Attachment 5

RT Report

EPRI | ELECTRIC POWER RESEARCH INSTITUTE

Memorandum

Date March 11, 2008

TO: Greg Selby

FROM: Jack Spanner

SUBJECT: **PORT ST. LUCIE 1 RADIOGRAPHY RESULTS**

The purpose of this letter is to provide you a summary of the preliminary results of the radiographic examinations performed on the PSL-1 Pressurizer Safety Nozzles. All examinations of the dissimilar metal welds have been completed by IveyCooper RT personnel from March 10 through March 11, 2008 at Studsvik Processing Facility in Memphis, Tennessee. The nozzles were radiographed using a double wall technique described as follows: 1) Iridium 192 source (~62 curies) with a .153 source size, 2) source to object distance of 4.525 inches (contact), 3) exposure time was approximately 17 minutes for the six exposures, 4) D4 film placed on the outside surface of the nozzle, 5) wire IQI placed on the film side of nozzle. The image quality indicator (IQI) 9 wire is required and it was visible on all films and usually the 7 and 6 wires were also visible indicating good sensitivity.

Film interpretation for safety nozzles A, B, and C have been completed and the results are as follows:

1) No inside surface connected indications indicative of stress corrosion cracking was noted in any of the nozzles examined. A linear indication was detected on nozzle C that appears to be an inside surface condition.

2) Embedded flaws were detected that are indicative of fabrication defects such as slag and porosity in all three welds. In addition, safety nozzle A was also radiographed using a single wall technique described as follows: 1) Iridium 192 source (~62 curies), 2) source to object distance of 12.9 inches, 3) exposure time was approximately 6 minutes for the thirteen exposures, 4) D5 film placed inside the nozzle, 5) wire penetrameters placed on the source side of nozzle. The IQI 9 wire is required and it was visible on all films as were most of the 7 wires. This technique typically provides a more accurate image of the flaws than the double wall technique but generally it cannot be used in the field on piping. No cracks were detected but fabrication flaws such as slag and porosity were detected. Linear indications were detected that are a result of a counterbore machining process.

The documentation packages for all three welds are attached. The documentation will include the signed reader sheets and personnel certifications. I have a copy of the radiographic procedures used by the RT personnel for radiography and film interpretation.

Best Regards,

Jack Spanner

Jack Spanner
jcs

Attachments

c: Terry McAlister
Christine King
Craig Harrington
Bob Barnes

IveyCooper
SERVICES, LLC

Radiographic Inspection Report

Customer EPRI Job Location STUDSVIK Date 3-10-08
Job Number 066214 Welding Specification SMAW Type Seam O/B
Material Type CS/SS Material Thickness 1.6" Material Diameter 6.125"
Inspection Procedure ASME Section V, Art 2 / Cust. Spec. Acceptance Standard ASME Section III
Gamma Ray: Ir. 192 X Co 60 Curies 62 X-Ray: MA KV
Effective Focal Spot .153 Source to Object Distance 4.525" Object to Film Distance 1.6"
Geometric Unsharpness .054 Film Manufacturer AGFA Film Type D4
Exposure Time 17 Min. Film Technique: Single Loaded X Double Loaded
Film Size: 4.5"x10" X 4.5"x17" 7"x17" 14"x17" 70mm x 10" 70mm x 17"
Film Processing: Manual X Automatic Film Viewing Technique: Single Wall X Double Wall
Radiographic Technique: Single Wall Exp. Double Wall Exp. X Number of Exposures 6
IQI I.D.# B IQI Placement: Source Side Film Side X Shim Thickness N/A
IQI Specification: ASME ASTM X API MIL-STD 271 MIL-STD 453
IQI Type: Hole Wire X IQI Hole Required: 4T 2T 1T IQI Wire Required 9
IQI Density N/A HD Film Density Range: Minimum 2.3 HD Maximum 3.7 HD
Radiographer Grady Pickett Level I Level II X Level III

Weld I.D. or Part Number	Welder I.D. #	Interval	IQI	Acceptable	Rejectable	Slag	Porosity	Linear	Lack of Pen.	Lack of Fusion	Undercut	Surface	Concavity	Burn Through	Tungsten Incl.	Oxide Incl.	Excess Pen.	Shrink	Hot Tear	Sand	Chaplets	Dross	**Distance From Zero in Inches Segments = 3.2"**
Nozzle A		0-1	9	/		/																	2, 2.375
		1-2	9	/		/																	5.5
		2-3	9	/		/																	9.25
		3-4	9	/			/																12, 12.75
		4-5	9	/		/																	14
		5-0	9	/																			
Nozzle B		0-1	9	/		/																	
		1-2	9	/																			
		2-3	9	/		/																	8.5
		3-4	9	/		/																	10.875
		4-5	9	/		/																	14.5
		5-0	9	/		/																	17.5
Nozzle C		0-1	9	/		/	/																1.5
		1-2	9	/			/																3.5
		2-3	9	/			/																7.75
		3-4	9	/		/	/					/											10
		Surface indication in Carbon Steel base metal																					
		4-5	9	/		/	/																14, 15
		5-0	9	/																			

ICS Reviewer (print) Jason M. Glasco Signature Jason M. Glasco
SNT-TC-1A Level II X Level III Customer Reviewer
ASNT Level III Certification # Authorized Inspector

IveyCooper
SERVICES, LLC

Radiographic Inspection Report

Customer EPRI Job Location STUDSVIK Date 3-11-08
Job Number 066214 Welding Specification SMAW Type Seam O/B
Material Type CS/SS Material Thickness 1.6" Material Diameter 6.125"
Inspection Procedure ASME Section V, Art 2 Acceptance Standard ASME Section III
Gamma Ray: Ir. 192 X Co 60 Curies 62 X-Ray: MA KV
Effective Focal Spot .153 Source to Object Distance 12.9" Object to Film Distance 1.6"
Geometric Unsharpness .018 Film Manufacturer AGFA Film Type D5
Exposure Time 6 Min. Film Technique: Single Loaded X Double Loaded
Film Size: 4.5"x10" X 4.5"x17" 7"x17" 14"x17" 70mm x 10" 70mm x 17"
Film Processing: Manual X Automatic Film Viewing Technique: Single Wall X Double Wall
Radiographic Technique: Single Wall Exp. X Double Wall Exp. Number of Exposures 13
IQI I.D.# B IQI Placement: Source Side X* Film Side Shim Thickness N/A
IQI Specification: ASME ASTM X API MIL-STD 271 MIL-STD 453
IQI Type: Hole Wire X IQI Hole Required: 4T 2T 1T IQI Wire Required 11
IQI Density N/A HD Film Density Range: Minimum 2.4 HD Maximum 3.6 HD
Radiographer Grady Pickett Level I Level II X Level III

Weld I.D. or Part Number	Welder I.D. #	Interval	IQI	Acceptable	Rejectable	Slag	Porosity	Linear	Lack of Pen.	Lack of Fusion	Undercut	Surface	Concavity	Burn Through	Tungsten Incl.	Oxide Incl.	Excess Pen.	Shrink	Hot Tear	Sand	Chaplets	Dross	Segments = 1.5"
Nozzle A		0-1	11	/				/															
		1-2	11	/		/		/															
		2-3	11	/																			
		3-4	11	/																			
		4-5	11	/		/																	
		Source to film distance 8.5" due to obstruction																					
		5-6	11	/		/																	
		6-7	11	/		/																	
		7-8	Not Obtainable																				
		8-9	11	/																			
		9-10	11	/																			
		10-11	11	/		/																	
		11-12	11	/		/																	
		12-0	11	/			/	/															
* Intervals 0-9 have an "F" on penetrameter indicating film side. All exposures were in fact made using a source side penetrameter.																							

ICS Reviewer (print) Jason M. Glasco Signature Jason M. Glasco
SNT-TC-1A Level II X Level III Customer Reviewer
ASNT Level III Certification # Authorized Inspector

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Grady Pickett **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiography II

Certification Date 4/4/2005 **Certification Expires** 4/4/2008

EXPERIENCE

RT Assistant	IveyCooper Services	3/1/04

EDUCATION / TRAINING

Whitwell HS	Whitwell, TN.	Diploma

RT Safety	RT Safety 20 Hrs	IveyCooper Services	2/04
RT Safety	RT Safety 8 hours	IveyCooper Services	8/04
RT I	Radiographic Testing I 40 hours	IveyCooper Services	8/04
RT II	Radiographic Testing II 40 hours	IveyCooper Services	9/04

EXAMINATION

Level I and II

% General	80%	4/4/2005
% Specific	73%	4/4/2005
% Practical	88%	4/4/2005
% Composite Score	80%	

Level III

% Basic		
% Method		
% Specific		
% Practical		
% Composite Score		

NDT Level III Todd Kirk Todd K

Date 4/4/2005

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Matthew Heaps **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiographic Level II

Certification Date 2/7/2008 **Certification Expires** 2/1/2011

EXPERIENCE

RT Trainee	IveyCooper Services	6/21/06 to Present

EDUCATION / TRAINING

Chatooga High School	Chatooga, GA	G.E.D.

RT I	Radiographic Testing I 40 hours	IveyCooper Services	1/25/08
RT II	Radiographic Testing II 40 hours	IveyCooper Services	2/1/08

EXAMINATION

Level I and II

% General	90%	2/7/2008
% Specific	89%	2/1/2008
% Practical	87%	2/7/2008
% Composite Score	89%	

Level III

% Basic		
% Method		
% Specific		
% Practical		
% Composite Score		

NDT Level III David W. Ivey

Date 2/7/2008

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625
130 East Division Road * Suite E * Oak Ridge, TN 37830 * Phone 865-482-2322 * Fax 865-482-3949

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Jason Glasco **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiography II

Certification Date 2/17/2006 **Certification Expires** 2/17/2009

EXPERIENCE

RT I	Scientific Inspection	6/98 to 9/99
RT I	IveyCooper Services	2/02 to 1/03
RT II	IveyCooper Services	2/03 to Present

EDUCATION / TRAINING

Hixson HS	Hixson, TN.	Diploma

RT I	RT Basic 40 hours	Scientific Inspection	10/98
RT Safety	RT Safety 8 hours	Scientific Inspection	2/02
RT II	Radiographic Testing II 40 hours	IveyCooper Services	1/03
RT Safety	RT Safety 8 hours	IveyCooper Services	8/03
RT Safety	RT Safety 8 hours	IveyCooper Services	9/04
	RT Safety 8 hours	IveyCooper Services	2/06

EXAMINATION

Level I and II			Level III		
% General	75%	2/17/2006	% Basic		
% Specific	85%	2/17/2006	% Method		
% Practical	100%	2/17/2006	% Specific		
% Composite Score	87%		% Practical		
			% Composite Score		

NDT Level III Todd Kirk

Date 2/17/2006

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625
130 East Division Road * Suite E * Oak Ridge, TN 37830 * Phone 865-482-2322 * Fax 865-482-3949

Attachment 6

ET Report

FPL 1 Removed Pressurizer Eddy Current Testing of Safety Nozzles A, B and C
FINAL DRAFT

Performed at Studsvik, Memphis, TN
March 17, 2008

J. P. Lareau
Chief Engineer
WesDyne International Inc.

J Lareau 3/18/08

Reviewed by:

Mark Kirby
WesDyne International Inc.

3/18/08

Attachments:

Calibration data sheets
Inspection results data sheets
Calibration block certification
Instrument certification
(Personnel certifications provided separately)

On March 12, 2008, the three safety nozzles on the FPL-1 retired pressurizer were inspected using an inner surface eddy current inspection technique. The inspection was performed at the Studsvik facility in Memphis, TN. The examination equipment was comprised of the IntraSpect Eddy Current Imaging System and the 7010/Open Housing Scanner, which is the standard equipment for RPVH nozzle inspections. The inspection was performed using the procedures WDI-ET-003 Rev. 12, IntraSpect Eddy Current Imaging Procedure for Inspection of Reactor Vessel Head Penetrations and WDI-ET-004 Rev. 12, IntraSpect Eddy Current Analysis Guidelines. Both procedures have been through the MRP demonstration process for reactor vessel head penetration inspections with results documented in MRP-089, Demonstration of Vendor Equipment and Procedures for the Inspection of Control Rod Drive Mechanism Head Penetrations and have been used extensively in the inspection programs required under NRC Order EAC-03-009. Since the material and ID dimensions of the safety nozzles are very close to the head penetration nozzles, this process was chosen.

The inspection technique utilizes a 0.25" diameter housing X point ET probe (a + point probe rotated 45 degrees) used in a driver/pickup mode. The data was collected using an axial scan on 0.04" increments with a 1 degree index (0.025"). This is tighter in the circumferential direction than the standard technique used for RPVH nozzle inspections. The standard technique is to acquire data with a linear index approximately 0.040". Thus

the criteria in WDI-ET-004 that a “flaw like” indication have a “linear extent for 3 or more data points, in the index direction” corresponds to a distance of 0.120”. If the index spacing is 0.025” then a “flaw like” indication must extend for 4 to 5 or more data points in the index direction.

The system calibration process resulted in having the Lissajous signals from circumferential flaws displayed down to the right and axial flaws displayed up to the left.

The scanning was performed axially using the same 0 degree reference and clockwise positive orientation. The flame cut end at the 0 degree location was used as the 0” axial reference. The scanning started at 1” below this flame cut and extended approximately 4”.

Figure 1: 7010/Open Housing Scanner suspended from a fork truck performing a scan of Safety Nozzle “A”

Indication Summary

NOZZLE A

Four reportable ID linear circumferential indications were detected.

Please note that the date stamp on the computer screen is incorrect (1/05/2002) and should be 3/12/2008 in all cases.

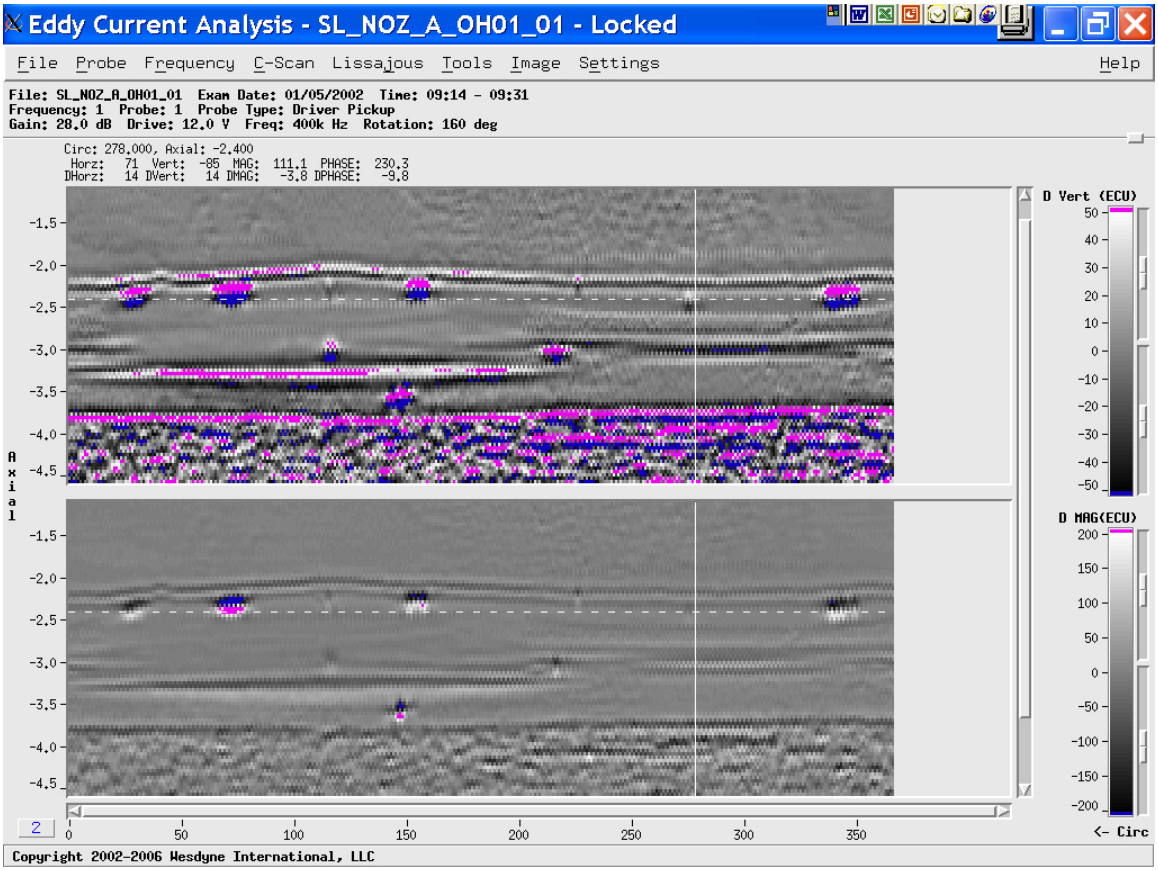


Figure 2: Eddy Current C scan showing the SS pipe (top) (to ~ -2.3”), DM weld (middle) (to ~ -3.7”) and SS clad carbon steel (bottom). The indications are located at approximately -2.4” axially.

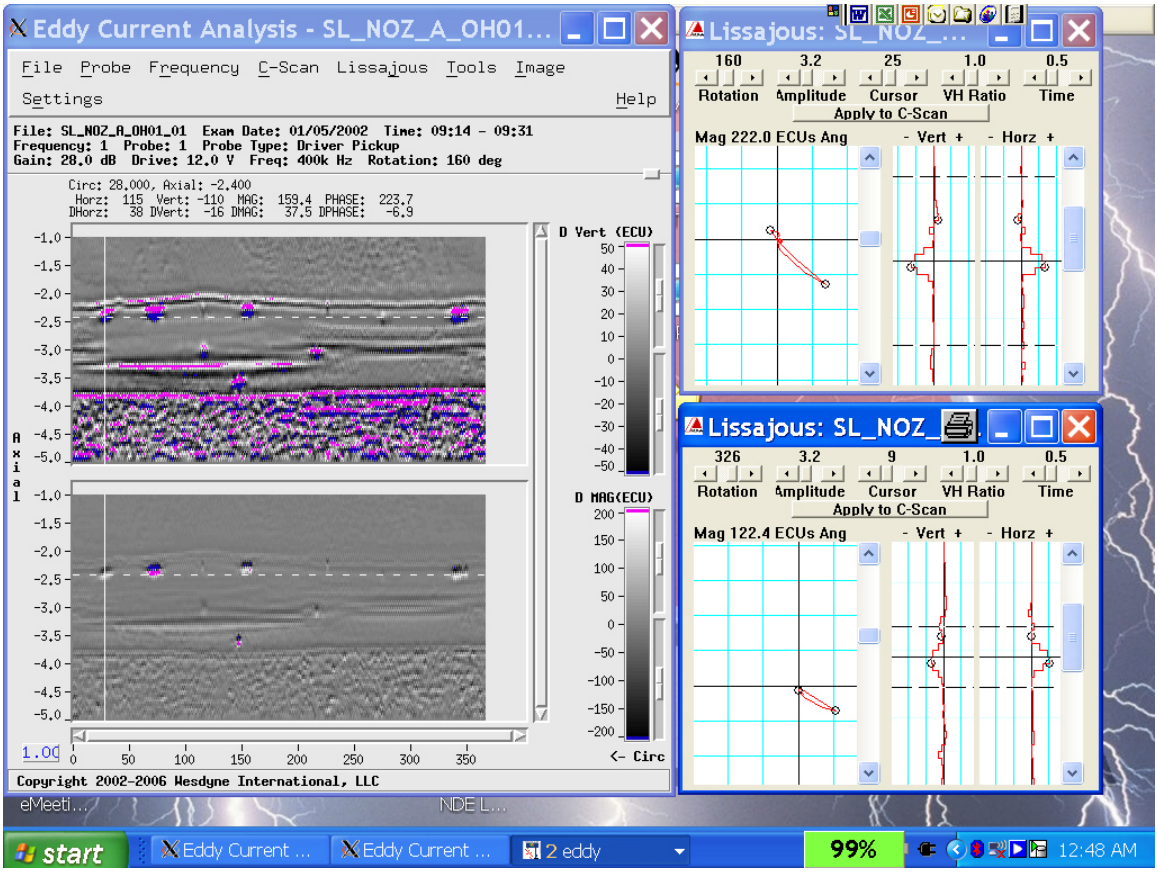


Figure 3: Circumferential, linear indication #1 at 28 degrees, -2.40” with the 400 kHz and 100 kHz Lissajous patterns of a surface indication 0.36” long. The signal amplitude is approximately 50% of the 0.040” deep EDM notch.

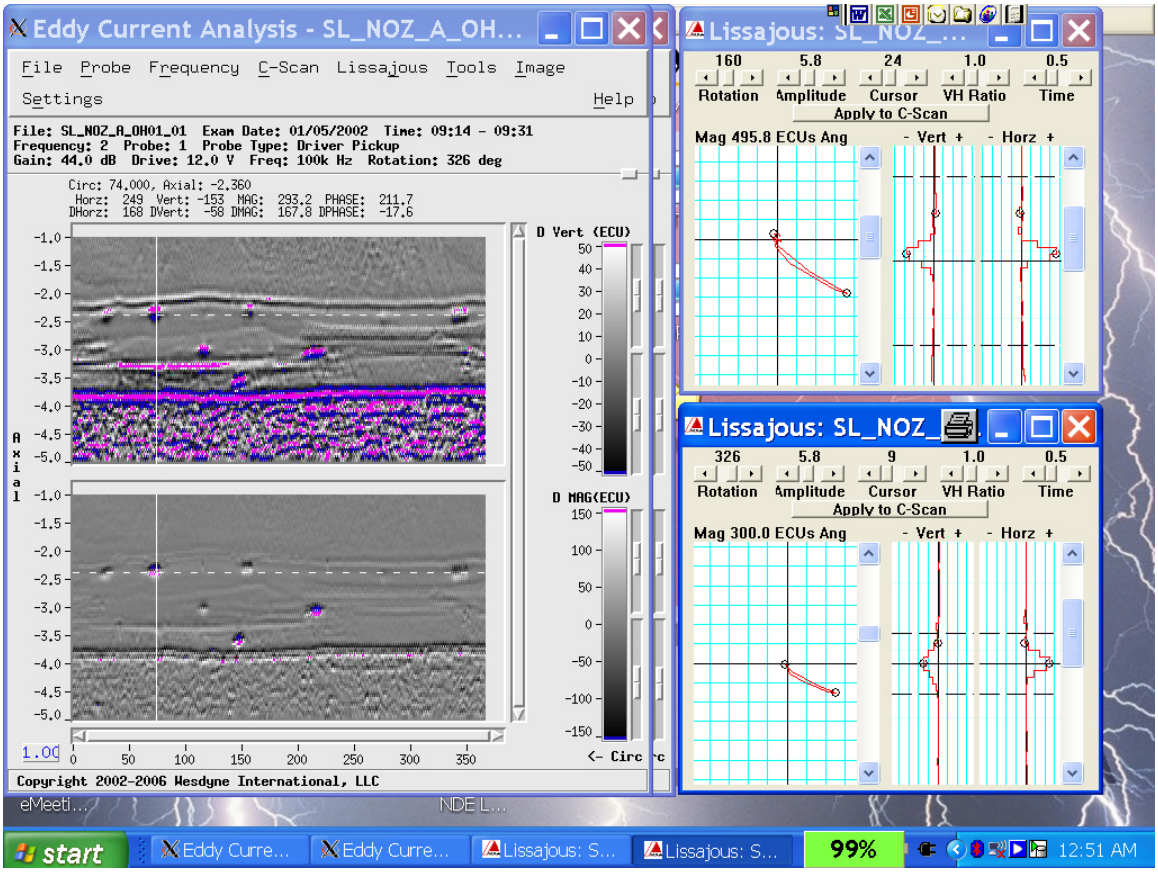


Figure 4: linear indication #2 at 74 degrees, -2.36” with the 400 kHz and 100 kHz Lissajous patterns of a surface flaw 0.46” long. The signal amplitude is slightly more than the 0.040” EDM notch.

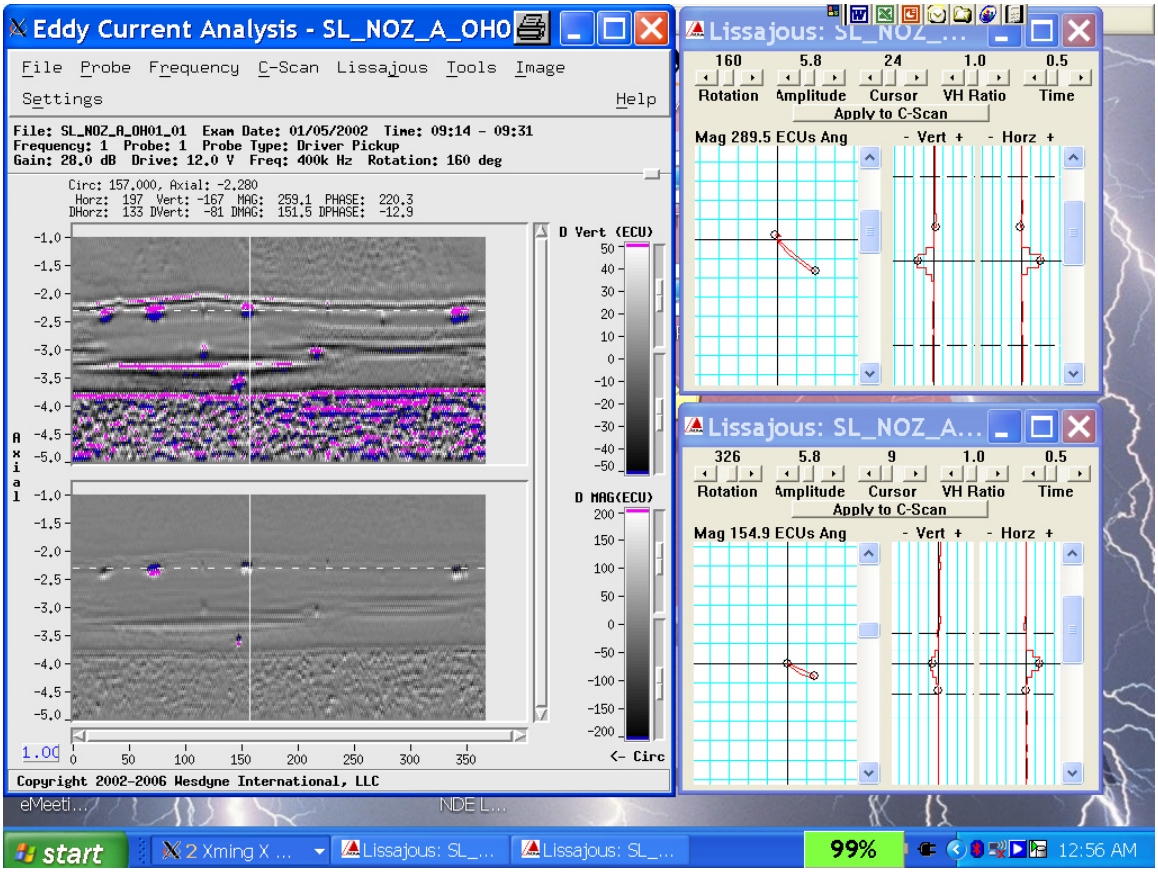


Figure 5: Circumferential linear indication #3 at 157 degrees, -2.28” with the 400 kHz and 100 kHz Lissajous pattern of a surface indication 0.25” long. The signal amplitude is approximately 60% of the 0.040” EDM notch.

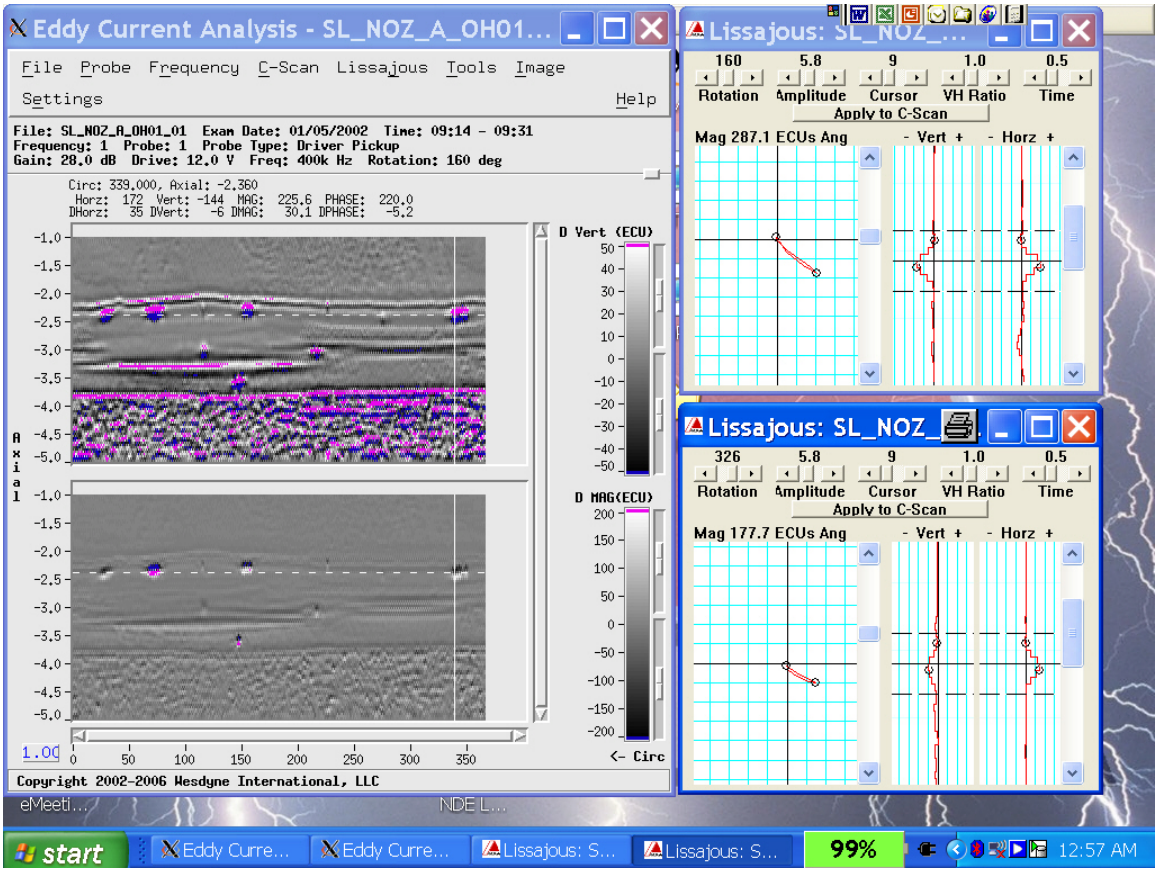


Figure 6: Circumferential linear indication #4 at 339 degrees, -2.36” with the 400 kHz and 100 kHz Lissajous patterns of a surface indication 0.36” long. The signal amplitude is approximately 60% of the 0.040” EDM notch.

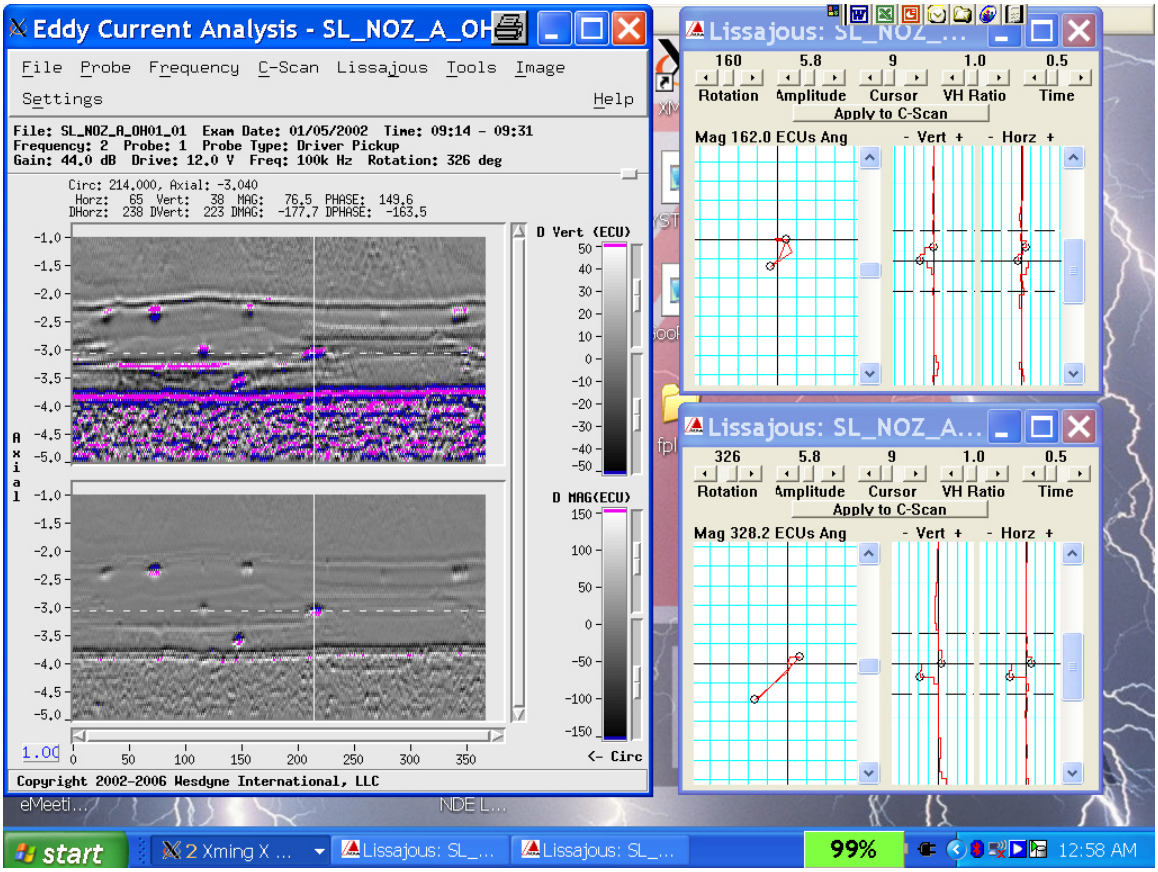


Figure 7: Permeability indication (PV) at 214degrees, -3.04". (There are two other PV indications at approximately 100 and 150 degrees) with the 400 kHz and 100 kHz Lissajous patterns

Based on the available information from drawings and pictures, it appears that the 360 degree demarcation at approximately 2.3" corresponds to the SS pipe to inconnel weld interface. This would show that the ET indications are in the inconnel weld, near the SS interface. The lower 360 indication at approximately 3.7" is the remnant of the counterbore machining in the nozzle, as shown in Figure 7.

Figure 8: Picture of Nozzle “A” interior. The faint circumferential line in upper portion of the mirror image appears to be the transition between the SS pipe and the alloy 182 weld. The lower circumferential line appears to be from a slight mismatch between the original counterbore machined from the PZR head side and the final post welding machining done from the nozzle flange side. Both of these lines are clearly evident in the eddy current C scan images.

