

1988 INSERVICE EXAMINATION OF SELECTED CLASS 1,
CLASS 2, AND CLASS 3 COMPONENTS AND SYSTEMS OF
CALVERT CLIFFS NUCLEAR POWER PLANT,
UNIT 1

VOLUME IV
FIELD DATA
SwRI Project 2116

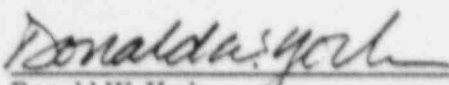
CONTENTS:
CLASS 1 COMPONENTS AND SYSTEMS
VESSELS
PIPING
PUMPS
CLASS 2 COMPONENTS AND SYSTEMS
VESSELS

Prepared for

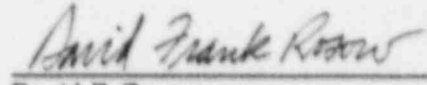
Baltimore Gas and Electric Company
Nuclear Energy Division
Calvert Cliffs Nuclear Power Plant
Lusby, Maryland 20657

August 1988

Prepared by


Donald W. York
Project Manager
Engineering and Analysis Section
Department of NDE Services

Approved by


David F. Rosow
Acting Director
Department of NDE Services
Nondestructive Evaluation Science
and Technology Division

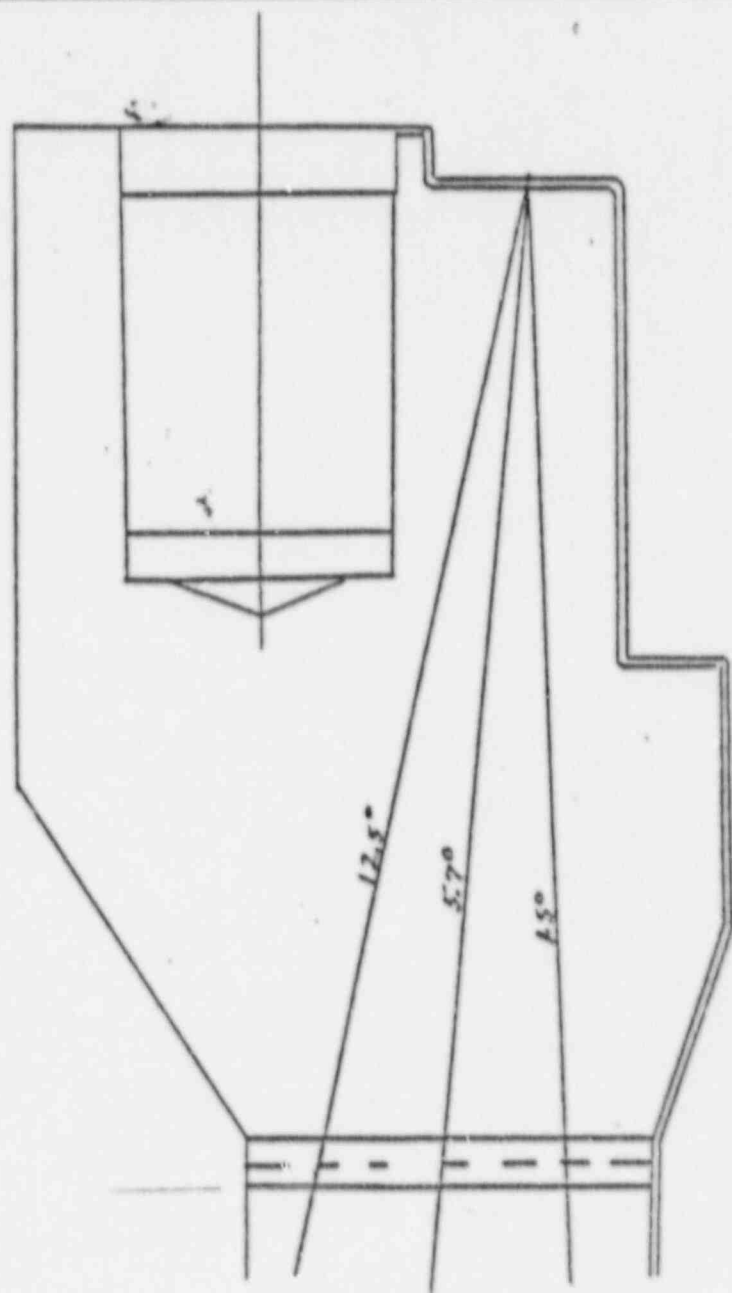
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PDR ADOCK 05000317
Q FDC

CLASS 1 COMPONENTS AND SYSTEMS

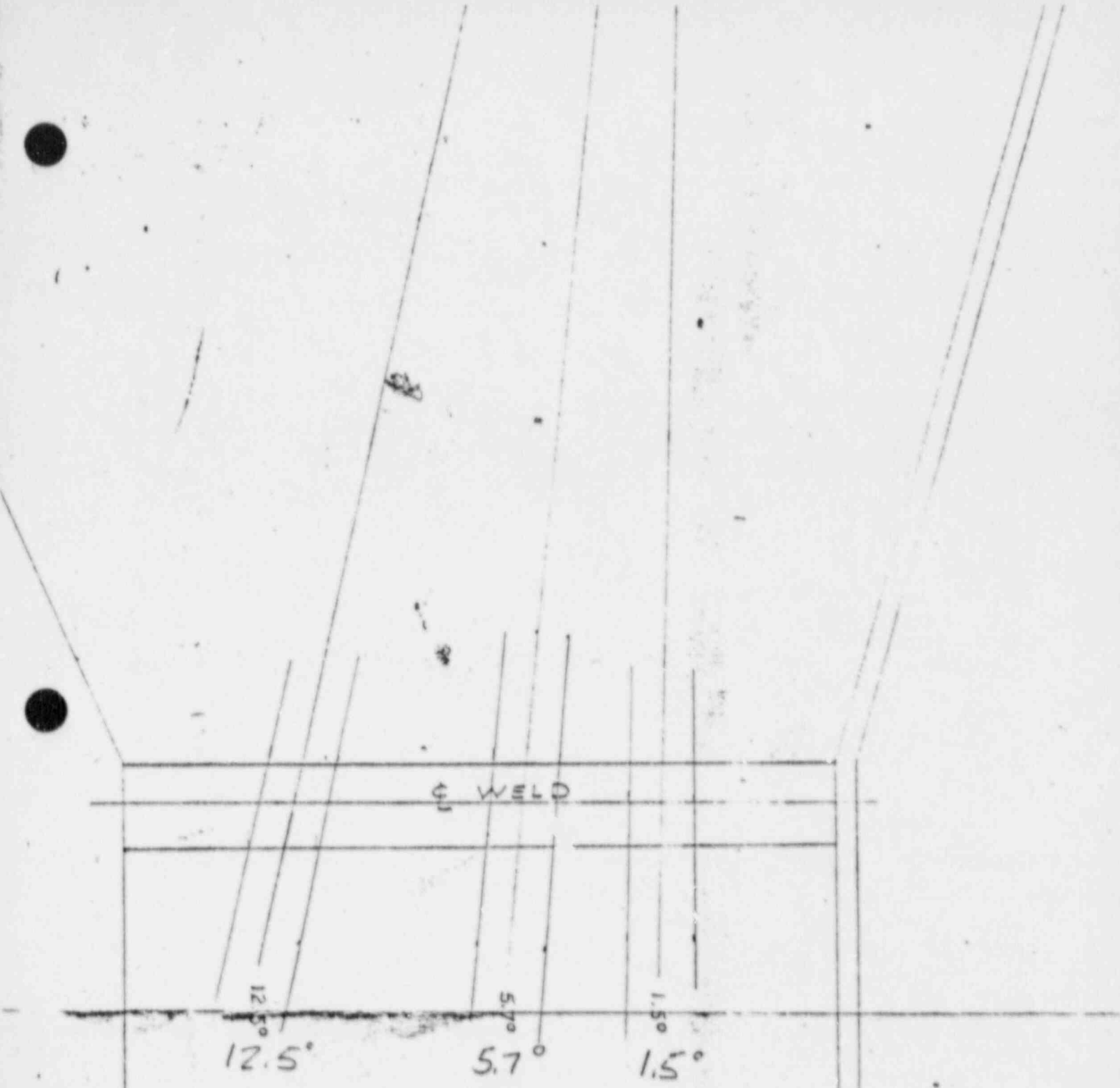
REACTOR PRESSURE VESSEL

SWRI VESSEL MANUAL U.T. EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS I		DATE: (DAY - MON. - YR.) 18 APR 88		TIME: (24 HR. CLOCK) EXAM STARTED 1247 EXAM ENDED 1100		SHEET No. 110003		
EXAMINATION AREA (SYST./COMP) Reactor Pressure Vessel		(LINE/SUBASSEMBLY) off's shell to flange		(IDENTIFICATION) 7-203		L ^o LOCATION 5700 Nole #1		W ^o LOCATION Seal Surface Edge		
EXAMINER L Spess		PROCEDURE No. 600-13 REV. 39 DEV. 1		CALIBRATION SHEET (S) 190075 190074 190076		ANGLE USED 5.7		WELD TYPE shell to flange		
EXAMINER M KLEINMAN		SNT LEVEL II		SEARCH SEARCH UNIT UNIT LOC. ANGLE Seal Surface 5.7 Seal Surface 12.5 Seal Surface 1.5		SCANNING dB 4/100		WELD LENGTH 545		
IND. No.		% OF DAC MAX.		L ₁ 20% DAC		L ₂ 20% DAC		EXAM SURFACE TEMPERATURE 81/81 °F		
		W MAX. MP		L MAX.		DAMPS (IF YES, EXPLAIN)		REMARKS		
		W RECORDED		L INDICATIONS				Plus 14 DB S.w.t.d. 80		
		NO RECORDED		L INDICATIONS				80		
		NO RECORDED		L INDICATIONS				80		
REMARKS										
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) None 80										
REVIEWED BY Russell Fin				SNT II		DATE 15 APR 88		PAGE 1		OF 1



CALVERT CLIFFS 1 VESSEL FLANGE LAYOUT



REACTOR PRESSURE VESSEL FLANGE TO SHELL WELD

COVERAGE PLOT

30 APR 1988

Russell Fine II 11"

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:		SITE:		SHEET No.:					
17-2116		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		003500					
EXAMINATION AREA (SYSTEM / COMPONENT)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)					
REACTOR VESSEL		RPV		18 STUDS 1-16-88					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
V Y	N/A								600-18/42, DIV 2
PT <input type="checkbox"/>									800-109/1, DIV. 1, 2
MT <input type="checkbox"/>									CC-27
U Y									EXAMINED STUD NOS 1--18.
									EXAMINED IN ACCORDANCE WITH ASME CODE CASE N-307-1.
									RWX ANI 5-2-88
	60°	270010	WAT 4 30 88						X
	88°	270014	WAT 4 30 88						X
		N/A							SURFACE WAVE.
SUMMARIZED BY:				DATE		CONTINUED ON SHEET No.:		PAGE OF	
<i>Donald W. York</i>				5-1-88		N/A		1 OF 1	

NA 3502

PRESSURIZER

SW. R. L. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 003700	(IDENTIFICATION) 2-A01A						
EXAMINATION AREA (SYSTEM / COMPONENT): PRESSURIZER		(LINE / SUBASSEMBLY): PRZ							
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
VT	N/A								LONG SEAM
									600 47/0, DEV. 1, 2, 3
									600-15/71, DEV. 1
									CC-1 (5" - CSCL)
PT									
MT									
UT									
	170074	NAJ	4-25-88						SHEAR LIMITED EXAMINATION FROM
	190076	NAJ	4-26-88	X					THE CN AND CCW SIDE DUE TO PROXIMITY OF INSULATION RING.
	170076	NAJ	4-26-88	X					REF ANE S-2-88
	170076	NAJ	4-26-88	X					
	170076	NAJ	4-26-88	X					
	135141	NAJ	4-26-88						
	N/A								
SUMMARIZED BY: Donald W. York			DATE: 4-28-88	CONTINUED ON SHEET No.: N/A		PAGE 1 OF 1			

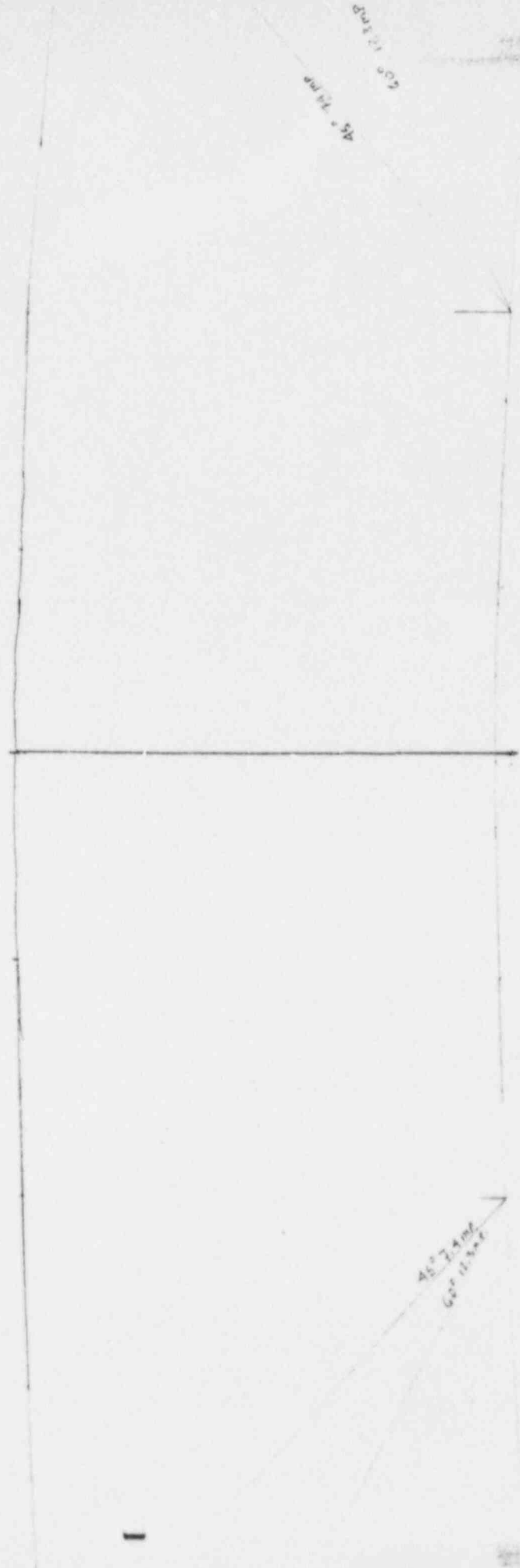
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 25 APR 88	TIME (24 HR. CLOCK): INT. 0746 FINAL 1310	SHEET NO.: 135/141
EXAMINER: W.A. JENSEN	THK. MEAS. REQ'D BY PROCEDURE: No. 600-49-04	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774 123	COMPONENT ID: MESSURTEER 2-101A
EXAMINER: R. MILLER	REV. 71 DEV. 301	COMPLANT: GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/>	REFERENCE BLK NO.: 15-DC-37/CCW	
<p>SEARCH UNITS</p> <p>BRAND: SWRI</p> <p>SERIAL NO.: 3027</p> <p>SIZE: 1" RA</p> <p>FREQ. (KHz): 2.25</p> <p>INSTRUMENT SETTINGS</p> <p>SCREEN SIZE: 10</p> <p>DELAY: 0.83-1</p> <p>MATL. CAL.: 100</p> <p>RANGE: 10</p> <p>REP. RATE: 3K</p> <p>JACK USED: R</p> <p>TRANS. MODE: NORMAL</p>				
SNT LEVEL: II SNT LEVEL: I			SNT LEVEL: II	
SEE ATTACHED SHEET				
45 • Search unit chosen for coverage using $\frac{1}{8}, \frac{3}{8}, \frac{1}{2}, \frac{3}{4}, \frac{7}{8}$ nodes.			NAME: William J. Jensen	
CW • Search unit chosen for coverage using $\frac{1}{8}, \frac{3}{8}, \frac{1}{2}, \frac{3}{4}, \frac{7}{8}$ nodes.			DATE: 28 APR 88	
REVIEWED BY: Russell Miller			SNT LEVEL: II	

PROSSORTZER
PER 2-401A COVERAGE PLOT

CLW
← 40 →
CLW

ε



SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 26 APR 88	TIME (24 HR CLOCK) EXAM STARTED 1410 EXAM ENDED 1445	SHEET NO. 170076
SYSTEM COMPONENT PRESSURIZER	LINE / SUBASSEMBLY PR 2	IDENTIFICATION 2-40'A	LOC. LOCATION Weld E	WELD LOCATION

EXAMINER W. A. JENSEN	PROCEDURE NO. G. 0-15	CALIBRATION SHEET (S) 190081	AN. US 0°	WELD TYPE LONGITUDINAL
EXAMINER R. MILLER	NO. G. 0-15 REV 71	DEV. 1 190150	SCREWS N/A	WELD LENGTH W/A

IND. NO.	50% DAC OR 1/2 MAX		L ₁		L ₂		L POS	SEARCH UNIT LOCATION	SEARCH ANGLE	SURFACE TEMPERATURE (°F)	EXAMINATION SURFACE INSIDE [] OUTSIDE []
	W ₁	MP	W ₂	MP	W ₂	MP					

REMARKS # 4618 SWITCH DOWN FOR SCANNING
 (2) EXAMINED FROM L₀ TO L₁ = 10 3/4" W/L

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
 Exam Area 12 INCHES / No Exam From L = 10 3/4" DUE TO PERMENT INSULATION RING. W/L
 NOTE: ANGLE BEAM TRANSDUCER UNABLE TO FIT UNDER RING. W/L

REVIEWED BY <i>Russell J. Miller</i>	SNT LEVEL II	DATE 27 APR 88	PAGE OF 1 1
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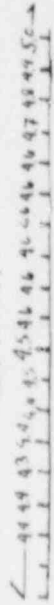
Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 003900
EXAMINATION AREA (SYSTEM / COMPONENT) PRZ	(LINE / SUBASSEMBLY) PRZ	(IDENTIFICATION) 8-411

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									UPPER HEAD → SHELL
	FOLLOW-UP EXAMINATION	↓									600-49/0 , DEV. 1, 2, 3
PT <input type="checkbox"/>	INITIAL EXAMINATION										600-15/71 , DEV. 1
	FOLLOW-UP EXAMINATION										CC-1 (5" CSCL)
UT	0° LAM SCAN	↓									
	0° WELD SCAN	170080	WAJ	4-25-88	X						LIMITED EXAMINATION FROM
	45° SCAN	170075	WAJ	4-25-88	X						SHELL SIDE DUE TO
	45° T SCAN	170075	WAJ	4-25-88	X						PROXIMITY OF INSULATION
	60° SCAN	1700787	WAJ	4-27-88	X						SUPPORT RING.
	60° T SCAN	170077	WAJ	4-27-88	X						RWZ ^{AVE} 5-2-88
	PROFILE	135023	WAJ	4-25-88							
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W York</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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PRESSURIZER
PZR 8-411
Coverage Plot



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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 25 APR 88	TIME (24 HR CLOCK) EXAM STARTED 1332 EXAM ENDED 1457	SHEET NO. 170080
SYSTEM / COMPONENT PRESSURIZER	LINE / SUBASSEMBLY 8 PRZ	IDENTIFICATION 8-411	L _o LOCATION VESSEL ZERO	W _o LOCATION WELD 2
EXAMINER W. A. JENSEN	PROCEDURE NO 600-49	ANGLE USED 0°	45° T 60° C N	WELD TYPE UPPER HEAD - SHELL
EXAMINER R. MILLER	REV 0 DEV. 1.2.3	SCANNING DB 60	A	WELD LENGTH 333 3/8
50% DAC OR 1/2 MAX W ₁ MP W ₂ MP W MAX	50% DAC OR 1/2 MAX L ₁ MP L ₂ MP L MAX	SEARCH UNIT LOCATION ANGLE CN WELD 0°	SURFACE TEMPERATURE 81/81 °F	EXAMINATION SURFACE INSIDE () OUTSIDE ()
IND. NO. DAC MAX				
NO RECORDABLE INDICATIONS				
REMARKS UP / DN				
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) * + Lib. SWITCH DOWN FOR SCANNING and				
NONE and				
REVIEWED BY <i>Russell J. In...</i>	SNT LEVEL II	DATE 27 APR 88	PAGE 1 OF 1	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 27 APR 88	TIME (24 HR CLOCK) EXAM STARTED 0913 EXAM ENDED 1031	SHEET NO. 170075
SYSTEM / COMPONENT PRESSURIZER		LINE / SUBASSEMBLY 8 th PRZ		Weld LOCATION End of WELD
EXAMINER W.A. Jensen	SNT LEVEL II	PROCEDURE NO. 600-15	ANGLE USED 0°	WELD TYPE UPPER HEAD - SHELL
EXAMINER R. Miller	SNT LEVEL I	REV 71 DEV. 1	SCANNING N/A	WELD LENGTH 333 7/8
	50% DAC OR 1/2 MAX	L ₁	SEARCH UNIT LOCATION ANGLE	EXAMINATION SURFACE INSIDE () OUTSIDE ()
	W MAX	L ₂	UP 45°	SURFACE TEMPERATURE 81/81 °F
	MP W ₁	50% DAC OR 1/2 MAX	DN 45°	REMARKS A GDB SWITCH AND FOR SAVING WELD
	MP W ₂	MP MAX	ON 45°	
No RECORDABLE INDICATIONS			WAS 45°	
No RECORDABLE INDICATIONS				
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)				
No Scan Downstream at L=22 1/2 to L=24 1/2, L=63 1/2 to L=65 1/2, L=99 to L=101, L=149 1/2 to L=146 1/2, L=178 1/2 to L=180 1/2, L=212 1/2 to L=214 1/2, L=228 1/2 to L=270 1/2, L=289 1/4 to L=291 1/4, L=316 1/2 to L=318 1/2 DUE TO PERMANENT INSULATION BRACKETS, SCANNED				
From W=0 to W=12 1/8 Down Stream DUE TO ADJACENT INSULATION RING AT W=12 1/8. WELD				
REVIEWED BY Russell J. Finner	SNT LEVEL II	DATE 27 APR 88	PAGE 1	OF 1

003900

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 004100
EXAMINATION AREA (SYSTEM / COMPONENT) PRESSURIZER	(LINE / SUBASSEMBLY) PRZ	(IDENTIFICATION) 4-405

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									SPRAY NOZZLE → HEAD
	FOLLOW-UP EXAMINATION										600-49/0, DEV. 1,2,3
PT <input type="checkbox"/>	INITIAL EXAMINATION										600-15/71, DEV. 1
	FOLLOW-UP EXAMINATION										CC-1 (5" - CSCL)
MT <input type="checkbox"/>	INITIAL EXAMINATION										RWZ ^{AWC} 4-28-88
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN	17002983 ^{REV}	WAJ	4-25-88	X						NO EXAMINATION FROM THE
	45° SCAN	170084 ^{REV}	WAJ	4-25-88		X		310033			NOZZLE SIDE DUE TO NOZZLE
	45° T SCAN	170084 ^{REV}	WAJ	4-25-88	X						CONFIGURATION AND ID
	60° SCAN	170084 ^{REV}	WAJ	4-25-88		X		310033			THERMAL SLEEVE.
	60° T SCAN	170084 ^{REV}	WAJ	4-25-88	X						
	PROFILE	135139	WAJ	4-25-88							PROFILE ONLY.
		N / A									

SUMMARIZED BY: <i>Donaldnyork</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: N/A	PAGE OF 1 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 25 APR 88	TIME (24 HR. CLOCK) INT. 0946 FINAL 1520	SHEET NO.: 135139
EXAMINER W. A. JENSEN	THK. MEAS. REQ'D BY PROCEDURE 15 No. 600-49-47 Rev: 0-271 Dev: 301	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774 123	COMPONENT ID: PRESSURIZER A7R 4-405
EXAMINER R. MILLER	SNT LEVEL II	COPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: 05-DE-37/CC1

SEARCH UNITS

BRAND	SWRI
SERIAL NO.	3027
SIZE	1" Rd
FREQ. (MHz)	225
INSTRUMENT SETTINGS	
SCREEN SIZE	10
DELAY	088-1
MATL. CAL.	100
RANGE	10
REP. RATE	3K
JACK USED	R
TRANS. MODE	NORMAL

up

Q

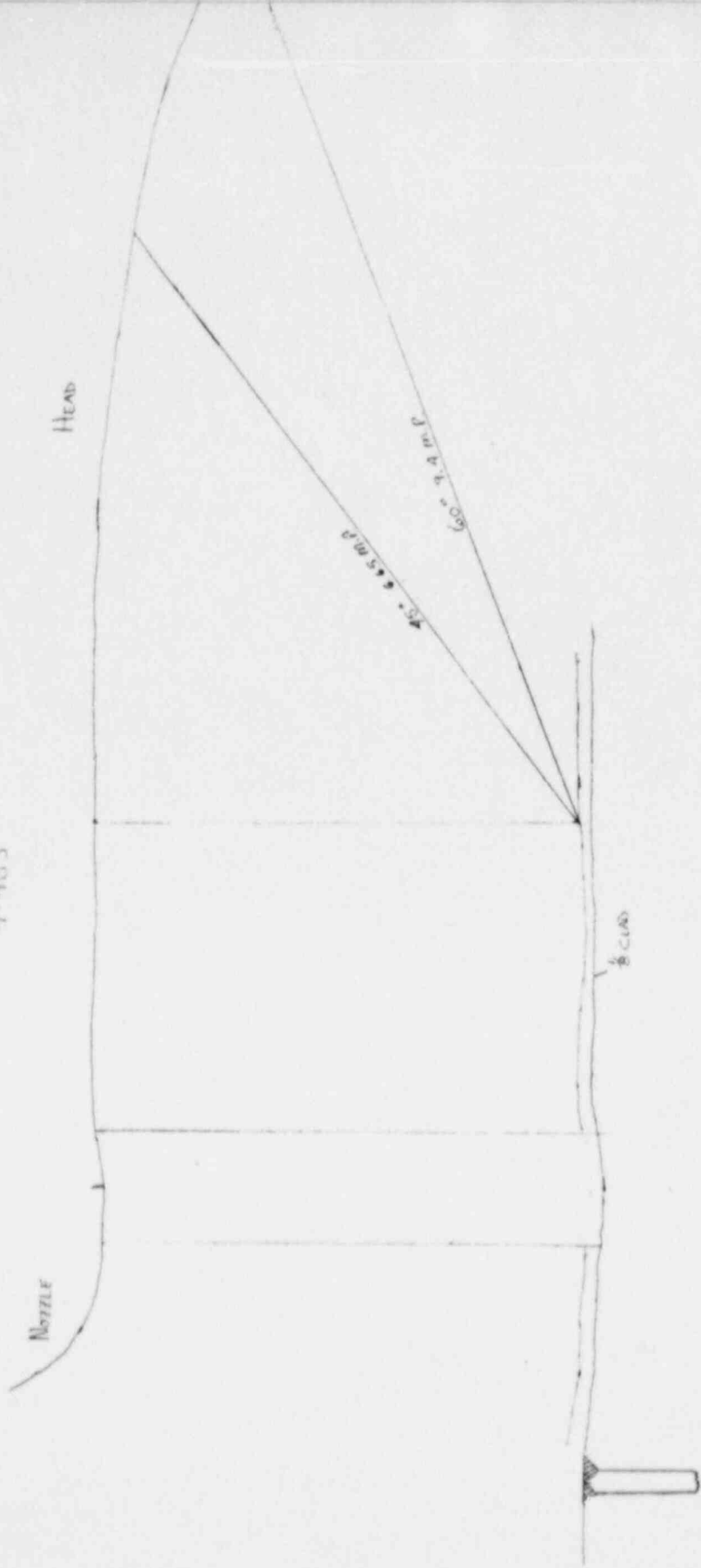
5.0 4.8 4.7 4.6 4.6 4.6

SEE ATTACHED SHEET

45 • Search Unit chosen for coverage using $\frac{45}{45}$ nodes. 60 • Search Unit chosen for coverage using $\frac{60}{60}$ nodes.	NAME: William Jensen	SNT LEVEL: II
REVIEWED BY: Russell Dine	DATE: 27 APR 88	

004100

Chauvin-Lucas Vert I
PRESSURIZER
4-405



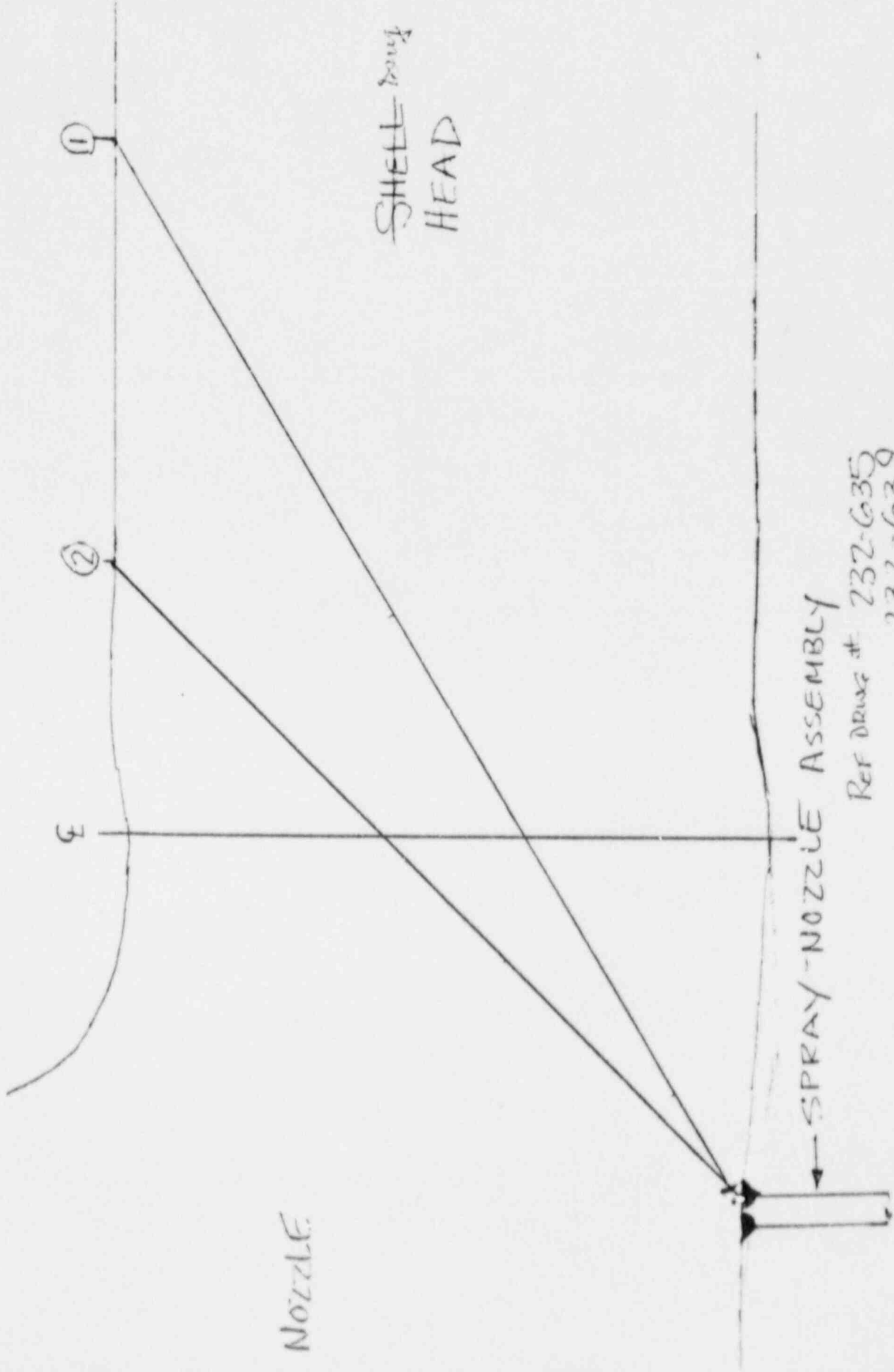
Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET NO. 310033
SYSTEM / COMPONENT PRESSURIZER	LINE / SUBASSEMBLY 1	IDENTIFICATION 405		CALIBRATION SHEET (S) 150081 150150
EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE NO 600-15	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 170084
EXAMINER B. MILLER	SNT LEVEL I	REV. 71 DEV. 1	WELD TYPE CIRCUMFERENTIAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/>	
			MERIDIONAL <input type="checkbox"/> NOZZLE-TO-SHELL <input checked="" type="checkbox"/> OTHER _____	

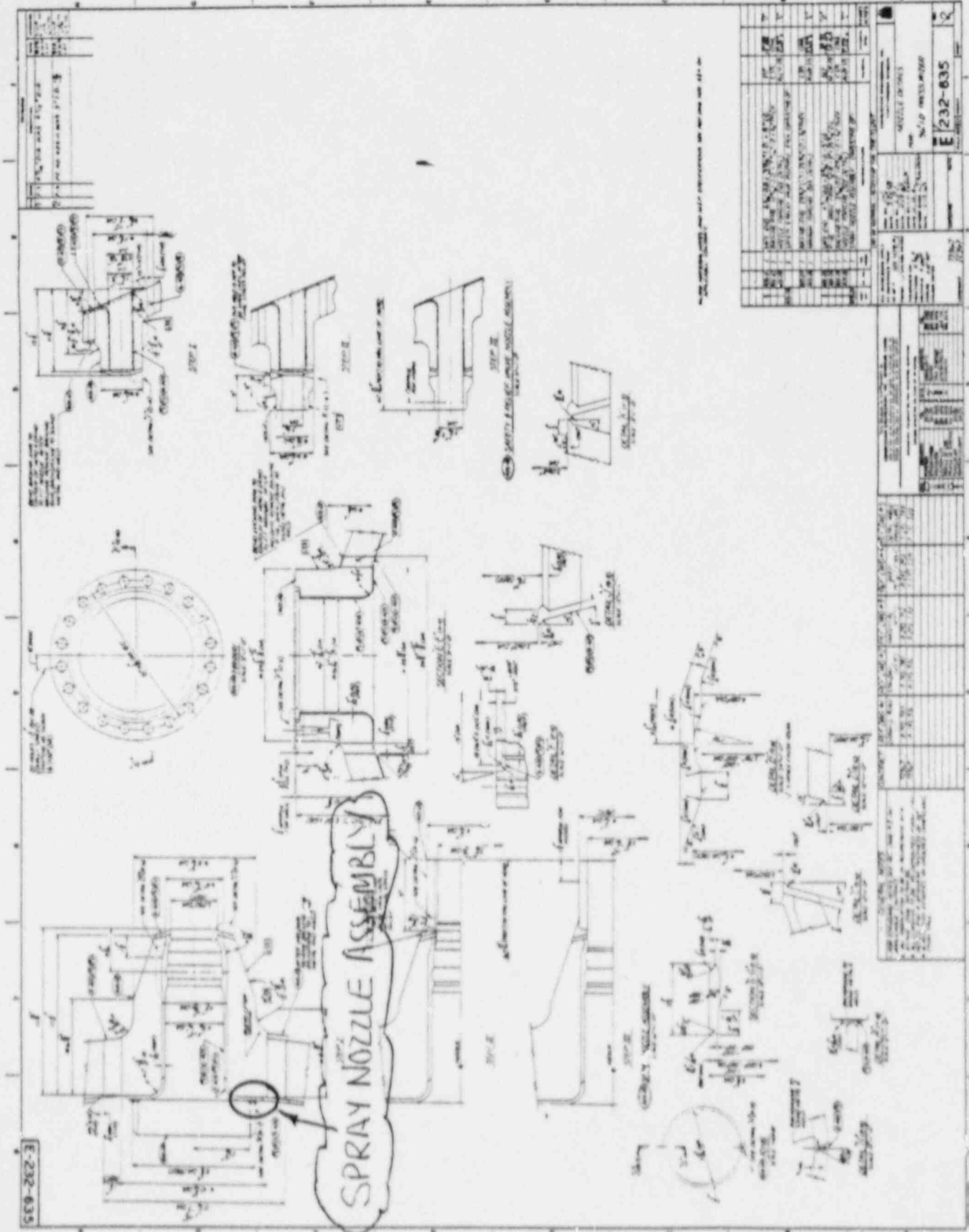
45° AND 60° INDICATIONS (1) (2) ARE GEOMETRIC REFLECTORS FROM THE SPRAY NOZZLE ASSEMBLY (INSIDE SURFACE) AND CAN BE SEEN ALONG THE ENTIRE WELD LENGTH. (REF ATTACHED DRAWINGS)

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY Russell Hill	SNT LEVEL II	DATE 27 APR 88
	REVIEWED BY L. Russ	SNT LEVEL II	DATE 27 APR 88

PK. 217ER
4-405
CAVITY CUTTERS DUCT I
17-2116



REF DRUG # 232-635
232-639



E-232-835

NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	NOZZLE BODY	1	PC	
2	NOZZLE TIP	1	PC	
3	NOZZLE ASSEMBLY	1	PC	
4	NOZZLE ASSEMBLY	1	PC	
5	NOZZLE ASSEMBLY	1	PC	
6	NOZZLE ASSEMBLY	1	PC	
7	NOZZLE ASSEMBLY	1	PC	
8	NOZZLE ASSEMBLY	1	PC	
9	NOZZLE ASSEMBLY	1	PC	
10	NOZZLE ASSEMBLY	1	PC	
11	NOZZLE ASSEMBLY	1	PC	
12	NOZZLE ASSEMBLY	1	PC	
13	NOZZLE ASSEMBLY	1	PC	
14	NOZZLE ASSEMBLY	1	PC	
15	NOZZLE ASSEMBLY	1	PC	
16	NOZZLE ASSEMBLY	1	PC	
17	NOZZLE ASSEMBLY	1	PC	
18	NOZZLE ASSEMBLY	1	PC	
19	NOZZLE ASSEMBLY	1	PC	
20	NOZZLE ASSEMBLY	1	PC	

NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	NOZZLE BODY	1	PC	
2	NOZZLE TIP	1	PC	
3	NOZZLE ASSEMBLY	1	PC	
4	NOZZLE ASSEMBLY	1	PC	
5	NOZZLE ASSEMBLY	1	PC	
6	NOZZLE ASSEMBLY	1	PC	
7	NOZZLE ASSEMBLY	1	PC	
8	NOZZLE ASSEMBLY	1	PC	
9	NOZZLE ASSEMBLY	1	PC	
10	NOZZLE ASSEMBLY	1	PC	
11	NOZZLE ASSEMBLY	1	PC	
12	NOZZLE ASSEMBLY	1	PC	
13	NOZZLE ASSEMBLY	1	PC	
14	NOZZLE ASSEMBLY	1	PC	
15	NOZZLE ASSEMBLY	1	PC	
16	NOZZLE ASSEMBLY	1	PC	
17	NOZZLE ASSEMBLY	1	PC	
18	NOZZLE ASSEMBLY	1	PC	
19	NOZZLE ASSEMBLY	1	PC	
20	NOZZLE ASSEMBLY	1	PC	

NO.	DESCRIPTION	QTY	UNIT	REMARKS
1	NOZZLE BODY	1	PC	
2	NOZZLE TIP	1	PC	
3	NOZZLE ASSEMBLY	1	PC	
4	NOZZLE ASSEMBLY	1	PC	
5	NOZZLE ASSEMBLY	1	PC	
6	NOZZLE ASSEMBLY	1	PC	
7	NOZZLE ASSEMBLY	1	PC	
8	NOZZLE ASSEMBLY	1	PC	
9	NOZZLE ASSEMBLY	1	PC	
10	NOZZLE ASSEMBLY	1	PC	
11	NOZZLE ASSEMBLY	1	PC	
12	NOZZLE ASSEMBLY	1	PC	
13	NOZZLE ASSEMBLY	1	PC	
14	NOZZLE ASSEMBLY	1	PC	
15	NOZZLE ASSEMBLY	1	PC	
16	NOZZLE ASSEMBLY	1	PC	
17	NOZZLE ASSEMBLY	1	PC	
18	NOZZLE ASSEMBLY	1	PC	
19	NOZZLE ASSEMBLY	1	PC	
20	NOZZLE ASSEMBLY	1	PC	

Fig. 7-5 Nozzle Details 7-11/7-12

004100

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 004300
EXAMINATION AREA (SYSTEM / COMPONENT) PRESSURIZER	(LINE / SUBASSEMBLY) PRZ	(IDENTIFICATION) A-405-IRS

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A								SPRAY NOZZLE IRS 800-53/7, DEV 1, 2, Flow	
	FOLLOW-UP EXAMINATION										
PT MT	INITIAL EXAMINATION									CC-41 (8"-CSCL) CC-62 (8"-CSCL) RWZ ANE 5-9-88	
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN										
	45° T SCAN										
	60° SCAN										
	60° T SCAN	↓									
	VT 20°	109010	MK	4-27-88	X						
	VT 55°	109011	MK	4-28-88	X						
		N / A									
		↓									

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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S. W. R. I. NOZZLE INNER RADIUS ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON. - YR.) 27 APRIL 88	TIME: (24 HR CLOCK) EXAM STARTED 1025 EXAM ENDED 1045	SHEET NO: 103009
EXAMINATION AREA: (SYSTEM/COMPONENT) PRESSURIZER	(NOZZLE TYPE/SUBASSEMBLY) 405 PRZ	(IDENTIFICATION) 4-405-IRS IRS-M	L ₀ LOCATION: EDGE OF FLANGE RADIUS	W ₀ LOCATION DO LINE WITH TOP OF ASSEMBLY
EXAMINER: I. SCHWENKAMPER	SNT LEVEL I	PROCEDURE NO. 700-53	CALIBRATION SHEET (S) 190083	ANGLE USED 20
EXAMINER: (PLW) KLEINJAN	SNT LEVEL II	REV. 7	SCANNING dB 40/4	*

IND. NO.	% OF DAC	W MAX		L ₁ 50% DAC	L MAX	L ₂ 50% DAC	CW OR CCW	SEARCH UNIT ANGLE	REMARKS	INI
		W	MP							
									* Head B SWITCH DOWN	
								20°	NO RECORDABLE INDICATIONS	

REMARKS:

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

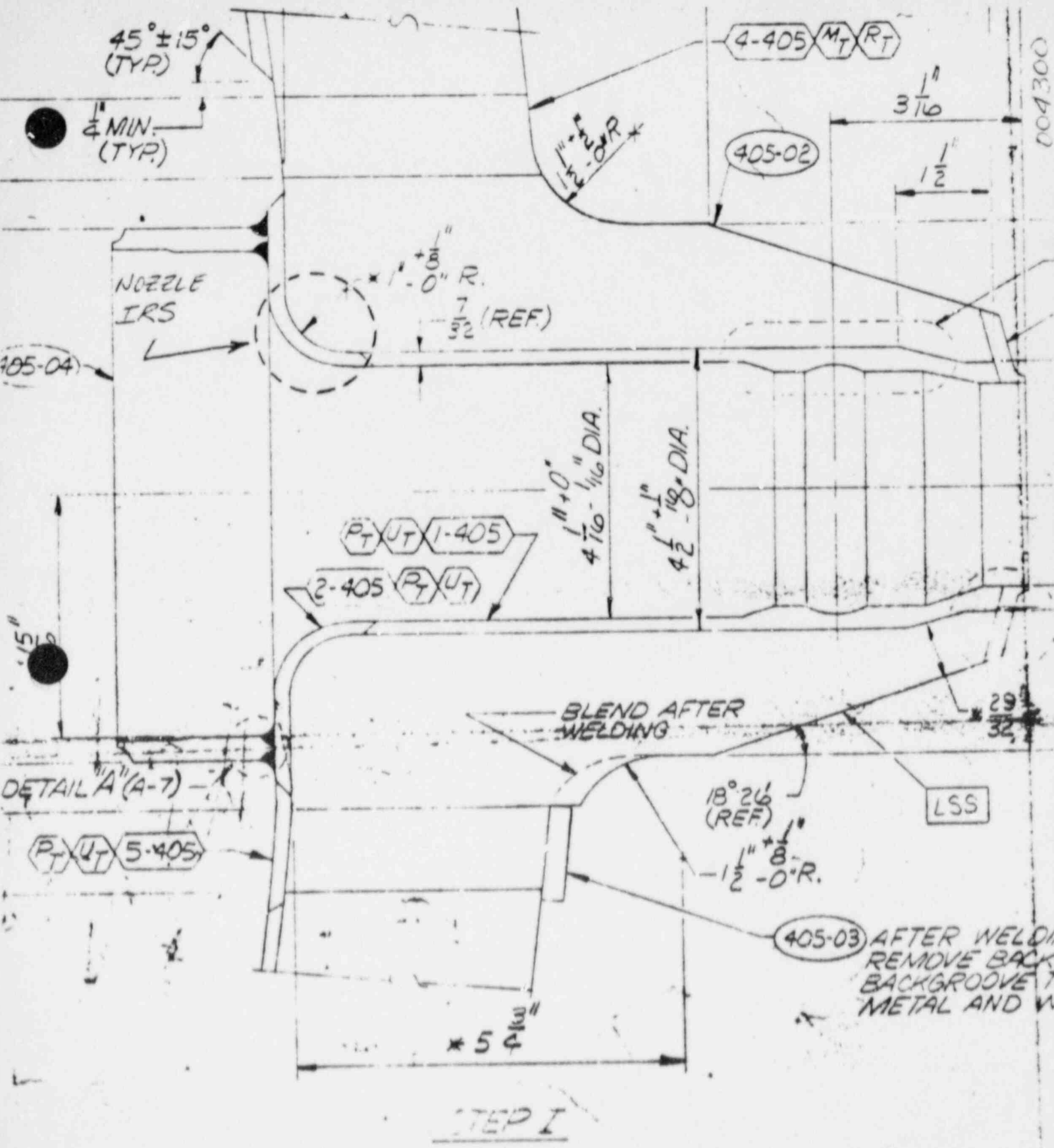
NONE ml

REVIEWED BY: Russell Fin	SNT LEVEL: II	DATE: 28 APR 88	PAGE OF 1 1
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SWRI FORM NO. NDR 17-109 (02/18/87)

004300

004300



BLOW-UP OF DWG. 232-635
 TO SHOW INSIDE RADIUS SECTION
 OF SPRAY NOZZLE. SEE ATTACHED
 CE-DWG-232-635.

