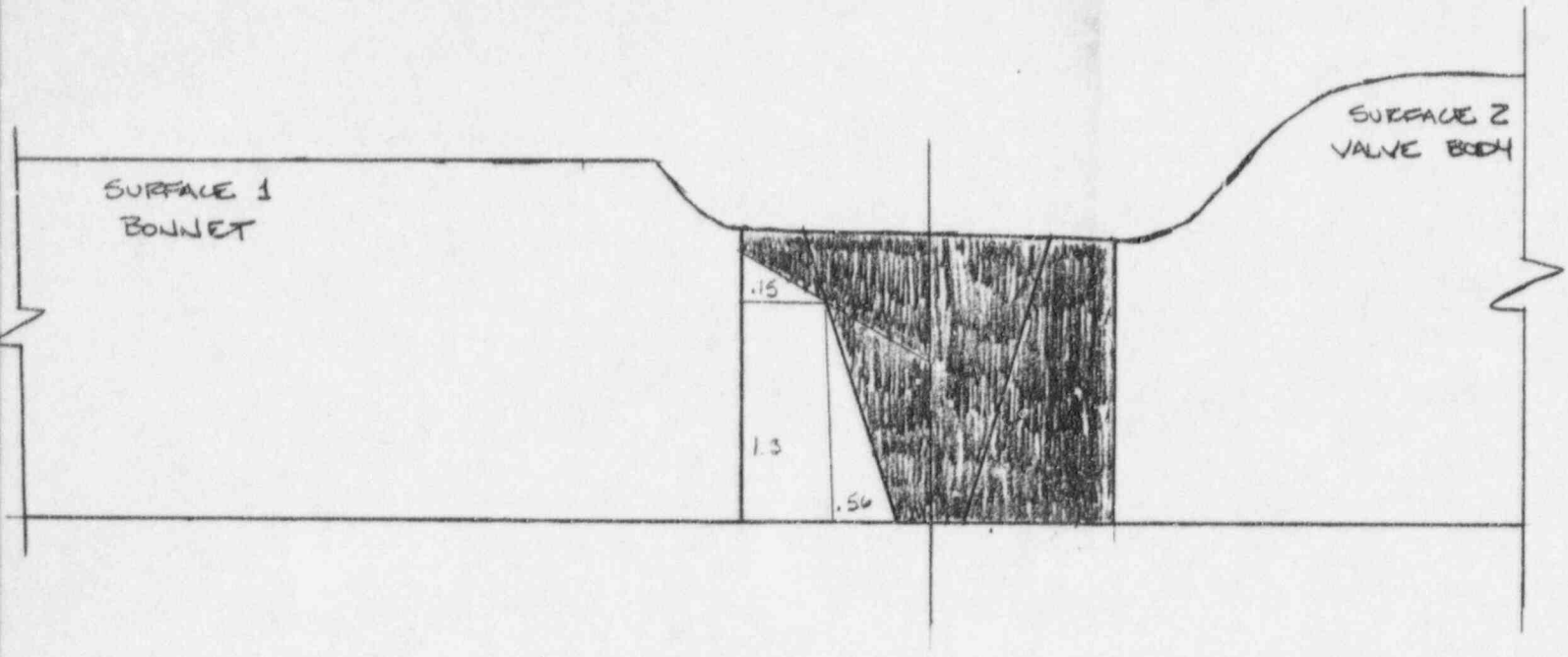
Reviewed By: Guy L. Babb III Date: 10-27-95