Nozzle B

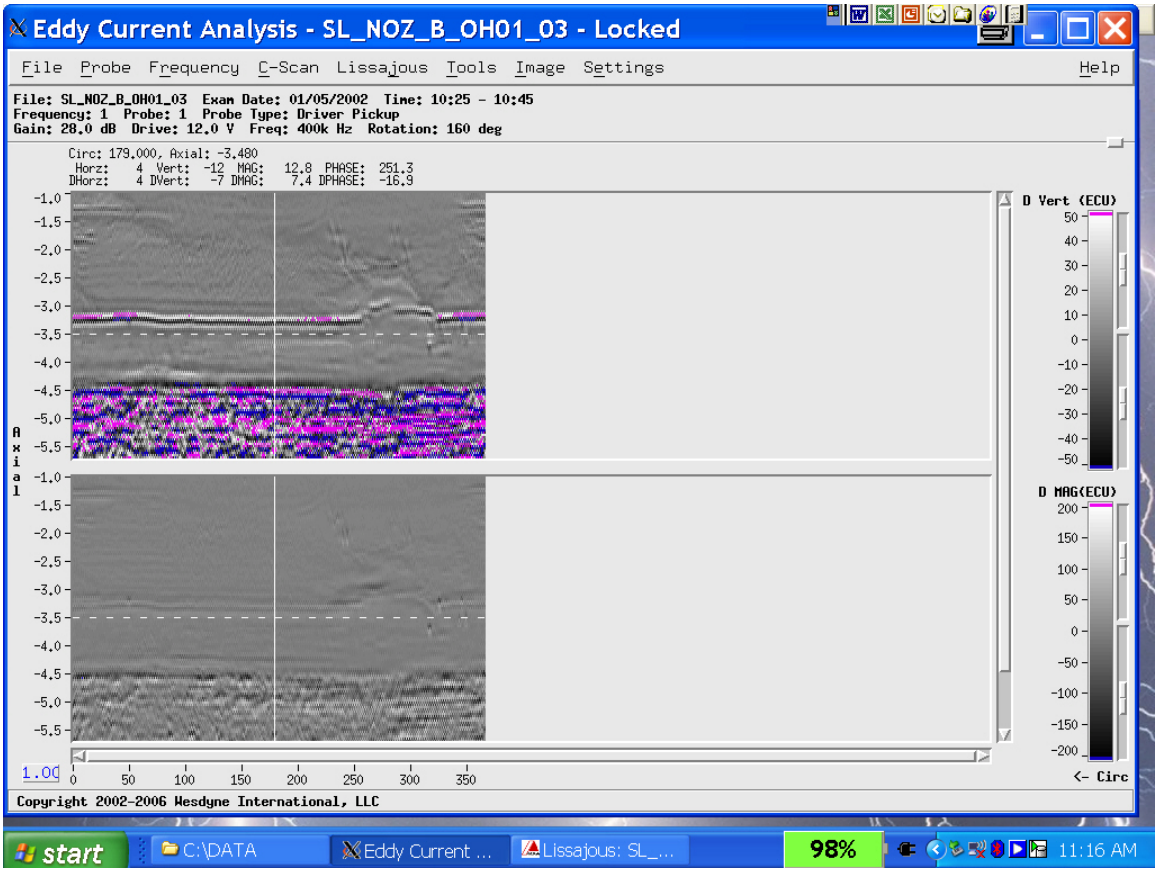


Figure 9: Nozzle B has no recordable indications (NDD) but shows the same SS to inconnel weld transition and counterbore to SS clad transition. (ID grinding area indicated in the region of 270 degrees, -3.2".)

Nozzle C

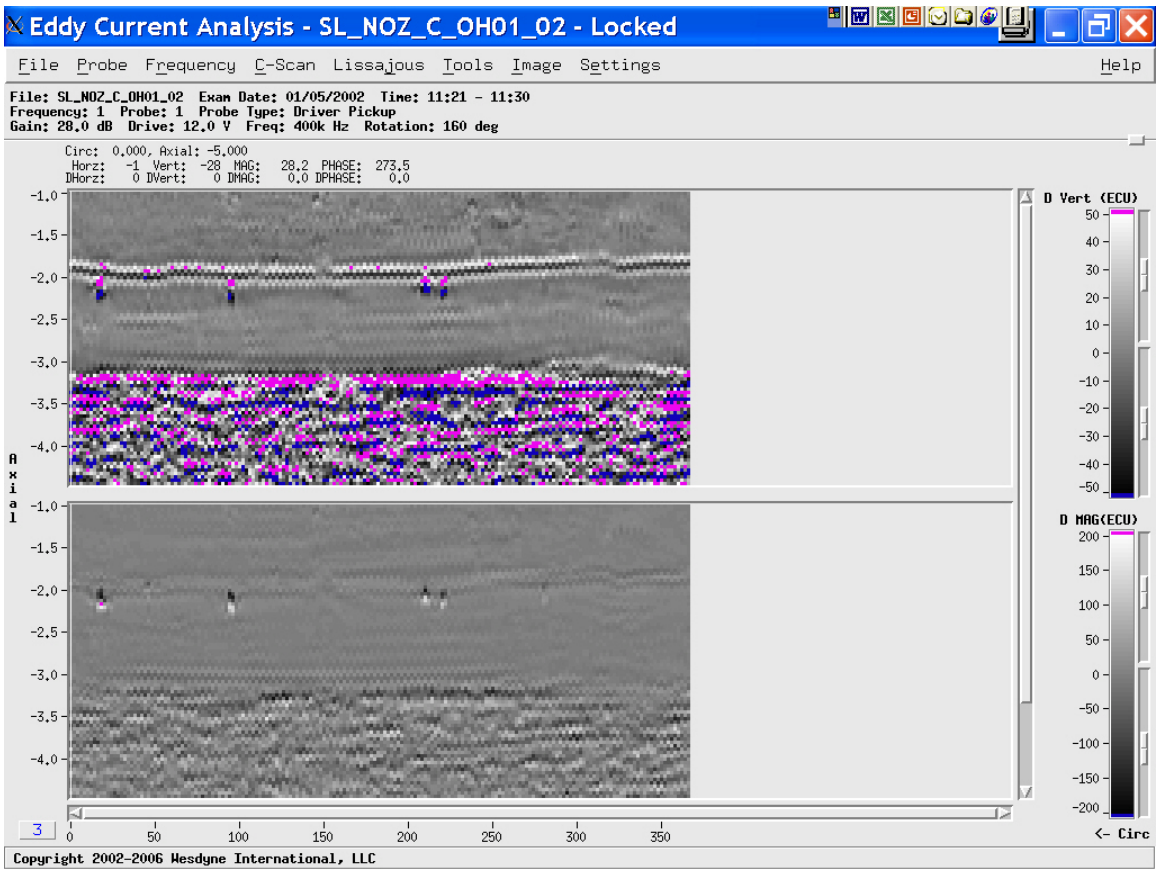


Figure 10: Nozzle C displays the normal transitions and four very short indications in the weld zone. These indications have the phase angle of circumferential flaws but a C scan image display of axial flaws and do not extend for an index distance equal to 0.120", which is probably associated with some type of surface blemishes. All four indications are essentially the same.

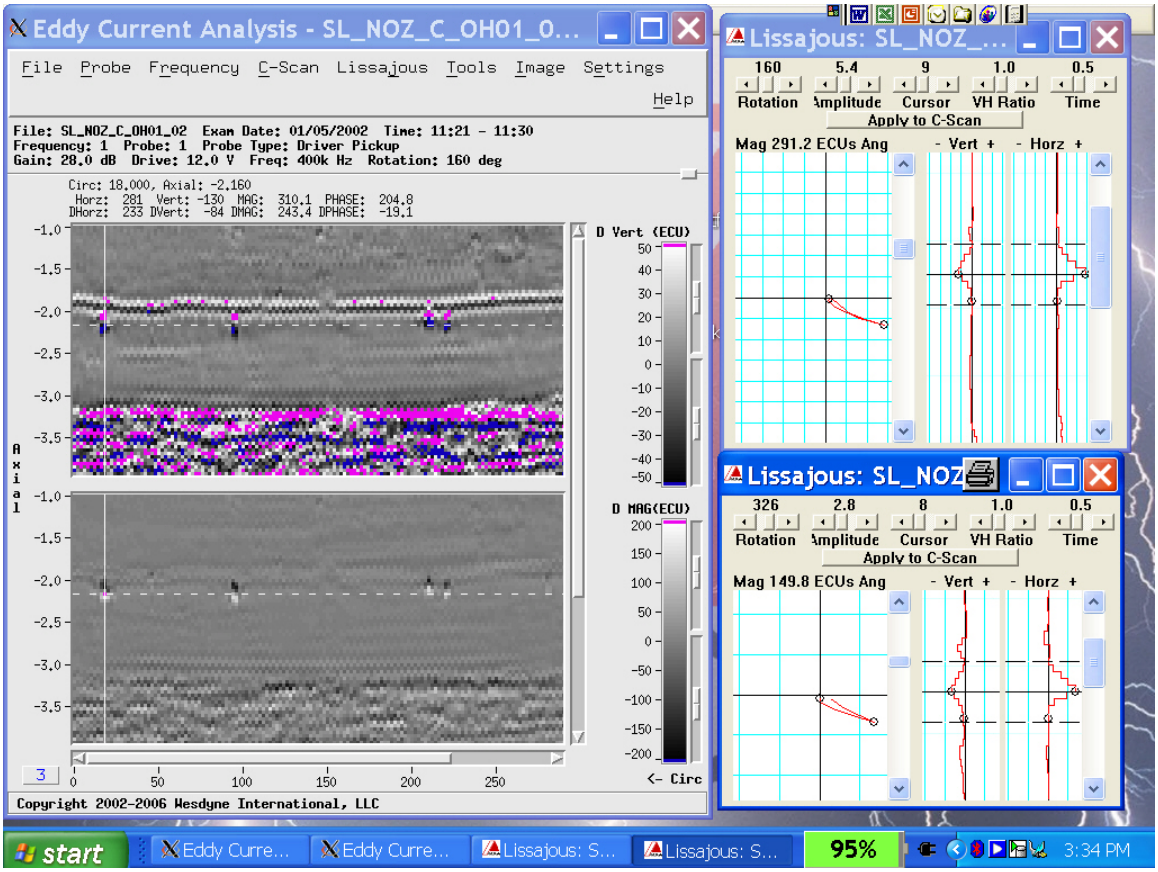


Figure 11: Nozzle C showing a typical short circumferential indication

Data and Calibration Sheets

Westinghouse

AUTOMATED EDDY CURRENT EXAMINATION CALIBRATION DATA SHEET

Plant: Removed PSL PZR Unit:1 3/12/08

Procedure No.: WDI-ET-003, WDI-ET-004 Software Rev. : 6.16.2

P/F # :	1/1	Freq.:	400kHz	dB: 28.0	Voltage: 12.0	Mode:	D/P
P/F # :	1/2	Freq.:	100kHz	dB: 44.0	Voltage: 12.0	Mode:	D/P
N	N/A	Freq.:	N/A	dB: N/A	Voltage: N/A	Mode:	N/A
P/F # :	N/A	Freq.:	N/A	dB: N/A	Voltage: N/A	Mode:	N/A
ET Cable		Probe 413277 :		N/A	Model # :	Z0001449	
Length :	83'	Probe S/N :		N/A	Model # :	N/A	

Cal. Blk. # : SAP# 103891 WAND#: SAP# 103005

DAS S/N : SAP# 103242 ET Board S/N : SAP# 104103

	Refl.	F/P #	Amp / Φ	Time	Date	File Name	Operator
Initial Cal.	D	1/1	470.7/195.1	08:38	03-12-08	CAL_PCS24_OHS_01	S. Overly
	D	2/1	212.8/195.7	08:38	03-12-08	CAL_PCS24_OHS_01	S. Overly
Initial Ref							
Ref Check							
Ref Check							
Ref Check							
Ref Check							
Ref Check							
Final Cal.	D	1/1	515.3/194.5	11:43	03-12-08	CAL_PCS24_OHS_02	S. Overly
	D	2/1	233.5/193.7	11:43	03-12-08	CAL_PCS24_OHS_02	S. Overly

Comments: Date Stamp on data is incorrect should be 3/12/08.

Penetrations:

Cal In

Examiner: Eric S. Overly Level II Date: 3/12/2008

Reviewer: Timothy P. Majoros Level II Date: 3/12/2008

Cal Out

Examiner: Eric S. Overly Level II Date: 3/12/2008

Reviewer: Timothy P. Majoros Level II Date: 3/12/2008

Customer Review :

Authorized Inspection Agency :

Westinghouse

EDDY CURRENT REPORT SHEET

Plant : Removed PSL PZR Unit: 1
Penetration No: PSL-NOZ-A
Probe Type: OHS

Procedure No: WDI-ET-004
File Name: SL_NOZ_A_OH01_01 Date: 3-12-08
Analyst: Timothy P. Majoros Level : II
Signature:

IND #	Ch / PR	Amp (ECU)	Phase (Degrees)	L @ max	Ø @ max	L 1	L 2	L 3	L 4	Ø 1	Ø 2	IND	RESO	Evaluation Comments
1	1/1	222.0	44.5°	-2.4"	28°	-2.24"	-2.56"	N/A	N/A	22°	36°	SCI		
1	2/1	122.4	29.3°	-2.4"	28°	-2.24"	-2.56"	N/A	N/A	22°	36°	SCI		
2	1/1	495.8	36.6°	-2.36"	74°	-2.20"	-2.48"	N/A	N/A	63°	81°	SCI		
2	2/1	300.0	29.2°	-2.36"	74°	-2.20"	-2.48"	N/A	N/A	63°	81°	SCI		
3	1/1	269.5	42.8°	-2.28"	157°	-2.20"	-2.40"	N/A	N/A	149°	159°	SCI		
3	2/1	154.9	25°	-2.28"	157°	-2.20"	-2.40"	N/A	N/A	149°	159°	SCI		
4	1/1	287.1	41°	-2.36"	339°	-2.24"	-2.52"	N/A	N/A	336°	350°	SCI		
4	2/1	177.7	28.8°	-2.36"	339°	-2.24"	-2.52"	N/A	N/A	336°	350°	SCI		

Coverage %: 100

Scan # 1 Degrees 0°-360°
Scan # Degrees
Scan # Degrees
Scan # Degrees

Comments: Areas of PV observed throughout pipe.
Date Stamp on data is incorrect should be 3/12/08.

Reviewer : Eric S. Overly Level: II Date: 3-12-08
Resolution: Level: Date:
Customer Review: Date:

Westinghouse

EDDY CURRENT REPORT SHEET

Procedure No: WDI-ET-004

Plant : Removed PSL PZR Unit: 1 File Name: SL_NOZ_B_OH01_03 Date: 3-12-08

Penetration No: PSL-NOZ-B Analyst: Timothy P. Majoros Level : II

Probe Type: OHS Signature:

IND #	CH / PR	Amp (ECU)	Phase (Degrees)	L @ max	Ø @ max	L 1	L 2	L 3	L 4	Ø 1	Ø 2	IND	RESO	Evaluation Comments
	1/1											NDD		

Coverage %: 100

Scan # 3 Degrees 0°-360°

Scan # Degrees

Scan # Degrees

Scan # Degrees

Comments:

Date Stamp on data is incorrect should be 3/12/08.

Reviewer : Eric S. Overly Level: II Date: 3-12-08

Resolution: Level: Date:

Customer Review: Date:

Westinghouse

EDDY CURRENT REPORT SHEET

Plant : Removed PSL PZR Unit: 1
Penetration No: PSL-NOZ-C
Probe Type: OHS

Procedure No: WDI-ET-004
File Name: SL_NOZ_C_OH01_02 Date: 3-12-08
Analyst: Eric S. Overly Level : II
Signature: E. S. Overly

IND #	CH / PR	Amp (ECU)	Phase (Degrees)	L @ max	Ø @ max	L 1	L 2	L 3	L 4	Ø 1	Ø 2	IND	RESO	Evaluation Comments
1	1/1	291.2	205.1°	-2.12"	18°	-2.00"	-2.26"	N/A	N/A	16°	20°	SCI		
1	2/1	149.8	202.8°	-2.12"	18°	-2.00"	-2.26"	N/A	N/A	16°	20°	SCI		
2	1/1	195.4	212.1°	-2.28"	94°	-2.04"	-2.26"	N/A	N/A	92°	96°	SCI		
2	2/1	109.7	207.7°	-2.28"	94°	-2.04"	-2.26"	N/A	N/A	92°	96°	SCI		
3	1/1	211.5	226.7°	-2.12"	210°	-1.88"	-2.20"	N/A	N/A	206°	214°	SCI		
3	2/1	135.3	210.2°	-2.12"	210°	-1.89"	-2.20"	N/A	N/A	206°	214°	SCI		
4	1/1	173.4	209.6°	-2.12"	220°	-2.04"	-2.25"	N/A	N/A	218°	222°	SCI		
4	2/1	86.0	205.5°	-2.12"	220°	-2.04"	-2.25"	N/A	N/A	218°	222°	SCI		

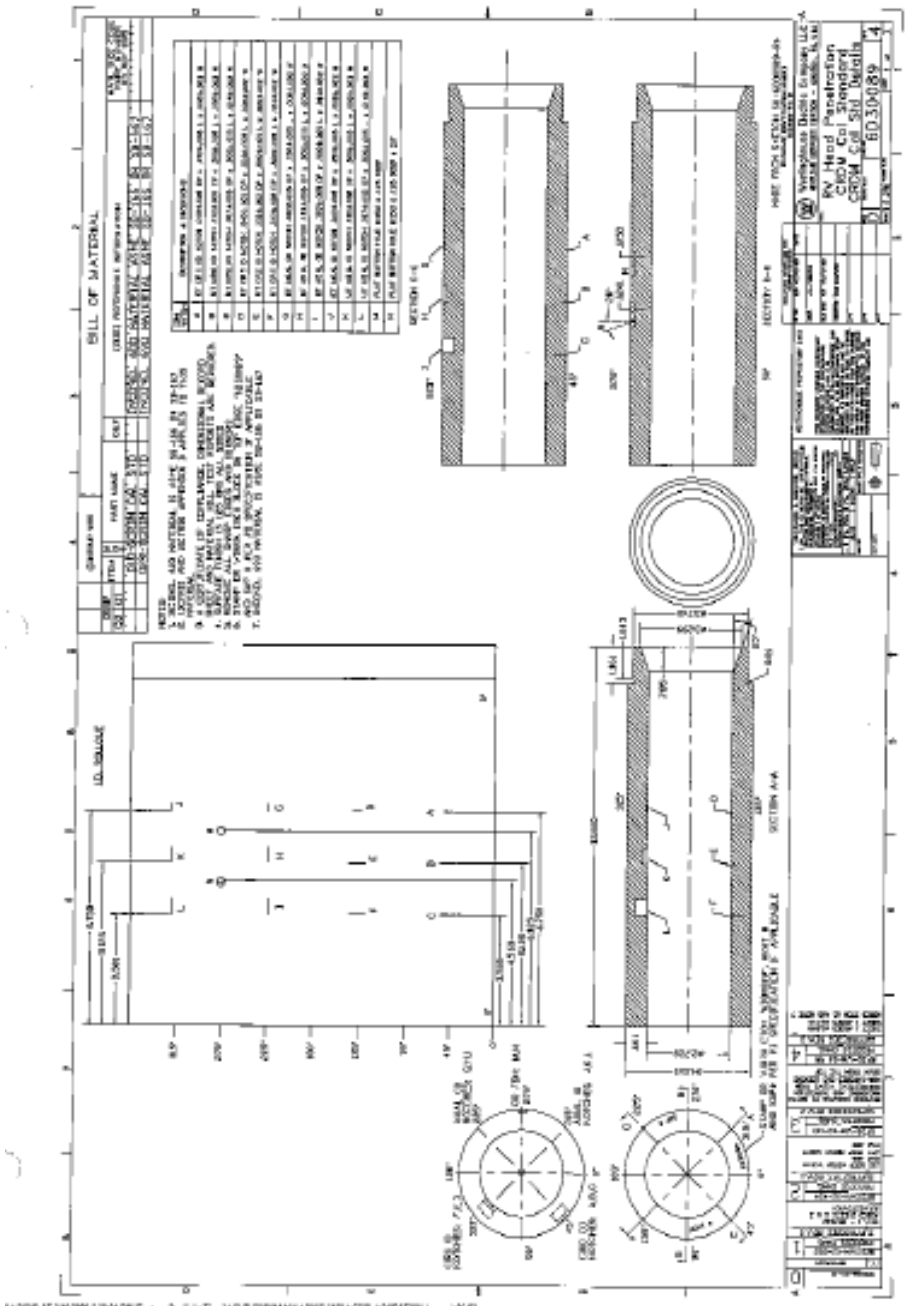
Coverage %: 100

Scan # 2 Degrees 0°-360°
Scan # Degrees
Scan # Degrees
Scan # Degrees

Comments:
Date Stamp on data is incorrect should be 3/12/08.

Reviewer : Timothy P. Majoros Level: II Date: 3-12-08
Resolution: Level: Date:
Customer Review: Date:

Calibration Block Calibration Sheets



DEVIATION NOTICE (DN) SAP 103871 DN NO. 60967

Form F-13.2, Rev. 4 Westinghouse Electric Company SHEET 1 OF 1

THIS SECTION TO BE COMPLETED BY ORIGINATOR

[A] [1] SUPPLIER	[2] PART NAME/DESCRIPTION
Tooling Specialists, Inc.	CRDM Cal. Block

[3] PURCHASE ORDER/CONTRACT	[4] P.O. ITEM	[5] PROJECT		[6] S.O./CHARGE NO.
4500142904	1	N/A		N/A
				[7] NO. DISCREPANT 1
				[8] ATTACHMENTS ☐ YES ☒ NO NUMBER OF PAGES —

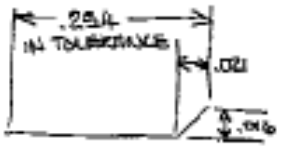
[9] DRAWING NO./REV.	[10] SPECIFICATION NO./REV.	[11] ORIGINATOR'S SIGNATURE,	[12] DATE ISSUED MONTH	DAY	YEAR
6030089 Rev. 4	N/A	Mitch Musser	10	06	04

[13] CAUSE OF DISCREPANCY AND SUPPLIER ACTION TAKEN TO PREVENT RECURRENCE

Machinist did not notice that the thin EDM electrode cracked under clamp presure. Cracked, mis-shaped electrode caused deformed notch. Machinist will examine electrode after clamping on all furture operations.

[14] DESCRIPTION OF DEVIATIONS AND RECOMMENDATION FOR DISPOSITION

CRDM Cal. Block per Dwg # 6030089 Rev. 4 "SAP 103891" H.T. #: 14542. The "G" notch was EDM in the Block in the form of a J as shown below. Tooling Specialists recommendation is to use as is - or add another notch at a different location.



ATTACHMENT INCLUDED ☐

TO BE COMPLETED BY WESTINGHOUSE [B]

[15] COMMENTS/INSTRUCTIONS SUPPORTING DISPOSITION AND VERIFICATION

ADD NOTCH "G" - 87° AXIAL TO NOTCH .070 ±.005 DP X .250 ±.005 LX + 006 ±.002 W. LOCATE THIS NEW NOTCH AT 180 DEGREES AND 6.750" TYP FROM END OF BLOCK.

ATTACHMENT INCLUDED ☐

[16] EFFECT OF DEVIATION	Yes	No		Yes	No
[a] Installation/ Test	☐	☒	[d] Maintenance/ Repair	☐	☒
[b] In-service Inspection	☐	☒	[e] Specification Revision Required	☐	☒
[c] Performance/ Function	☐	☒	[f] Design Change	☐	☒
[g] Manufacturing	☐	☒			

[17] DISPOSITION	☐ USE-AS-IS	☒ REPAIR	☐ REWORK	☐ SCRAP
ENGR. SIGN/DATE RDW 10.14.04		ENGR. VERIFICATION	YES ☐ NO ☒	
MATERIALS CONCURRENCE	YES ☐ NO ☒	DESIGN INTERFACE CONCURRENCE	YES ☐ NO ☒	
DESIGN REVIEW REQUIRED	YES ☐ NO ☒	ENGR. MGMT CONCURRENCE	YES ☐ NO ☒	
QUALITY (WESTINGHOUSE) SIGN/DATE 10/18/04		ANI SIGN/DATE		
[18] CUSTOMER NOTIFICATION REQUIRED	YES ☐ NO ☒	NOTIFICATION LETTER NO.		[19] CUSTOMER APPROVAL SIGN/DATE

[C] REPAIR COMPLETE: The repair as specified above has been accomplished. The final disposition of this material is: ☐ ACCEPT ☐ SCRAP

[20] REPAIR PROCEDURE | [21] QUALITY (WESTINGHOUSE) SIGN/DATE

Notice to Seller: This notice, when properly filled out, approved and signed is notification that the subject deviation is acceptable to Westinghouse to the extent and only for the purpose indicated hereon. Such notification does not preclude negotiation of a price reduction in connection herewith at a later date, but is an approval within the meaning of the general provisions and need not be followed by a change notice to the purchase order.

Forms\DeviationNotice F-13.2(Rev4).doc

FROM
WESTINGHOUSE ELECTRIC CORPORATION
NUCLEAR ENERGY SYSTEMS
BOX 355
PITTSBURGH, PENNSYLVANIA 15230
ATTN: Jim Hunsen

TO
Tooling Specialists, Inc.
P.O. Box 828
Latrobe, PA 15650

PAR NO. _____ PAGE 1 OF _____
ISSUE DATE _____
ENG. LTR. NO. _____

APPROVAL REQUIRED BY 10-12-04

SUPPLIER ACTION(S) REQUIRED BY THIS PAR MUST BE COMPLETE BY _____

CONTRACT: CRDM Cal. Block

SPEC. NO./ I.D.: N/A

SUPPLIER SERIAL NO.: 1009434

P. O.: 4500142904

C. O.: N/A

SUPPLIER ORDER NO.: 52-6684

SUBMITTAL CODE
A = FOR APPROVAL
I = FOR INFORMATION
(Use Proper Code) A

SEQUENCE CODE (Use proper Code)
O=ORIGINAL SUBMITTAL
R=RESUBMITTAL DUE TO COMMENTS
V=RESUBMITTAL DUE TO SUPPLIER CHANGES
M=RESUBMITTAL DUE TO DOCUMENT QUALITY

APPROVAL STATUS CODE
A = APPROVED
C = APPROVED W/COMMENT, RESUBMITTAL REQUIRED
D = DISAPPROVED
I = RECEIVED FOR INFORMATION
(Use Proper Code)

ITEM NO.	P.O. ITEM NO.		DRAWING NO./ SPEC. NO./ PROCEDURE NO.	REVISION		DESCRIPTION/ TITLE		ENGINEERING COMMENTS
1	1	A	6030089	4	O	DR No. 60967		

ADDITIONAL ENGINEERING COMMENTS

UNLESS OTHERWISE INDICATED

SUB WRITTEN BY / DATE

PAR APPROVED BY / DATE

SUPPLIER REMARKS

SUPPLIER SIGNATURE Dick Musick DATE 10-6-04

ENGINEERING — FILE

OCT-07-04 THU 02:29 PM TOOLING SPECIALIST, INC. FAX NO. 724 537 4960 P. 03/04

TO	FROM	
WESTINGHOUSE ELECTRIC CORPORATION NUCLEAR ENERGY SYSTEMS BOX 335 PITTSBURGH, PENNSYLVANIA 15230 ATTN: Jim Munson	Tooling Specialists, Inc. P.O. Box 828 Latrobe, PA 15650	
APPROVAL REQUIRED BY 10-12-04	COMPONENT: CRDM Cal. Block	P.O. #: 4500142904
	SPEC NO./ T.S.: N/A	C.O. #: N/A
	SUPPLIER SERIAL NO.: 1009434	SUPPLIER WORK NO.: 52-6684

SUBMITTAL CODE
A= FOR APPROVAL
I = FOR INFORMATION
(Use Proper Code)

SEQUENCE CODE (Use proper Code)
O=ORIGINAL SUBMITTAL
R=RESUBMITTAL DUE TO COMMENTS
V=RESUBMITTAL DUE TO SUPPLIER CHANGES
W=RESUBMITTAL DUE TO DOCUMENT QUALITY

ITEM NO.	P.O. ITEM NO.		DRAWING NO./ SPEC. NO. PROCEDURE NO.	REVISION		DESCRIPTION / TITLE
1	1	A	6D30089	4	0	DN No. 60967

NOTE: COMPLETION INSTRUCTIONS ON BACK OF LAST PAGE.

THIS SPACE FOR WESTINGHOUSE USE ONLY

SUPPLIER REMARKS:

SUPPLIER SIGNATURE: Jim Munson DATE: 10-6-04

Westinghouse Electric Company LLC
Quality Release & Certificate of Conformance

QR- 04-333 Rev: 0
Business Unit: NS
Date: 10/22/04

1. Customer Name:	2. Plant Site:	3. Customer Order No. and Latest Rev	4. W Network Number
Westdyne	Waltz Mill Service Center	N/A	1302306-0E10

5. Westinghouse Sales Order Number:	6. W Purchase Order Number	7. W P.O. C/N #:	8. PAR:	9. Supplier S.O. Number
N/A	4500142504 Item 1-4	1	N/A	52-6684

10. Material Specification:	11. Rev:	12. Drawing No:	13. Rev:	14. Basic Component
ASTM-B-166	N/A	6D30089	4	Yes ☒ No ☐

15. ASME Code Section:	16. ASME Code Class	17. ASME Code Edition and Addenda:	18. Code Cases:
N/A	N/A	N/A	N/A

19. Item Name:	20. Quantity Released:	U/M:
CRDM Calibration Block	4	PCS.

21. Serial Numbers:	22. Heat Numbers:	23. Other:
ITEM 1 SAP 103891 ITEM 2 SAP 103892 ITEM 3 SAP 103893 ITEM 4 SAP 103894	14542	N/A

Audit Checklist

The attributes listed below were reviewed and approved by Quality as noted by an "A" in the status column. "N/A" indicates Non-Applicable items. Records are available for review. Contingent items are identified by a "C" in the status column and are explained in the Remarks section.

Status		Status		Status	
A	Supplier C of C	A	Cleanliness	N/A	ASME Data Report Form(s) Attached ☐
A	Material Certifications	N/A	Operating Electrical Test Records	N/A	Certified Stress Report
N/A	Heat Treat Records	N/A	Non-Operating Elec. Test Records	N/A	Special Handling, Storage, Install Instruct.
N/A	RT Film and Records	N/A	Pressure Test Records	N/A	Instruction Books
N/A	PT Records	N/A	Seat Tightness Test Records	A	TSI Data Pack
N/A	MT Records	N/A	Performance Test Records		
N/A	UT Records	N/A	NDE Personnel Qual. Cert.		
A	Visual Inspection Records	N/A	Painting		
A	Dimensional Inspection	A	Packaging		

Remarks

Customer QA Data Package Required? ☒ Yes or ☐ No

24. Remarks:

CRDM Calibration Blocks are released from TSI to the Waltz Mill Service Center.

DN No. 60967 Applies to P.O. Item 1 only.

25. Deviation Notices ☒ Yes or ☐ No

List Applicable DN's: 60967

(Copies are attached to this document.)

Westinghouse Electric Company LLC Quality certifies that for the equipment and material released, all contractual quality requirements have been met.

The equipment supplier has certified that the equipment above meets all requirements of the purchase order, drawings and specifications. Westinghouse has reviewed evidence supporting this release and, except as specified above, has detected no deviations from such requirements. This release does not waive any rights Westinghouse may have under the applicable order, including Westinghouse's right to reject the equipment upon discovery of any such deviations after arrival at destination.

26. Supplier: Tooling Specialist Inc.

27. Supplier Signature: [signature]

28. Date: 10-22-04

29. ☒ This order has been processed in accordance with the Westinghouse Quality Management System (QMS) Revision 5 dated 10-1-02.

30. ☐ This order has been processed under the Westinghouse ASME Code Program (WCAP)-12065 Revision dated . Westinghouse ASME Certificate N-1145 (expiration date) applies.

John Kunicky 10-22-04

[signature] 10/22/04

Westinghouse Quality Representative

TOOLING SPECIALISTS INCORPORATED

MACHINE TOOL BUILDERS — SPECIAL MACHINING — DIES — ENGINEERING SERVICE

P.O. Box 828, LATROBE, PA 15650-0828 Phone (724) 539-2534 FAX: (724) 537-4960

CERTIFICATION OF COMPLIANCE

October 20, 2004

WesDyne International LLC
P.O. Box 409
I-70 Madison
Madison, PA 15663

Gentlemen:

This is to certify that the products shipped to you, per the information listed below, comply to the requirements of this order.

All required tests and inspections have been performed.

Documented evidence of compliance supporting this certification is available at our facility for review.

Purchase Order Number:	4500142904 C/N 1
TSI Shop Order Number:	52-6684
DN No:	60967 Applies to P.O. Item 1 only.

WESTINGHOUSE QR: 04-322 REV. 0

Description:

PO Item 001, (1) Each, CRDM Cal Block, Per Dwg 6D30089 H01 Rev. 4, SAP 103891
PO Item 002, (1) Each, CRDM Cal Block, Per Dwg 6D30089 H01 Rev. 4, SAP 103892
PO Item 003, (1) Each, CRDM Cal Block, Per Dwg 6D30089 H01 Rev. 4, SAP 103893
PO Item 004, (1) Each, CRDM Cal Block, Per Dwg 6D30089 H01 Rev. 4, SAP 103894

10CFR21 Applies

Material Heat use for above items is: 14542

Note: The ID Notches (depth & location) were witnessed and recorded at the machine during the machining operation.

Very truly yours,

Quality Assurance

Tooling Specialists, Inc.

P.O. Box 828
Latrobe, PA 15650

Material Release № 16521

Work Order No: 57-6684 Purchase Order No. 4500142904	Q.C. Release:
Customer: WESDYNE-MDSN	(Signature) (Date) 8-16-04
	Cust.'s Q.C. Rel. No: Date:
Customer Furnished Material: Yes (X) No ( )	Customer's Q.C. Rel. Representative

Material Specification: ASTM-B166-04 (N06600, Cond. A)

Material Description: 4½" DIA. - INCONEL 600 HR.R.T.A. ROUND

Material Supplier: WESDYNE INTERNATIONAL — Order No: W-OR-WD-004-12, REV 1 & 2

Heat No: 14542 / TR # 22543 — Special Test No:

Material Quantity Released: 4 @ 12" LG.

Material Weight Released:

Drawing No: 6D30089 REV. 4	Description: CALIBRATION BLOCKS
Item No: 01	Description: CRDM CAL. STD.
No. of Pieces Required: 4	Make: 4 (pieces)
Drawing No:	Description:
Item No:	Description:
No. of Pieces Required:	Make: (pieces)
Drawing No:	Description:
Item No:	Description:
No. of Pieces Required:	Make: (pieces)

Remarks:

REF: WORK ORDER CONTROL SHEET - REV. 0

TSI FORM 164 REV. 1 (2-7-96 HF)

DUBOSE NATIONAL ENERGY SERVICES, INC.
900 INDUSTRIAL DRIVE // CLINTON, NC 28328
Certificate of Conformance/Compliance/CMTR

Customer:

WESTINGHOUSE ELECTRIC CO
WESDYNS
I-70 MADISON EXIT 54,GATE-D
MADISON,PA 15663

Date 7/28/04 Serial No. 217236 D
Our DC No. 217216
This material meets the requirements of your PO number 4500142038

Item	Pieces	Description / Specification	Grade/Type	Heat # / Heat Code
3	4	4 1/2" DIAMETER X 12" LONG ROUND BAR ASTM B166-04	N06600 COND A SLATER WE LAB	14542 TR# 22543
4	3	6" DIAMETER X 12" LONG ROUND BAR ASTM B166-04	N06600 COND A VALBRUNA WE LAB	235274 TR# 22544

This material has been supplied in accordance with DuBose National Energy Services, Inc. Quality System Program Rev.00, dated 01-08-02 in compliance with 10CFR50 APP. B. The contents of the report are correct and accurate and the results are in compliance with the material specification, the code, and the customer purchase order.

10CFR21 APPLIES
DEDICATION PERFORMED IN ACCORDANCE WITH DNES QUALITY SYSTEM PROGRAM
THIS MATERIAL SHIPPED FROM AN APPROVED VENDOR. PHYSICAL INSPECTION PERFORMED BY THAT DNES APPROVED VENDOR.

