



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: 02.B3.150.0003  
Workscope: ISI

Procedure: NDE-3630  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-26  
Report No.: UT-13-1186  
Page: 1 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_  
Drawing No.: O-ISIN4-101A-2.1 Description: Nozzle to Channel Body  
System ID: 51A  
Component ID: 2-LDCB-IN-WJ33V Size/Length: N/A Thickness/Diameter: SS / .875 / NA  
Limitations: Yes - See attached sheets Start Time: 1140 Finish Time: 1207

**Instrument Settings**  
Serial No.: 023DP0 Manufacturer: GE Model: USN 60 SW  
Delay: 4.4078 Range: 2.5" M'U Cal/Vol: .1236 Pulsar: Square  
Damping: 500 Reject: 0% Rep. Rate: Autohigh Freq.: 2.25 MHz  
Filter: Fixed Mode: PE Voltage: 450 Other: Fullwave  
Ax. Gain (dB): 31.5 Circ. Gain (dB): 38.1  
1 Screen Div. = 0.25 in. of Sound Path  
Linearity Report No.: L-13-266

**Search Unit**  
Serial No.: SB0492 Manufacturer: GE Size: .25 Shape: Round  
Freq.: 2.25 MHz Style: Comp - G Exam Angle: 45 # of Elements: Single  
Mode: Shear Measured Angle: 44 Wedge Style: MSWQC  
**Search Unit Cable**  
Type: RG - 174 Length: 6' No. Conn.: 0

Cal. Checks	Time	Date
Initial Cal.	1009	11/3/2013
Inter. Cal.		
Inter. Cal.	1100	11/3/2013
Inter. Cal.		
Final Cal.	1217	11/3/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #2	80	4.9	1.225"

Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #3	80	5.4	1.352"

Reference/Simulator Block				
Gain dB	Reflector	Signal Amplitude %	Sweep Division	Sound Path
19.9	1" Radius	80	4.0	1.00"

**Calibration Block**  
Cal. Block No. 40411 Thickness 0.875 Dia.: 8.75  
Cal. Blk. Temp. 68 Temp. Tool: MCNDE40131 Exam Surface: O.D.  
Comp. Temp. 73 Temp. Tool: MCNDE40131 Surface Condition: As Ground  
Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐  
Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

**Reference Block**  
Serial No.: 04-8743  
Type: ROMPAS

Comments: FC 11-16

Examiner	Level	II-N	Signature	Date	Reviewer	Signature	Date
Tucker, David K.			<i>David K. Tucker</i>	11/3/2013	Red SHEFFIELD	<i>Red Sheffield</i>	11-4-13
Examiner	Level	N/A	Signature	Date	Site Review	Signature	Date
N/A							
Other	Level	N/A	Signature	Date	ANII Review	Signature	Date
N/A					MARK E. ZURBUCH	<i>Mark E. Zurbuch</i>	11/8/13

ATTACHMENT ATTACHMENT



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: O2.B3.150.0003  
Workscope: ISI

Procedure: NDE-3830  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-26  
Report No.: UT-13-1186  
Page: 2 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_  
Drawing No.: O-1SIN4-101A-2.1 Description: Nozzle to Channel Body  
System ID: 51A  
Component ID: 2-LDCB-IN-WJ33V Size/Length: N/A Thickness/Diameter: SS / .875 / NA  
Limitations: Yes - See attached sheets Start Time: 1140 Finish Time: 1207

**Instrument Settings**  
Serial No.: 023DP0 Manufacturer: GE Model: USN 60 SW Delay: 6.8406 Range: 3.0" M'tl Cal/Vel: .2298 Pulsar: Square Damping: 500 Reject: 0% Rep. Rate: Autohigh Freq.: 2 MHz Filter: Fixed Mode: Dual Voltage: 450 Other: Fullwave Ax. Gain (dB): 53.0 Circ. Gain (dB): N/A 1 Screen Div. = 0.3 in. of Sound Path Linearity Report No.: L-13-266

**Search Unit**  
Serial No.: 03-767 Manufacturer: RTD Size: 2(7x10) Shape: Rect. Freq.: 2.0 MHZ Style: TRLA Exam Angle: 60 # of Elements: Dual Mode: Long. Measured Angle: 59 Wedge Style: Integral Search Unit Cable Type: RG - 174 Length: 6' No. Conn.: 0

**Calibration Block**  
Cal. Block No. 40411 Thickness 0.875 Dia.: 8.75 CW ☐ CCW ☐ Scan dB: N/A Cal. Blk. Temp. 68 Temp. Tool: MCNDE40131 Exam Surface: O.D. Comp. Temp. 73 Temp. Tool: MCNDE40131 Surface Condition: As Ground

**Scan Coverage**  
Upstream ☐ Downstream ☒ Scan dB: 67.0 CW ☐ CCW ☐ Scan dB: N/A

Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐  
Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

Cal. Checks	Time	Date
Initial Cal.	1023	11/3/2013
Inter. Cal.		
Inter. Cal.	1157	11/3/2013
Inter. Cal.		
Final Cal.	1216	11/3/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

**Reference Block**  
Serial No.: 04-8743  
Type: ROMPAS

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #2	80	5.1	1.537"
Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
N/A			
Reference/Simulator Block			
Gain dB	Reflector	Signal Amplitude %	Sweep Division
26.7	1" Radius	80	3.3

Comments: FC 11-16

Examiner	Level	II-N	Signature	Date	Reviewer	Signature	Date
Tucker, David K.			<i>David K. Tucker</i>	11/3/2013	ROD SHEFFIELD	<i>Rod Sheffield</i>	11-4-13
Examiner	Level	N/A	Signature	Date	Site Review	Signature	Date
N/A							
Other	Level	N/A	Signature	Date	ANII Review	Signature	Date
N/A					MARK E. ZURBUCH	<i>Mark E. Zurbuch</i>	11/8/13

507803  
ATTACHMENT



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: 02.B3.150.0003  
Workscope: ISI

Procedure: NDE-3630  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-26  
Report No.: UT-13-1186  
Page: 3 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_  
Drawing No.: O-ISIN4-101A-2.1 Description: Nozzle to Channel Body  
System ID: 51A  
Component ID: 2-LDCB-IN-WJ33V Size/Length: N/A Thickness/Diameter: SS / .875 / NA  
Limitations: Yes - See attached sheets Start Time: 1140 Finish Time: 1207

**Instrument Settings**  
Serial No.: 023DP0  
Manufacturer: GE  
Model: USN 60 SW  
Delay: 7.3884 Range: 4.0"  
M/I Cal/Vel: .2306 Pulsar: Square  
Damping: 500 Reject: 0%  
Rep. Rate: Autohigh Freq.: 2 MHz  
Filter: Fixed Mode: Dual  
Voltage: 450 Other: Fullwave  
Ax. Gain (dB): 43.7 Circ. Gain (dB): N/A  
1 Screen Div. = 0.4 in. of Sound Path  
Linearity Report No.: L-13-266

**Search Unit**  
Serial No.: 03-769  
Manufacturer: RTD  
Size: 2(7x10) Shape: Rect.  
Freq.: 2.0 MHz Style: TRLA  
Exam Angle: 70 # of Elements: Dual  
Mode: Long.  
Measured Angle: 68  
Wedge Style: Integral

**Search Unit Cable**  
Type: RG - 174  
Length: 6' No. Conn.: 0

Cal. Checks	Time	Date
Initial Cal.	1030	11/3/2013
Inter. Cal.		
Inter. Cal.	1204	11/3/2013
Inter. Cal.		
Final Cal.	1215	11/3/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #2	80	5.3	2.135"

Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
N/A			

Reference/Simulator Block				
Gain dB	Reflector	Signal Amplitude %	Sweep Division	Sound Path
32.0	1" Radius	80	2.5	1.00"

**Calibration Block**  
Cal. Block No. 40411  
Thickness 0.875 Dia.: 8.75  
Cal. Blk. Temp. 68 Temp. Tool: MCNDE40131  
Comp. Temp. 73 Temp. Tool: MCNDE40131  
Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐  
Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

**Scan Coverage**  
Upstream ☐ Downstream ☒ Scan dB: 57.7  
CW ☐ CCW ☐ Scan dB: N/A  
Exam Surface: O.D.  
Surface Condition: As Ground

**Reference Block**  
Serial No.: 04-8743  
Type: ROMPAS

Comments: FC 11-16

Examiner	Level	II-N	Signature	Date	Reviewer	Signature	Date
Tucker, David K.			<i>David K. Tucker</i>	11/3/2013	ROD SHEFFIELD	<i>Rod Sheffield</i>	11-4-13
Examiner	Level	N/A	Signature	Date	Site Review	Signature	Date
N/A							
Other	Level	N/A	Signature	Date	ANII Review	Signature	Date
N/A					MARK E. ZURBUCH	<i>Mark E. Zurbuch</i>	11/8/13

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ATTACHMENT 2

**Let Down Cooler - Nozzle to Channel Body**

**% Coverage Calculations**

**Weld No. : 2-LDCB-IN-WJ33V**

Dia. = 3.5"

"t" = 0.875"

Weld Length = 27.1"

**Axial Scans**

Along Axis of Pipe = 100% of the Length x 34.6% of the Volume = 34.6%

Along Radius of Pipe = 100% of the Length x 47.4% of the Volume = 47.4%

Average =  $34.6\% + 47.4\% / 2 = 41.0\%$

**Circ. Scans**

Along Axis of Pipe = 100% of the Length x 55.5% of the Volume = 55.5%

Along Radius of Pipe = 100% of the Length x 81.7% of the Volume = 81.7%

Average =  $55.5\% + 81.7\% / 2 = 68.6\%$

**Total =  $( 41.0 + 68.6 ) / 2 = 54.8\%$  Aggregate Coverage**

Inspector / Date:

*Rod Sheffield / 11-7-13*

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ATTACHMENT B

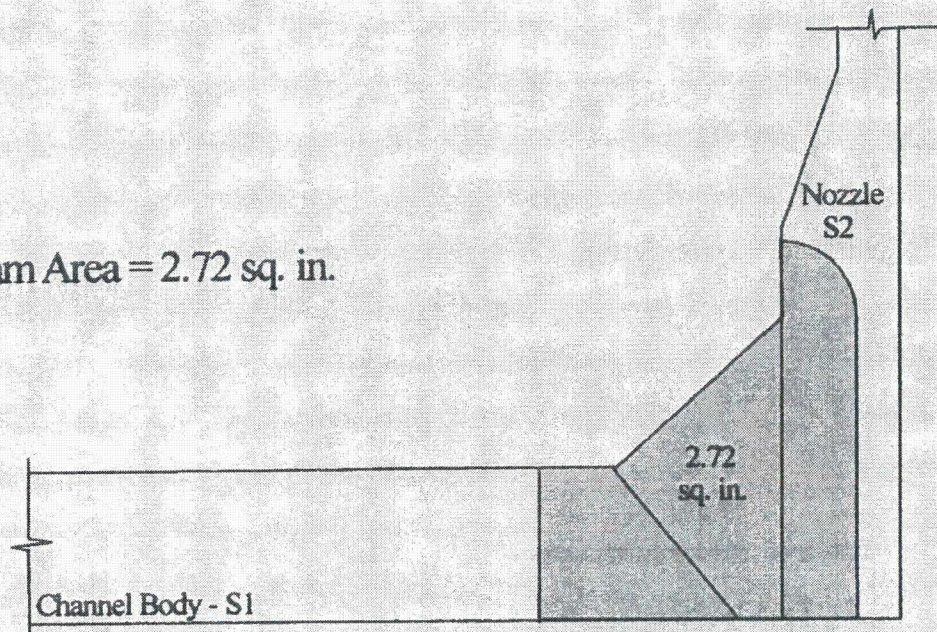
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# Letdown Cooler Nozzle to Channel Body

Weld No. : 2-LDCB-IN-WJ33V

Item No. : O2.B3.150.0003

Total Exam Area = 2.72 sq. in.



Scale: 1" = 1"

ATTACHMENT B

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Rod Sheffield 11-4-13

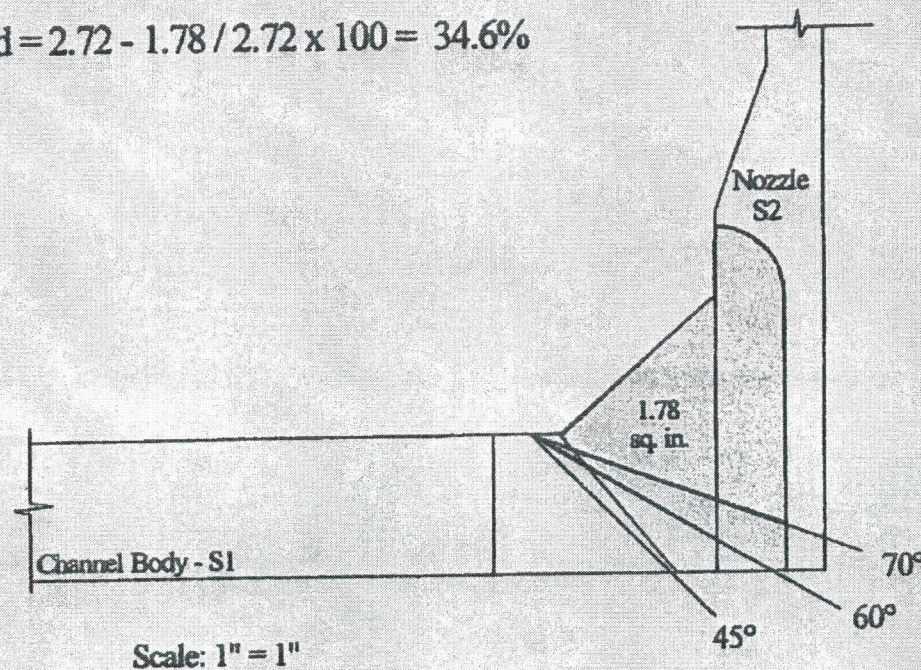
5 of 10

# Letdown Cooler Nozzle to Channel Body Area Examined - Axial Scans

Weld No. : 2-LDCB-IN-WJ33V

Item No. : 02.B3.150.0003

- ☐ Area not Examined = 1.78 sq. in.
- ☐ Area Examined =  $2.72 - 1.78 / 2.72 \times 100 = 34.6\%$





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ATTACHMENT B  
Rod Sheffield 11-7-13

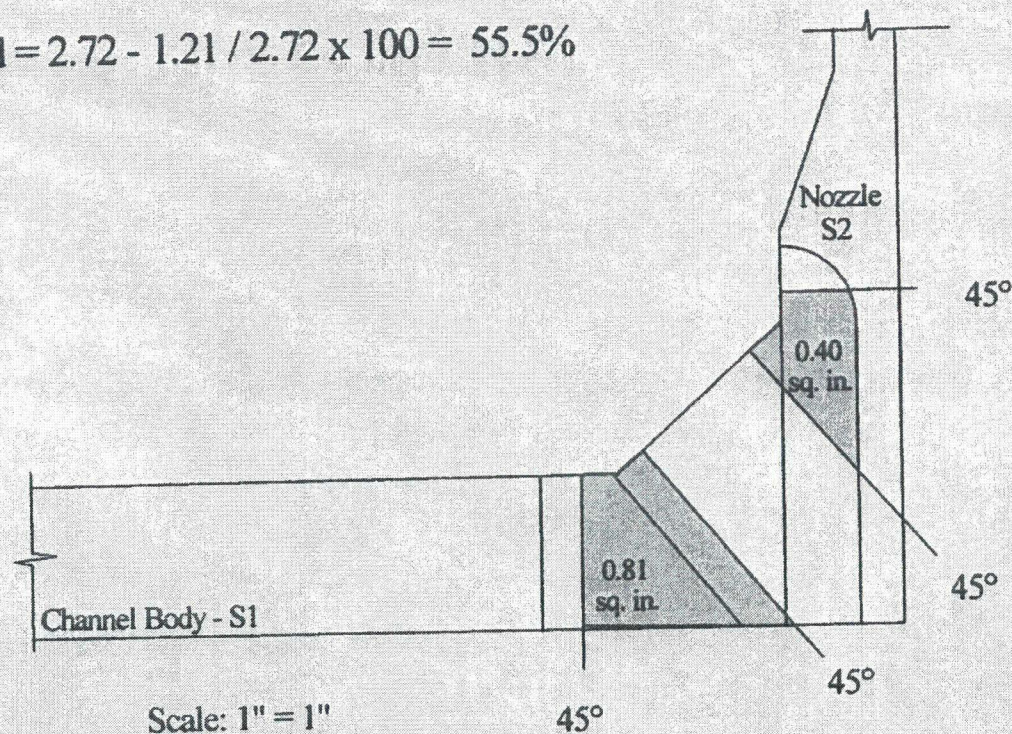
# Letdown Cooler Nozzle to Channel Body Area Examined - Circ. Scans

Weld No. : 2-LDCB-IN-WJ33V

Item No. : O2.B3.150.0003

 Area not Examined =  $0.81 + 0.40 = 1.21$  sq. in.

 Area Examined =  $2.72 - 1.21 / 2.72 \times 100 = 55.5\%$



ATTACHMENT B  
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Rod Sheffield 11-4-13

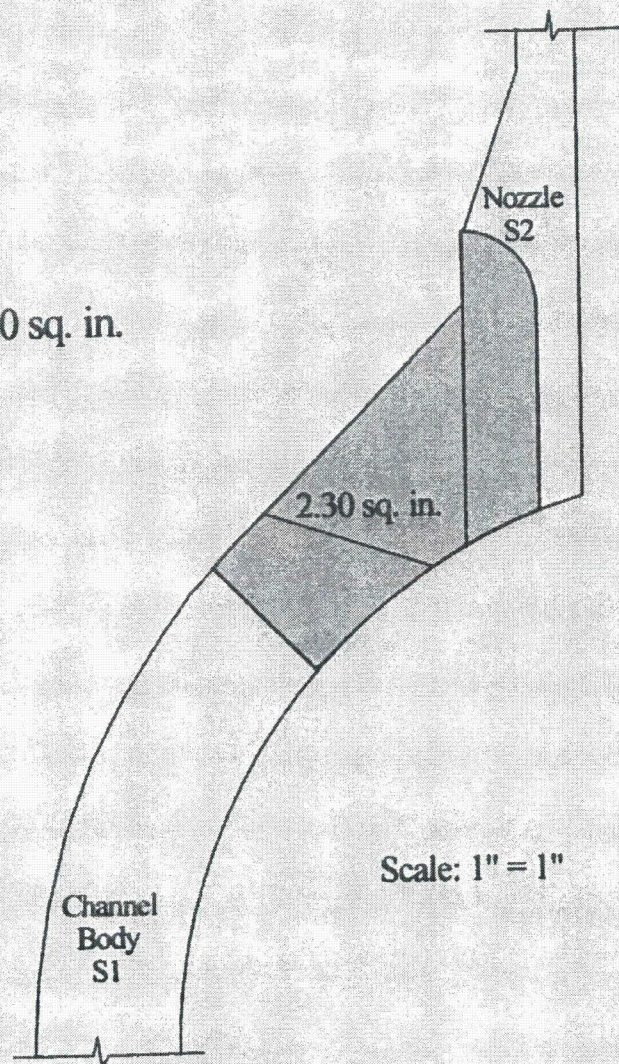
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# Letdown Cooler Nozzle to Channel Body ( Radius View )

Weld No. : 2-LDCB-IN-WJ33V

Item No. : O2.B3.150.0003

Total Exam Area = 2.30 sq. in.