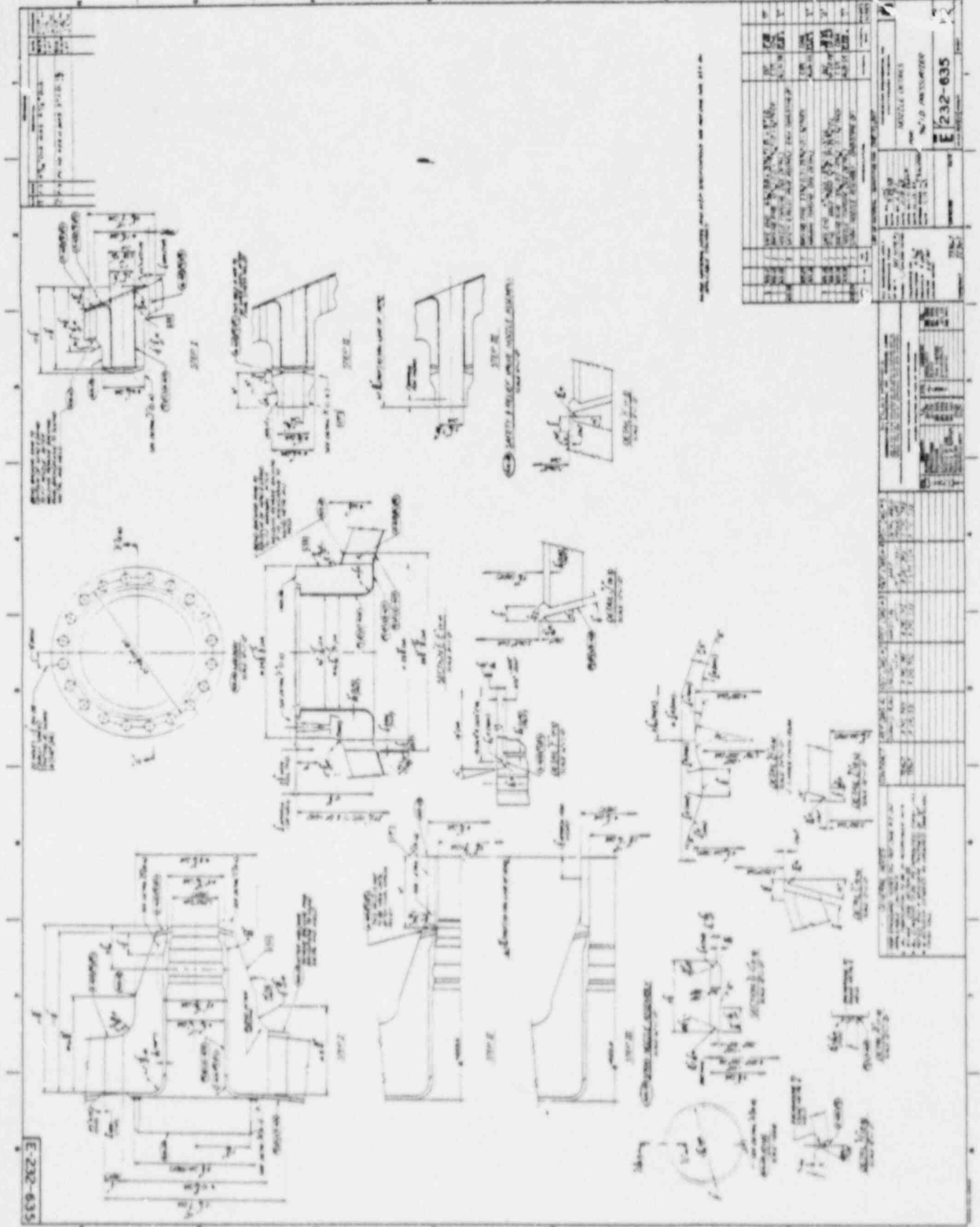


Fig. 7-5 Nozzle Details 7-11/7-12

004300

STEAM GENERATOR 12

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:		SITE:		SHEET No.:					
17-2116		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		ED6000					
EXAMINATION AREA (SYSTEM / COMPONENT)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)					
STEAM GENERATOR 12		12		4-102					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
PT <input type="checkbox"/>	N/A								LWR. EXT RING → LWR. HEAD
MT <input type="checkbox"/>									600-49/0 DEV 1,2,3
U									600-15/71, DEV. 1
T									CC-2 (7"-CSCL)
	170086	LS	4-30-88				X	4	LIMITED UT FROM HEAD SIDE
	170085	LS	4-30-88	X					DUE TO INSULATION SUPPORT
	170085	LS	4-30-88	X					BRACKETS. ONE CODE-ALLOWABLE
	170085	LS	4-30-88	X					PLANAR FLAT REFLECTOR. SEE CNF 4.
	170085	LS	4-30-88	X					FOLLOWING EVALUATION, THE
	135182	LS	4-30-88						INDICATION WAS ACCEPTED AS IS
	170092	LS	4-3-88				X	4	BY B61E.
	170093	LS	5-3-88				X	4	RELOOK.
	170093	LS	5-3-88				X	4	RELOOK.
	N/A								RELOOK ANI 5-4-88

SUMMARIZED BY: *Donald W York*

DATE: 5-3-88

CONTINUED ON SHEET No.: N/A PAGE 1 OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 30 APR 88	TIME (24 HR. CLOCK) INT. Δ 140 FINAL 1625	SHEET NO.: 135/82
EXAMINER: J. J. P. S. S.	THK. MEAS. REG'D BY PROCEDURE: No. 600-15 Rev. 71 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774224	COMPONENT ID: STEAM GENERATOR 12 4-102 LOWER EXTENSION TO LOWER HEAD
EXAMINER: D. J. AGAR	SNT LEVEL: II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: SWRI-1103-24
SEE ATTACHED				
SEARCH UNITS				
BRAND	SwRI			
SERIAL NO.	2894			
SIZE	1			
FREQ. (MHz)	2.25			
INSTRUMENT SETTINGS				
SCREEN SIZE	10			
DELAY	Δ46-1			
MATL. CAL.	093			
RANGE	10			
REP. RATE	3K			
JACK USED	R			
TRANS. MODE	NORM			
REVIEWED BY: <i>J. J. P. S. S.</i>	SNT LEVEL: II	NAME: <i>J. J. P. S. S.</i>	DATE: <i>2 May 88</i>	SNT LEVEL: II

45* Search unit chosen for coverage using $\frac{1}{8}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ no. tes.
 46* Search unit chosen for coverage using $\frac{1}{8}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ nodes.

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116 **SHEET NO.** 170086
SYSTEM / COMPONENT Steam Generator **DATE (DAY-MON-YR)** 30 APR 88
EXAMINER L. Spies **EXAM STARTED (TIME)** 8:40
EXAMINER D. Wagner **EXAM ENDED (TIME)** 14:15
LINE / SUBASSEMBLY 17 **IDENTIFICATION** 4-10L
PROCEDURE ND ECV-15.4 **WELD TYPE** L. WELD to Plate to L. WELD to Plate
WELD LENGTH 51 1/2
WELD TYPE L. WELD to Plate to L. WELD to Plate
EXAMINATION SURFACE INSIDE U OUTSIDE U

END NO.	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L1		L2		L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INI.
	%	MP	W	MP	%	MP	50% DAC OR 1/2 MAX	MP	50% DAC OR 1/2 MAX	MP					
1	90	7/8	41	1/2	41	5/8	41	58 7/8	59	59 1/8	-	Lower Side Head	0°	K Plus to DB Switch to Lead not see wave 45 & 60 degrees to + SIDE of WELD Crown	to
															to
															to

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
 for Limitations Ref Exam Record 17085 to Insulation Support Brackets only to

REVIEWED BY C. H. Spies **SHT LEVEL** II **DATE** Early 88 **PAGE** 1 **OF** 1

006000

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 3 MAY 88	TIME (24 HR CLOCK) EXAM STARTED 1353 EXAM ENDED 1410	SHEET NO. 170092									
SYSTEM / COMPONENT STEAM GENERATOR		LINE / SUBASSEMBLY JE 12		Wt LOCATION Tub 2022(L) Longitudinal									
EXAMINER L SPIESS	SNT LEVEL II	PROCEDURE NO. 600-49	ANGLE USED 0°	WELD TYPE LINE 1/2 OF INBOARD									
EXAMINER E ESCOBEDO	SNT LEVEL II	REV 0	SCANNING DB 5/60	WELD LENGTH 5 1/2									
		DEV. 1 L3		EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>									
IND NO.	% OF DAC OR 1/2 MAX	W MAX	MP W 2	MP W 1	50% DAC OR 1/2 MAX	L 1	L 2	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	SURFACE TEMPERATURE ° F	REMARKS	INH.
1A	4.1	4.1	5/8	4.1	4.1	58 7/8	59 1/8	-	LINE 1/2 OF INBOARD	0°		* Plus 60B Sample to	80
												* SAE of WELD CRACK	80
												RELEAK INDICATION #1	80
												REF SWAM RECORD 170086	80

EXAMINATION AREA LIMITATION (IF NONE , SO STATE)

NONE

REVIEWED BY E.A. Escobedo	SNT LEVEL II	DATE 3 MAY 88	PAGE OF 1 1
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SW. R.I. INDICATION RESOLUTION RECORD

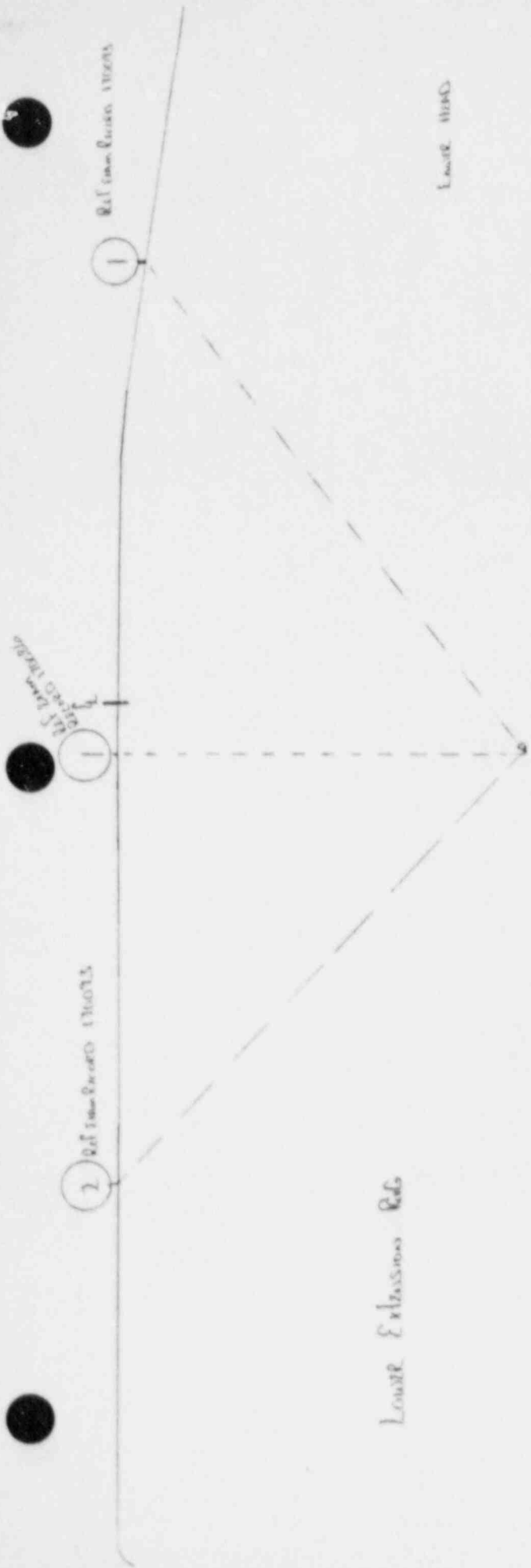
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	IDENTIFICATION	SHEET NO. 310060
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY 12	IDENTIFICATION 4-102	CALIBRATION SHEET (S) 190128 190185 190184
EXAMINER L. SPIESS	PROCEDURE NO. *	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 170086 170093 170092
EXAMINER R. ESCOBEDO	SNT LEVEL II	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/>	
	SNT LEVEL II	NOZZLE-TO-SHELL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> OTHER <input type="checkbox"/>	

*** 600-49, REV. 0 DEV. L2, +3 AND 600-15, REV. 71 DEV. 1**

0° INDICATION @ AND @ IS A SCALE INCLUSIVE. CONFIRMED WITH 45° INDICATIONS @ @ AND @. INDICATION HAS NO MEASURABLE LENGTH AND NO ASPECT ANGLE CALL) AND IS THEREFORE ALLOWABLE UNDER IWB-3511.1 SECTION XI OF 1983 EDITION.

THIS EXAMINATIVE DATA WAS COMPARED WITH THE RESULTS OF THE PSI. THIS DATA COMPARISON REVEALED THAT THE INDICATION WAS NOT RECORDED DURING THE PSI. OBSERVED 45° INDICATION RECORDED DURING PSI, HOWEVER THE INDICATION WAS NOT RECORDED PER PROCEDURE.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>E. H. Eberhart</i>	SNT LEVEL II	DATE 3 MAY 88
	REVIEWED BY <i>Lyle Spues</i>	SNT LEVEL II	DATE 3 MAY 88



STEAM GENERATOR * 12
 MODEL 4-102
 Ref Resolution Record
 310060

Good over world Both directions but to CND

with
L-59 of same time 11/23/56 & 310052

usable by other stations
Thickness constant
Date to fabrication
of tower tower

Extensive Rivets

Lower
HEAD

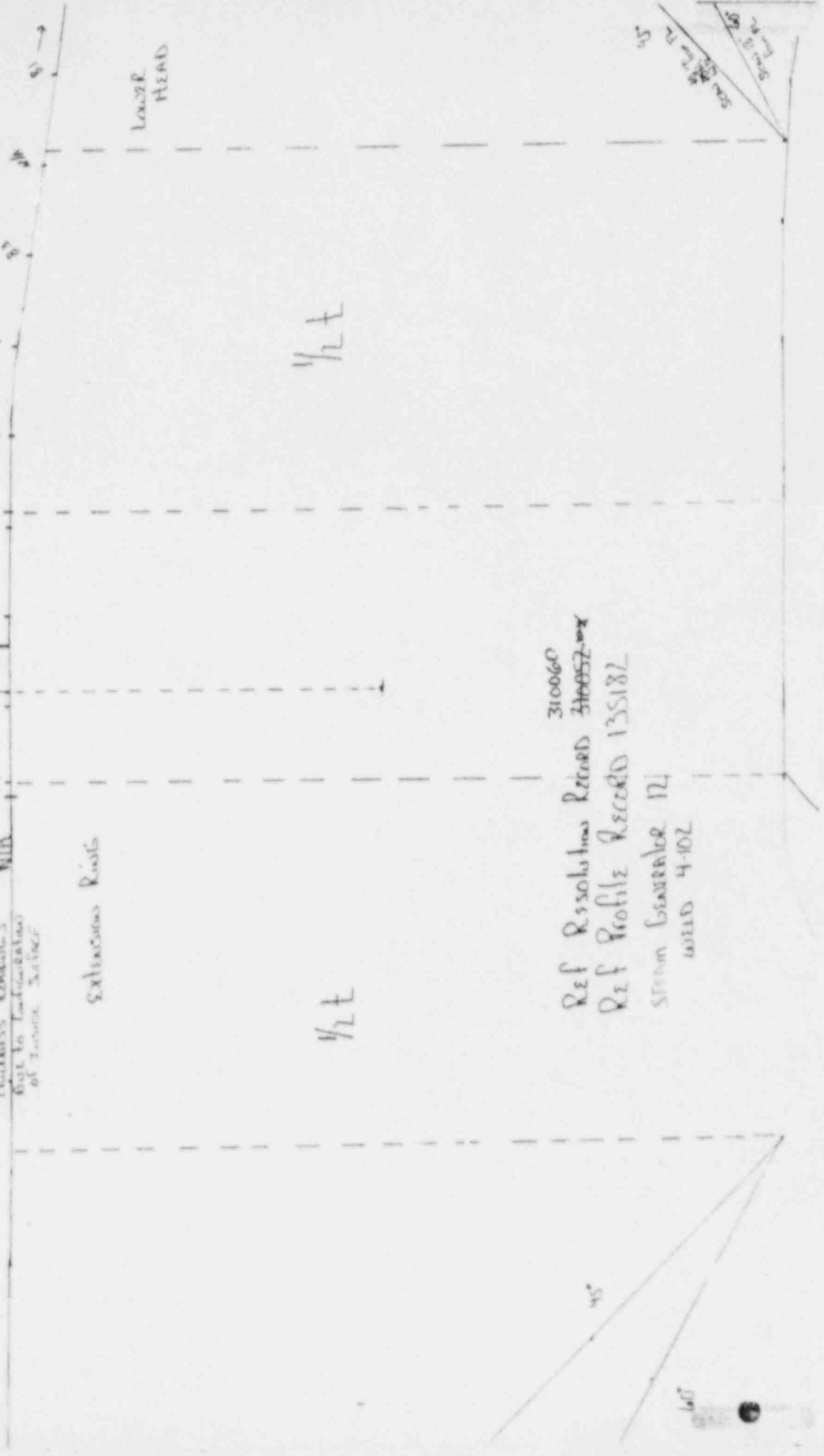
1/2 t

1/2 t

310060
Ref Resolution Record 310052-002
Ref Profile Record 135187
Stream Gauge No 12
WIND 4-02

45°

Scale 1:50
1" = 50'
1/4" = 12.5'
1/8" = 6.25'

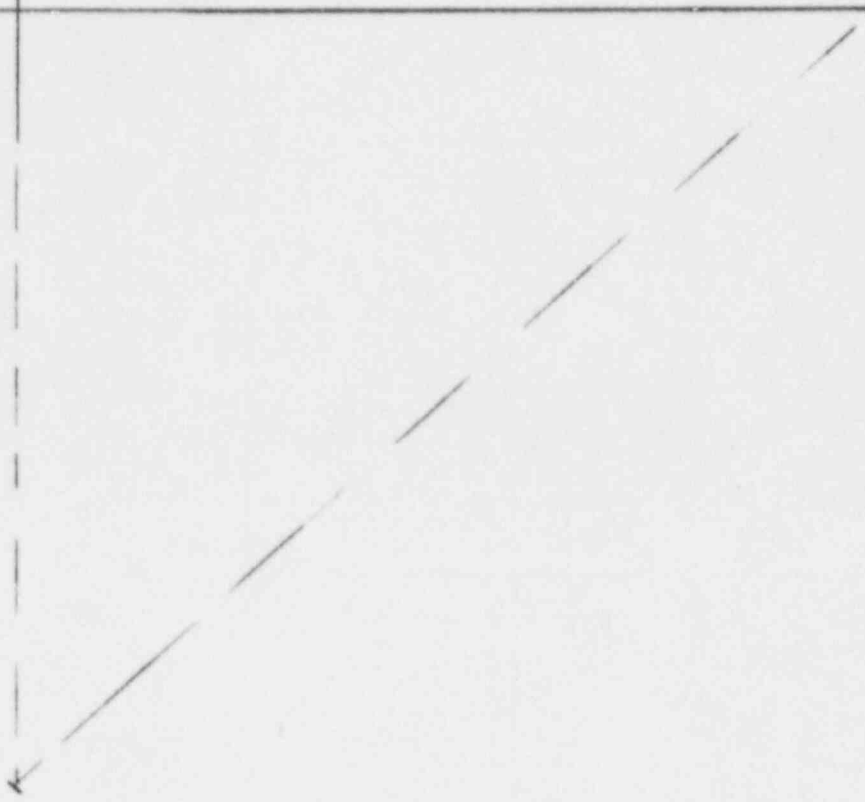


L = 59

3

Ref Exam Record 170093

L = 54 1/2



45t Indication

Ref Resolution Record #
310060

STEAM GENERATOR 12
WELD 4-102
LOWER EXTENSION TO LOWER HEAD

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 006650
EXAMINATION AREA (SYSTEM / COMPONENT) Steam Generator	(LINE / SUBASSEMBLY) 12-5	(IDENTIFICATION) 111A

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	S	O			
V T	INITIAL EXAMINATION	N / A								(12A OUTLET NO2-SHELL) 600-49/05 Dow 1/32 CC-2 (7"-CSCL)	
	FOLLOW-UP EXAMINATION										
PT MT	INITIAL EXAMINATION									600-15/71 Dow 1	
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN	170031	LD	16 Apr 88	X					No Exam on Nozzle side due to configuration. Limited UT 45, 45°, and 60, 60° due to support skirt configuration RW LANE 4-28-88	
	45° SCAN	170026	MK	15 Apr 88	X						
	45° T SCAN	170026	MK	15 Apr 88	X						
	60° SCAN	170026	MK	15 Apr 88	X						
	60° T SCAN	170026	MK	15 Apr 88	X						
		N / A									
										SEE ALSO PROFILE SHEET 135171 ²⁰⁰⁴ 5/88	

SUMMARIZED BY: <i>M. Kelly</i>	DATE: 18 Apr 88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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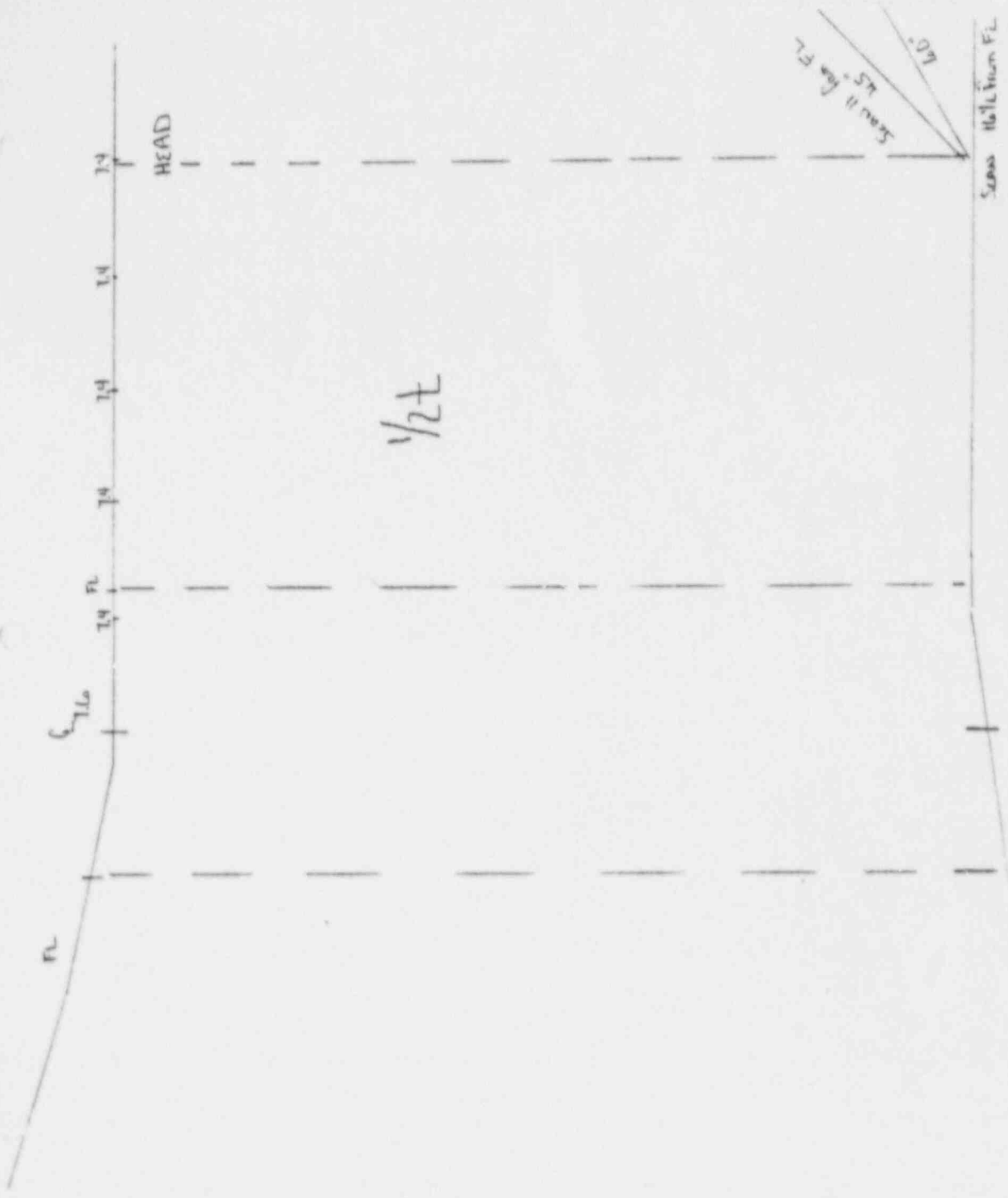
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 14 APR 88	TIME (24 HR. CLOCK)	SHEET NO.: 135171
			INT. 1356	FINAL 1405
EXAMINER: M. KLEINJAN	THK. MEAS. PROCEDURE: No. 600-15	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774123	COMPONENT ID: 12-5-1112A
EXAMINER: L. DURAN	Rev. 71 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: SWRI 11W-27

SEARCH UNITS	
BRAND	SWRI
SERIAL NO.	1720
SIZE	1.0
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	10
DELAY	082-1
MATL. CAL.	102
RANGE	10
REP. RATE	3K
JACK USED	R
TRANS. MODE	NORMAL

SEE ATTACHED SHEET

45* Search Unit chosen for coverage using $\frac{1}{8} \frac{2}{8} \frac{3}{8} \frac{4}{8}$ nodes. 60* Search Unit chosen for coverage using $\frac{1}{8} \frac{4}{8} \frac{7}{8} \frac{5}{8}$ nodes.	NAME: Deb Spaso	SNT LEVEL: II
REVIEWED BY: <i>[Signature]</i>	DATE: 2 APR 88	



12-5-III-A
Ref

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS 1	DATE (DAY-MON-YR) 15 APR 88	TIME (24 HR CLOCK) EXAM STARTED 12:19 EXAM ENDED 12:54	SHEET NO. 170026
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY 12-5	IDENTIFICATION 111-A	Lo LOCATION TDC OF NOZZLE	Wo LOCATION 9 OF WELD

EXAMINER M. KLEINJAN	SNT LEVEL II	PROCEDURE NO. 600-15	CALIBRATION SHEET (S) 190057	ANGLE USED 0°	45°	45° I	60°	60° I	OTHER	WELD TYPE NOZZLE 7 SHELL
EXAMINER L. DURAN	SNT LEVEL II	REV 71 DEV. 1		SCNRWD DR	N/A	10/60	10/60	10/80	10/80	WELD LENGTH 148 1/4
										EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>

IND NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L MAX	L ₂	L POS	BRANCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INT.
		W ₁	MP	W	MP	W ₂	MP								
														SURFACE TEMPERATURE 88 °F 88	
														* PLUS 6dB SWITCH FOR SCANNING	
												*	45°	* VESSEL SIDE ONLY	
												ON WELD	45° I	BASE METAL CW/CCW	
												*	60°	* VESSEL SIDE ONLY	
												ON WELD	60° I	BASE METAL CW/CCW	

EXAMINATION AREA LIMITATION (IF NONE , SO STATE)

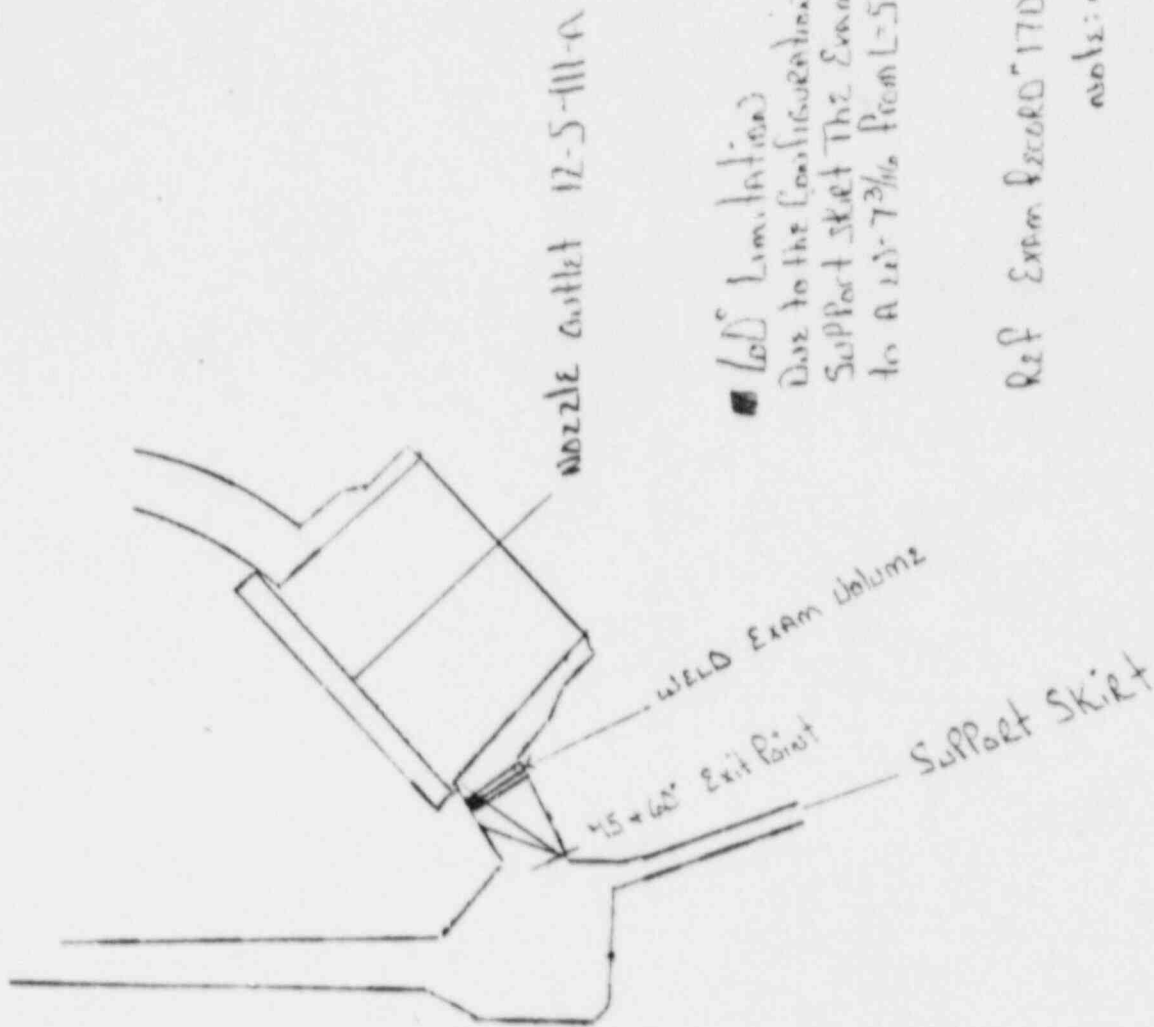
EXAM LIMITED TO W = 7 3/16 DUE TO THE CONFIGURATION OF THE SUPPORT SKIRT, AND FROM L₁ = 57 1/4 TO L₂ = 78 See attached sheet #7

NO EXAM ON NOZZLE SIDE DUE TO CONFIGURATION #8.

REVIEWED BY <i>Russell Line</i>	SNT LEVEL II	DATE 18 APR 88	PAGE OF 2
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006650

STEAM GENERATOR #12



NOZZLE OUTLET 12-S-111-A

LOD Limitation
Due to the Configuration of nozzle to
Support Skirt The Exam is Limited
to a L=7^{3/16} from L=5^{7/4} to L=78

Ref Exam Record 1700226

note: MTS

Sw. R. I. EXAMINATION SUMMARY RECORD

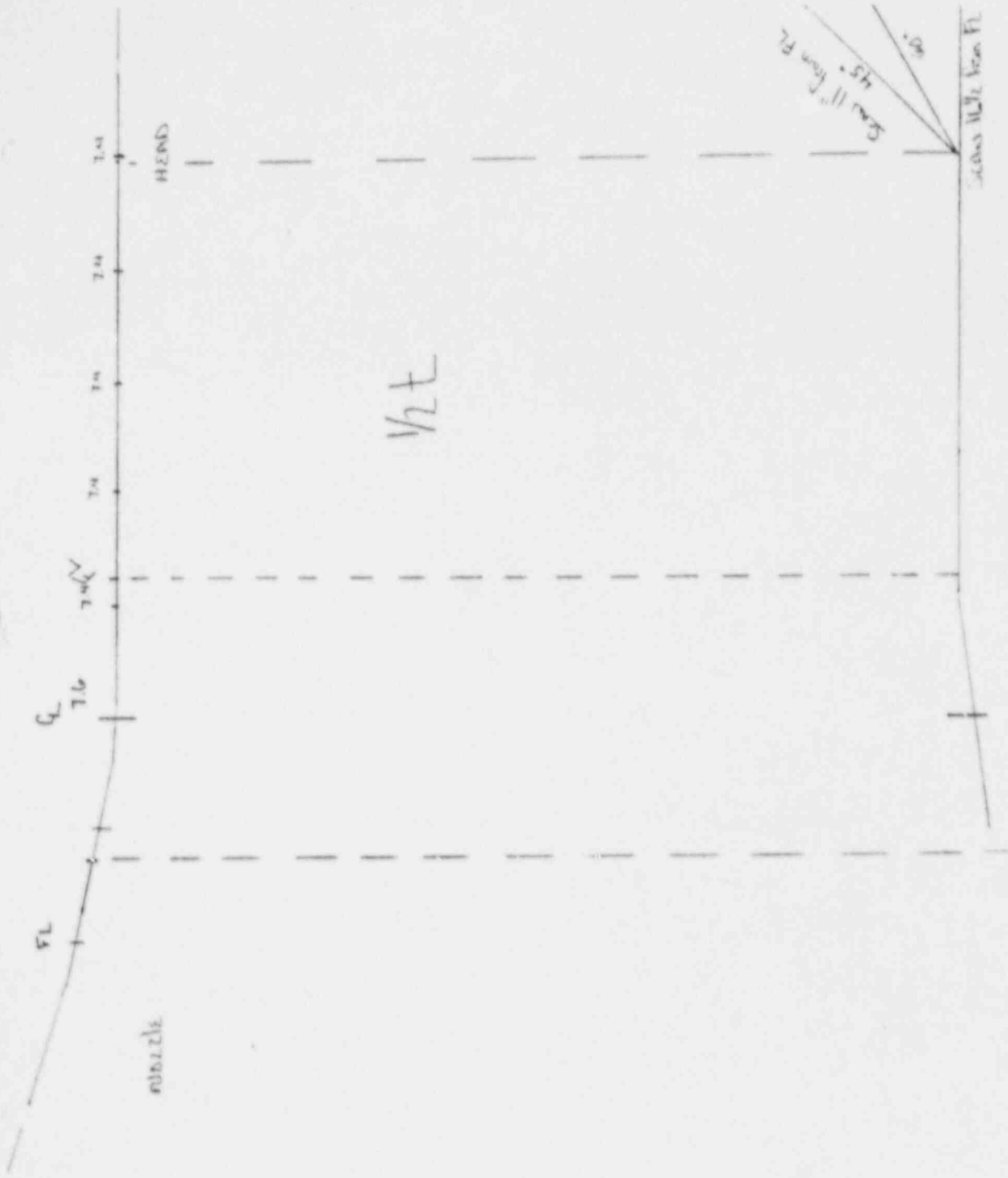
PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 006700
EXAMINATION AREA (SYSTEM/COMPONENT) <i>Steam Generator</i>	(LINE / SUBASSEMBLY) <i>12-5</i>	(IDENTIFICATION) <i>111B</i>

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	<i>N/A</i>									<i>(12B OUTLET NOZZLE - SHELL)</i>
	FOLLOW-UP EXAMINATION										<i>600-49/0 Dec-132</i>
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN	<i>170033</i>	<i>LD</i>	<i>16 Apr 88</i>	X						<i>No exam on nozzle side due to configuration. Limited UT 45 & 60 due to support skirt configuration. RWZ ANI 4-28-88</i>
	45° SCAN	<i>170025</i>	<i>LD</i>	<i>16 Apr 88</i>	X						
	45° T SCAN	<i>170025</i>	<i>LD</i>	<i>16 Apr 88</i>	X						
	60° SCAN	<i>170025</i>	<i>LD</i>	<i>16 Apr 88</i>	X						
	60° T SCAN	<i>170025</i>	<i>LD</i>	<i>16 Apr 88</i>	X						
		<i>N/A</i>									

SUMMARIZED BY: <i>M. Shly</i>	DATE: <i>18 Apr 88</i>	CONTINUED ON SHEET No.: <i>NA</i>	PAGE <i>1</i> OF <i>1</i>
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 14 APR 88		TIME (24 HR. CLOCK) INT. 1409 FINAL 1415		SHEET NO.: 100003		
EXAMINER M. KLEINJAN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-15		INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774123		COMPONENT ID: 12-5-111-B	
EXAMINER L. DURAN		SNT LEVEL II	Rev. 71 Dev. 1		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: SWRI 11W-27			
SEARCH UNITS		SEE ATTACHED SHEET								
BRAND	SWRI									
SERIAL NO.	1720									
SIZE	1.0									
FREQ. (MHz)	2.25									
INSTRUMENT SETTINGS										
SCREEN SIZE	10									
DELAY	082-1									
MATL. CAL.	102									
RANGE	10									
REP. RATE	3K									
JACK USED	R									
TRANS. MODE	NORMAL									
45° Search Unit chosen for coverage using $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ nodes.					NAME: <i>L. Spurr</i>			SNT LEVEL: <u>II</u>		
60° Search Unit chosen for coverage using $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ nodes.					DATE: <i>2-21-88</i>					
REVIEWED BY: <i>E. H. [Signature]</i>			SNT LEVEL: II							



12-5-III-8
 REF 135058

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 15 APR 88	TIME (24 HR CLOCK) EXAM STARTED 13:2 EXAM ENDED 13:3	SHEET NO. 170025
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY 12-5	IDENTIFICATION 111B	L ₀ LOCATION TDC OF NOZZLE	W ₀ LOCATION 9 OF WELD

EXAMINER M. KLEINJAN	SNT LEVEL II	PROCEDURE NO. 600-15	CALIBRATION SHEET (S) 190057	ANGLE USED 0°	45°	45° T	60°	60° T	OTINT	WELD TYPE NOZZLE → SHELL
EXAMINER L. DURAN	SNT LEVEL II	REV 71 REV. 1		SCANNING DB N/A	10/60	10/60	10/80	10/80	N/A	WELD LENGTH 151 3/8"
										EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>

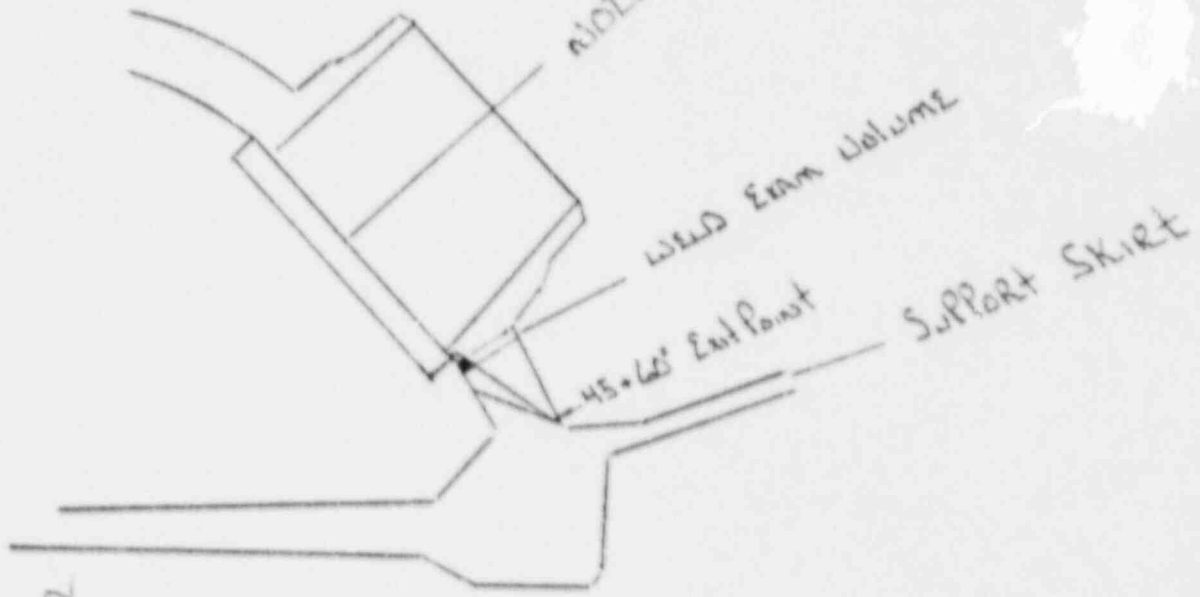
IND NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L	L ₂	L	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	SURFACE TEMPERATURE °F	INCH
		W ₁	MP	W	MP	W ₂	MP									
														REMARKS + PLUS 6 dB SWITCH FOR SCANNING		
												★	45°	* VESSEL SIDE ONLY		30
												ON WELD	45°	BASE METAL CW/CCW		30
												★	60°	* VESSEL SIDE ONLY		30
												ON WELD	60°	BASE METAL CW/CCW		30

EXAMINATION AREA LIMITATION (IF NONE , SO STATE)
 EXAM LIMITED TO W=7 3/16 DUE TO THE CONFIGURATION OF THE SUPPORT SKIRT, AND FROM L₁=59 TO L₂=79 30.
 NO EXAM ON NOZZLE SIDE DUE TO CONFIGURATION. 30. See attached sheet #7

REVIEWED BY <i>Russell Line</i>	SNT LEVEL II	DATE 18 APR 88	PAGE 1 OF 2
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CC 6700

STEAM GENERATOR #12



- 60" Limitation
Due to the configuration of skirt
to Support Skirt the Enam
is limited to a wt = 7^{1/2} lbs from
1-57 to 1-19

W022/2 outlet 12-5-III/B

Ref Enam Pinned 170025
code = NTS

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 14 APR 88		TIME (24 HR. CLOCK) INT. 1342 FINAL 1355		SHEET NO.: 1000000		
EXAMINER M. KLEINJAN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-15 Rev. 71 Dev. 1		INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774123		COMPONENT ID: 12-5-111C	
EXAMINER L. DURAN		SNT LEVEL II			COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: SWRI 11W-27			
SEARCH UNITS		SEE ATTACHED SHEET								
BRAND	SWRI									
SERIAL NO.	1720									
SIZE	1.0									
FREQ. (MHz)	2.25									
INSTRUMENT SETTINGS										
SCREEN SIZE	10									
DELAY	D82-1									
MATL. CAL.	102									
RANGE	10									
REP. RATE	3K									
JACK USED	R	$\frac{45}{60}$ * Search Unit chosen for coverage using $\frac{1}{8}$ $\frac{3}{8}$ $\frac{3}{8}$ $\frac{5}{8}$ nodes. $\frac{60}{60}$ * Search Unit chosen for coverage using $\frac{1}{8}$ $\frac{3}{8}$ $\frac{3}{8}$ $\frac{5}{8}$ nodes.				NAME: Lyle Spence		SNT LEVEL: II		
TRANS. MODE	NORMAL					DATE: 2 MAY 88				
REVIEWED BY: E. H. E. [Signature]			SNT LEVEL: II							



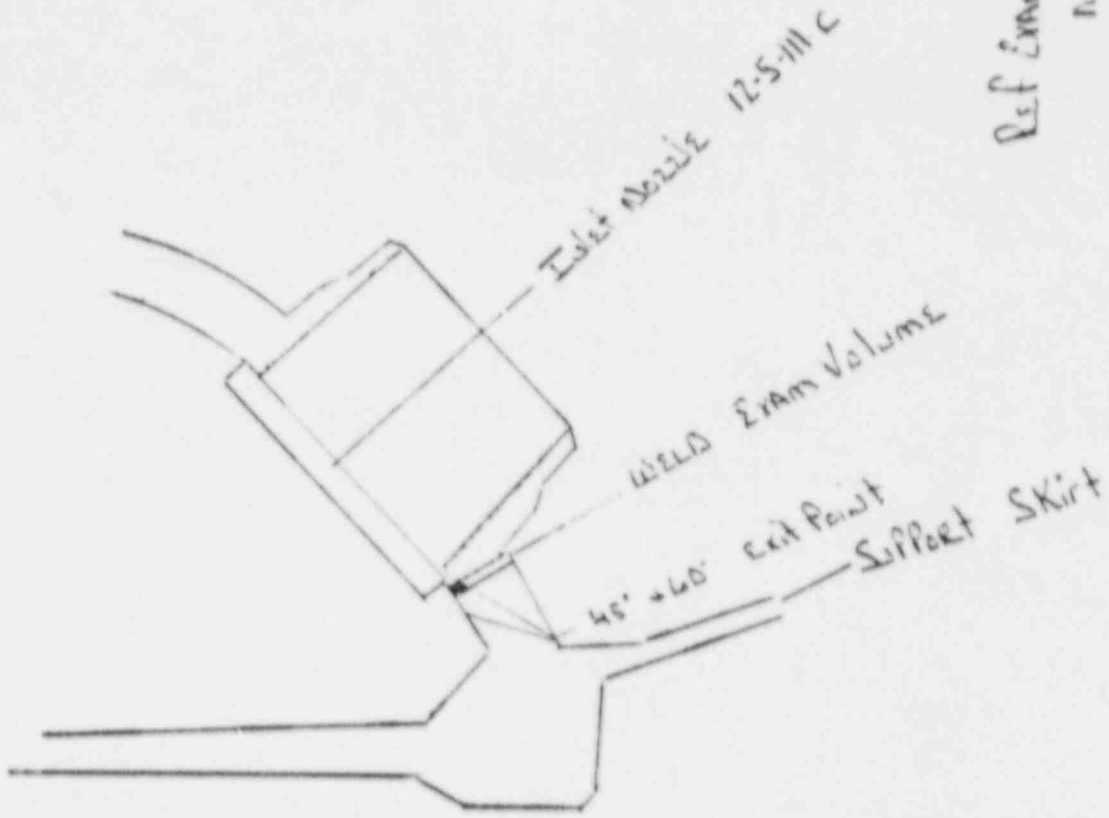
12-5-111C
 P.F. 13006

45° 30' 10" from PL
 11° 30' 10" from PL

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS I		DATE (DAY-MON-YR) 16 April 88		TIME (24 HR CLOCK) EXAM STARTED 1510 EXAM ENDED 1540		SHEET NO. 170041					
SYSTEM / COMPONENT Steam Generator		LINE / SUBASSEMBLY 12-5		IDENTIFICATION 111C		L- LOCATION TDC		W- LOCATION 2 of weld					
EXAMINER L. Duran		SNT LEVEL II		PROCEDURE NO. 600-49		CALIBRATION SHEET (S) 190077		ANGLE USED 0° 45° 45° I 60° 60° I OTIR/					
EXAMINER M. Klein Jan		SNT LEVEL II		REV 0 DEV. 1/2		SCANNING DB 50/5		WELD TYPE Nozzle to shell WELD LENGTH 22.6					
								EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>					
								SURFACE TEMPERATURE 75/75 °F					
IND NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		L ₁	L	L ₂	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INT.
		W ₁	MP	W	MP								
		None recordable				Indications				on weld	0°	* Plus 6db switch down 3D	
												Base metal	3D
EXAMINATION AREA LIMITATION (IF NONE , SO STATE) None 3D													
NO EXAM ON NOZZLE SIDE DUE TO CONFIGURATION.													
REVIEWED BY Russell J...				SNT LEVEL II				DATE 21 APR 88				PAGE 1 OF 1	

Steam Generator #2



60° Limitation
Due to the Configuration
of Nozzle to Support Skirt
the Steam is Limited
to $A_{12} = 7\frac{3}{16}$ From
L=16" To L=122

Ref Engr Record # 176027
DATE: NLS

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	006800				
EXAMINATION AREA (SYSTEM/COMPONENT)	S/G 12	(LINE/SUBASSEMBLY)	12-5			(IDENTIFICATION)	111A - IRS				
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS		RESOLUTION RECORD SHEET No.	CNF No.	REMARKS			
<input type="checkbox"/> INITIAL EXAMINATION <input type="checkbox"/> FOLLOW-UP EXAMINATION <input type="checkbox"/> INITIAL EXAMINATION <input type="checkbox"/> FOLLOW-UP EXAMINATION <input type="checkbox"/> 0° LAM SCAN <input type="checkbox"/> 0° WELD SCAN <input type="checkbox"/> 45° SCAN <input type="checkbox"/> 45° T SCAN <input type="checkbox"/> 60° SCAN <input type="checkbox"/> 60° T SCAN	N/A ↓ N/A ↓			N	I	O	0	12A OUTLET NOZZLE IRS EOC-53/7, DEV. 1 CC-41 (8"-CSCL) RWLX AMZ 4-28-88			
SUMMARIZED BY:		Donald W. York ↓			DATE	4-25-88		CONTINUED ON SHEET No.:	4A	PAGE	1 OF 1

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 006900
EXAMINATION AREA (SYSTEM/COMPONENT): S/G 12	(LINE / SUBASSEMBLY): 12-5	(IDENTIFICATION): 111C-IRS

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									INL IF IRS
	FOLLOW-UP EXAMINATION										800-53/7 CC-41 (8"-CSCL)
PT <input type="checkbox"/>	INITIAL EXAMINATION										RWJ ANI 4-28-88
MT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN										
	45° T SCAN										
	60° SCAN										
	60° T SCAN										
	UT35	109004 / A	ID	4-23-88	X						

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 006950
EXAMINATION AREA (SYSTEM / COMPONENT): STEAM GENERATOR 12	(LINE / SUBASSEMBLY): 12-3	(IDENTIFICATION): 118

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									STAY RING → SUPPORT SKIRT
	FOLLOW-UP EXAMINATION										600-49/0, DEV 1, 2, 3
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									600-16/31, DEV. 1
	FOLLOW-UP EXAMINATION										CC-68 (3"-CS)
UT	0° I.A.M. SCAN										
	0° WELD SCAN	170043	LD	4-20-88	X						NO UT FROM STAY RING SIDE
	45° SCAN	892078	LD	4-20-88	X		X ^{any}				DUE TO STAY RING CONFIGURATION.
	45° T SCAN	892078	LD	4-20-88	X						LIMITED UT FROM THE SUPPORT
	60° SCAN	892078	LD	4-20-88				X	310025		SKIRT SIDE DUE TO PROXIMITY
	60° T SCAN	N / A									OF ACCESS HOLES.
	PROFILE	135135	LD	4-20-88							RWZ ANI 4-28-88
		N / A									
		↓									

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

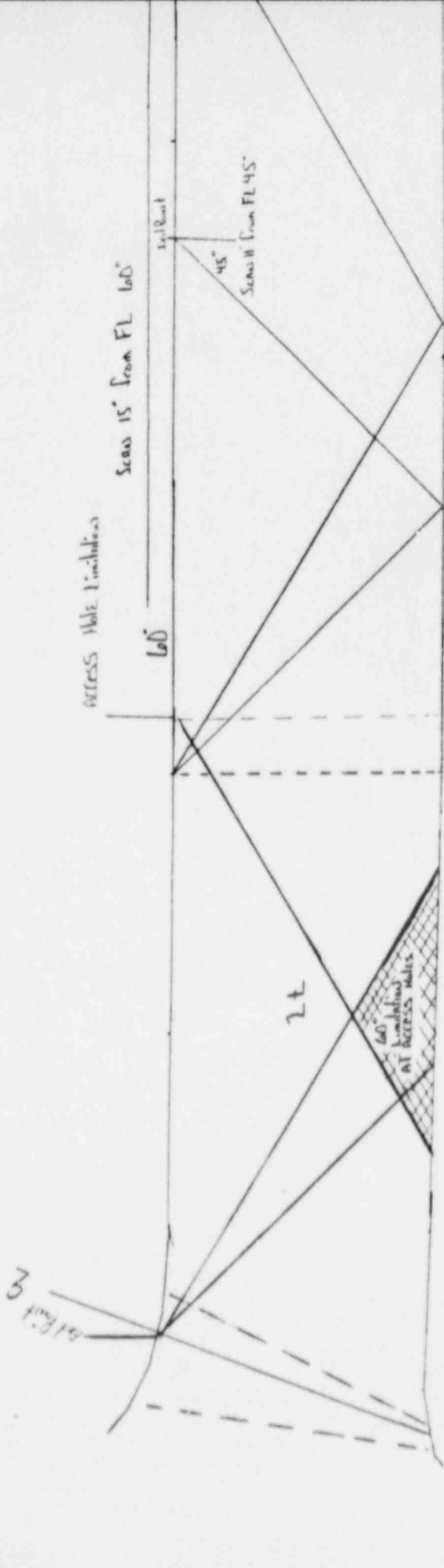
PROJECT NO. 17-2116	DATE (DAY-MON-YR) 20 APR 88	TIME (24 HR CLOCK) EXAM STARTED 0840 EXAM ENDED 0930	SHEET NO. 170043
SYSTEM / COMPONENT STEAM GENERATOR		L ₀ LOCATION VESSEL 0°	
LINE / SUBASSEMBLY 12		W ₀ LOCATION E OF WELD	
EXAMINER L. DURAN	PROCEDURE NO GCO-44 REV 0	45° 60° 60° T OTHER N A N A N A	WELD TYPE STAYRING - SUPPORT SKIRT
EXAMINER M. W. KLEINJAN	REV 0 DEV. 1, 2, 3	SCANNING DBX 58/19	WELD LENGTH 170
SNT LEVEL II	CALIBRATION SHEET (S) 190125	ANGLE USED 0°	EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>
SNT LEVEL II	50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION ANGLE	SURFACE TEMPERATURE 82 ° F
W ₁ MP W ₂ MP	L ₁ L ₂ L ₃ L ₄ L ₅ L ₆ L ₇ L ₈ L ₉ L ₁₀ L ₁₁ L ₁₂ L ₁₃ L ₁₄ L ₁₅ L ₁₆ L ₁₇ L ₁₈ L ₁₉ L ₂₀ L ₂₁ L ₂₂ L ₂₃ L ₂₄ L ₂₅ L ₂₆ L ₂₇ L ₂₈ L ₂₉ L ₃₀ L ₃₁ L ₃₂ L ₃₃ L ₃₄ L ₃₅ L ₃₆ L ₃₇ L ₃₈ L ₃₉ L ₄₀ L ₄₁ L ₄₂ L ₄₃ L ₄₄ L ₄₅ L ₄₆ L ₄₇ L ₄₈ L ₄₉ L ₅₀	SEARCH UNIT LOCATION ANGLE	REMARKS * PLUS GDB DOWN NO. INI. UP/DN 30 SUPPORT SKIRT NO.
IND. NO. % OF DAC MAX	50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION ANGLE	
IND. NO. W ₁ MP W ₂ MP	50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION ANGLE	
NO RECORDABLE INDICATIONS			
EXAMINATION AREA LIMITATION (IF NONE , SO STATE) -NONE NO.			
NO EXAM ON STAYRING SIDE DUE TO CONFIGURATION OF WELD. 7D.			