QA Representative
DAVID W STAPP

7/28/04
Date

TRACE # 22543

Slater Steels Corporation
Fort Wayne Specialty Alloys Division
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2882 Fax: 260-434-2904
www.slatersteels.com

Product Certification Report

Report Number: 3733560

Certified on Dec 27, 2003 Page 1 of 1

0319711 001	10/16/03	EDBARI4.5		10/07/02
4.5000	.0000	.0000	14542 / 001272	055276
Rounds	HR & Rough Turned			600
156.000 Min. 180.000 Max.	307252			

Ship To
J & J INC
7311 GALVESTON ROAD #800
HOUSTON, TX 77034 77034

Sold To
J & J INC
30 OAK STREET
HAMPTON, GA 30228

Lifts: 0010 0011

British STD BS 3076:1989	CONDITION A	HW ANN
DMS N06600	ASTMB 166-01	ASTMA 370-03
ASTM E564-85b CHEM ONLY	ASME II SB166 95ED 97 Addenda	AMS 5665N

PARENT HEAT 073833

CHEMICAL ANALYSIS

	C	Mn	P	S	Si	Cr	Ni	Cu	Co	Cb	Ta	Al	Fe	Ti
BOT	.050	.37	.008	.005	.40	15.87	75.11	.05	.05	.050	.05	.24	7.54	.38
TOP	.050	.39	.008	.005	.43	15.91	74.68	.05	.05	.050	.05	.13	7.84	.33

HR
370

TENSILE PROPERTIES

TS (PSI)	.2%YS (PSI)	%EL(2")	%RA
92300	37800	47.8	56.3

MACRO ASTM A604
MACRO
OK

Free of mercury and low melting alloy contamination.
Electroslag remelt.
Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086
Material conforms to listed specifications.
Quality system is registered to ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

DUBOSE QA REVIEW SATISFACTORY [initials] 7/16/04 INITIAL DATE

WESTINGHOUSE
PO# 4500142038
IT# 3

VERIFIED
[initials] 1/7/04

1067

Results relate only to the items tested. Certification shall not be reproduced except in full, without the written approval of Slater Steels Corporation. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law, Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info.
I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services [signature]
Dennis Hackett

Manufactured in accordance with N.A.F.T.A.

WH LABORATORIES 8450 Rayson • Houston, Texas 77080 • 713/895-7504 • FAX 713/895-6906

CHEMICAL ANALYSIS

Company: Dubose
Attention: John Dayton

Date: July 26, 2004
Lab Report #: 04-0723-48
P.O. #: 53543-65

SAMPLE ID	IDENTIFICATION
Y	4-1/2" Diameter UNS N06600 Bar
	Heat # 14542, Trace 22543

	Y
C	.06
Si	.46
Mn	.43
P	.011
S	.004
Cr	15.76
Mo	.09
Ni	74.42
Al	
Cu	.02
Co	.05
Ti	
V	
Fe	7.92
N	

Test specimen retained for one (1) year, unused material is retained for one (1) months.
Analysis performed in accordance with ASTM test methods and analytical procedures and WH Laboratories Quality Assurance Manual.

DuBOSE QA REVIEW SATISFACTORY INITIAL DATE 7/28/04

WESTINGHOUSE
PO# 4500142038
ITE# 3

Approved by: Loyd A. Taylor

WH LABORATORIES 8450 Bayway • Houston, Texas 77040 • 713/895-7504 • FAX 713/895-8906

Tensile Test Report

Company: Dubose
Attention: John Dayton
Identification: ASTM B166-UNS N06600 Cond. A
Procedure:
Process:
Filler:
Qualification:
Welder's Name:

Date: 7/24/2004
Lab Report #: 04-0723-48
P.O. #: 53543-65

4-1/2" Round
Heat #14542
Trace #22543

TENSILE TEST

Lab ID	Dimensions	Area	Yield Lbs	Ultimate Load Lbs	Yield P.S.I.	Tensile P.S.I.
Y-1	.259 round	.0527	2,780	5,390	52,900	102,400

Elongation	Reduction of Area	Fracture	Comments
45.1%	59.9%	Ductile	

Tests performed in accordance with ASTM A370, E8, and WH Laboratories Quality Assurance Manual.
0.2% Offset Yield – Gage Length 2.000" for .500", and 1.400" for .350" tensile per ASTM A370.
Test specimens retained for one (1) week maximum; undated material is retained for one (1) month.

DUBOSE QA REVIEW SATISFACTORY 7/28/04 INITIAL DATE

WESTINGHOUSE
PO# 4500142038
ITE 3

Approved by: Howard E. Heinsohn
Howard Heinsohn

TENSILE FORM NO PRINT

WH LABORATORIES 8450 Rylane • Houston, Texas 77080 • 713/895-7504 • FAX 713/895-8906

Company: Dubose
Date: 07-24-2004
Lab Report #: 04-0723-48
Attention: John Deyton
P.O. #: 53543-65

ULTRASONIC EXAMINATION
PER ASME SECTION III, SUBSECTION NB CLASS 1,
1989 EDITION W/NO ADDENDA, AND PER
WHL UT112 REV. F

DUBOSE QA REVIEW SATISFACTORY INITIAL DATE 7/26/04

WESTINGHOUSE
PO# 4500142038
ITS# 3

Part Description:

Description	Heat #	Trace #
(1) 4-1/2" Dia. x 52-1/2" Long ASTM B166-UNS N06600 Cond. A	14542	22543

Procedure: Straight Beam
Equipment: Krautkramer USD-10, S/N 31675-2796 – BNC to BNC 6' Length
Calibration Date(s): May 6, 2004 and Prior to Use
Couplant: Water Soluble Gel, Sonotech UTX Batch Series 02162X
Calibration Blocks: Back Reflection
Linear Vertical Calibration Check 7-14-2004
Frequency and Size: 2.25" MHZ / .75" / 38 db
Volume scanned: 100% circumferential

Results: Satisfactory / No Laminations

Date: 7/24/2004
Approved by: Howard E. Heinsohn
Howard E. Heinsohn / Level II
Expiration Date: 07/02/2007

INSPECTION REPORT	TOOLING SPECIALISTS, INC. Latrobe, Pa. 15650 Phone: (724) 539-2534	Dwg. # 6030089	Revision 4	Item 01
Page 1 of 3		P.O. # 4500142904	Work Order # 97-6696	

CUSTOMER: WESDYNE #DN 60967 APPLIES H.T.# 14542

PART DESCRIPTION: CRDM CAL. STANDARD

IF OUT OF TOLERANCE, PLACE X IN BOX TO RIGHT OF DIMENSION.

DRAWING DIMENSIONS	Part No. SAP 103891	X	Part No. SAP 103892	X	Part No. SAP 103893	X	Part No. SAP 103894	X	Part No.	X	Gage No.
NOTCH "A" 45° (OD)	—		—		—		—				—
6.750	6.7495		6.7507		6.748		6.7505				#538
DEPTH .040±.005	.039		.040		.040		.040				#830
LENGTH .250±.005	.254		.2515		.253		.251				#538
WIDTH .006±.002	.007		.007		.007		.007				
NOTCH "B" 45° (OD)	—		—		—		—				—
5.125	5.1246		5.1243		5.125		5.1247				#538
DEPTH .132±.005	.132		.131		.132		.132				#830
LENGTH .500±.005	.500		.500		.500		.501				#538
WIDTH .009±.002	.008		.008		.008		.008				
NOTCH "C" 45° (OD)	—		—		—		—				—
3.500	3.499		3.5008		3.5003		3.501				#538
DEPTH .397±.005	.397		.397		.396		.395				#830
LENGTH .500±.005	.501		.500		.503		.501				#538
WIDTH .014±.002	.014		.012		.013		.012				
NOTCH "D" 135° (ID)	—		—		—		—				—
6.750	6.750		6.750		6.750		6.750				#1036
DEPTH .040±.005	.041		.040		.040		.040				#1168
LENGTH .250±.005	.249		.249		.249		.249				#220
WIDTH .006±.002	.007		.007		.007		.007				—
NOTCH "E" 135° (ID)	—		—		—		—				—
5.125	5.125		5.125		5.125		5.125				#1036
DEPTH .132±.005	.132		.132		.132		.133				#1168
LENGTH .500±.005	.499		.499		.499		.499				#220
WIDTH .009±.002	.008		.008		.008		.008				—
NOTCH "F" 135° (ID)	—		—		—		—				—
3.500	3.500		3.500		3.500		3.500				#1036

INSPECTOR: Keith Musick DATE: 10-19-04

TSI FORM 170 REV. 2 (6-29-98 PMP)

INSPECTION REPORT	TOOLING SPECIALISTS, INC. Latrobe, Pa. 15650 Phone: (724) 539-2534	Dwg. # 6D30034	Revision 4	Item 01
Page 2 of 3		P.O. # 4500142904	Work Order # 52-66864	

CUSTOMER: WESDYNE

PART DESCRIPTION: CRDM CAL, STANDARD

IF OUT OF TOLERANCE, PLACE X IN BOX TO RIGHT OF DIMENSION.

DRAWING DIMENSIONS	Part No. SAP 103891	Part No. SAP 103892	Part No. SAP 103893	Part No. SAP 103896	Part No.	Gage No.
DEPTH .397±.005	.396	.395	.397	.397		#1168
LENGTH .500±.005	.499	.499	.499	.499		#220
WIDTH .014±.002	.013	.013	.013	.013		
NOTCH "G" 225° (OD)	— X	—	—	—		—
6.750	6.751	6.7495	6.7475	6.747		#538
DEPTH .040±.005	.034	.041	.039	.040		#830
LENGTH .250±.005	.254	.251	.253	.251		#538
WIDTH .006±.002	.007	.007	.007	.007		
NOTCH "H" 225° (OD)	—	—	—	—		—
5.125	5.1246	5.121	5.120	5.124		#538
DEPTH .132±.005	.132	.129	.133	.133		#830
LENGTH .500±.005	.500	.4995	.502	.499		#538
WIDTH .009±.002	.008	.008	.008	.008		
NOTCH "I" 225° (OD)	—	—	—	—		—
3.500	3.497	3.495	3.496	3.4977		#538
DEPTH .397±.005	.397	.402	.397	.398		#830
LENGTH .500±.005	.501	.502	.505	.500		#538
WIDTH .014±.002	.012	.012	.012	.013		
NOTCH "J" 315° (ID)	—	—	—	—		—
6.750	6.750	6.750	6.750	6.750		#1036
DEPTH .040±.005	.040	.040	.040	.040		#1168
LENGTH .250±.005	.249	.249	.249	.249		#220
WIDTH .006±.002	.007	.007	.007	.007		
NOTCH "K" 315° (ID)	—	—	—	—		—
DEPTH 5.125	5.125	5.125	5.125	5.125		#1036
DEPTH .132±.005	.132	.132	.132	.133		#1168
LENGTH .500±.005	.499	.499	.499	.499		#220

INSPECTOR: [signature]

DATE: 10-19-04

INSPECTION REPORT	TOOLING SPECIALISTS, INC.	Dwg. # 6D300BA	Revision 4	Item 01
Page 3 of 3	Latrobe, Pa. 15650 Phone: (724) 539-2534	P.O.# 4500142904	Work Order # SE-6684	

CUSTOMER: WESDYNE

PART DESCRIPTION: CRDM CAL. STANDARD

IF OUT OF TOLERANCE, PLACE X IN BOX TO RIGHT OF DIMENSION.

DRAWING DIMENSIONS		Part No. SAP 1038A1	Part No. SAP 1038A2	Part No. SAP 1038A3	Part No. SAP 1038A4	Part No.	Gage No.
WIDTH .004±.002		.008	.008	.008	.008		
NOTCH "L" 315° (DD)		—	—	—	—		—
3.500		3.500	3.500	3.500	3.500		#1056
DEPTH .397±.005		.397	.397	.397	.397		#1168
LENGTH .500±.005		.499	.499	.499	.499		#220
WIDTH .014±.002		.013	.013	.013	.013		
FLAT BOT. HOLE 270° (M)		—	—	—	—		—
6.125		6.1255	6.1256	6.125	6.1262		#149PB21
.250 ⌀		.2497	.2497	.2497	.2496		#944
.125 DEEP		.126	.125	.126	.124		#830
FLAT BOT. HOLE 270° (N)		—	—	—	—		—
4.563		4.560	4.536	4.564	4.561		#538
.250 ⌀		.2497	.2497	.2497	.2496		#944
.125 DEEP		.122	.124	.124	.124		#830
20°		20°	20°	20°	20°		#538
⌀ 4.050	A-7	4.0505	4.050	4.050	4.051		#10
⌀ 2.728	A-7	2.728	2.729	2.728	2.726		#149PB2
.661	B-7	.661	.660	.661	.662		#220
12.000	B-6	12.004	11.9995	12.001	12.000		#149PB21
1.161	B-5	1.161	1.161	1.160	1.1615		#1116
1.043	B-5	1.047	1.042	1.0415	1.042		#538
⌀ 3.740	A-4	3.740	3.7405	3.7401	3.741		#10
⌀ 3.299	A-4	3.300	3.302	3.3011	3.301		#538
.785	B-5	.790	.781	.786	.7845		#538
20°	A-4	20°	20°	20°	20°		#538
R.06	A-5	.063	.063	.063	.063		#538

( ) NOTCH 180° DEPTH = .040 LENGTH = .251 LOCATION = 6.747

INSPECTOR: [signature] DATE: 10-19-04

TS FORM 170 REV. 3 (8-26-99 RWP)

PAGE 9/10 * RCVD AT 3/10/2008 2:38:01 PM [Eastern Daylight Time] * SVR:SNWR1111 * DNIS:6239 * CSID: * DURATION (mm-ss):05-02

Instrument Certification

WDI-SAP104103 -BCR

ZETEC
Document 03-1008

CALIBRATION CERTIFICATE

COMPANY NAME: WESDYNE INTERNATIONAL c.c. A

Zetec, Incorporated hereby certifies that the following instrument meets or exceeds all manufacturer's specifications.

INSTRUMENT: PC EDDY CURRENT CARD SERIAL NUMBER: FSC-0053

The calibration of this instrument has been performed using a documented, controlled Zetec procedure which meets or exceeds the requirements of ASME Section XI, Appendix IV and ASME Section V Article 8, Appendix I/II through the 2003 Edition

Calibration has been performed using standards whose accuracies are traceable to the National Institute of Standards and Technology. This Certification complies with ISO/IEC 17025 and ANSI/NCSL Z-540. This certification may not be reproduced or distributed except in whole without written authorization from Zetec.

N.I.S.T. TRACEABILITY:

Standard	Instrument	Serial Number	Calibration Date	Expiration
7678	OSCILLOSCOPE	B036119	04/10/2007	04/10/2008

CALIBRATION DATE: 14 JAN 08

CALIBRATED BY: JAMES LARSEN TECHNICIAN

CERTIFICATION DATE: 14 JAN 08

EXPIRATION DATE: 14 JAN 09

CERTIFIED BY: JAMES LARSEN

PROCEDURE #: CSP-PCECC Rev. 0

COMMENTS: QUALITY MANUAL: Z-QA-001 REV.1

SAP 104103

CERTIFICATION NUMBER 03-1008 : 72205

Zetec, Inc. • 8226 Bracken Place SE, Suite 100 • Snoqualmie, WA 98065 USA
Phone 425-974-2700 • Fax 425-974-2701

ZETEC "AS RECEIVED" CONDITION CODE

A.	INSTRUMENT IN TOLERANCE: No adjustments required. No adjustments made.
B.	INSTRUMENT IN TOLERANCE: Adjustments made to one or more ranges only to center tolerance range in order that the instrument will be in tolerance during next usage cycle.
C.	INSTRUMENT OUT OF TOLERANCE: Adjustments required on one or more ranges that affect measurement capability.
D.	INSTRUMENT OUT OF TOLERANCE: Repairs, parts replacement, or modification required in circuits that affect measurement capability.
E.	INSTRUMENT INOPERATIVE: Repairs, parts replacement, or modification required to restore normal operation and permit calibration.

Attachment 7

Comparison of all NDE techniques for nozzles A, B, and C

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Comparison of Ultrasonic, Radiographic and Eddy Current Examination Results

Safety Nozzles A, B and C
Port St Lucie Unit 1
Pressurizer

Volumetric examination results summary

- Encoded phased array examination
  - PSL safety nozzle ‘A’
    - 9 embedded fabrication flaws identified
      - Attributed to slag, porosity and/or lack of fusion
      - Clustered and individual flaws identified
    - No flaws connected to inside surface
  - PSL safety nozzle ‘B’
    - 5 embedded fabrication flaws identified
      - Attributed to slag, porosity and/or lack of fusion
      - Clustered and individual flaws identified
    - No flaws connected to inside surface
  - PSL safety nozzle ‘C’
    - 7 embedded fabrication flaws identified
      - Attributed to slag, porosity and/or lack of fusion
      - Clustered and individual flaws identified
    - No flaws connected to inside surface
- Many other reflectors noted in all nozzles, but below the procedure’s amplitude recording threshold

Volumetric examination results summary

- Double wall exposure radiographic examination
  - PSL safety nozzle ‘A’
    - 7 embedded fabrication flaws identified
      - 5 attributed to slag
      - 2 attributed to porosity
    - No flaws connected to inside surface
  - PSL safety nozzle ‘B’
    - 5 embedded fabrication flaws identified
      - All attributed to slag
    - No flaws connected to inside surface
  - PSL safety nozzle ‘C’
    - 5 embedded fabrication flaws identified
      - 3 attributed to slag / porosity
      - 2 attributed to porosity
    - 1 linear ID surface indication

Volumetric examination results summary

- Single wall exposure radiographic examination
  - Only PSL safety nozzle ‘A’ was examined with single wall exposure technique
    - Exam limitation from 10.5” thru 12.0” as measured from the OD surface (*film did not meet density requirements*)
    - 7 embedded fabrication flaws identified
    - 6 attributed to slag
    - 1 attributed to porosity
    - 3 linear ID surface indications

Surface examination results summary

- Encoded eddy current ID examination
  - PSL safety nozzle ‘A’
    - 4 linear, circumferential indications identified
      - All indications located at or near the inside surface
      - Lengths 0.25 – 0.46 inch
  - PSL safety nozzle ‘B’
    - No indications identified
  - PSL safety nozzle ‘C’
    - 4 very small indications identified
      - All indications located at or near the inside surface
      - Reported “probably associated with some type of surface blemishes”

Surface examination results summary

- Dye penetrant ID examination
  - PSL safety nozzle ‘A’
    - 5 linear indications identified
  - PSL safety nozzle ‘B’
    - 7 linear indications identified
  - PSL safety nozzle ‘C’
    - 7 linear indications identified

Examination correlation

- PSL safety nozzle ‘A’
  - Volumetric examination comparison (RT vs UT)
    - 4 locations correlate
  - Surface examination comparison (PT vs ET)
    - 3 locations correlate
- PSL safety nozzle ‘B’
  - Volumetric examination comparison (RT vs UT)
    - 3 locations correlate
  - Surface examination comparison (PT vs ET)
    - No locations correlate (no ET indications reported)
- PSL safety nozzle ‘C’
  - Volumetric examination comparison (RT vs UT)
    - 2 locations correlate
  - Surface examination comparison (PT vs ET)
    - 2 locations correlate

Volumetric examination correlation summary

PSL FIELD REMOVED PZR SAFETY NOZZLES

VOLUMETRIC EXAMINATION METHOD COMPARISON

VOLUMETRIC EXAMINATION METHODS						
NOZZLE IDENTIFICATION	INDICATION	ENCODED PA			RADIOGRAPHY	COMMENTS
		START	STOP	LENGTH	LOCATION	
PSL SAFETY 'A'	1	22	32	10		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	2	41	67	26	50.8 / 60.3	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	229	262	33	234.9	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	4	290	304	14	304.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	5	282	331	49	323.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	6	384	423	39		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	7	447	477	30		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	8	360° INTERMITTENT				EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	9	127	138	11	139.7	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
					355.6	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
PSL SAFETY 'B'	1	210	233	23	215.9	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	2	337	417	80	368.3	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	394	410	16		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	4	373	398	25		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	5	445	460	15	444.5	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
					276.2	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
PSL SAFETY 'C'	1	49	67	18	38.1	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	2	192	205	13	196.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	246	265	20		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	4	330	342	12		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	5	375	391	16		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	6	414	455	41		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	7	354	360	6		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
					355.6 / 381	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
					88.9	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
					254	LINEAR ID SURFACE INDICATION RECORDED WITH RADIOGRAPHY ONLY

NOTES:

1. *RADIOGRAPHY EXAMINATION RESULTS ONLY GIVE FLAW LOCATION IN THE CIRCUMFERENTIAL PLANE. NO THRU-WALL OR LENGTH DIMENSION DATA PROVIDED. ALL INDICATIONS RECORDED WITH RADIOGRAPHY ARE WITHIN THE APPLICABLE ASME CODE ACCEPTANCE CRITERIA.MAXIMUM ALLOWABLE FLAW LENGTH = 0.53"*

Surface examination summary

PSL FIELD REMOVED PZR SAFETY NOZZLES

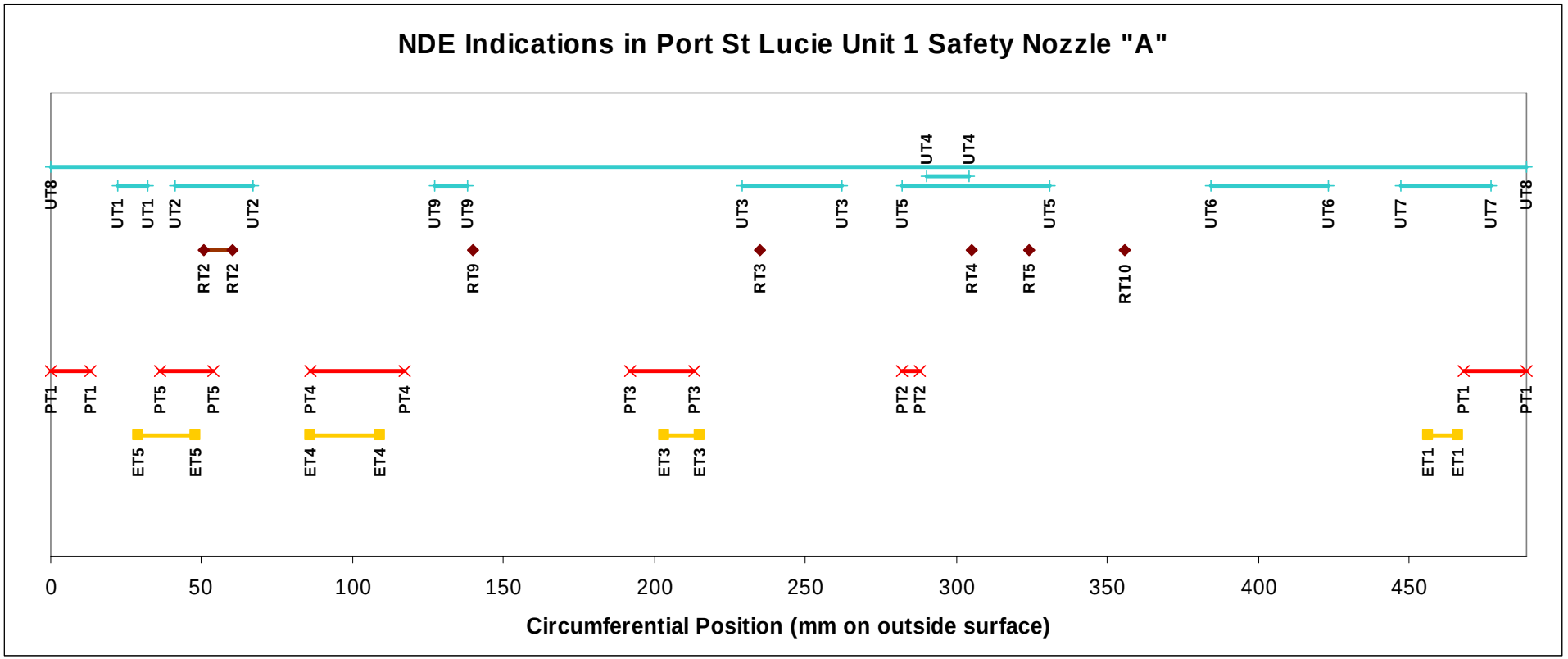
SURFACE EXAMINATION METHOD COMPARISON

EXAMINATION METHODS														
NOZZLE IDENTIFICATION	INDICATION	DYE PENETRANT			DYE PENETRANT			EDDY CURRENT			EDDY CURRENT			COMMENTS
		ID START	ID STOP	LENGTH	OD START	OD STOP	LENGTH	ID START	ID STOP	LENGTH	OD START	OD STOP	LENGTH	
PSL SAFETY 'A'	1	-10	6	16	-21	13	33	218	223	5	456	466	10	ID SURFACE INDICATION (1)
	2	135	138	3	282	288	6							ID SURFACE INDICATION
	3	92	102	10	192	213	21	97	103	6	203	215	13	ID SURFACE INDICATION
	4	41	56	15	86	117	31	41	52	11	86	109	23	ID SURFACE INDICATION
	5	17	26	9	36	54	19	14	23	9	29	48	19	ID SURFACE INDICATION
PSL SAFETY 'B'	1	-6	1.7	7.7	-13	4	16							ID SURFACE INDICATION
	2	221	228	7	462	477	15							ID SURFACE INDICATION
	3	202	206	4	422	431	8							ID SURFACE INDICATION
	4	123	127	4	257	265	8							ID SURFACE INDICATION
	5	29	32	3	61	67	6							ID SURFACE INDICATION
	6	23	26	3	48	54	6							ID SURFACE INDICATION
	7	18	21	3	38	44	6							ID SURFACE INDICATION
PSL SAFETY 'C'	1	-5	5	10	-10	10	21							ID SURFACE INDICATION
	2	211	214	3	441	447	6							ID SURFACE INDICATION
	3	202	205	3	422	428	6							ID SURFACE INDICATION
	4	183	187	4	382	391	8							ID SURFACE INDICATION
	5	132	141	9	276	295	19	133	139	6	278	291	13	ID SURFACE INDICATION
	(2)	(2)	(2)	(2)	(2)	(2)	(2)	141	144	3	295	301	6	ID SURFACE INDICATION
	6	4	54	50	8	113	105	60	63	3	125	132	6	ID SURFACE INDICATION
	7	17	20	3	36	42	6	10	13	3	21	27	6	ID SURFACE INDICATION

NOTES: *(1) SINGLE WALL EXPOSURE RADIOGRAPHIC EXAMINATION REPORTED 2 LINEAR INDICATIONS LOCATED CIRCUMFERENTIALLY AT 0 to 8 mm AND -3 to 6 mm LOCATIONS WICH CORRESPOND TO INDICATION # 1.*

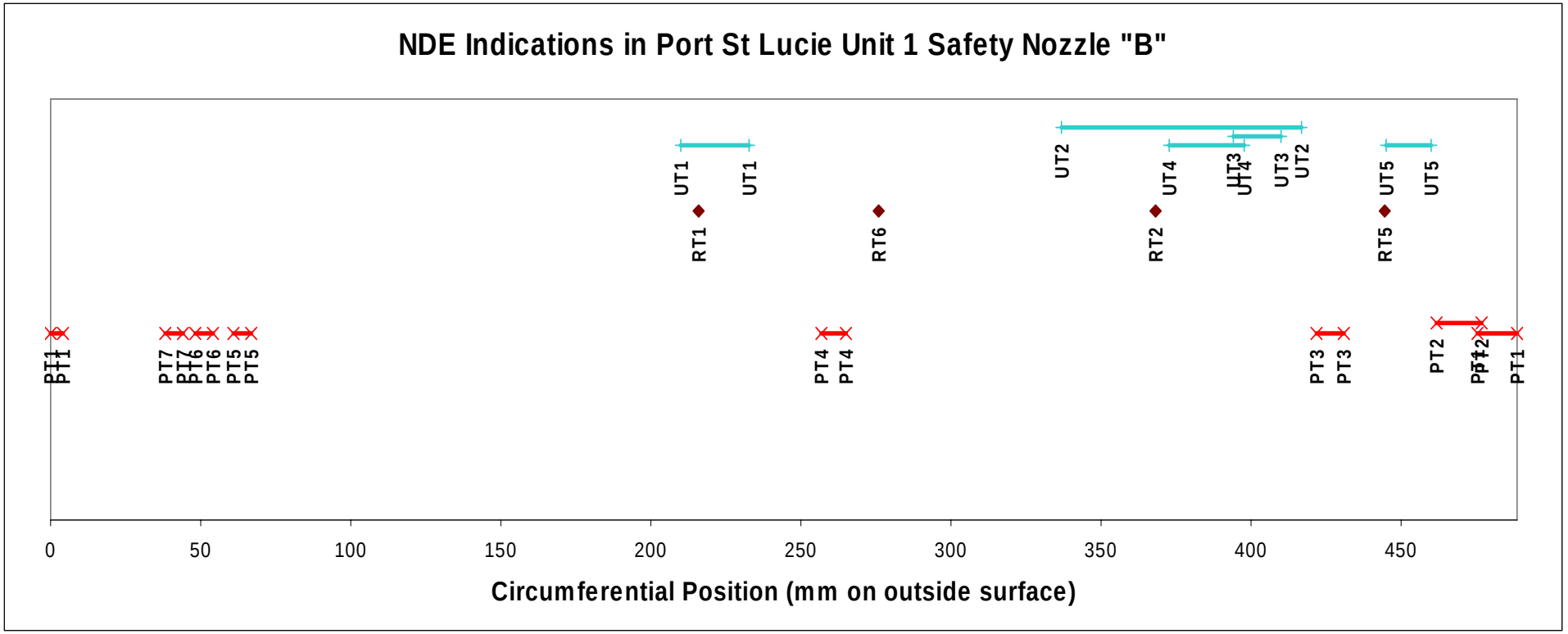
(2) INDICATION # 5 CORRESPONDS TO 2 SEPARATE EDDY CURRENT INDICATIONS.

Nozzle A indication map



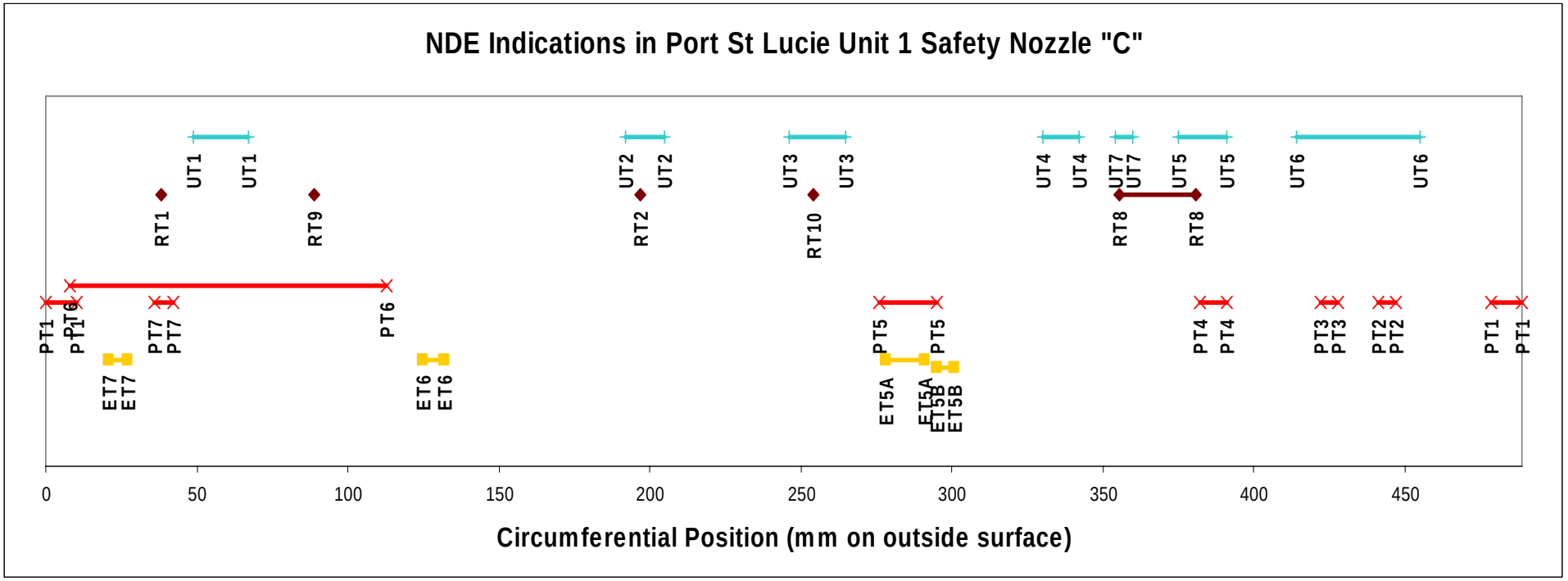
UT and RT should be compared; PT and ET should be compared

Nozzle B indication map



UT and RT should be compared; no ET indications reported

Nozzle C indication map



UT and RT should be compared; PT and ET should be compared

Attachment 8

Comparison of manual vs encoded UT

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Comparison of Manual vs. Encoded Phased Array Sizing Measurements

Safety Nozzle “A” Port St Lucie Unit 1 Pressurizer

Objective

- Evaluate manual phased array depth sizing measurements by comparison with encoded phased array data
- Determine whether any of the reported flaws are connected to inside surface
- Determine the origin of tip signals reported

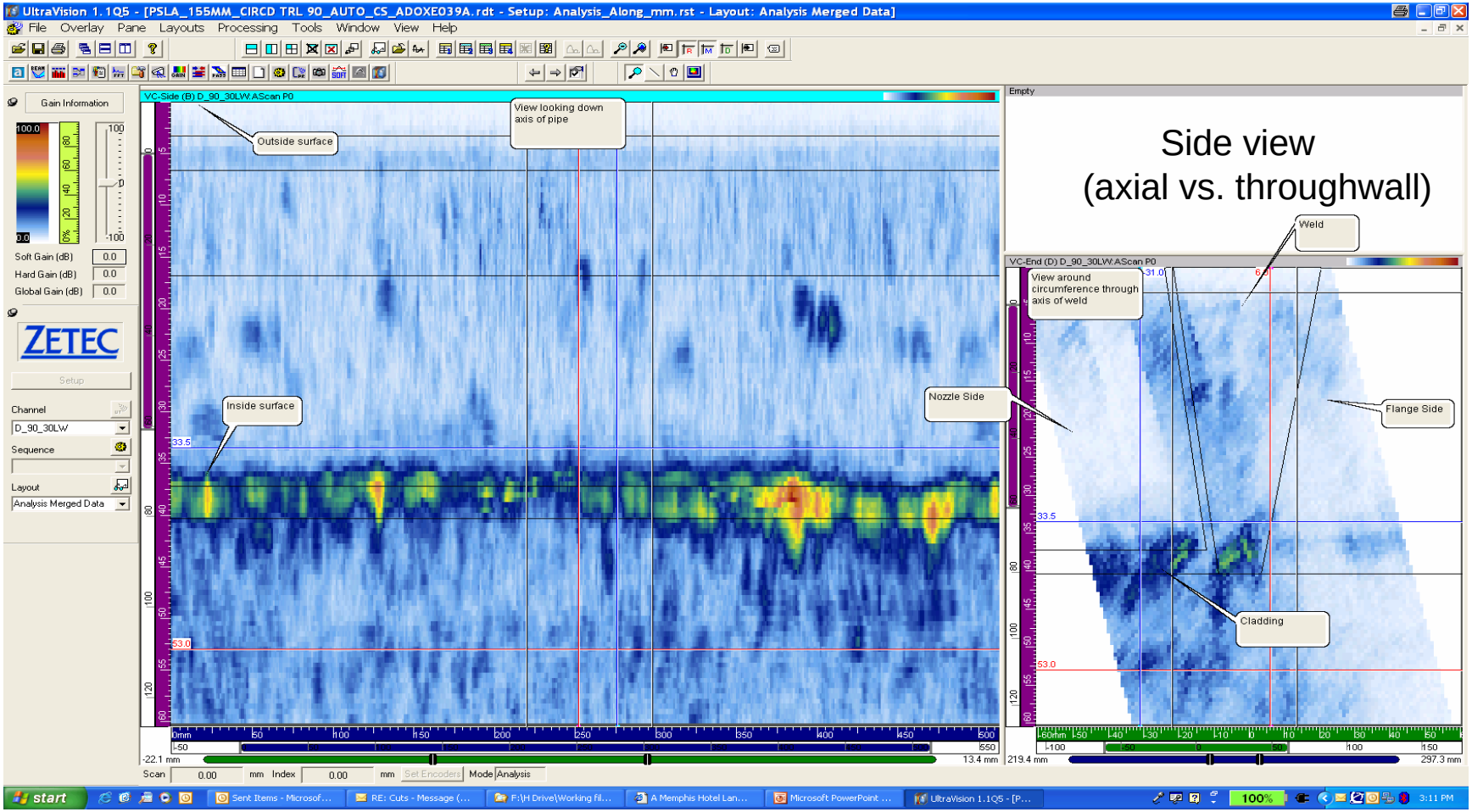
Note: Only axial scans for circumferential flaws were evaluated