Scale: 1" = 1"

56480  
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
Rod Khekulid 11-4-13

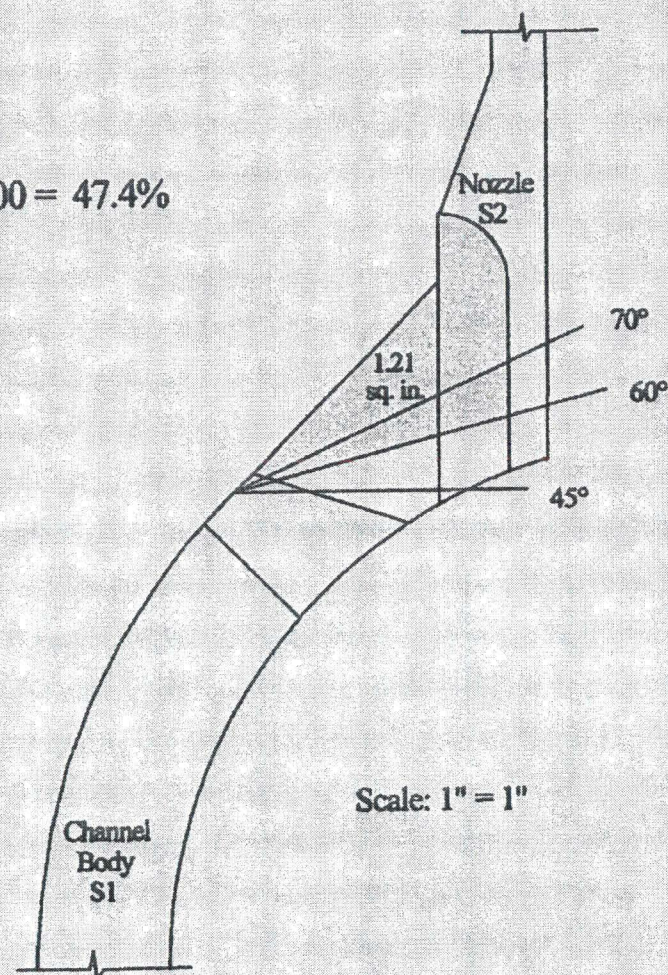
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# Letdown Cooler Nozzle to Channel Body ( Radius View ) Area Examined - Axial Scans

Weld No. : 2-LDCB-IN-WJ33V

Item No. : O2.B3.150.0003

-  Area not Examined = 1.21 sq. in.
-  Area Examined =  $2.30 - 1.21 / 2.30 \times 100 = 47.4\%$



Scale: 1" = 1"

ATTACHMENT B  
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
Rod Sheffield 11-7-13

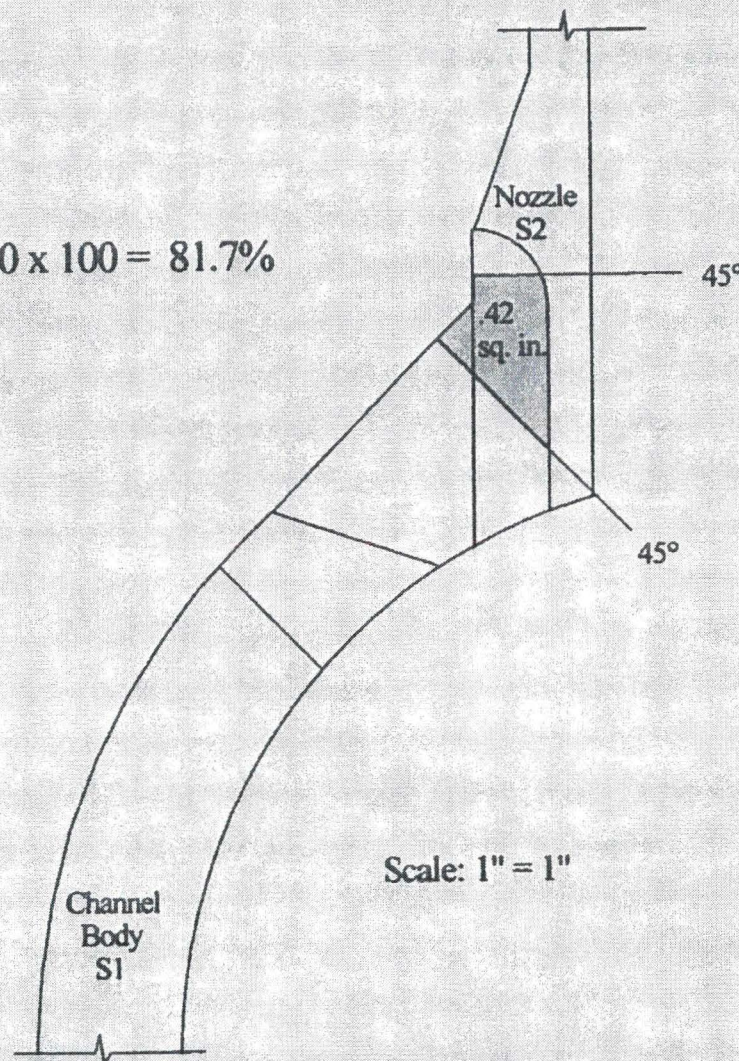
# Letdown Cooler Nozzle to Channel Body ( Radius View )

Weld No. : 2-LDCB-IN-WJ33V

Item No. : O2.B3.150.0003

 Area not Examined = .42 sq. in.

 Area Examined =  $2.30 - .42 / 2.30 \times 100 = 81.7\%$



Scale: 1" = 1"

58680  
ATTACHMENT B

Rod Sheffield 11-4-13

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# UT Calibration Examination



Site/Unit: Oconee / 2  
Summary No.: 02.B3.150.0004  
Workscope: ISI

Procedure: NDE-3630  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-26  
Report No.: UT-13-1187  
Page: 1 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_  
Drawing No.: 0-4SIN4-101A-2.1 Description: Nozzle to Channel Body  
System ID: 51A  
Component ID: 2-LDCB-OUT-WJ36V Size/Length: N/A Thickness/Diameter: SS / .875 / NA  
Limitations: Yes - See attached sheets Start Time: 1148 Finish Time: 1210

**Instrument Settings**  
Serial No.: 023DP0  
Manufacturer: GE  
Model: USN 60 SW  
Delay: 4.4078 Range: 2.5"  
M'tl Cal/Vel: .1236 Pulsar: Square  
Damping: 500 Reject: 0%  
Rep. Rate: Autohigh Freq.: 2.25 MHz  
Filter: Fixed Mode: PE  
Voltage: 450 Other: Fullwave  
Ax. Gain (dB): 31.5 Circ. Gain (dB): 38.1  
1 Screen Div. = 0.25 in. of Sound Path  
Linearity Report No.: L-13-268

**Search Unit**  
Serial No.: S80492  
Manufacturer: GE  
Size: .25 Shape: Round  
Freq.: 2.25 MHz Style: Comp - G  
Exam Angle: 45 # of Elements: Single  
Mode: Shear  
Measured Angle: 44  
Wedge Style: MSWQC

**Search Unit Cable**  
Type: RG - 174  
Length: 6' No. Conn.: 0

Cal. Checks	Time	Date
Initial Cal.	1009	11/3/2013
Inter. Cal.		
Inter. Cal.	1100	11/3/2013
Inter. Cal.		
Final Cal.	1217	11/3/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

**Reference Block**  
Serial No.: 04-8743  
Type: ROMPAS

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #2	80	4.9	1.225"

Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #3	80	5.4	1.352"

Reference/Simulator Block				
Gain dB	Reflector	Signal Amplitude %	Sweep Division	Sound Path
19.9	1" Radius	80	4.0	1.00"

**Calibration Block**  
Cal. Block No. 40411  
Thickness 0.875 Dia.: 8.75  
Cal. Blk. Temp. 68 Temp. Tool: MCNDE40131  
Comp. Temp. 73 Temp. Tool: MCNDE40131  
Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐  
Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

**Scan Coverage**  
Upstream ☐ Downstream ☒ Scan dB: 45.5  
CW ☒ CCW ☒ Scan dB: 52.1  
Exam Surface: O.D.  
Surface Condition: As Ground

Comments: FC 11-16

Examiner	Level	Signature	Date	Reviewer	Signature	Date
Tucker, David K.	II-N	<i>David K. Tucker</i>	11/3/2013	ROD SHEFFIELD	<i>Rod Sheffield</i>	11-4-13
Examiner	Level	Signature	Date	Site Review	Signature	Date
N/A	N/A					
Other	Level	Signature	Date	ANIR Review	Signature	Date
N/A	N/A			MARK E. ZURBUCH	<i>Mark E. Zurbuch</i>	11/8/13

08.11.13  
ATTACHMENT 9



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: 02.B3.150.0004  
Workscope: ISI

Procedure: NDE-3830  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-26  
Report No.: UT-13-1187  
Page: 2 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_

Drawing No.: O-ISIN4-101A-2.1 Description: Nozzle to Channel Body

System ID: 51A

Component ID: 2-LDCB-OUT-WJ36V Size/Length: N/A Thickness/Diameter: SS / .875 / NA