Authorized Inspector: Robert McGill Date: 11-1-95



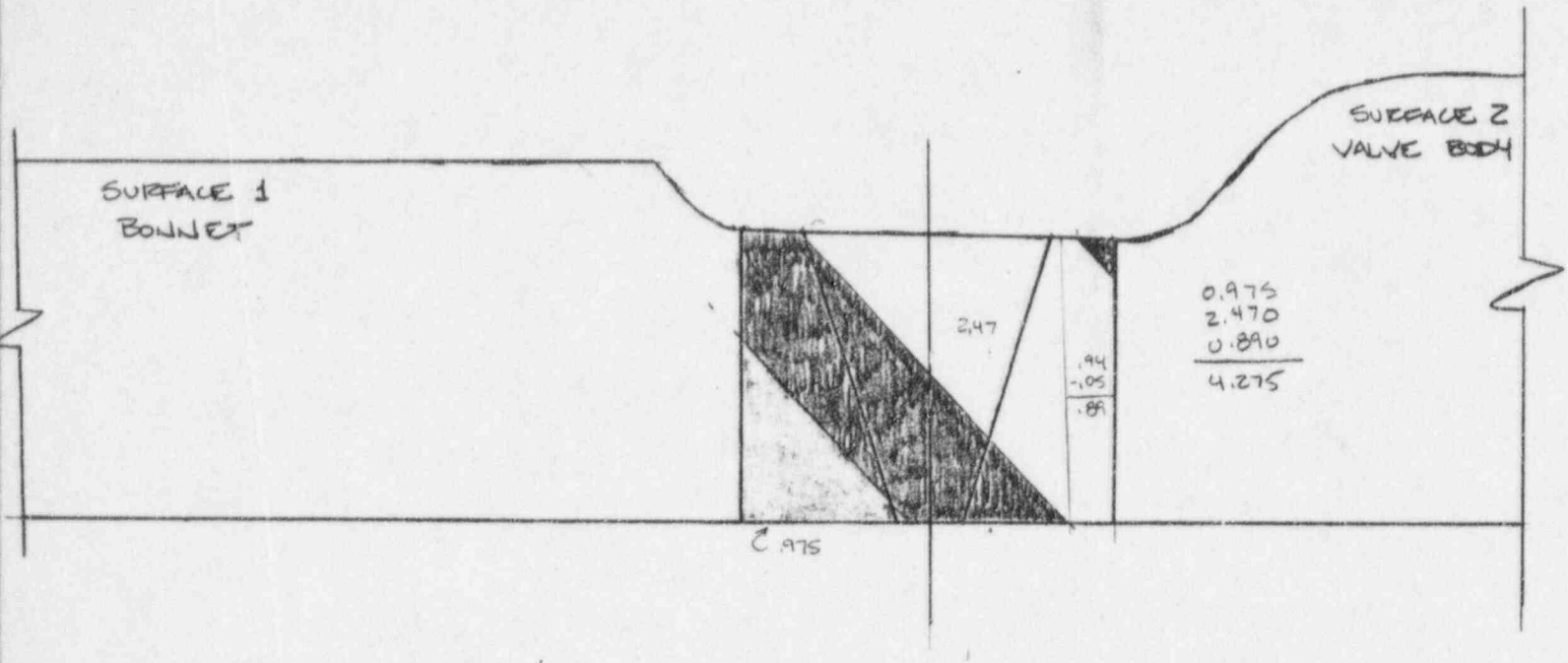
45° SURFACE 2
BEAM DIR. 1
3 of 6

B12.040.002D
WELD# 2ND-37A



60° SURFACE 1
BEAM DIRECTION 2

B12.040.002D
WELD# 2ND-37A



45° SURFACE 1
BEAM DIRECTION 2

B12.040.002D
WELD # 2JD-37A

DUKE POWER COMPANY	NDE-91-1
Limited Examination Coverage Worksheet	Revision 0

Examination Volume/Area Defined

Base Metal ☒ Weld ☒ Near Surface ☐ Bolting ☐ Inner Radius ☐

Area Calculation	Volume Calculation
$2.35" \times 3" = 7.05 in^2$	Weld Length = 63" $V = 7.05 in^2 \times 63 in$ $V = 444.15 in^3$

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
①	45°	S2	4.3	63"	~~269.32~~ 270.9 9R 10/26/95	444.15	60.9% ~~60.6%~~ 9R 10/26/95
②	45°	S1	3.6	63"	226.8	444.15	51.1%
③	45°	CW	$7.05 in^2$	63"	444.15	444.15	100%
④	45°	CCW	$7.05 in^2$	63"	444.15	444.15	100%
⑤	60°	S2	2.0	63"	126" / 1512	444.15 / 2220.75	28.4%

Aggregate % 68.08%

6 of 6

Item No: B12.040.002D

Prepared BY: NE Hauser Level: II Date: 10/24/95

Reviewed By: Guy L. Bell Level: III Date: 10-27-95

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1201 | Exam Finish: 1256 | Form NDE-UT-2A | Revision 4

Station: CATAWBA | Unit: II | Component/Weld ID: 2SGD-UH-15 | Date: 10-15-95

Weld Length (in.): 94.2" | Surface Condition: AS GROUND | L0: W AXIS

Surface Temperature: 69 °F

Examiner: James W Sitzer Level: III

Examiner: David K. Zinn Level: II

Pyrometer S/N: MCNDE 27016

Cal Due: 960712

Procedure: NDE 680 Rev: 1 | FC: 95-16

Calibration Sheet No: 9502026

Scans:
45 ☐ ____ dB 70 ☑ 73.5 dB
45T ☐ ____ dB 70T ☐ ____ dB
60 ☐ ____ dB
60T ☐ ____ dB
Other: ____ dB

Configuration: INNER RADIUS
N/A Flow N/A
____ to ____
Scan Surface: OD

Applies to NDE-680 only
Skew Angle: 18°

IND #	X	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir	Exam surf.	Scan	Damps
	DO NOT WRITE IN THIS SPACE					20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	20%dac HMA 50%dac 100% dac	DO NOT WRITE IN THIS SPACE			
	NO RECORDABLE INDICATIONS.														