Approach

- Make general observations from the Port St Lucie Unit 1 (PSL) nozzle data
- Compare PSL nozzle responses with those obtained from a nozzle that has never been in service
  - Removed from Washington Nuclear Power Unit 3 (WNP) pressurizer
- Perform side by side comparison of manual and encoded data
  - Optimize views
  - Determine if target is present
  - Measure maximum extent
  - Determine whether there is evidence that the reflector is connected to the inside surface

Overview of Encoded Phased Array Analysis Views

End view (circ vs. throughwall)



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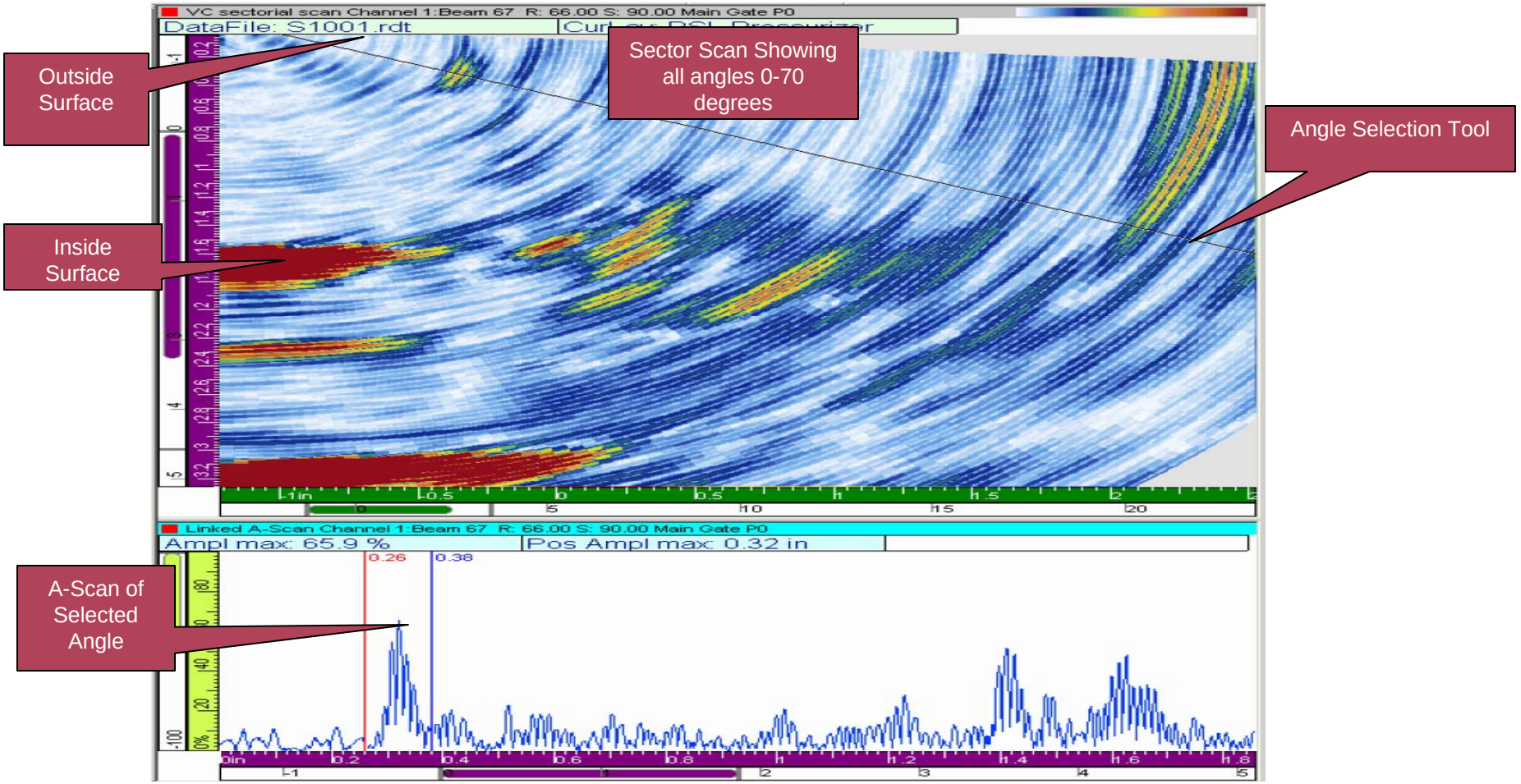
Overview of Manual Phased Array Analysis View

Side view (axial vs. throughwall)



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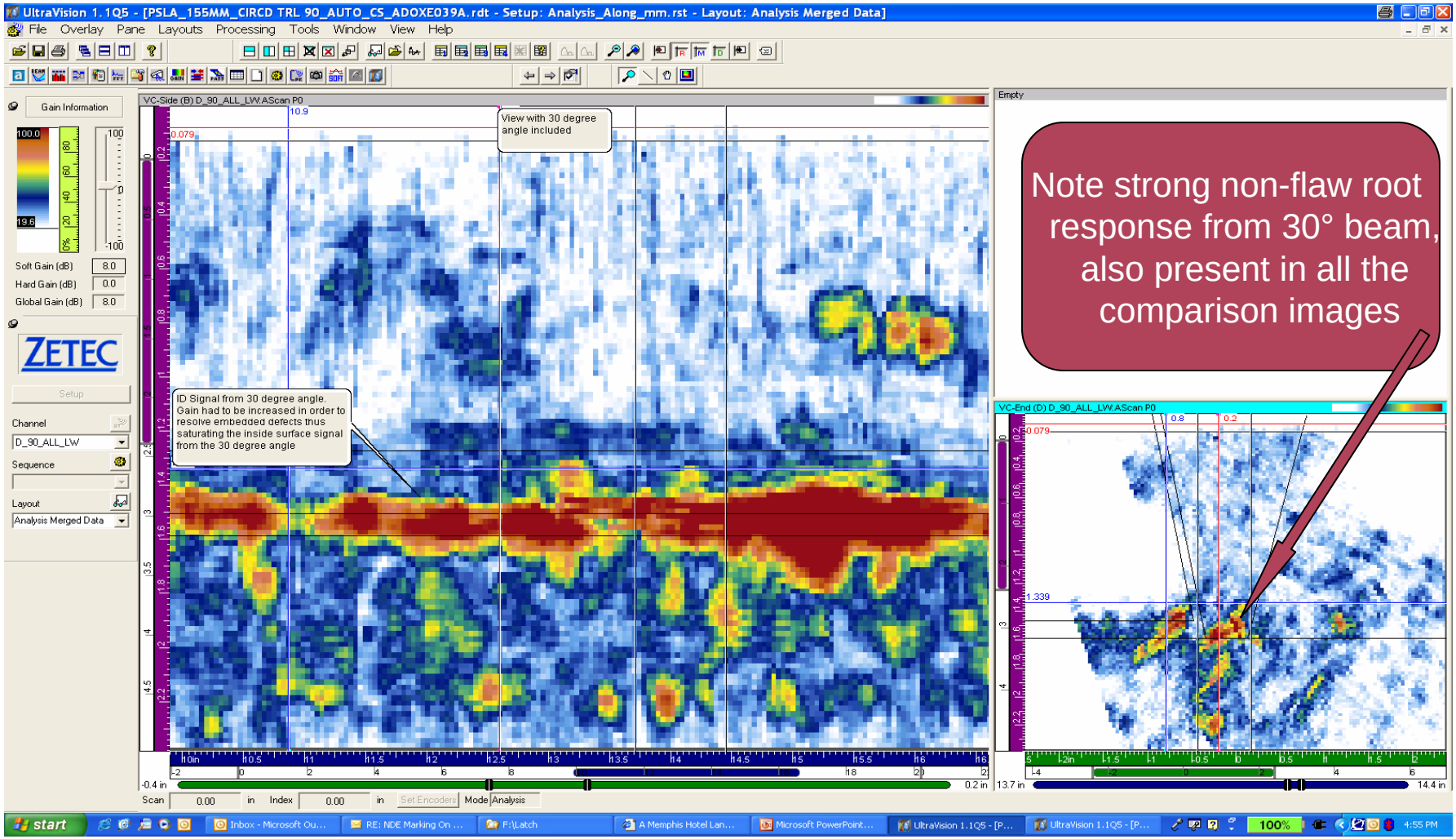
General Observations

- Small fabrication flaws can be seen randomly spaced through out the entire weld for the entire circumference at varying amplitudes
  - Encoded phased array vendor reported only larger flaws that had the procedurally defined amplitudes (10-15 percent average noise level)
    - Additional smaller flaws can be seen at lower amplitudes
    - All flaws reported by this technique were outside the required ASME Code examination volume with the exception of flaw 8
- Data compared to data taken from canceled plant
  - Similar indications noted in data

General Observations

PSL nozzle A, encoded data, 30° beam angle



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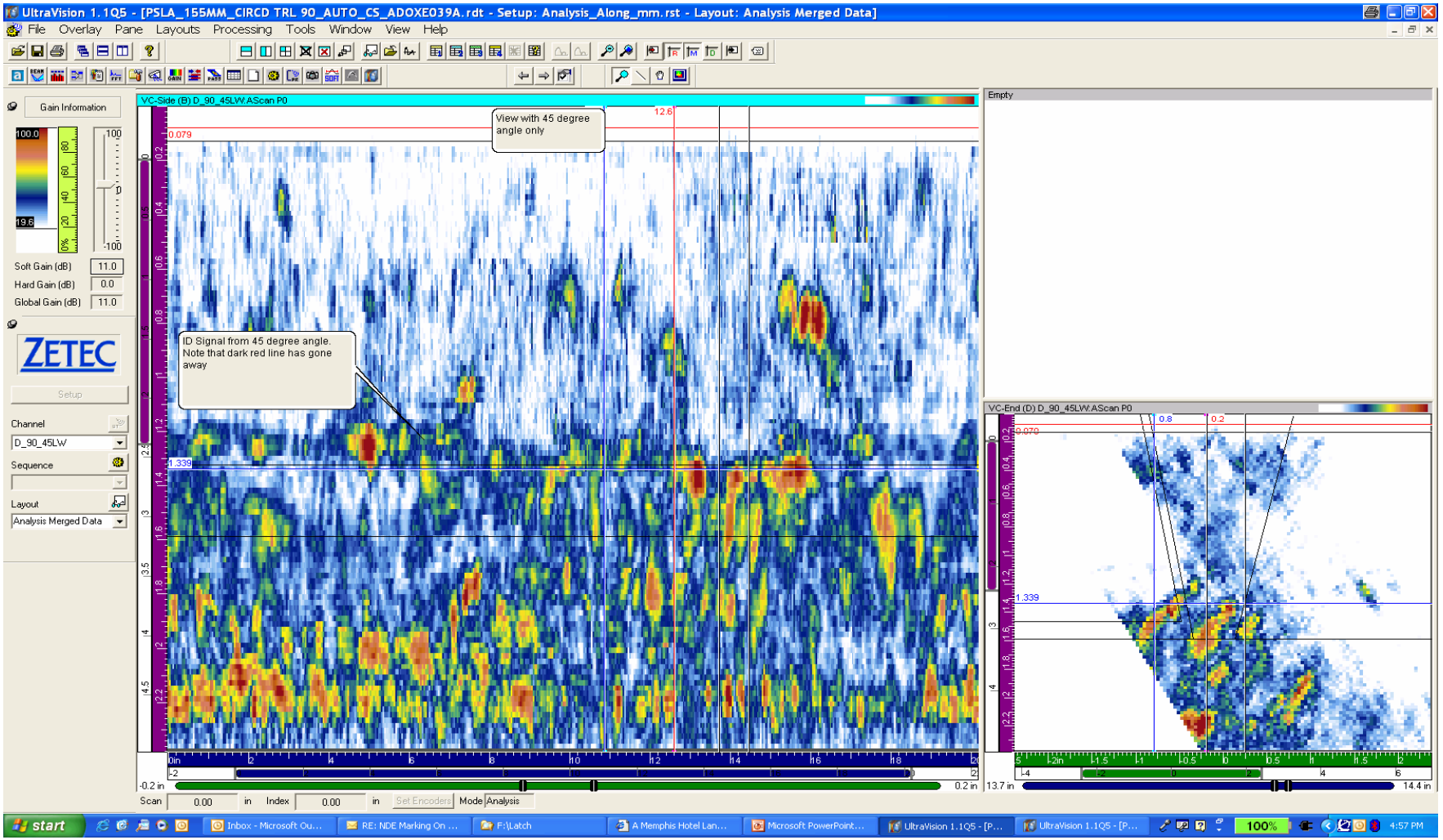
General Observations

PSL nozzle A, encoded data, 45° beam angle



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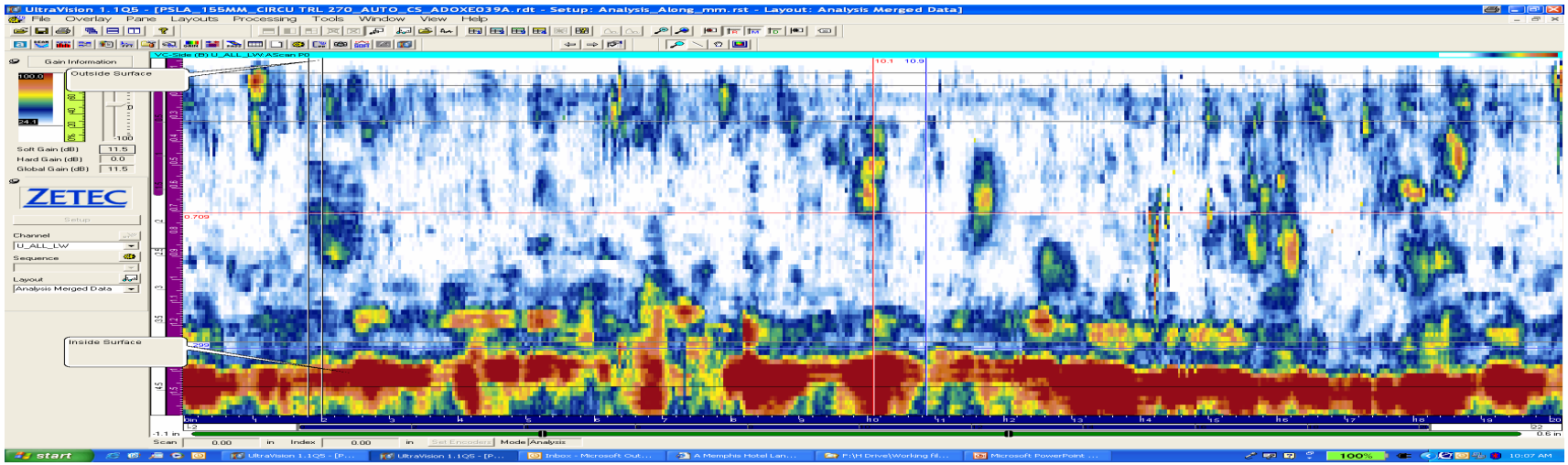
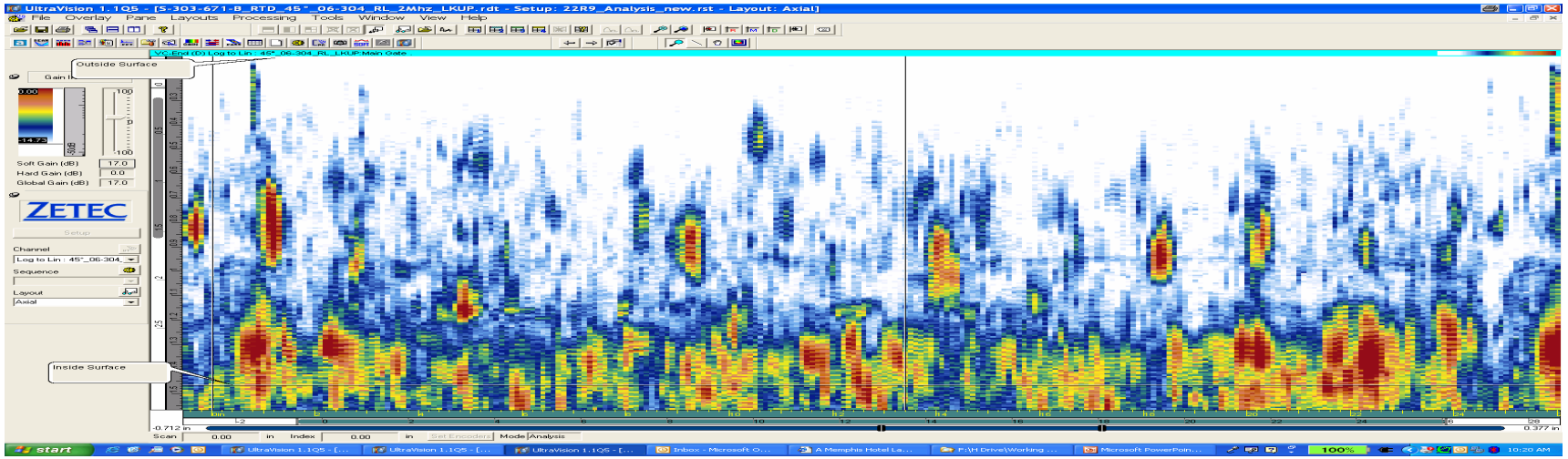
General Observations

- PSL Safety Nozzle A (note higher gain)





- WNP Safety Nozzle (never in service) has similar responses

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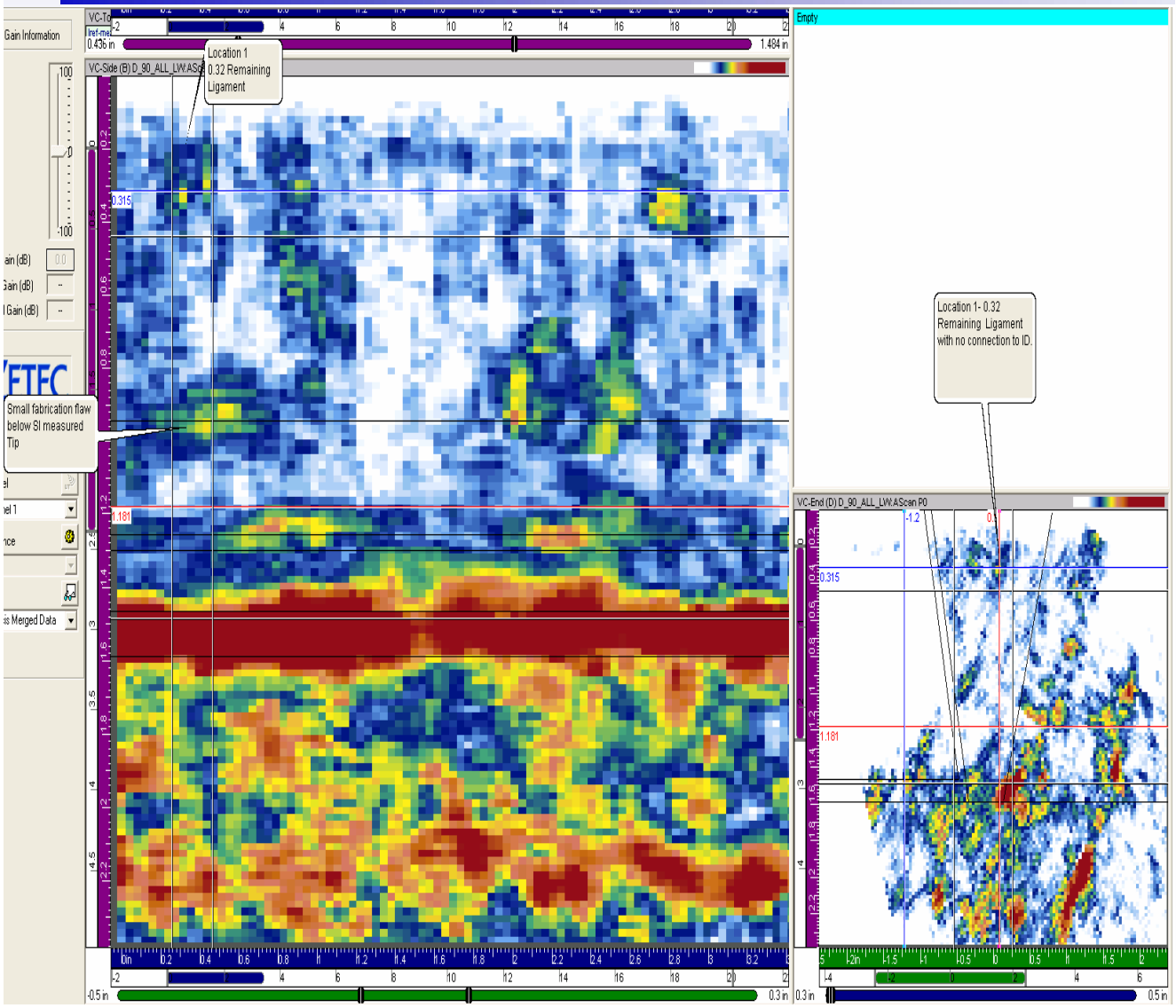
Comparison of Manual and Encoded data

- Following slides show direct comparisons of manual and encoded phased array data from PSL nozzle A
- Each slide addresses one of the 19 locations at which remaining ligaments were reported by the manual UT vendor
  - Approximately one-inch increments around the circumference
  - Slide titles show the circumferential position of each measurement comparison
  - Encoded data image is on the left
  - Manual data image is on the right

Location 1 Comparison at 0”



“A” Safety Circumferential Indication Profile Data

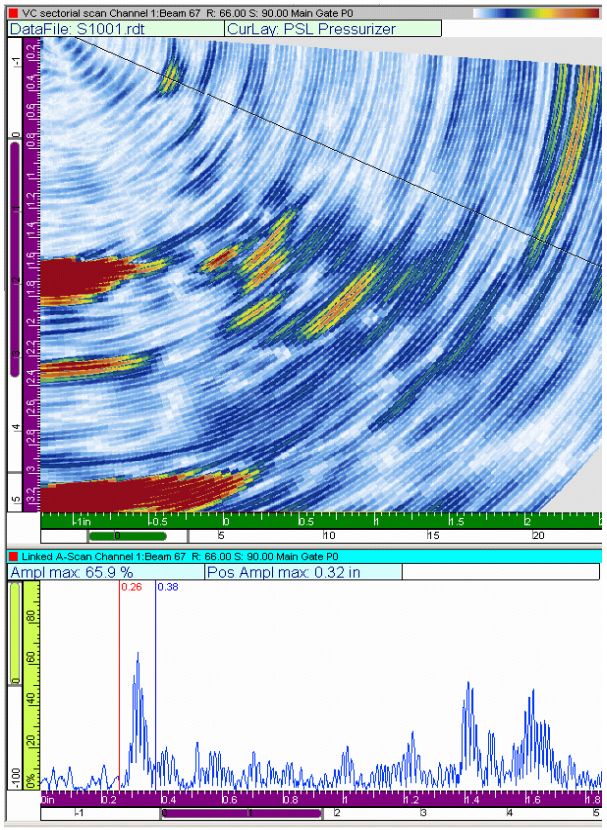
Location: At the “0” stamp (circumferential reference point)

Part Thickness used for calculation: 1.7 inches

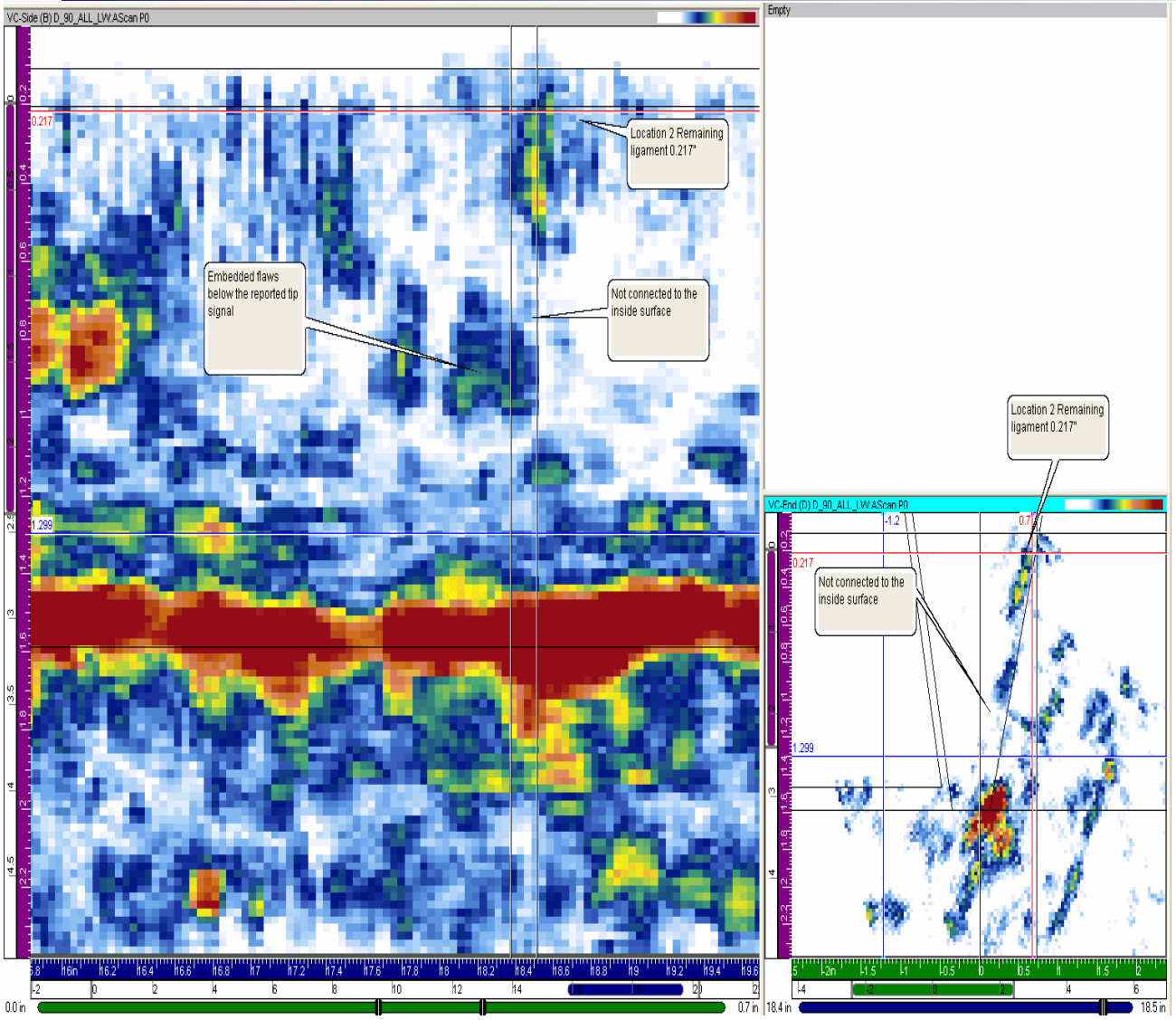
Indication through-wall depth at this location: 1.38 inches

Estimated remaining ligament above the indication: 0.32 inches

Angle used for measurement: 67 degrees



Location 2 Comparison at 1.0”CW (18.24” CCW)



“A” Safety Circumferential Indication Profile Data

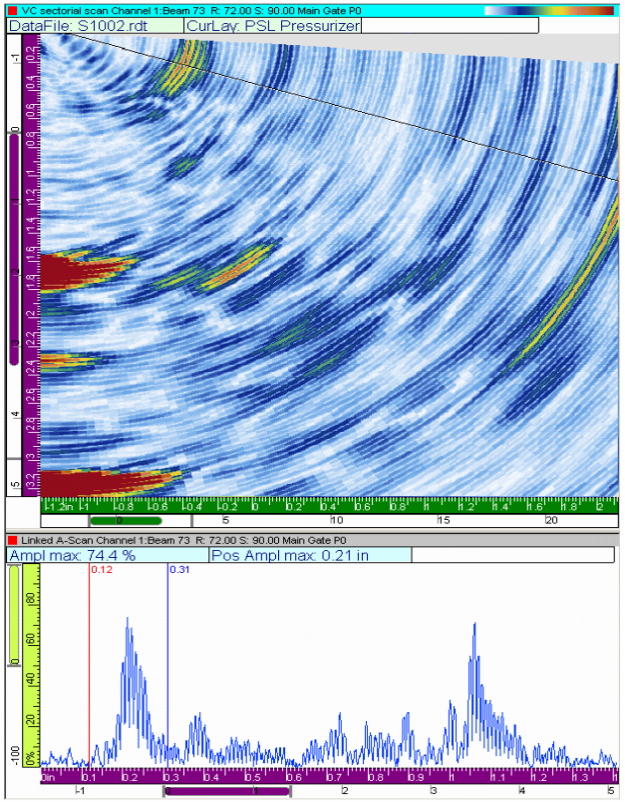
Location: 1 inch clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.49 inches

Estimated remaining ligament above the indication: 0.21 inches

Angle used for measurement: 73 degrees



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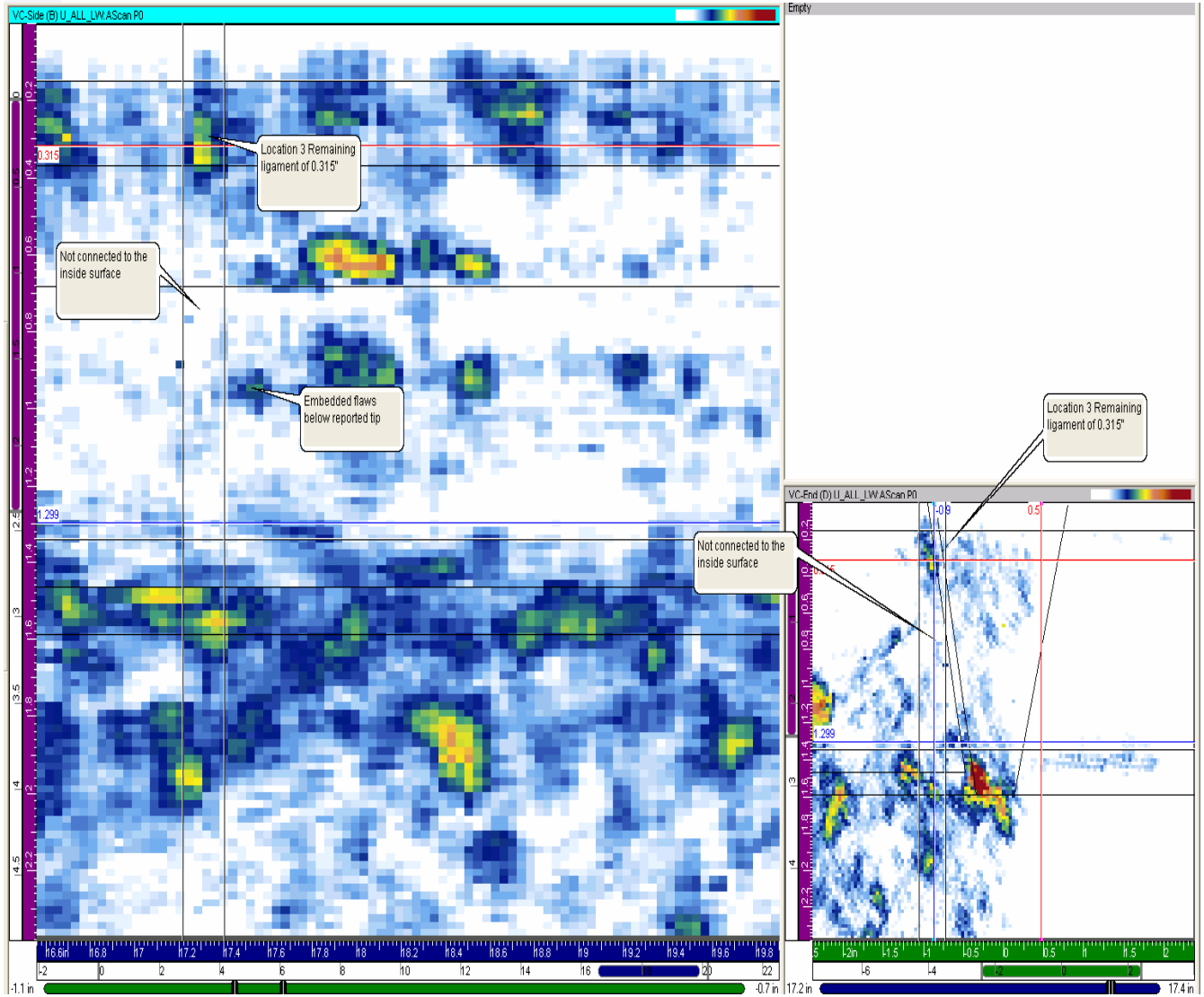
Location 3 Comparison at 2.0”CW (17.24”CCW)



“A” Safety Circumferential Indication Profile Data

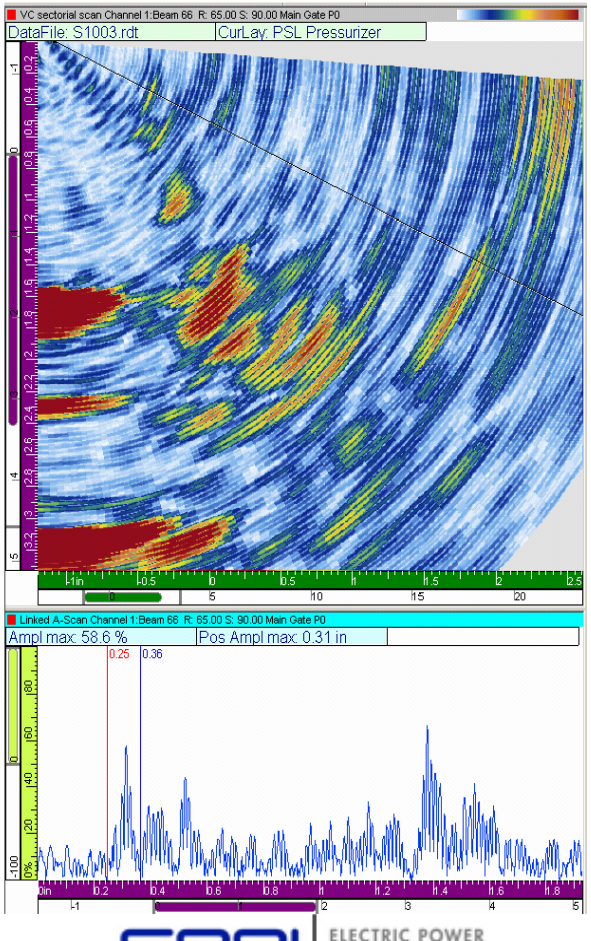
Location: 2 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.39 inches