Limitations: Yes - See attached sheets Start Time: 1148 Finish Time: 1210

Instrument Settings				Search Unit				Cal. Checks			Axial Orientated Search Unit					
Serial No.:	<u>0230P0</u>			Serial No.:	<u>03-767</u>			Initial Cal.	<u>1023</u>	<u>11/3/2013</u>	Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path		
Manufacturer:	<u>GE</u>			Manufacturer:	<u>RTD</u>			Inter. Cal.			ID Notch #2	<u>80</u>	<u>5.1</u>	<u>1.537"</u>		
Model:	<u>USN 80 SW</u>			Size:	<u>2(7x10)</u>	Shape:	<u>Rect.</u>	Inter. Cal.	<u>1157</u>	<u>11/3/2013</u>						
Delay:	<u>6.8408</u>	Range:	<u>3.0"</u>	Freq.:	<u>2.0 MHz</u>	Style:	<u>TRLA</u>	Inter. Cal.								
M/I Cal/Vel:	<u>.2298</u>	Pulser:	<u>Square</u>	Exam Angle:	<u>60</u>	# of Elements:	<u>Dual</u>	Final Cal.	<u>1216</u>	<u>11/3/2013</u>						
Damping:	<u>500</u>	Reject:	<u>0%</u>	Mode:	<u>Long.</u>			Couplant			Circumferential Orientated Search Unit					
Rep. Rate:	<u>Autohigh</u>	Freq.:	<u>2 MHz</u>	Measured Angle:	<u>59</u>			Cal. Batch:	<u>12125</u>			Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path	
Filter:	<u>Fixed</u>	Mode:	<u>Dual</u>	Wedge Style:	<u>Integral</u>			Type:	<u>ULTRAGEL II</u>							
Voltage:	<u>450</u>	Other:	<u>Fullwave</u>	Search Unit Cable				Mfg.:	<u>MAGNAFLUX</u>							
Ax. Gain (dB):	<u>53.0</u>	Circ. Gain (dB):	<u>N/A</u>	Type:	<u>RG - 174</u>			Exam Batch:	<u>12125</u>							
1 Screen Div. =	<u>0.3</u>	In. of	<u>Sound Path</u>	Length:	<u>6'</u>	No. Conn.:	<u>0</u>	Type:	<u>ULTRAGEL II</u>							
Linearity Report No.:	<u>L-13-268</u>			Scan Coverage				Mfg.:	<u>MAGNAFLUX</u>							
Calibration Block				Reference Block				Reference/Simulator Block								
Cal. Block No.	<u>40411</u>			Upstream <input type="checkbox"/> Downstream <input checked="" type="checkbox"/>	Scan dB: <u>67.0</u>			Serial No.:	<u>04-8743</u>			Gain dB	Reflector	Signal Amplitude %	Sweep Division	Sound Path
Thickness	<u>0.875</u>	Dia.:	<u>8.75</u>	CW <input type="checkbox"/> CCW <input type="checkbox"/>	Scan dB: <u>N/A</u>			Type:	<u>ROMPAS</u>			<u>26.7</u>	<u>1" Radius</u>	<u>80</u>	<u>3.3</u>	<u>1.00"</u>
Cal. Blk. Temp.	<u>68</u>	Temp. Tool:	<u>MCNDE40131</u>	Exam Surface:	<u>O.D.</u>											
Comp. Temp.	<u>73</u>	Temp. Tool:	<u>MCNDE40131</u>	Surface Condition:	<u>As Ground</u>											
Recordable Indication(s):	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If Yes, Ref. Attached Ultrasonic Indication Report.)															
Results:	Accept <input checked="" type="checkbox"/> Reject <input type="checkbox"/> Info <input type="checkbox"/>			Comments: <u>FC 11-18</u>												
Percent Of Coverage Obtained > 90%: <u>No</u>				Reviewed Previous Data: <u>Yes</u>												

Examiner	Level	<u>II-N</u>	Signature	Date	Reviewer	Signature	Date
<u>Tucker, David K.</u>			<u>[Signature]</u>	<u>11/3/2013</u>	<u>ROD SHEPHERD</u>	<u>[Signature]</u>	<u>11-4-13</u>
Examiner	Level	<u>N/A</u>	Signature	Date	Site Review	Signature	Date
<u>N/A</u>							
Other	Level	<u>N/A</u>	Signature	Date	ANR Review	Signature	Date
<u>N/A</u>					<u>MARK E. ZURBUCH</u>	<u>[Signature]</u>	<u>11/8/13</u>

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ATTACHMENT 3



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: 02.B3.150.0004  
Workscope: ISI

Procedure: NDE-3630  
Procedure Rev.: 2  
Work Order No.: 2025408

Outage No.: 02-25  
Report No.: UT-13-1187  
Page: 3 of 10

Code: 1998/2000A Cat./Item: B-D /B3.150 Location: \_\_\_\_\_  
Drawing No.: Q-ISIN4-101A-2.1 Description: Nozzle to Channel Body  
System ID: 51A  
Component ID: 2-LDCB-OUT-WJ36V Size/Length: N/A Thickness/Diameter: SS / .875 / NA  
Limitations: Yes - See attached sheets Start Time: 1148 Finish Time: 1210

**Instrument Settings**  
Serial No.: 023DP0 Manufacturer: GE Model: USN 60 SW  
Delay: 7.3684 Range: 4.0" M'tl Cal/Vel: .2306 Pulsar: Square Damping: 500 Reject: 0%  
Rep. Rate: Autohigh Freq.: 2 MHz Filter: Fixed Mode: Dual Voltage: 450 Other: Fullwave  
Ax. Gain (dB): 43.7 Circ. Gain (dB): N/A  
1 Screen Div. = 0.4 in. of Sound Path  
Linearity Report No.: L-13-266

**Search Unit**  
Serial No.: 03-769 Manufacturer: RTD Size: 2(7x10) Shape: Rect.  
Freq.: 2.0 MHz Style: TRLA Exam Angle: 70 # of Elements: Dual  
Mode: Long Measured Angle: 88 Wedge Style: Integral  
Search Unit Cable  
Type: RG - 174 Length: 6' No. Conn.: 0

Cal. Checks	Time	Date
Initial Cal.	1030	11/3/2013
Inter. Cal.		
Inter. Cal.	1204	11/3/2013
Inter. Cal.		
Final Cal.	1215	11/3/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
ID Notch #2	80	5.3	2.135"

Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Sound Path
N/A			

Reference/Simulator Block				
Gain dB	Reflector	Signal Amplitude %	Sweep Division	Sound Path
32.0	1" Radius	80	2.5	1.00"

**Calibration Block**  
Cal. Block No. 40411 Thickness 0.875 Dia.: 8.75  
Cal. Blk. Temp. 68 Temp. Tool: MCNDE40131 Exam Surface: O.D.  
Comp. Temp. 73 Temp. Tool: MCNDE40131 Surface Condition: As Ground

**Scan Coverage**  
Upstream ☐ Downstream ☒ Scan dB: 57.7  
CW ☐ CCW ☐ Scan dB: N/A

Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐  
Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

**Reference Block**  
Serial No.: 04-8743  
Type: ROMPAS

Comments: FC 11-16

Examiner	Level	Signature	Date	Reviewer	Signature	Date
Tucker, David K.	II-N	<i>David K. Tucker</i>	11/3/2013	ROD SHEFFIELD	<i>Rod Sheffield</i>	11-4-13
Examiner	Level	Signature	Date	Site Review	Signature	Date
N/A	N/A					
Other	Level	Signature	Date	ANIL Review	Signature	Date
N/A	N/A			MARK E. ZURBUCA	<i>Mark E. Zurbuca</i>	11/8/13

**Let Down Cooler - Nozzle to Channel Body**

**% Coverage Calculations**

**Weld No. : 2-LDCB-OUT-WJ36V**

**Dia. = 3.5"**

**"t" = 0.875"**

**Weld Length = 27.1"**

**Axial Scans**

**Along Axis of Pipe = 100% of the Length x 34.6% of the Volume = 34.6%**

**Along Radius of Pipe = 100% of the Length x 47.4% of the Volume = 47.4%**

**Average =  $34.6\% + 47.4\% / 2 = 41.0\%$**

**Circ. Scans**

**Along Axis of Pipe = 100% of the Length x 55.5% of the Volume = 55.5%**

**Along Radius of Pipe = 100% of the Length x 81.7% of the Volume = 81.7%**

**Average =  $55.5\% + 81.7\% / 2 = 68.6\%$**

**Total =  $(41.0 + 68.6) / 2 = 54.8\%$  Aggregate Coverage**

**Inspector / Date:** Basil Sheffield / 11-7-13 **Page** 4 **of** 60

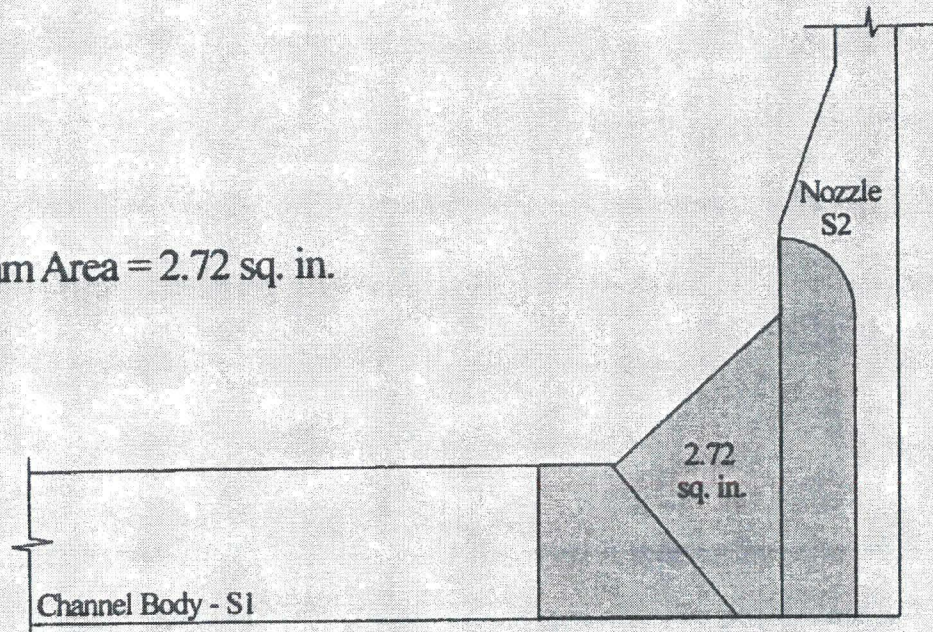
**ATTACHMENT B**  
**62 of 80**

# Letdown Cooler Nozzle to Channel Body

Weld No. : 2-LDCB-OUT-WJ36V

Item No. : O2.B3.150.0004

Total Exam Area = 2.72 sq. in.