REVIEWED BY <i>Russell J. ...</i>	SNT LEVEL II	DATE 21 APR 88	PAGE OF 1 1
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006950

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 20 APR 88		TIME (24 HR. CLOCK) INT. 0900 FINAL 0910		SHEET NO.: 135135	
EXAMINER <i>Jeroy Duman</i>		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-49	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774123		COMPONENT ID: STEAM GENERATOR 12-3-118	
EXAMINER M. W. KLEINJAN		SNT LEVEL II	Rev. 0 Dev. 1,2,3	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: CS-DC-30			
SEARCH UNITS									
BRAND	SWR								
SERIAL NO.	1720								
SIZE	1								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	5								
DELAY	094-1								
MATL. CAL.	102								
RANGE	5								
REP. RATE	3K								
JACK USED	R	60° Search Unit chosen for coverage using ¹⁰ 2, ¹⁰ 8, ¹⁰ 14 nodes.		NAME: <i>Jeroy Duman</i>		SNT LEVEL: II			
TRANS. MODE	NORMAL	45° Search Unit chosen for coverage using 2, 6, 10 nodes.							
REVIEWED BY:	<i>Russell H. Fine</i>	SNT LEVEL: II		DATE: 26 APR 88					



STEAM GENERATOR 12
12-3-118

COVERAGE PLOT
LIMITATION PLOT

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 20 APR 88		TIME (24 HR CLK) EXAM STARTED 1110 EXAM ENDED 1245		SHEET NO. 000003			
EXAMINATION AREA (SYS/COMP) STEAM GENERATOR		(LINE/SUBASSEMBLY) 12		(IDENTIFICATION) 3-118		L ₀ LOCATION VESSEL 0°		W ₀ LOCATION Φ OF WELD			
EXAMINER L DURAN		SNT LEVEL II		PROCEDURE NO 600-16 REV 31 DEV 1+2+3		CALIBRATION SHEET (S) 190124		WELD TYPE UP - DN STAYRING - SUPPORT SKIRT			
EXAMINER M W KLEINJAN		SNT LEVEL II		SEARCH UNIT LOC. DN		SEARCH UNIT ANGLE 45°		WELD LENGTH 170			
IND No	% OF DAC	W MAX	L ₁	100% DAC	L	MAX	SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
1	100	6	10	50%	-	51	-	51%	DN	45°	ND
											ND
											LD
											LD
REMARKS COVERAGE OBTAINED FROM SUPPORT SKIRT SIDE ONLY ND.											
EXAM LIMITED DOWN STREAM FROM W1 = 6" FROM L1 = 37 TO L2 = 50 DUE TO ACCESS HOLE ND.											
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NO EXAM ON STAYRING SIDE DUE TO SEE REMARKS ND. CONFIGURATION OF WELD, 3D											
REVIEWED BY <i>Russell J. J...</i>		SNT LEVEL II		DATE 26 APR 88		CONTINUED ON SHEET NA		PAGE 1 OF 1			

006950

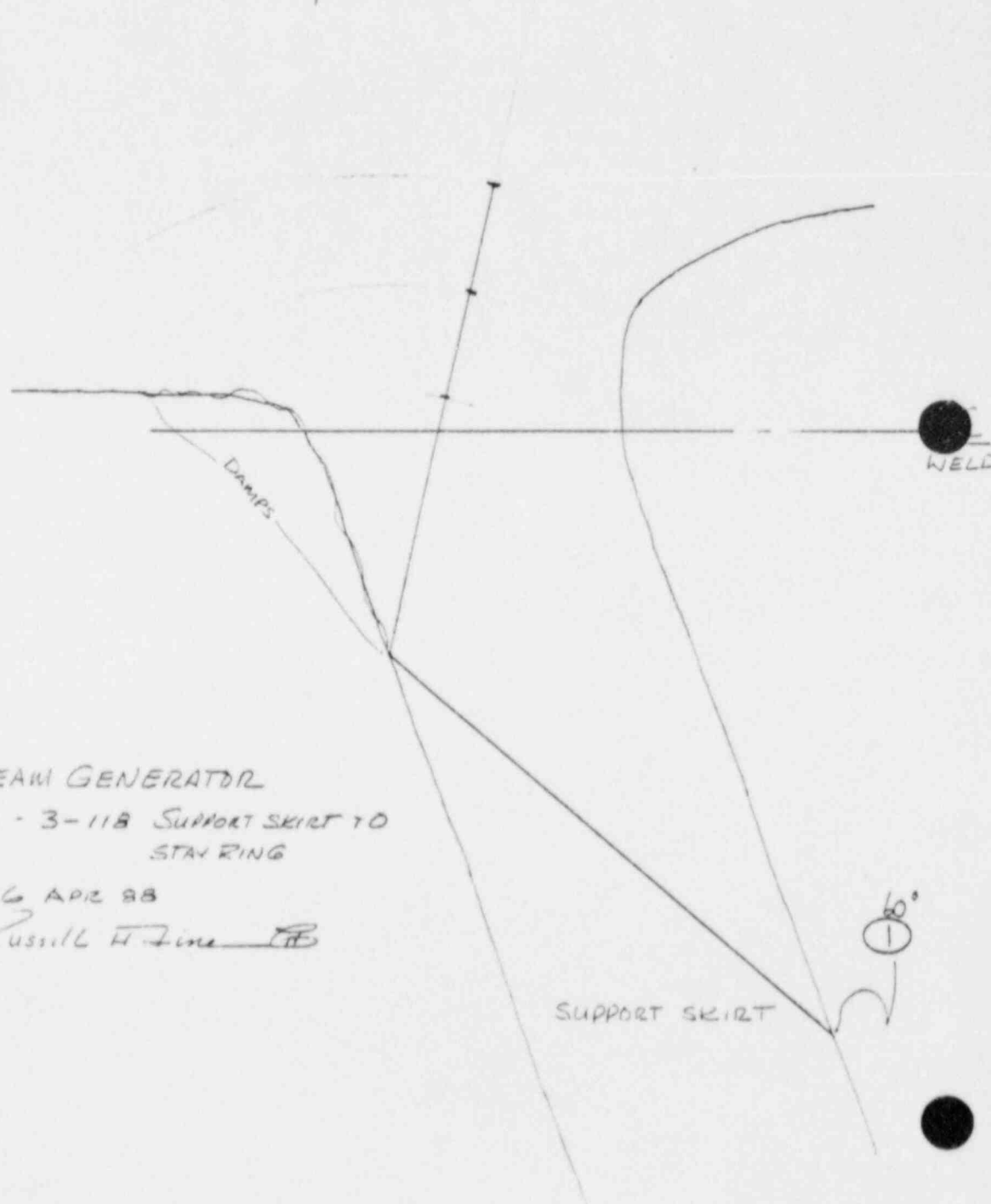
Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310025
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY 12-3-	IDENTIFICATION 118	CALIBRATION SHEET (S) 190124
EXAMINER L. DURAN	SNT LEVEL II	PROCEDURE NO 600-16	EXAMINATION RECORD SHEET NO. (S) 190124 R7 892078
EXAMINER M. W. KLEINJAN	SNT LEVEL II	REV 31 DEV. 1	
		EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	
		WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> LONGITUDINAL <input type="checkbox"/>	MERIDIONAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____

60° INDICATION NO 1 IS A GEOMETRIC REFLECTOR FROM THE INSIDE SURFACE.
THIS INDICATION CAN BE SEEN INTERMITTENTLY THROUGH OUT THE LENGTH OF THE WELD.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY Kusseltti-Tine	SNT LEVEL II	DATE 26 APR 88
	REVIEWED BY D. De Raddi	SNT LEVEL II	DATE 26 APR 88

STAY RING



STEAM GENERATOR
12-3-11B SUPPORT SKIRT TO
STAY RING

26 APR 88
Russell H. Fine *RHF*

SUPPORT SKIRT

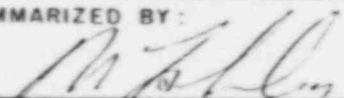
106

REACTOR COOLANT SYSTEM

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 100950
EXAMINATION AREA (SYSTEM / COMPONENT) Reactor Coolant	(LINE / SUBASSEMBLY) 30-RC-11A	(IDENTIFICATION) 1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION										NOZZLE → TRANSITION PIECE
	FOLLOW-UP EXAMINATION										600-41/18 Dev-1
PT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890066	WAS	20 Apr 83	<input checked="" type="checkbox"/>						
	45° T SCAN	890066	WAS	20 Apr 83	<input checked="" type="checkbox"/>						
	60° SCAN										
	60° T SCAN										
	Profile	135087	LS	16 Apr 83							Profile and Thickness Information
											RWZ ANI 4-28-88

SUMMARIZED BY: 	DATE: 21 Apr 88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 20 APR 88	TIME: (24 HR CLOCK) EXAM STARTED 1520 EXAM ENDED 1547	SHEET No. 890056
EXAMINATION AREA (SYST / COMP) REACTOR COOLANT	(LINE / SUBASSEMBLY) 30-RC-11A	(IDENTIFICATION) 1	L ₀ LOCATION 1	W ₀ LOCATION E OF WELD

EXAMINER W. A. JENSEN	SNT LEVEL II	PROCEDURE No 600-41	CALIBRATION SHEET(S) 190122	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45° N	WELD TYPE NOZZLE → TRANSITION PIECE
EXAMINER R. MILLER	SNT LEVEL I	REV 18 DEV 1	190110	SCANNING dB 60/1	A	WELD LENGTH 114
						EXAM SURFACE TEMPERATURE 81/81 °F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
		NO RECORDABLE INDICATIONS										UP/DN 45°				wal	
		NO RECORDABLE INDICATIONS										ON WELD 45°T				ON BASE / LOW MATERIAL	wal

REMARKS *** +6dB SWITCH DOWN FOR SCANNING. wal**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE wal

REVIEWED BY Russell Line	SNT LEVEL II	DATE 21 APR 88	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2416	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 6 APR 88	TIME (24 HR. CLOCK) INT. 1400 FINAL 1450	SHEET NO.:
EXAMINER: J. S. Dorian	THK. MEAS. REQ'D BY PROCEDURE: No. 600-41 Rev. 18 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774224	COMPONENT ID: Reactor coolant sys 30-RC-1A-1
EXAMINER: D. Wagar	SNT LEVEL: II	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> OTHER (SPECIFY)	WATER <input type="checkbox"/>	REFERENCE BLK NO.: CS-DC-37
SEARCH UNITS				
BRAND: Materials Assurance				
SERIAL NO.: 67549				
SIZE: 1/2				
FREQ. (MHz): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 5				
DELAY: 075-1				
MATL. CAL.: 101				
RANGE: 3K5				
REP. RATE: 3K				
JACK USED: R				
TRANS. MODE: NORM				
REVIEWED BY: W. C. [Signature]	SNT LEVEL: II	NAME: L. L. [Signature]	SNT LEVEL: II	DATE: 16 APR 88

SWRI Form No. NDIR 17-135 (03-24-88)

100950

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 103200
EXAMINATION AREA (SYSTEM/COMPONENT): Reactor Coolant	(LINE/SUBASSEMBLY): 30-RC-11B	(IDENTIFICATION): 1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N A									(NOZZLE - TRANS. PIECE) 600-41/18 Dec-1
	FOLLOW-UP EXAMINATION	↓									CC-7 600-49/0 Dec-1/2
PT MT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION	↓									
U T	0° LAM SCAN	181001	LS	16 Apr 88	X						UTDL PERFORMED TO MONITOR
	0° WELD SCAN	N A									INDICATION REPORTED DURING
	45° SCAN	890067	WAS	20 Apr 88	X						PSI. INDICATION DID NOT
	45° T SCAN	890067	WAS	20 Apr 88	X						MEET ISI RECORDING CRITERIA.
	60° SCAN	N A									
	60° T SCAN	↓									
	Profile	135088	LS	16 Apr 88							Profile and Thickness Information RWL ANE 4-28-88
		N A									
		↓									

SUMMARIZED BY: 	DATE: 21 Apr 88	CONTINUED ON SHEET No.: NA	PAGE 1 OF 1
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SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 16 APR 88	TIME (24 - HR CLOCK) EXAM STARTED 1445 EXAM ENDED 1715	SHEET NO. 181001
SYSTEM / COMPONENT Reactor Coolant	LINE / SUBASSEMBLY 30-RC-11B	IDENTIFICATION 1	L ^o LOCATION 4	W ^o LOCATION Low weld
EXAMINER L. Spiess	SNT LEVEL II	PROCEDURE NO600-149 REV. 0 DEV. 12	MEASURED THICKNESS UP <input type="checkbox"/> DOWN <input checked="" type="checkbox"/>	CROWN HEIGHT <input checked="" type="checkbox"/>
EXAMINER D. W. Agar	SNT LEVEL I		UP <input checked="" type="checkbox"/> DOWN <input type="checkbox"/>	ATTENUATION UP <input type="checkbox"/> DOWN <input checked="" type="checkbox"/>
IND. LOSS OF BW	IND. AMP % F.S.	POSITION 1 L ₁ W ₁ W ₂ MP L W ₁ W ₂ MP	POSITION 2 L ₂ W ₁ W ₂ MP	WELD TYPE (-FLOW →) ABLE to REVERSE
NO RECORDABLE INDICATIONS	NO RECORDABLE INDICATIONS	REMARKS: SEARCH UNIT LOCATION ** Referenced Indication of PSI Exam Record 261682 Indication WAS A Split LOCATED AT L=9, W=15/18 AND 2.5" MP Indication WAS less than 50% Bracket L₂		WELD LENGTH 11475
REMARKS: See Profile sheet no B5075 to 1350XX L₂				
SURFACE TEMP. 78/78 °F				
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) NONE L₂				
REVIEWED BY L. William Jensen	SNT LEVEL II	DATE 16 APR 88	PAGE 1	OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 16 APR 88	TIME (24 HR. CLOCK) INT. 1410 FINAL 1515	SHEET NO.: 1
EXAMINER: <i>Lsk Shiao</i>	THK. MEAS. PROCEDURE: No. 503 Rev. 3 Dev. 1	REG'D INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 2224	COMPONENT ID: <i>Member Cochart 595</i> <i>300-RC-110-1</i>
EXAMINER: <i>D LINGAR</i>	SNT LEVEL: II	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> OTHER (SPECIFY)	WATER <input type="checkbox"/>	REFERENCE BLK NO.: <i>LS-DC-37</i>
<p>SEARCH UNITS</p> <p><i>Materials Associate</i></p> <p><i>67544</i></p> <p><i>1/2</i></p> <p><i>225</i></p> <p>INSTRUMENT SETTINGS</p> <p>SCREEN SIZE: <i>5</i></p> <p>DELAY: <i>0.75-1</i></p> <p>MATL. CAL.: <i>121</i></p> <p>RANGE: <i>5</i></p> <p>REP. RATE: <i>3K</i></p> <p>JACK USED: <i>6</i></p> <p>TRANS. MODE: <i>OFF</i></p>				
<p>SEARCH UNITS</p> <p><i>Materials Associate</i></p> <p><i>67544</i></p> <p><i>1/2</i></p> <p><i>225</i></p> <p>INSTRUMENT SETTINGS</p> <p>SCREEN SIZE: <i>5</i></p> <p>DELAY: <i>0.75-1</i></p> <p>MATL. CAL.: <i>121</i></p> <p>RANGE: <i>5</i></p> <p>REP. RATE: <i>3K</i></p> <p>JACK USED: <i>6</i></p> <p>TRANS. MODE: <i>OFF</i></p>				
45° Search Unit chosen for coverage using <i>18 7/8" x 18 7/8" nodes.</i> EXAMINER'S UNIT TO EXAMINE			NAME: <i>Lsk Shiao</i> SNT LEVEL: <i>II</i>	
° Search Unit chosen for coverage using _____ nodes. EXAMINER'S UNIT TO EXAMINE			DATE: <i>16 APR 88</i>	
REVIEWED BY: <i>L. Lingar</i>			SNT LEVEL: _____	

103200

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 20 APR 88		TIME: (24 HR CLOCK) EXAM STARTED 15:49 EXAM ENDED 16:14		SHEET No. 000007																					
EXAMINATION AREA (SYST / COMP) RECTOR COOLANT				(IDENTIFICATION) 1				W ₀ LOCATION WELD R																					
EXAMINER W.A. JENSEN		PROCEDURE No 600-41 REV 18 DEV 1		CALIBRATION SHEET(S) 190122 190442		TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>		ANGLE USED 45°		WELD TYPE WAZZLE → TIG WELD PIECE																			
EXAMINER R MILLER		SNT LEVEL II		SNT LEVEL I		ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>		SCANNING dB 60		WELD LENGTH 114 3/8																			
% OF DAC MAX		W MAX		100% DAC		L ₁		L ₂		SEARCH UNIT		DAMPS (IF YES, EXPLAIN)		REMARKS		INI.													
W ₁		MP		W ₂		MP		50% DAC		100% DAC		L		MAX		L		50% DAC		100% DAC		LOC		UNIT		ANGLE		OF	
No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS		No RECORDABLE INDICATIONS	
REMARKS * + Gdb SWITCH DOWN FOR SCANNING waf																													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)																													
REVIEWED BY Russell J. ...																													
DATE 21 APR 88																													
PAGE 1 OF 1																													

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 104450
EXAMINATION AREA (SYSTEM / COMPONENT) REACTOR COOLANT	(LINE / SUBASSEMBLY) 30-RC-11B	(IDENTIFICATION) 7 LU-1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N A									LONG SEAM - UP 600-41/18, DEV. 1 CC-7 (30"-3.0"-ESCL)
	FOLLOW-UP EXAMINATION										
PT	INITIAL EXAMINATION										
MT	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890036	WAJ	4-22-88	X						12 INCHES OF WELD
	45° T SCAN	890036	WAJ	4-22-88	X						LENGTH EXAMINED.
	60° SCAN	N A									RWZ ANZ 4-28-88
	60° T SCAN										
	PROFILE	135107	WAJ	4-21-88							PROFILE ONLY.
		N A									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-21-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

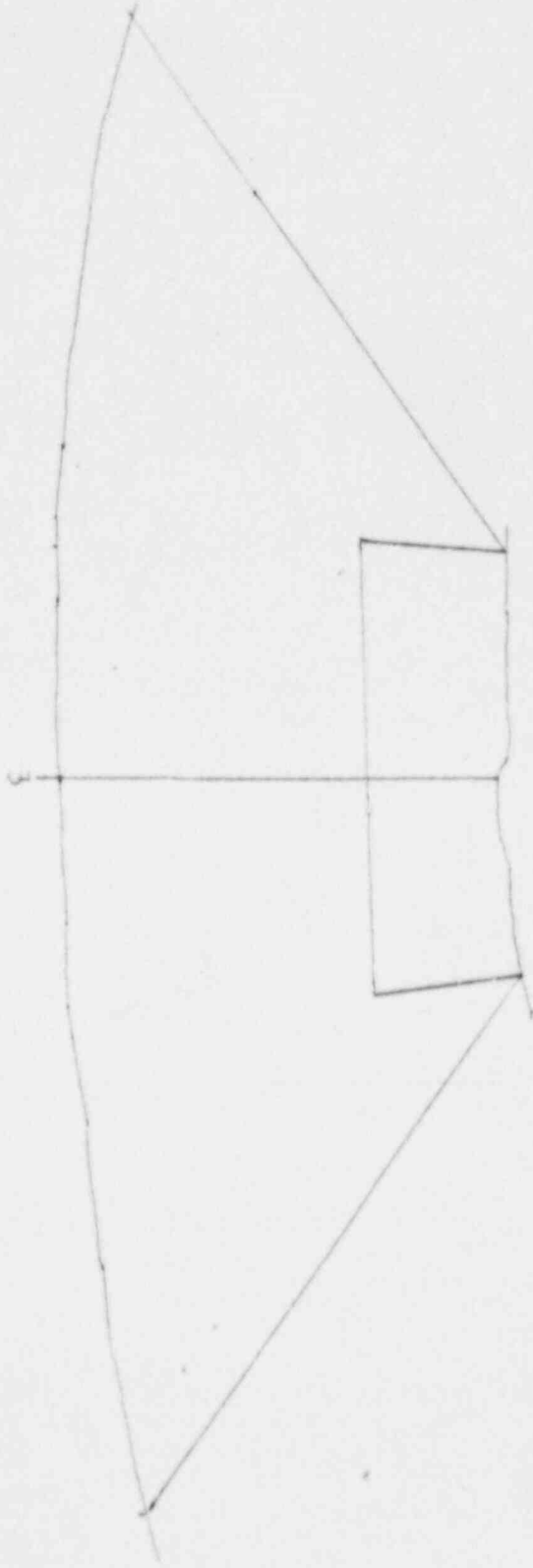
PROJECT NO.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR)	21 APR 88	TIME (24 HR. CLOCK)	INT. 0852 FINAL 0311	SHEET NO.:	135107
EXAMINER	W.A. JENSEN	SNT LEVEL	II	THICK. MEAS. REQ'D BY PROCEDURE	No. 600A1	INSTRUMENT:	SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.:	09328E
EXAMINER	R Miller	SNT LEVEL	I	Rev. 18	Dev. 1	COUPLANT:	GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	COMPONENT ID:	2-RC-11B-710-4
								REFERENCE BLK NO.:	CS-DC-99

SEE ATTACHED SHEET

SEARCH UNITS		
BRAND	M9 TECTON 5 ASSOCIATED	
SERIAL NO.	47549	
SIZE	1/2	
FREQ. (MHz)	2.25	
INSTRUMENT SETTINGS		
SCREEN SIZE	5.0	
DELAY	12E-1	
MATL. CAL.	078	
RANGE	5	
REP. RATE	3A	
JACK USED	R	
TRANS. MODE	Normal	

45° Search Unit chosen for coverage using $\frac{1}{2}$ 2 1/4 3/4 nodes.	NAME:	W.A. Jensen	SNT LEVEL:	II
41° Search Unit chosen for coverage using $\frac{1}{2}$ 2 1/4 3/4 nodes.	DATE:	28 APR 88		

REACTOR CONTROL SYSTEM
30-RC-1115-740-1



A 45° S.O. CHISEL FOR
PRACTICE ISSUE 18. 26. 4
ENTRUSTED TO 44 WORK
TO ENCOURAGE THE LEARN

WOLFE.

London, G. Fisher, Ltd.

21 412 53

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 104500
EXAMINATION AREA (SYSTEM/COMPONENT): REACTOR COOLANT	(LINE/SUBASSEMBLY): 30-RC-11B	(IDENTIFICATION): 7 LU-2 UP

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N/A								LONG SEAM UP 1200-41/18 DEV. 1 CC-7 (30"-3.0"-CSCL)	
	FOLLOW-UP EXAMINATION										
PT	INITIAL EXAMINATION										
MT	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890069	WAJ	4-22-88	X					12 INCHES OF WELD	
	45° T SCAN	890069	WAJ	4-22-88	X					LENGTH EXAMINED.	
	60° SCAN	N/A								RWJ ANI 4-28-88	
	60° T SCAN										
	PROFILE	135147	WAJ	4-21-88						PROFILE ONLY	
		N/A									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APR 88	TIME (24 HR. CLOCK) INT. 0853 FINAL 1031	SHEET NO.: 135147
EXAMINER: W A Jensen	THK. MEAS. REQ'D BY PROCEDURE: No. 600-41 Rev. 18 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04328E	COMPONENT ID: 30-20-11B-740-2
EXAMINER: R Miller	SNT LEVEL: II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)		REFERENCE BLK NO.: 05-100-99
SEE ATTACHED SHEET				
SEARCH UNITS				
BRAND	MITSUBISHI AS55500C			
SERIAL NO.	67549 2705			
SIZE	1/2			
FREQ. (MHZ)	2.25			
INSTRUMENT SETTINGS				
SCREEN SIZE	50			
DELAY	128-1			
MATL. CAL.	0.75			
RANGE	5			
REP. RATE	3X			
JACK USED	R			
TRANS. MODE	NORMAL			
REVIEWED BY: Russell Fine	SNT LEVEL: II	NAME: [Signature]	DATE: 28 APR 88	SNT LEVEL: II

001500

REACTOR CONTROL SYSTEM
30-RC-11B-7LD-2

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A 45° S.D. CHOSEN FOR
CONCRETE DESIGN 1/8, 3/8,
EXTENSIBLE AT 1/8 INSTEAD TO
ENCUMBRANCE THE OTHER DESIGN.

William C. Johnson Co., II
7: APR 88

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 22 APR 88	TIME: (24 HR CLOCK) EXAM STARTED 1423 EXAM ENDED 1431	SHEET No. 820069
EXAMINATION AREA (SYST / COMP) REACTOR COOLANT	(LINE / SUBASSEMBLY) 30-RC-11B	(IDENTIFICATION) 7LU-2	L ₀ LOCATION 7	W ₀ LOCATION E OF WELD
EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE No. 600-11 REV 18 DEV. 1	CALIBRATION SHEET(S) 190123	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>
EXAMINER R. MIUER	SNT LEVEL I			ANGLE USED 45°
				SCANNING dB 50/2
				WELD TYPE LONGITUDINAL
				WELD LENGTH ⊗
				EXAM SURFACE TEMPERATURE 78/78 °F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.	
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC						
		No RECORDABLE INDICATIONS																
		No RECORDABLE INDICATIONS												cw/cw	45°			
		No RECORDABLE INDICATIONS												ON WELD	45°T		cw/cw UP/DN	wf

REMARKS * **+6dB SWITCH DOWN FOR SCANNING** *wf*
⊗ EXAMINED 12 INCHES OF WELD LENGTH. *wf*

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE *wf*

REVIEWED BY <i>Russell Linn</i>	SNT LEVEL II	DATE 23 APR 88	PAGE 1 OF 1
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Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 104550
EXAMINATION AREA (SYSTEM / COMPONENT): REACTOR COOLANT	(LINE / SUBASSEMBLY): 30-RC-11B	(IDENTIFICATION): 7

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									ELBOW → SAFE END Aug 1983
	FOLLOW-UP EXAMINATION	↓									600-49/0, DEV 1, 2, 3
PT	INITIAL EXAMINATION										600-31/24, DEV 1
MT	FOLLOW-UP EXAMINATION	↓									CC-7/CC-10
UT	0° LAM SCAN	181058	WAT	4-23-83	X						
	0° WELD SCAN	N / A									LIMITED UT FROM ELBOW
	45° SCAN	892017	WAT	4-23-83	X						SIDE DUE TO ELBOW CONFIGURATION
	45° T SCAN	892017	WAT	4-23-83	X						
	60° SCAN	892042	WAT	4-28-83	X						
	60° T SCAN	892042	WAT	4-28-83	X						
	PROFILE	135146	WAT	4-21-83							PROFILE ETH, CS SIDE
	PROFILE	135132	WAT	4-23-83							PROFILE SS SIDE
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-28-83	CONTINUED ON SHEET No.: <i>4/A</i>	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 21 APR 88		TIME (24 HR. CLOCK) INT. 0852 FINAL 03L		SHEET NO.: 135746						
EXAMINER W. D. JENSEN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 04328E		COMPONENT ID: 30-R2-11B-7						
EXAMINER R. M. JENSEN		SNT LEVEL I	Rev. 18 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 05-DC-99								
SEE ATTACHED SHEET														
SEARCH UNITS														
BRAND	MATERIALS 450-201E													
SERIAL NO.	67549 5105													
SIZE	1/2													
FREQ. (MHz)	225													
INSTRUMENT SETTINGS														
SCREEN SIZE	50													
DELAY	128-1													
MATH. CAL.	078													
RANGE	5													
REP. RATE	3K													
JACK USED	B													
TRANS. MODE	NORMAL													
REVIEWED BY:	Russell J. J. Jensen			SNT LEVEL:		II		DATE:		28 APR 88				
						NAME: William A. Jensen		SNT LEVEL:		II				
						From CORRU SIDE								
				45° Search unit chosen for coverage using 1/2, 2/4, 3/2 nodes.										
				225 MHz FREQ TO 10 225 1000000000 20 1000000000 30 1000000000 40 1000000000 50 1000000000 60 1000000000 70 1000000000 80 1000000000 90 1000000000 100 1000000000 110 1000000000 120 1000000000 130 1000000000 140 1000000000 150 1000000000 160 1000000000 170 1000000000 180 1000000000 190 1000000000 200 1000000000 210 1000000000 220 1000000000 230 1000000000 240 1000000000 250 1000000000 260 1000000000 270 1000000000 280 1000000000 290 1000000000 300 1000000000 310 1000000000 320 1000000000 330 1000000000 340 1000000000 350 1000000000 360 1000000000 370 1000000000 380 1000000000 390 1000000000 400 1000000000 410 1000000000 420 1000000000 430 1000000000 440 1000000000 450 1000000000 460 1000000000 470 1000000000 480 1000000000 490 1000000000 500 1000000000 510 1000000000 520 1000000000 530 1000000000 540 1000000000 550 1000000000 560 1000000000 570 1000000000 580 1000000000 590 1000000000 600 1000000000 610 1000000000 620 1000000000 630 1000000000 640 1000000000 650 1000000000 660 1000000000 670 1000000000 680 1000000000 690 1000000000 700 1000000000 710 1000000000 720 1000000000 730 1000000000 740 1000000000 750 1000000000 760 1000000000 770 1000000000 780 1000000000 790 1000000000 800 1000000000 810 1000000000 820 1000000000 830 1000000000 840 1000000000 850 1000000000 860 1000000000 870 1000000000 880 1000000000 890 1000000000 900 1000000000 910 1000000000 920 1000000000 930 1000000000 940 1000000000 950 1000000000 960 1000000000 970 1000000000 980 1000000000 990 1000000000 1000 1000000000		Search unit chosen for coverage using 5/16 nodes.								

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO. 17-2116	SITE CALVEP/ CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE (DAY-MONTH-YEAR) 23 APR 88	TIME (24 HR. CLOCK) INT. 1225 FINAL 1500	SHEET NO.: 135132
EXAMINER W.A. Jensen	THK. MEAS. REQ'D BY PROCEDURE No 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774 224	COMPONENT ID: 30-RC-11A-7
EXAMINER R. Mizuk	SNT LEVEL II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	MATER <input type="checkbox"/>	REFERENCE BLK NO.: 55-DC-36
<p style="font-size: 2em; margin: 0;">SEE ATTACHED SHEET</p>				
SEARCH UNITS				
BRAND	SOFT			
SERIAL NO.	327			
SIZE	3/4			
FREQ. (MHz)	1.5			
INSTRUMENT SETTINGS				
SCREEN SIZE	5.0			
DELAY	078-1			
MATL. CAL.	104			
RANGE	5			
REP. RATE	3K			
JACK USED	R			
TRANS. MODE	A/C/CPK			
REVIEWED BY:	Ruscel Jones			DATE: 28 APR 88
45 * Search Unit chosen for coverage using 1/2, 3/4, 3/8, 5/8, 6/8 nodes.			NAME: William A. Jensen	SNT LEVEL: II
14 * Search Unit chosen for coverage using 1/4			FROM STAINLESS SIDE	

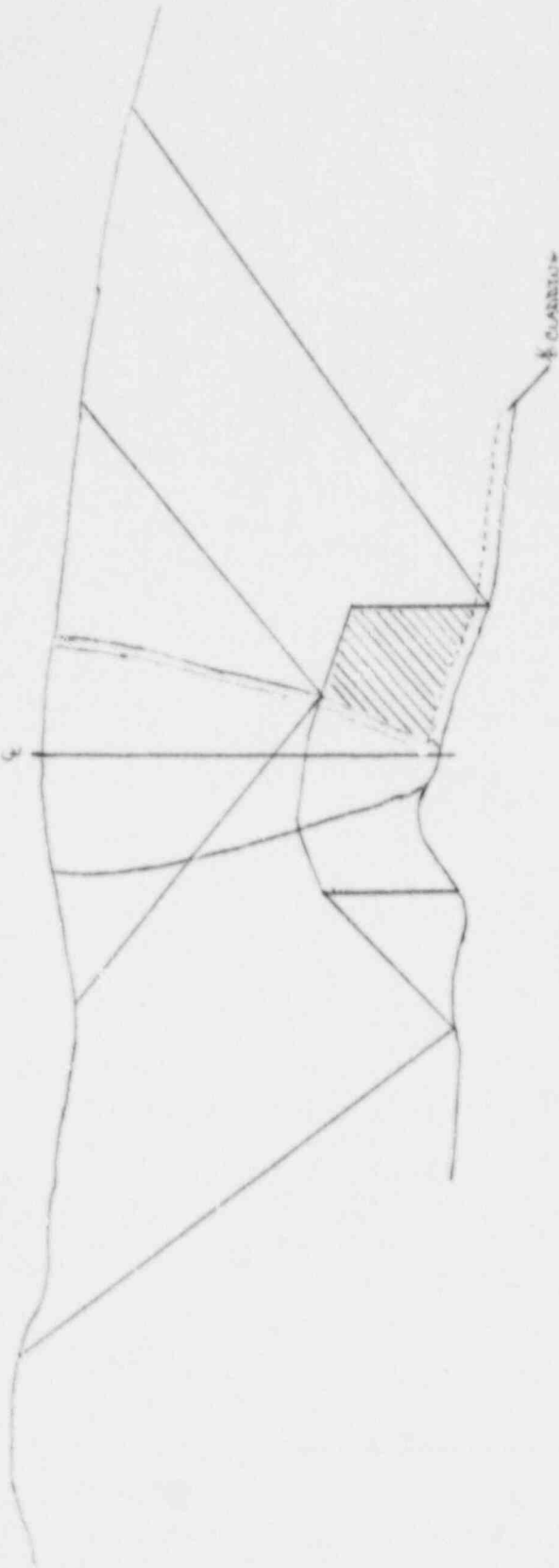
17-2116 Ca Cliffs Unit I

LINE #
30-RC-12A

SURF END

FLAND
REACTOR CONTACT
30-RC-12A-7

CLIFFS



CLIFFS UNIT I
 ALIGNED BY EVIDENCE COLLECTOR
 William A. Jones, L.S. II
 25 APR 88

SEE ATTACHED PROFILE AND
 THROUGH INFORMATION RECORDS.

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCL. OR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 23 Apr 88		TIME (24 HR CLK) EXAM STARTED 1450 EXAM ENDED 1570		SHEET NO 8000017		
EXAMINATION AREA (SYS/COMP) HEATER COOLANT		(LINE/SUBASSEMBLY) 30-RR-11B		(IDENTIFICATION) 7		L ₀ LOCATION 2		W ₀ LOCATION WELD E		
EXAMINER W.A. JENSEN	SNT LEVEL II		PROCEDURE NO. 400-31 REV. 24 DEV. 1		CALIBRATION SHEET (S) 190142		ANGLE USED 45°		WELD TYPE <small>SAFEC-203</small> FLX'G - TRANSITION-DAL	
	SNT LEVEL I						SCANNING dB 8		WELD LENGTH 114	
EXAMINER R MILLER	L ₁		L ₂		SEARCH UNIT ANGLE		DAMP'S (IF YES, EXPLAIN)		EXAM SURFACE TEMPERATURE 51/51 °F	
	100% DAC		100% DAC		SEARCH UNIT LOC.				REMARKS	
IND No.	W MAX	1/2 MAX	100% DAC	1/2 MAX	100% DAC	SEARCH UNIT ANGLE	DAMP'S			INI
	W MP					45				Weld
NO RECORDABLE INDICATIONS						DN				
NO RECORDABLE INDICATIONS						DN WELD				Weld
NO RECORDABLE INDICATIONS						DN				Weld
REMARKS * + 60db SWITCH DOWN THE SCANNING WELD SEE DATA SHEET NO. 892042										
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)										
REVIEWED BY: Russell Hill DATE: 25 APR 88 CONTINUED ON SHEET: 1A										

S.W. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET No.: 106/100					
EXAMINATION AREA (SYSTEM / COMPONENT): Reactor Coolant		(LINE / SUBASSEMBLY): 30-RC-12A				(IDENTIFICATION): 1					
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N A									(NOZZLE - TRANS. PIECE)
	FOLLOW-UP EXAMINATION										600-41/18 Dev 1 CC-7 (30"-3.0"-CSCL)
PT <input type="checkbox"/>	INITIAL EXAMINATION										
MT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890053	WAT	19 Apr 88	X						
	45° T SCAN	890053	WAT	19 Apr 88	X						
	60° SCAN	N A									
	60° T SCAN										
	Profile	135086	LS	16 Apr 88							Profile and Thickness Information RW ^{ANZ 4-20-88} <i>[Signature]</i>
		N A									

SUMMARIZED BY:

[Signature]

DATE

21 Apr 88

CONTINUED ON SHEET No.:

N/A

PAGE 1 OF 1

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 19 APR 88	TIME: (24 HR CLOCK) EXAM STARTED 1427 EXAM ENDED 1447	SHEET No. 820053
EXAMINATION AREA (SYST / COMP) REACTOR COOLANT	(LINE / SUBASSEMBLY) 30-RC-12A	(IDENTIFICATION) 1	L ₀ LOCATION 1	W ₀ LOCATION WELD E

EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE No 600-41 REV 18 DEV 1	CALIBRATION SHEET(S) 190119	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45°	SCANNING dB 60 1	WELD TYPE NOZZLE → TRANS PIECE	WELD LENGTH 114"	EXAM SURFACE TEMPERATURE 80/80 °F
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IND No.	% CF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.	
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC						
													UP/DN	45				wf
													ON WELD	45T				wf

REMARKS * +6db switch down for scanning wf

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE wf

REVIEWED BY <i>Russell Fine</i>	SNT LEVEL II	DATE 21 APR 88	PAGE OF 1 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2416	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 110 APR 88	TIME (24 HR. CLOCK) INT. 1400 FINAL 1453	SHEET NO.:
EXAMINER: <i>S. B. Prasad</i>	SMT LEVEL: <u>II</u>	TNK. MEAS. REQ'D BY PROCEDURE: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	SERIAL NO.: 774224	COMPONENT ID: <i>30-RC-12A-1</i>
EXAMINER: <i>D. JAGAR</i>	SMT LEVEL: <u>I</u>	No. <u>6DD-41</u> Rev. <u>18</u> Dev. <u>1</u>	COUPLANT: <input checked="" type="checkbox"/> WATER <input type="checkbox"/>	REFERENCE BLK NO.: <i>CS-DC-37</i>
SEARCH UNITS				
BRAND: <i>matreals ASSOCIATE</i>				
SERIAL NO.: <i>67589</i>				
SIZE: <i>1/4</i>				
FREQ. (MHz): <i>2.25</i>				
INSTRUMENT SETTINGS				
SCREEN SIZE: <i>5</i>				
DELAY: <i>DTST</i>				
MATL. CAL.: <i>101</i>				
RANGE: <i>5</i>				
REP. RATE: <i>JK</i>				
JACK USED: <i>R</i>				
TRANS. MODE: <i>NORMAL</i>				
REVIEWED BY: <i>h. l. ...</i>	SMT LEVEL: <i>II</i>	NAME: <i>S. Prasad</i>	DATE: <i>16 APR 88</i>	SMT LEVEL: <i>II</i>

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 107350
EXAMINATION AREA (SYSTEM/COMPONENT): Reactor Coolant	(LINE/SUBASSEMBLY): 30-RC-12A	(IDENTIFICATION): 7LV-1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									(LONG. SEAM)
	FOLLOW-UP EXAMINATION										600-41/18 Dev 1 CC-7 (30"-3.0"-CSCL)
PT <input type="checkbox"/>	INITIAL EXAMINATION										
MT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890056	WAS	20 Apr '88	X						12 INCHES OF WELD LENGTH
	45° T SCAN	890036	WAS	20 Apr '88	X						EXAMINED.
	60° SCAN	N / A									RWZ AWZ 4-28-88
	60° T SCAN										

SUMMARIZED BY: <i>Donald W. York</i>	DATE: <i>8-22-88</i>	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 20 APR 88	TIME: (24 HR CLOCK) EXAM STARTED 1011 EXAM ENDED 1017		SHEET No. 890055	
EXAMINATION AREA (SYST./COMP.) REACTOR COOLANT		(LINE / SUBASSEMBLY) 30-RC-12A		(IDENTIFICATION) FLU-1	L ₀ LOCATION 7		W ₀ LOCATION EOF WELD	
EXAMINER W.A. JENSEN		SNT LEVEL II	PROCEDURE No 600-41	CALIBRATION SHEET(S) 190115	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45 ° N / °	WELD TYPE LONGITUDINAL	
EXAMINER R. MILLER		SNT LEVEL I	REV 18 DEV 1		SCANNING dB 60 / 1 *	A	WELD LENGTH <input checked="" type="checkbox"/> EXAM SURFACE TEMPERATURE 80/80 °F	

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
													cw	45°			wp
													on weld	45°T			wp ON BASE MAT'L

REMARKS * +6dB SWITCH DOWN FOR SCANNING, weld EXAMINED 12 INCHES OF WELD, weld

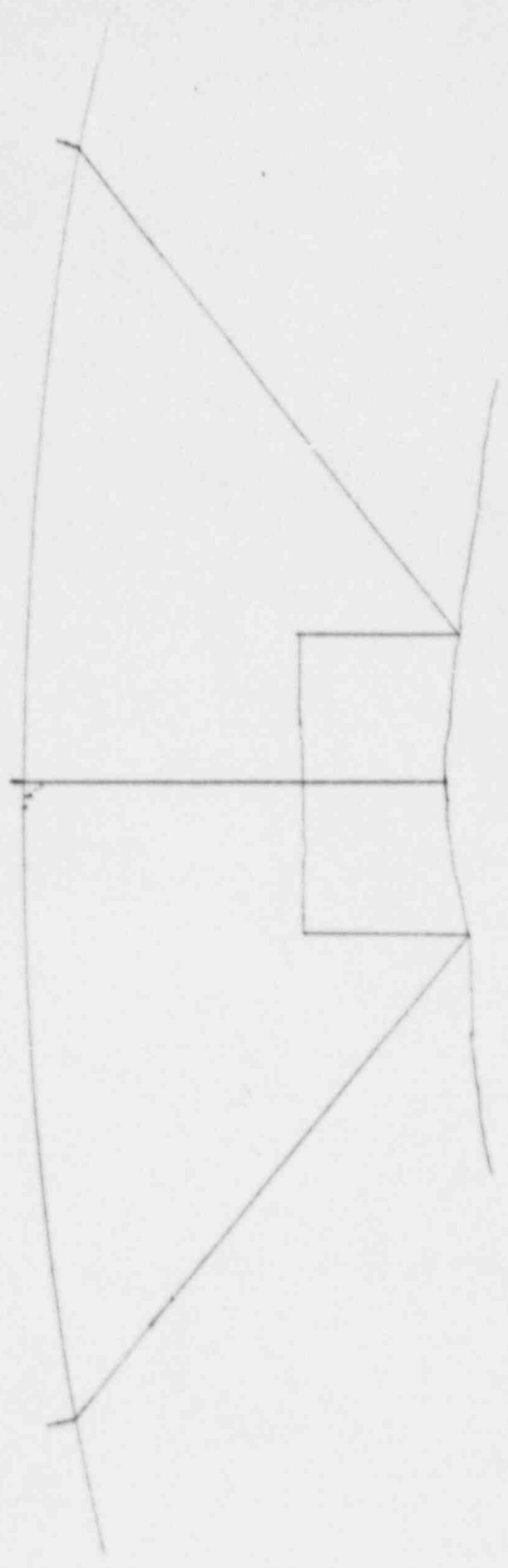
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) **NONE weld**

REVIEWED BY Russell Linc	SNT LEVEL II	DATE 21 APR 88	PAGE 1 OF 1
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REACTOR CRESTANT
30-RC-17A-7113-1

C.C.W.