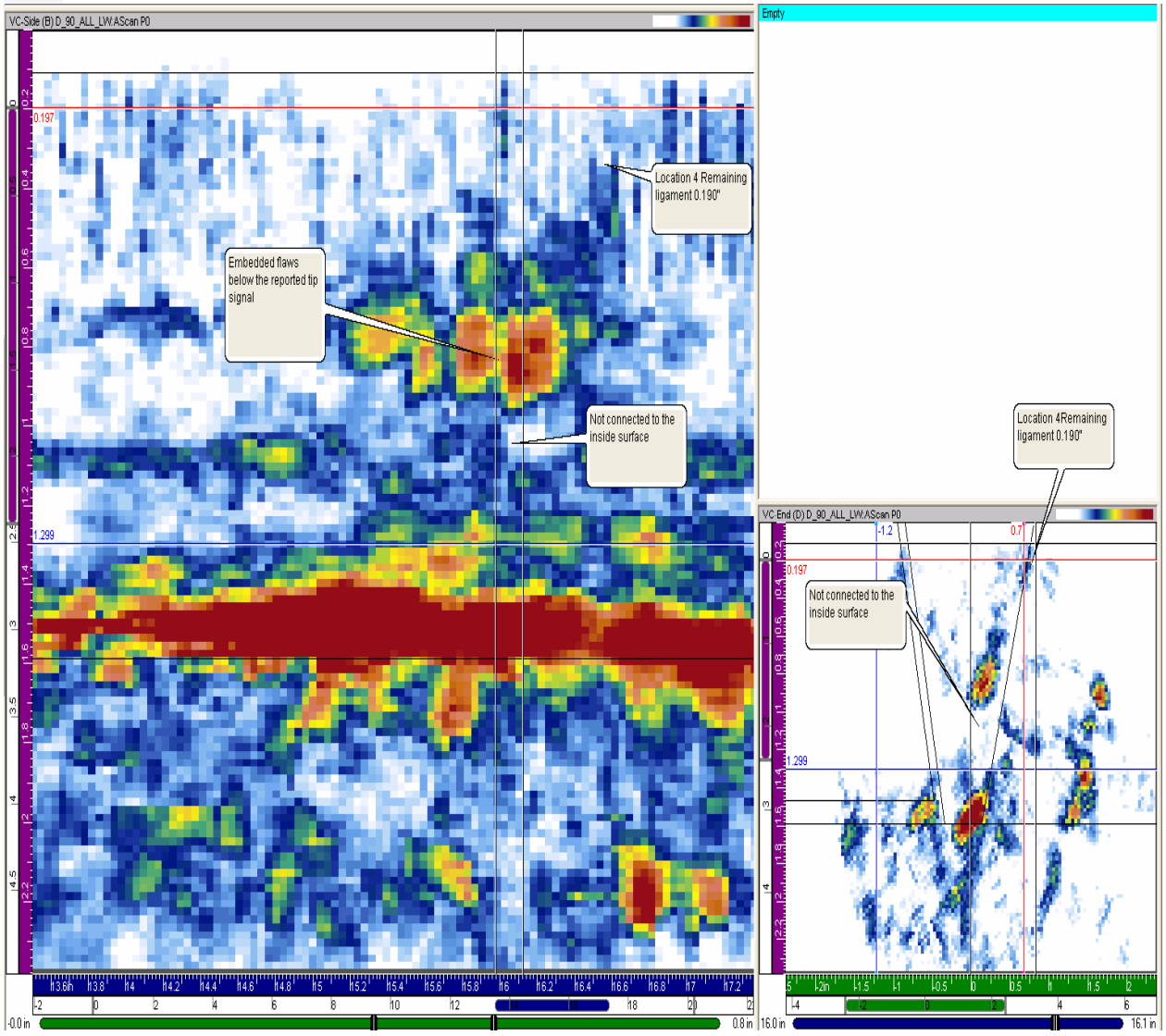
Estimated remaining ligament above the indication: 0.31 inches

Angle used for measurement: 66 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 4 Comparison at 3.0”CW (16.24” CCW)



“A” Safety Circumferential Indication Profile Data

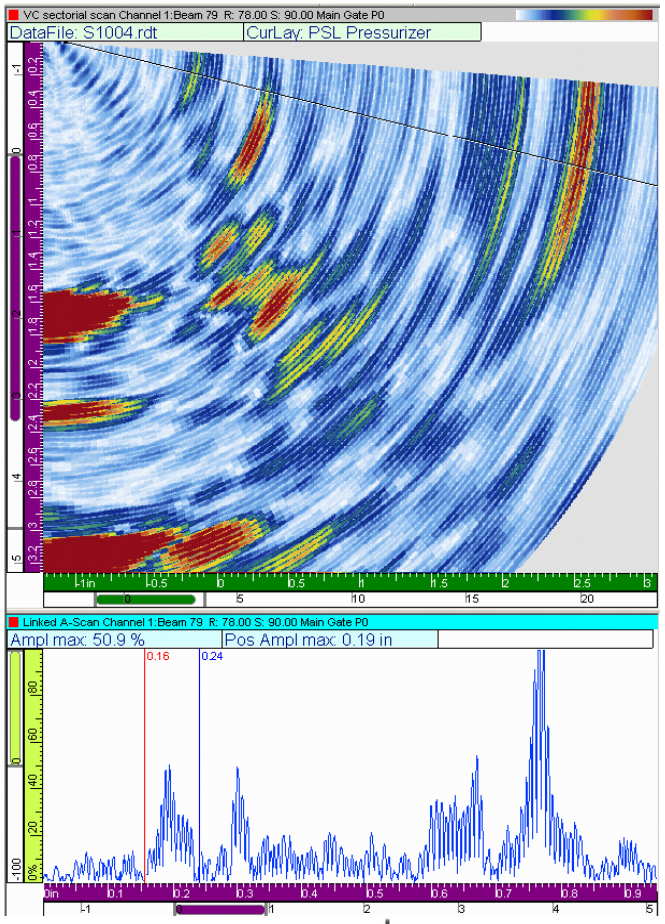
Location: 3 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

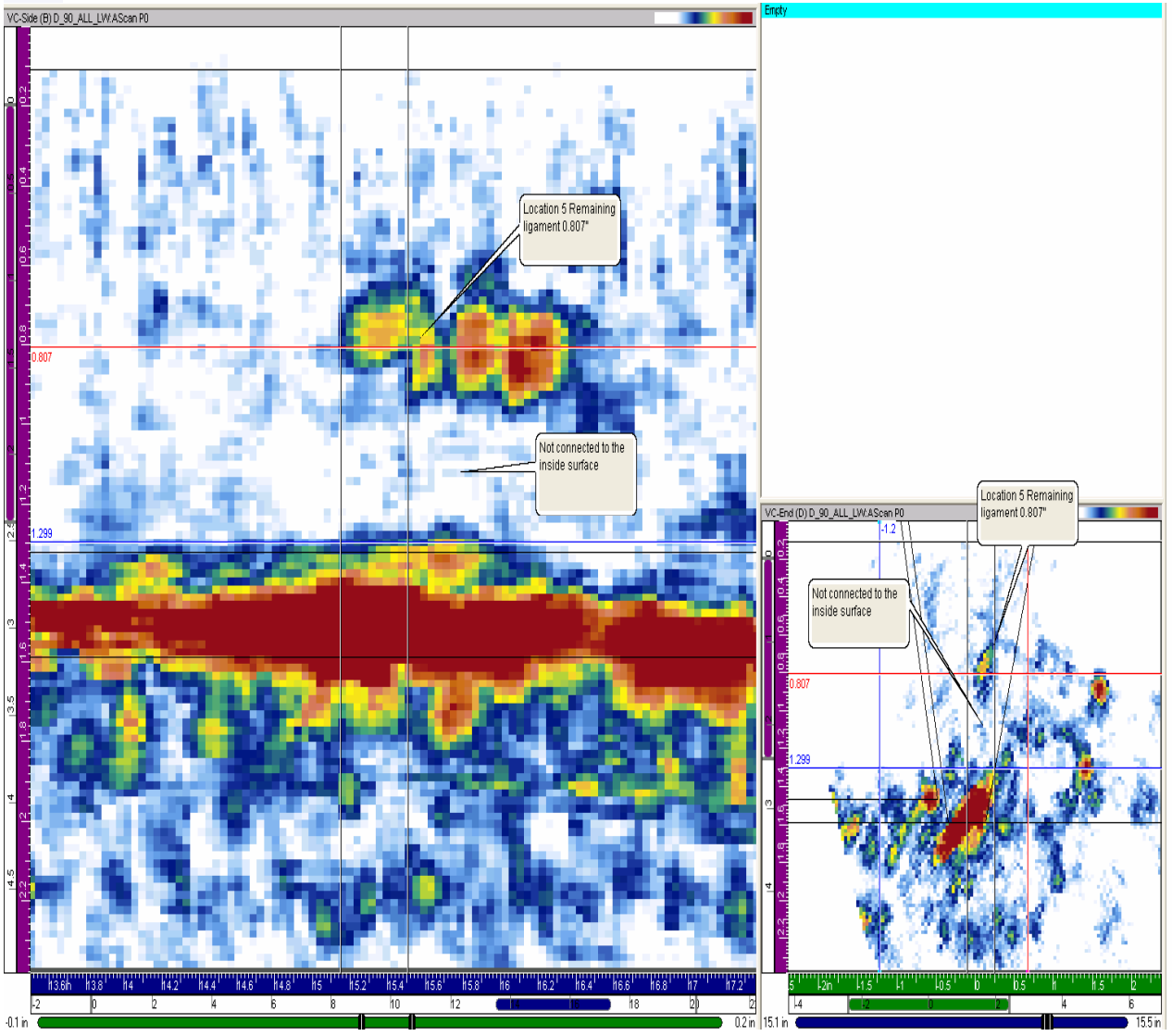
Indication through-wall depth at this location: 1.51 inches

Estimated remaining ligament above the indication: 0.19 inches

Angle used for measurement: 79 degrees



Location 5 Comparison at 4.0”CW (15.24 “CCW)



“A” Safety Circumferential Indication Profile Data

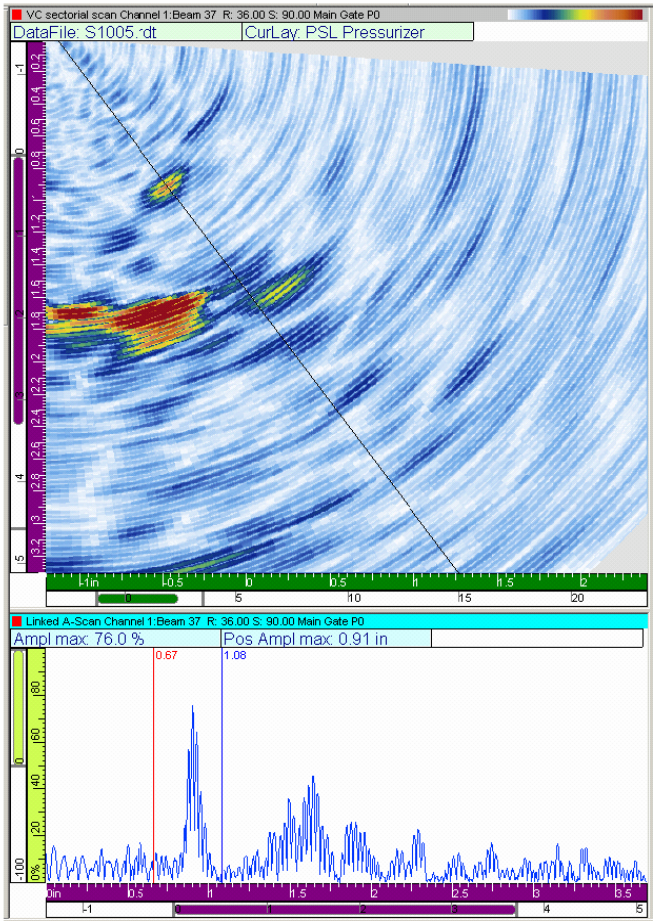
Location: 4 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.79 inches

Estimated remaining ligament above the indication: 0.91 inches

Angle used for measurement: 37 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 6 Comparison at 5.0”CW (14.24”CCW)

- This flaw was not detected in the manually encoded data
  - Scan of this area limited due to large gouge in nozzle

“A” Safety Circumferential Indication Profile Data

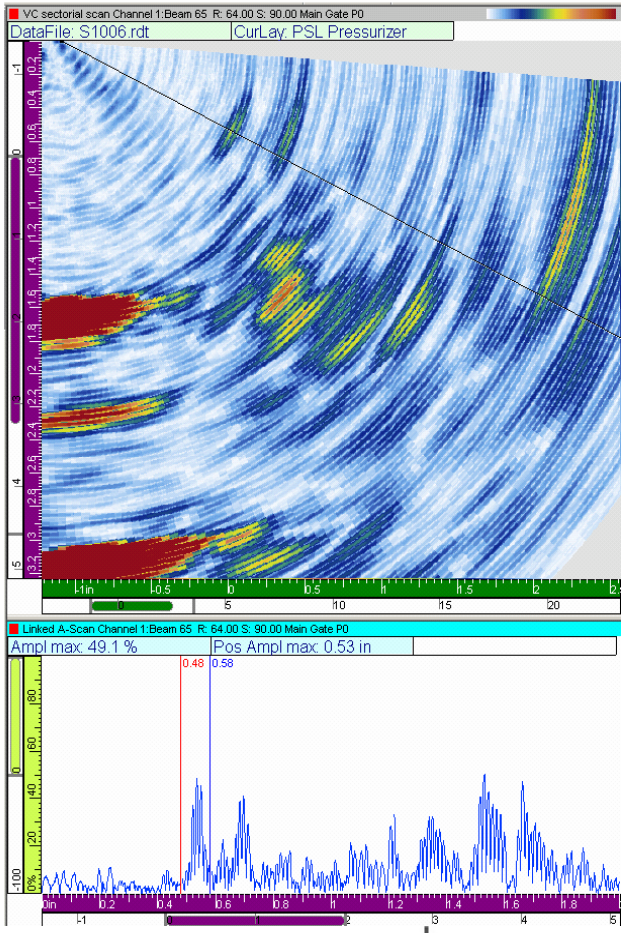
Location: 5 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.17 inches

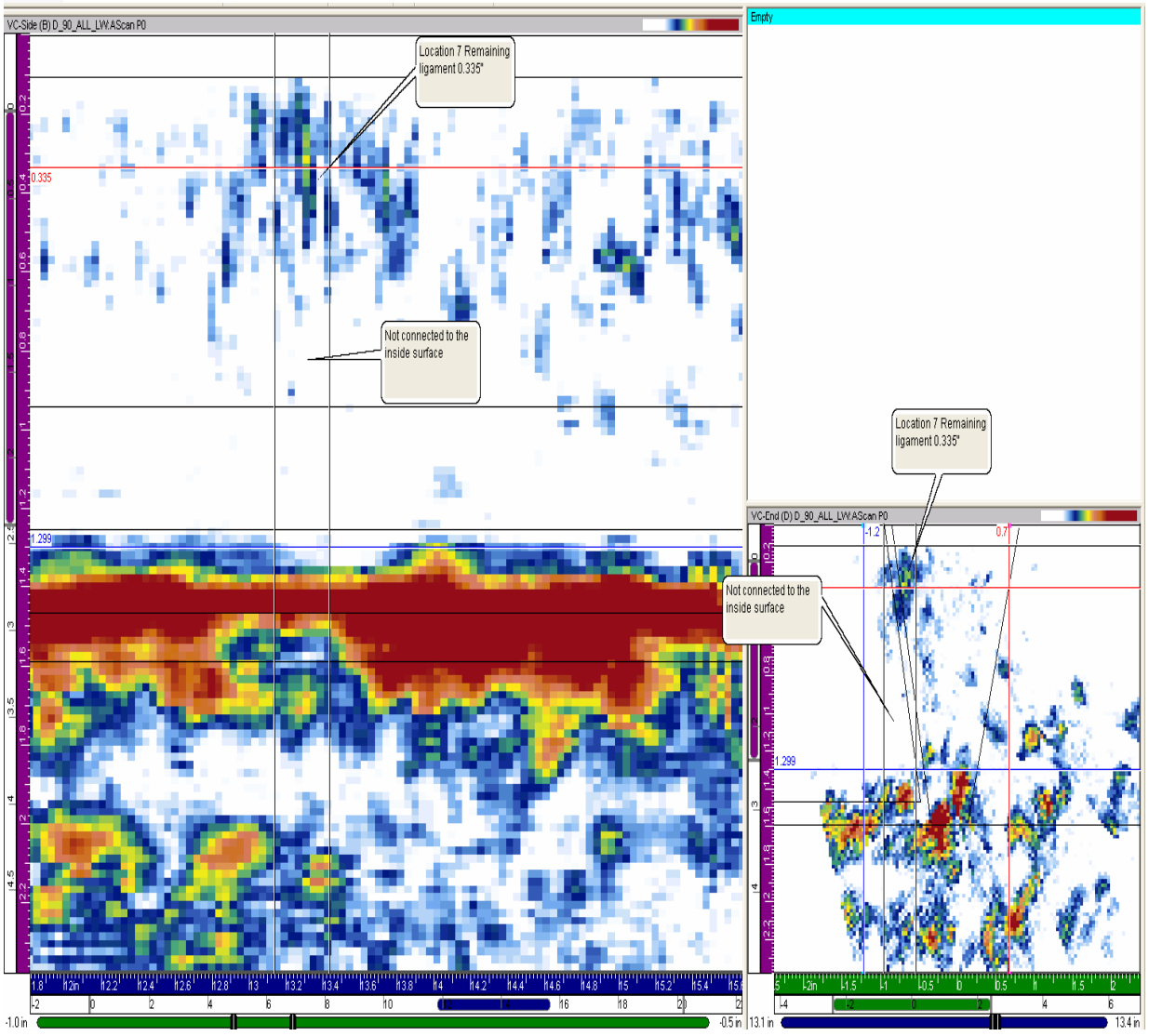
Estimated remaining ligament above the indication: 0.53 inches

Angle used for measurement: 65 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 7 Comparison at 6.0” CW (13.24” CCW)



“A” Safety Circumferential Indication Profile Data

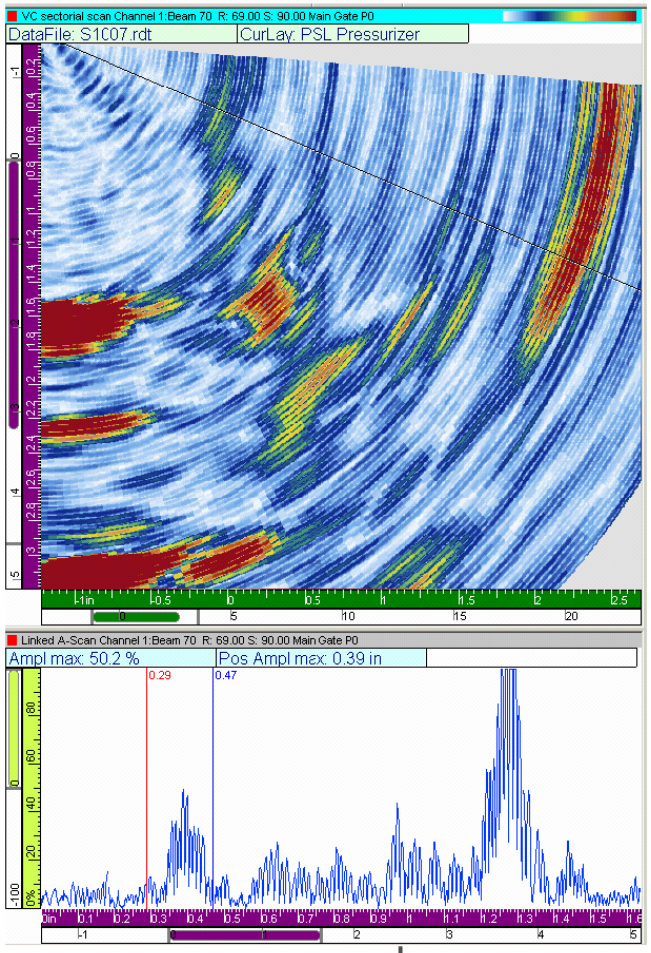
Location: 6 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.31 inches

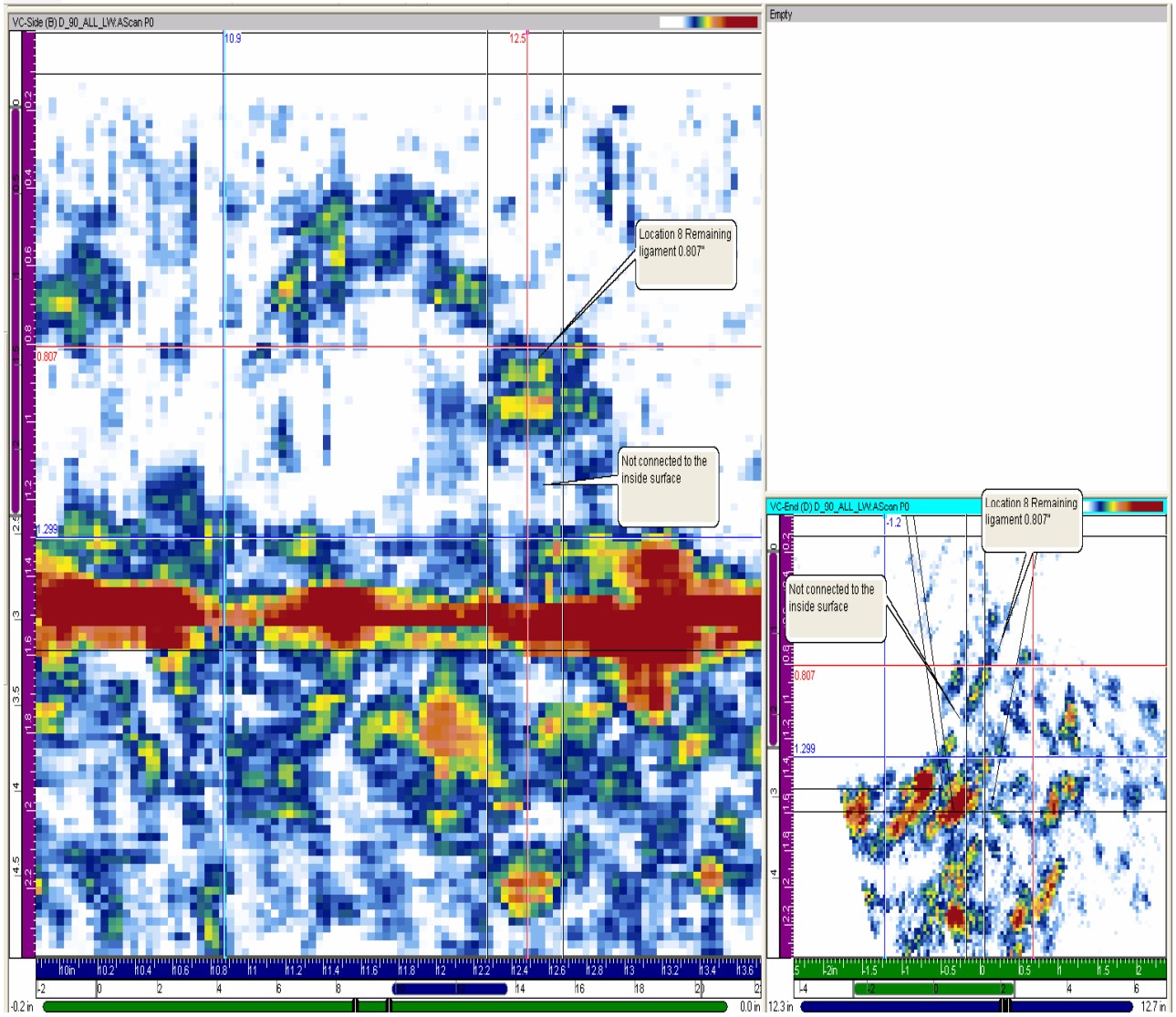
Estimated remaining ligament above the indication: 0.39 inches

Angle used for measurement: 70 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 8 Comparison at 7.0”CW (12.24”CCW)



“A” Safety Circumferential Indication Profile Data

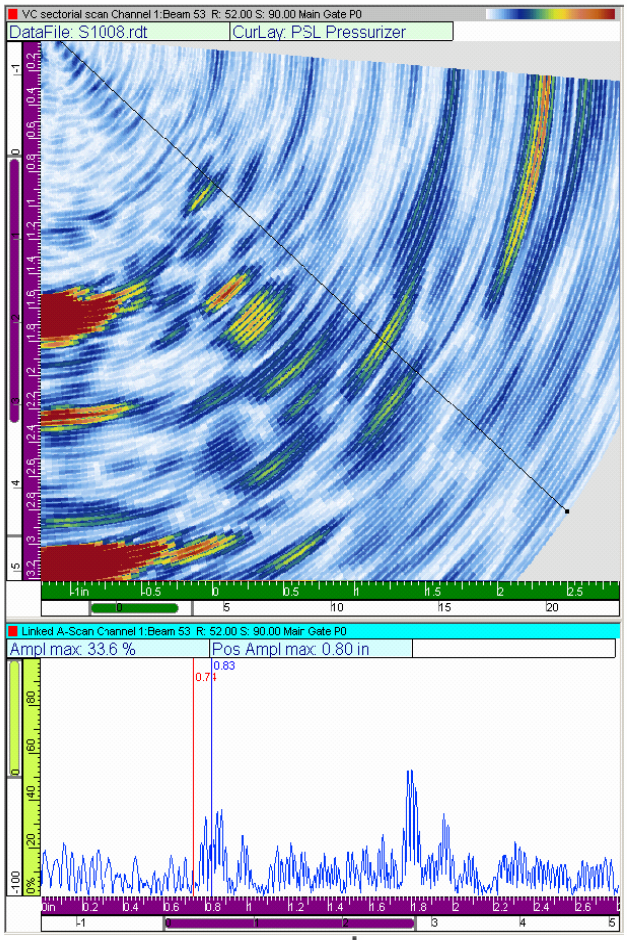
Location: 7 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.9 inches

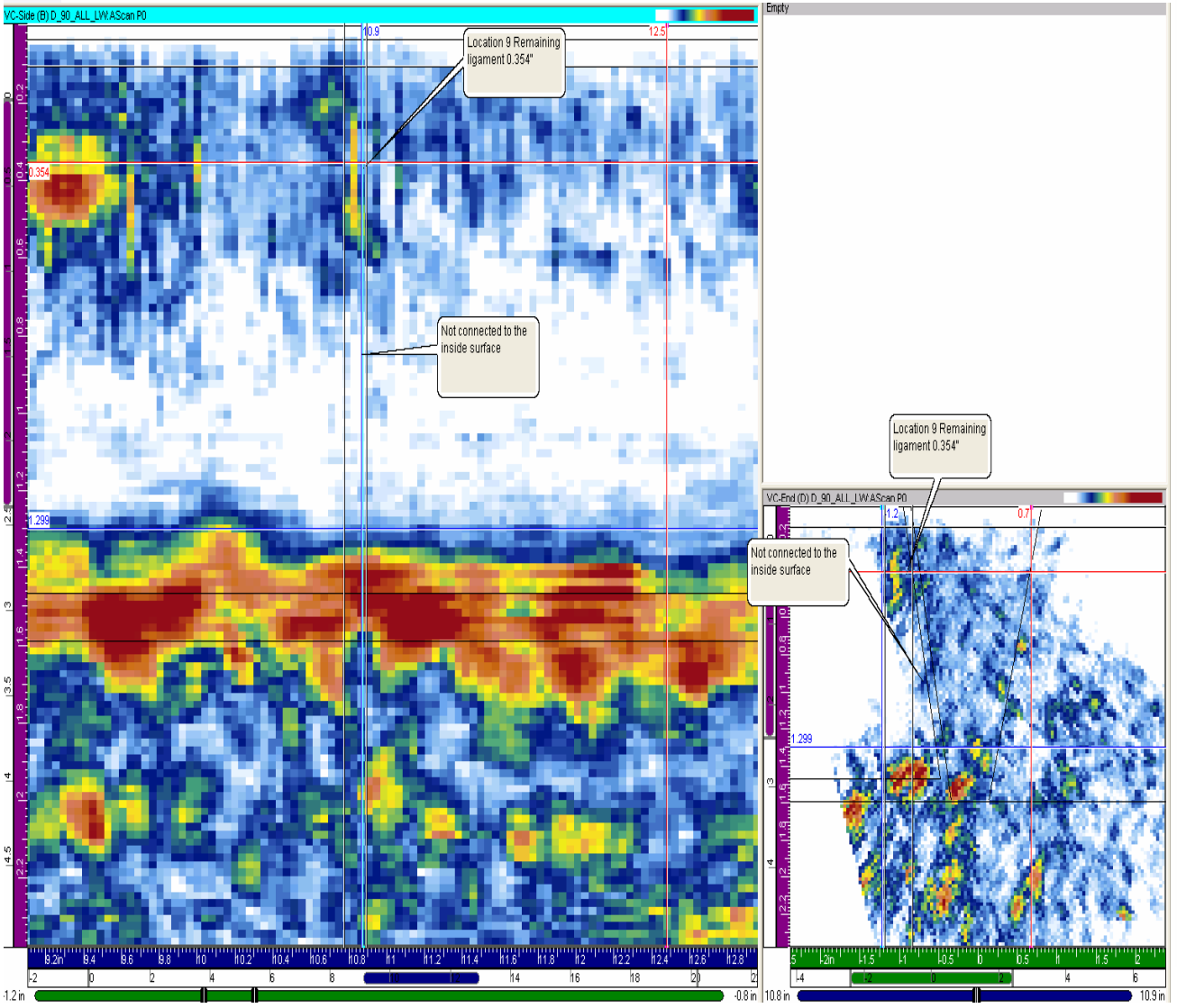
Estimated remaining ligament above the indication: 0.80 inches

Angle used for measurement: 53 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 9 Comparison at 8.0” CW (11.24” CCW)



“A” Safety Circumferential Indication Profile Data

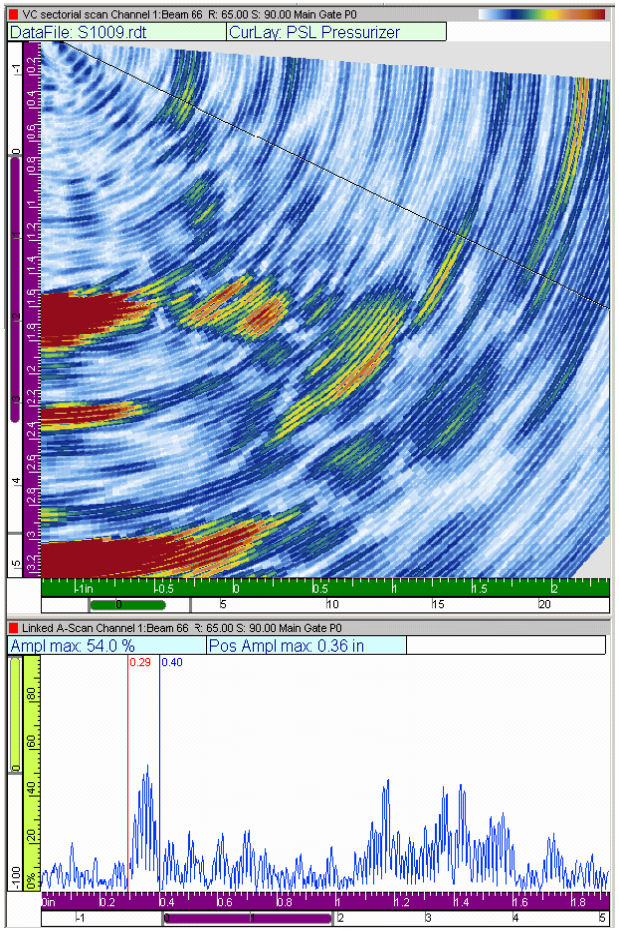
Location: 8 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.34 inches

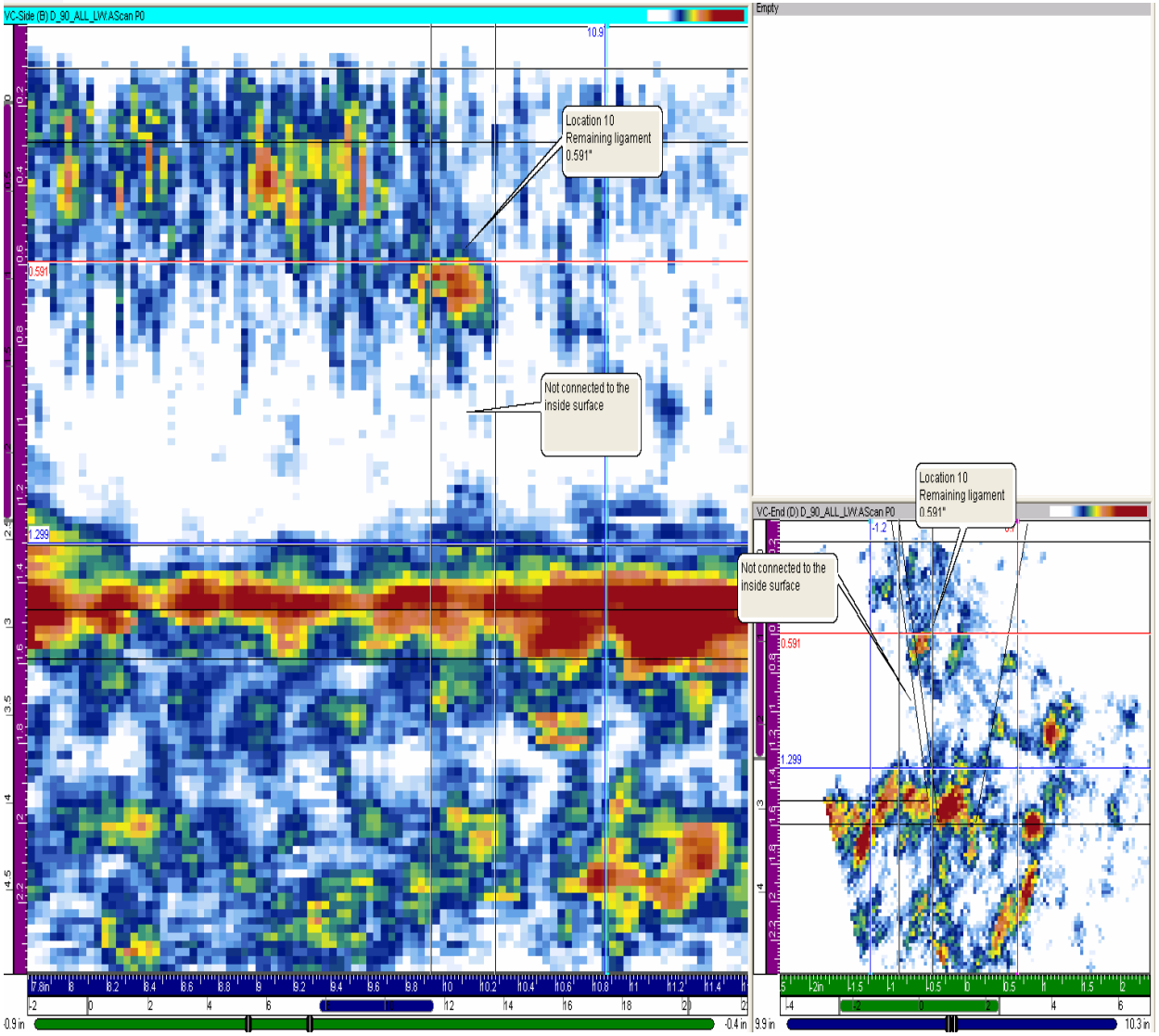
Estimated remaining ligament above the indication: 0.36 inches

Angle used for measurement: 66 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 10 Comparison at 9.0”CW (10.24”CCW)



“A” Safety Circumferential Indication Profile Data

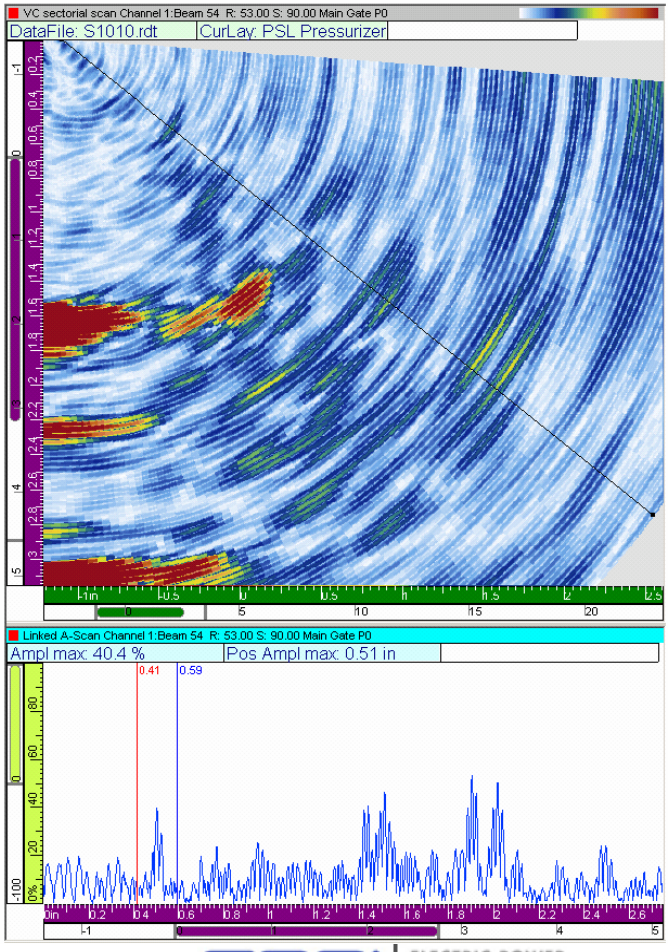
Location: 9 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.19 inches