Scale: 1" = 1"

63780  
ATTACHMENT B

Rev'd *Sheffield* 11-4-13

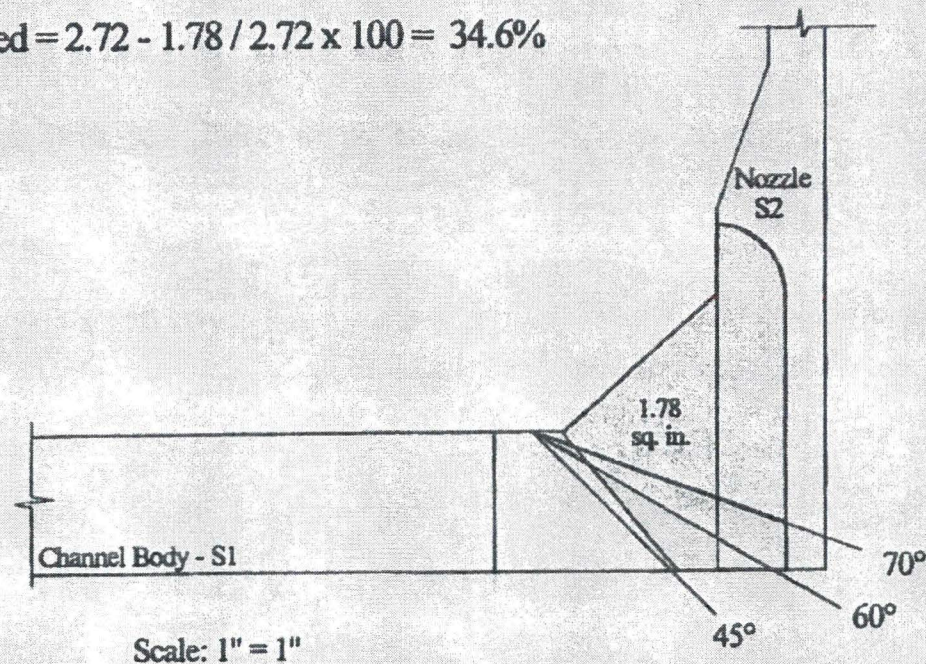
5 of 10

# Letdown Cooler Nozzle to Channel Body Area Examined - Axial Scans

Weld No. : 2-LDCB-OUT-WJ36V

Item No. : O2.B3.150.0004

- ☐ Area not Examined = 1.78 sq. in.
- ☐ Area Examined =  $2.72 - 1.78 / 2.72 \times 100 = 34.6\%$



64 of 80  
ATTACHMENT B


Rod Sheffat 11-7-13

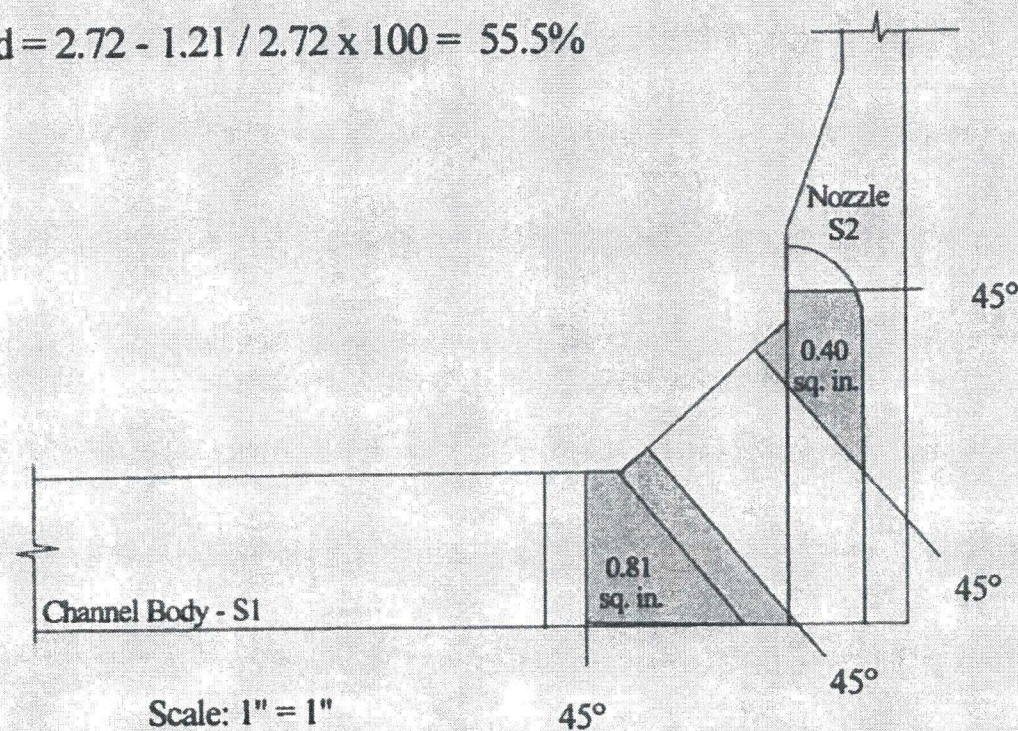
# Letdown Cooler Nozzle to Channel Body Area Examined - Circ. Scans

Weld No. : 2-LDCB-OUT-WJ36V

Item No. : O2.B3.150.0004

 Area not Examined =  $0.81 + 0.40 = 1.21$  sq. in.

 Area Examined =  $2.72 - 1.21 / 2.72 \times 100 = 55.5\%$



Rod Sheffield 11-4-13

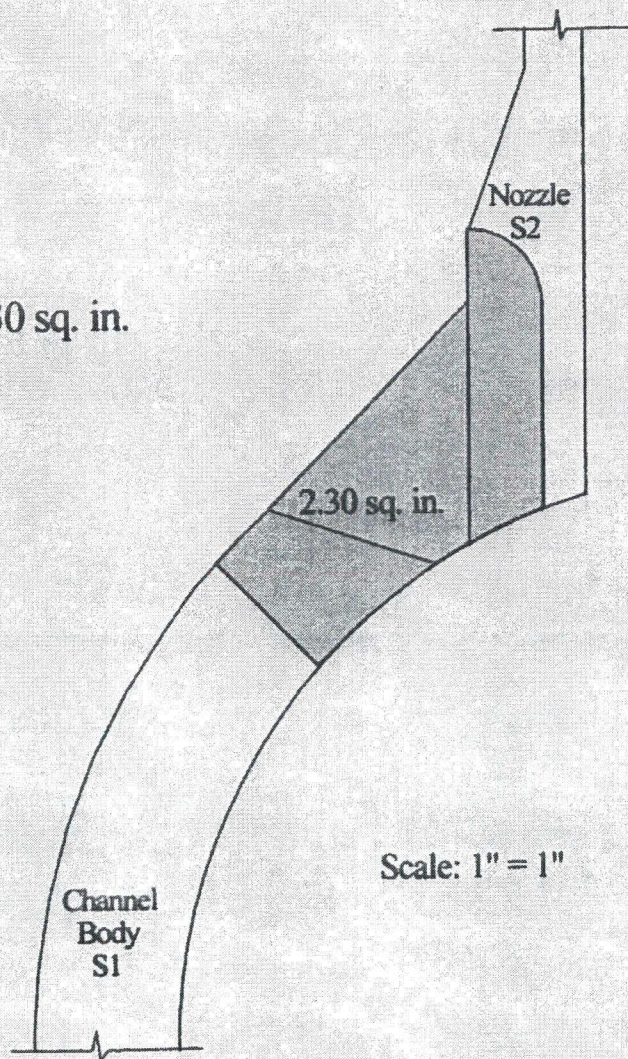
7 of 10

# Letdown Cooler Nozzle to Channel Body ( Radius View )

Weld No. : 2-LDCB-OUT-WJ36V

Item No. : O2.B3.150.0004

Total Exam Area = 2.30 sq. in.



Scale: 1" = 1"

66 of 80  
ATTACHMENT B

Rod Sheffield 11-4-13

8 of 10

# Letdown Cooler Nozzle to Channel Body ( Radius View )

## Area Examined - Axial Scans

Weld No. : 2-LDCB-OUT-WJ36V

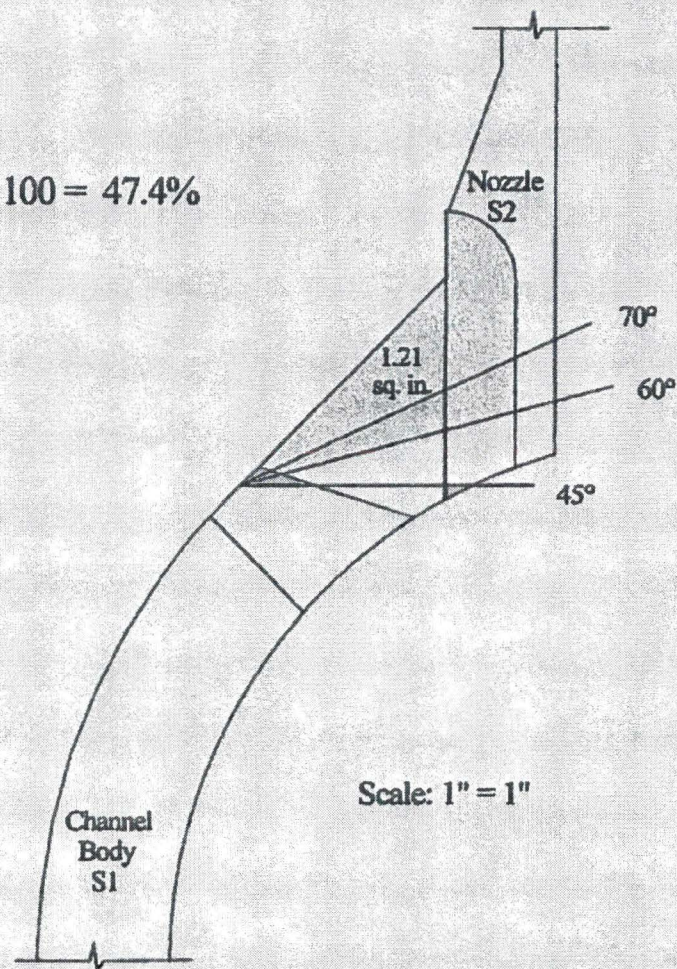
Item No. : O2.B3.150.0004



Area not Examined = 0.92 sq. in.