C.W.



C.W. SCAM 2000 6/11/50

A 45° S.W. CROSS FOR CONCRETE USING 1/4, 3/8, 1/2 REBARS
EXTENDED TO 1/4 TO EXCEEDS I.D.M. VOLUME.

Allen C. Jones Inc. II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 107400
EXAMINATION AREA (SYSTEM / COMPONENT) Reactor Coolant	(LINE / SUBASSEMBLY) 30 - RC - 12A	(IDENTIFICATION) 7LU-2

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									(LONG. SEAM) 600-41/18 Dool PC-7 (30" - 30" - CSCL)
	FOLLOW-UP EXAMINATION										
PT	INITIAL EXAMINATION										
MT	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890055	WAS	20 Apr 88	X						12 INCHES OF WELD
	45° T SCAN	890055	WAS	20 Apr 88	X						LENGTH EXAMINED.
	60° SCAN	N / A									RWZ AWS 4-25-88
	60° T SCAN										

SUMMARIZED BY: <i>Donald W York</i>	DATE: 4-22-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 20 APR 88	TIME: (24 HR CLOCK) EXAM STARTED 1005 EXAM ENDED 1010	SHEET No. 890055
EXAMINATION AREA (SYST/COMP) REACTOR COOLANT	(LINE / SUBASSEMBLY) 30-RC-12A	(IDENTIFICATION) 7LU-2	L ₀ LOCATION 7	W ₀ LOCATION 4 OF WELD

EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE NO 610-91	CALIBRATION SHEET(S) 190115	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45° N	WELD TYPE LONGITUDINAL
EXAMINER R. MILLER	SNT LEVEL I	REV 18 DEV 1		SCANNING dB 60/1	A	WELD LENGTH <input checked="" type="checkbox"/> EXAM SURFACE TEMPERATURE 80/80 °F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
													cw/ccw	45°			log
													ON WELD	45° T			log

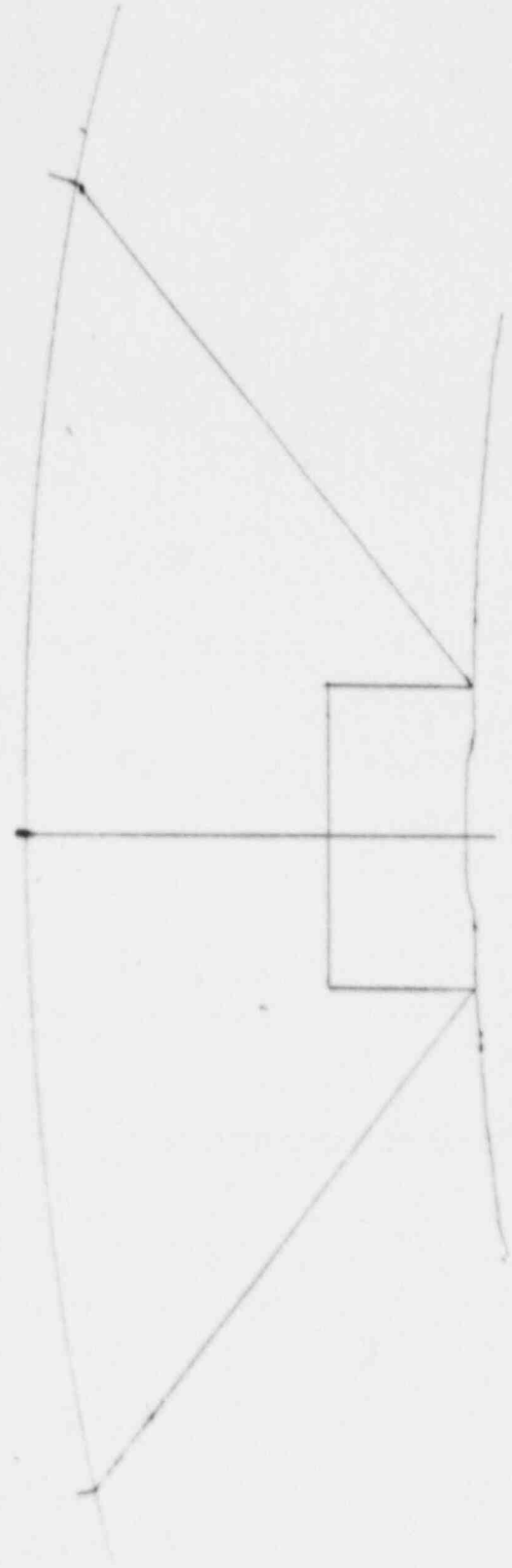
REMARKS *** +6dB SWITCH DOWN FOR SCANNING, w/ (X) EXAMINED 12 INCHES OF WELD, w/**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE) **NONE - w/**

REVIEWED BY <i>Russell Fin</i>	SNT LEVEL II	DATE 21 APR 88	PAGE 1 OF 1
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REACTOR CONTROL SYSTEM

30 RC-107 HV-Z



A 45° cut shown for dimensional reasons. 4 3/8" by 4 1/2" is indicated to 48" to accommodate 10000
LPH/10000

U.S. Patent 2,811,112

Copyright 1958

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 107450
EXAMINATION AREA (SYSTEM / COMPONENT): REACTOR COOLANT	(LINE / SUBASSEMBLY): 30-RC-12A	(IDENTIFICATION): 7

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									ELBOW → SAFE END
	FOLLOW-UP EXAMINATION										600-4714, DEV. 1, 2, 3
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									600-31/24, DEV. 1
	FOLLOW-UP EXAMINATION										CC-7/CC-10 RC-7 ANE 5-7-88
UT	0° LAM SCAN	181057	WAT	4-23-88	X						
	0° WELD SCAN	N / A									LIMITED UT FROM ELBOW
	45° SCAN	892060	WAT	4-23-88	X						SIDE DUE TO ELBOW
	45° T SCAN	892060	WAT	4-23-88	X						CONFIGURATION.
	60° SCAN	892043	WAT	4-28-88	X						
	60° T SCAN	892043	WAT	4-28-88	X						
	PROFILE	135148	WAT	4-21-88							PROFILE CS SIDE
	PROFILE	135102	WAT	4-23-88							PROFILE SS SIDE
		N / A									
		↓									

SUMMARIZED BY: <i>Donna York</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: 1	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 9 1986	TIME (24 HR. CLOCK) INT. 0852	FINAL 1031	SHEET NO.: 155748
EXAMINER: W.A. JENSEN	THK. MEAS. PROCEDURE: No. 600-41	THK. MEAS. REQ'D BY PROCEDURE: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	INSTRUMENT: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	SERIAL NO.: C4326L	COMPONENT ID: 12A 20-20-105-7
EXAMINER: R. Miller	Rev. 18 Dev. 1	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)			REFERENCE BLK NO.: 05-102-99
SEARCH UNITS					
BRAND: <i>PROBATION</i>					
SERIAL NO.: <i>G7549</i>					
SIZE: <i>1/2</i>					
FREQ. (MHz): <i>2.25</i>					
INSTRUMENT SETTINGS					
SCREEN SIZE: <i>3.0</i>					
DELAY: <i>120-1</i>					
MATL. CAL.: <i>070</i>					
RANGE: <i>5</i>					
REP. RATE: <i>3K</i>					
JACK USED: <i>R</i>					
TRANS. MODE: <i>150-146</i>					
REVIEWED BY: <i>F. M. J. Fin</i>	SNT LEVEL: <i>IF</i>	NAME: <i>[Signature]</i>	SNT LEVEL: <i>II</i>		
		DATE: 20 APR 87			

SEE
ATTACHED
SHEET

* Search Unit chosen for coverage using *5* nodes.
 * Search Unit chosen for coverage using *1/2* nodes.

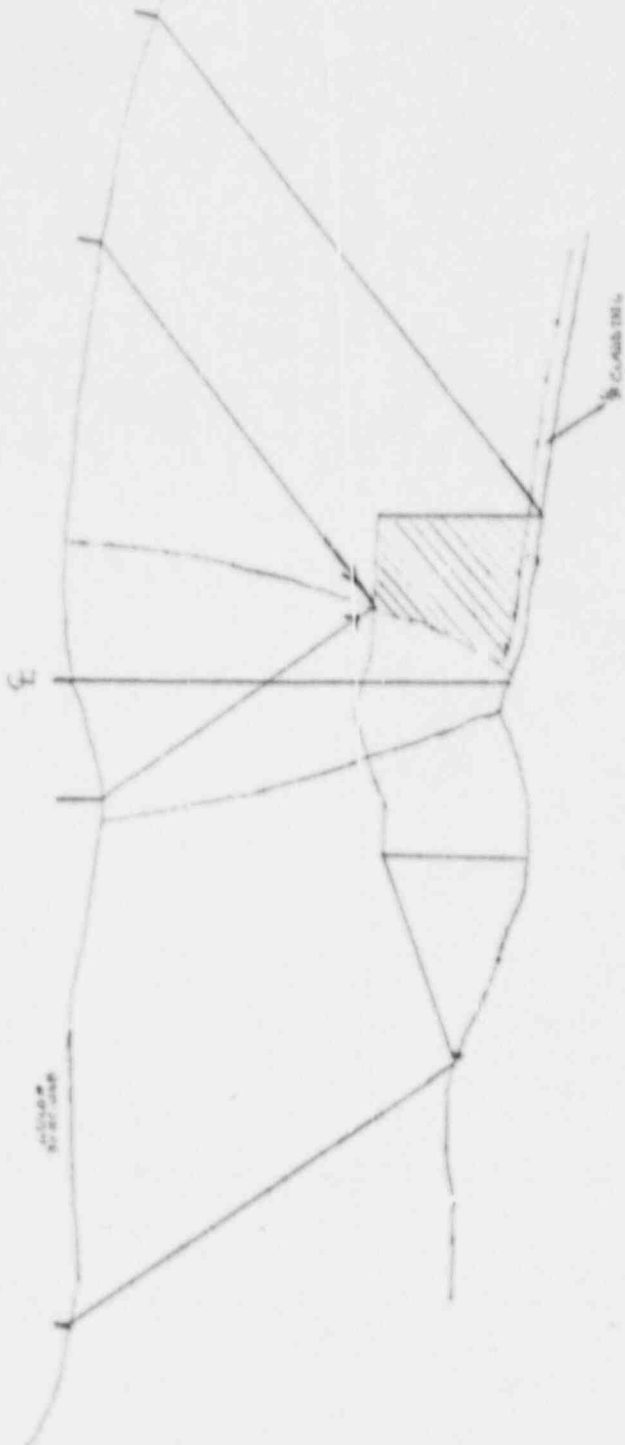
107450

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 23 APR 88	TIME (24 HR. CLOCK) INT. 1225 FINAL 1500	SHEET NO.: 135102
EXAMINER W. A. JENSEN	THK. MEAS. REQ'D BY PROCEDURE No. 600-31 REV. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774 224	COMPONENT ID: 30-RC-12A-7
EXAMINER R. MILLER	SNT LEVEL II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY)	WATER <input type="checkbox"/>	REFERENCE BLK NO.: SS-DC-36
<div style="display: flex; justify-content: space-between;"> 700 SEE ATTACHED SHEET DN </div>				
SEARCH UNITS				
BRAND	S.W.R.I.			
SERIAL NO.	3278			
SIZE	3/4			
FREQ. (MHZ)	1.5			
INSTRUMENT SETTINGS				
SCREEN SIZE	5.0			
DELAY	678.1			
MATL. CAL.	10A			
RANGE	5			
REP. RATE	3K			
JACK USED	A			
TRANS. MODE	NORMAL			
REVIEWED BY:	Russell Line		SNT LEVEL:	II
			NAME:	William C. Jones
			DATE:	23 APR 88
From STAINLESS SIDE				

100000

Reactor Coolant
30-RC-12A-7



DIVISION OF REACTOR COOLANT
 ADDRESS RI BRESTON (IMPLANTATION)
 WASHINGTON, D.C. 20540
 25 APR 68
 THE REACTOR COOLANT
 SYSTEMS TECHNOLOGY CENTER

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 23 APR 88		TIME (24 HR CLK) EXAM STARTED 0929 EXAM ENDED 0943		SHEET NO 000013	
EXAMINATION AREA (SYSTEM)		(LINE/SUBASSEMBLY)		(IDENTIFICATION)		L ₀ LOCATION		W ₀ LOCATION	
REACTOR COOLANT		30 RC 12A		7		2		WELD E	
EXAMINER W.A. JENSEN		SNT LEVEL II		PROCEDURE NO 6-00-31 REV 24 DEV 1		CALIBRATION SHEET (S) 190171		WELD TYPE SAFE-ENP	
EXAMINER R. MILLER		SNT LEVEL I		SEARCH UNIT LOC.		SEARCH UNIT ANGLE		WELD LENGTH 114	
IND No		% OF DAC MAX		L ₁		L ₂		EXAM SURFACE TEMPERATURE 83/83 °F	
		1/2 MAX		100% DAC		100% DAC		REMARKS	
		MP		MAX		MAX		INI	
No RECORDABLE INDICATIONS		INDICATIONS		UP		45		waf	
No RECORDABLE INDICATIONS		INDICATIONS		ON WELD		45T		Cw/cw UP	
No RECORDABLE INDICATIONS		INDICATIONS		UP		45 TAN		Cw/cw	
+ hdb SWITCH DOWN FOR SCANNING WAF See DATA SHEET NO. 892060 WAF									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) ONE DIMENSIONAL COVERAGE 95% DUE TO 70° COB									
REVIEWED BY John Jensen									
SNT LEVEL II				DATE 28 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1	

SHUTDOWN COOLING SYSTEM

SW. R. I. EXAMINATION SUMMARY RECORD

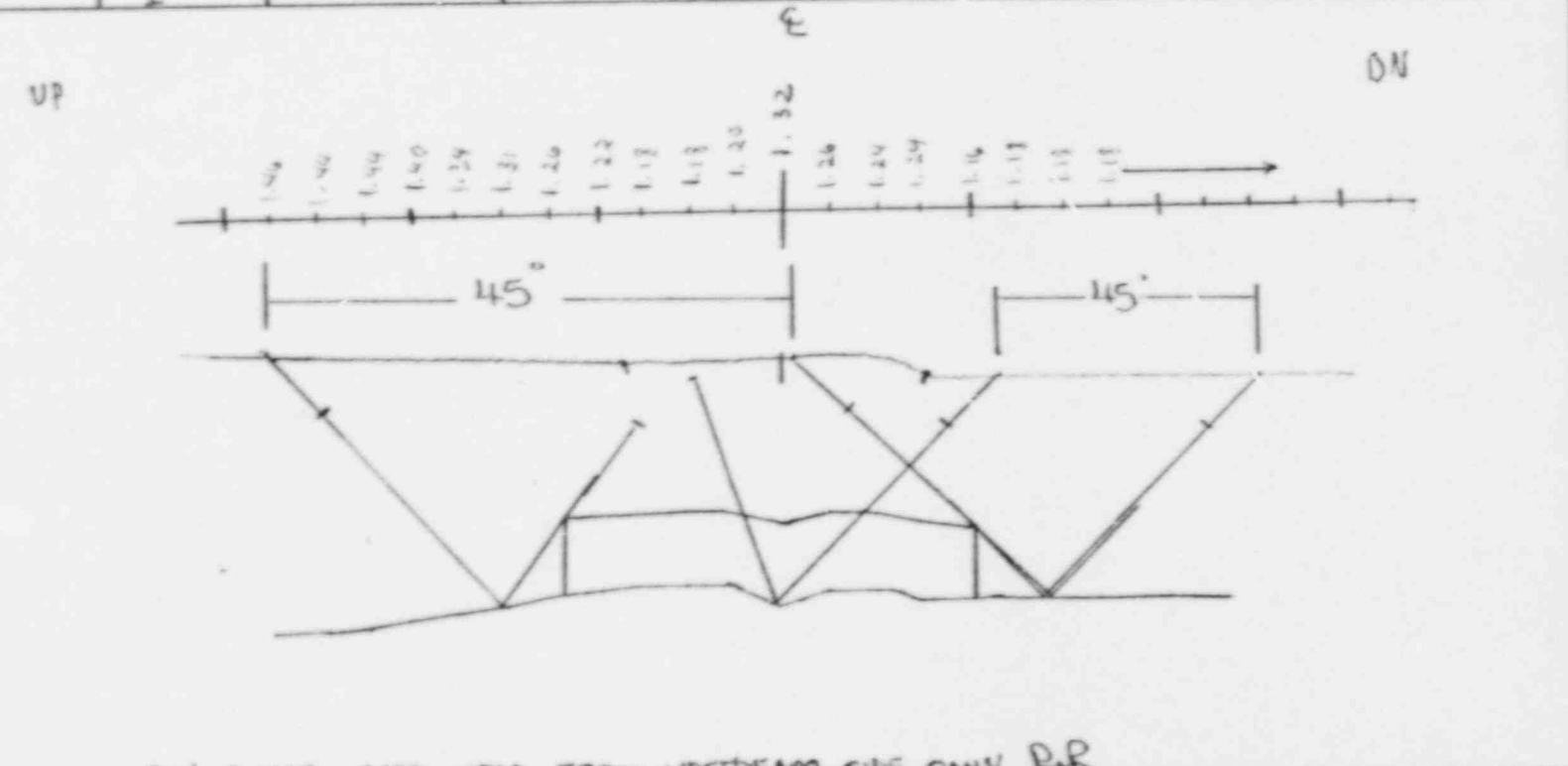
PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 111350					
EXAMINATION AREA (SYSTEM/COMPONENT): SHUTDOWN COOLING		(LINE/SUBASSEMBLY): 14-SC-1005		(IDENTIFICATION): 5					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
INITIAL EXAMINATION	N/A								ELBOW → PIPE
FOLLOW-UP EXAMINATION									600-3.124, DEV. 1
INITIAL EXAMINATION									CC-60 (14"-1.250"-55)
FOLLOW-UP EXAMINATION									RWZ ANI 4-28-88
0° LAM SCAN									
0° WELD SCAN									
45° SCAN	892025	RAR	4-26-88			X		310076	
45° T SCAN	892025	RAR	4-26-88			X			
60° SCAN	N/A								
60° T SCAN									
PROFILE	135130	RAR	4-26-88						
	N/A								
SUMMARIZED BY: Donald W. York		DATE: 4-28-88		CONTINUED ON SHEET No.: N/A		PAGE: 1		OF: 1	

111350

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 26 APRIL 88	TIME (24 HR. CLOCK) INT. 0349 FINAL 0417	SHEET NO.: 135130	
EXAMINER: <u>R.A. Riddle</u>	SNT LEVEL: <u>II</u>	THK. MEAS. REQ'D BY PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E	COMPONENT ID: 14-SC-1005-5
EXAMINER: T. BOHNENKAMPER	SNT LEVEL: <u>I</u>		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 55-DC-42

SEARCH UNITS	
BRAND	SEITECH
SERIAL NO.	AL1507
SIZE	1/4 INCH
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	143.1
MATL. CAL.	116
RANGE	3
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



CALL SCRUB OVER WELD FROM UPSTREAM SIDE ONLY P/R

REVIEWED BY: <u>Russell L</u>	SNT LEVEL: <u>II</u>	DATE: 26 APR 88	NAME: <u>R.A. Riddle</u>	SNT LEVEL: <u>II</u>
<u>45</u> * Search Unit chosen for coverage using <u>18, 31, 51, 71, 8</u> nodes.		<u>NA</u> * Search Unit chosen for coverage using <u>NA</u> nodes.		

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO

17-2116

SITE

CALVERT CLIFFS NUCLEAR
POWER PLANT, UNIT NO. 1

DATE (DAY-MON-YR)

26 APRIL 88

TIME (24 HR CLK)

EXAM STARTED 1432

EXAM ENDED 1445

SHEET NO

822005

EXAMINATION AREA (SYST/COMP)

SHUTDOWN COOLANT

(LINE/SUBASSEMBLY)

14-5C-1005

(IDENTIFICATION)

5

L₀ LOCATION

1

W₀ LOCATION

WELD E

EXAMINER

R.A. RIDDLES

SNT LEVEL

II

PROCEDURE

NO 600-31
REV 24
DEV 1

CALIBRATION
SHEET (S)

190159

ANGLE
USED

45°

45°

WELD TYPE

ELBOW → PIPE

WELD LENGTH

44 1/2

SCANNING
dB

13/20

13/20

EXAM SURFACE
TEMPERATURE

82°/82° F

EXAMINER

T. BOHNENKAMPFER

IND
No

%
OF
DAC
MAC

W MAX

W

MP

L₁

1/2
MAX

100%
DAC

L

L₂

100%
DAC

1/2
MAX

SEARCH
UNIT
LOC

SEARCH
UNIT
ANGLE

DAMPS
(IF YES, EXPLAIN)

REMARKS

INI

1

50

1 1/2

1.75

3 1/2

UP

45°

NO

CAN BE SEEN
INTERMITTENTLY ALONG WELD LINE

2

50

1 1/2

1.75

7 1/2

UP

45°

NO

CAN BE SEEN
INTERMITTENTLY ALONG WELD LINE

3

50

1 1/2

1.75

6 1/2

DN

55°

NO

CAN BE SEEN
INTERMITTENTLY ALONG WELD LINE

NO RECORDABLE INDICATIONS

NO RECORDABLE INDICATIONS

NO RECORDABLE INDICATIONS

REMARKS

* +6dB SWITCH DOWN R.R.

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

NONE R.R.

REVIEWED BY

Russell J. Jones

SNT LEVEL

II

DATE

26 APR 88

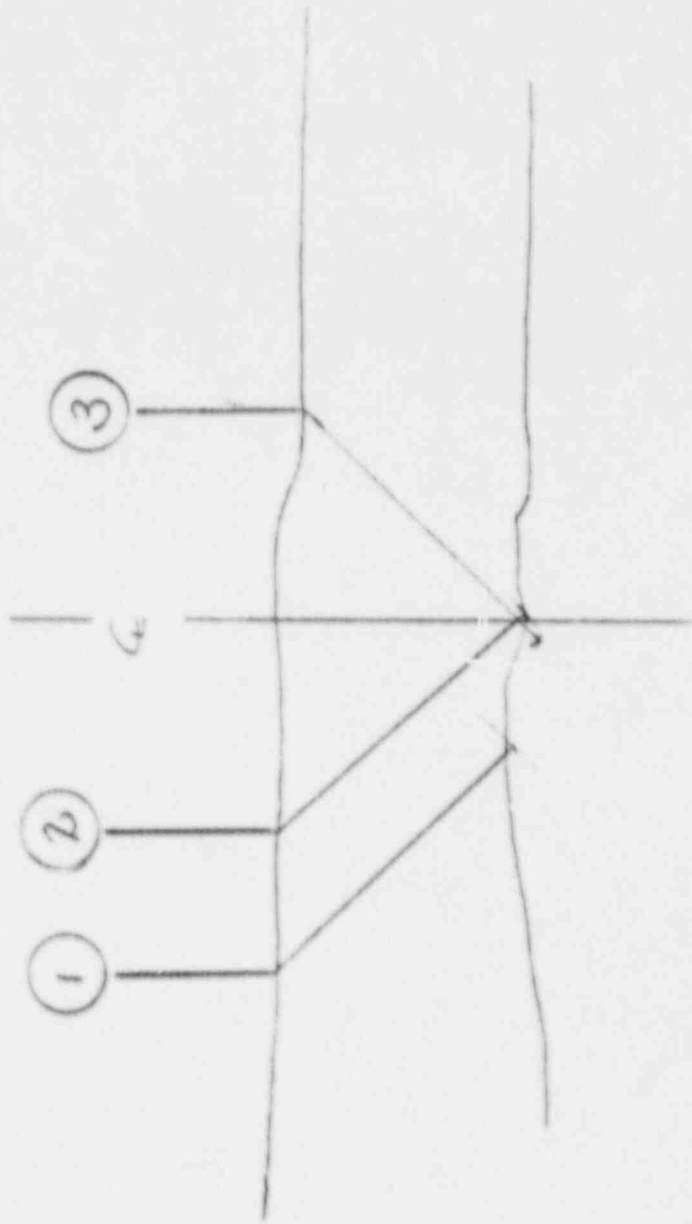
CONTINUED ON SHEET

N/A

PAGE 1 OF 1

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 50.1		DATE (DAY MON. YR) 26 APRIL 93		TIME (24 HR CLK) EXAM STARTED 1432 EXAM ENDED 1945		SHEET NO 000005	
EXAMINATION AREA (SYSTEM) SWT DOWN COOLANT		(LINE/SUBASSEMBLY) 14-26-1005		(IDENTIFICATION) 5		L ₉ LOCATION 1		W ₉ LOCATION WELD 5	
EXAMINER R.A. RIDDLES		PROCEDURE NO 600-31 REV 24 DEV 1		CALIBRATION SHEET (S) 45		ANGLE USED 45		WELD TYPE ELDS → PIPE	
EXAMINER T. BOWENKATZ		SNT LEVEL I		SEARCH UNIT 19059		SCANNING dB 13/20		WELD LENGTH 44 1/2	
IND No		L ₁		SEARCH UNIT LOC		DAMPS (IF YES, EXPLAIN)		REMARKS	
% OF DAC W MAX		100% DAC		L ₂					
W MP		1/2 MAX		100% DAC					
1 50		1 1/2		3 1/4		NO		CAN BE SEEN INTERMITTENTLY ALONG WELD LINE	
2 50		1 1/4		7 1/4		NO		CAN BE SEEN INTERMITTENTLY ALONG WELD LINE	
3 50		1 1/2		6 1/4		NO		CAN BE SEEN INTERMITTENTLY ALONG WELD LINE	
NO RECORDABLE INDICATIONS				DN					
NO RECORDABLE INDICATIONS				ON WELD					
NO RECORDABLE INDICATIONS				UP / ON					
NO RECORDABLE INDICATIONS				10 / ON					
REMARKS * +6dB SWITCH DOWN RQ									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
REVIEWED BY LIDDE RR		SNT LEVEL II		DATE 26 APR 93		CONTINUED ON SHEET N/A		PAGE 1 OF 1	



Elbow

PIPE

SHUTDOWN COOLANT
 14-BX-SC-1005-5
 26 APR 88
 Russell H. Price, III

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET No.: 111750			
EXAMINATION AREA (SYSTEM / COMPONENT): <i>SHUTDOWN COOLING</i>		(LINE / SUBASSEMBLY): 1A-SC-1005				(IDENTIFICATION): 10			
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input checked="" type="checkbox"/> INITIAL EXAMINATION	<i>N/A</i>								<i>PIPE → ELBOW</i>
<input checked="" type="checkbox"/> FOLLOW-UP EXAMINATION									<i>600-31/2A, DEV. 1</i>
<input type="checkbox"/> INITIAL EXAMINATION									<i>CC-60 (1A"-1.250"-55)</i>
<input type="checkbox"/> FOLLOW-UP EXAMINATION									<i>RWZ ARE 4 FEB 88</i>
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	<i>B92026</i>	<i>RAR</i>	<i>4-26-88</i>						
<input type="checkbox"/> 45° T SCAN	<i>B92026</i>	<i>RAR</i>	<i>4-26-88</i>						
<input type="checkbox"/> 60° SCAN	<i>N/A</i>								
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> PROFILE	<i>135131</i>	<i>RAR</i>	<i>4-26-88</i>						
	<i>N/A</i>								
SUMMARIZED BY: <i>Donald W. York</i>				DATE: <i>4-27-88</i>	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE: <i>1</i>	OF: <i>1</i>		

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 26 APRIL 78	TIME (24 HR. CLOCK): INT. 0849	FINAL 0951	SHEET NO.: 135131
EXAMINER: D. Darro	SNT LEVEL: II	THK. MEAS. REQ'D BY PROCEDURE: No. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 24332E	COMPONENT ID: 14-56-1005-10 REFERENCE BLK NO.: 55-06-42
EXAMINER: R.A. RIDDLES	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>		
EXAMINER: T. BOJNEKAMPFER	E				
SEARCH UNITS	DN				
BRAND: AEROTECH					
SERIAL NO.: AU507					
SIZE: 1/4 IN. DIA.					
FREQ. (MHz): 2.25					
INSTRUMENT SETTINGS					
SCREEN SIZE: 2					
DELAY: 143-1					
MATL. CAL.: 116					
RANGE: 2					
REP. RATE: 3K					
JACK USED: R/T					
TRANS. MODE: THRU					
REVIEWED BY: Russell W. Tim	SNT LEVEL: II	DATE: 26 APR 88	NAME: D. Darro	SNT LEVEL: II	

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				DATE (DAY-MON.-YR.) 26 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1454 EXAM ENDED 1721		SHEET NO 822225			
EXAMINATION AREA (SYST/COMP) SHUTDOWN COOLANT		(LINE/SUBASSEMBLY) 14-SC-1005				(IDENTIFICATION) 10		L ₀ LOCATION BR		W ₀ LOCATION 1 WELD E			
EXAMINER R.A. RIDGLES		SNT LEVEL II		PROCEDURE NO 600-31 REV. 24 DEV 1		CALIBRATION SHEET (S) 190159		ANGLE USED 45°		WELD TYPE PIPE → ELBOW			
EXAMINER T. BOHNENKAMPER		SNT LEVEL I						SCANNING dB 12/10		WELD LENGTH 44 3/4			
								X		EXAM SURFACE TEMPERATURE 82°/82° F			
IND No	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
		NO RECORDABLE INDICATIONS							U/W	65°			BR
		NO RECORDABLE INDICATIONS							OU WELD	65°		cw/ccw	BR
		NO RECORDABLE INDICATIONS							U/W	65°		BASE METAL, cw/ccw	BR
		NO RECORDABLE INDICATIONS							U/W	65°		cw/ccw	BR
REMARKS * +6dB SWITCH DOWN BR													
EXAMINATION: AREA LIMITATION (IF NONE, SO STATE) NONE BR													
REVIEWED BY Russell Time						SNT LEVEL II		DATE 26 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1	

SAFETY INJECTION SYSTEM

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 114300
EXAMINATION AREA (SYSTEM / COMPONENT) Safety Injection	(LINE / SUBASSEMBLY) 12-51-1009	(IDENTIFICATION) 15

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									ELBOW → SAFE END
	FOLLOW-UP EXAMINATION:										600-31/24 Dec 1
PT MT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION:										CC-52 (12"-1.125"-SS) RWZ ANI 5-3-88
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	892057	WAJ	15 Apr 88	X						
	45° T SCAN	892057	WAJ	15 Apr 88	X						
	60° SCAN	N / A									
	60° T SCAN										
	Profile	13506Z	WAJ	15 Apr 88							Profile and Thickness Information
		N / A									

SUMMARIZED BY: <i>[Signature]</i>	DATE: 18 Apr 88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

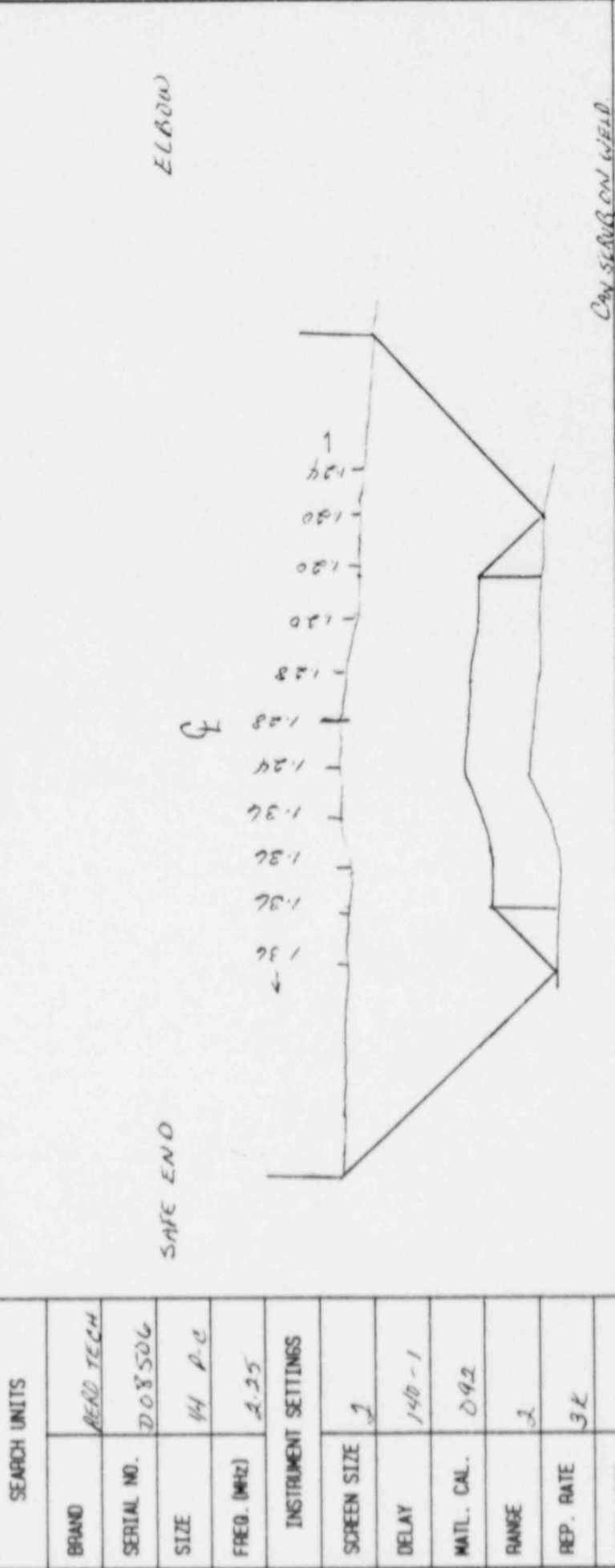
PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1 (LINE/SUBASSEMBLY) 12-SI-1009	DATE (DAY-MON.-YR.) 15 APR 88	TIME (24 HR CLK) EXAM STARTED 0912 EXAM ENDED 0923	SHEET NO. 600007
EXAMINATION AREA (S/S/ST/COMP) SAFETY INJECTION	PROCEDURE NO 600-31 REV 24 DEV. 1	(IDENTIFICATION) 15	L ₀ LOCATION 1	W ₀ LOCATION 4 OF WELD
EXAMINER W. A. Jensen	SNT LEVEL II	CALIBRATION SHEET(S) 190 010	ANGLE USED 45°	WELD TYPE ELBOW → SAFE END
EXAMINER R. MILLER	SNT LEVEL I	SEARCH UNIT ANGLE 45°	SCANNING dB 80/4	WELD LENGTH 40 1/4
	L ₁ W MAX W MP	SEARCH UNIT LOC. UP/DN	DAMPS (IF YES, EXPLAIN)	EXAM SURFACE TEMPERATURE 92/92 °F
	1/2 MAX	100% DAC		REMARKS WELD
	L ₂ 100% DAC	1/2 MAX		LENGTH
	L ₃ 100% DAC	MAX		BASE MATERIAL
NO RECORDABLE INDICATIONS				WELD
NO RECORDABLE INDICATIONS				WELD
NO RECORDABLE INDICATIONS				WELD
REMARKS * + 6dB SWITCH FOR SCANNING WELD				
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) SCALE WELD				
REVIEWED BY Jerry Jensen	SNT LEVEL II	DATE 16 APR 88	CONTINUED ON SHEET N/A	PAGE 1 OF 1

SWRI FORM No. NDTR 17-89 (03-14-88)

114300

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE:	(DAY-MONTH-YEAR) 15 APR 88	TIME (24 HR. CLOCK)	INIT. 0850	FINAL 10:00	SHEET NO.:	1 of 1
EXAMINER	W. A. JENSEN	SMT LEVEL	II	THK. MEAS. PROCEDURE	SONIC MARK I	INSTRUMENT SERIAL NO.:	04328E			
EXAMINER	R. MILLER	SMT LEVEL	I	BY PROCEDURE	OTHER	COUPLANT:	WATER			
				No. 600-31		GLYCERINE	<input checked="" type="checkbox"/>			
				Rev. 24		OTHER (SPECIFY)				
				Dev. 1						
							REFERENCE BLK NO.: 55-DC-36			
							COMPONENT ID: 12-SI-1009-15			



CAN SEARCH ON WELD.

NAME: William O Jensen	SMT LEVEL: II
45° Search unit chosen for coverage using $\frac{3}{8}$, $\frac{1}{2}$, $\frac{7}{8}$ nodes.	DATE: 16 APR 88
Search unit chosen for coverage using _____ nodes.	
REVIEWED BY: Scott Duman	SMT LEVEL: II

Sw. R. I. EXAMINATION SUMMARY RECORD

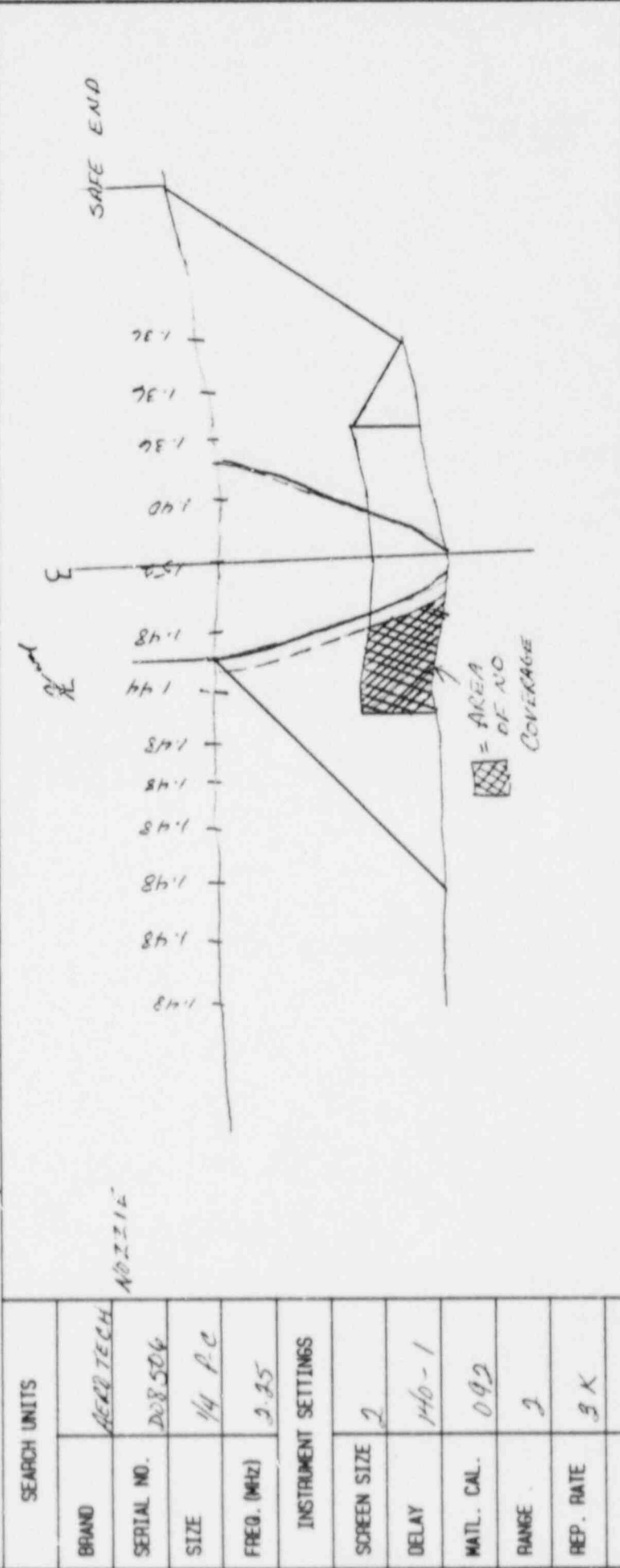
PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 114350
EXAMINATION AREA (SYSTEM / COMPONENT): SIS	(LINE / SUBASSEMBLY): 12-SI-1009	(IDENTIFICATION): 16

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									SAFE END → NOZZLE
	FOLLOW-UP EXAMINATION	↓									600-31/24 DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN	↓									NO EXAMINATION FROM THE
	0° WELD SCAN	↓									NOZZLE SIDE DUE TO NO
	45° SCAN	892058	WAT	4-15-88	X						AVAILABLE CALIBRATION
	45° T SCAN	892058	WAT	4-15-88	X						BLOCK. NOZZLE SIDE TO
	60° SCAN	N / A									BE EXAMINED NEXT OUTAGE.
	60° T SCAN	↓									RWT ANI 5-3-88
	PROFILE	135063	WAT	4-15-88							PROFILE.
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-18-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE:	15 APR 88	TIME (24 HR. CLOCK):	INT. 0850	FINAL 10.00	SHEET NO.:	100003
EXAMINER:	W. A. JENSEN	SNT LEVEL:	II	THK. MEAS. PROCEDURE:	REG'D	INSTRUMENT:	SONIC MARK I <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>	SERIAL NO.:	04938E
EXAMINER:	P. MILLER	SNT LEVEL:	I	No. 600-37431	Rev. 44-24	COUPLANT:	GLYCERINE <input checked="" type="checkbox"/>	OTHER (SPECIFY)	COMPONENT ID:	12-SI-1004-16
				Dev. 1					REFERENCE BLK NO.:	55-DC-36



JACK USED	R+T	NAME:	WILLIAM O'CONNOR	SNT LEVEL:	II
TRANS. MODE	THRU-TRANS	45 Search Unit chosen for coverage using $\frac{1}{8}$, $\frac{5}{8}$, $\frac{7}{8}$ nodes.	44 Search Unit chosen for coverage using $\frac{1}{4}$ nodes.	DATE:	16 APR. 88
DESIGNED BY:	George Brown	SNT LEVEL:	II		

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 15 APR 88		TIME (24 HR. CLK.) EXAM STARTED 0855^{wt} EXAM ENDED 0912		SHEET NO. 800053	
EXAMINATION AREA (SYST/COMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 12 SI 1009		IDENTIFICATION 16		L ₀ LOCATION 1		W ₀ LOCATION 9 OF WELD	
EXAMINER W.A. Jensen		SNT LEVEL II	PROCEDURE NO 600-31 REV. 24 DEV. 1		CALIBRATION SHEET (S) 190010	ANGLE USED 45°	SCANNING dB 80/4	WELD TYPE SAFE END - Nozzle	WELD LENGTH 40 3/4
EXAMINER R. Miller		SNT LEVEL I						EXAM SURFACE TEMPERATURE 92/92^F	

IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
									UP	45			weld
									ON WELD	45T		LENGTH Hump BASE MATERIAL	cw/ccw weld
									BASE METAL	45TAN		cw/ccw	weld

REMARKS *** + 60dB SWITCH FOR SCANNING^{wt}**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

NO EXA " DOWN STREAM DUE TO CARBON STEEL NOZZLE^{wt}

REVIEWED BY Sera Duran	SNT LEVEL II	DATE 16 APR 88	CONTINUED ON SHEET N/A	PAGE i OF 1
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SwRI FORM No. NDR 17 89 (03-14-88)

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 114600
EXAMINATION AREA (SYSTEM / COMPONENT) SIS	(LINE / SUBASSEMBLY) 12-SI-1010	(IDENTIFICATION) 3

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									PIPE → VALVE I-MOV-624
	FOLLOW-UP EXAMINATION										600-31/24, DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	892051	WAJ	4-14-88	X						NO UT FROM VALVE SIDE
	45° T SCAN	892051	WAJ	4-14-88	X						DUE TO VALVE CONFIGURATION,
	60° SCAN	N / A									UTAS COVERAGE OBTAINED
	60° T SCAN										FROM PIPE SIDE. PLY PANI 5-3-88
	PROFILE	135013	WAJ	4-14-88							
		N / A									

SUMMARIZED BY: <i>Donald Wipork</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF (
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 19 APR 88	TIME (24 HR. CLOCK) INT. 1224 FINAL 1340	SHEET NO.: 100000
EXAMINER: W. A. JENSEN	SNT LEVEL: II	THK. MEAS. REQ'D BY PROCEDURE: No. 600-31 Rev. 2.4 Dev. 1	SERIAL NO.: 04328E	COMPONENT ID: 12-SI-1010-3
EXAMINER: R. MIZNER	SNT LEVEL: I	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: SS-PC-36	
SEARCH UNITS		VALVE		
BRAND: Aerobach				
SERIAL NO.: D08506				
SIZE: 1/4 PC				
FREQ. (MHZ): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 140-1				
MATL. CAL.: 092				
RANGE: 2				
REP. RATE: 3K				
JACK USED: RAT				
TRANS. MODE: THERM				
REVIEWED BY: Russell Jones	SNT LEVEL: II	NAME: W. A. JENSEN	DATE: 15 APR 88	SNT LEVEL: II

No 45° AND 45° TAN FROM VALVE SIDE. w/ NO EXAM FROM VALVE SIDE DUE TO CONFIGURATION. w/ SEE ATTACHED COVERAGE Plot AT 45° COVERAGE OBTAINED FROM PIPE SIDE. w/

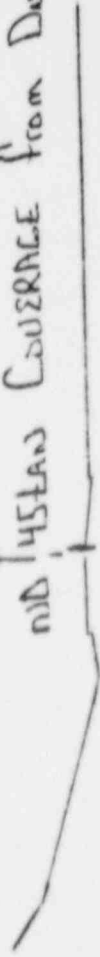
SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			DATE (DAY-MON.-YR.) 14 APR 88		TIME (24 HR CLK) EXAM STARTED 1230 EXAM ENDED 1247		SHEET NO. 800051				
EXAMINATION AREA (SYST/COMP) SAFETY INJECTRN		(LINE/SUBASSEMBLY) 12-SI-1010			(IDENTIFICATION) 3		L ₀ LOCATION 1		W ₀ LOCATION E OF WELD				
EXAMINER W A. JENSEN		SNT LEVEL II	PROCEDURE NO. 600-31 REV. 24 DEV. 1		CALIBRATION SHEET (S) 190009	ANGLE USED 45°⁰ N	WELD TYPE PIPE-PIPE VALVE		WELD LENGTH 40 3/8				
EXAMINER R MILLER		SNT LEVEL I				SCANNING dB 80/14			EXAM SURFACE TEMPERATURE 80/80 °F				
IND No	% OF DAC MAG	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
									UP	45°			wal
									ON WELD	45° T		BASE MATERIAL (WT) CW/CCW	wal
									BASE MATERIAL	45° TAN		CW/CCW	wal
REMARKS *+6dB SWITCH DOWN FOR SCANNING. wal COMPLETE COVERAGE OBTAINED FROM PIPE SIDE. wal 45° wal													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NOT 45° T AND 45° TAN FROM VALVE SIDE wal NONE wal DUE TO CONFIGURATION wal													
REVIEWED BY Russell H [Signature]		SNT LEVEL II		DATE 15 APR 88		CONTINUED ON SHEET NA		PAGE 1 OF 1					

NID 45T COVERAGE DOWSTREAM (VALVE)



NID 45T AND COVERAGE FROM DOWSTREAM (VALVE)



PARTIAL LIMITATIONS

12-SI-1010-3

REF sheet # B3019

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 115250
EXAMINATION AREA (SYSTEM/COMPONENT) Safety Injection	(LINE/SUBASSEMBLY) 12-51-1011	(IDENTIFICATION) 2

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A								VALVE I-SI-235 TO PIPE	
	FOLLOW-UP EXAMINATION									600-31/24 Div-1	
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION									CC-59 (12" - 1.125" - SS)	
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	892067	WAJ	14 Apr '83			X		310002	NO EXAMINATION COVERED OF	
	45° T SCAN	892067	WAJ	14 Apr '83	X					THE VALVE SIDE DUE TO	
	60° SCAN	N / A								VALVE CONFIGURATION AND MATERIAL.	
	60° T SCAN										
	Profile	135029	WAJ	13 Apr '83						Profile and Thickness Information	
		N / A								<i>RWJ</i> DANI 5-3-88	

SUMMARIZED BY: <i>Donald Wysh</i>	DATE: 4-29-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

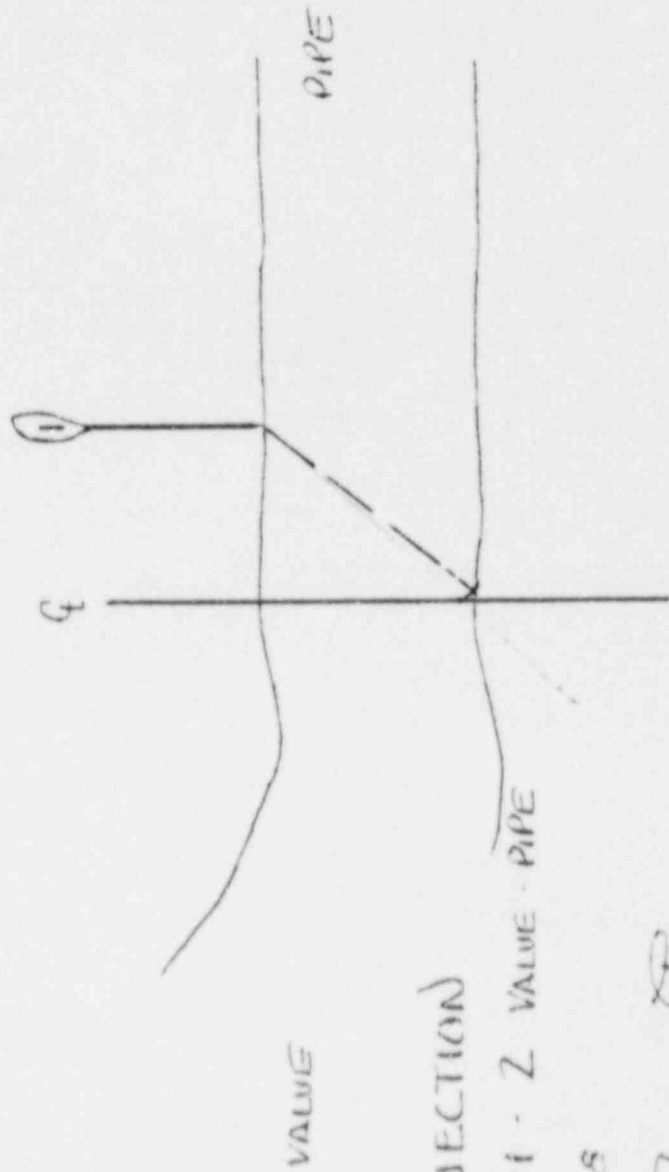
PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 13 APR 88	TIME (24 HR. CLOCK) INT. 1550 FINAL 1645	SHEET NO.: 1
EXAMINER <i>W. A. JENSEN</i>	THK. MEAS. REQ'D BY PROCEDURE No. 600-31 Rev. 2-4 Developer 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04328E	COMPONENT ID: 12-SI-1011-2
EXAMINER <i>Lee MILLER</i>	SNT LEVEL II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: 55-DC-36 <i>36</i> <i>55-DC-37 way</i>
TAKEN AT 90°				
SEARCH UNITS				
BRAND	<i>Acrotech</i>			
SERIAL NO.	<i>208506</i>			
SIZE	<i>1/4 P-2</i>			
FREQ. (MHz)	<i>2.25</i>			
INSTRUMENT SETTINGS				
SCREEN SIZE	<i>2</i>			
DELAY	<i>140-1</i>			
MATL. CAL.	<i>092</i>			
RANGE	<i>2</i>			
REP. RATE	<i>JK</i>			
JACK USED	<i>R+T</i>			
TRANS. MODE	<i>THRU-TRANS</i>			
REVIEWED BY:	<i>Russell Line</i>			SNT LEVEL: <i>I</i>
			NAME: <i>W. A. JENSEN</i>	SNT LEVEL: <i>II</i>
			DATE: <i>18 APR 88</i>	

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310002
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 12-SI-1011	IDENTIFICATION 2	CALIBRATION SHEET (S) 100009
EXAMINER W. A. JENSEN	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION RECORD SHEET NO. (S) 892063
EXAMINER R. MILLER	SNT LEVEL I	REV 24 DEV. I	
EXAMINATION METHOD VT <input type="checkbox"/> PTO <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>			
WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATION NO. 1 IS A GEOMETRIC REFLECTOR.
FROM THE WELD ROOT AREA. THIS INDICATION
CAN BE SEEN THROUGH OUT THE WELD LENGTH.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>Russell H. Fine</i>	SNT LEVEL II	DATE 15 APR 88
	REVIEWED BY <i>William C. Jensen</i>	SNT LEVEL II	DATE 15 APR 88



SAFETY INJECTION

12 - SI - 1011 - Z VALVE - PIPE

15 APR 88

Russell H. Fine, JR.