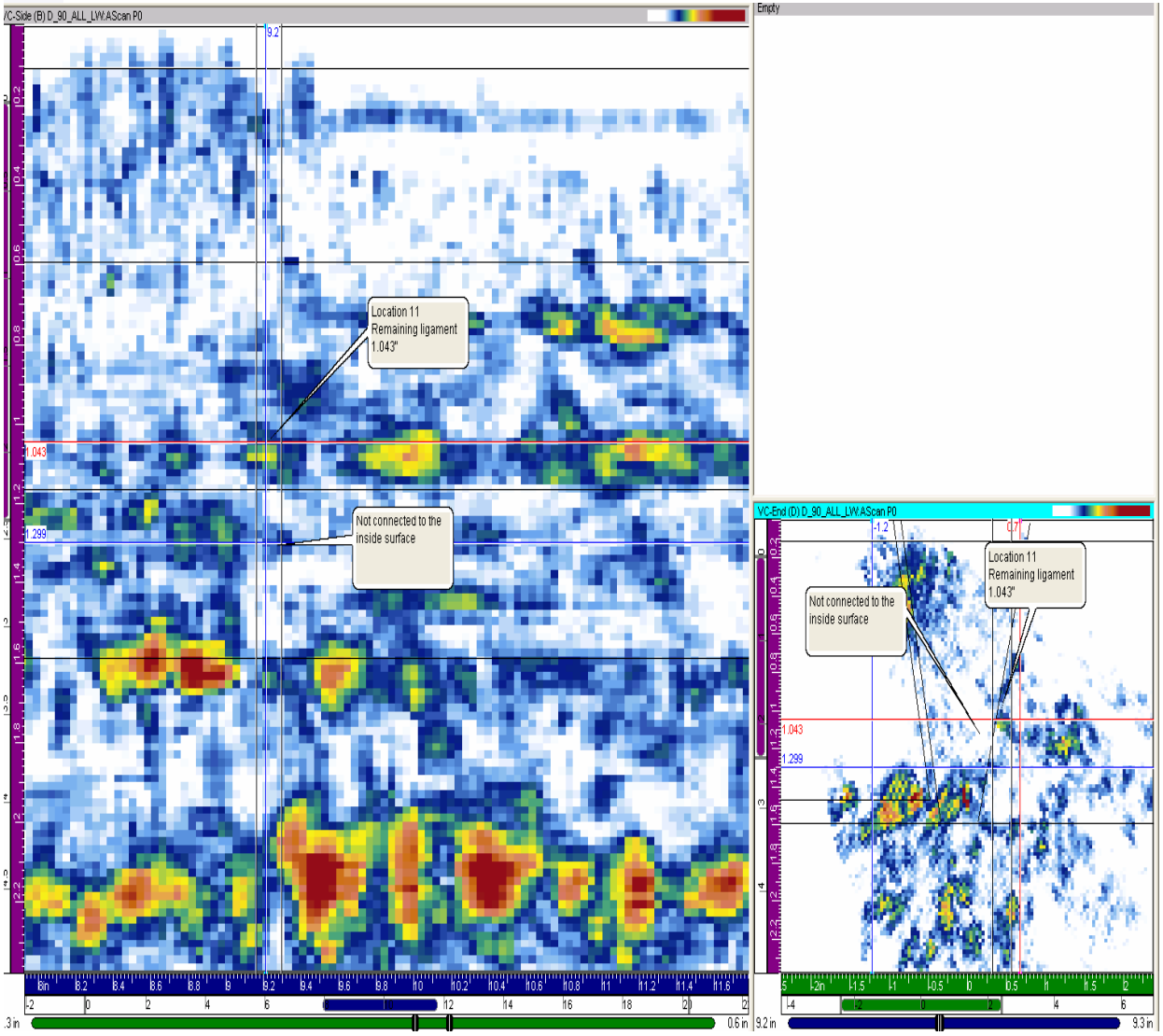
Estimated remaining ligament above the indication: 0.51 inches

Angle used for measurement: 54 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 11 Comparison at 9.0” CW (9.24 CCW)



“A” Safety Circumferential Indication Profile Data

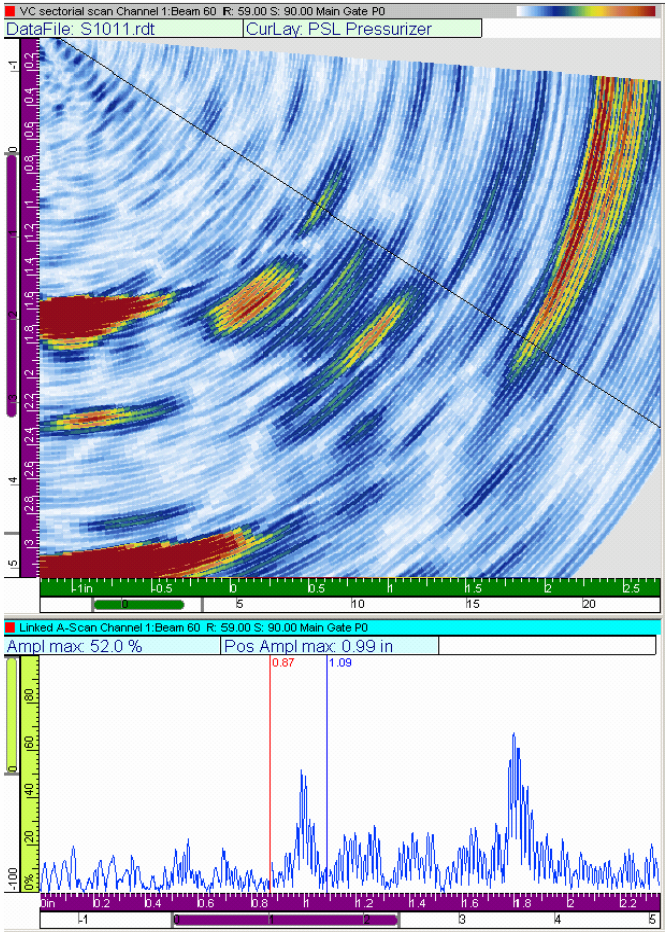
Location: 10 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

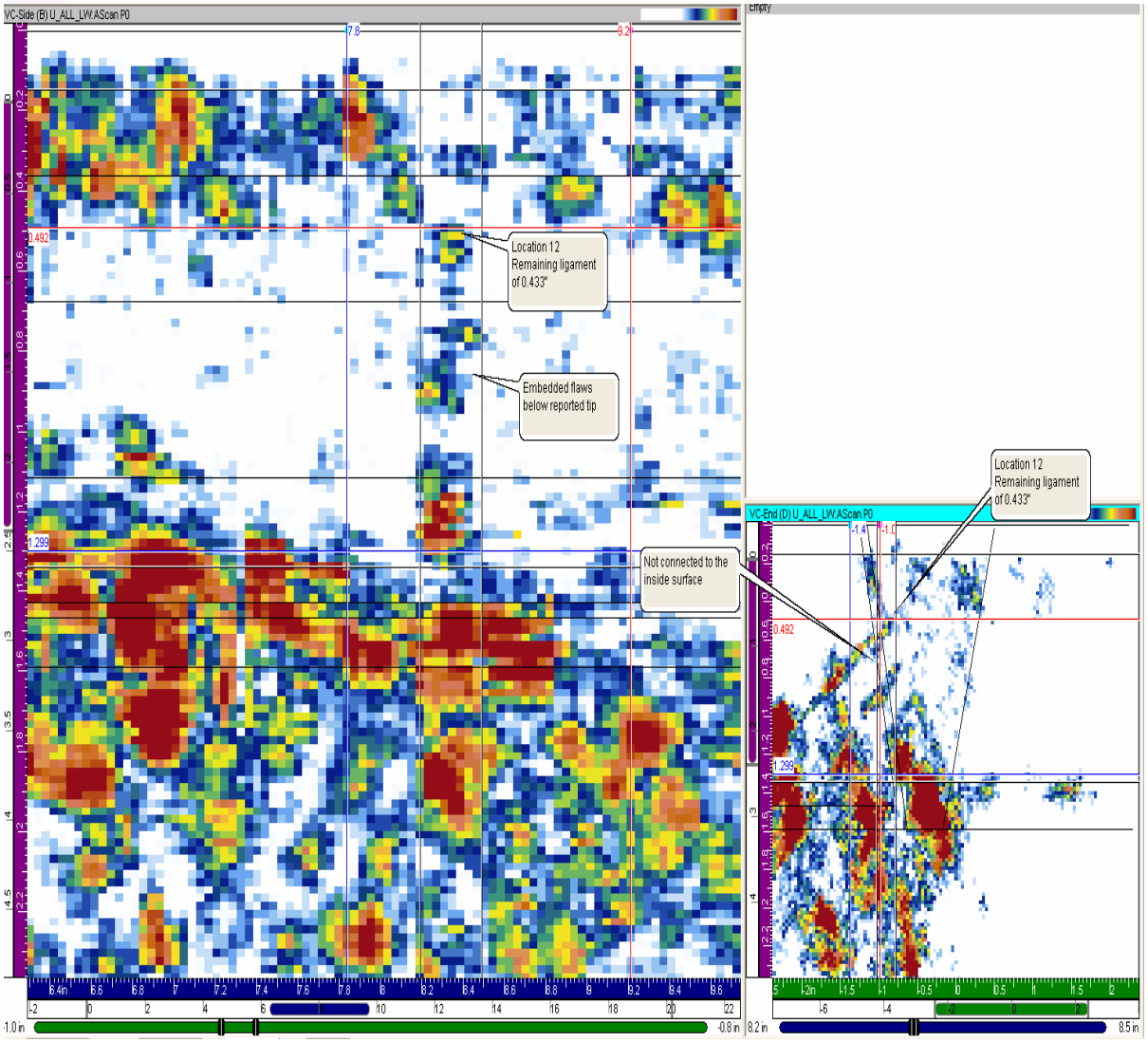
Indication through-wall depth at this location: 0.71 inches

Estimated remaining ligament above the indication: 0.99 inches

Angle used for measurement: 60 degrees



Location 12 Comparison at 11.0” CW (8.24” CCW)



“A” Safety Circumferential Indication Profile Data

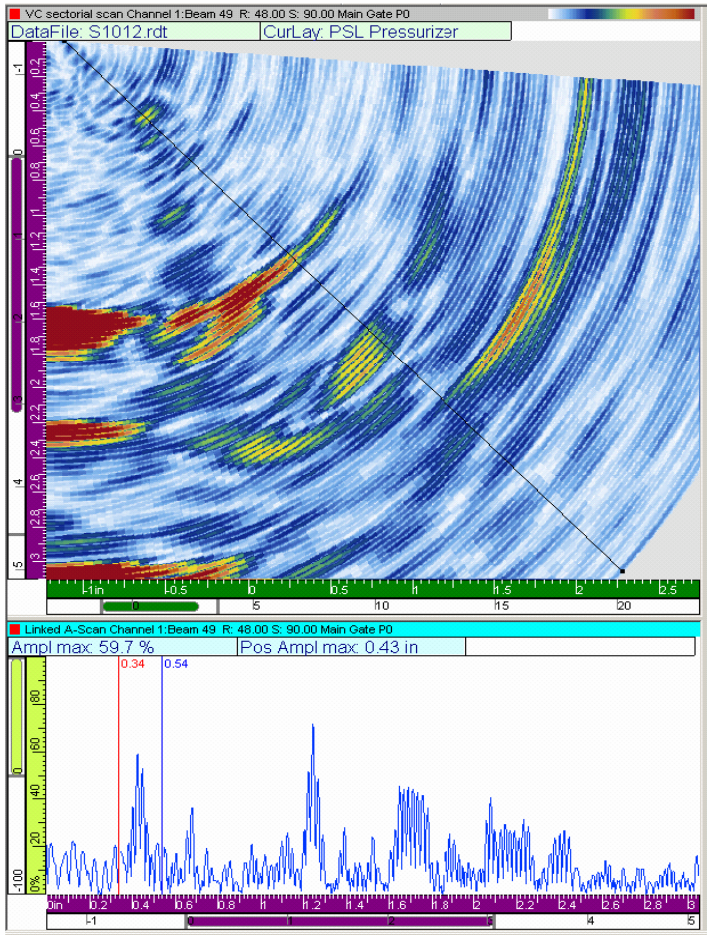
Location: 11 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.27 inches

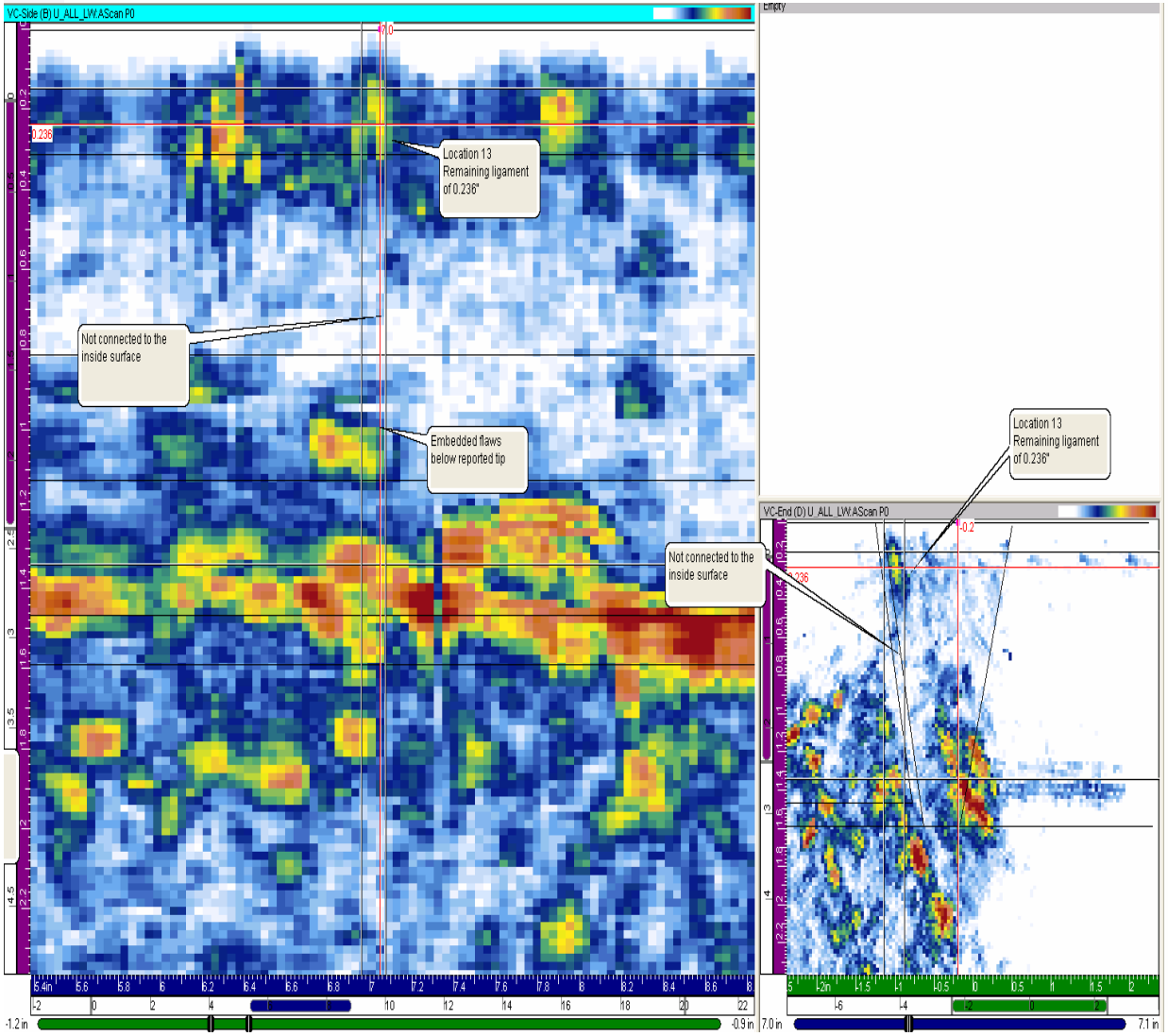
Estimated remaining ligament above the indication: 0.43 inches

Angle used for measurement: 49 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 13 Comparison at 12.0” CW (7.24”CCW)



“A” Safety Circumferential Indication Profile Data

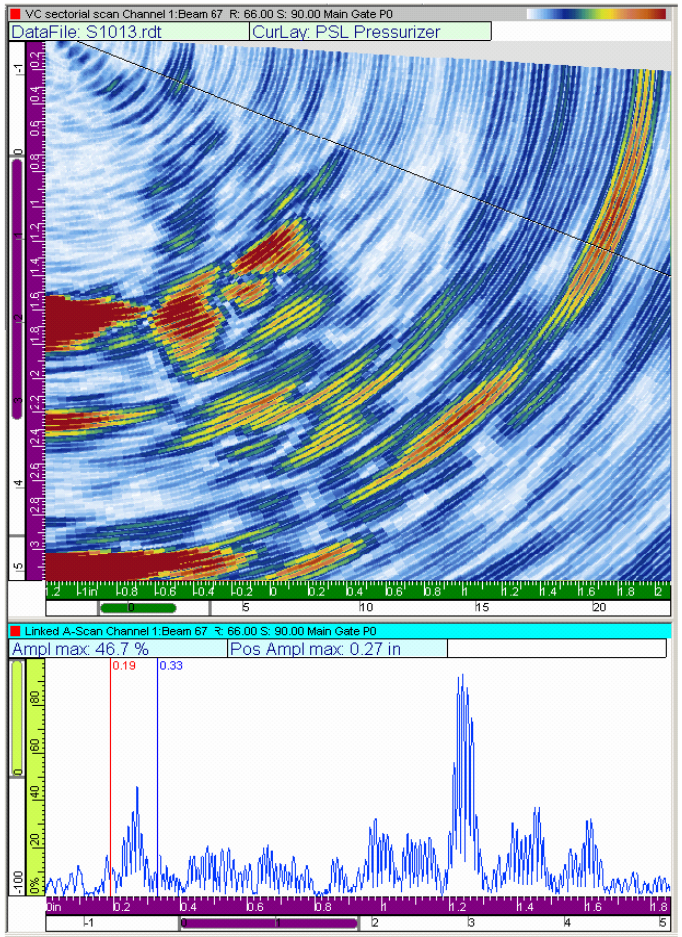
Location: 12 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.43 inches

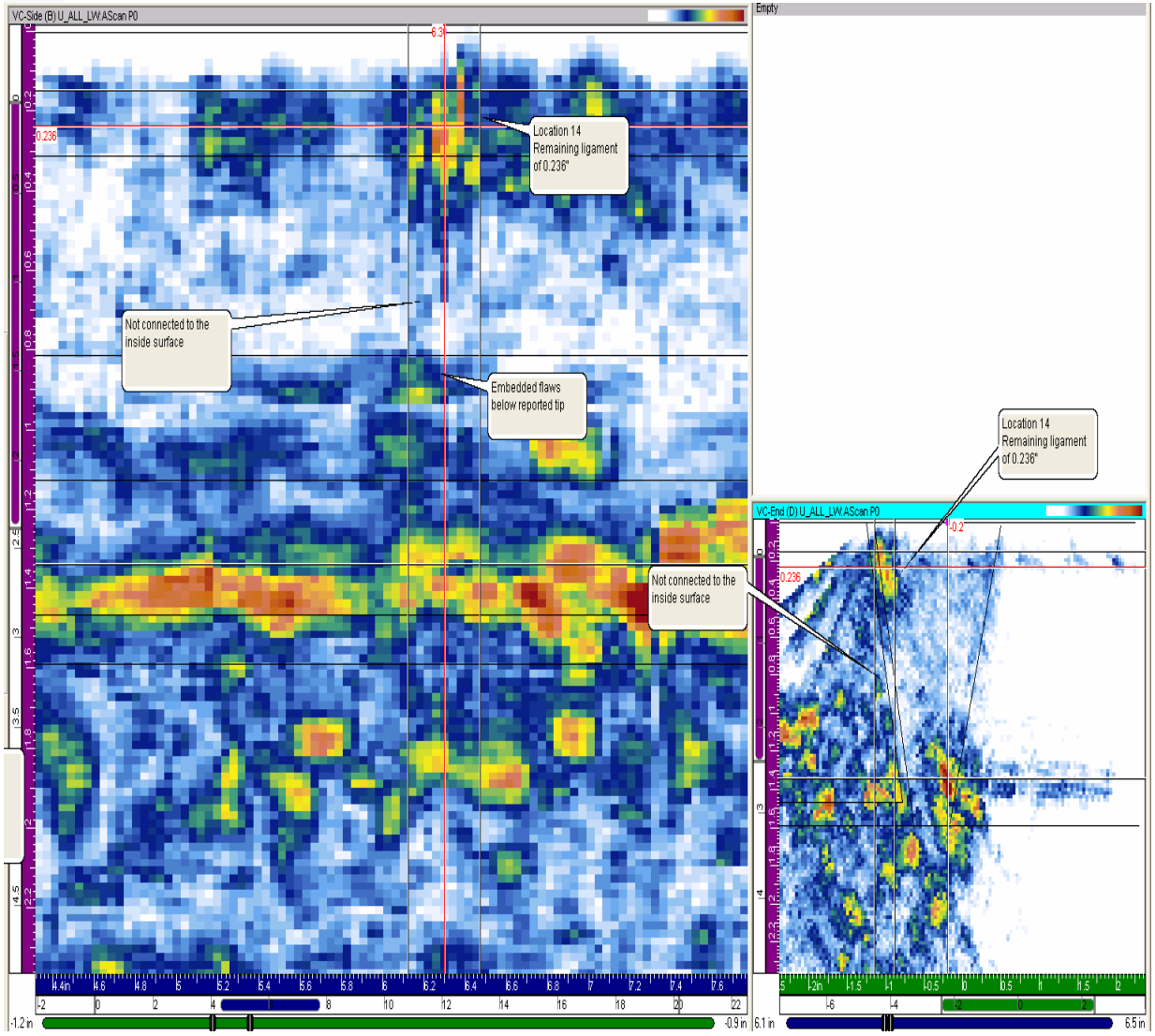
Estimated remaining ligament above the indication: 0.27 inches

Angle used for measurement: 67 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 14 Comparison at 13.0” CW (6.24”CCW)



“A” Safety Circumferential Indication Profile Data

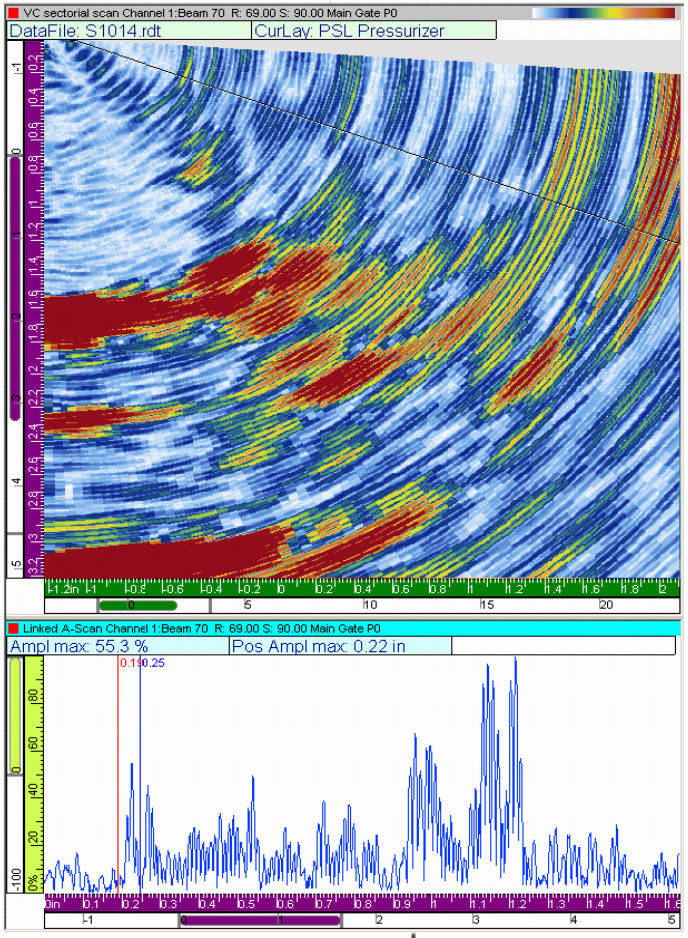
Location: 13 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.48 inches

Estimated remaining ligament above the indication: 0.22 inches

Angle used for measurement: 70 degrees



Location 15 Comparison at 14.0” CW (5.24”CCW)

“A” Safety Circumferential Indication Profile Data

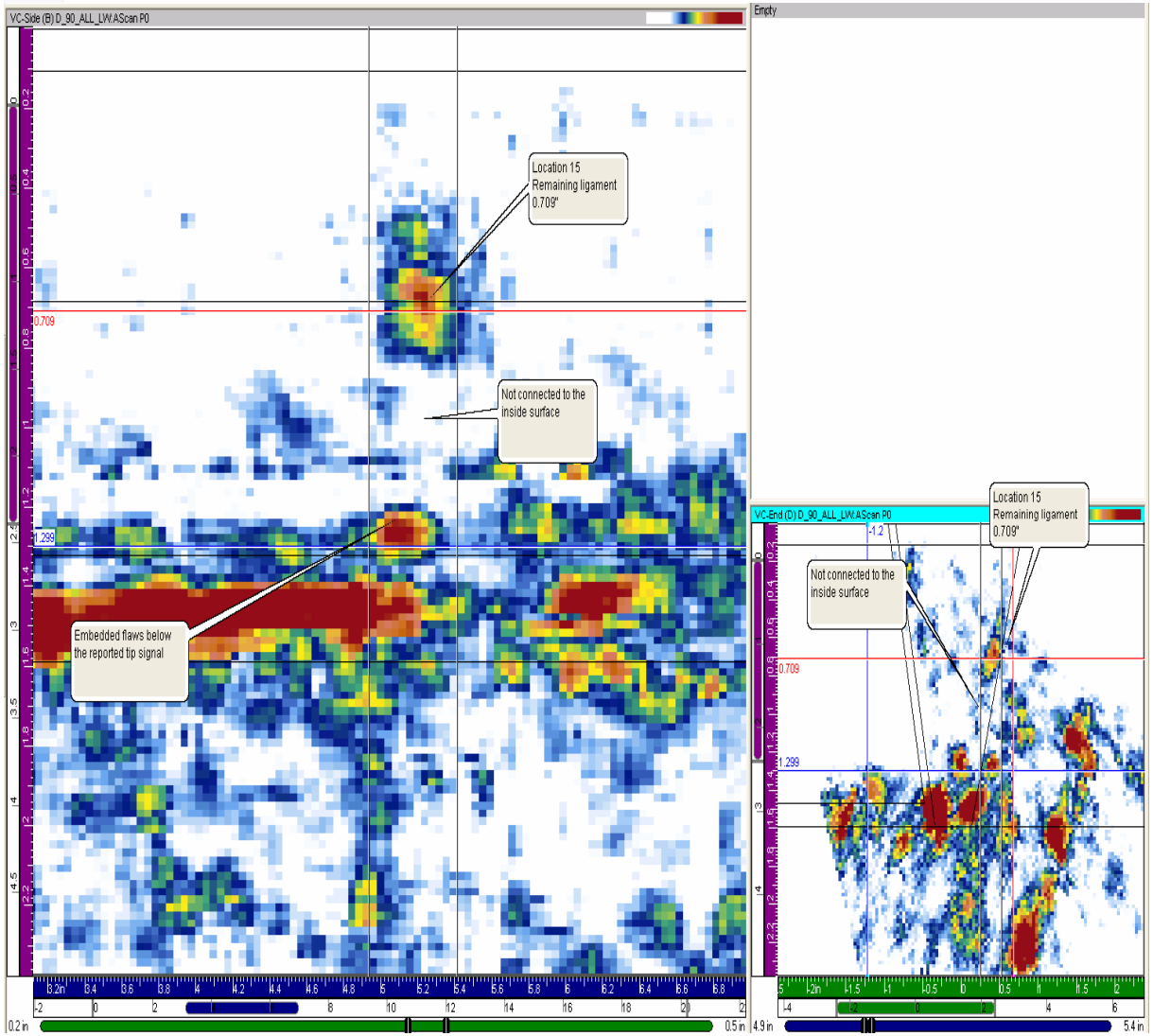
Location: 14 inches clockwise from “0” stamp

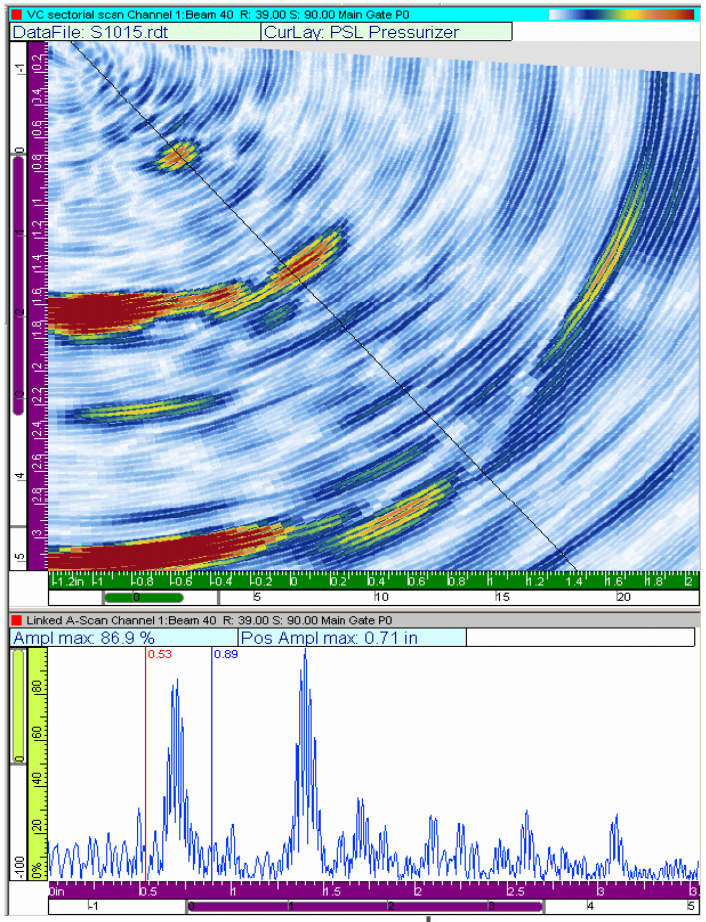
Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 0.99 inches

Estimated remaining ligament above the indication: 0.71 inches

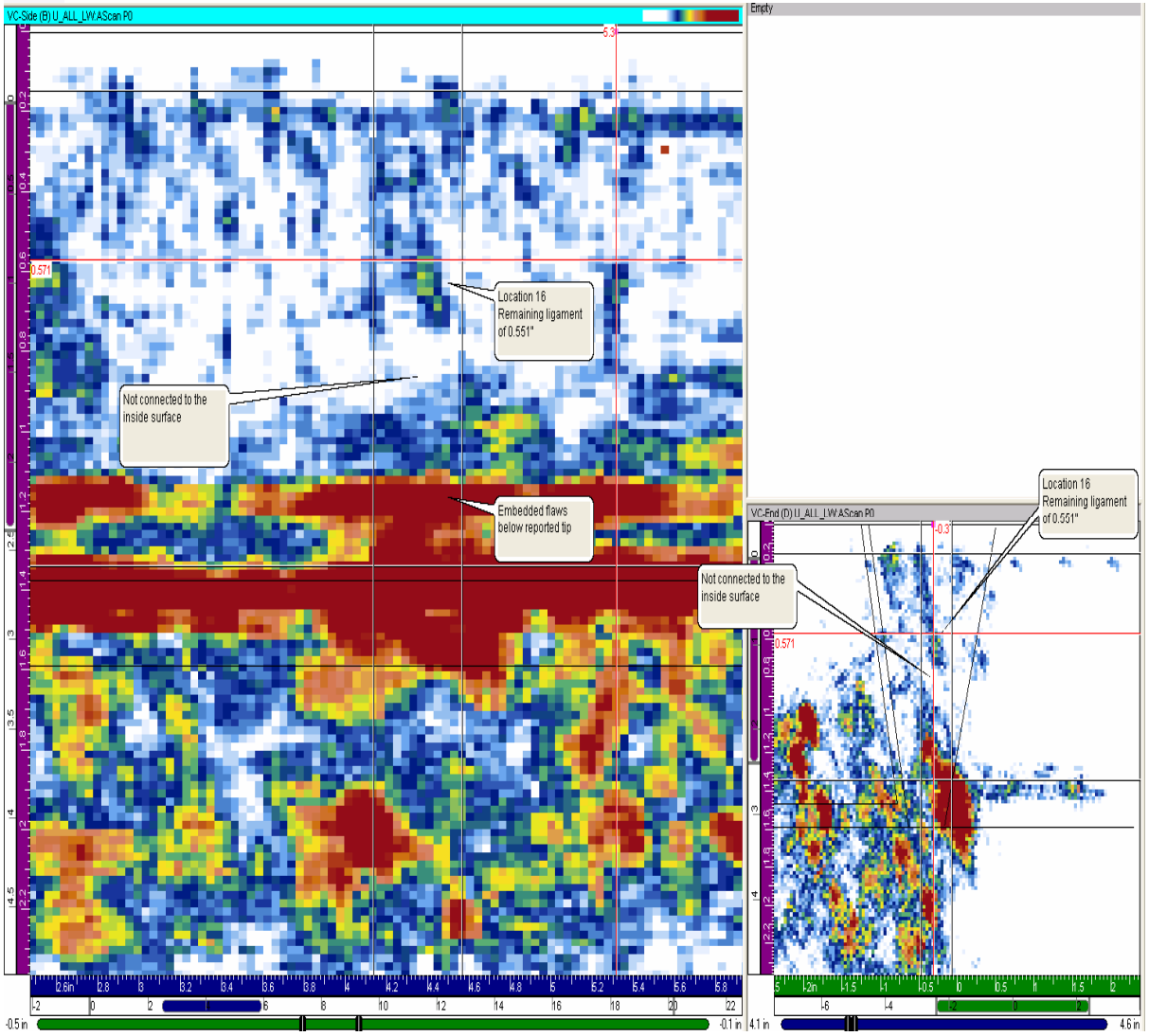
Angle used for measurement: 40 degrees





EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 16 Comparison at 15.0” CW (4.24” CCW)