Area Examined =  $2.30 - 1.21 / 2.30 \times 100 = 47.4\%$



Scale: 1" = 1"

6797-80  
ATTACHMENT B  
Rod Sheffield 11-7-13

# Letdown Cooler Nozzle to Channel Body ( Radius View )

Weld No. : 2-LDCB-OUT-WJ36V

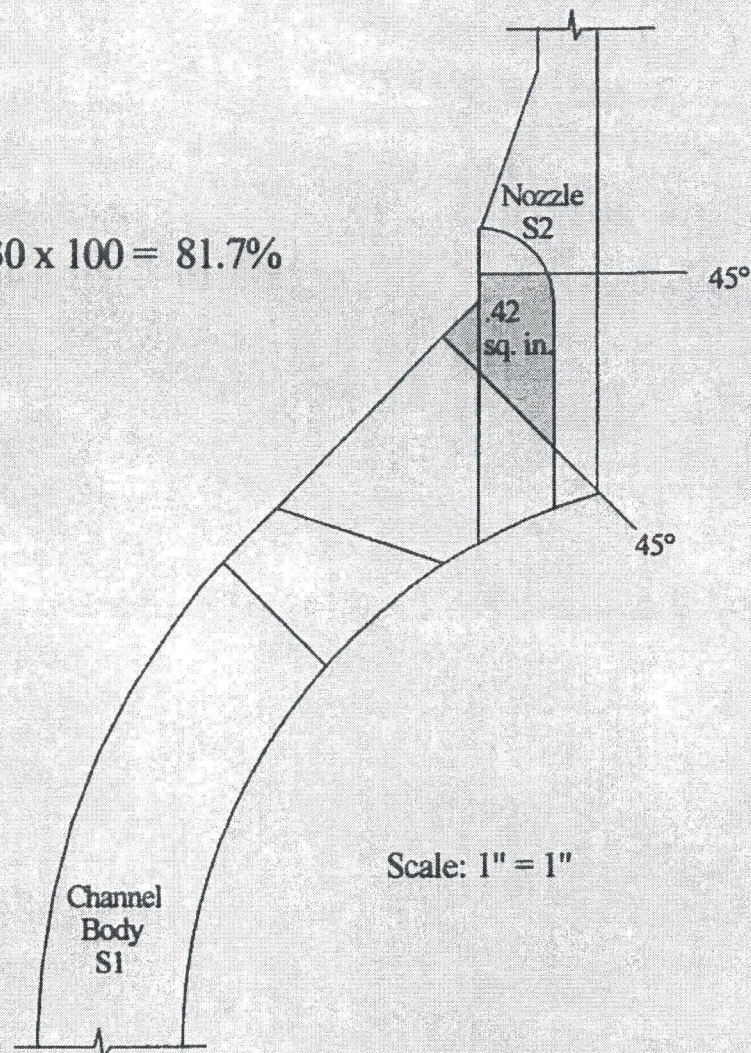
Item No. : O2.B3.150.0004



Area not Examined = .42 sq. in.



Area Examined =  $2.30 - .42 / 2.30 \times 100 = 81.7\%$



Scale: 1" = 1"

ATTACHMENT B  
684 80

Rod Sheffield 11-4-13



# UT Calibration Examination

Site/Unit: Oconee / 2  
Summary No.: 02.C1.30.0001  
Workscope: ISI

Procedure: NDE-640  
Procedure Rev.: 5  
Work Order No.: 2025907

Outage No.: 02-26  
Report No.: UT-13-1176  
Page: 1 of 1

Code: 1998/2000A Cat./Item: C-A /C1.30 Location: \_\_\_\_\_  
Drawing No.: OM-201.S-0001 Description: Tubesheet to Shell  
System ID: 03  
Component ID: 2-SGB-W69 Size/Length: N/A Thickness/Diameter: CS / 5.125 / 132.0  
Limitations: Yes - See attached sheet Start Time: 0910 Finish Time: 1115

**Instrument Settings**  
Serial No.: 0263P4  
Manufacturer: GE  
Model: USN 60 SW  
Delay: 1.0672 Range: 8.0"  
M/I Cal/Vel: .2319 Pulser: Square  
Damping: 500 Reject: 0%  
Rep. Rate: Autohigh Freq.: 2.25 MHz  
Filter: Fixed Mode: PE  
Voltage: 450 Other: Fullwave  
Ax. Gain (dB): 16.0 Circ. Gain (dB): 16.0  
1 Screen Div. = .8 in. of Depth  
Linearity Report No.: L-13-260

**Search Unit**  
Serial No.: C12004SP  
Manufacturer: KBA  
Size: 1.0 Shape: Round  
Freq.: 2.25 MHz Style: Gamma  
Exam Angle: 0 # of Elements: Single  
Mode: Long  
Measured Angle: N/A  
Wedge Style: Integral  
**Search Unit Cable**  
Type: RG - 174  
Length: 6' No. Conn.: 0

Cal. Checks	Time	Date
Initial Cal.	0700	10/23/2013
Inter. Cal.		
Inter. Cal.	0910	10/23/2013
Inter. Cal.		
Final Cal.	1310	10/23/2013

**Couplant**  
Cal. Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX  
Exam Batch: 12125  
Type: ULTRAGEL II  
Mfg.: MAGNAFLUX

Axial Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Depth
1/4T SDH	80	1.3	1.06"
1/2T SDH	75	3.0	2.40"
3/4T SDH	70	4.6	3.67"
BW	+100	6.2	5.0"

Circumferential Orientated Search Unit			
Calibration Reflector	Signal Amplitude %	Sweep Division	Depth
N/A			

Reference/Simulator Block				
Gain dB	Reflector	Signal Amplitude %	Sweep Division	Depth
6.0	1" Side	80	1.25"	1.0"

**Calibration Block**  
Cal. Block No.: 20T-240  
Thickness: 5.0 Dia.: Flat  
Cal. Blk. Temp.: 73 Temp. Tool: MCNDE40197  
Comp. Temp.: 76 Temp. Tool: MCNDE40130  
Recordable Indication(s): Yes ☐ No ☒ (If Yes, Ref. Attached Ultrasonic Indication Report.)  
Results: Accept ☒ Reject ☐ Info ☐

**Scan Coverage**  
Upstream ☒ Downstream ☒ Scan dB: 30.0  
CW ☒ CCW ☒ Scan dB: 30.0  
Exam Surface: O.D.  
Surface Condition: Flush

**Reference Block**  
Serial No.: 91-5938  
Type: ROMPAS

Comments: Reference Report # UT-13-1179 for additional information.  
Backwall lost at 2.5" from weld toe, due to tubesheet.

Percent Of Coverage Obtained > 90%: No Reviewed Previous Data: Yes

Examiner	Level	II-N	Signature	Date	Reviewer	Signature	Date
Koster, Rickey				10/23/2013	ROD STEFFIELD		11-2-13
Examiner	Level	II-N	Signature	Date	Site Review	Signature	Date
Hassel, Matt				10/23/2013			
Other	Level	N/A	Signature	Date	ANIL	Signature	Date
N/A					MARK E. ZURBUCH		11/5/13

69480  
ATTACHMENT

# DUKE ENERGY COMPANY

## ISI LIMITATION REPORT

Summary #: <u>2-SGB-W69</u>		Component ID: <u>O2.C1.30.0001</u>		remarks:
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #1
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L <u>2-12.5"</u> to L <u>2+12.5"</u>		INCHES FROM W0 <u>CL-3.0</u> to <u>Beyond</u>		
ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #1
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> 1 <input type="checkbox"/> 2	<input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw	
FROM L <u>2-12.5"</u> to L <u>2+12.5"</u>		INCHES FROM W0 <u>CL+2.0</u> to <u>CL-2.0</u>		
ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #2
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L <u>9-12.5"</u> to L <u>9+12.5"</u>		INCHES FROM W0 <u>CL+3.0</u> to <u>Beyond</u>		
ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #2
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> 1 <input type="checkbox"/> 2	<input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw	
FROM L <u>9-12.5"</u> to L <u>9+12.5"</u>		INCHES FROM W0 <u>CL+2.0</u> to <u>CL-2.0</u>		Sketch(s) attached
ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		<input checked="" type="checkbox"/> yes <input type="checkbox"/> No
Prepared By: <u>Dave Griebel</u>		Level: <u>II</u>	Date: <u>10/23/13</u>	Sheet <u>5</u> of <u>15</u>
Reviewed By: <u>Rod Sheffield</u>		Date: <u>11-2-13</u>	Authorized Inspector: <u>MARK E. ZURBUCH</u> Date: <u>11/5/13</u>	

ATTACHMENT B

# DUKE ENERGY COMPANY

## ISI LIMITATION REPORT

<b>Summary #:</b> <u>2-SGB-W69</u> <b>Component ID</b> <u>O2.C1.30.0001</u>			<b>remarks:</b> Lateral restraint #3  Lateral restraint #3  Lateral restraint #4  Lateral restraint #4  Sketch(s) attached <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> NO SCAN      SURFACE      BEAM DIRECTION <input type="checkbox"/> LIMITED SCAN <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw FROM L <u>16+12.5"</u> to L <u>16+12.5"</u> INCHES FROM W0 <u>CL+3.0</u> to <u>Beyond</u> ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60    other <u>60NS</u> FROM <u>N/A</u> DEG to <u>N/A</u> DEG			
<input checked="" type="checkbox"/> NO SCAN      SURFACE      BEAM DIRECTION <input type="checkbox"/> LIMITED SCAN <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw FROM L <u>16-12.5</u> to L <u>16+12.5"</u> INCHES FROM W0 <u>CL+2.0</u> to <u>CL-2.0</u> ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60    other <u>60NS</u> FROM <u>N/A</u> DEG to <u>N/A</u> DEG			
<input checked="" type="checkbox"/> NO SCAN      SURFACE      BEAM DIRECTION <input type="checkbox"/> LIMITED SCAN <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw FROM L <u>24-12.5"</u> to L <u>24+12.5"</u> INCHES FROM W0 <u>CL+3.0</u> to <u>Beyond</u> ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60    other _____      FROM <u>N/A</u> DEG to <u>N/A</u> DEG			
<input checked="" type="checkbox"/> NO SCAN      SURFACE      BEAM DIRECTION <input type="checkbox"/> LIMITED SCAN <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw FROM L <u>24-12.5"</u> to L <u>24+12.5"</u> INCHES FROM W0 <u>CL+2.0</u> to <u>CL-2.0</u> ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60    other _____      FROM <u>N/A</u> DEG to <u>N/A</u> DEG			
Prepared By: <u>Dave Griebel</u> Level: <u>II</u> Date: <u>10/23/13</u> Sheet <u>3</u> of <u>15</u>			
Reviewed By: <u>Rod Sheffield</u> Date: <u>11-2-13</u> Authorized Inspector: <u>MARK E. ZURBACH</u> Date: <u>11/5/13</u>			