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 8² 116050
EXAMINATION AREA (SYSTEM/COMPONENT): Safety Injection	(LINE / SUBASSEMBLY): 12-51-1012	(IDENTIFICATION): 2

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A								VALUE 1-SI-245 - PIPE	
	FOLLOW-UP EXAMINATION	↓								600-31/24 Dow 1 CC-59 (12"-1.125"-55)	
PT MT	INITIAL EXAMINATION	↓									
	FOLLOW-UP EXAMINATION	↓									
UT	0° LAM SCAN	↓								NO EXAMINATION FROM THE	
	0° WELD SCAN	↓								VALVE SIDE DUE TO VALVE	
	45° SCAN	892066	WAS	14 Apr 88			X		310001	CONFIGURATION. RWZ ANI 5-9-88	
	45° T SCAN	892066	WAS	14 Apr 88	X						
	60° SCAN	N / A									
	60° T SCAN	↓									
	Profile	135023	WAS	13 Apr 88						Profile and Thickness Information	
		N / A									
		↓									

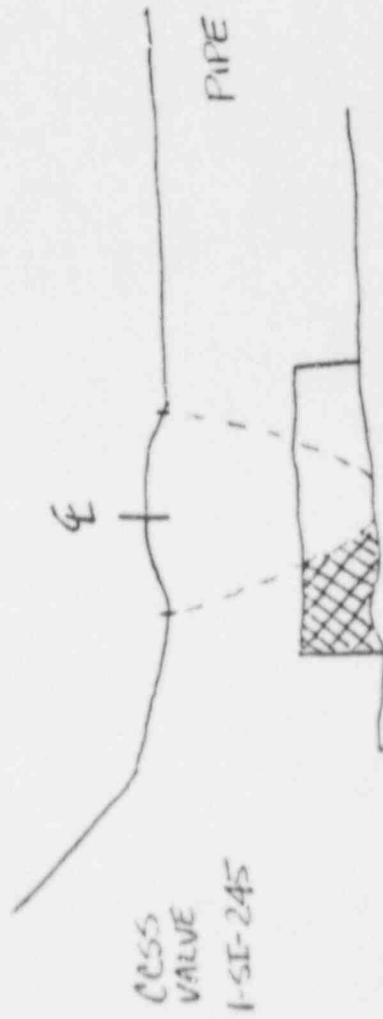
SUMMARIZED BY: Donald W York	DATE: 5-3-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 13 APR 88	TIME (24 HR. CLOCK): INT. 15:50 / FINAL 16:45	SHEET NO.: 1
EXAMINER: W.A. JENSEN	THK. MEAS. PROCEDURE: No. 600-31 Rev. 24 Dev. MA 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04328E	COMPONENT ID: 12-SI-1012-2
EXAMINER: R. MILLER	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: 36 imp SS-DC-37		
SEARCH UNITS	VALVE	TAKEN AT 90° PIPE		
BRAND: AEROTEUT				
SERIAL NO.: 700506				
SIZE: 1/4 PL				
FREQ. (MHz): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 140-1				
MATL. CAL.: 092				
RANGE: 2				
REP. RATE: 3K				
JACK USED: RGT				
TRANS. MODE: THRU TRANS				
REVIEWED BY: Russell Frie	SNT LEVEL: II	NAME: W.A. Jensen	SNT LEVEL: II	DATE: 18 APR 88

45° Search unit chosen for coverage using 1/8, 3/8, 5/8, 7/8 nodes.
 45° Search unit chosen for coverage using 1/16 nodes.

12-SI-1012-2



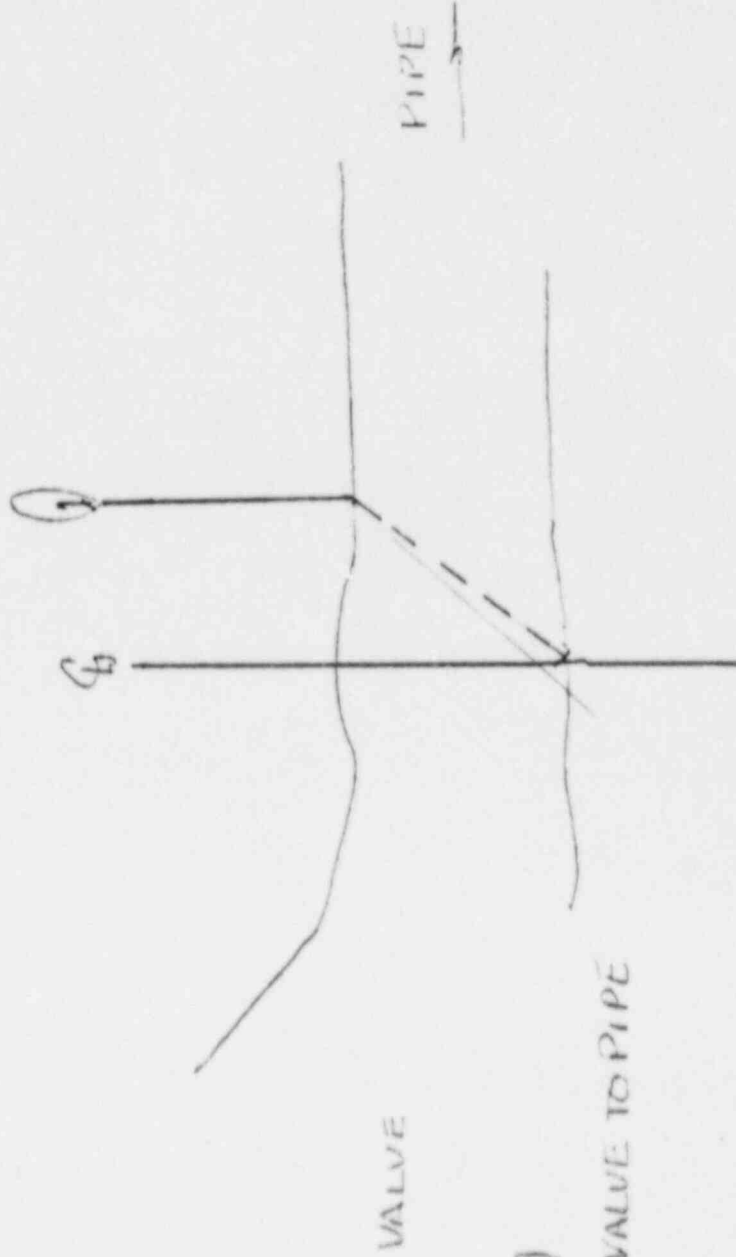
▣ : AREA OF COVERAGE DUE TO
VALVE CONFIGURATION AND
CESS MATERIAL.

SW. R. I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	IDENTIFICATION	SHEET NO. 310001
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 1Z-SI-101Z	IDENTIFICATION Z	CALIBRATION SHEET (S) 190009
EXAMINER W. A. JENSEN	PROCEDURE NO. 600-31 REV Z4 DEV. 1	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 89206266
EXAMINER R. MILLER	SNT LEVEL II	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> <input type="checkbox"/> MERIDIONAL <input type="checkbox"/>	
	SNT LEVEL I	NOZZLE-TO-SHELL <input type="checkbox"/> OTHER <input type="checkbox"/>	

45° INDICATION NO. 1 IS A GEOMETRIC REFLECTOR FROM THE WELD ROOT AREA. THIS INDICATION CAN BE SEEN INTERMITTENTLY THROUGH OUT THE WELD LENGTH.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>Russell H. Line</i>	SNT LEVEL II	DATE 15 APR 88
	REVIEWED BY <i>William O. Jensen</i>	SNT LEVEL II	DATE 15 APR 88



SAFETY INJECTION

12 - S1 - IC1Z - Z VALVE TO PIPE

15 APRIL, 88

Russell H. Fine

Sw. R. I. EXAMINATION SUMMARY RECORD

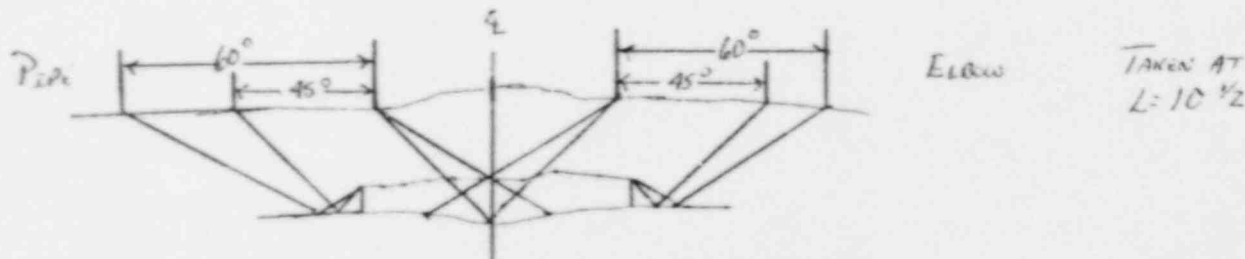
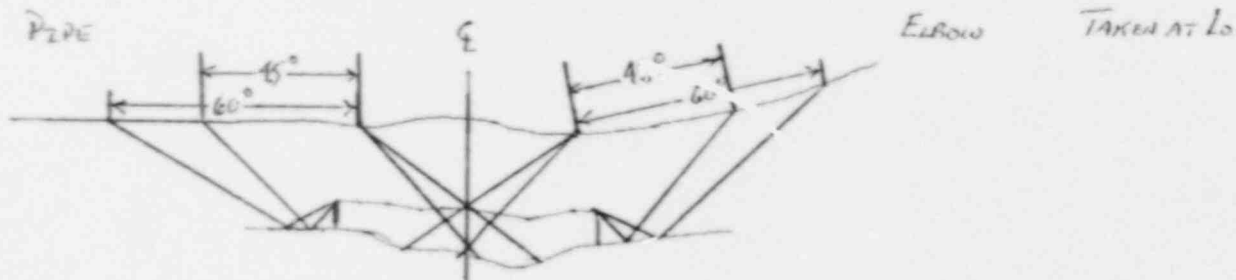
PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 116900
EXAMINATION AREA (SYSTEM/COMPONENT): SIS	(LINE / SUBASSEMBLY): 6-SI-1001	(IDENTIFICATION): 34

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A								PIPE - ELBOW	
	FOLLOW-UP EXAMINATION									600-31/2A, DEV. #1	
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN									UT60 PERFORMED TO PROVIDE	
	0° WELD SCAN									ADDITIONAL COVERAGE.	
	45° SCAN	892045	WAJ	4-28-88			X		310050	RWX ANI 5-4-88	
	45° T SCAN	892045	WAJ	4-28-88	X						
	60° SCAN	892048	WAJ	4-27-88			X		310050		
	60° T SCAN	N / A									
	PROFILE	135168	WAJ	4-28-88							
		N / A									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-29-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 28 APR 88		TIME (24 HR. CLOCK) INT. 1305 FINAL 1315		SHEET NO.: 135168	
EXAMINER WA JENSEN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-391		INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 07011E		COMPONENT ID: SAFETY INJECTION 6-SI-1001-34
EXAMINER R. MILLER		SNT LEVEL I	Rev. 24 Dev. 1		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 55-DC-34		
SEARCH UNITS									
BRAND	AECOTECH								
SERIAL NO.	A 11507								
SIZE	1/4 PC								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	10								
DELAY	138-1								
MATL. CAL.	100								
RANGE	1								
REP. RATE	3X								
JACK USED	R9T								
TRANS. MODE	THRU TRANS								
45° Search Unit chosen for coverage using 2/e, 4/e, 10/e nodes.					NAME: William O'Connell			SNT LEVEL: II	
60° Search Unit chosen for coverage using 2/e, 4/e, 10/e nodes.					DATE: 29 APR 88				
REVIEWED BY: <i>Russell Davis</i>			SNT LEVEL: II						



CANNOT SCRA OVER WELD.

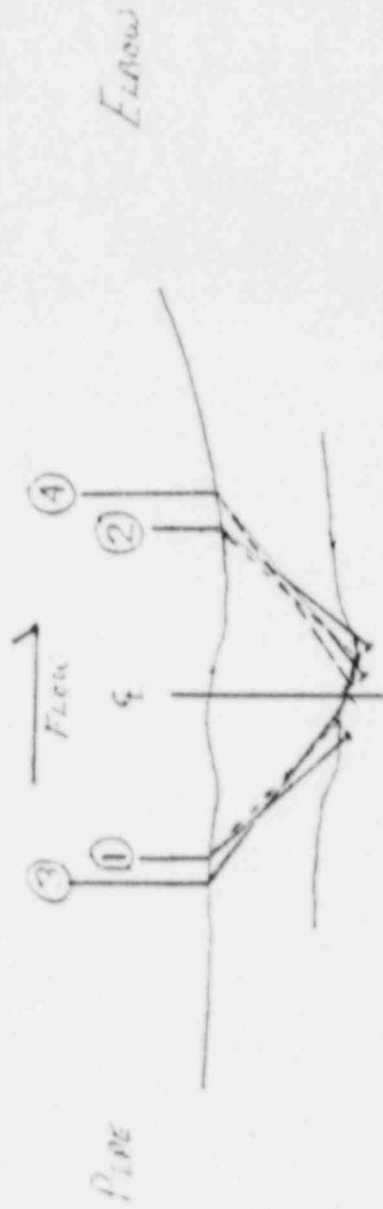
SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MON. YR.) 28 APR 88		TIME (24 HR CLK) EXAM STARTED 1416 EXAM ENDED 1435		SHEET NO. 000015	
EXAMINATION AREA (SYST/COMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 6-SI-1001		(IDENTIFICATION) 34		L ₀ LOCATION 1		W ₀ LOCATION WELD E	
EXAMINER W. A. JENSEN	SNT LEVEL II	PROCEDURE NO 600-31 REV 24 DEV 2-1		CALIBRATION SHEET (S) 140013	ANGLE USED 45°	SCANNING dB 10	WELD TYPE PIPE → ELBOW	WELD LENGTH 21	
	SNT LEVEL I							EXAM SURFACE TEMPERATURE 76/76 °F	
EXAMINER P. MILLER	L ₁ 100% DAC	L ₂ 100% DAC	SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMP'S (IF YES, EXPLAIN)	REMARKS	INI		
	1/2 MAX	1/2 MAX							
1	W MAX W 7/8 MP 1.0	W 20 3/4	UP	45		WEDGE AGAINST CORNER CAN BE SEEN ALONG ENTIRE WELD LENGTH	wol		
2	W 7/8 MP 1.0	W 1 1/8	DN	45		WEDGE AGAINST CORNER CAN BE SEEN ALONG ENTIRE WELD LENGTH	wol		
NO RECORDABLE INDICATIONS			UP	45T		CV ON	wol		
NO RECORDABLE INDICATIONS			DN	45TAN		CV WELD	wol		
REMARKS A + 6db SWITCH DOWN FOR SCANNING									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE									
REVIEWED BY Rosen...		SNT LEVEL II		DATE 29 APR 88		CONTINUED ON SHEET ATTACHED		PAGE 1 OF 2	

110900

SW. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET NO. 310050
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 6-SI-1001	CALIBRATION SHEET (S) 190013/190112
EXAMINER W.A. JENSEN	PROCEDURE NO. 600-31 REV 24 REV 1	EXAMINATION RECORD SHEET NO. (S) 892045 892048
EXAMINER R. MESSER	SNT LEVEL II	IDENTIFICATION 3A
	SNT LEVEL I	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input type="checkbox"/> RT <input type="checkbox"/>		
WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/>		
LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____		
<p>INDICATIONS #1 AND 2 (45°) ARE GEOMETRIC REFLECTORS FROM THE WELD ROOT AREA. THESE ARE SEEN WITH BEAM SPREAD DUE TO THE PROXIMITY OF THE SEARCH UNIT WEDGE TO THE WELD CROWN.</p> <p>INDICATIONS #3 AND 4 (60°) ARE GEOMETRIC REFLECTORS FROM THE WELD ROOT AREA.</p> <p>ALL OF THESE INDICATIONS CAN BE SEEN ALONG THE ENTIRE WELD LENGTH.</p>		
ATTACHMENT	RESOLUTION BY <i>William Jensen</i>	SNT LEVEL II
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>Russell Pine</i>	SNT LEVEL II
NO <input type="checkbox"/>		DATE 29 APR 88
		DATE 25 APR 87



CALVERT CLIFFS

UNIT I

SAFETY INSPECTION

6-SI-1001-34

Abilene O/Gen. L. II

29 APR 88

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 117300
EXAMINATION AREA (SYSTEM / COMPONENT): Safety Injection	(LINE / SUBASSEMBLY): 6-31-1002	(IDENTIFICATION): 31

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N A									ELBOW TO PIPE
	FOLLOW-UP EXAMINATION										600-31/24 Dev 1
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									RWX ANI 5-4-88
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	392071	WAT	16 Apr 88	X						
	45° T SCAN	392071	WAT	16 Apr 88	X						
	60° SCAN	N A									
	60° T SCAN										
	Profile	135083	WAT	16 Apr 88							Profile and Thickness Information
		N A									
		↓									

SUMMARIZED BY: <i>[Signature]</i>	DATE: 19 Apr 88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 16 APR 88		TIME (24 HR CLK) EXAM STARTED 1442 EXAM ENDED 1500		SHEET NO 1	
EXAMINATION AREA (SYSTACOMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 6 SI 1002		(IDENTIFICATION) 31		L ₀ LOCATION Weld 1		W ₀ LOCATION 2 OF WELD	
EXAMINER W.A. JENSEN		PROCEDURE NO 600-31 REV 34 DEV 1		CALIBRATION SHEET (S) 190011		ANGLE USED 45°		WELD TYPE ELbow - PIPE	
EXAMINER R. PULLER		SNT LEVEL I		SEARCH UNIT ANGLE 45		SCANNING dB 70		WELD LENGTH 2 1/2	
		SNT LEVEL I		SEARCH UNIT LOC. W/DN		DAMPS (IF YES, EXPLAIN)		EXAM SURFACE TEMPERATURE 81/81 °F	
		L ₁		L ₂				REMARKS	
		1/2 MAX		100% DAC					
		W MP		100% DAC					
		W MAX		100% DAC					
IND No		1/2 MAX		100% DAC					
		W MP		100% DAC					
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		W MAX		100% DAC					

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 16 APR 88		TIME (24 HR. CLOCK) INT. 1404 FINAL 1504		SHEET NO.: 100003	
EXAMINER W.A. JENSEN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 04328E		COMPONENT ID: 6-SI-1002-31	
EXAMINER R MILLER		SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)		REFERENCE BLK NO.: SS-DC-36			
SEARCH UNITS									
BRAND	AEROTECH								
SERIAL NO.	D08506								
SIZE	1/4" C								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	1.0								
DELAY	142-1								
MATL. CAL.	101								
RANGE	1								
REP. RATE	3K								
JACK USED	R&T	45° Search Unit chosen for coverage using 2/8, 4/8, 10/8 nodes.				NAME: William Jensen		SNT LEVEL: II	
TRANS. MODE	THRU TRAN'S	° Search Unit chosen for coverage using _____ nodes.				DATE: 18 APR 88			
REVIEWED BY: Russell H. Fine		SNT LEVEL: II							

PRESSURIZER SPRAY SYSTEM

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	117900	
EXAMINATION AREA (SYSTEM / COMPONENT)	PS	(LINE / SUBASSEMBLY)	4-PS-1003 M			(IDENTIFICATION)	1	
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS		RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
INITIAL EXAMINATION	N/A			N	I	G	O	
FOLLOW-UP EXAMINATION								600-31/24, DEV 1
INITIAL EXAMINATION								CC-15 (4" - .438" - SS)
FOLLOW-UP EXAMINATION								RWD & ANZ 5-4-88
0° LAM SCAN								
0° WELD SCAN								
45° SCAN	892095	RAR	4-23-88					EXAMINED IN ACCEPTANCE
45° T SCAN	892095	RAR	4-23-88	X				WITH EC-VE AUGMENTED
60° SCAN	N/A							PROGRAM FOR PS PIPING.
60° T SCAN								
PROFILE	135114	RAR	4-21-88					
	N/A							
SUMMARIZED BY:				DATE		CONTINUED ON SHEET No.:		PAGE 1 OF 1
Donald N. York				4-25-88		N/A		

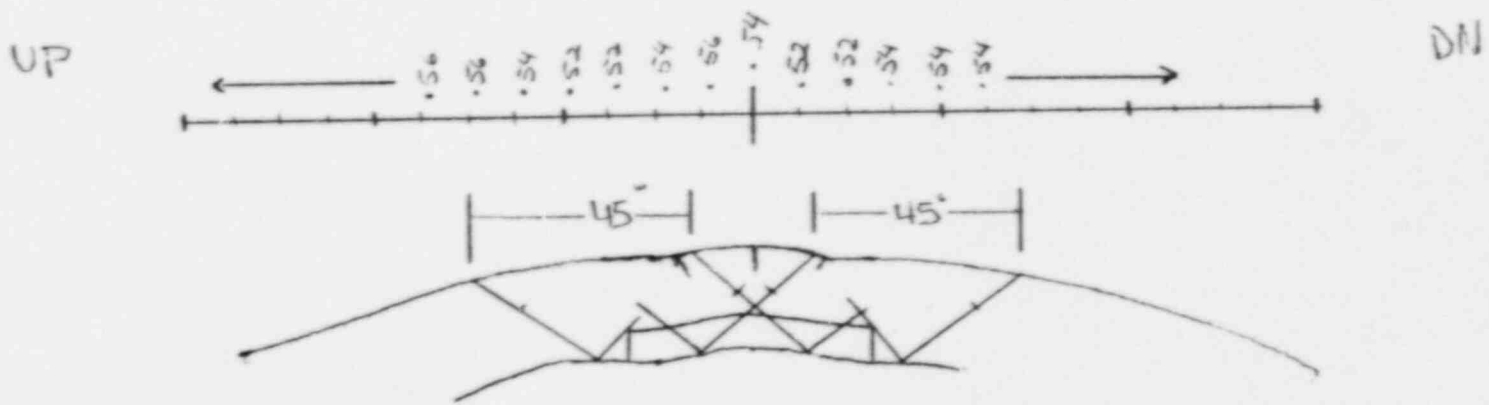
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 21 APRIL 77 TIME (24 HR. CLOCK) INT. 0925 FINAL 1127 SHEET NO.: 135114

EXAMINER: *[Signature]* SNT LEVEL: I THK. MEAS. REQ'D BY PROCEDURE: No. 600.31 INSTRUMENT: SONIC MARK I OTHER SERIAL NO.: 774716 ~~043328~~ PR COMPONENT ID: 4-PS-1003M-1

EXAMINER: T. ROJNENKAMPFER SNT LEVEL: I Rev. 24 Dev. 1 COUPLANT: GLYCERINE WATER OTHER (SPECIFY) _____ REFERENCE BLK NO.: 55-DC-42 PR

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	011507
SIZE	1/4 INCH
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	1200
MATL. CAL.	114
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



REVIEWED BY: *[Signature]* SNT LEVEL: II DATE: 25 APR 77

45° Search Unit chosen for coverage using 218, 618, 1018 nodes. NAME: *[Signature]* SNT LEVEL: II

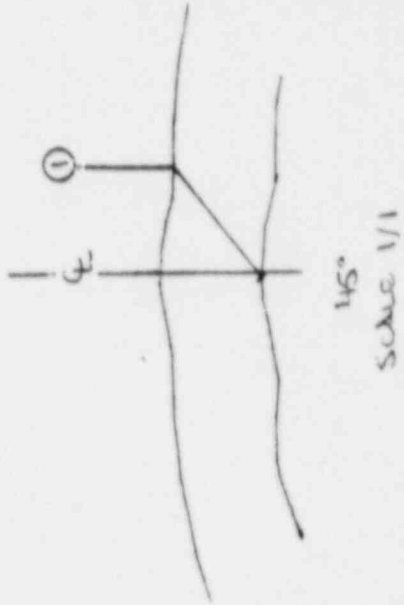
NA° Search Unit chosen for coverage using N/A nodes.

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR) 23 APRIL 78		TIME (24 HR CLK) EXAM STARTED 1353 EXAM ENDED 1410		SHEET NO 000005					
EXAMINATION AREA (SYST/COMP) PRESSURIZER SPRAY		(LIP/E/SUBASSEMBLY) J-PS-1003 M		(IDENTIFICATION) 1		L ₀ LOCATION 1		W ₀ LOCATION WELD E					
EXAMINER RA RIDDLES		SNT LEVEL II		PROCEDURE NO 600-31 REV 24 DEV 1		CALIBRATION SHEET (S) 190120		ANGLE USED 45° ^{J-TAN 0} 45°					
EXAMINER T. BOHNEKAMP		SNT LEVEL I				SCANNING dB 14/30 ^{J-TAN 0} 14/30		WELD TYPE FLPGW → REDUCER					
								WELD LENGTH 14 1/2					
								EXAM SURFACE TEMPERATURE 82/82 °F					
IND No	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	100	96	.78	11 3/4		12		12:1	DN	45°	NO	CAN BE SEEN AT LOWER AMPLITUDES 3.0°	RR
									UP	45°			RR
									ON WELD	45°		cw/ccw	RR
									BASE METAL	45°		cw/ccw	RR
									UP/DN	45° ^{JAN}		cw/ccw	RR
REMARKS * +6dB SWITCH DOWN RR													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE RR													
REVIEWED BY <i>Ross</i>				SNT LEVEL II		DATE 25 APR 88		CONTINUED ON SHEET N/A		PAGE OF			

UP ELBOW

DN REDUCER



CALVERT CLIFFS UNIT 1
PRESSURIZER SPRAY

14-PS-1003M-1

23 APR 88

D. D. A. R. S. S. II

① Root Geometry

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310015 3100015
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY 4-PS-1003M	IDENTIFICATION 1	CALIBRATION SHEET (S) 190120
EXAMINER RA. RIDGES	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> EXAMINATION RECORD SHEET NO. (S) 892095
EXAMINER T BOHNENKAMPER	SNT LEVEL I	REV 24 DEV. 1	
<p style="text-align: center;">45° INDICATION ① IS A GEOMETRIC REFLECTOR FROM THE WELD ROOT AND CAN BE SEEN AT LOWER AMPLITUDES 360°.</p>			

**45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE WELD ROOT AND CAN BE SEEN
AT LOWER AMPLITUDES 360°.**

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY R. LaRocca	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY Russell H. Line	SNT LEVEL II	DATE 25 APR 88

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 118150					
EXAMINATION AREA (SYSTEM / COMPONENT): PS		(LINE / SUBASSEMBLY): 4-PS-1003 M		(IDENTIFICATION): 6					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								ELBOW - PIPE
<input type="checkbox"/> FOLLOW-UP EXAMINATION									600-31/24, DEV. 1
<input type="checkbox"/> INITIAL EXAMINATION									CC-15 (A" - .438" - SS)
<input type="checkbox"/> FOLLOW-UP EXAMINATION									RW & M.F. 5-9-88
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	892093	RAR	4-23-88						EXAMINED IN ACCORDANCE
<input type="checkbox"/> 45° T SCAN	891093	RAR	4-23-88	X					WITH BGAE REQUIREMENTS
<input type="checkbox"/> 60° SCAN	N/A								FOR PS PIPING,
<input type="checkbox"/> 60° T SCAN									SEE 135113 FOR PROFILE
SUMMARIZED BY: Donald W. York		DATE: 4-25-88		CONTINUED ON SHEET No.: NA		PAGE: 1		OF: 1	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 23 APR 83		TIME (24 HR CLK) EXAM STARTED 1326 EXAM ENDED 1534		SHEET NO. 000003	
EXAMINATION AREA (SYST/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 4-P2-1003A		(IDENTIFICATION) 6		L ₀ LOCATION 1		W ₀ LOCATION WELD 6	
EXAMINER R.A. RIDDLES		PROCEDURE NO. 600-31 REV 24 DEV. 1		CALIBRATION SHEET (S) 190120		ANGLE USED 45°		WELD TYPE ELECTRO → PIPE	
EXAMINER T. BAJENKAPER		SNT LEVEL I		SEARCH UNIT LOC UP/DN		SCANNING dB 14/50		WELD LENGTH 14 1/2 R/R	
IND No		L ₁		SEARCH UNIT ANGLE		DAMPS (IF YES, EXPLAIN)		EXAM SURFACE TEMPERATURE 82/83 °F	
		1/2 MAX		UP/DN				REMARKS	
		100% DAC		ON WELD				sw/ccw	
NO RECORDABLE INDICATIONS		L MAX		ON METAL				sw/ccw	
NO RECORDABLE INDICATIONS		L ₂		UP/DN				sw/ccw	
NO RECORDABLE INDICATIONS		100% DAC							
NO RECORDABLE INDICATIONS		L ₂ MAX							
		W MAX							
		W MP							
		W							
		1/2 MAX							
		100% DAC							

REMARKS * 4dB SWEEP DOWN P/R

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

REVIEWED BY *Russell Jones*

SNT LEVEL *I*

DATE *25 APR 83*

CONTINUED ON SHEET *N/A*

PAGE | OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 21 APRIL 88 TIME (24 HR. CLOCK) INT. 0925 FINAL 1129 SHEET NO.: 135/173

EXAMINER: *R. LaRocca* SNT LEVEL: II THK. MEAS. REQ'D BY PROCEDURE: No. 600-31 INSTRUMENT: SONIC MARK I OTHER SERIAL NO.: 774716 043325 PR COMPONENT ID: 4-PS-1003M-6

EXAMINER: T. COHNENKAMPER SNT LEVEL: I Rev. 24 Dev. 1 COUPLANT: GLYCERINE WATER OTHER (SPECIFY) _____ REFERENCE BLK NO.: GS-DC-42

SEARCH UNITS

BRAND: AEROTECH

SERIAL NO.: A11507

SIZE: 1/4 DUAL

FREQ. (MHz): 2.25

INSTRUMENT SETTINGS

SCREEN SIZE: 2

DELAY: 126-1

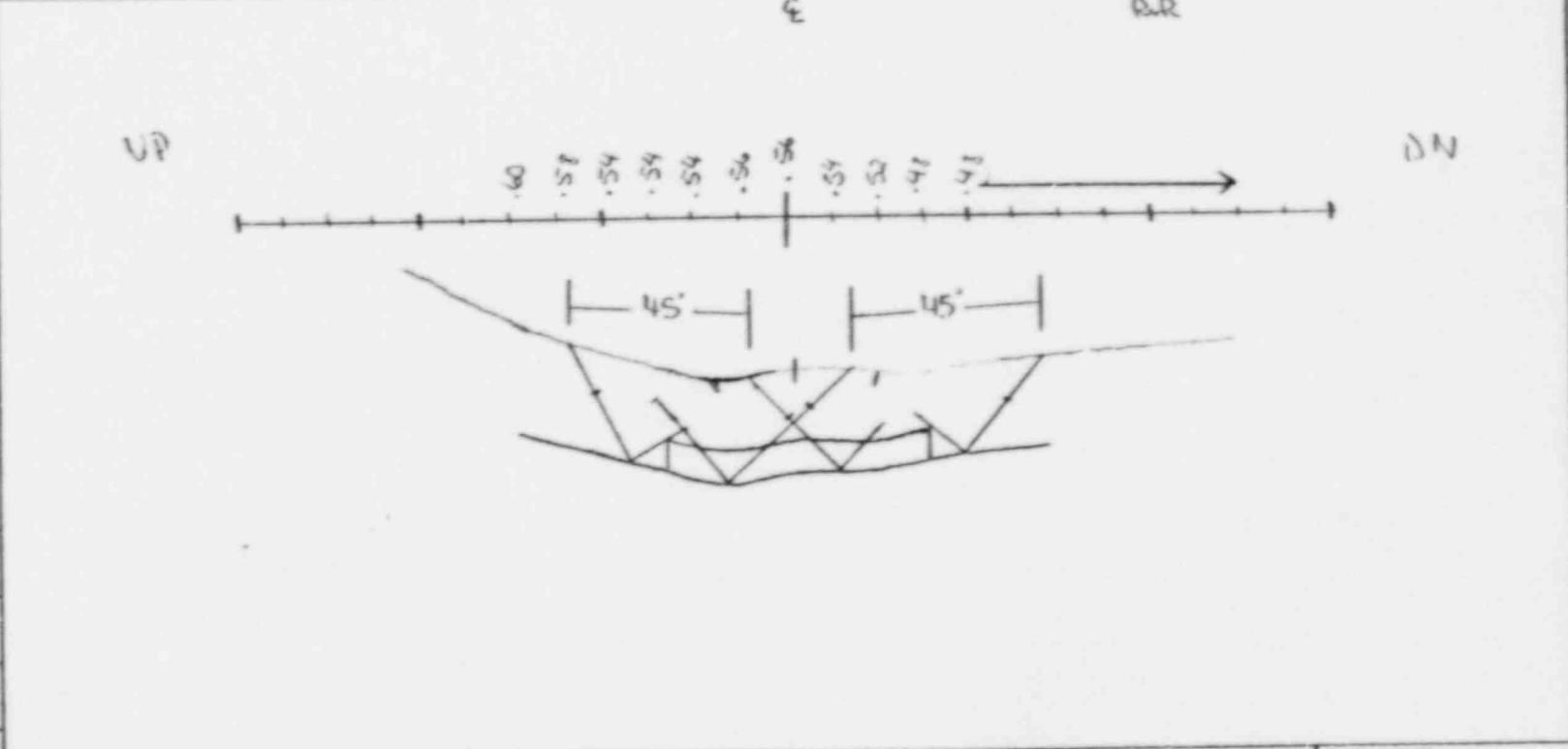
MATL. CAL.: 114

RANGE: 2

REP. RATE: 3K

JACK USED: R/T

TRANS. MODE: THRU



45° Search Unit chosen for coverage using 2/8 6/8 10/8 nodes. NAME: *R. LaRocca* SNT LEVEL: II

N/A Search Unit chosen for coverage using N/A nodes.

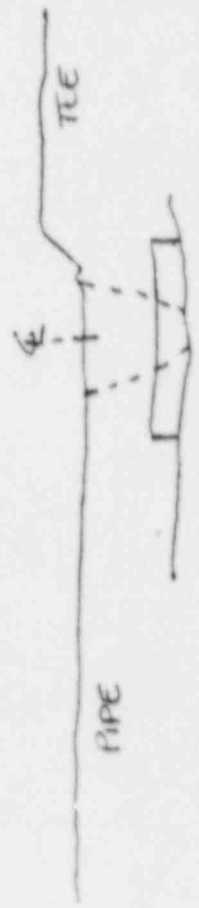
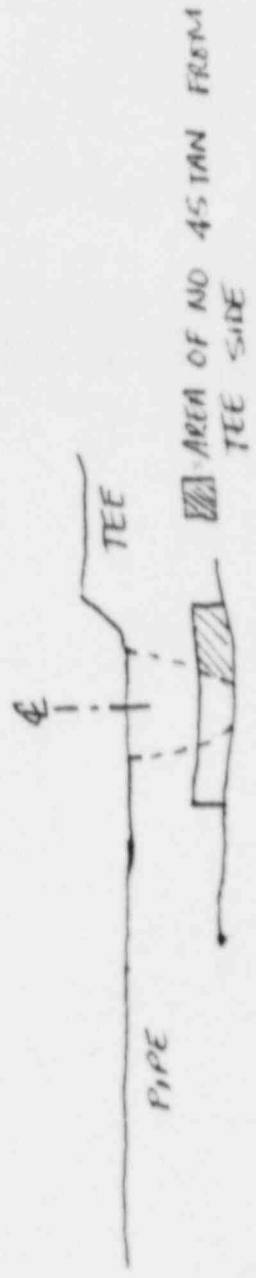
REVIEWED BY: *Russell Hine* SNT LEVEL: II DATE: 25 APR 88

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 23 APR 81		TIME (24 HR CLK) EXAM STARTED 13:10 EXAM ENDED 13:21		SHEET NO 1	
EXAMINATION AREA (SYSTEM/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 4-PS-1003 M		(IDENTIFICATION) 7		L ₆ LOCATION 1		W ₆ LOCATION WELD E	
EXAMINER R.A. RIDDLES		SNT LEVEL II		PROCEDURE NO 600-31 REV 24 DEV. 1		CALIBRATION SHEET (S) 190120		WELD TYPE PIPE → TEE	
EXAMINER T. BOHNEKADDER		SNT LEVEL I		SEARCH UNIT LOC		ANGLE USED 45°		WELD LENGTH 147"	
IND No		L ₁		L ₂		SCANNING dB		EXAM SURFACE TEMPERATURE 82°/82° F	
W MAX		100% DAC		100% DAC		DAMPS (IF YES, EXPLAIN)		REMARKS	
W MP		1/2 MAX		1/2 MAX		SEARCH UNIT ANGLE		INI	
W		NO RECORDABLE INDICATIONS		UP		45°		RR	
W		NO RECORDABLE INDICATIONS		ON WELDS		45°		RR	
W		NO RECORDABLE INDICATIONS		UP		45°		RR	
W		NO RECORDABLE INDICATIONS		UP		45° TAN		RR	
REMARKS * + bob switch 500-24 RR									
45° COVERAGE OBTAINED FROM PIPE SIDE. RR									
EXAMINATION AREA LIMITATION (IF N/A, SO STATE)									
REVIEWED BY Russell J. Fine		SNT LEVEL II		DATE 25 APR 81		CONTINUED ON SHEET N/A		PAGE OF	

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 21 APRIL 88		TIME (24 HR. CLOCK) INT. 0125 FINAL 1129		SHEET NO.: 135112	
EXAMINER <i>DeLaRosa</i>		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774716 813325 PR		COMPONENT ID: 4-PS-1003M-7	
EXAMINER T. BOHANNENKADPER		SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: SS-DC-42 DR			
SEARCH UNITS									
BRAND	AEROTECH								
SERIAL NO.	A11507								
SIZE	1/4 DUAL								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	2								
DELAY	126-1								
MATL. CAL.	114								
RANGE	2								
REP. RATE	3K								
JACK USED	R/T	45° Search Unit chosen for coverage using 2/8, 6/8, 10/8 nodes.				NAME: <i>DeLaRosa</i>		SNT LEVEL: II	
TRANS. MODE	THRU	N/A° Search Unit chosen for coverage using N/A nodes.							
REVIEWED BY: <i>Russell D. Pinn</i>			SNT LEVEL: II			DATE: 25 APR 88			



COMPLETE 45° COVERAGE FROM PIPE SIDE

4-PS-100.3M-7

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	118300
EXAMINATION AREA (SYSTEM / COMPONENT)	PRZ SPRAY	(LINE / SUBASSEMBLY)	4-PS-1003			(IDENTIFICATION)	2
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS	RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
VT	N / A			N I G O			TEE → ELBOW
PT	↓						600-31/24, DEV. 1
MT	↓						CC-15 (4" - .438" - SS)
UT	↓						NO UT FROM THE TEE SIDE
	892091	RAR	4-23-88	X	310016		DUE TO TEE CONFIGURATION,
	892091	RAR	4-23-88	X			UTAS COVERAGE OBTAINED
	N / A						FROM ELBOW SIDE,
	↓						SCHEDULED IN ACCORDANCE
	135111	RAR	4-24-88				WITH BGEI PROGRAM FOR
	N / A						PRZ SPRAY PIPING.
	↓						RWZ ANI 5-4-88
SUMMARIZED BY:				DATE		CONTINUED ON SHEET No.:	
D. M. D. D. D. D. D.				4-27-88		N/A	
						PAGE	OF
						1	1

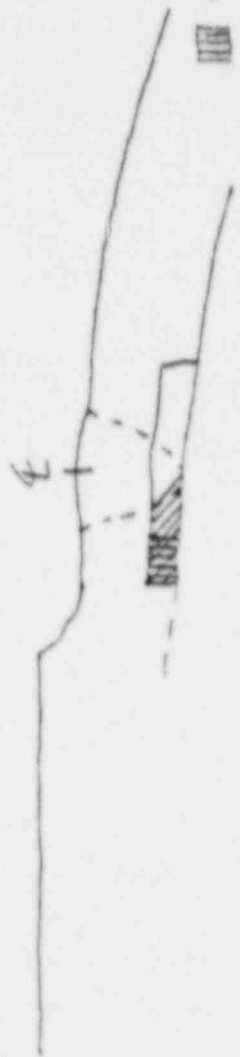
SWRI PROFILE AND THICKNESS INFORMATION RECORD



PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 21 APRIL 81	TIME (24 HR. CLOCK): INT. 0025 FINAL 1129	SHEET NO.: 135/111
EXAMINEE: <i>D. Valera</i>	THK. MEAS. REG'D BY PROCEDURE: NO. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774714 4335AE PR	COMPONENT ID: 4-P2-1003-2
EXAMINER: T. SCHUMENKOPFER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	MATER <input type="checkbox"/>	REFERENCE BLK NO.: SS-DC-42 Bar
SEARCH UNITS	4			
BRAND: AEROTECH				
SERIAL NO.: A11527				
SIZE: 1/4 DUAL				
FREQ. (MHz): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 120-1				
MATL. CAL.: 114				
RANGE: 2				
REP. RATE: 3K				
JACK USED: R/T				
TRANS. MODE: TMR20				
REVIEWED BY: <i>Kussner</i>	SNT LEVEL: 4	NAME: <i>D. Valera</i>	SNT LEVEL: II	DATE: 25 APR 81

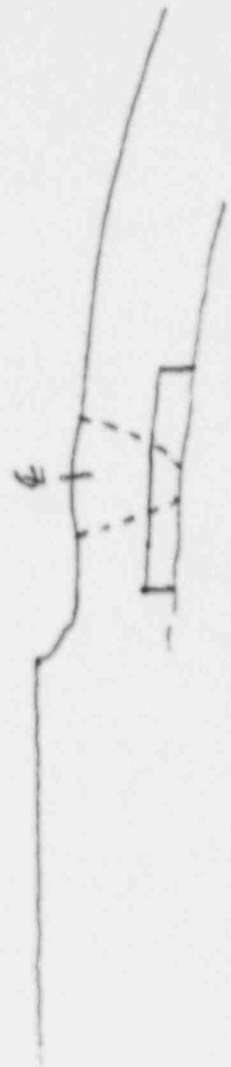
45° Search Unit chosen for coverage using 2/6 6/8 10/8 nodes.
 N/A Search Unit chosen for coverage using 1-3/A nodes.

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO		SITE		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MON. YR.)		TIME (24 HR CLK)		SHEET NO		
17-2116		(LINE/SUBASSEMBLY)		4 - P ₂ - 1002		23 APRIL 83		EXAM STARTED 0946		Continued		
EXAMINATION AREA (SYSTEM/COMP)		SNT LEVEL		PROCEDURE		(IDENTIFICATION)		L ₆ LOCATION		W ₆ LOCATION		
PRESSURIZER SPRAY		II		NO 600-31 REV 24 DEV 1		2		1		WELD E		
EXAMINER		SNT LEVEL		NO 100-31 REV 24 DEV 1		CALIBRATION SHEET (S)		ANGLE USED		WELD TYPE		
R.A. RIDDLES		I				190120		45°		TEE → ELBOW		
T. BOHNEKAMMER								14/50		WELD LENGTH 14 1/2		
IND No	% OF DAC MAC	W MAX	1/2 MP	L ₁ 100% DAC	L MAX	L ₂ 100% DAC	1/2 MAX	SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
1	70	7/16	7/16	10 3/4	10 7/8			DN	45°	NO	CAN BE SEEN AT ELBOW JOINT INTERMITTENTLY	RR
								DN	45°		BASE METAL, CW/CCW	RR
								ON WELD	45°		CW/CCW	RR
								DN	45°		CW/CCW	RR
REMARKS * +6dB SWITCH DOWN RR												
COVERAGE OBTAINED FROM ^{ELBOW} THIS SIDE RR												
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)												
REVIEWED BY <i>Russell J. ...</i> DATE 75 APR. 83												
										CONTINUED ON SHEET		PAGE 1 OF 1




 : NO 45° COVERGE
 : NO 45° IN COVERGE



UT45 COVERGE FROM
 ELBOW SIDE.