Remarks:

Limitations: (see NDE-UT-4) ☑ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 3 4

Reviewed By:	Level:	Date:	Authorized Inspector	Date	Item No:
Guy L. Bibb	III	10-17-95	Robert McGill	10-26-95	C02.022.007

10-31-95

DUKE POWER COMPANY
ISI LIMITATION REPORT

FORM NDE- UT-4

Revision 1

Component/Weld ID: 2SGD-UH-15 Item No: C02.022.007

remarks: NOZZLE GEOMETRY

- [ ] NO SCAN — SURFACE — BEAM DIRECTION
- [x] LIMITED SCAN — SURFACE: [ ] 1 [x] 2 — BEAM DIRECTION: [x] 1 [ ] 2 [ ] cw [ ] ccw

FROM L________to L________ INCHES FROM WO +3.0 to BEYOND.

ANGLE: [ ] 0 [ ] 45 [ ] 60 other 70 FROM 0 DEG to 360 DEG

- [ ] NO SCAN — SURFACE — BEAM DIRECTION
- [ ] LIMITED SCAN — SURFACE: [ ] 1 [ ] 2 — BEAM DIRECTION: [ ] 1 [ ] 2 [ ] cw [ ] ccw

FROM L________to L________ INCHES FROM WO________ to ________

ANGLE: [ ] 0 [ ] 45 [ ] 60 other FROM ______DEG to ______DEG

- [ ] NO SCAN — SURFACE — BEAM DIRECTION
- [ ] LIMITED SCAN — SURFACE: [ ] 1 [ ] 2 — BEAM DIRECTION: [ ] 1 [ ] 2 [ ] cw [ ] ccw

FROM L________to L________ INCHES FROM WO________ to ________

ANGLE: [ ] 0 [ ] 45 [ ] 60 other FROM ______DEG to ______DEG

- [ ] NO SCAN — SURFACE — BEAM DIRECTION
- [ ] LIMITED SCAN — SURFACE: [ ] 1 [ ] 2 — BEAM DIRECTION: [ ] 1 [ ] 2 [ ] cw [ ] ccw

FROM L________to L________ INCHES FROM WO________ to ________

ANGLE: [ ] 0 [ ] 45 [ ] 60 other FROM ______DEG to ______DEG

Sketch(s) attached [x] yes [ ] no

Prepared By: James W Setzer Level: III Date: 10-16-95

Sheet 2 of 34 ddB 10-31-95

Reviewed By: Guy G. Bibb III Date: 10-17-95

Authorized Inspector: Robert McGill Date: 10-26-95

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DUKE POWER COMPANY	NDE-91-1
Limited Examination Coverage Worksheet	Revision 0

Examination Volume/Area Defined

Base Metal ☐ Weld ☐ Near Surface ☐ Bolting ☐ Inner Radius ☑

Area Calculation	Volume Calculation
SEE ATTACHED SKETCH $\frac{2.0 \times 2.0}{2} \times 2 + \frac{2.0^2 \times \pi}{4} =$ $7.14\ in^2$	$7.14\ in^2 \times 94.2\ in = 672.6\ cu\ in$

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
IR	70	CW	3.61	94.2	340.1	672.6	51%
IR	70	CCW	3.61	94.2	340.1	672.6	51%

Aggregate % 51%

Item No: C02.022.007

Prepared BY: James W Sitzer Level: III Date: 10-16-95

Reviewed By: Guy L Bibb Level: III Date: 10-17-95

 ASB 10-31-95

MAIN STEAM OUTLET NOZZLE

NOZZLE to SHELL ℄ INNER RADIUS

1/2 SCALE

70° INNER RADIUS.

EXAM AREA = $\frac{2.0 \times 2.0}{2} + \frac{2.0 \times 2.0}{2} + \frac{2.0^2 \times \pi}{4}$ = 7.14 sq in

AREA LOSS
3.53 Sq in

AREA COVERED

1.) $\frac{1.9 \times .85}{2}$ = .81

2.) $\frac{1.9 \times 2.0}{2}$ = 1.9

3.) 3.0 x .30 = .9

total = 3.61 Sq in

AREA LOSS = EXAM AREA - AREA COVERED

3.53 Sq in = 7.14 - 3.61

J.W. Schryer III
10-16-95

C02.022.007