“A” Safety Circumferential Indication Profile Data

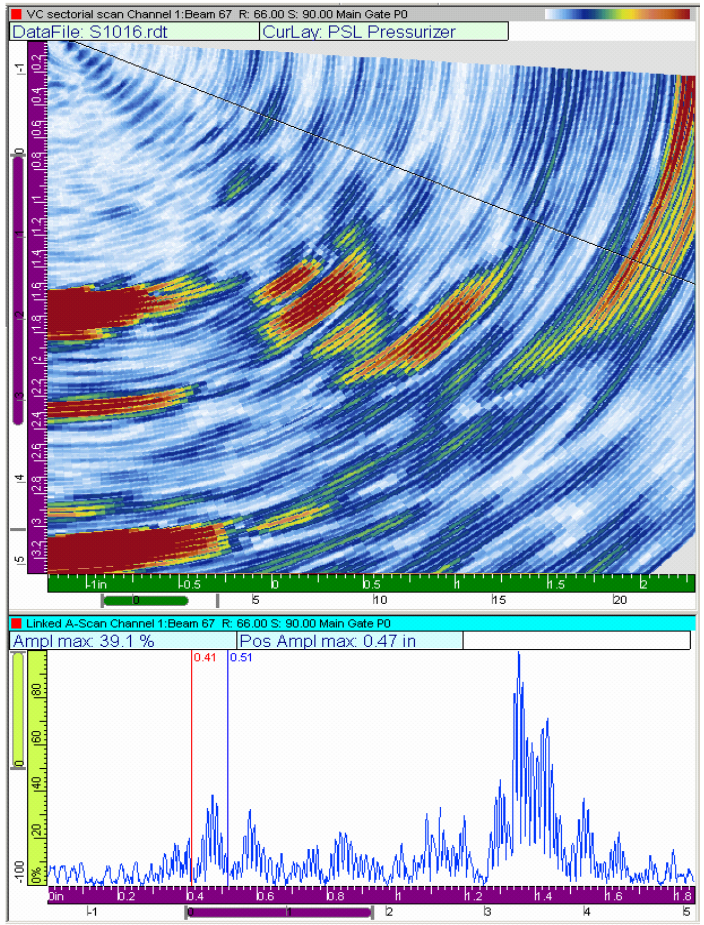
Location: 15 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.23 inches

Estimated remaining ligament above the indication: 0.47 inches

Angle used for measurement: 67 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 17 Comparison at 16.0” CW (3.24” CCW)

- Unable to resolve indication at recordable amplitude in this area

“A” Safety Circumferential Indication Profile Data

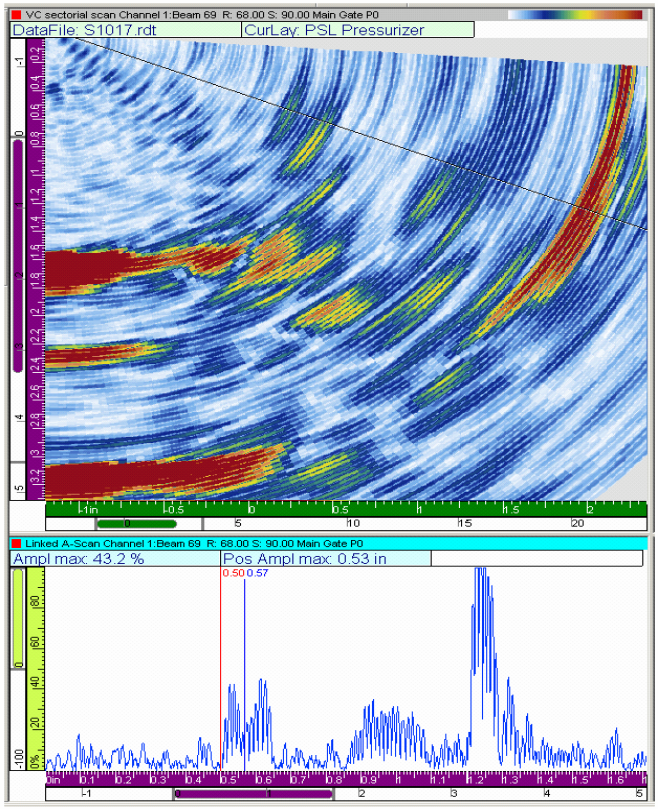
Location: 16 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.17 inches

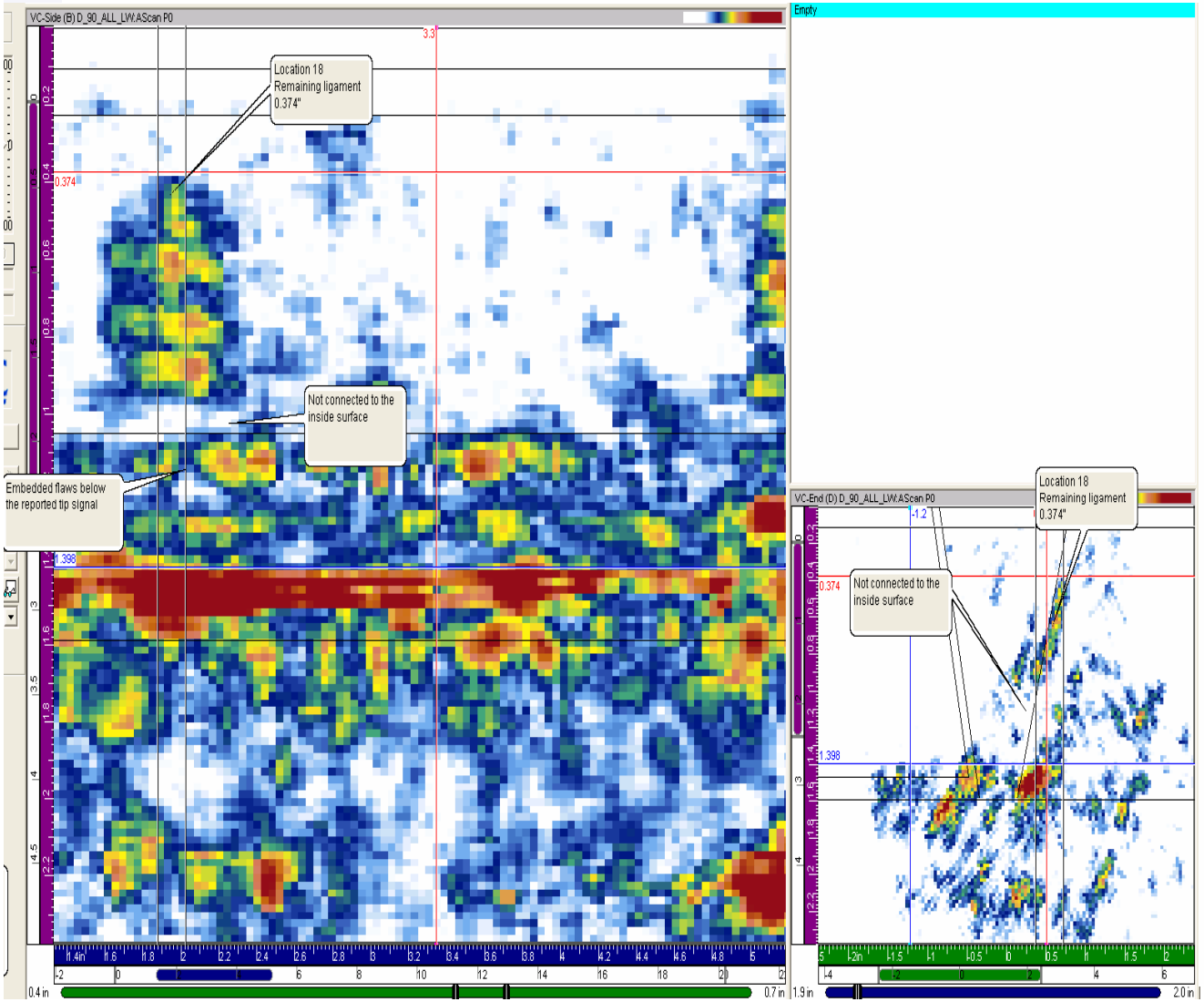
Estimated remaining ligament above the indication: 0.53 inches

Angle used for measurement: 69 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 18 Comparison at 17.0” CW (2.24” CCW)



“A” Safety Circumferential Indication Profile Data

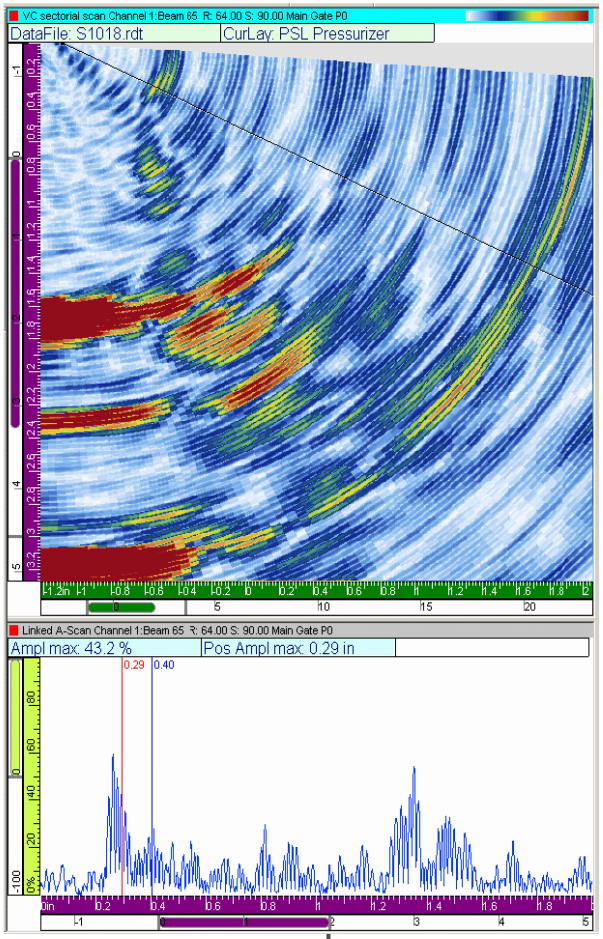
Location: 17 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.41 inches

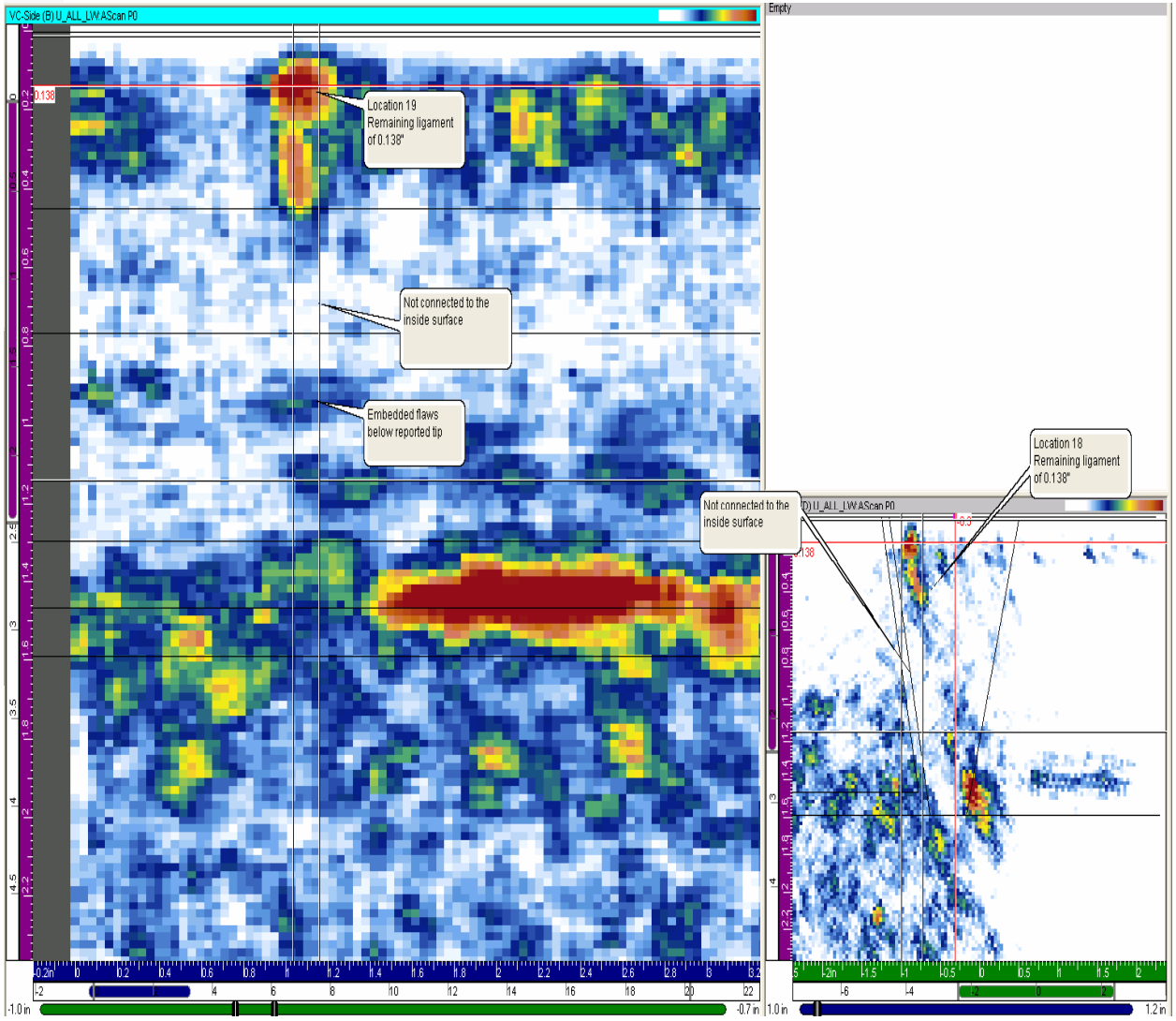
Estimated remaining ligament above the indication: 0.29 inches

Angle used for measurement: 65 degrees



EPRI ELECTRIC POWER RESEARCH INSTITUTE

Location 19 Comparison at 18.0”CW (1.24” CCW)



“A” Safety Circumferential Indication Profile Data

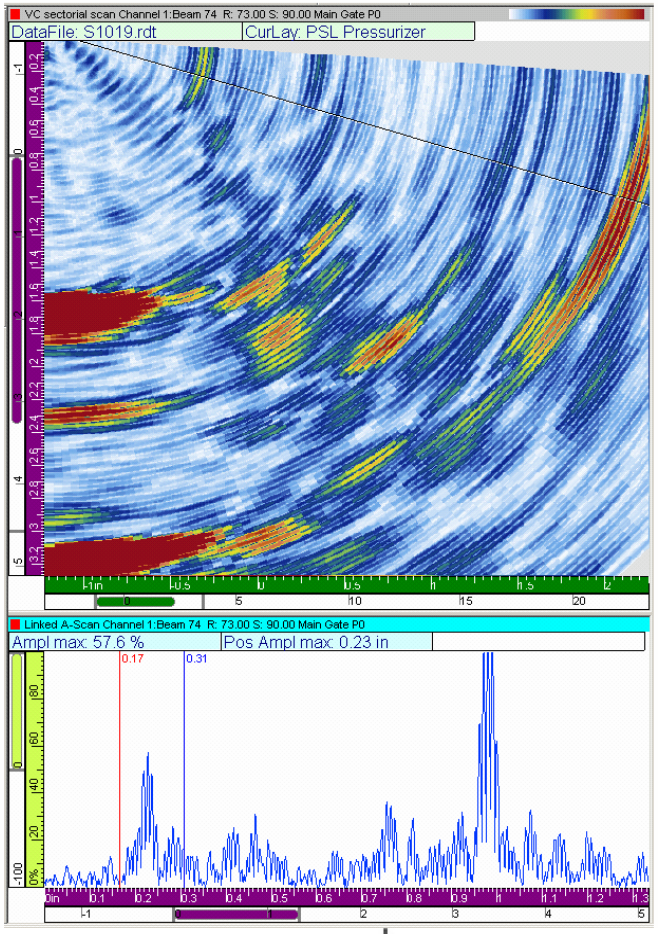
Location: 18 inches clockwise from “0” stamp

Part Thickness used for calculation: 1.7 inches

Indication through-wall depth at this location: 1.47 inches

Estimated remaining ligament above the indication: 0.23 inches

Angle used for measurement: 74 degrees

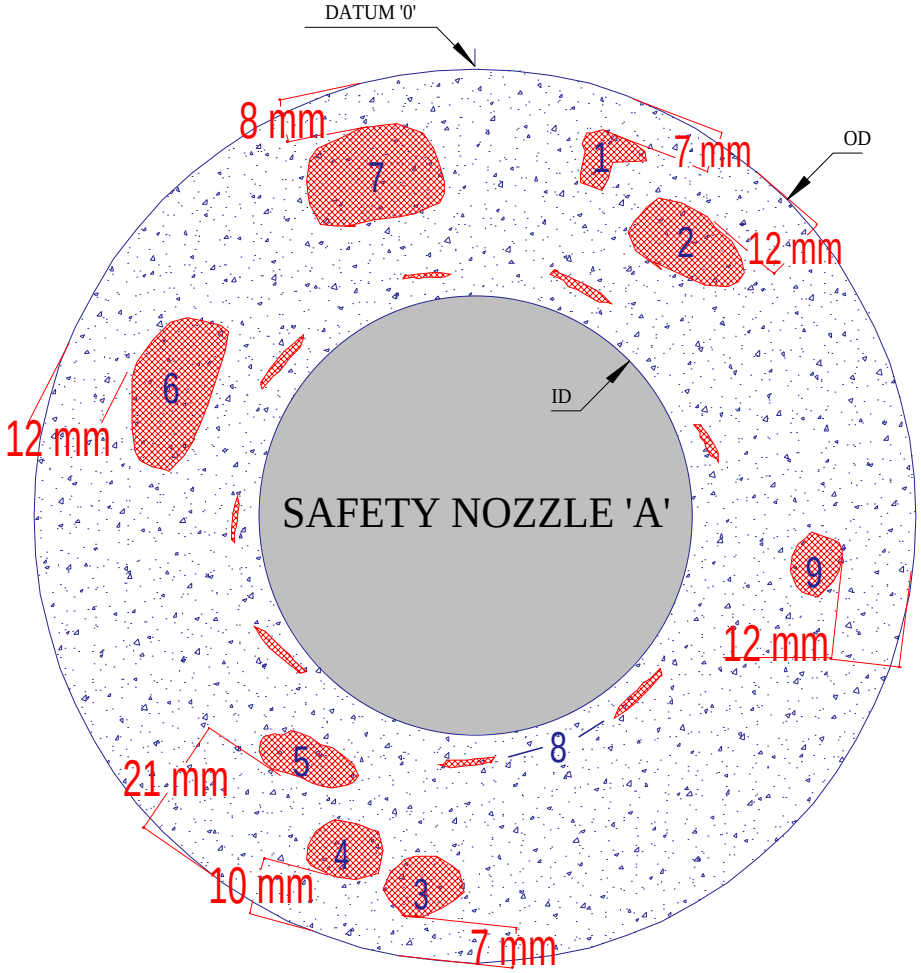


EPRI ELECTRIC POWER RESEARCH INSTITUTE

Flaw Profile Evaluation

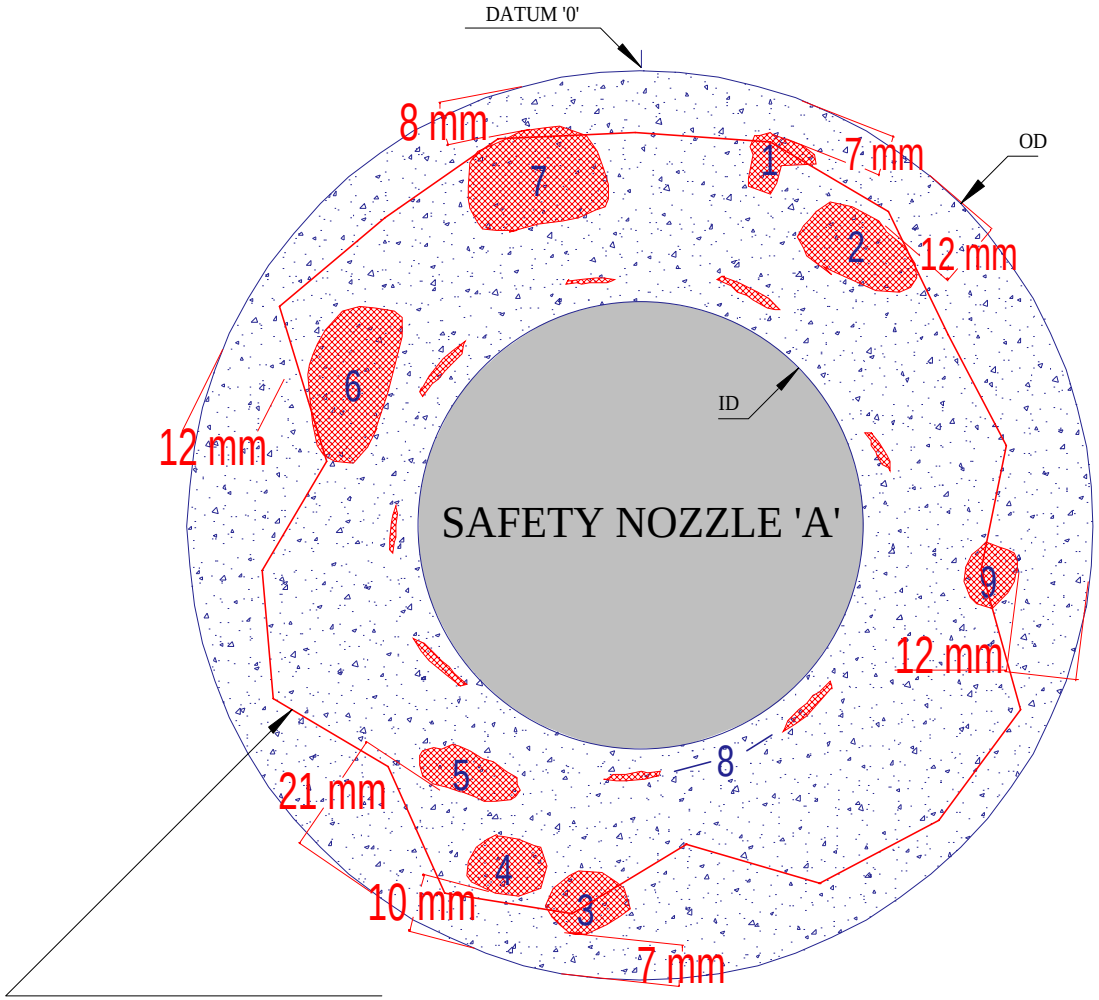
- Encoded phased array flaw profile data shows only the flaws reported by examination vendor
- The manual phased array vendor flaw profile was overlaid over the encoded data profile
- The profiles agree
  - Missing data points in the encoded-data profile are from locations where the flaw indications were below the amplitude recording threshold of the encoded procedure
- Flaw depth and length dimensions were measured to noise level and are considered to be conservative

Encoded Phased Array Reported Flaw Profile Reported by Vendor



LOOKING INTO HEAD

Profile Comparison



Manual Phased Array Reprted Flaw Profile Data

LOOKING INTO HEAD

Summary

- Tip signals reported by the manual examination appear to be associated with embedded fabrication flaws randomly dispersed within the volume of the weld
- None of the flaws appear to be connected to the inside surface or to each other
- Flaws in nozzles B and C have same characteristics as the flaws in Nozzle A, but with lower flaw density
- Comparison with similar welds from a canceled plant shows that these types of flaws are typical to the welding process used for fabrication

Attachment 9

Personnel Certifications

Lambert MacGill Thomas, Inc.

125 B East Main Street, Swainsboro, GA 30401
Phone (478) 237-4817 FAX (478) 237-9544

Personnel Certification Statement
(ASME 1992 Edition, thru 2003 Addendum, LMT- QA-46)

A. Name of Certified Individual: **Devers, Jeffery L.** Social Security: **On File**

B.

Examination Method	Level	Limitations
MT	III	None
PT	III	None
UT (Limited)	NA	NA
UT Appendix VII	III	None
VT-1	III	None
VT-2	III	None
VT-3	III	None

C. Examination Scores and Dates as Applicable for Method/Level

Method	General	Practical	Specific	Method	Basic	Demonstration	Composite	Certification Date	Expiration Date	Level III Examiner
MT		80.0	96.6	90.7	86.5	80.0	86.7	08/14/03	07/29/08	ELT/DBR
PT		80.0	83.3	90.7	86.5	80.0	84.1	08/14/03	07/29/08	ELT/DBR
UT(L)								NA		
UT		80.0*	80.0	92.3	86.5*	80.0*	86.1	09/11/05	09/11/10	DBR/KJL
VT-I		80.0	97.9	97.0	86.5	98.0	91.8	07/25/06	07/25/11	JTT
VT-2		80.0	97.9	97.0	86.5	97.0	91.6	07/25/06	07/25/11	JTT
VT-3		80.0	97.9	97.0	86.5	95.0	91.2	07/25/06	07/25/11	JTT

* For Level III re-certification, original certifying scores are not applicable for composite.

D. Documented Experience and Training Hours used for *initial* Certification

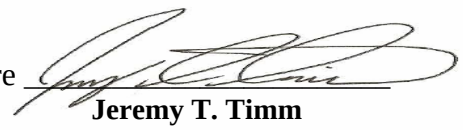
Experience *:	MT	PT	UT	VT-1	VT-2	VT-3	NDE
Hours Documented:	9324	9324	8524	11025	11025	11025	>8400
Hours Required:	8400	8400	8400	8400	8400	8400	8400

Training:	MT	PT	UT	VT-1,-2,-3
Hours Documented:	20	16	C129 / L95	40
Hours Required:	20	16	C120 / L80	20

* Level III hours represent Nuclear hours in an assignment comparable to a Level II unless otherwise noted.

E. For overview of Education, Training, Experience, and PDI Qualifications see Page 2.

F. The named individual meets the requirements of LMT Written Practice QA-46.

Authorized Signature  Date: 03/04/2008

Jeremy T. Timm
Principal Level III

Lambert MacGill Thomas, Inc.

QA-46 Personnel Certification Statement Cont.

Name: **Jeffery L. Devers**

E. Cont.

Education

1990	GED, State of Arkansas, Education Board

Training

06/90/07/92	Hellier & Associates, Level I UT, 40 hours, Level II UT, 40 hours
1993	EPRI NDE Center, 64 hours UT
08/93	LMT Inc., 40 hours Level II UT
01/94	Quality Systems Int., 12 hrs. Level I MT; 8 hrs. Level II MT; 4 hrs. Level I PT; 8 hrs. Level II PT
03/26/99	LMT Inc., 4 hours PT
09/08/00	LMT Inc., 40 hours Level III UT Training (Appendix VII)
11/17/00	EPRI NDE Center, 40 hours Visual (Including Containment Inspection)
2006	LMT Inc., 10 hours Level III VT Training (Appendix VI)
09/18/07	LMT Inc., 4 hours UT (Computer-Based NDE Training for Thermal Fatigue Cracking (MRP-36), Version 1.0).

Experience

09/90 - 11/90	Southern Company Services, NDE Trainee
11/90 - 12/90	Trans American Engineering & Testing Service, NDE Trainee
03/91 - 05/91	MQS, Intermittent Employment, NDE Trainee
09/92 - 10/92	Nuclear Energy Services, Level I UT
10/92 - 11/92	Sonic Systems International, Level I UT
03/91 - 12/00	LMT Inc., Intermittent Employment, Level II MT, PT, UT
12/00 - 08/03	LMT Inc., Level II MT, PT, VT-1, VT-2, VT-3, Level III UT
08/03 – 07/06	LMT Inc., Level III MT, PT, UT, Level II VT-1, VT-2, VT-3
07/06 - Present	LMT Inc., Level III MT, PT, UT, VT-1, VT-2, VT-3

Appendix VIII Performance Qualifications

Current Qualifications	Qualification Date	Re-Qualification Due	Examiner
PDI-UT-1, Ferritic Piping: Detection & Length Sizing, Single & Dual Sided.	12/04/00	NA	
PDI-UT-2, Austenitic Piping, w/IGSCC: Detection, Single & Dual Sided; Length Sizing, Dual Sided.	12/04/06	12/04/09	
PDI-UT-3, Through Wall Sizing in Pipe Welds, Ferritic & Austenitic w/IGSCC, Dual Sided.	12/04/06	12/04/09	
PDI-UT-5, Straight Beam Ultrasonic Examination of Bolts & Studs.	01/12/98	NA	
PDI-UT-6, RPV Welds: Detection, Single Sided.	07/17/04	NA	EPRI
PDI-UT-7, RPV Welds: Through Wall and Length Sizing, Single Sided.	07/17/04	NA	
PDI-UT-8, Weld Overlaid Austenitic Piping Welds.	02/27/06	02/27/09	
PDI-UT-10, Dissimilar Metal Piping Welds, Detection, Single Sided.	11/13/02	NA	
PDI-UT-11, RPV Nozzle to Shell Welds and Nozzle Inner Radius: Detection and Sizing, Dual Sided.	08/23/04	NA	
Zetec OmniScanPA 03, Phased Array of DM Piping Welds.	12/04/06	12/04/09	

LMT TEST

Lambert • MacGill • Thomas, Inc.
125 B East Main Street, Swainsboro, GA 30401
Phone (478)237-4817 / Fax (478)237-9544

Certification of Visual Acuity and Color Vision Per LMT Procedure PVE-1

Employee Name: JEFF L. DEVERS *S.S. # :* ON-FILE

Signature: JD *Date:* 9/17/2007

Near Distance Acuity

Requirement: *Demonstrate natural or corrected near-distance acuity with at least one eye, by reading the 'Jaeger 1' portion of the LMT certified near-distance test chart S.N.* **VTC-03** *. This chart meets the following requirements.*

Eye-to-Chart distance (inches)	12	13	14	15	16
Maximum lower case character height (inches)	0.022	0.024	0.025	0.027	0.029

Note: *The certified chart provided by LMT meets the 'J1" requirements of ASME Sec. XI prior to the 1992 Edition and the requirements of ASME Sec XI, IWA-2321, 1992 and later Editions and Addenda through 2003*

Results:

Pass / Fail only:	IWA-2321		Jaeger - 1	
	Natural	*Corrected*	*Natural*	*Corrected*
Right Eye	**PASS**		**PASS**	
Left Eye	**PASS**		**PASS**	

Far Distance Acuity

Requirement: *Demonstrate natural or corrected far-distance acuity of Snellen Fraction 20/30, or equivalent, with at least one eye.*

Results:

Pass / Fail only:	Snellen Fraction 20/30	
	Natural	Corrected
Right Eye	**PASS**	
Left Eye	**PASS**	

Color Vision

Requirement: *Demonstrate capability to distinguish the colors applicable to the method(s), and differentiate contrast between these colors.*

Results:

Normal	*Abnormal (1)*	*Pass*	*Fail*
X		X	

(1) Explain:

Administered By: Todd P. Blechinger Title: Level III

Signature: TPB Date: 9/17/2007

Lambert • MacGill • Thomas, Inc
125B E. Main Street, Swainsboro, GA 30401
Phone: (478)237-4817 / Fax.: (478)237-9544

Appendix VIII 8 Hour Hands-On Practice

The below listed individual meets the requirements of PDI-001 "Guideline for Hands-On Practice".

Candidate Name: JEFF DEVERS

Practice Date: 1/28/2008

Procedure(s) Used: PDI-UT-2, REV. C

Equivalent PDI Procedure(s): N/A

Sample(s) Evaluated: LMT-02-04-16 / LMT-UNO-3

Capabilities Demonstrated:

- Utilized equipment in accordance with the procedure.
- Calibration in accordance with the procedure.
- Flaw discrimination and positioning in accordance with the procedure.

Comments: NONE

PDI Qualified Administrator:

Printed Name: TODD BLECHINGER Signature:

Company: LMT, INC. Phone Number: (478)237-4817

Lambert • MacGill • Thomas, Inc
125B E. Main Street, Swainsboro, GA 30401
Phone: (478)237-4817 / Fax.: (478)237-9544

Appendix VII 8 Hour Annual Practice

The below listed individual meets the requirements of ASME Section XI, 1998 Edition, Thru 2003 Addenda, Appendix VII, VII-4240.

Candidate Name: JEFF DEVERS

Practice Date: 1/28/2008

Procedure(s) Used: PDI-UT-2, REV. C

Equivalent PDI Procedure(s): N/A

Sample(s) Evaluated: LMT-02-04-16 / LMT-UNC-3

Capabilities Demonstrated:

- Utilized equipment in accordance with the procedure.
- Calibration in accordance with the procedure.
- Flaw discrimination and positioning in accordance with the procedure.

Comments: NONE

Appendix VIII 8 Hour Practice, dated 1/28/2008, is being used to satisfy Appendix VII requirements.

Verified By:

Printed Name: TODD BLECHINGER Signature:

LMT Level III

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 20-Dec-02
PDQS No:

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	20-Dec-02
Owner:	Performance Demonstration Initiative	**Analysis SW Type/Rev:**	N/A
Hardware:	N/A	**Operator SW Type/Rev:**	N/A
Category:	Piping	**Scan Application:**	Manual
		Exam Surface:	Outside

Ranges Demonstrated:

Date:	13-Nov-02			
MinDiam:	2.00	**MinThick:**	0.280	
MaxDiam:	50.00	**MaxThick:**	5.200	04050702

Material: Dissimilar Metal
Examination: Detection
Access: Single Sided
Weld Cond: Ground Flush

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 20-Dec-02
PDQS No:

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	20-Dec-02
Owner:	Performance Demonstration Initiative	**Analysis SW Type/Rev:**	N/A
Hardware:	N/A	**Operator SW Type/Rev:**	N/A
Category:	Piping	**Scan Application:**	Manual
		Exam Surface:	Outside

When "Length Sizing" is indicated, the 0.750 RMS acceptance criteria per the PDI Program Description has been achieved.

When "Through Wall Sizing" is indicated, the 0.125 RMS acceptance criteria per the PDI Program Description has been achieved.

Tolerances for field applications as follows:

Diameter: Lower: .500" can be subracted from the minimum diameter demonstrated.
Upper: Diameters greater than 24" need not be demonstrated.

Thickness: Lower: 0.100" can be subtracted from the minimum thickness demonstrated for both austenitic and ferritic
Upper: 1.000" can be added to the maximum thickness demonstrated for ferritic material.
0.500" can be added to the maximum thickness demonstrated for austenitic material.

This candidate has met the practical requirements of Appendix VII: Yes

Comments:

Limitations:

1 This procedure/candidate is not qualified for through wall sizing.
2 This procedure/candidate is not qualified for examinations performed from the cast stainless steel side of a component.
3 This procedure/candidate is not qualified for examinations where the ultrasonic sound beam is required to propagate through an adjacent weld prior to impinging on the dissimilar metal weld. The PDI 711 series sample is an example of this configuration.
4 Examination of safe-end replacement configurations, identified as 706 and 707 series configurations in the PDI Program are qualified.
5 This procedure/candidate is qualified for examination from both single and dual sided access as applicable..

Performance Demonstration Initiative Program

Printed: 20-Dec-02
PDQS No:

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	20-Dec-02
Owner:	Performance Demonstration Initiative	**Analysis SW Type/Rev:**	N/A
Hardware:	N/A	**Operator SW Type/Rev:**	N/A
Category:	Piping	**Scan Application:**	Manual
		Exam Surface:	Outside

The above candidate has met the requirements of The Performance Demonstration Initiative's Implementation of The American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Appendix VIII, as stated in this document.

Carl L. Latiolais — Date: 12/20/02

Carl L. Latiolais
Performance Demonstration Initiative
Piping and Bolting Supervisor/Level III

F. L. Becker — Date: 12/20/02

F. L. Becker
Performance Demonstration Initiative
Administrator

This document is not authentic without a raised seal.

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 27-Dec-06
PDQS No: 98
04061103

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	24-Dec-06
Owner:	Zetec	**Analysis SW Type/Rev:**	UltraVision, 1.0R5
Hardware:	Omniscan 16P-16R	**Operator SW Type/Rev:**	Omniscan, 1.0R2
Category:	Piping	**Scan Application:**	Fully-Automatic
		Exam Surface:	Outside

Ranges Demonstrated:

Date: 04-Dec-06

MinDiam:	2.00	**MinThick:**	0.280
MaxDiam:	50.00	**MaxThick:**	5.200

04061103

Material: Dissimilar Metal
Examination: Detection
Access: Single Sided
Weld Cond: Ground Flush
Examination: Length Sizing
Access: Single Sided
Weld Cond: Ground Flush
Examination: Through Wall Sizing
Access: Single Sided
Weld Cond: Ground Flush

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 27-Dec-06
PDQS No: 98
04061103

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	24-Dec-06
Owner:	Zetec	**Analysis SW Type/Rev:**	UltraVision, 1.0R5
Hardware:	Omniscan 16P-16R	**Operator SW Type/Rev:**	Omniscan, 1.0R2
Category:	Piping	**Scan Application:**	Fully-Automatic
		Exam Surface:	Outside

When "Length Sizing" is indicated, the 0.750 RMS acceptance criteria per the PDI Program Description has been achieved.