4-PS-1003-2

Sw. R.I. INDICATION RESOLUTION RECORD

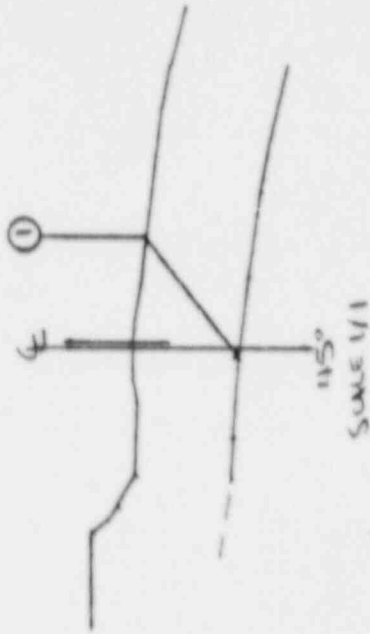
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET NO. 310016
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY 4-PS-1003	IDENTIFICATION 2		CALIBRATION SHEET (S) 190120
EXAMINER RA. RIDDLES	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 892091
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	REV 24 DEV. 1	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____	

**45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE WELD ROOT AND CAN BE SEEN
INTERMITTENTLY AT LOWER AMPLITUDES.**

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY R. D. LaRocca	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY Kenneth J. Fine	SNT LEVEL II	DATE 25 APR 88

UP TEE

DN ELBOW



CAVERT CLIFFS UNIT 1
 PRESSURIZER SPRAY
 4-PS-1003-2
 23 APR 88

RL J. Rossi II

① Root Geometry

Sw. R. I. EXAMINATION SUMMARY RECORD

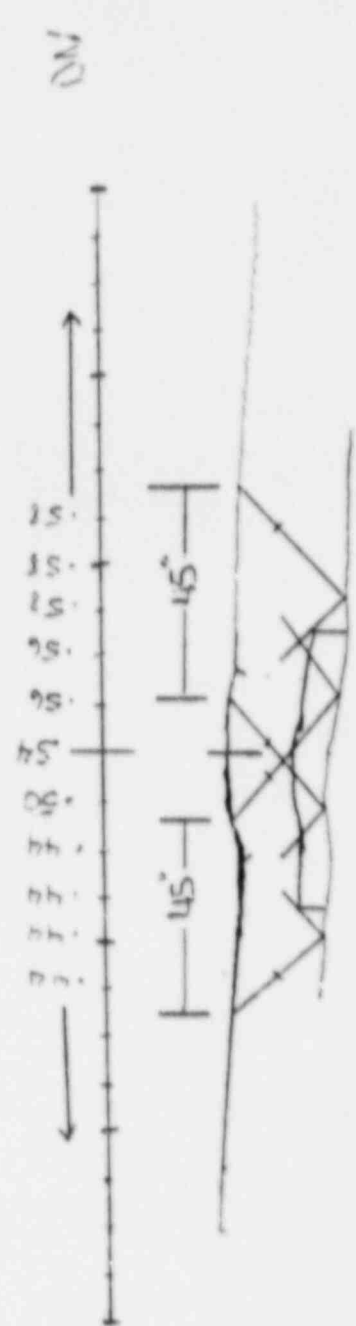
PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 118450
EXAMINATION AREA (SYSTEM / COMPONENT): PS	(LINE / SUBASSEMBLY): 4-PS-1003	(IDENTIFICATION): 5

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N A									PIPE → SAFE END
	FOLLOW-UP EXAMINATION	↓									600-31/29, DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									CC-15 (4" - .438" - SS)
	FOLLOW-UP EXAMINATION	↓									RWZ ANZ 5-4-88
U T	0° LAM SCAN	↓									
	0° WELD SCAN	↓									
	45° SCAN	892090	RAR	4-23-88			X		310017		EXAMINED IN ACCORDANCE only
	45° T SCAN	892090	RAM	4-23-88	X						WITH PIPE PROGRAM FOR only
	60° SCAN	N A									PS PIPING, only
	60° T SCAN	↓									
	PROFILE	135110									PROFILE ONLY.
		N A									
		↓									

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 21 APRIL 77	TIME (24 HR. CLOCK): INT. 0925 FINAL 1129	SHEET NO.: 135/110
EXAMINER: <i>D. G. R. [Signature]</i>	THK. MEAS. REQ'D BY PROCEDURE: NO. 600-31 Rev. 2/4 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716 <i>44333E PR</i>	COMPONENT ID: 4-P-1003-5
EXAMINER: T. DOMINENKUNOPEL	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: 55 DC-42 <i>PR</i>	
SEARCH UNITS				
BRAND: AERTECHA				
SERIAL NO.: A11507				
SIZE: 1/4 DUAL				
FREQ. (MHZ): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 126-1				
MATL. CAL.: 114				
RANGE: 2				
REP. RATE: 3K				
JACK USED: R/T				
TRANS. MODE: TDR				
REVIEWED BY: <i>Russell [Signature]</i>	SNT LEVEL: II	NAME: <i>R. [Signature]</i>	DATE: 15 APR 88	SNT LEVEL: II




SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 23 APRIL 88		TIME (24 HR CLK) EXAM STARTED 0913 EXAM ENDED 0938		SHEET NO (page 1)	
EXAMINATION AREA (SYSTEM/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 4-P-1003		(IDENTIFICATION) 5		L ₀ LOCATION WELD E		W ₀ LOCATION WELD E	
EXAMINER R.A. BIDDLES		PROCEDURE NO 600-31 REV 24 DEV 1		CALIBRATION SHEET (S) 190130		T, DAN 45		WELD TYPE PIPE → WELD END	
EXAMINER T. JOHNSON		SNT LEVEL I		SEARCH UNIT LOC. DN		14/30		WELD LENGTH 14 3/4	
IND No		L ₁		SEARCH UNIT ANGLE		DAMPS (IF YES, EXPLAIN)		EXAM SURFACE TEMPERATURE	
1		100% DAC		45°		NO		80°/30°F	
W MAX		L		45°				REMARKS	
W MP		MAX		45°				CAN BE SEEN AT LOWER AMPLITUDES 3.0"	
1.70		2.74		45°				CW/CCW	
NO RECORDABLE INDICATIONS		NO RECORDABLE INDICATIONS		ON WELD BACK METAL				CW/CCW	
NO RECORDABLE INDICATIONS		NO RECORDABLE INDICATIONS		W/ON				CW/CCW	
NO RECORDABLE INDICATIONS		NO RECORDABLE INDICATIONS		45°				CW/CCW	
REMARKS * Weld Spotted Down RB									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
REVIEWED BY NONE RB		SNT LEVEL IT		DATE 15 APR 88		CONTINUED ON SHEET NA		PAGE 1 OF 1	

118450

Sw. R. I. INDICATION RESOLUTION RECORD

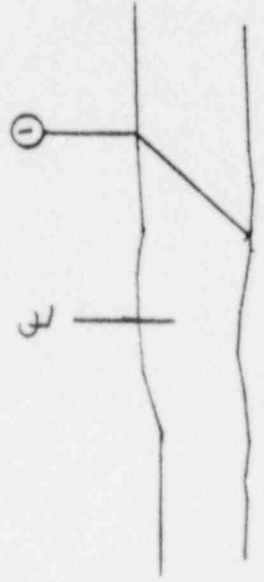
PROJECT NO. 17-2115	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET NO. 310017
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY 4-PS-1003	IDENTIFICATION 5		CALIBRATION SHEET (S) 190120	
EXAMINER RA. RIDDLES	SNT LEVEL II	PROCEDURE NO. 600-31 REV 24 DEV. 1	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>		EXAMINATION RECORD SHEET NO. (S) 892090
EXAMINER T BOHNERKAMPER	SNT LEVEL I		WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____		

45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE INSIDE SURFACE OF THE PIPE
AND CAN BE SEEN AT LOWER AMPLITUDES
360°.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY R. D. Riddles	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY Kenneth Fin	SNT LEVEL II	DATE 25 APR 88

UP PIPE

DN SAFE END



45°
SCALE 1/1

CALVERT CLIFFS UNIT I
 PRESSURIZER SPRAY
 4-PS-1003-5
 23 APR 88
 P. D. R. ROSS II

① INSIDE SURFACE

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 118500
EXAMINATION AREA (SYSTEM/COMPONENT): PRZ SPRAY	(LINE/SUBASSEMBLY): 4-PS-1003	(IDENTIFICATION): 6

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A								SAFE END → NOZZLE	
	FOLLOW-UP EXAMINATION	↓								600-31/24, DEV. 1	
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓								CC-15 (4"-.438"-SS)	
	FOLLOW-UP EXAMINATION	↓									
U T	0° LAM SCAN	↓								NO UT FROM THE NOZZLE SIDE	
	0° WELD SCAN	↓								DUE TO INSIDE SURFACE	
	45° SCAN	892089	RAR	4-23-88	X					CONFIGURATION OF SPRAY	
	45° T SCAN	892089	RAR	4-23-88	X					SLEEVE. SEE CE DWG	
	60° SCAN	N / A								E-232-635.	
	60° T SCAN	↓								RWY ANI 5-4-88	
	PROFILE	135164	RAR	4-21-88						PROFILE ONLY.	
		N / A									
		↓									
		↓									

SUMMARIZED BY: <i>Donald W York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SwRI MANUAL ULTRASONIC EXAMINATION RECORD

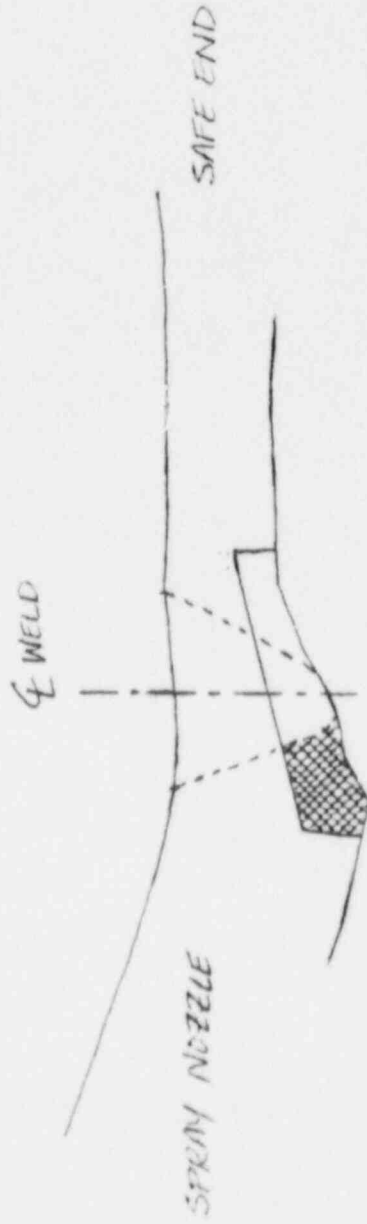
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			DATE (DAY-MON.-YR) 23 APRIL 77		TIME (24 HR CLK) EXAM STARTED 0901 EXAM ENDED 0912		SHEET NO 000009	
EXAMINATION AREA (SYS7/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 4-PS-1003			(IDENTIFICATION) 6		L ₀ LOCATION 3		W ₀ LOCATION WELD E	
EXAMINER R.A. RIDDLES		SNT LEVEL II	PROCEDURE NO. 600-31 REV 24 DEV. 1		CALIBRATION SHEET (S) 190120	ANGLE USED 45°	T.TAN ⁰ 45	WELD TYPE SAFE END - NOZZLE		
EXAMINER T. BOHLENKAMPER		SNT LEVEL I				SCANNING dB 14/50	T.TAN ⁰ 14/50	WELD LENGTH: 17 3/4		
								EXAM SURFACE TEMPERATURE 82/82 °F		

IND No	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
									UP	45°			RR
									ON WELD	45° ^T		CW/CCW	AR
									UP	45° ^T		BASE METAL CW/CCW	AR
									UP	45° ^{TAN}		CW/CCW	AR
REMARKS													
* +1.2dB SWITCH DOWN RR													
SEE ATTACHED CE DRAWING E-232-635 RR													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)													
NO EXAM FROM NOZZLE SIDE DUE TO INSIDE SURFACE CONFIGURATION OF SPRAY NOZZLE SLEEVE RR													
REVIEWED BY <i>Russell H. Fine</i>		SNT LEVEL II		DATE 25 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1					

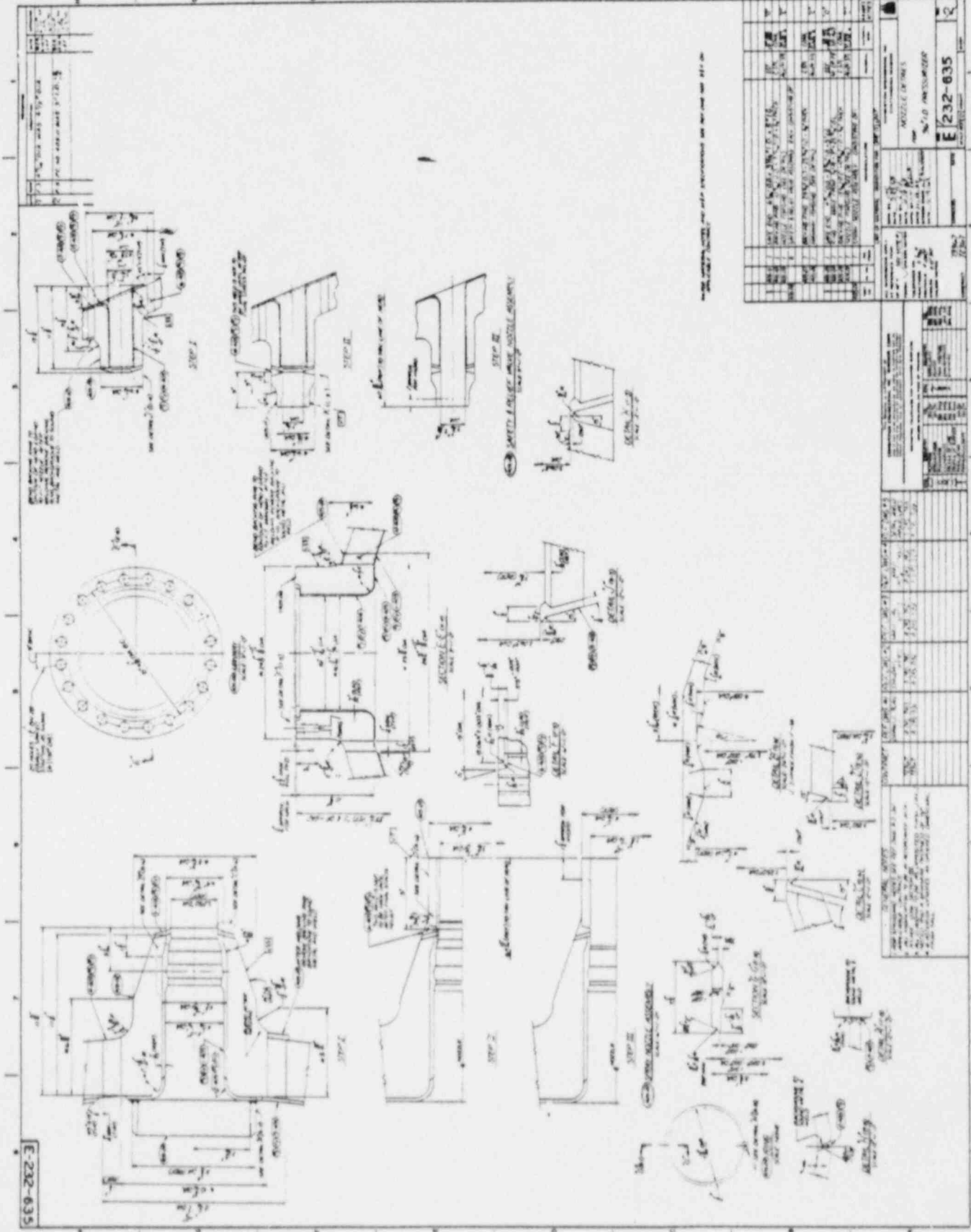
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APRIL 88	TIME (24 HR. CLOCK) INT. 0935 FINAL 1129	SHEET NO.: 135164
EXAMINER: <i>D. D. Russell</i>	THK. MEAS. REQ'D BY PROCEDURE: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	INSTRUMENT: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	SERIAL NO.: 774716	COMPONENT ID: 4-PS-1003-6
EXAMINER: T. BARNUM-KNOOPER	NO. 600-31 REV. 34 DEV. 1	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER: (SPECIFY)	REFERENCE BLK NO.: 58-NF-42 <i>DE</i>	
SEARCH UNITS	SNT LEVEL: I	DN NOZZLE		
BRAND: AEROTECH	SNT LEVEL: II			
SERIAL NO.: A11507				
SIZE: 1/4 DIA				
FREQ. (MHz): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 120-1				
MATL. CAL.: 114				
RANGE: 2				
REP. RATE: 3k				
JACK USED: R/T				
TRANS. MODE: THRU				
REVIEWED BY: <i>D. Russell</i>	SNT LEVEL: II	NAME: <i>D. D. Russell</i>	DATE: 25 APR 88	SNT LEVEL: II

A-PS-1003-6



▨ = NO COVERAGE DUE TO NOZZLE CONFIGURATION
AND INSIDE SURFACE GEOMETRY OF NOZZLE SLEEVE,
SEE ALSO SHEET 135/64 & CE DWG 232-635.



E-232-635

NOZZLE DETAILS	
NO. 100 0000000000	
E 232-635	
DATE	7/11/72
BY	
CHECKED	
APPROVED	
DESIGNED	
DRAWN	
MANUFACTURED	
TESTED	
INSPECTED	
REVISIONS	

Fig. 7-5 Nozzle Details 7-11/7-12

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 120150
EXAMINATION AREA (SYSTEM / COMPONENT): PS	(LINE / SUBASSEMBLY): 3-PS-1001	(IDENTIFICATION): 23

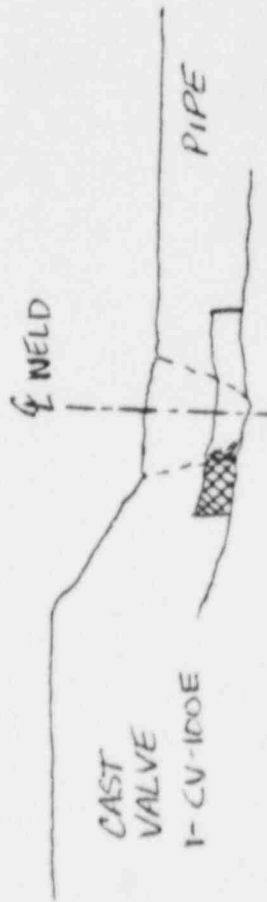
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									VALVE I-CV-100E → PIPE
	FOLLOW-UP EXAMINATION	↓									600-31/24, DEV. 1
PT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN	↓									
	0° WELD SCAN	↓									
	45° SCAN	892009	RAR	4-22-88	X						NO UT FROM VALVE SIDE
	45° T SCAN	892009	RAR	4-22-88	X						DUE TO VALVE CONFIGURATION.
	50° SCAN	N / A									EXAMINED IN ACCORDANCE
	60° T SCAN	↓									W/BETE PROGRAM FOR PS PIPING.
	PROFILE	↓									RWZ ANF 5-4-88
	135123 Div	135123	RAR	4-21-88							PROFILE ONLY.
		N / A									
		↓									

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APR 88	TIME (24 HR. CLOCK) INT. 1621 FINAL 1657	SHEET NO.: 135123
EXAMINER <i>DDA Rall</i>	THK. MEAS. REQ'D BY PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 274714 PR	COMPONENT ID: 3-PS-1001-23
EXAMINER T. ZGALJEV-KADNER	SNT LEVEL II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: 65-DC-42 PR
SEARCH UNITS	UP	DN		
BRAND AEROTESH				
SERIAL NO. A11507				
SIZE 1/4 DIAL				
FREQ. (MHz) 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE 2				
DELAY 136-1				
MATL. CAL. 114				
RANGE 2				
REP. RATE 3k				
JACK USED R/T				
TRANS. MODE THRU				
REVIEWED BY: <i>Kussner</i>	SNT LEVEL: II	NAME: <i>DDA Rall</i>	SNT LEVEL: II	DATE: 23 APR 88
145° Search Unit chosen for coverage using 26, 66, 106 nodes.		N/A° Search Unit chosen for coverage using N/A nodes.		

3-PS-1001-23



▨ AREA OF NO COVERAGE DUE TO
VALUE CONFIGURATION

REF. 135123 + 892009

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 120200
EXAMINATION AREA (SYSTEM / COMPONENT) PRZ SPRAY	(LINE / SUBASSEMBLY) 3-PS-1001 M	(IDENTIFICATION) 26

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									PIPE → PIPE
	FOLLOW-UP EXAMINATION	↓									600-31/24 , DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION										CC-14 (3"-.438"-SS)
	FOLLOW-UP EXAMINATION										RWZ ANI 5-4-88
U T	0° LAM SCAN										EXAMINED IN ACCORDANCE
	0° WELD SCAN	↓									WITH GGE AUGMENTED
	45° SCAN	892010	RAR	4-22-88	X						PROGRAM FOR PRZ SPRAY
	45° T SCAN	892010	RAR	4-22-88	X						PIPE.
	60° SCAN	N / A									
	60° T SCAN	↓									
	PROFILE	135124	RAR	4-21-88							PROFILE ONLY.
		N / A									
		↓									

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 22 APRIL 77		TIME (24 HR CLK) EXAM STARTED 1307 EXAM ENDED 1317		SHEET NO 800010					
EXAMINATION AREA (SYST/COMP) DRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 3-PS-1001M		(IDENTIFICATION) 28		L ₀ LOCATION 1		W ₀ LOCATION WELD E					
EXAMINER R.A. RIDDES		SNT LEVEL II	PROCEDURE NO. 600-31 REV. 24 DEV. 1	CALIBRATION SHEET (S) 190140 DR	ANGLE USED 45°	T ₁ , T ₁₁₀ 45	WELD TYPE PIPE → PIPE		WELD LENGTH 11 3/16				
EXAMINER T. SCHNENKAMPER		SNT LEVEL I			SCANNING dB 9/0	3/0	EXAM SURFACE TEMPERATURE 70°/76° F						
IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
		NO RECORDABLE		INDICATIONS					UP/DN	45°			R/R
		NO RECORDABLE		INDICATIONS					ON WELD	45° ^T		cw/ccw	R/R
		NO RECORDABLE		INDICATIONS					UP/DN	45° ^{TAW}		cw/ccw	R/R
		NO RECORDABLE		INDICATIONS					UP BASE DOWN METAL	45° ^T		cw/ccw	R/R
REMARKS * +6dB SWITCH DOWN R/R													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE R/R													
REVIEWED BY: <i>Russell J. ...</i>		SNT LEVEL II		DATE 23 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1					

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APR 86	TIME (24 HR. CLOCK) INT. 1621	FINAL 1657	SHEET NO.: 135124
EXAMINER: <i>DD DeRoin</i>	SNT LEVEL: II	THK. MEAS. PROCEDURE: No. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716 <i>RR</i>	COMPONENT ID: 2-PS-1001M-28
EXAMINER: T. BAHMANNKAMBER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: 55-DC-42	
SEARCH UNITS					
BRAND: AEROTECH	SERIAL NO.: A11507	SIZE: 1/4 DUAL	FREQ. (MHz): 2.25		
INSTRUMENT SETTINGS					
SCREEN SIZE: Z	DELAY: 126-1	MATL. CAL.: 114	RANGE: Z	REP. RATE: 3K	
JACK USED: R/T					
TRANS. MODE: THRU					
REVIEWED BY: <i>Russell Lee</i>	SNT LEVEL: II	NAME: <i>DD DeRoin</i>	SNT LEVEL: II	DATE: 23 APR 86	

45° Search Unit chosen for coverage using 28, 48, 106 nodes.
 N/A° Search Unit chosen for coverage using N/A nodes.

SWRI Form No. NDIR 17-135 (03-24-88)

120200

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 120250
EXAMINATION AREA (SYSTEM / COMPONENT) PS	(LINE / SUBASSEMBLY) 3-PS-1001M	(IDENTIFICATION) 27

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N A									PIPE → ELBOW
	FOLLOW-UP EXAMINATION										600-31/24, DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION										CC-14 (3" - .938" - SS)
	FOLLOW-UP EXAMINATION										RW ^{ANI} 5-4-88
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	892012	RAR	4-22-88			X		310020		EXAMINED IN ACCORDANCE W/BGAE
	45° T SCAN	892012	RAR	4-22-88	X						PROGRAM FOR PS PIPING.
	60° SCAN	N A									
	60° T SCAN										
	PROFILE	135125	RAR	4-21-88							PROFILE ONLY
		N A									

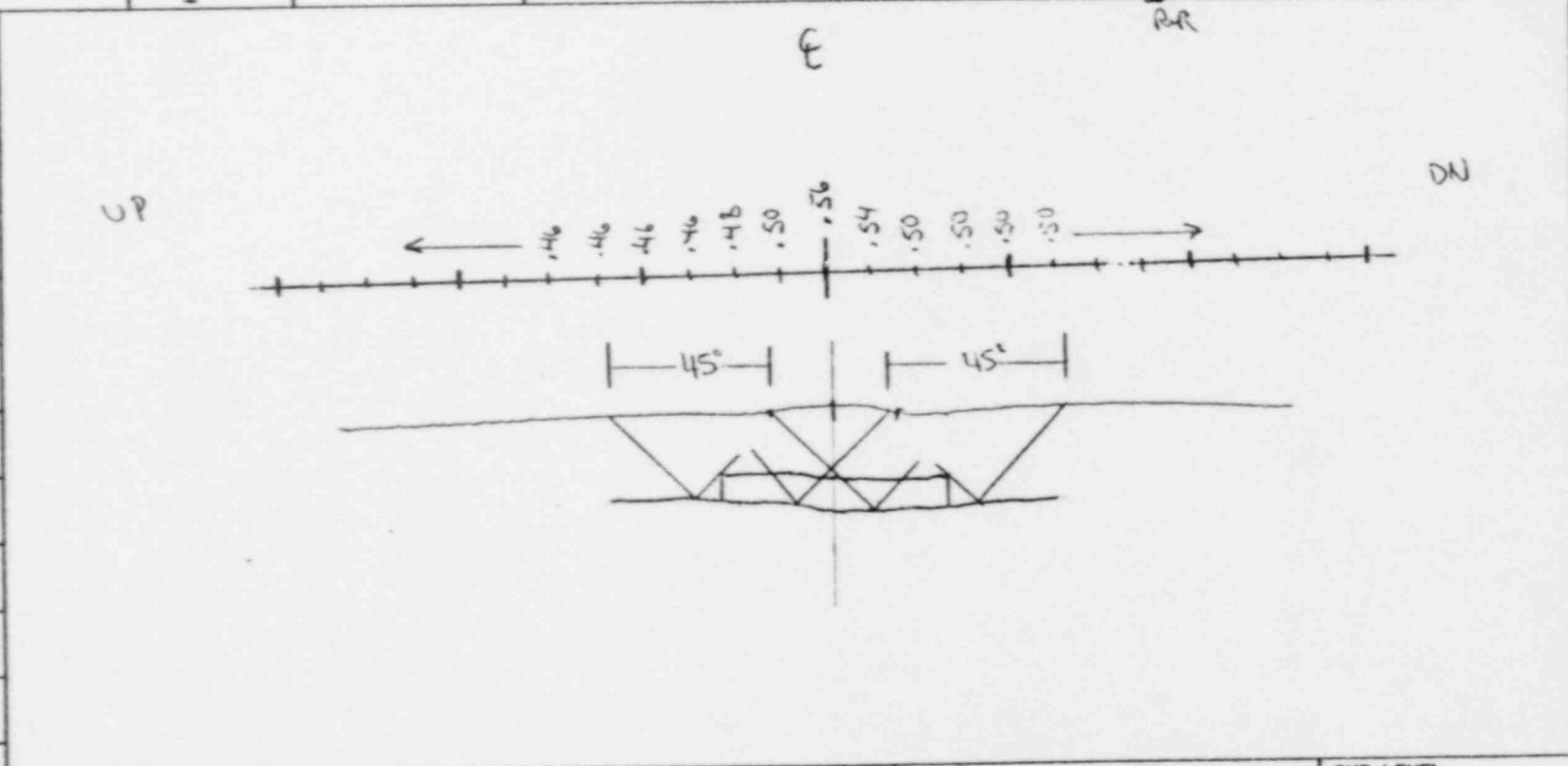
SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APRIL 88	TIME (24 HR. CLOCK) INT. 1621 FINAL 1657	SHEET NO.: 135125
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EXAMINER <i>R. LaRocca</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-3i	INSTRUMENT: SONIC MARK I <input type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716 642332 RR	COMPONENT ID: 3-PS-1001M-39
EXAMINER T. BONNENKAMPFER	SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: GS-DC-43 RR

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	3.035
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	126-1
MATL. CAL.	114
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



45° Search Unit chosen for coverage using <u>2/8, 6/8, 10/8</u> nodes. N/A° Search Unit chosen for coverage using <u>N/A</u> nodes.	NAME: <i>R. LaRocca</i>	SNT LEVEL: II
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REVIEWED BY: <i>Russell Line</i>	SNT LEVEL: II	DATE: 23 APR 88
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SwRI MANUAL ULTRASONIC EXAMINATION RECORD

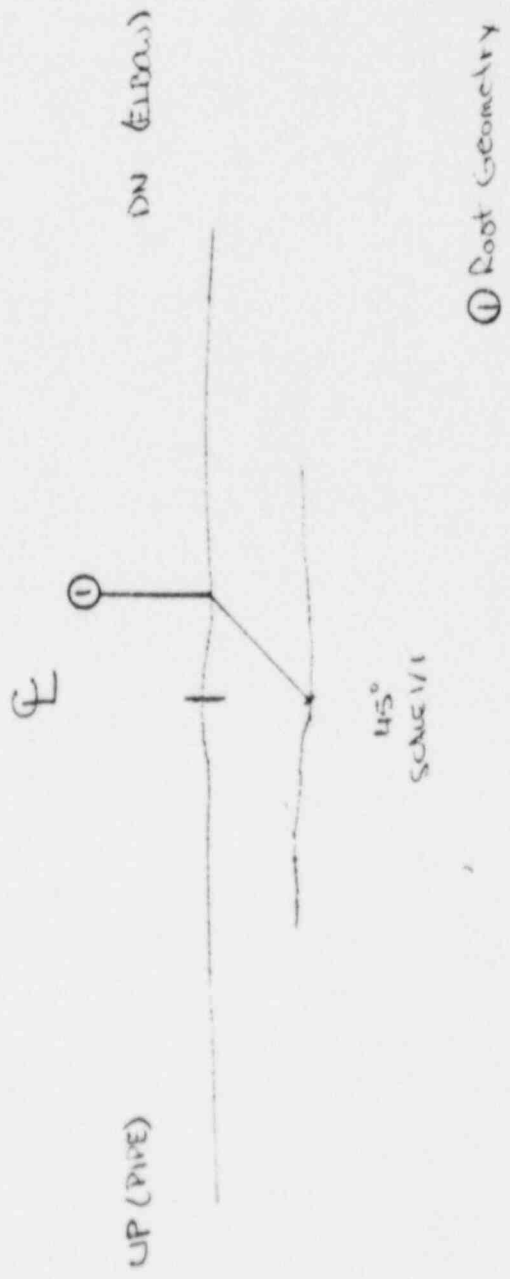
PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 22 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1312 EXAM ENDED 1333		SHEET NO. 800019					
EXAMINATION AREA (SYST/COMP) PRESSURIZER SDRV		(LINE/SUBASSEMBLY) 3-PS-1001M		(IDENTIFICATION) 29		L ₀ LOCATION 1		W ₀ LOCATION WELD E					
EXAMINER: R.A. BIDDLES		SNT LEVEL II		PROCEDURE NO 600-3i REV. 24 DEV. 1		CALIBRATION SHEET (S) 190149 R/R		ANGLE USED 45°					
EXAMINER T. SCHNEIKAMPF		SNT LEVEL I				SCANNING dB 9/60		WELD TYPE PIPE → ELBOW					
								WELD LENGTH 1138					
								EXAM SURFACE TEMPERATURE 76/76 °F					
IND No	% OF DAC MAG	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	50	7/16	.78			10 1/2			DN	45°	NO	CAN BE SEEN INTERMITTENTLY 360°	R/R
									UP	45°			R/R
									ON WELD	45°		cw/ccw	R/R
									UP DN BASE METAL	45°		cw/ccw	R/R
									UP/DN	45-TAN		cw/ccw	R/R
REMARKS * +60dB SWITCH DOWN R/R													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE R/R													
REVIEWED BY <i>Russell J...</i>		SNT LEVEL II		DATE 23 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1					

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310020
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY 3-PS-1001 M	IDENTIFICATION 29	CALIBRATION SHEET (S) 190141
EXAMINER R.A. RIDDLES	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION RECORD SHEET NO. (S) 293012
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	REV 24 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PTO <input type="checkbox"/> MTO <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE WELD ROOT AND CAN BE SEEN
INTERMITTENTLY 360°.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>R.R. Riddles</i>	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY <i>Russell H. Lin</i>	SNT LEVEL II	DATE 25 APR 88



CALVERT CLIFFS UNIT I
 PRESSURIZER SPRAY
 3-75-1001 M - 29
 23 APRIL, 1978

R. D. ROSS, II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 120300
EXAMINATION AREA (SYSTEM / COMPONENT) PS	(LINE / SUBASSEMBLY) 3-PS-1001 M	(IDENTIFICATION) 30

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									ELBOW → REDUCER
	FOLLOW-UP EXAMINATION	↓									600-31/24, DEV. 1
PT <input type="checkbox"/>	INITIAL EXAMINATION										CC-14 (3" - .438" - SS)
	FOLLOW-UP EXAMINATION										RWZ ^{ANE} 5-4-88
UT	0° LAM SCAN	↓									
	0° WELD SCAN	↓									
	45° SCAN	892013	RAR	4-22-88	X						EXAMINED IN ACCORDANCE
	45° T SCAN	892013	RAR	4-22-88	X						WITH BGE REQUIREMENTS
	60° SCAN	N / A									FOR PRZ SPRAY PIPING.
	60° T SCAN	↓									
	PROFILE	135126	RAR	4-21-88							PROFILE ONLY.
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 7
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SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR.) 22 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1334 EXAM ENDED 1343		SHEET NO. 800013					
EXAMINATION AREA (SYST/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 3-PS-1001M		(IDENTIFICATION) 30		L ₀ LOCATION !		W ₀ LOCATION WELD 4					
EXAMINER RA. RIDDLES		SNT LEVEL II	PROCEDURE NO. 600-31 REV. 24 DEV. 1		CALIBRATION SHEET(S) 190148 R/R	ANGLE USED 45°	SCANNING dB 9/60	WELD TYPE REDUCER	WELD LENGTH 11 5/8				
EXAMINER T. BOHNEKAMPER		SNT LEVEL I						EXAM SURFACE TEMPERATURE 76°/76° F					
IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
									UP/DN	45°			R/R
									ON WELD UP/DN	45° T		CW/CCW	R/R
									BASE METAL	45° T		CW/CCW	R/R
									UP/DN	45° TAN		CW/CCW	R/R
REMARKS * Head switch down R/R													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE R/R													
REVIEWED BY <i>Russell L. L...</i>		SNT LEVEL II		DATE 23 APR 88		CONTINUED ON SHEET 1/A		PAGE 1 OF 1					

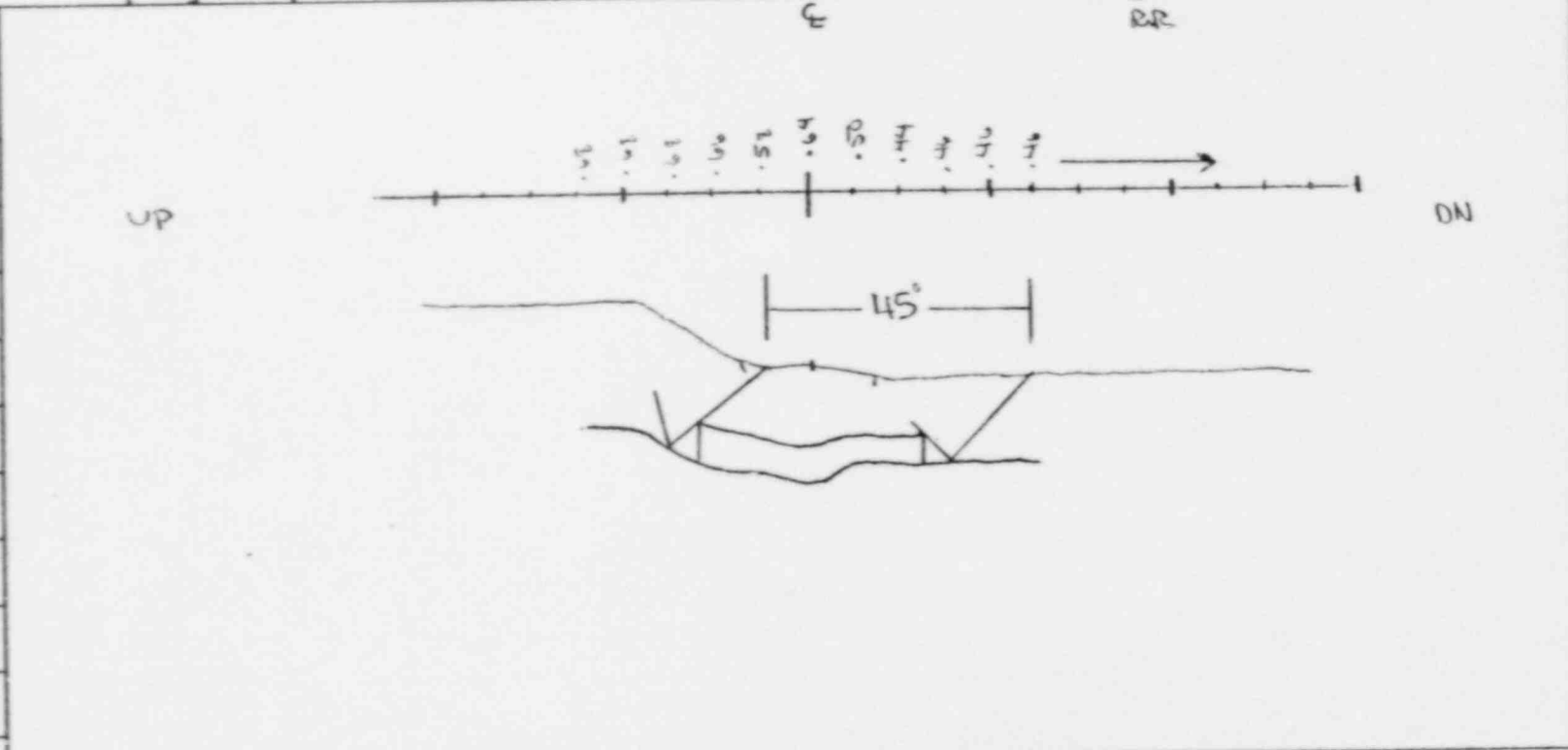
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 21 APRIL 88		TIME (24 HR. CLOCK) INT. 1621 FINAL 1657		SHEET NO.: 135126	
EXAMINER <i>RD LaRosa</i>		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31 Rev. 24 Dev. 1		INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774716 774774 PR		COMPONENT ID: 3-PS 1001M-30
EXAMINER T. BOHNEKAMMER		SNT LEVEL I			COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: GS-DG-42 PR		
SEARCH UNITS									
BRAND	ADTECH								
SERIAL NO.	A11507								
SIZE	1/4 DUAL								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	#2								
DELAY	126.1								
MATL. CAL.	114								
RANGE	2								
REP. RATE	3k								
JACK USED	R/T	45° Search Unit chosen for coverage using <u>2/8, 6/8, 10/8</u> nodes.				NAME: <i>RD LaRosa</i>		SNT LEVEL: II	
TRANS. MODE	THRU	N/A Search Unit chosen for coverage using <u>N/A</u> nodes.							
REVIEWED BY: <i>Russell Jones</i>			SNT LEVEL: II			DATE: 23 APR 88			

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APRIL 88	TIME (24 HR. CLOCK)	SHEET NO.: 135/40
		INT. 1621		FINAL 1657
EXAMINER <i>R. LaRocca</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716
EXAMINER T. BOHLENKAMPER	SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	COMPONENT ID: 3-PS-1002-27 REFERENCE BLK NO.: 65-DC-42

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	111507
SIZE	V4024
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	126-1
MATL. CAL.	114
RANGE	2
REP. RATE	3k
JACK USED	R/T
TRANS. MODE	THRU



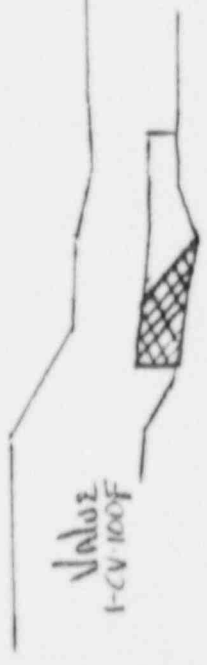
REVIEWED BY: <i>Russell Line</i>	SNT LEVEL: II	DATE: 23 APR 88	NAME: <i>R. LaRocca</i>	SNT LEVEL: II
45° Search Unit chosen for coverage using 2/8 6/8 & 4/8 nodes.		N/A° Search Unit chosen for coverage using N/A nodes.		

NO 45° Coverage Valve



CAST VALVE 1-CV 100F

NO 45° Coverage from Valve
R.P.E.




PARTIAL LIMITATIONS
3-PS-1002 # 27

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

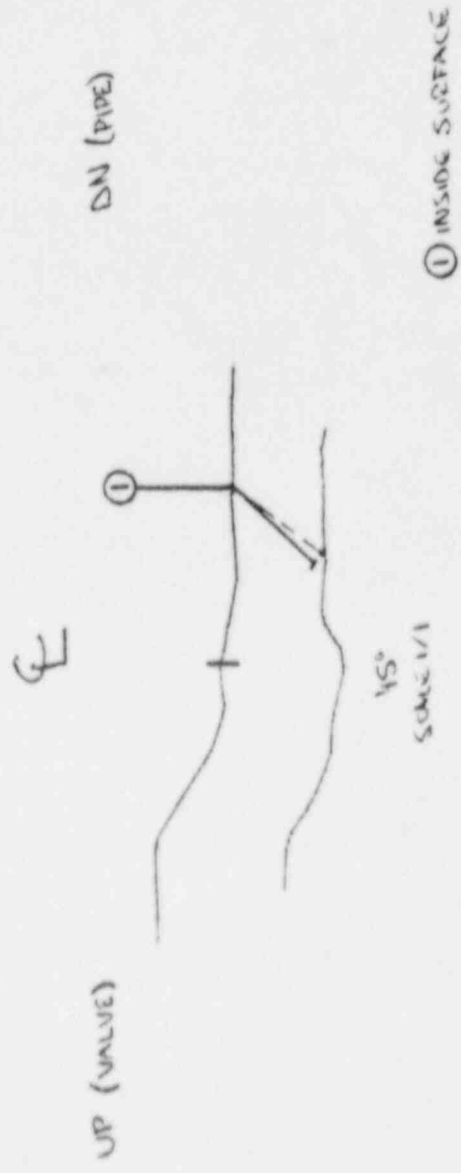
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR) 22 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1344 EXAM ENDED 1359		SHEET NO 00003					
EXAMINATION AREA (SYST/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 3-PS-1002		(IDENTIFICATION) 27		L ₀ LOCATION 1		W ₀ LOCATION WELD E					
EXAMINER R.A. RIDDLES		SNT LEVEL II	PROCEDURE NO. 600-51 REV. 24 DEV. 1	CALIBRATION SHEET (S) 19014N R/R	ANGLE USED 45	T-TAN 0	WELD TYPE VALVE → PIPE	WELD LENGTH 11 3/8					
EXAMINER T. SOHNENKAMPER		SNT LEVEL I			SCANNING dB x	T-TAN *	EXAM SURFACE TEMPERATURE 76°/76 °F						
IND No	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, E) PLAIN	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	90	15/16	.6	11/16		7/8		1	DN	45°	NO	CAN BE SEEN INTERMITTENTLY 360°	R/R
									CW/CW	45° ^T			R/R
									BASE METAL DN	45° ^T			R/R
									DN	45° ^{TAN}			R/R
REMARKS * 16dB SWITCH DOWN R/R													
NO EXAM UPSTREAM DUE TO VALVE CONFIGURATION. R/R													
COVERAGE OBTAINED FROM PIPE SIDE. R/R													
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) R/R NONE SEE REMARKS R/R													
REVIEWED BY <i>Russell Line</i>		SNT LEVEL II		DATE 23 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1					

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET NO. 310019
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY S-PS-1002		IDENTIFICATION 27		CALIBRATION SHEET (S) 190141
EXAMINER R.A. RIDDLES	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>		EXAMINATION RECORD SHEET NO. (S) 892023
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	REV 24	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/>		
		DEV 1	LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____		

45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE INSIDE SURFACE OF THE PIPE
AND CAN BE SEEN INTERMITTENTLY 360°.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>R.A. Riddles</i>	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY <i>Russell H. Fine</i>	SNT LEVEL II	DATE 25 APR 88



CALVERT CLIFFS UNIT I
 PRESSURIZER SPRAY
 3-PS-1602-27
 23 APRIL, 1978
 R. D. P. II

SW. R. I. EXAMINATION SUMMARY RECORD

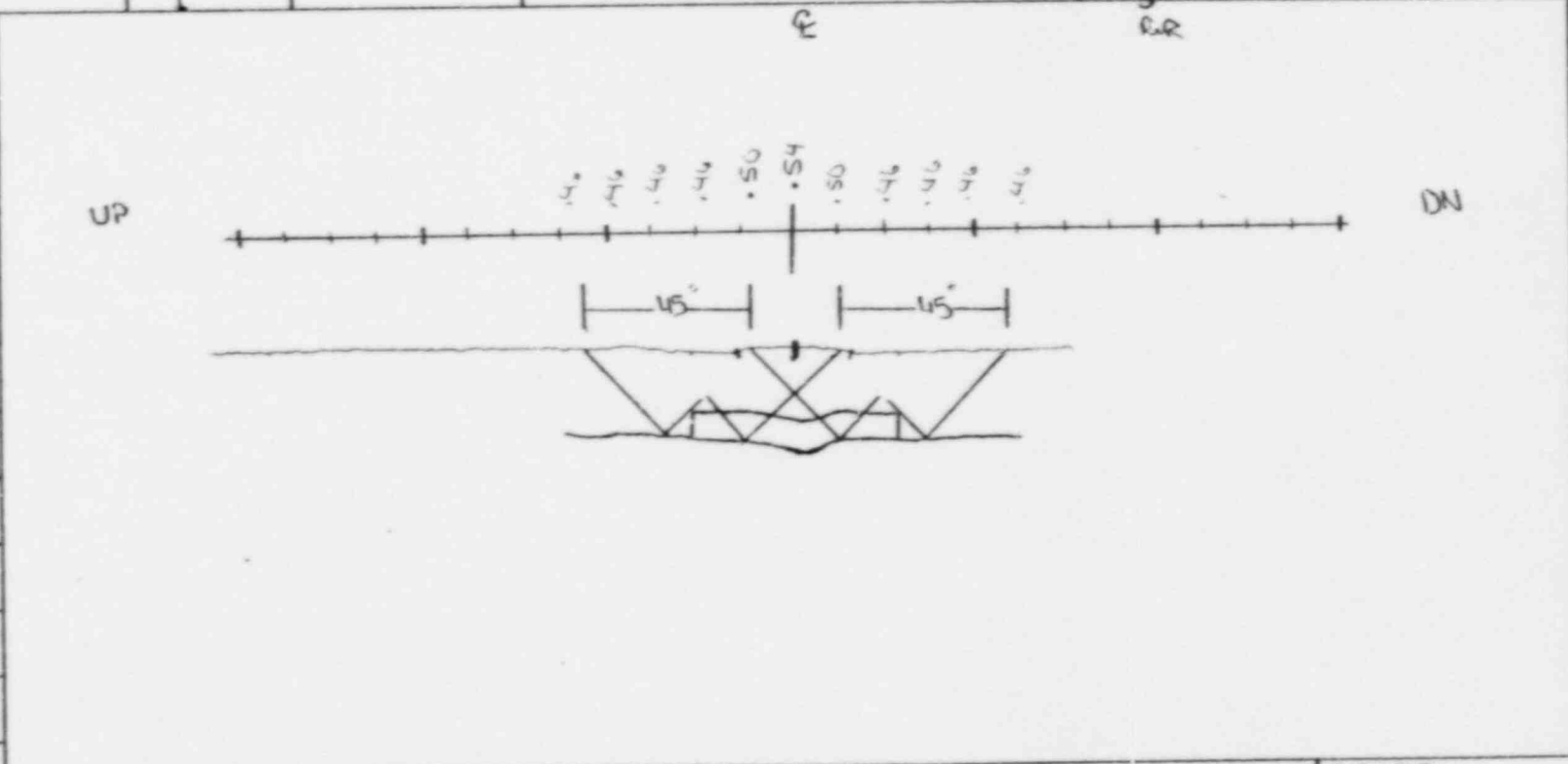
PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET No.: 122000			
EXAMINATION AREA (SYSTEM / COMPONENT): PS		(LINE / SUBASSEMBLY): 3-PS-1002 M				(IDENTIFICATION): 27			
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								PIPE → PIPE
<input type="checkbox"/> FOLLOW-UP EXAMINATION									600-31/24, DEV. 1
<input type="checkbox"/> INITIAL EXAMINATION									CC-14 (3"-4.38"-SS)
<input type="checkbox"/> FOLLOW-UP EXAMINATION									RWZ ANE 5-4-88
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	892084	RAR	4-21-88			X			EXAMINED IN ACCORDANCE
<input type="checkbox"/> 45° T SCAN	892084	RAR	4-21-88	X					WITH BENE PROGRAM FOR
<input type="checkbox"/> 60° SCAN	N/A								PRE SPRAY PIPING.
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> PROFILE	135116	RAR	4-21-88						
	N/A								
SUMMARIZED BY:		DATE: 4-25-88				CONTINUED ON SHEET No.: N/A		PAGE 1 OF 1	

Handwritten signature: D. D. ...