ATTACHMENT B  
 714  
 08 714

# DUKE ENERGY COMPANY

## ISI LIMITATION REPORT

Summary #: <u>2-SGB-W69</u>		Component ID: <u>02.C1.30.0001</u>		remarks:
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #5
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L <u>31-12.5"</u> to L <u>31+12.5"</u>		INCHES FROM W0 <u>CL+3.0</u> to <u>Beyond</u>		
ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lateral restraint #5
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> 1 <input type="checkbox"/> 2	<input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw	
FROM L <u>31-12.5"</u> to L <u>31+12.5"</u>		INCHES FROM W0 <u>CL+2.0</u> to <u>CL-2.0</u>		
ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lifting trunnion
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L <u>1-9"</u> to L <u>1+9"</u>		INCHES FROM W0 <u>CL+7.0</u> to <u>Beyond</u>		
ANGLE: <input type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other <u>60NS</u>		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		
<input checked="" type="checkbox"/> NO SCAN	SURFACE	BEAM DIRECTION		Lifting trunnion
<input type="checkbox"/> LIMITED SCAN	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2	<input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L <u>18-9"</u> to L <u>18+9"</u>		INCHES FROM W0 <u>CL+7.0</u> to <u>Beyond</u>		Sketch(s) attached
ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 other		FROM <u>N/A</u> DEG to <u>N/A</u> DEG		<input checked="" type="checkbox"/> yes <input type="checkbox"/> No
Prepared By: <u>Dave Griebel</u>	Level: <u>II</u>	Date: <u>10/23/13</u>	Sheet <u>7</u> of <u>15</u>	
Reviewed By: <u>Rod Sheffield</u>	Date: <u>11-2-13</u>	Authorized Inspector: <u>MARK E. ZURBUCH</u>		Date: <u>11/5/13</u>

ATTACHMENT B  
72480

# DUKE ENERGY COMPANY

## ISI LIMITATION REPORT

Summary #: 2-SGB-W69 Component ID O2C1.30.0001

remarks:

☒ NO SCAN SURFACE BEAM DIRECTION  
☐ LIMITED SCAN ☒ 1 ☐ 2 ☒ 1 ☐ 2 ☐ cw ☐ ccw

Manway

FROM L 7-10" to L 7+10" INCHES FROM W0 CL+7" to Beyond

ANGLE: ☐ 0 ☒ 45 ☒ 60 other        FROM N/A DEG to N/A DEG

☐ NO SCAN SURFACE BEAM DIRECTION  
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw

FROM L        to L        INCHES FROM W0        to       

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

☐ NO SCAN SURFACE BEAM DIRECTION  
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw

FROM L        to L        INCHES FROM W0        to       

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

☐ NO SCAN SURFACE BEAM DIRECTION  
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw

FROM L        to L        INCHES FROM W0        to       

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

Sketch(s) attached

☒ yes ☐ No

Prepared By: Dave Griebel

Level: II

Date: 10/23/13

Sheet 8

Reviewed By: Rod Sheffield

Date: 11-2-13

Authorized Inspector:

MARK E. ZURBUCH

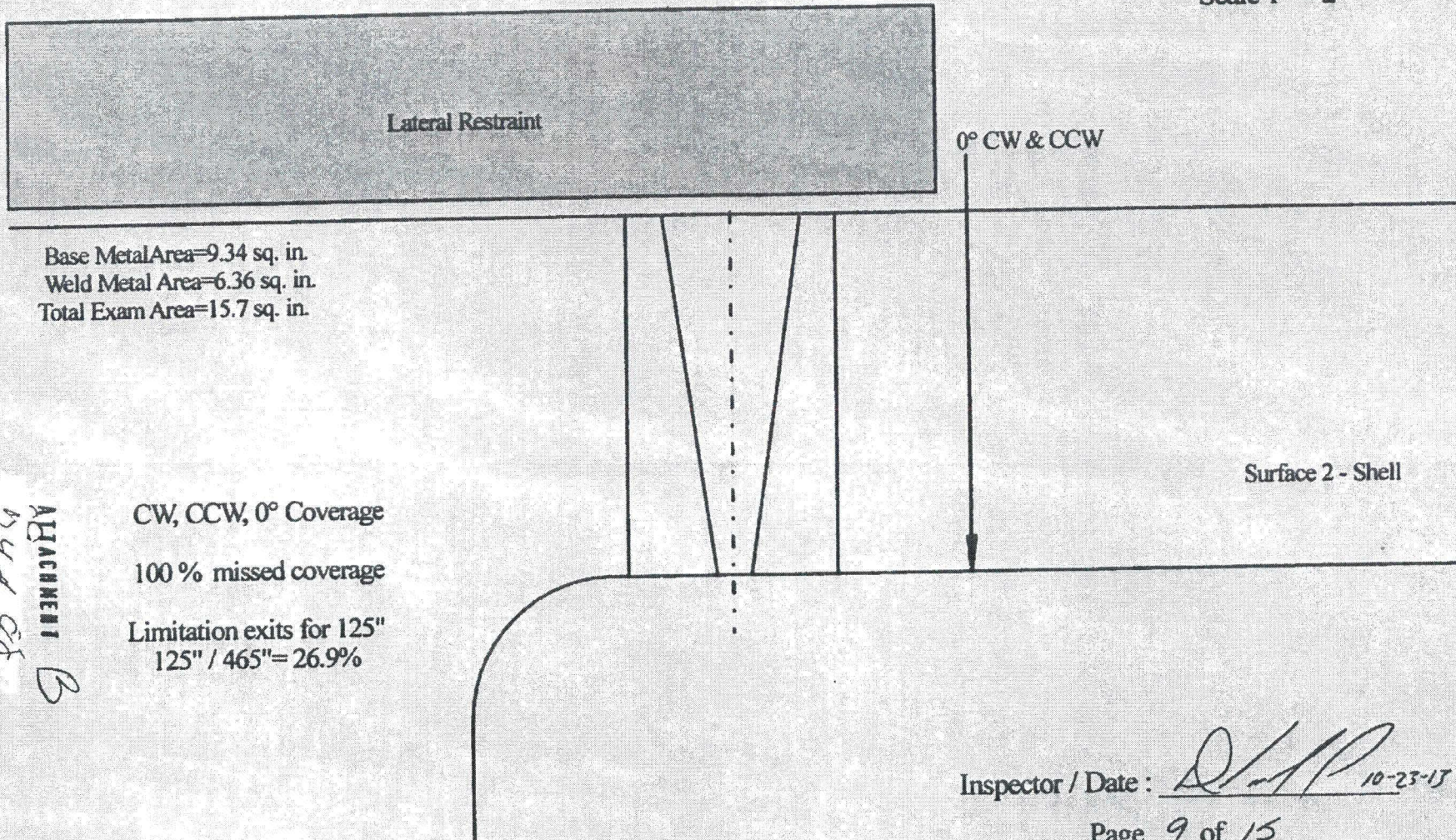
Date: 11/5/13

93480  
 ATTACHMENT 1

# Steam Generator Upper Tubesheet to Shell

This scan limitation exists for 125" of weld length  
Total Scan Coverage for 0° CW & CCW

Weld No. : 2-SGB-W69  
Item No. : O2.C1.30.0001  
Scale 1" = 2"