When "Through Wall Sizing" is indicated, the 0.125 RMS acceptance criteria per the PDI Program Description has been achieved.

Tolerances for field applications as follows:

Diameter: Lower: .500" can be subracted from the minimum diameter demonstrated.
Upper: Diameters greater than 24" need not be demonstrated.

Thickness: Lower: 0.100" can be subtracted from the minimum thickness demonstrated for both austenitic and ferritic
25% of the minimum thickness demonstrated for dissimilar metal welds
Upper: 1.000" can be added to the maximum thickness demonstrated for ferritic material.
0.500" can be added to the maximum thickness demonstrated for austenitic material.
25% of the maximum thickness demonstrated for dissimilar metal welds

This candidate has met the practical requirements of Appendix VII: Yes

Comments:

Limitations:
1 This procedure/candidate is not qualified for examinations performed from the cast stainless steel side of a component.
2 This procedure/candidate is only qualified to depth size flaws in accessible regions of the examination volume.
3 This procedure/candidate is only qualified to length size circumferentially oriented flaws.
4 This procedure/candidate is not qualified for examinations where the ultrasound is required to propagate through an adjacent Austenitic weld prior to impinging on the dissimilar metal weld. The PDI 711 series sample is an example of this configuration
5 Examination of safe-end replacement configurations, identified as 706 and 707 series configurations in the PDI Program are qualified.
6 This procedure/candidate is qualified for examination from both single and dual sided access as applicable.
7 This Procedure/Candidate is only qualified for examinations on components with tapered configurations that are representative of the 712 series samples within the PDI sample inventory.

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 27-Dec-06
PDQS No: 98
04061103

Candidate: Jeffery L. Devers ID#: 432-55-4637

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	Date of Issue:	24-Dec-06
Owner:	Zetec	Analysis SW Type/Rev:	UltraVision, 1.0R5
Hardware:	Omniscan 16P-16R	Operator SW Type/Rev:	Omniscan, 1.0R2
Category:	Piping	Scan Application:	Fully-Automatic
		Exam Surface:	Outside

The above candidate has met the requirements of The Performance Demonstration Initiative's Implementation of The American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Appendix VIII, as stated in this document.

Date: 1/2/07

Scott W. Hamel
Performance Demonstration Initiative
Piping and Bolting Supervisor/Level III

Date: 01/04/07

Brad Thigpen
Performance Demonstration Initiative
Piping and Bolting Project Manager

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Lambert • MacGill • Thomas, Inc
125B E. Main Street, Swainsboro, GA 30401
Phone: (478)237-4817 / Fax.: (478)237-9544

Appendix VII 8 Hour Annual Practice

The below listed individual meets the requirements of ASME Section XI, 1998 Edition, Thru 2003 Addenda, Appendix VII, VII-4240.

Candidate Name: TODD BLECHINGER

Practice Date: 1/28/2008

Procedure(s) Used: PDI-UT-2, REV. C

Equivalent PDI Procedure(s): N/A

Sample(s) Evaluated: LMT-02-04-16 / LMT-UNO-3

Capabilities Demonstrated:

- Utilized equipment in accordance with the procedure.
- Calibration in accordance with the procedure.
- Flaw discrimination and positioning in accordance with the procedure.

Comments: NONE

Appendix VIII 8 Hour Practice, dated 1/28/2008 ,is being used to satisfy Appendix VII requirements.

Verified By:

Printed Name: JEFF DEVERS Signature:

LMT Level III

Lambert • MacGill • Thomas, Inc
125B E. Main Street, Swainsboro, GA 30401
Phone: (478)237-4817 / Fax.: (478)237-9544

Appendix VIII 8 Hour Hands-On Practice

The below listed individual meets the requirements of PDI-001 "Guideline for Hands-On Practice".

Candidate Name: TODD BLECHINGER

Practice Date: 1/28/2008

Procedure(s) Used: PDI-UT-2, REV. C

Equivalent PDI Procedure(s): N/A

Sample(s) Evaluated: LMT-02-04-16 / LMT-UNO-3

Capabilities Demonstrated:

- Utilized equipment in accordance with the procedure.
- Calibration in accordance with the procedure.
- Flaw discrimination and positioning in accordance with the procedure.

Comments: NONE

PDI Qualified Administrator:

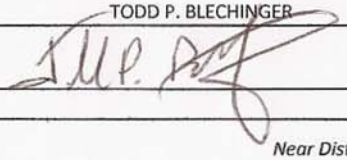
Printed Name: JEFF DEVERS Signature: JD

Company: LMT, INC. Phone Number: (478)237-4817

Lambert • MacGill • Thomas, Inc.
125 B East Main Street, Swainsboro, GA 30401
Phone (478)237-4817 / Fax (478)237-9544

Certification of Visual Acuity and Color Vision Per LMT Procedure PVE-1

Employee Name: TODD P. BLECHINGER *S.S. # :* ON-FILE

Signature:  *Date:* 9/17/2007

Near Distance Acuity

Requirement: *Demonstrate natural or corrected near-distance acuity with at least one eye, by reading the 'Jaeger 1' portion of the LMT certified near-distance test chart S.N.* **VTC-03** *. This chart meets the following requirements.*

Eye-to-Chart distance (inches)	12	13	14	15	16
Maximum lower case character height (inches)	0.022	0.024	0.025	0.027	0.029

Note: *The certified chart provided by LMT meets the 'J1" requirements of ASME Sec. XI prior to the 1992 Edition and the requirements of ASME Sec XI, IWA-2321, 1992 and later Editions and Addenda through 2003*

Results:

Pass / Fail only:	IWA-2321		Jaeger - 1	
	Natural	*Corrected*	*Natural*	*Corrected*
Right Eye	**PASS**		**PASS**	
Left Eye	**PASS**		**PASS**	

Far Distance Acuity

Requirement: *Demonstrate natural or corrected far-distance acuity of Snellen Fraction 20/30, or equivalent, with at least one eye.*

Results:

Pass / Fail only:	Snellen Fraction 20/30	
	Natural	Corrected
Right Eye		**PASS**
Left Eye	**PASS**	

Color Vision

Requirement: *Demonstrate capability to distinguish the colors applicable to the method(s), and differentiate contrast between these colors.*

Results:

Normal	*Abnormal (1)*	*Pass*	*Fail*
X		X	

(1) Explain:

Administered By: Jeff L. Devers Title: Level III

Signature:  Date: 9/17/2007

Performance Demonstration Initiative Program

Printed: 20-Dec-02
PDQS No:

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	20-Dec-02
Owner:	Performance Demonstration Initiative	**Analysis SW Type/Rev:**	N/A
Hardware:	N/A	**Operator SW Type/Rev:**	N/A
Category:	Piping	**Scan Application:**	Manual
		Exam Surface:	Outside

Ranges Demonstrated:

Date: 13-Nov-02

MinDiam:	2.00	**MinThick:**	0.280
MaxDiam:	50.00	**MaxThick:**	5.200

Material: Dissimilar Metal
Examination: Detection
Access: Single Sided
Weld Cond: Ground Flush
Examination: Length Sizing
Access: Single Sided
Weld Cond: Ground Flush

Performance Demonstration Initiative Program

Printed: 20-Dec-02
PDQS No:

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	20-Dec-02
Owner:	Performance Demonstration Initiative	**Analysis SW Type/Rev:**	N/A
Hardware:	N/A	**Operator SW Type/Rev:**	N/A
Category:	Piping	**Scan Application:**	Manual
		Exam Surface:	Outside

When "Length Sizing" is indicated, the 0.750 RMS acceptance criteria per the PDI Program Description has been achieved.

When "Through Wall Sizing" is indicated, the 0.125 RMS acceptance criteria per the PDI Program Description has been achieved.

Tolerances for field applications as follows:

Diameter: Lower: .500" can be subracted from the minimum diameter demonstrated.
Upper: Diameters greater than 24" need not be demonstrated.

Thickness: Lower: 0.100" can be subtracted from the minimum thickness demonstrated for both austenitic and ferritic
Upper: 1.000" can be added to the maximum thickness demonstrated for ferritic material.
0.500" can be added to the maximum thickness demonstrated for austenitic material.

This candidate has met the practical requirements of Appendix VII: Yes

Comments:

Limitations:

1 This procedure/candidate is only qualified to length size circumferentially oriented flaws.
2 This procedure/candidate is not qualified for through wall sizing.
3 This procedure/candidate is not qualified for examinations performed from the cast stainless steel side of a component.
4 This procedure/candidate is not qualified for examinations where the ultrasonic sound beam is required to propagate through an adjacent weld prior to impinging on the dissimilar metal weld. The PDI 711 series sample is an example of this configuration.
5 Examination of safe-end replacement configurations, identified as 706 and 707 series configurations in the PDI Program are qualified.
6 This procedure/candidate is qualified for examination from both single and dual sided access as applicable..

Performance Demonstration Initiative Program

Printed: 20-Dec-02
PDQS No:

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: PDI-UT-10; Revision: A; Addenda: 0

PDI Generic Procedure for the Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	Date of Issue:	20-Dec-02
Owner:	Performance Demonstration Initiative	Analysis SW Type/Rev:	N/A
Hardware:	N/A	Operator SW Type/Rev:	N/A
Category:	Piping	Scan Application:	Manual
		Exam Surface:	Outside

The above candidate has met the requirements of The Performance Demonstration Initiative's Implementation of The American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Appendix VIII, as stated in this document.

Date: 12/20/02

Carl L. Latiolais
Performance Demonstration Initiative
Piping and Bolting Supervisor/Level III

Date: 12/20/02

F. L. Becker
Performance Demonstration Initiative
Administrator

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Lambert MacGill Thomas, Inc.

125 B East Main Street, Swainsboro, GA 30401
Phone (478) 237-4817 FAX (478) 237-9544

Personnel Certification Statement
(ASME 1992 Edition, thru 2003 Addendum, LMT- QA-46)

A. Name of Certified Individual: **Blechinger, Todd P.** Social Security: **On File**

B.

Examination Method	Level	Limitations
MT	III	None
PT	III	None
UT (Limited)	NA	NA
UT Appendix VII	III	None
VT-1	III	None
VT-2	III	None
VT-3	III	None

C. Examination Scores and Dates as Applicable for Method/Level

Method	General	Practical	Specific	Method	Basic	Demonstration	Composite	Certification Date	Expiration Date	Level III Examiner
MT		80.0	91.6	81.5	88.0	80.0	84.2	11/14/03	10/29/08	DAH/DBR
PT		80.0	86.6	83.0	88.0	80.0	83.5	11/14/03	10/29/08	DAH/DBR
UT(L)								NA		
UT		80.0*	93.3	92.3	88.0*	80.0*	92.8	09/12/05	09/12/10	JTT/KJL
VT-I		80.0	95.8	94.1	88.0	99.0	91.3	07/25/06	07/25/11	JTT
VT-2		80.0	95.8	94.1	88.0	99.0	91.3	07/25/06	07/25/11	JTT
VT-3		80.0	95.8	94.1	88.0	98.0	91.1	07/25/06	07/25/11	JTT

* For Level III re-certification, original certifying scores are not applicable for composite.

D. Documented Experience and Training Hours used for *initial* Certification

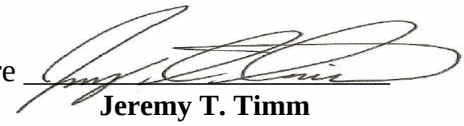
Experience *:	MT	PT	UT	VT-1	VT-2	VT-3	NDE
Hours Documented:	10150	10150	10860	11550	11550	11550	>8400
Hours Required:	8400	8400	8400	8400	8400	8400	8400

Training:	MT	PT	UT	VT-1,-2,-3
Hours Documented:	100	60	C139 / L165	40
Hours Required:	20	16	C120 / L80	20

* Level III hours represent Nuclear hours in an assignment comparable to a Level II unless otherwise noted.

E. For overview of Education, Training, Experience, and PDI Qualifications see Page 2.

F. The named individual meets the requirements of LMT Written Practice QA-46.

Authorized Signature  Date: 03/10/2008

Jeremy T. Timm
Principal Level III

Lambert MacGill Thomas, Inc.

QA-46 Personnel Certification Statement Cont.

Name: **Todd P. Blechinger**

E. Cont.

Education

1989	Graduated, Little Falls High School, Little Falls, MN.

Training

1991	Hutchinson Technical College, Hutchinson, MN. 100 hours MT; 60 hours PT; 200 hours UT
1992	EPRI NDE Center, 64 hours UT
09/08/00	LMT Inc., 40 hours Level III UT Training (Appendix VII)
11/17/00	EPRI NDE Center, 40 hours Visual (Including Containment Inspection)
07/13/06	LMT Inc., 10 hours Level III VT Training (Appendix VI)
09/18/07	LMT Inc., 4 hours UT (Computer-Based NDE Training for Thermal Fatigue Cracking (MRP-36), Version 1.0).

Experience

03/90-04/90	Longview Inspection, Level I MT, PT, UT
09/90-12/00	LMT Inc., Intermittent Employment, Level II MT, PT, UT
12/00-11/03	LMT Inc., Level II MT, PT, VT-1, VT-2, VT-3, Level III UT
11/03 – 07/06	LMT Inc., Level III MT, PT, UT, Level II VT-1, VT-2, VT-3
07/06 - Present	LMT Inc., Level III MT, PT, UT, VT-1, VT-2, VT-3

Appendix VIII Performance Qualifications

Current Qualifications	Qualification Date	Re-Qualification Due	Examiner
PDI-UT-1, Ferritic Piping: Detection & Length Sizing, Single & Dual Sided.	06/27/94	NA	
PDI-UT-2, Austenitic Piping, w/IGSCC: Detection, Single & Dual Sided; Length Sizing, Dual Sided.	02/27/06	02/27/09	
PDI-UT-3, Through Wall Sizing in Pipe Welds, Ferritic & Austenitic w/IGSCC, Dual Sided.	12/06/06	12/06/09	
PDI-UT-4, Studs & Bolts from the Bore.	01/12/98	NA	
PDI-UT-5, Straight Beam Ultrasonic Examination of Bolts & Studs.	01/12/98	NA	EPRI
PDI-UT-6, RPV Welds: Detection, Single Sided.	08/23/04	NA	
PDI-UT-7, RPV Welds: Through Wall and Length Sizing, Single Sided.	08/23/04	NA	
PDI-UT-8, Weld Overlaid Austenitic Piping Welds.	02/27/06	02/27/09	
PDI-UT-10, Dissimilar Metal Piping Welds, Detection and Length Sizing, Single Sided.	11/13/02	NA	
PDI-UT-11, RPV Nozzle to Shell Welds and Nozzle Inner Radius: Detection and Sizing, Dual Sided.	08/23/04	NA	
Zetec OmniScanPA 03, Phased Array of DM Piping Welds.	12/04/06	12/04/09	

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed 27-Dec-06
PDQS No: 55
04061103

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev: 0
Owner: Zetec
Hardware: Omniscan 16P-16R
Category: Piping

Date of Issue: 24-Dec-06
Analysis SW Type/Rev: UltraVision, 1.0R5
Operator SW Type/Rev: Omniscan, 1.0R2
Scan Application: Fully-Automatic
Exam Surface: Outside

Ranges Demonstrated:

Date: 04-Dec-06

MinDiam:	2.00	**MinThick:**	0.280
MaxDiam:	50.00	**MaxThick:**	5.200

04061103

Material: Dissimilar Metal
Examination: Detection
Access: Single Sided
Weld Cond: Ground Flush
Examination: Length Sizing
Access: Single Sided
Weld Cond: Ground Flush

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed 27-Dec-06
PDQS No: 55
04061103

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	24-Dec-06
Owner:	Zetec	**Analysis SW Type/Rev:**	UltraVision, 1.0R5
Hardware:	Omniscan 16P-16R	**Operator SW Type/Rev:**	Omniscan, 1.0R2
Category:	Piping	**Scan Application:**	Fully-Automatic
		Exam Surface:	Outside

When "Length Sizing" is indicated, the 0.750 RMS acceptance criteria per the PDI Program Description has been achieved.

When "Through Wall Sizing" is indicated, the 0.125 RMS acceptance criteria per the PDI Program Description has been achieved.

Tolerances for field applications as follows:

Diameter: Lower: .500" can be subracted from the minimum diameter demonstrated.
Upper: Diameters greater than 24" need not be demonstrated.

Thickness: Lower: 0.100" can be subtracted from the minimum thickness demonstrated for both austenitic and ferritic
25% of the minimum thickness demonstrated for dissimilar metal welds

Upper: 1.000" can be added to the maximum thickness demonstrated for ferritic material.
0.500" can be added to the maximum thickness demonstrated for austenitic material.
25% of the maximum thickness demonstrated for dissimilar metal welds

This candidate has met the practical requirements of Appendix VII: Yes

Comments:

Limitations:
1 This procedure/candidate is not qualified for examinations performed from the cast stainless steel side of a component.
2 This procedure/candidate is only qualified to length size circumferentially oriented flaws.
3 This procedure/candidate is not qualified for examinations where the ultrasound is required to propagate through an adjacent Austenitic weld prior to impinging on the dissimilar metal weld. The PDI 711 series sample is an example of this configuration
4 Examination of safe-end replacement configurations, identified as 706 and 707 series configurations in the PDI Program are qualified.
5 This procedure/candidate is qualified for examination from both single and dual sided access as applicable.
6 This Procedure/Candidate is only qualified for examinations on components with tapered configurations that are representative of the 712 series samples within the PDI sample inventory.

Performance Demonstration Initiative Program

In Accordance with the PDI Implementation of Section XI, Appendix VIII

Specific Detail of Qualifications

Printed: 27-Dec-06
PDQS No: 55
04061103

Candidate: Todd P. Blechinger ID#: 477-11-7154

Procedure: Zetec_OmniScanPA_03; Revision: C; Addenda: 0

Procedure for Encoded, Manually Driven, Phased Array Ultrasonic Examination of Dissimilar Metal Piping Welds

PDQS Rev:	0	**Date of Issue:**	24-Dec-06
Owner:	Zetec	**Analysis SW Type/Rev:**	UltraVision, 1.0R5
Hardware:	Omniscan 16P-16R	**Operator SW Type/Rev:**	Omniscan, 1.0R2
Category:	Piping	**Scan Application:**	Fully-Automatic
		Exam Surface:	Outside

The above candidate has met the requirements of The Performance Demonstration Initiative's Implementation of The American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Appendix VIII, as stated in this document.

Date: 1/2/07

Scott W. Hamel
Performance Demonstration Initiative
Piping and Bolting Supervisor/Level III

Date: 01/04/07

Brad Thigpen
Performance Demonstration Initiative
Piping and Bolting Project Manager

This document is not authentic without a raised seal.

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Grady Pickett **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiography II

Certification Date 4/4/2005 **Certification Expires** 4/4/2008

EXPERIENCE

RT Assistant	IveyCooper Services	3/1/04

EDUCATION / TRAINING

Whitwell HS	Whitwell, TN.	Diploma

RT Safety	RT Safety 20 Hrs	IveyCooper Services	2/04
RT Safety	RT Safety 8 hours	IveyCooper Services	8/04
RT I	Radiographic Testing I 40 hours	IveyCooper Services	8/04
RT II	Radiographic Testing II 40 hours	IveyCooper Services	9/04

EXAMINATION

Level I and II

% General	80%	4/4/2005
% Specific	73%	4/4/2005
% Practical	88%	4/4/2005
% Composite Score	80%	

Level III

% Basic		
% Method		
% Specific		
% Practical		
% Composite Score		

NDT Level III Todd Kirk Todd K

Date 4/4/2005

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Matthew Heaps **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiographic Level II

Certification Date 2/7/2008 **Certification Expires** 2/1/2011

EXPERIENCE

RT Trainee	IveyCooper Services	6/21/06 to Present

EDUCATION / TRAINING

Chatooga High School	Chatooga, GA	G.E.D.

RT I	Radiographic Testing I 40 hours	IveyCooper Services	1/25/08
RT II	Radiographic Testing II 40 hours	IveyCooper Services	2/1/08

EXAMINATION

Level I and II

% General	90%	2/7/2008
% Specific	89%	2/1/2008
% Practical	87%	2/7/2008
% Composite Score	89%	

Level III

% Basic		
% Method		
% Specific		
% Practical		
% Composite Score		

NDT Level III David W. Ivey

Date 2/7/2008

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625
130 East Division Road * Suite E * Oak Ridge, TN 37830 * Phone 865-482-2322 * Fax 865-482-3949

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Jason Glasco **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiography II

Certification Date 2/17/2006 **Certification Expires** 2/17/2009

EXPERIENCE

RT I	Scientific Inspection	6/98 to 9/99
RT I	IveyCooper Services	2/02 to 1/03
RT II	IveyCooper Services	2/03 to Present

EDUCATION / TRAINING

Hixson HS	Hixson, TN.	Diploma

RT I	RT Basic 40 hours	Scientific Inspection	10/98
RT Safety	RT Safety 8 hours	Scientific Inspection	2/02
RT II	Radiographic Testing II 40 hours	IveyCooper Services	1/03
RT Safety	RT Safety 8 hours	IveyCooper Services	8/03
RT Safety	RT Safety 8 hours	IveyCooper Services	9/04
	RT Safety 8 hours	IveyCooper Services	2/06

EXAMINATION

Level I and II			Level III		
% General	75%	2/17/2006	% Basic		
% Specific	85%	2/17/2006	% Method		
% Practical	100%	2/17/2006	% Specific		
% Composite Score	87%		% Practical		
			% Composite Score		

NDT Level III Todd Kirk

Date 2/17/2006

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625
130 East Division Road * Suite E * Oak Ridge, TN 37830 * Phone 865-482-2322 * Fax 865-482-3949

IveyCooper
SERVICES, LLC

NDT PERSONNEL CERTIFICATION (SNT-TC-1A)

This is to certify that the named individual has satisfactorily completed the requirements of the IveyCooper SERVICES, LLC. NDT Personnel Certification Program, QOP 18-1, Rev. 3.

Name Jason Glasco **SSN** ON FILE

TECHNICAL CERTIFICATION

Method / Level Radiography II

Certification Date 2/17/2006 **Certification Expires** 2/17/2009

EXPERIENCE

RT I	Scientific Inspection	6/98 to 9/99
RT I	IveyCooper Services	2/02 to 1/03
RT II	IveyCooper Services	2/03 to Present

EDUCATION / TRAINING

Hixson HS	Hixson, TN.	Diploma

RT I	RT Basic 40 hours	Scientific Inspection	10/98
RT Safety	RT Safety 8 hours	Scientific Inspection	2/02
RT II	Radiographic Testing II 40 hours	IveyCooper Services	1/03
RT Safety	RT Safety 8 hours	IveyCooper Services	8/03
RT Safety	RT Safety 8 hours	IveyCooper Services	9/04
	RT Safety 8 hours	IveyCooper Services	2/06

EXAMINATION

Level I and II

% General	75%	2/17/2006
% Specific	85%	2/17/2006
% Practical	100%	2/17/2006
% Composite Score	87%	

Level III

% Basic		
% Method		
% Specific		
% Practical		
% Composite Score		

NDT Level III Todd Kirk

Date 2/17/2006

Notes

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625

IveyCooper
SERVICES, LLC

EYE EXAMINATION RESULTS SUMMARY

Name (First, MI, Last)	SSN ON FILE
Jason Glasco	Date of Exam 8/17/2007

Near Vision - Jaeger 1 (Snellen 20/20 or better for NDE Inspection)

	R	L	B	Accept	Unacceptable
Natural	J1	J1	J1	Yes	
Corrected					

This vision acuity examination meets the requirements of ASME BPV Code, Section XI 1998 edition. ☑

Far Vision - Snellen 20/25 (or greater for NDE) / Snellen 20/30 (or greater for Inspection)

	R	L	B	Accept	Unacceptable
Natural	20/20	20/20	20/20	Yes	
Corrected					

Color Vision

	Accept	Unacceptable
Ishihara Color Contrast	Yes	
Other (Describe)		
Notes		

Corrective Lenses Required While Conducting Inspections

Near Vision		No
Far Vision		No

Exam administered on Stereo Optical Co., Inc. 2000P Optec Vision Tester. ☑

Exam administered on approved eye charts. ☐

Administered By: Ian B. Moreau

Reviewed and Accepted By: David W. Ivey

Accepted For: ☑ NDE ☑ Inspection

2815 Belle Arbor Avenue * Chattanooga, TN 37406 * Phone 423-493-0097 * Fax 423-698-1625

F-18.3-2 Rev. 4

Westinghouse

VISION ACUITY EXAMINATION RECORD

Name	*SAP No.	Date of Exam
Timothy MAJOROS	31759	3-10-08

* Do not use Social Security Number or passport number.

Note: Fill in the actual numerical results for each reading, e.g.; Near Vision, R# 1 or Far Vision, L 20 / 20

Near Vision - Jaeger* ☐ Snellen ☒ Other: _____

				Accept.	Unaccept.
Natural	R# ____	L# ____	B# ____		
Corrected	R# 20/17	L# 20/25	B# 20/17	X	

* Qualified Jaeger Card Serial Number (if applicable): _____

Far Vision - Snellen ☒ Other: _____

				Accept.	Unaccept.
Natural	R 20 / ____	L 20 / ____	B 20 / ____		
Corrected	R 20 / 18	L 20 / 20	B 20 / 18	X	

Color Vision	Accept.	Unaccept.
Ishihara	X	
Other (Describe)		

Corrective Lenses Required While Conducting Inspections	Yes	No
Near Vision	X	
Far Vision	X	

Eye examinations shall be performed by a Level III, designate or medical personnel.

Eye Examination Administered By: Maryrose Daniels RN 3-10-08
Signature Title Date

This Vision Acuity Examination is acceptable for NDE, Inspection and Test. Yes ☒ No ☐

This Vision Acuity Examination also meets the requirements of ASME Section XI, 1992 edition, 1992 Addenda and later editions. Yes ☒ No ☐

Accepted By: _____ QA Supvr. WEC Dyne NDE L-III 5/11/08
Signature (Level III or designee) Title Date

Formerly Vision Acuity Examination Record (18.3.2-1

WESDYNE INTERNATIONAL

WesDyne International

Inspection Services

Certificate of Qualification

for

Timothy P. Majoros 31759

This individual is certified in accordance with WesDyne International QA Procedure WDP-9.2 "Qualification and Certification of Personnel in Nondestructive Examination", which follows the guidelines of ASNT Recommended Practice SNT-TC-1A, CP-189, and ASME Section XI.

WesDyne Written Practice WDP-9.2 Rev. 8

CERTIFICATIONS

Method	Level	Certification Date	Recertification Date	Expiration Date
Eddy Current	II	9/8/2006	N/A	8/22/2009

Limitations/ Restrictions: None.

Test Techniques: ET: Absolute and Differential.

EYE EXAMS

Not valid without current eye exam attached.

ADDITIONAL CERTIFICATIONS / QUALIFICATIONS

Reviewed By

ML Whytsell

NDE Administrator, ML Whytsell

9-8-06

Date

WESDYNE INTERNATIONAL

Qualification and Certification Summary

WesDyne International

Name:	Timothy P. Majoros	Badge: 31759

CURRENT CERTIFICATION EXAMINATIONS

METHOD	LEVEL	GENERAL/BASIC		SPEC./METHOD		PRACT./SPEC.		SCORE	EXAMINER
		SCORE		SCORE		SCORE			
LT									
ET	II	92		84		96		90.67	Z. Kuljis, L-III
MT									
PT									
RT									
UT									
VT									
VT-1									
VT-2									
VT-3									

EDUCATION

Diploma- Brownsville Area High School - Brownsville, PA, 1983

TRAINING

CLS	LAB	
20	20	Hours - ET Level I, Westinghouse Electric
24		Hours - ET Level II, Westinghouse Electric
20	20	Hours - ET Level II, Westinghouse Electric
40	40	Hours - ET QDA, Anatec

EXPERIENCE

Initial Method Certification Date

LT	ET	MT	PT	RT	UT	VT	VT-1	VT-2	VT-3
	7/1/1989								

This individual is certified in accordance with WesDyne International QA Procedure WDP-9.2 "Qualification and Certification of Personnel in Nondestructive Examination", which follows the guidelines of ASNT Recommended Practice SNT-TC-1A, CP-189, and ASME Section XI.

M L Whytsell — 9-8-06

NDE Administrator, ML Whytsell — *Date*

WESDYNE

Individual Experience Summary Record

WesDyne International

Documented records are maintained on file and meet at least the minimum WesDyne International requirements for each certification discipline. These and additional records (when referenced) provide objective evidence supporting Qualification and Certification.

File Date

Name: **Timothy P. Majoros**

Badge: **31759**

Prior Certification:

This individual has been performing NDE related activities since 1989 in power plant, bridge fabrication, and/or structural steel inspection performing visual, surface and/or volumetric examinations on vessels, structural supports, heat exchangers, piping and related components. Previous experience documentation available upon request.

Documented Experience				LT	ET	MT	PT	RT	UT	VT	VT-1	VT-2	VT-3
Date		Company	Level		II								
09/89	to 06/06	Upon Request	II	0	23440	0	0	0	0	0	0	0	0
Total Experience				0	23440	0	0	0	0	0	0	0	0

The supporting documented records have been reviewed and are true and correct to the best of my knowledge.

ML Whytsell — 9-8-06

NDE Administrator, ML Whytsell — *Date*

F-18.3-2 Rev. 4

Westinghouse

VISION ACUITY EXAMINATION RECORD

Name	*SAP No.	Date of Exam
Eric Overly	28519	11-14-07.

* Do not use Social Security Number or passport number.

Note: Fill in the actual numerical results for each reading, e.g.; Near Vision, R# 1 or Far Vision, L 20 / 20

Near Vision - Jaeger* ☐ Snellen ☒ Other: _____

				Accept.	Unaccept.
Natural	R# 20/13	L# 20/13	B# 20/13	✓	
Corrected	R# ____	L# ____	B# ____		

* Qualified Jaeger Card Serial Number (if applicable): _____

Far Vision - Snellen ☒ Other: _____

				Accept.	Unaccept.
Natural	R 20 / 15	L 20 / 13	B 20 / 13	✓	
Corrected	R 20 / ____	L 20 / ____	B 20 / ____		

Color Vision	Accept.	Unaccept.
Ishihara	✓	
Other (Describe)		

Corrective Lenses Required While Conducting Inspections	Yes	No
Near Vision		✓
Far Vision		✓

Eye examinations shall be performed by a Level III, designate or medical personnel.

Eye Examination Administered By: Mary Ondrash (Signature) RN (Title) 11-14-07. (Date)

This Vision Acuity Examination is acceptable for NDE, Inspection and Test. Yes ☑ No ☐

This Vision Acuity Examination also meets the requirements of ASME Section XI, 1992 edition, 1992 Addenda and later editions. Yes ☑ No ☐

Accepted By: John R. Dellosso (Signature (Level III or designee)) Lv III (Title) 11/15/07 (Date)

WESDYNE INTERNATIONAL

WesDyne International

Inspection Services

Certificate of Qualification

for

E. Scott Overly 28519

This individual is certified in accordance with WesDyne International QA Procedure WDP-9.2 "Qualification and Certification of Personnel in Nondestructive Examination", which follows the guidelines of ASNT Recommended Practice SNT-TC-1A, CP-189, and ASME Section XI.

WesDyne Written Practice WDP-9.2 Rev. 6 for ET; Rev. 8 for UT

CERTIFICATIONS

Method	Level	Certification Date	Proficiency Date	Expiration Date
Eddy Current	II	6/1/2005	N/A	5/25/2008
Ultrasonic	II (PDI)	8/16/2006	N/A	7/21/2009

Limitations/ Restrictions: None.

Test Techniques: ET: Absolute and Differential; UT: Contact.

EYE EXAMS

Not valid without current eye exam attached.

ADDITIONAL CERTIFICATIONS / QUALIFICATIONS

App VIII Qualified, Sup 10, Automated, ID - PDI-ISI-254-SE in Detection and Length Sizing for Dissimilar Metal - Dissimilar – No Exp Date

App VIII Qualified, Sup 2, Automated, ID - PDI-ISI-254-SE in Detection and Length Sizing for Austenitic - Piping – No Exp Date

App VIII Qualified, Sup 4 & 6, Automated, ID - PDI-ISI-254 in Detection and Length Sizing for Ferritic with SMAW as Ground, Cladding - Vessel – No Exp Date

App VIII Qualified, Sup 4 & 6, Automated, ID - PDI-ISI-254 in Through Wall Extension for Ferritic with SMAW as Ground, Cladding - Vessel – No Exp Date

Appendix VII Qualified UT Level II -

Appendix VIII Qualified UT Level II -

Reviewed by M L Whytsell 1-9-08

NDE Administrator, ML Whytsell *Date*

WESDYNE INTERNATIONAL

Qualification and Certification Summary

WesDyne International

Name:	E. Scott Overly	Badge: 28519

CURRENT CERTIFICATION EXAMINATIONS

METHOD	LEVEL	GENERAL/BASIC		SPEC./METHOD		PRACT./SPEC.		SCORE	EXAMINER
		SCORE		SCORE		SCORE			
LT									
ET	II	85		97.5		94.88		92.46	Z. Kuljis, L-III
MT									
PT									
RT									
UT	II (PDI)	100		90		91		93.67	S. Sabo, L-III
VT									
VT-1									
VT-2									
VT-3									

EDUCATION

General Studies- Mt. Pleasant High School - Mt. Pleasant,PA,
GED- Commonwealth of PA - Harrisburg, PA, 1995

TRAINING

CLS	LAB	
20	20	Hours - ET Level I, Master-Lee
20	20	Hours - ET Level II, CoreStar
44	44	Hours - ET QDA Qualification, CoreStar
8		Hours - ET QDA Enhancement, CoreStar
20	20	Hours - UT Level I, Hellier
20	20	Hours - UT Level II, Hellier
40	40	Hours - UT Appendix VIII Qualification Training, WesDyne
20	20	Hours - Paragon Operator Training, WesDyne
20	20	Hours - Paragon Operator Training, WesDyne

EXPERIENCE

Initial Method Certification Date

LT	ET	MT	PT	RT	UT	VT	VT-1	VT-2	VT-3
	6/1/1999				7/19/2005				

This individual is certified in accordance with WesDyne International QA Procedure WDP-9.2 "Qualification and Certification of Personnel in Nondestructive Examination", which follows the guidelines of ASNT Recommended Practice SNT-TC-1A, CP-189, and ASME Section XI.

mL Whytsell 1-9-08

NDE Administrator, ML Whytsell *Date*

WESDYNE

Individual Experience Summary Record

WesDyne International

Documented records are maintained on file and meet at least the minimum WesDyne International requirements for each certification discipline. These and additional records (when referenced) provide objective evidence supporting Qualification and Certification.

File Date **1/9/2008**

Name: **E. Scott Overly** | Badge: **28519**

Prior Certification:

This individual has been performing NDE related activities since 1999 in power plant, bridge fabrication, and/or structural steel inspection performing visual, surface and/or volumetric examinations on vessels, structural supports, heat exchangers, piping and related components.

Documented Experience				LT	ET	MT	PT	RT	UT	VT	VT-1	VT-2	VT-3
Date		Company	Level		II				II (PDI)				
06/99	to 06/07	Upon Request	N/A	0	1619	0	10	0	3735	71	0	0	0
Total Experience				0	1619	0	10	0	3735	71	0	0	0

The supporting documented records have been reviewed and are true and correct to the best of my knowledge.

ML Whytsell — 1-9-08

NDE Administrator, ML Whytsell — *Date*

Attachment 10

Pictures of the Memphis Activity


EXIT


CAT