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APRIL 78	TIME (24 HR. CLOCK) INT. 1621 FINAL 1657	SHEET NO.: 135116	
EXAMINER <i>R. A. Reed</i>	SNT LEVEL II	TRK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716 843326 RR	COMPONENT ID: 3-P2-1002M-27
EXAMINER T. SCHNEENKAMPER	SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: SS DC-42 RR	

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	120-1
MATL. CAL.	114
RANGE	2
REP. RATE	3x
JACK USED	R/T
TRANS. MODE	THRU



REVIEWED BY: <i>Russell Fine</i>	SNT LEVEL: II	DATE: 23 APR 78	NAME: <i>R. A. Reed</i>	SNT LEVEL: II
45° Search Unit chosen for coverage using 2/8, 6/8, 4 10/8 nodes.		N/A° Search Unit chosen for coverage using N/A nodes.		

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

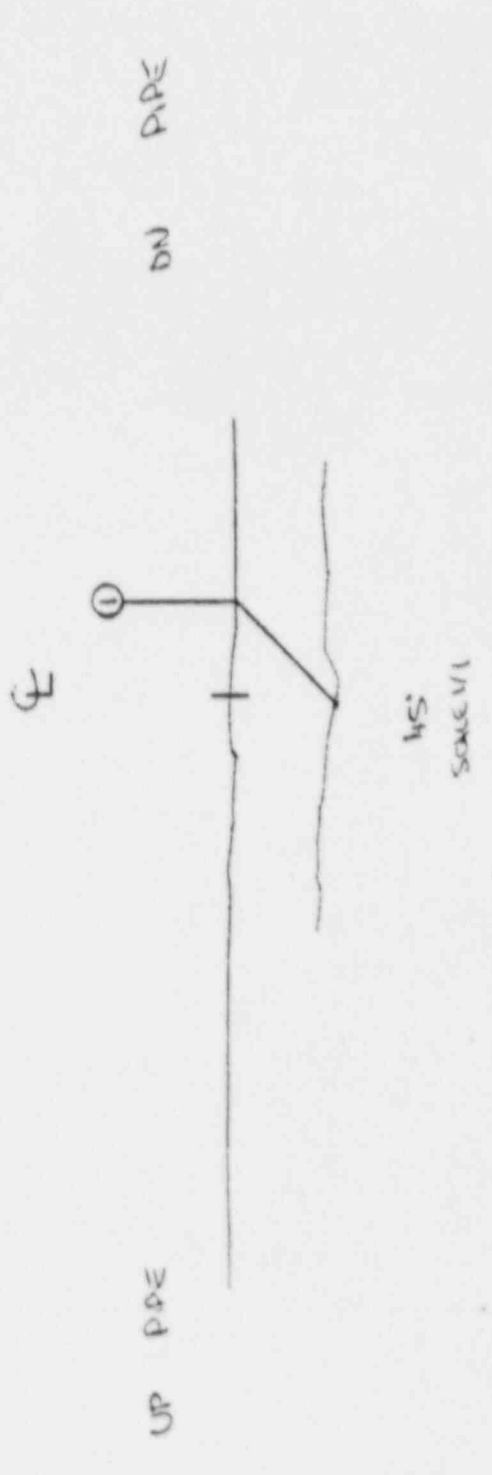
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR) 23 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1401 EXAM ENDED 1412		SHEET NO 800001	
EXAMINATION AREA (SYST/COMP) PRESSURIZER SPRAY		(LINE/SUBASSEMBLY) 3-PS-1002M		(IDENTIFICATION) 27		L ₀ LOCATION 1		W ₀ LOCATION WELD 2	
EXAMINER R.A. RIDDLES		SNT LEVEL II	PROCEDURE No: 600-31 REV. 24 DEV. 1		CALIBRATION SHEET (S) 190140 RR	ANGLE USED 45°	T _{TM} D 45	WELD TYPE PIPE → PIPE	
EXAMINER T. BOHNEKAMPER		SNT LEVEL I			SCANNING dB 9/10	9/10	WELD LENGTH 11 5/16		EXAM SURFACE TEMPERATURE 76°/76° F

IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	50	1/2	-78			1 5/16			DN	45	NO	CAN BE SEEN INTERMITTENTLY 360°	RR
									UP	45°		NO RECORDABLE INDICATIONS	RR
									ON WELD UP DN	45°		NO RECORDABLE INDICATIONS	RR
									BASE METAL	45°		NO RECORDABLE INDICATIONS	RR
									UP DN	45° TAN		NO RECORDABLE INDICATIONS	RR

REMARKS * 46dB SWITCH DOWN RR

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE RR

REVIEWED BY <i>Russell J...</i>	SNT LEVEL II	DATE 23 APR 88	CONTINUED ON SHEET NA	PAGE OF 1 OF 1
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① Root Geometry

CALVERT CLIFFS UNIT 1
 PRESSURIZER SPRAY
 3-PS-1002 M - 27
 23 APRIL 1971

R. Darrell II

S.W. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 122050					
EXAMINATION AREA (SYSTEM / COMPONENT): PS		(LINE / SUBASSEMBLY): 3-PS-1002 M		(IDENTIFICATION): 2B					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECFD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								PIPE → ELBOW
<input type="checkbox"/> FOLLOW-UP EXAMINATION									600-31/24 DEV. 1
<input type="checkbox"/> INITIAL EXAMINATION									CC-14 (3"-.438"-.55)
<input type="checkbox"/> FOLLOW-UP EXAMINATION									RWZ ANZ 5-4-88
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	892085	RAR	4-22-88			X			EXAMINED IN ACCORDANCE
<input type="checkbox"/> 45° T SCAN	892085	RATC	4-22-88	X					WITH BGE REQUIREMENTS
<input type="checkbox"/> 60° SCAN	N/A								FOR PRE SPRAY PIPING.
<input type="checkbox"/> 60° T SCAN									
PROFILE	135117	RAR	4-21-88						
	N/A								
SUMMARIZED BY: <i>Dr. M. J. York</i>		DATE: 4-25-88		CONTINUED ON SHEET No.: N/A		PAGE 1 OF 1			

122050

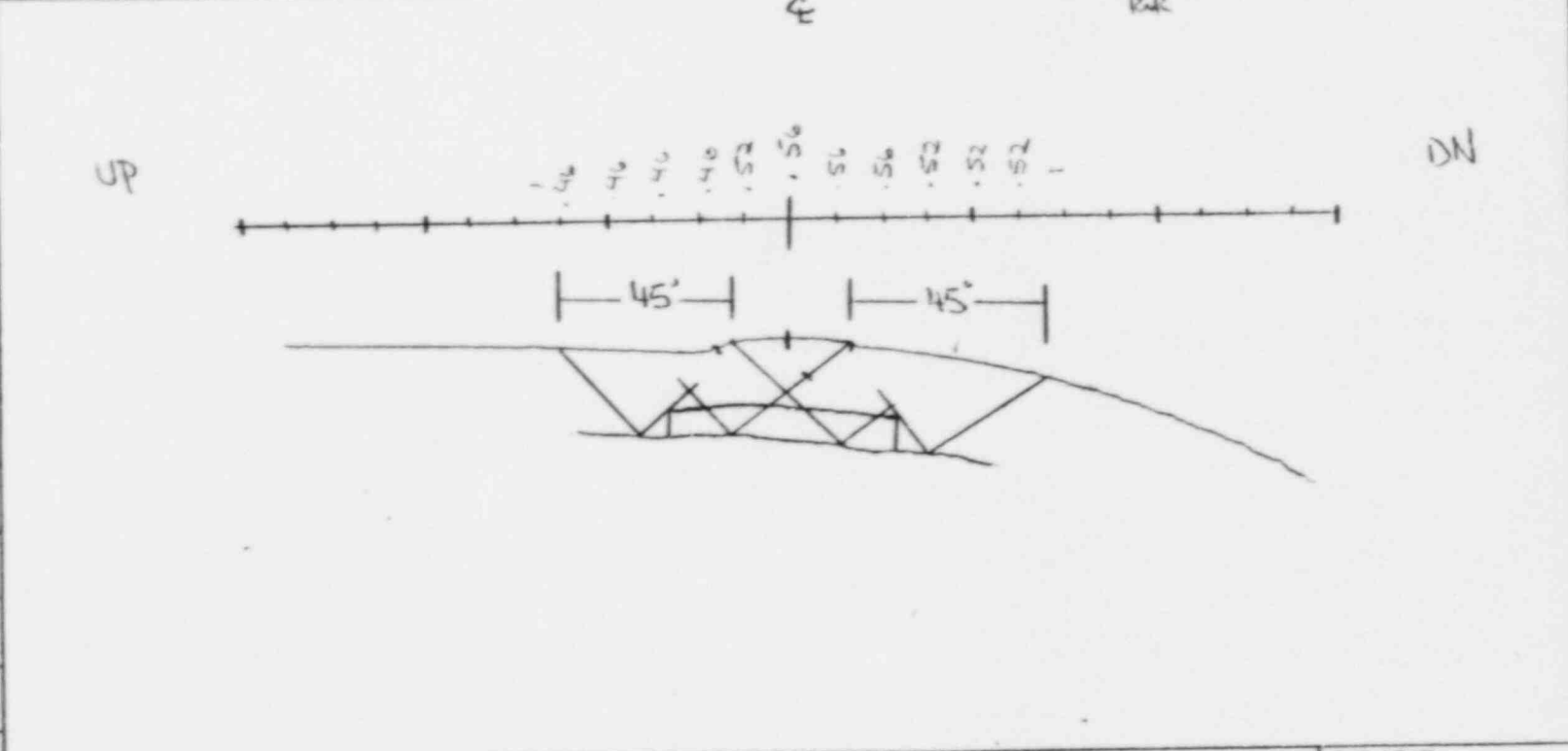
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 21 APRIL 77 TIME (24 HR. CLOCK) INT. 1621 FINAL 1657 SHEET NO.: 135117

EXAMINER <i>R. LaRocca</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04532 774716 PR	COMPONENT ID: 3-PS-1002M-22
EXAMINER T. POHINENKADIPER	SNT LEVEL I	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 65-DC-42 PR

SEARCH UNITS

BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	1.26-1
MATL. CAL.	114
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



45° Search Unit chosen for coverage using 3/8, 6/8, & 10/8 nodes. NAME: *R. LaRocca* SNT LEVEL: II

N/A° Search Unit chosen for coverage using N/A nodes.

REVIEWED BY: *Rosetta Pines* SNT LEVEL: II DATE: 23 APR 68

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 23 APRIL 78	TIME (24 HR CLK) EXAM STARTED 1421 EXAM ENDED 1426	SHEET NO. 020005
EXAMINATION AREA (SYST/COMP) PRESS RIZER STEAM	(LINE/SUBASSEMBLY) 3-PS-1002M	(IDENTIFICATION) 27	L ₀ LOCATION 1	W ₀ LOCATION WELVE
EXAMINER B.A. RIDDLES	SNT LEVEL II	PROCEDURE NO. 600-21 REV. 24 DEV. 1	CALIBRATION SHEET (S) 190148 R/R	ANGLE USED 45°
EXAMINER T. BOHNENKAMPER	SNT LEVEL I		SCANNING dB 9/60	WELD TYPE PIPE → ELBOW
				WELD LENGTH 11 1/2"
				EXAM SURFACE TEMPERATURE 76°/76° °F

IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	50	1/2	32			1 1/2			DN	45°	N/A	CAN BE SEEN INTERMITTENTLY	R/R
									UP	45°			R/R
									CW WELD UP IN	45°		CW/CCW	R/R
									BASE METAL	45°		CW/CCW	R/R
									UP TAU	45° TAU		CW/CCW	R/R

REMARKS * 16dB SWITCH DOWN R/R

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

NONE R/R

REVIEWED BY <i>Russell H. Jones</i>	SNT LEVEL II	DATE 23 APR 78	CONTINUED ON SHEET N/A	PAGE 1 OF 1
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Sw. R.I. INDICATION RESOLUTION RECORD

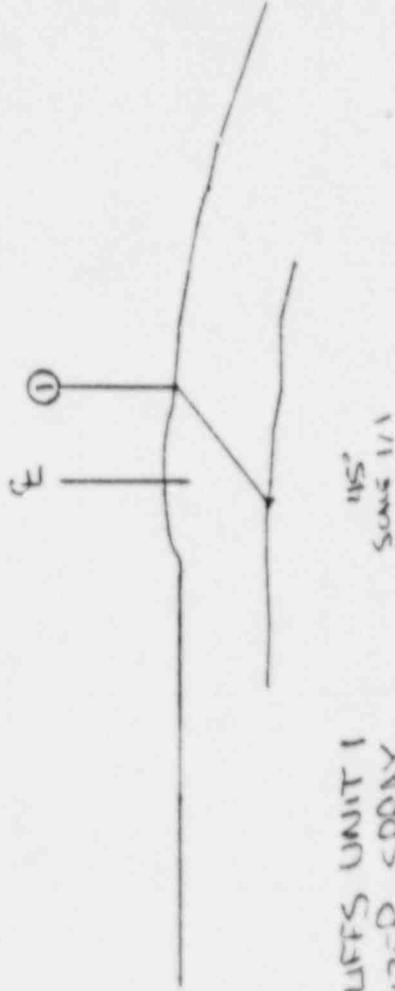
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310018
SYSTEM / COMPONENT PRESSURIZER SPRAY	LINE / SUBASSEMBLY 3-PS-1002 M	IDENTIFICATION 28	CALIBRATION SHEET (S) 19041
EXAMINER RA. RIDDLES	SNT LEVEL II	PROCEDURE NO 600-31	EXAMINATION RECORD SHEET NO. (S) 892085
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	REV 24 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATION ① IS A GEOMETRIC REFLECTOR
FROM THE WELD ROOT AND CAN BE SEEN
INTERMITTENTLY THROUGH OUT THE LENGTH
OF THE WELD.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY D. LaRuelle	SNT LEVEL II	DATE 23 APR 88
	REVIEWED BY Russell H. Jones	SNT LEVEL II	DATE 23 APR 88

UP PIPE

DN ELBOW



① Root Geometry

CAVERT CLIFFS UNIT I
PRESSURIZER SPRAY

3 - PS-1002M-28

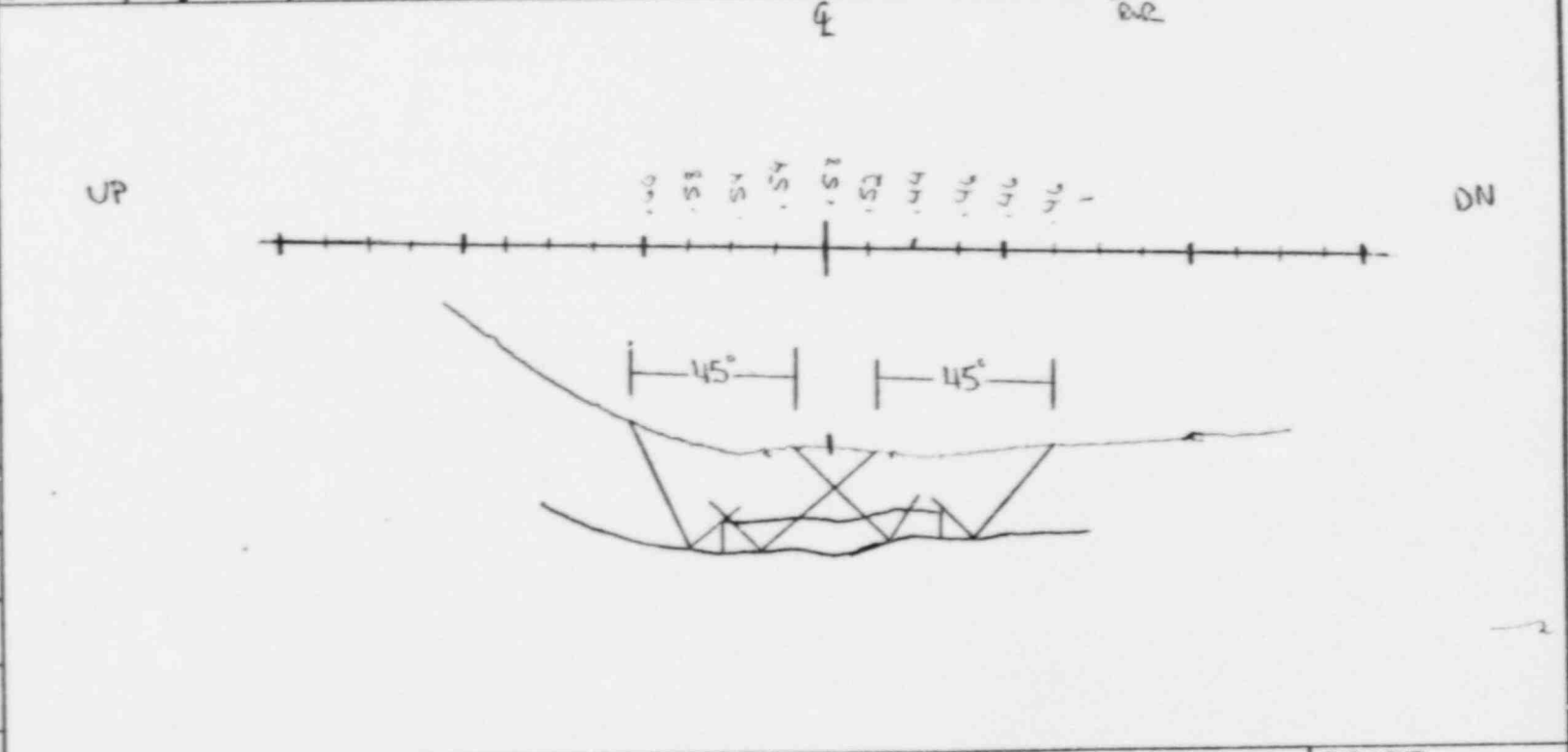
23 APR 88

R. D. Davis, II

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APRIL 77	TIME (24 HR. CLOCK) INT. 16:21 FINAL 16:57	SHEET NO.: 135/18
EXAMINER	<i>DeLaRosa</i>	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input type="checkbox"/> OTHER <input type="checkbox"/>
EXAMINER	T. BOHNENKAMPER	SNT LEVEL	I	Dev. 24 Dev. 1	SERIAL NO.: 774716 04322E PR
			COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/>		COMPONENT ID: 3-PR-1002M-31
			OTHER (SPECIFY) _____		REFERENCE BLK NO.: 65-DC-43 PR

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 INAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	126-1
MATL. CAL.	114
RANGE	2
REP. RATE	3k
JACK USED	R/T
TRANS. MODE	THRU



45° Search Unit chosen for coverage using <u>2/8, 6/8, 10/8</u> nodes. N/A° Search Unit chosen for coverage using <u>N/A</u> nodes.	NAME: <i>DeLaRosa</i>	SNT LEVEL: II
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REVIEWED BY: <i>Russell</i>	SNT LEVEL: II	DATE: 23 APR 77
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SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 122250					
EXAMINATION AREA (SYSTEM / COMPONENT): PS		(LINE / SUBASSEMBLY): 3-PS-100.2 M		(IDENTIFICATION): 32					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	892016	RAR	4-22-88						NO UT FROM TEE DUE TO CONFIGURATION. UT45
<input type="checkbox"/> 45° T SCAN	892016	RAR	4-22-88	X					COVERAGE OBTAINED FROM APE SIDE. RIX 5-4-88
<input type="checkbox"/> 60° SCAN	N/A								PROFILE ONLY.
<input type="checkbox"/> 60° T SCAN	135092	RAR	4-21-88						EXAMINED IN ACCORDANCE W/STATE PROGRAM FOR PS PIPING.
<input type="checkbox"/> PROFILE	N/A								
SUMMARIZED BY: <i>Donna W. York</i>			DATE: 4-25-88	CONTINUED ON SHEET No.: N/A	PAGE: 1 OF 1				

NO 45E COVERAGE TEE



NO 45E COVERAGE FROM TEE



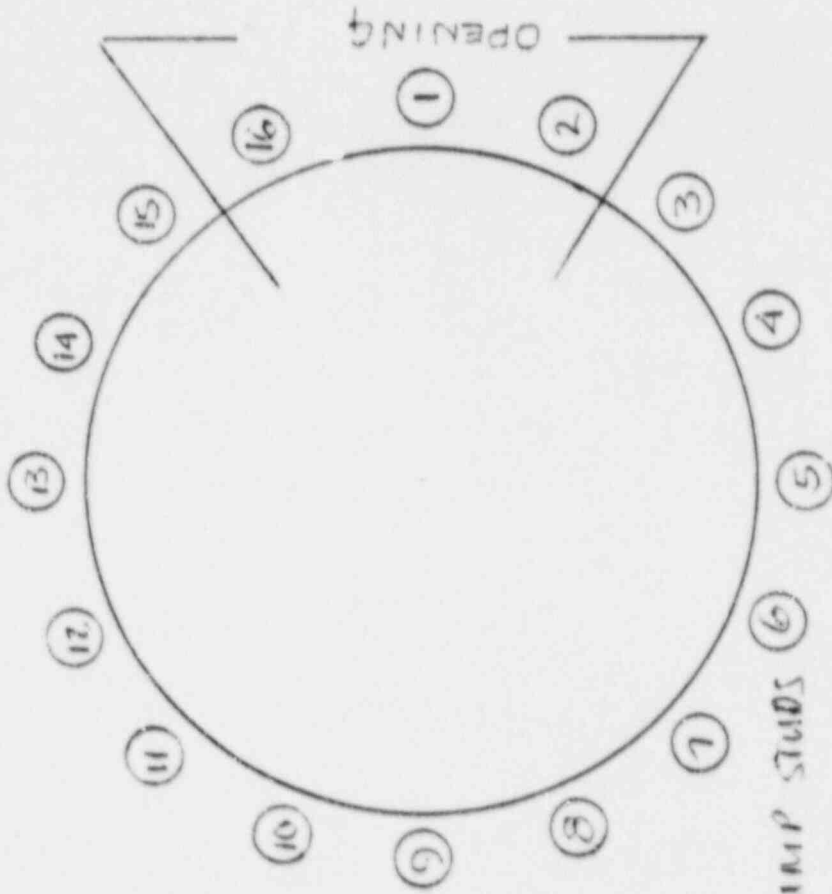
PARTIAL LIMITATIONS

3-PS-1002 m * 32

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 21 APR 78	TIME (24 HR. CLOCK): INT. 1621 FINAL 1657	SHEET NO.: 100000
EXAMINER: <i>DDaR</i>	THK. MEAS. PROCEDURE: No. 600-31 Rev. 24 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716 <i>PR</i>	COMPONENT ID: 3-PS-100AM-32
EXAMINER: T. BOHMEJKAVIPEK	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: SS-DC-42 <i>PR</i>	
SEARCH UNITS				
BRAND: AURIGA				
SERIAL NO.: AL1501				
SIZE: 1/4 INCH				
FREQ. (MHZ): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 130-1				
MATL. CAL.: 114				
RANGE: 2				
REP. RATE: 3K				
JACK USED: R/T				
TRANS. MODE: THRU				
REVIEWED BY: <i>Russell</i>	SNT LEVEL: <i>II</i>	NAME: <i>DDaR</i>	DATE: 23 Apr 78	SNT LEVEL: <i>II</i>

REACTOR COOLANT PUMPS 11B, 12A, AND 12B



REACTOR COOLANT PUMP STUDS

1-16

30 APR 58

Russell J. J. J.

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 134650
EXAMINATION AREA (SYSTEM / COMPONENT) RC PUMP 12A	(LINE / SUBASSEMBLY) RCP-12A	(IDENTIFICATION) FLYWHEEL

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									600-6/25
	FOLLOW-UP EXAMINATION										(C-5A(7"-CS)
PT	INITIAL EXAMINATION										
MT	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	230002	MK	4-23-88	X						LIMITED UP ON FLYWHEEL ^{only}
	45° T SCAN	N / A									DUE TO MACHINED TAPER, ^{only}
	60° SCAN										
	60° T SCAN										

SUMMARIZED BY: <i>Donald Wipark</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: NA	PAGE 1 OF 1
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Sw. R. I. FLYWHEEL ULTRASONIC EXAMINATION RECORD

PROJECT NO: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 23 APR 88	TIME (24-HR CLOCK) SHEET STARTED: 1745 SHEET ENDED: 1900	SHEET No.: 230002
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EXAMINATION AREA (COMPONENT IDENTIFICATION) Flywheel	(FLYWHEEL No.) 12A	SIDE: TOP	L ₀ LOCATION: * Precious	W ₀ LOCATION: TOP EDGE
---	------------------------------	---------------------	---	---

EXAMINER: M KLENJAN	SNT LEVEL II	PROCEDURE No 6006	CALIBRATION SHEET(S) 190029	ANGLE USED 45°		
EXAMINER: L SPIESS	SNT LEVEL II	REV 25	CALIBRATION SHEET(S) 190127	SCANNING dB		

IND No	% OF DAC	50% DAC		W MAX		50% DAC		L ₁		L	L ₂		SEARCH UNIT ANGLE	SEARCH UNIT LOCATION	DAMPS (IF YES, EXPLAIN)	REMARKS:	INI
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		MAX	100% DAC					
		NO RECORDABLE INDICATIONS															
														45° TOP			20

REMARKS:

EXAMINATION AREA LIMITATION (IF NONE, SO STATE): **Scanning Limitations at W₁ = 1/4 360° AROUND FLYWHEEL TOP DUE TO MACHINED TAPER IS**

REVIEWED BY: <i>Russell Line</i>	SNT LEVEL: II	DATE: 26 APR 88	CONTINUED ON SHEET NA	PAGE 1 OF 1
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Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	135200		
EXAMINATION AREA (SYSTEM / COMPONENT)	RC PUMP 12 B	(LINE / SUBASSEMBLY)	ACP - 12 B			(IDENTIFICATION)	FLYWHEEL		
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								600-6/25
<input type="checkbox"/> FOLLOW-UP EXAMINATION									CC-5A (7"-CS)
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	230004	LD	4-25-88						
<input type="checkbox"/> 45° T SCAN	N/A								
<input type="checkbox"/> 60° SCAN									
<input type="checkbox"/> 60° T SCAN									
SUMMARIZED BY:			DATE			CONTINUED ON SHEET No.:		PAGE OF	
Donald W York			4-27-88			N/A		1	

STEAM GENERATOR 11

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:		SITE:		SHEET No.:					
17-211 ^a		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		250100					
EXAMINATION AREA (SYS. GEN.)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)					
STEAM GEN. ATR 11		SG-11		3					
EXAMINATION TYPE	E. LOCATION SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								UPPER HEAD → UPPER ASS.
<input type="checkbox"/> FOLLOW-UP EXAMINATION									600-47/0, DEV 1, 2
<input type="checkbox"/> INITIAL EXAMINATION									600-15/71, DEV 1
<input type="checkbox"/> FOLLOW-UP EXAMINATION									CC-6-B (3"-CS)
<input type="checkbox"/> 0° LAM SCAN	181004	LS	4-19-88	X					FIVE CODE ALLOWABLE PLANNAR
<input type="checkbox"/> 0° WELD SCAN	170066	LS	4-19-88	X					INDICATIONS, SEE CNF 3.
<input type="checkbox"/> 45° SCAN	170049	LS	4-21-88				X	310024	RUBZ ANI 5-9-88
<input type="checkbox"/> 45° T SCAN	170049	LS	4-21-88	X					ACCEPTED "AS IS" BY BOE.
<input type="checkbox"/> 60° SCAN	170047	LS	4-21-88				X	310024	
<input type="checkbox"/> 60° T SCAN	170047	LS	4-21-88	X					
<input type="checkbox"/> 60°	170052	LS	4-23-88				X	310024	
<input type="checkbox"/> 60°	170056	LS	4-20-88				X	310024	
<input type="checkbox"/> 60° T	170056	LS	4-20-88	X					
<input type="checkbox"/> 45	170050, 170051	LS	4-21-88 4-20-88				X	310024	
<input type="checkbox"/> 45 T	170050	LS	4-21-88	X					

SUMMARIZED BY: *Donald W. York*

DATE: 5-10-88

CONTINUED ON SHEET No.: N/A

PAGE 1 OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 19 Apr 88 TIME (24 HR. CLOCK) INT. 1305 FINAL 1320 SHEET NO.: 125007

EXAMINER <i>Lyle Spiess</i>	SNT LEVEL <i>II</i>	THK. MEAS. REQ'D BY PROCEDURE No. 60015	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: <i>04329E</i>	COMPONENT ID: <i>SG-11-3</i>
EXAMINER <i>D. Wagar</i>	SNT LEVEL <i>I</i>	Rev. 71 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: <i>CS-DC-30</i>	

SEARCH UNITS *3.5 3.5 3.5 Head 3.5 3.7 3.7 3.9 3.9 3.9 4.0 4.3 4.5 4.6 4.85 → Shell*

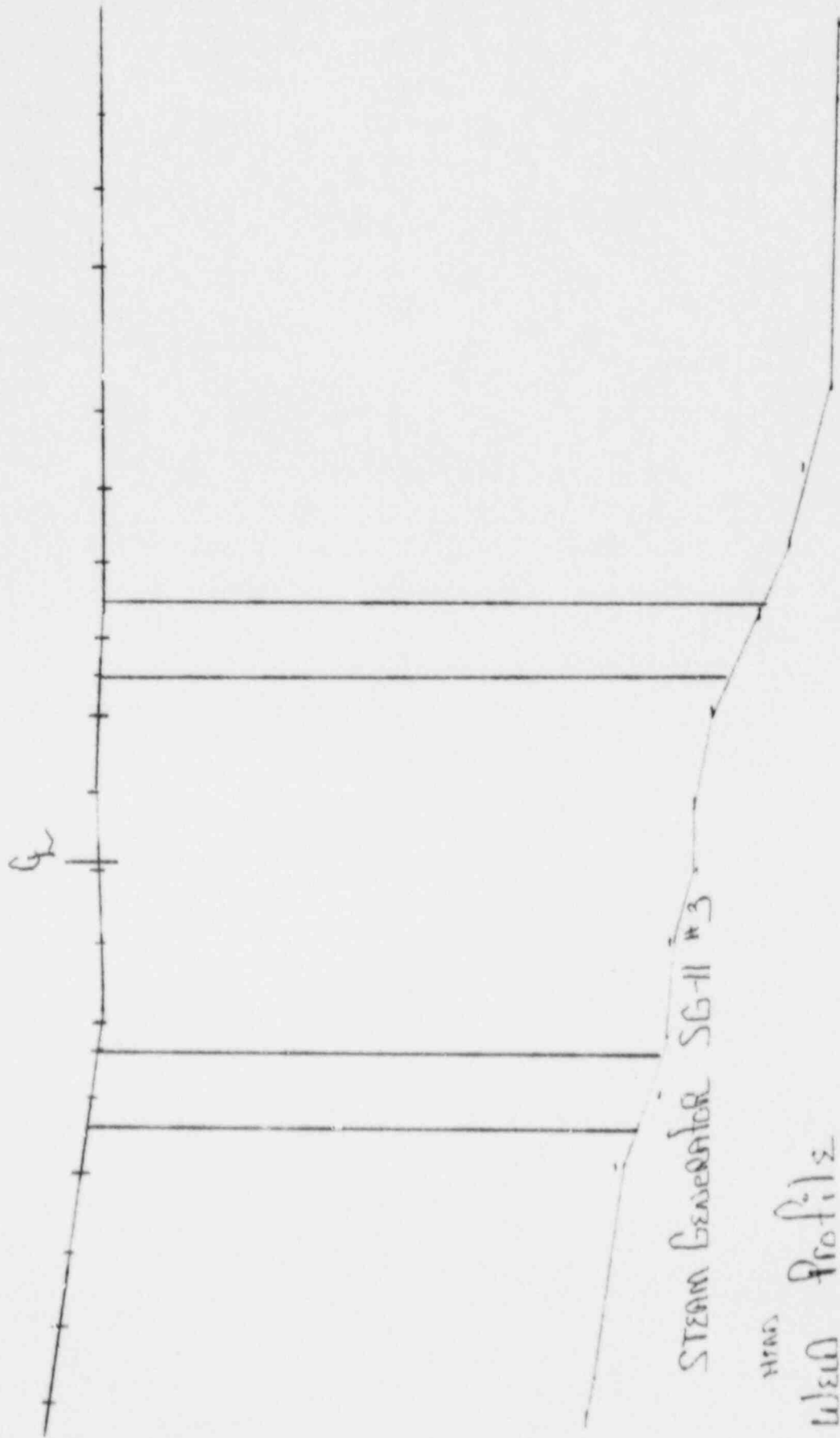
BRAND	<i>SWRI</i>
SERIAL NO.	<i>3391</i>
SIZE	<i>1</i>
FREQ. (MHz)	<i>2.5</i>
INSTRUMENT SETTINGS	
SCREEN SIZE	<i>5</i>
DELAY	<i>1104</i>
MATL. CAL.	<i>106</i>
RANGE	<i>5</i>
REP. RATE	<i>3K</i>
JACK USED	<i>R</i>
TRANS. MODE	<i>NORMAL</i>

SEE ATTACHED

60° Search Unit chosen for coverage using $\frac{1}{8}, \frac{2}{8}, \frac{3}{8} + \frac{5}{8}$ nodes.
45° Search Unit chosen for coverage using $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{5}{8}, \frac{4}{8}$ nodes.

$\frac{7}{8}, \frac{9}{8}, \frac{10}{8}, \frac{11}{8}$ extrapolated to Encompass Exam Volume.

NAME: <i>Lyle Spiess</i>	SNT LEVEL: <i>19 APR 88</i>
DATE: <i>25 APR 88</i>	



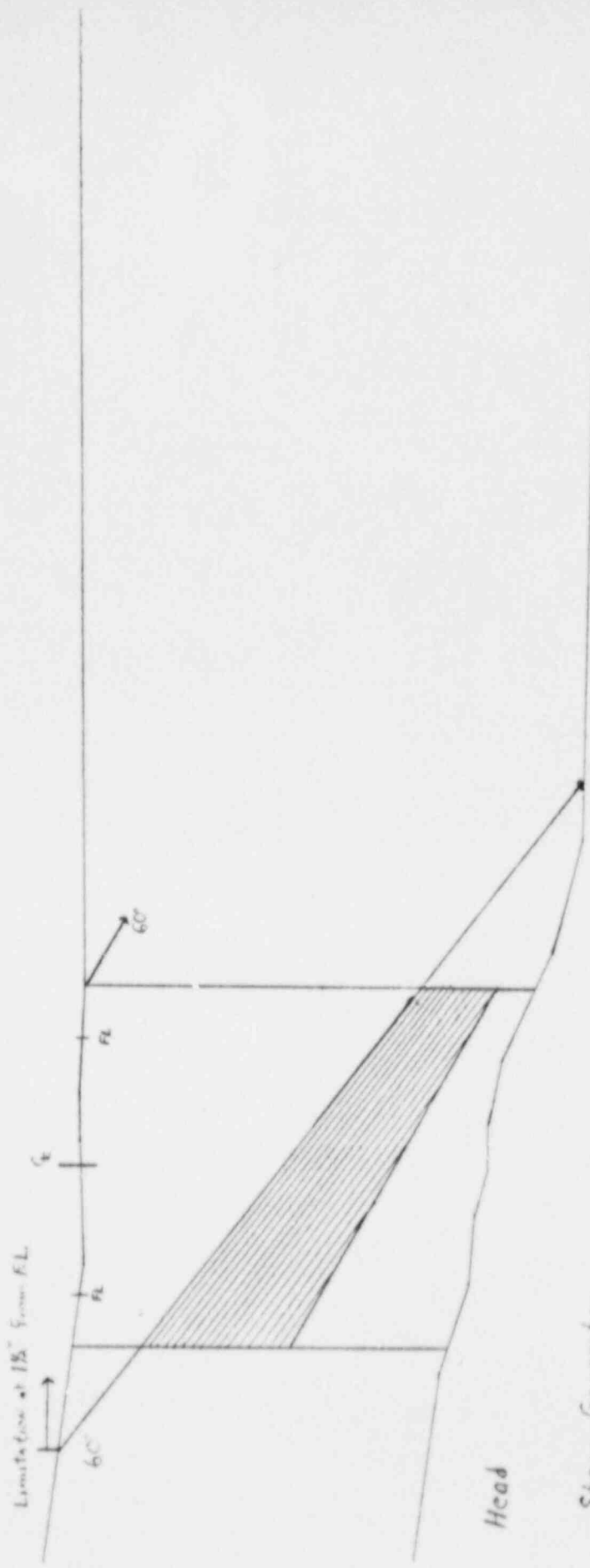
STEAM GENERATOR SG-11 #3

WATER PROFILE

REF SIM RECORD 135027 PS

WATER ASSEMBLY

250100



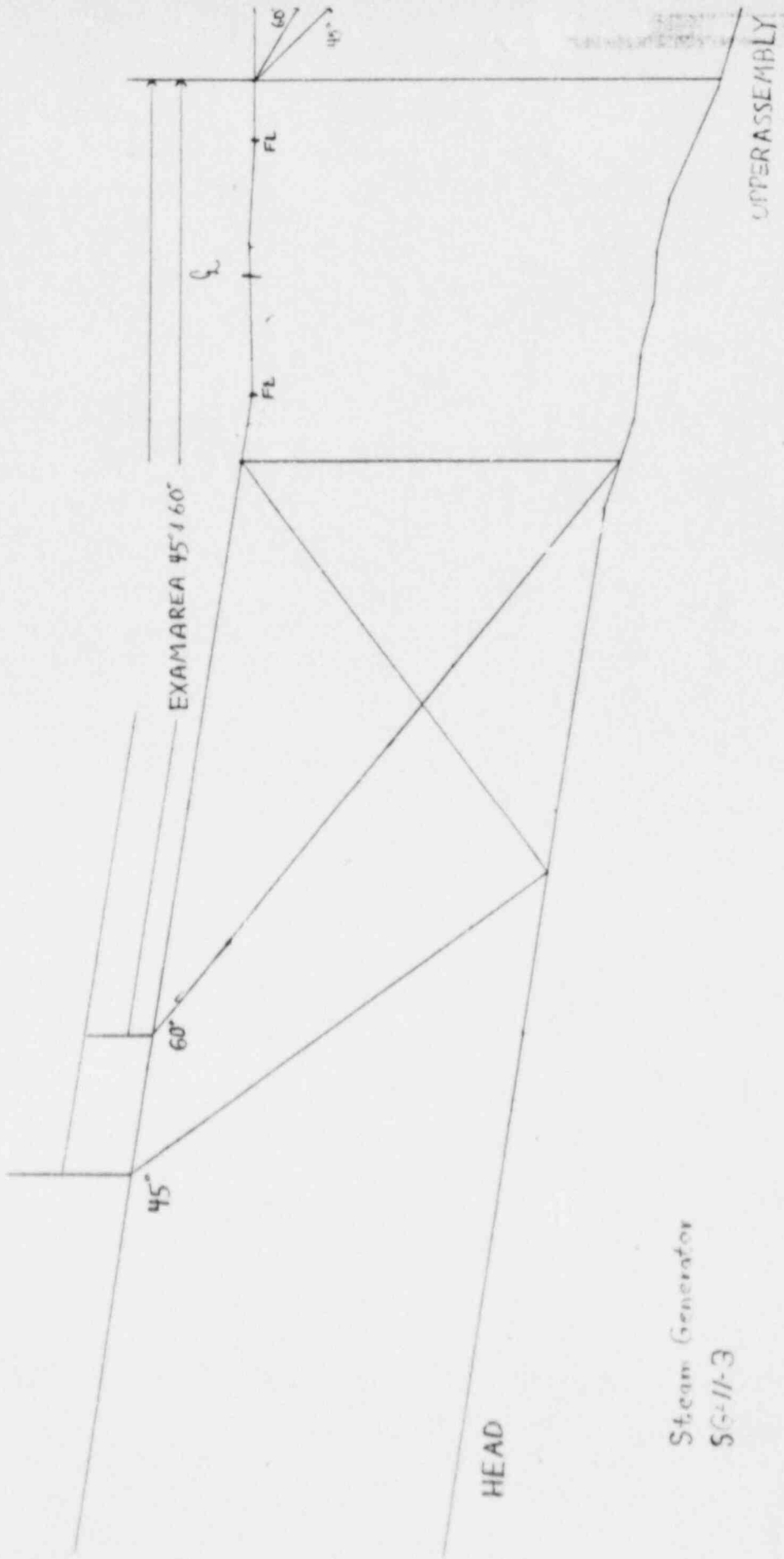
Head

Steam Generator
SG-11-B

Upper Assembly

Area of one directional coverage





Sw. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 19 April 80	TIME (24 - HR CLOCK) EXAM STARTED 1305 EXAM ENDED 1425-1635	SHEET NO. 181004			
SYSTEM / COMPONENT Steam Generator	LINE / SUBASSEMBLY SG-11	IDENTIFICATION 3	L _o LOCATION Wey	W _o LOCATION weld			
EXAMINER L. Spess	SNT LEVEL II	CALIBRATION SHEET 190003	CROWN HEIGHT 4	ATTENUATION UP MA			
EXAMINER D. Wagar	SNT LEVEL I	PROCEDURE NO. 600-49 REV. 0 DEV. 18243	CROWN WIDTH 4 2 1/2	DOWN MA			
IND LOSS OF BW % NO	IND AMP % F.S. NO	POSITION 1 L ₁ W ₁ W ₂ MP L W ₁ W ₂ MP	POSITION 2 L ₂ W ₁ W ₂ MP	SEARCH UNIT LOCATION (X)	REMARKS (F) Upper Head to upper Assembly	WELD TYPE (-FLOW →)	WELD LENGTH 728 1/2
REMARKS: 4 see profile sheet 30							
SURFACE TEMP. 78/28 °F							
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) NONE 30							
REVIEWED BY <i>Russell R. P...</i>				DATE 25 APR 80		PAGE 1 OF 1	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS 1		DATE (DAY-MON-YR) 19 APRIL 88		TIME (24 HR CLOCK) EXAM STARTED 1305 EXAM ENDED 1635		SHEET NO. 170066								
SYSTEM / COMPONENT STEAM GENERATOR		LINE / SUBASSEMBLY SG-11		IDENTIFICATION 3		Lo LOCATION Lo of main way		Wo LOCATION Lo WELD								
EXAMINER L SPIESS		SNT LEVEL II	PROCEDURE NO. 600-49	CALIBRATION SHEET (S) 190030	ANGLE USED 0°	45°	45° T	60°	60° T	OTIR A	WELD TYPE UPPER HEAD TO UPPER ASSEMBLY					
EXAMINER D WAGAR		SNT LEVEL I	REV. 0	SCNR/NO DB *	70/4	N					WELD LENGTH 728 1/2					
			DEV. 1.2.3								EXAMINATION SURFACE INSIDE <input checked="" type="checkbox"/> OUTSIDE <input type="checkbox"/>					
											SURFACE TEMPERATURE 78 178 °F					
IND. NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L	L ₂	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS		INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC OR 1/2 MAX	MAX	50% DAC OR 1/2 MAX				* Plus 60dB SWR & E 20		
	NO RECORDABLE	INDICATIONS										ON WELD	0°	* UPPER HEAD, UPPER ASSEMBLY 20		
EXAMINATION AREA LIMITATION (IF NONE , SO STATE)													NONE 20			
REVIEWED BY <i>Russell Fine</i>		SNT LEVEL II			DATE 26 APR 88			PAGE 1 OF 1								

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS I		DATE (DAY-MON-YR) 21 APR 88		TIME (24 HR CLOCK) EXAM STARTED 0800 EXAM ENDED 1055		SHEET NO. 170047	
SYSTEM / COMPONENT STEAM GENERATOR		LINE / SUBASSEMBLY SG-11		IDENTIFICATION 3		Weld Location Weld		Weld Location Weld	
EXAMINER L SPRESS		PROCEDURE NO. 600-15		CALIBRATION SHEET (S) 19D126		ANGLE USED 0°		WELD TYPE WIRE HEAD WELDED ASSEMBLY	
EXAMINER D WAGAR		REV. 71 DEV. 1		SCANNING DB N		SCANNING DB N		WELD LENGTH 728 1/2	
50% DAC OR 1/2 MAX		50% DAC OR 1/2 MAX		50% DAC OR 1/2 MAX		50% DAC OR 1/2 MAX		EXAMINATION SURFACE INSIDE <input checked="" type="checkbox"/> OUTSIDE <input type="checkbox"/>	
IND NO.	% OF DAC MAX	W1	W2	L1	L2	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS
1	50	-	-	-	-	-	UPPER ASSEMBLY	60°	15% scale SPOT Reflections Seen To permit fully by block weld LEAKAGE
2	63	6 1/2	6.8	6.8 1/4	6.8 1/16	-	UPPER ASSEMBLY	60°	20% scale SPOT Reflections Seen To permit fully by block weld LEAKAGE
3	100	5 1/2	7.0	6.7 1/8	6.7 1/16	-	UPPER ASSEMBLY	60°	20% scale Reflections Seen To permit fully by block weld LEAKAGE
4	94	2 1/4	2.5	6.0 7/8	6.0 1/8	-	UPPER ASSEMBLY	60°	20% scale Reflections Seen To permit fully by block weld LEAKAGE
		NO RECORDABLE INDICATIONS							
EXAMINATION AREA LIMITATION: IF NONE, SO STATE Exam Limited to a $w = 2 1/2$ from L=97 to 102, L=138 to L=143, L=163 to L=168, L=191 to L=196									
L=216 to L=221, L=256 to L=262, L=455 to L=461, L=498 to L=503, L=528 from L=523									
L=551 to L=556, L=574 to L=579 AND L=617 to L=622 Due to WELD ON STEEL BEAMS HEAD SIDE. P.D.									
REVIEWED BY <i>Geney Duncan</i>		SNT LEVEL II		DATE 22 APR 88		PAGE 1 OF 1			

250100

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS 1	DATE (DAY-MON-YR) 23 APR 1988	TIME (24 HR CLOCK) EXAM STARTED 1100 EXAM ENDED 1425	SHEET NO. 170052
SYSTEM / COMPONENT Steam Generator	LINE / SUBASSEMBLY SG-11	IDENTIFICATION 3	LOCATION & COMMENTS adjacent to pressurizer House	

EXAMINER L. Spiess	SNT LEVEL II	PROCEDURE NO. 600-15	CALIBRATION SHEET (S) 190145	ANGLE USED 0°	45°	45° T	60°	60° T	OTIR	WELD TYPE (*)
EXAMINER D. Wagar	SNT LEVEL I	REV 71	DEV. 1	SCANNING DB *	N/A	A	5/8	5/16	4/80	N/A

IND. NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L MAX	L ₂	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP								
4	56	2 3/8	24	2 3/4	25	2 7/8	2.6	60 1/8	611	611 1/8	-	REF ASSEMBLY	60°	REWORK * Plus 6db switch. Upper head to upper assembly. Kellogg Indications Ref Exam 80	80
5	50			2 1/2	225				70 1/2			UPPER ASSEMBLY	60°	SPOT	80

EXAMINATION AREA LIMITATION (IF NONE , SO STATE) NONE 80

REVIEWED BY Russell H. Finner	SNT LEVEL II	DATE 25 APR 88	PAGE	OF
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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS 1	DATE (DAY-MON-YR) 21 APR 88	TIME (24 HR CLOCK) EXAM STARTED 1305 EXAM ENDED 1602	SHEET NO. 170049
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY SG-11	IDENTIFICATION 3	Lo LOCATION E of main WY ADJACENT to PRESSURIZER HEAD	

EXAMINER L SPIESS	SNT LEVEL II	PROCEDURE NO. 600-15	CALIBRATION SHEET (S) 190059	ANGLE USED 0°	SCANNING DB A	WELD TYPE UPPER HEAD to UPPER ASSEMBLY	WELD LENGTH 72 1/2	EXAMINATION SURFACE INSIDE <input checked="" type="checkbox"/> OUTSIDE <input type="checkbox"/>
EXAMINER D WAGER	SNT LEVEL I	REV 71 DEV. 1		45°	2/60	60°		

IND NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L MAX	L ₂	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP								
	ND													Partial Exam From L ₁ to L ₃₀₀ L ₂₀	
	ND											UPPER HEAD	45°	* Plus 6dB Switches * low WELD UPPER HEAD to UPPER ASSEMBLY	20
1A	50			1 3/4	1.7				70 1/2			UPPER ASSEMBLY	45°	NO DAMPS 15% watch	20
2A	50			3 1/2	9.2				1 1/2			UPPER ASSEMBLY	45°	SEEN Intermittently Along WELD LENGTH 20% watch DAMPS TOP CROWN	20

EXAMINATION AREA LIMITATION (IF NONE , SO STATE)
NONE

In AREAS of 60° one Directional Limitations, Complete Coverage was obtained USING A
45° Full Use Calibration from UPPER ASSEMBLY SIDE

REVIEWED BY George Aman	SNT LEVEL II	DATE 22 APR 88	PAGE 1 OF 1
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SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS I	DATE (DAY-MON-YR) 22 APR 88	TIME (24 HR CLOCK) EXAM STARTED 1245 EXAM ENDED 1400	SHEET NO. 170050
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY SB-11	IDENTIFICATION 3	LO LOCATION ADJACENT TO PRESSURIZER	Weld TYPE 72872 20
EXAMINER L SPRESS	PROCEDURE NO. 600-15	ANGLE USED 0°	60° I 2160	Weld Length 72872
EXAMINER D WCGAR	REV 71	SCANNING DB 1	60° O 1110	EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input type="checkbox"/>
SNT LEVEL II	L1 50% DAC OR 1/2 MAX		SURFACE TEMPERATURE 78/78 °F	
SNT LEVEL I	L2 50% DAC OR 1/2 MAX		REMARKS * Plus LAB Switch	
W MAX 3/4 40	L MAX	SEARCH UNIT LOCATION UPPER ASSEMBLY	SEARCH UNIT ANGLE 45°	PARTIAL EXAM FROM L=300 TO L=D 20
W MP 5/8 10.2	L1 50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION UPPER ASSEMBLY	SEARCH UNIT ANGLE 45°	20% notch no Dumps
W MP 5/4 10.3	L2 50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION UPPER ASSEMBLY	SEARCH UNIT ANGLE 45°	SEEN TO BE HEAT TREATED ALTHOUGH WELD LENGTH DUMPS NEAR EDGE 100% notch
W1 MP NO RECORDABLE	L MAX	SEARCH UNIT LOCATION UPPER HEAD	SEARCH UNIT ANGLE 45°	cut down
W2 MP NO RECORDABLE	L1 50% DAC OR 1/2 MAX	SEARCH UNIT LOCATION UPPER HEAD ASSEMBLY	SEARCH UNIT ANGLE 45°	UPPER HEAD TO UPPER ASSEMBLY 20
W MAX NO RECORDABLE	L2 50% DAC OR 1/2 MAX			
W MP NO RECORDABLE	L MAX			
W MP NO RECORDABLE	L1 50% DAC OR 1/2 MAX			
W MP NO RECORDABLE	L2 50% DAC OR 1/2 MAX			
W1 MP NO RECORDABLE	L MAX			
W2 MP NO RECORDABLE	L1 50% DAC OR 1/2 MAX			
W MAX NO RECORDABLE	L2 50% DAC OR 1/2 MAX			

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE & D

IN AREAS OF 60° cone directional limitations, complete coverage was obtained using a 45°

Full VEE Calibration from upper Assembly Side to

REVIEWED BY
Greg Duman

SNT LEVEL
II

DATE
22 APR 88

PAGE 1 OF 1

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310024
SYSTEM / COMPONENT STEAM GENERATOR	LINE / SUBASSEMBLY SG-11-8A	IDENTIFICATION 3	CALIBRATION SHEET (S) 190059 190146 190126 190136 190061 190145
EXAMINER LYLE SPIESS	SNT LEVEL II	PROCEDURE NO. 600-15	EXAMINATION RECORD SHEET NO. (S) 170049 170052 170050 170051 170047 170056
EXAMINER DARRYL WAGAR	SNT LEVEL I	REV 17 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>			
WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATIONS 2, 2A ARE GEOMETRIC REFLECTORS FROM THE INSIDE SURFACE WELD CROWN.