Inspector / Date : 10-23-13

Page 9 of 15

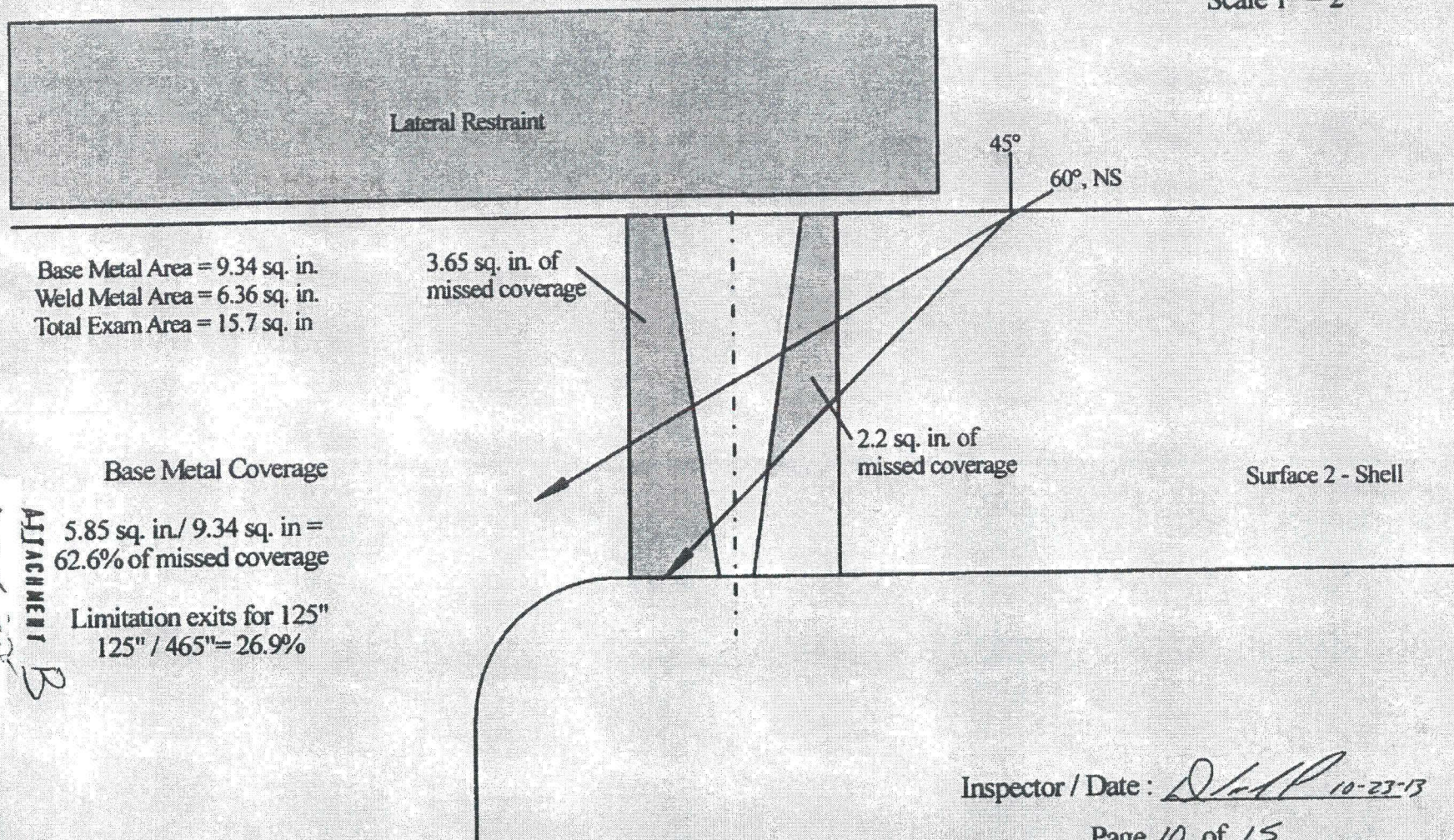
11-2-13

ATTACHMENT B  
11-2-13

# Steam Generator Upper Tubesheet to Shell

This scan limitation exists for 125" of weld length  
Total Scan Coverage for Base Metal

Weld No. : 2-SGB-W69  
Item No. : O2.C1.30.0001  
Scale 1" = 2"



Inspector / Date : D. J. P. 10-23-13

Page 10 of 15

Paul Hefield 11-2-13

75 of 83  
ATTACHMENT B

# Steam Generator Upper Tubesheet to Shell

This scan limitation exists for 125" of weld length  
Total Scan Coverage for Weld Metal

Weld No. : 2-SGB-W69

Item No. : O2.C1.30.0001

Scale 1" = 2"

Lateral Restraint

Base Metal Area = 9.34 sq. in.  
Weld Metal Area = 6.36 sq. in.  
Total Exam Area = 15.7 sq. in

5.67 sq. in. of  
missed coverage

Weld Metal Coverage

5.67 sq. in. / 6.36 sq. in. =  
89.2 % of missed coverage

Limitation exists for 125"  
 $125" / 465" = 26.9\%$

45°

60°, NS

Surface 2 - Shell

Inspector / Date : LOH / P 10-23-13

Page 11 of 15

Rod Shukhal 11-2-13

764788  
ATTACHMENT B

# Steam Generator Upper Tubesheet to Shell

This scan limitation exists for 36" of weld length

Weld No. : 2-SGB-W69

Item No. : O2.C1.30.0001

Scale 1" = 2"

Lifting Trunion

35°, 45°

Base Metal Area=9.34 sq. in.  
Weld Metal Area=6.36 sq. in.  
Total Exam Area=15.7 sq. in.

Base Metal Coverage

.84 sq. in. / 9.34 sq. in. =  
9 % of missed coverage

Limitation exits for 36"  
 $36" / 465" = 7.7 \%$

.84 sq. in. of missed coverage

Surface 2 - Shell

Inspector / Date : DA 10-23-13

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Rod Shellfield

11-2-13

ATTACHMENT B

799 Gd

# Steam Generator Upper Tubesheet to Shell

This scan limitation exists for 20" of weld length

Weld No. : 2-SGB-W69

Item No. : 02.C1.30.0001

Scale 1" = 2"

Manway

35°, 45°

Base Metal Area=9.34 sq. in.  
Weld Metal Area=6.36 sq. in.  
Total Exam Area=15.7 sq. in.

Base Metal Coverage

.84 sq. in./ 9.34 sq. in =  
9 % of missed coverage

Limitation exits for 20"  
 $20" / 465" = 4.3 \%$

Surface 2 - Shell

.84 sq. in. of missed coverage

Inspector / Date : 10-23-13

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Rod Shellfield 11-2-13

ATTACHMENT B

175980

# ONS Steam Generator 2B

02.C1.30.0001

2-SGB-W69

Scan Direction	% Coverage	% Length	Total %
<u>Weld Coverage</u>			
S1	10.8	$125 / 465.1 = 26.9 \%$	76.0%
	100	$340 / 465.1 = 73.1 \%$	
S2	100	$340 / 465.1 = 73.1 \%$	73.1%
CW	100	$340 / 465.1 = 73.1 \%$	73.1%
CCW	100	$340 / 465.1 = 73.1 \%$	73.1%
Total Weld Aggregate			73.8%
<u>Base Metal Coverage</u>			
S1	100	$340 / 465.1 = 73.1 \%$	84.0%
	91	$56 / 465.1 = 12.0 \%$	
S2	37.4	$125 / 465.1 = 26.9 \%$	83.2%
	100	$340 / 465.1 = 73.1 \%$	
CW	100	$340 / 465.1 = 73.1 \%$	73.1%
CCW	100	$340 / 465.1 = 73.1 \%$	73.1%
Total Base Metal Aggregate			78.4%
<u>0° Coverage</u>			
	100	$340 / 465.1 = 73.1 \%$	73.1%
Total 0° Aggregate			73.1%

Total Exam Coverage =  $73.8 + 78.4 + 73.1 = 225.3 / 3 = 75.1 \%$

Inspector:

Review:

*[Signature]*  
*Red Sheffield* 11-2-13

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ATTACHMENT B

799.80

# Steam Generator Upper Tubesheet to Sec. Shell

\*45° Scanned in four directions.

\*60° & 60°NS Scanned in four directions.

\*\*\*All axial scans will scan the entire examine volume to be conservative.

\*\*\*60° Near Surface Required\*\*\*

\*\*\*Cal. 35° due to possible Limitation\*\*\*

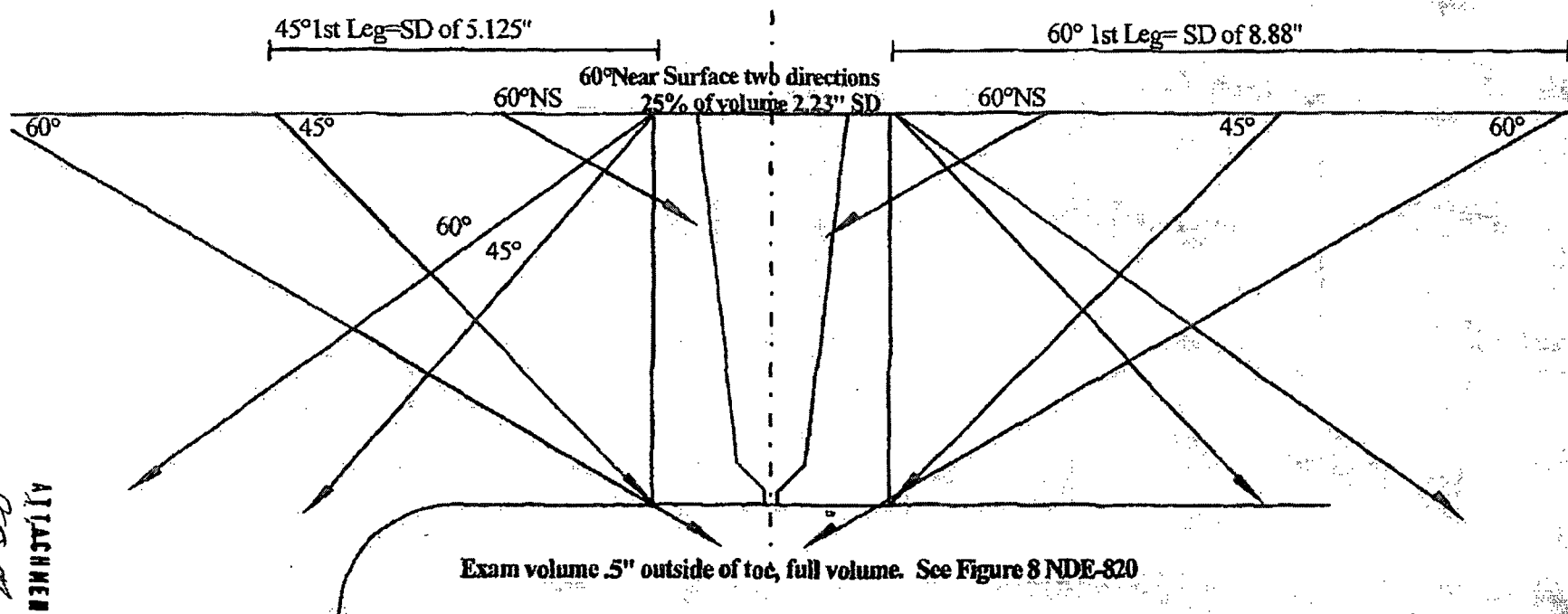
Weld No. : 2-SGB-W69

Item No. : O2.C1.30.0001

Surface 1 - Tubesheet

Surface 2 - Shell

⊕



Exam volume .5" outside of toe, full volume. See Figure 8 NDE-820

Level III Reviewer / Date : Jan 20 9-5-13

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Scale 1" = 2"

ATTACHMENT B  
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