60° INDICATIONS 1, 2 ARE GEOMETRIC REFLECTORS FROM THE OUTSIDE SURFACE WELD CROWN

45° INDICATIONS 1 (SPOT), 1A (SPOT), 60° INDICATIONS 3 (100%)
4 (56%), 5 (SPOT) ARE WELD INCLUSIONS. THE ACCEPTANCE,
REJECTION STANDARDS FOR CLASS 2 VESSELS IWB-3000 IS IN
COURSE OF PREPARATION THEREFORE THE RULES OF IWB-3000
MAY BE USED. THESE INDICATIONS ARE ACCEPTABLE
IN ACCORDANCE WITH THE LIMITS SPECIFIED IN TABLE
IWB-3511-1 OF THE 1983 EDITION OF SECTION XI
WITH ADDENDA THROUGH SUMMER 1983.

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>Russell # Fine</i>	SNT LEVEL II	DATE 26 APR 88
	REVIEWED BY <i>Lyle Spiess</i>	SNT LEVEL II	DATE 26 APR 88

CNF 3
ATTACHMENT
UT Examination of Steam Generator 11
Upper Shell to Upper Head Weld SG-11-3

The following Code allowable indications were recorded during the UT examination of Steam Generator 11 weld SG-11-3:

Exam	Data Record	Ind. No.	% DAC	Location	Length (l)	Aspect Ratio (a/l)	a/t	IWB-3511-1 a/t Limit (Subsurface)
60-deg	170047	3	100	676.5*	0.805*	0.09	1.87%	2.88%
60-deg	170047	4	56	611.0*	0.255*	0.19	1.25%	3.52%
60-deg	170056	5	50	70.5*	0.0*	n/a	n/a	n/a
45-deg	170051	1	50	681.75*	0.0*	n/a	n/a	n/a
45-deg	170051	1A	50	70.5*	0.0*	n/a	n/a	n/a

Article IWC-3000, "Acceptance Standards for Flaw Indications" of the 83/583 Edition of ASME Section XI is in the course of preparation and states that the rules of IWB-3000 may be used. Therefore, the acceptance standards of IWB-3511, "Pressure Retaining Welds in Vessels" is used in evaluation of these indications.

In accordance with paragraph IWB-3511.1, allowable planar reflectors may not exceed the limits specified in Table IWB-3511-1. As shown in the above listing, 60-degree indication nos. 3 and 4 have an a/t within the limits of IWB-3511-1 for subsurface flaws and are therefore allowable. 60-degree indication no. 5 and 45-degree indication nos. 1 and 1A are spot indications with no measurable l. They have no Aspect Ratio (a/l) and are therefore allowable under IWB-3511-1.

Donald W. York
Project Manager

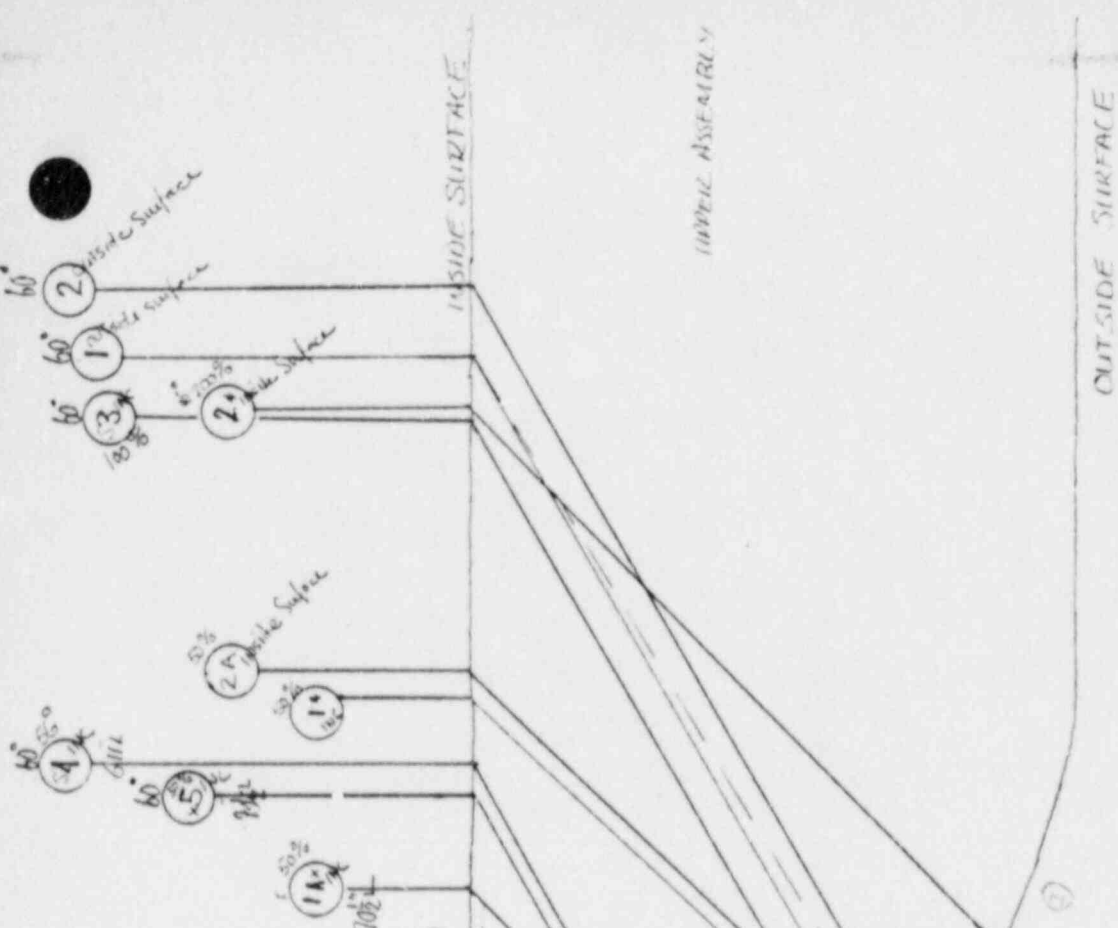
IND #3
 $\frac{11.63 - 11.00}{11.00} \times 100 = 5.73\%$
 $\frac{6.16 - 6.00}{6.00} \times 100 = 2.67\%$

IND #4
 $\frac{21.63 - 20.00}{20.00} \times 100 = 8.15\%$
 $\frac{6.16 - 6.00}{6.00} \times 100 = 2.67\%$

IND #3
 $\frac{21.63 - 20.00}{20.00} \times 100 = 8.15\%$
 $\frac{6.16 - 6.00}{6.00} \times 100 = 2.67\%$

IND #3 Aspect Ratio .09% TABLE IWB-35H-1 ALLOWABLE $\frac{a}{r} = 2.88\%$ IND #4: 1.87%
 IND #4 Aspect Ratio .19% TABLE IWB-35H-1 ALLOWABLE $\frac{a}{r} = 3.52\%$ IND #4: 1.25%

IND #5 1/4 ARE ALLOWABLE, 1983 SECTION XI ATTACHMENT A, SUMMER 1983
 TABLE IWB-35H-1
 SIA - SURFACE INDICATIONS
 Y FACTOR FOR IND #3 = 6.4
 Y FACTOR FOR IND #4 = 5.4



STEAM GENERATOR
 SG-11-3 UPPER HEAD - UPPER ASSEMBLY
 26 APR 88
 Russell Fine II

OUTSIDE SURFACE
 2A, 2 INSIDE SURFACE GEOMETRY
 60°, 60°, 2, INSIDE SURFACE GEOMETRY
 10°, 45°, 16, 10, 10, 10
 40°, 60°, 3
 10°, 4

LOWER ASSEMBLY

UPPER HEAD

SHUTDOWN COOLING HEAT EXCHANGER

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 252000
EXAMINATION AREA (SYSTEM/COMPONENT) <i>Shutdown Cooling Heat Exchanger</i>	(LINE / SUBASSEMBLY) SCH E - 11	(IDENTIFICATION) 1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS	
					N	I	G	O				
VT	INITIAL EXAMINATION	N A									FRANGE TO CHANNEL BARREL	
	FOLLOW-UP EXAMINATION										600-49/0, DEV 1,2,3	
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									600-33/11, DEV 1,2	
	FOLLOW-UP EXAMINATION										CC-56 (1.125" - CSCL)	
UT	0° LAM SCAN		180058	LD	21 Apr 88	X						NO UT FROM THE FLANGE SIDE
	0° WELD SCAN		170046	LD	21 Apr 88	X						DUE TO FLANGE CONFIGURATION.
	45° SCAN	892082	LD	21 Apr 88	X						UT60 PERFORMED FOR ADDITIONAL	
	45° T SCAN	892082	LD	21 Apr 88	X						INFORMATION ONLY.	
	60° SCAN	892082	LD	21 Apr 88	X						RWY ANI 5-9-88	
	60° T SCAN	N A										
	Profile	135121	LD	21 Apr 88							Profile & Thickness In Location	
		N A										
		↓										

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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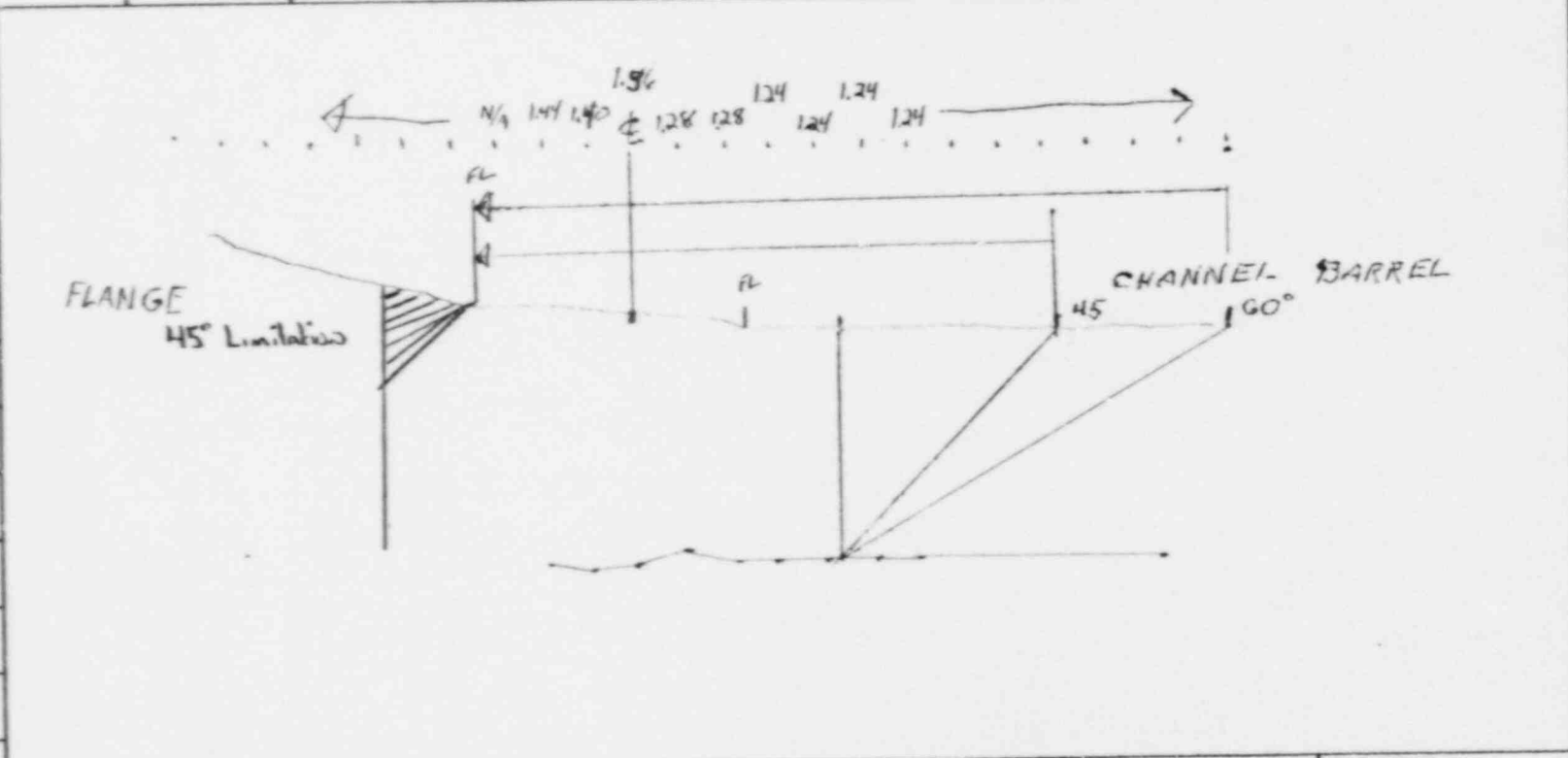
Sw. R.I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				DATE: (DAY - MON. - YR.) 21 APR 88		TIME: (24 - HR. CLOCK) SHEET STARTED 1235 SHEET ENDED 1250		SHEET No. 100053														
EXAMINATION AREA: (SYSTEM / COMPONENT) SHUTDOWN COOLING HEAT EXCHANGER		(LINE / SUBASSEMBLY) SCHE - 11				(IDENTIFICATION) I		L ₀ LOCATION TDC		W ₀ LOCATION £ OF WELD														
EXAMINER: L DURAN		SNT LEVEL II		PROCEDURE No. 600-49		CALIBRATION SHEET (S) 190132		MEASURED THICKNESS UP £ DOWN SEE SP CORRECTOR		CROWN HEIGHT 1/4		ATTENUATION UP DOWN N A		WELD TYPE (-FLOW-) FLG →										
EXAMINER: M. W. KLEINJAN		SNT LEVEL II		REV DEV 0 1-2-3				CROWN WIDTH 1 1/2				CHANNEL BARREL		WELD LENGTH 145 1/2										
IND No	% LOSS OF BW	IND AMP OF FS	POSITION 1				POSITION				POSITION				POSITION 2				SEARCH UNIT LOCATION	REMARKS	INI.			
			L1	W1	W2	MP	L	W1	W2	MP	L	W1	W2	MP	L2	W1	W2	MP						
			NO RECORDABLE INDICATIONS																DN		20			
REMARKS:																								
EXAMINATION AREA LIMITATIONS: (IF NONE, SO STATE):																			NONE SP			NO EXAM FROM FLANGE SIDE DUE TO CORROSION (3)		
REVIEWED BY: <i>Russell Price</i>						SNT LEVEL: II						DATE: 22 APR 88						PAGE 1 OF 1						

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APR 88	TIME (24 HR. CLOCK) INT. 1235 FINAL 1240	SHEET NO.: 135/21	
EXAMINER L. DURAN	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE 600-33 No. 600-4970	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 760526	COMPONENT ID: SCHE-11-1
EXAMINER M.W. KLEINJAN	SNT LEVEL II	Rev. \emptyset 11 30 Dev. 12-2-3 50	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: CS-122	

SEARCH UNITS	
BRAND	SWRI
SERIAL NO.	2579
SIZE	3/8
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	118-1
MATL. CAL.	108
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANG. MODE	THRU



REVIEWED BY: <i>Kenneth Dine</i>	SNT LEVEL: II	NAME: <i>George Duran</i>	DATE: 12 APR 88
45° Search Unit chosen for coverage using 1-2-3 nodes.		SNT LEVEL: II	
60° Search Unit chosen for coverage using 1-2-3 nodes.			

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS 1	DATE (DAY-MON-YR) 21 APR 88	TIME (24 HR CLOCK) EXAM STARTED 1235 EXAM ENDED 1255	SHEET NO. 170046
SYSTEM / COMPONENT SHUTDOWN COOLING HEAT EXCHANGER	LINE / SUBASSEMBLY SCHE - 11	IDENTIFICATION I	Lo LOCATION T D C	Wo CATION \$ OF WELD
EXAMINER L DURAN	SNT LEVEL II	PROCEDURE NO. 600-49	CALIBRATION SHEET (S) 190132	ANGLE USED 0°
EXAMINER M W. KLEINJAN	SNT LEVEL II	REV 0	DEV. 1-2-3	SCANNING DIR * -4 / +30
			45°	45° T
			60°	60° T
			OTIM	OTIM
			WELD TYPE FLG → CHANNEL BARREL	
			WELD LENGTH 145 1/2	
			EXAMINATION SURFACE INSIDE <input type="checkbox"/> OUTSIDE <input checked="" type="checkbox"/>	

IND NO.	% OF DAC MAX	50% DAC OR 1/2 MAX		W MAX		50% DAC OR 1/2 MAX		L ₁	L MAX	L ₂	L POS	SEARCH UNIT LOCATION	SEARCH UNIT ANGLE	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP								
														* PLUS GdB SWITCH DOWN HP	
														HP / DN	HP

EXAMINATION AREA LIMITATION (IF NONE , SO STATE)
NONE

REVIEWED BY <i>Russell Fine</i>	SNT LEVEL II	DATE 22 APR 88	PAGE OF 1 OF 1
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Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 252100
EXAMINATION AREA (SYSTEM/COMPONENT) <i>Shutdown Cooling Heat Exchanger</i>	(LINE/SUBASSEMBLY) SCH E - 11	(IDENTIFICATION) N-1

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									NOZZLE → SHELL 600-49/0, DEV 1, 2, 3
	FOLLOW-UP EXAMINATION	↓									
PT MT	INITIAL EXAMINATION										600-33/11, DEV. 1, 2 CC-56 (1.125" CSCL)
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN	180056	LD	21 Apr 88	X						NO UT FROM NOZZLE SIDE DUE TO NOZZLE CONFIGURATION. UTAS: ^{UT60 only} UT60 COVERAGE OBTAINED FROM SHELL SIDE.
	0° WELD SCAN	1700485	LD	21 Apr 88	X						
	45° SCAN	892081	LD	21 Apr 88	X						
	45° T SCAN	692081	LD	21 Apr 88	X						
	60° SCAN	892081	LD	21 Apr 88	X						
	60° T SCAN	N / A									
	Profile	135120	LD	21 Apr 88							Profile & Thickness Information RWZ ANZ 5-7-88
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W York</i>	DATE: 4-29-88	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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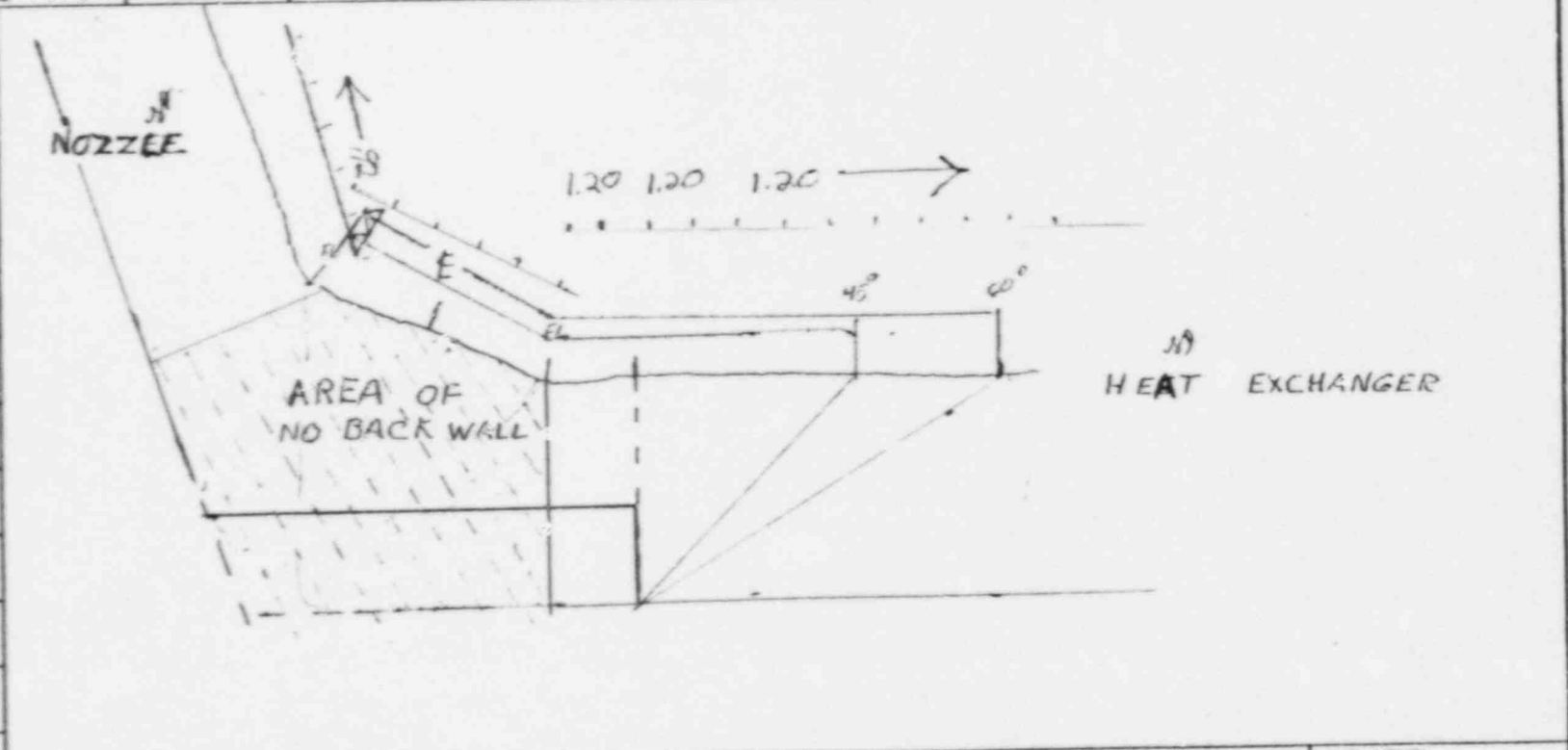
Sw. R.I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				DATE: (DAY - MON. - YR.) 21 APR 88				TIME: (24 - HR CLOCK) SHEET STARTED 1120 SHEET ENDED 1140		SHEET No. 100056					
EXAMINATION AREA: (SYSTEM / COMPONENT) SHUTDOWN COOLING HEAT EXCHANGER			(LINE / SUBASSEMBLY) SCHE - 11				(IDENTIFICATION) N-1				L ₀ LOCATION TDC		W ₀ LOCATION FUSION LINE OF NOZZLE ^{LE}				
EXAMINER: L DURAN		SNT LEVEL II		PROCEDURE 49 No. 600-33 LD		CALIBRATION SHEET (S) 190132 ^{LD}		MEASURED THICKNESS UP ϕ DOWN SEE COUNTER		CROWN HEIGHT 3/8		ATTENUATION UP DOWN N A		WELD TYPE (-FLOW →) INLET NOZZLE SHELL			
EXAMINER: M.W. KLEINJAN		SNT LEVEL II		REV DEV 1:2:3						CROWN WIDTH 1 1/2		WELD LENGTH 44 1/2					
IND No	% LOSS OF BW	IND AMP OF FS	POSITION 1				POSITION				POSITION ?				SEARCH UNIT LOCATION	REMARKS	INI.
			L1	W1	W2	MP	L	W1	W2	MP	L	W1	W2	MP			
			NO RECORDABLE INDICATIONS												DN ^{2%}		LD
REMARKS:																	
EXAMINATION AREA LIMITATIONS: (IF NONE, SO STATE):																	
NONE ³¹⁾																	
REVIEWED BY: <i>Russell</i>						SNT LEVEL: II						DATE: 22 APR 88				PAGE OF	

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2:16	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 21 APR 88	TIME (24 HR. CLOCK) INT. 1140 FINAL 1157	SHEET NO.: 135120
EXAMINER	L. DURAN	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE No. 600-49	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
EXAMINER	M.W. KLEINJAN	SNT LEVEL	II	Rev. 50-11 Dev. 1-2-3-20	SERIAL NO.: 760526 COMPONENT ID: SCHE-11-N-1
				COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/>	REFERENCE BLK NO.: CS-122

SEARCH UNITS	
BRAND	SWRI
SERIAL NO.	2579
SIZE	3/8
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2 1/2" ¹⁸
DELAY	118-1
MATL. CAL.	108
RANGE	5
REP. RATE	3K
JACK USED	R#T
TRANS. MODE	THRU



REVIEWED BY: <i>Russell + Fine</i>	SNT LEVEL: II	NAME: <i>Scott Duran</i>	SNT LEVEL: II
45° Search Unit chosen for coverage using 1-2-3 nodes.		DATE: 22 APR 88	
60° Search Unit chosen for coverage using 1-2-3 nodes.			

REGENERATIVE HEAT EXCHANGER

Sw. R. I. EXAMINATION SUMMARY RECORD

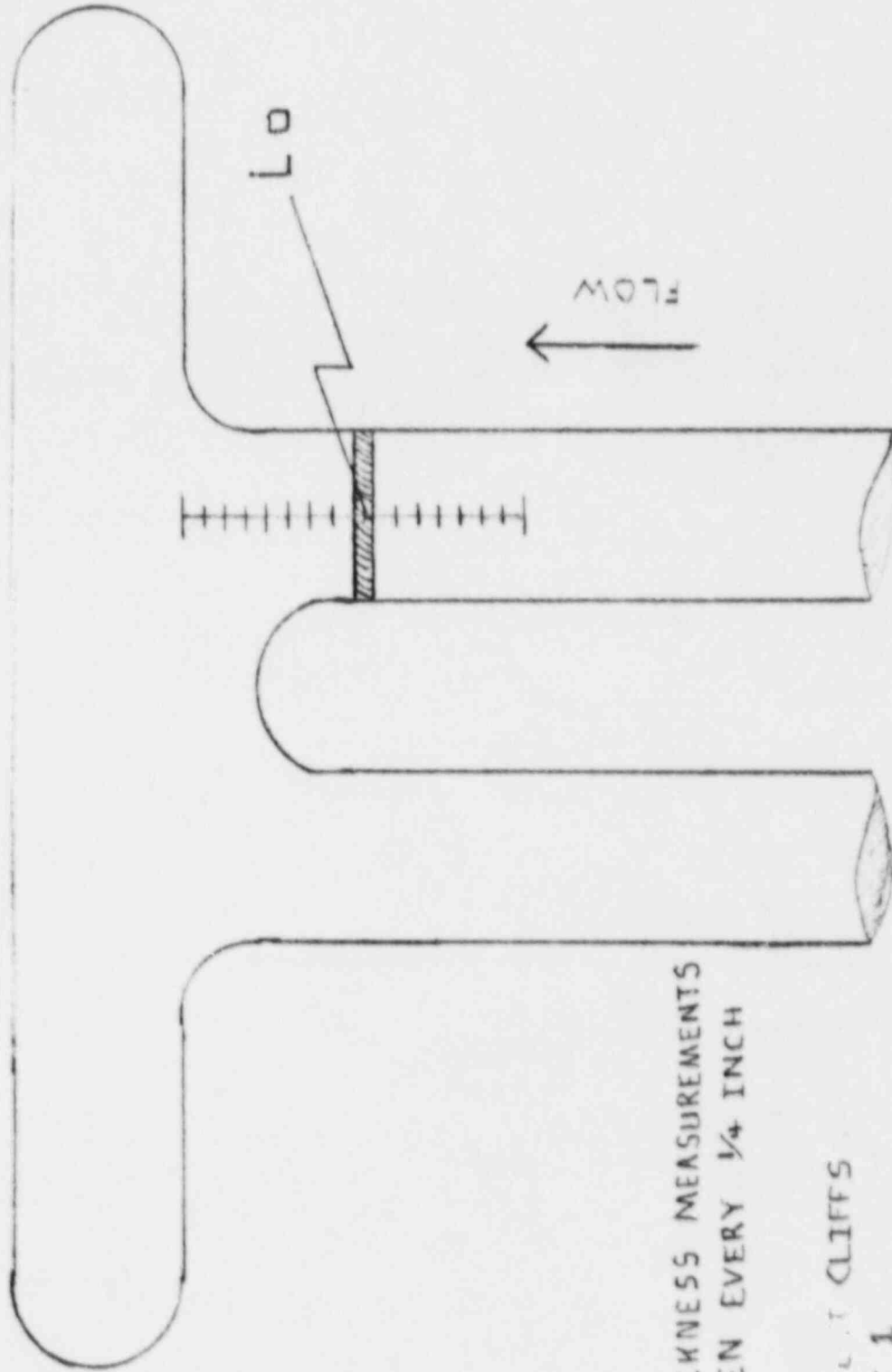
PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 253250
EXAMINATION AREA (SYSTEM / COMPONENT): REGENERATIVE HX	(LINE / SUBASSEMBLY): RHE	(IDENTIFICATION): 9

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A									SHELL → TEE
	FOLLOW-UP EXAMINATION										600-33/11, DEV. 1, 2
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890076	LD	4-27-88	X						NO EXAMINATION FROM THE
	45° T SCAN	890076	LD	4-27-88	X						TEE SIDE DUE TO TEE
	60° SCAN	890076	LD	4-27-88	X						CONFIGURATION. UT60
	60° T SCAN	N / A									PERFORMED FOR ADDITIONAL
	PROFILE	135159	RAR	4-27-88							INFORMATION ONLY.
	N / A										RWZ ANI 5-7-88

SUMMARIZED BY: <i>Donald York</i>	DATE: 4-28-88	CONTINUED ON SHEET No.: N/A	PAGE OF 1 1
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RHE-9

PIPE → TEE



THICKNESS MEASUREMENTS
TAKEN EVERY 1/4 INCH

CALVIN T. CLIFFS

UNIT 1

RHE-9

27 APR 88

Cliff's Division II

REGEN HX

1988 INSERVICE EXAMINATION OF SELECTED CLASS 1,
CLASS 2, AND CLASS 3 COMPONENTS AND SYSTEMS OF
CALVERT CLIFFS NUCLEAR POWER PLANT,
UNIT 1

VOLUME V
FIELD DATA (CONT'D)
SwRI Project 2118

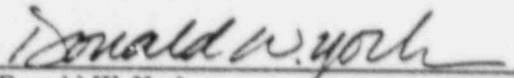
CONTENTS:
CLASS 2 COMPONENTS AND SYSTEMS (CONT'D)
PIPING
CALIBRATION RECORDS
190000 SERIES
SWRI BEAM SPREAD RECORDS
SWRI INSTRUMENT LINEARITY VERIFICATION RECORDS

Prepared for

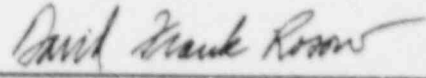
Baltimore Gas and Electric Company
Nuclear Energy Division
Calvert Cliffs Nuclear Power Plant
Lusby, Maryland 20657

August 1988

Prepared by


Donald W. York
Project Manager
Engineering and Analysis Section
Department of NDE Services

Approved by


David F. Rosow
Acting Director
Department of NDE Services
Nondestructive Evaluation Science
and Technology Division

SAFETY INJECTION SYSTEM

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 300300
EXAMINATION AREA (SYSTEM / COMPONENT) SIS	(LINE / SUBASSEMBLY) 24-SI-1201	(IDENTIFICATION) 4 LUI

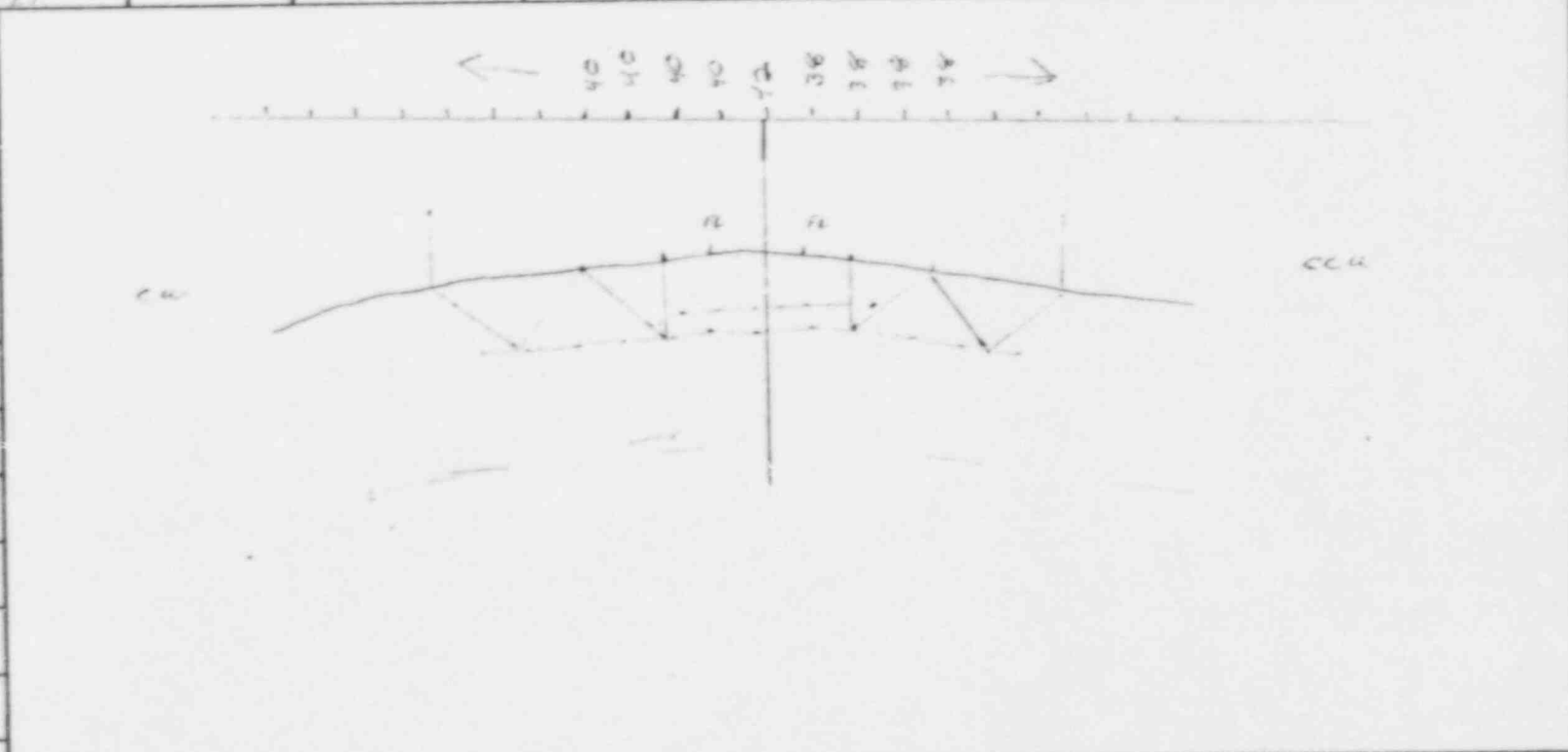
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A								LONG SEAM	
	FOLLOW-UP EXAMINATION	↓								800-36/40 , DEV 1	
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓								600-49/0 , DEV 1,2,3	
	FOLLOW-UP EXAMINATION	↓								CC-53 (24" - .375" - SS)	
U T	0° LAM SCAN	181053	MK	4-27-88	X					2.5t (1-INCH) OF WELD	
	0° WELD SCAN	N / A								LENGTH EXAMINED.	
	45° SCAN	891002	MK	4-27-88	X					RWZ ANI 5-5-88	
	45° T SCAN	891002	MK	4-27-88	X						
	60° SCAN	N / A									
	60° T SCAN	↓									
	PROFILE	135162	MK	4-27-88						PROFILE ONLY.	
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR)	27 APR 88	TIME (24 HR. CLOCK)	SHEET NO.:	135162
					INT. 1548	FINAL 1607	
EXAMINER	MW KLEINJAN	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE	No. 500-76	INSTRUMENT:	SONIC MARK I <input type="checkbox"/>
					Rev. 40	OTHER	<input type="checkbox"/>
EXAMINER	T. RICHENBAUER	SNT LEVEL	I	Dev. 1		COUPLANT:	GLYCERINE <input checked="" type="checkbox"/>
						WATER	<input type="checkbox"/>
						OTHER (SPECIFY)	
						SERIAL NO.:	760576
						COMPONENT ID:	24-51-1201-4 LUS I
						REFERENCE BLK NO.:	55-DC-41

SEARCH UNITS	
BRAND	ULTRATECH
SERIAL NO.	610445
SIZE	1/4
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	133.1
MATL. CAL.	111
RANGE	1
REP. RATE	36
JACK USED	R + T
TRANS. MODE	TRAP



4" Search Unit chosen for coverage using 4-8-12 nodes. 1/4" Search Unit chosen for coverage using 1/4 nodes.	NAME:	MW KLEINJAN	SNT LEVEL:	II	
REVIEWED BY:	Russell Line	SNT LEVEL:	II	DATE:	25 APR 88

Sw. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY - MON - YR) 27 APRIL 88		TIME (24-HR CLOCK) EXAM STARTED 1558 EXAM ENDED 1606		SHEET NO. 181053																
SYSTEM / COMPONENT SAFETY INJECTION		LINE / SUBASSEMBLY 24-SI-1201		IDENTIFICATION 4 LVI		L. LOCATION 7		W. LOCATION WELD 4																
EXAMINER M. W. BLUNTALL		SNT LEVEL II		PROCEDURE NO. 000-49 REV. C DEV. 1+2+3		CALIBRATION SHEET 190057		MEASURED THICKNESS UP ε DOWN																
EXAMINER T. B. HELLKAMPER		SNT LEVEL I				CROWN HEIGHT 1/16		ATTENUATION UP DOWN																
						CROWN WIDTH 1/2		WELD TYPE (-FLOW →) LONG SEAM																
								WELD LENGTH 4 1/4																
IND. NO.	% LOSS OF BW	IND. AMP % F. S.	POSITION 1				POSITION				POSITION 2				SEARCH UNIT LOCATION	REMARKS	INI.							
			L ₁	W ₁	W ₂	MP	L	W ₁	W ₂	MP	L	W ₁	W ₂	MP	L ₂	W ₁	W ₂	MP						
			NO RECORDABLE INDICATIONS																					
REMARKS:															SURFACE TEMP. N/A °F									
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE)																								
REVIEWED BY NONE <i>Russell J...</i>															SNT LEVEL II			DATE 28 APR 88			PAGE 1 OF 1			

FORM NO SWRI NDR 17-18 (05-14-79) witnessed by Swri of JB

300307D

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 27 APR 88	TIME: (24 HR CLK) EXAM STARTED 1340 EXAM ENDED 1540	SHEET No 000002
EXAMINATION AREA (SYST / COMP) SAFETY INJECTION	(LINE / SUBASSEMBLY) 24-21-1201	(IDENTIFICATION) R-7 4 LUT	L ₀ LOCATION 7	W ₀ LOCATION WELD 6
EXAMINER W. J. KLEINER	SNT LEVEL I	CALIBRATION SHEET(S) 170023	ANGLE USED 45°	WELD TYPE WELDED SEAM
EXAMINER T. B. WALKER	SNT LEVEL I	SEARCH UNIT LOC. W/CO	SCANNING dB 4	WELD LENGTH 4 1/2
	L ₁ 50% DAC L ₂ 100% DAC L ₃ MAX	SEARCH UNIT ANGLE 45°	DAMPS (IF YES, EXPLAIN)	EXAM SURFACE TEMPERATURE 28/22 °F
	NO RECORDABLE INDICATIONS			REMARKS Examined 2 1/2" 1.0" RT
	NO RECORDABLE INDICATIONS			UP/DN
	NO RECORDABLE INDICATIONS			BASE METAL, CW/SCW
REMARKS & FLAW SUMMARY DISCUSS				
SCANNED FOR FLAWS DUE TO NOISE TO SIGNAL RATIO				
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)				
NONE				
REVIEWED BY W. J. Klein	SNT LEVEL I	DATE 28 APR 88	CONTINUED ON SHEET N/A	PAGE 1 OF 1

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 300350
EXAMINATION AREA (SYSTEM / COMPONENT): SIS	(LINE / SUBASSEMBLY): 24-SI-1201	(IDENTIFICATION): 4 LUO

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N A									LONG. SEAM
	FOLLOW-UP EXAMINATION										800-36/40 DEV 1
PT	INITIAL EXAMINATION	↓									600-49/0 DEV 1,2,3
	FOLLOW-UP EXAMINATION										CC-53 (24"-.375"-55)
UT	0° LAM SCAN	181056	MK	4-27-88	X						2.5t (1-INCH) OF WELD
	0° WELD SCAN	N A									LENGTH EXAMINED.
	45° SCAN	892039	MK	4-27-88			X		310051 196073 DWY		RWZ ANI 5-9-88
	45° T SCAN	892039	MK	4-27-88	X						
	60° SCAN	N A									
	60° T SCAN	↓									
	PROFILE	135161	MK	4-27-88							
		N A									
		↓									
		↓									

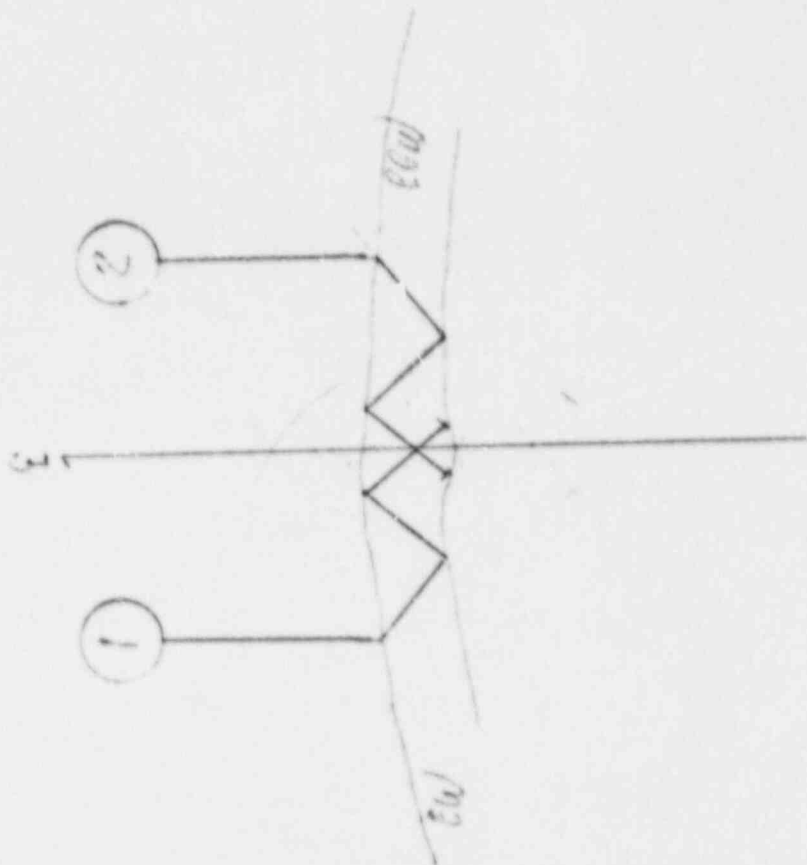
SUMMARIZED BY: <i>Donald N. York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 27 APR 88		TIME (24 HR. CLOCK) INT. 1548 FINAL 1607		SHEET NO.: 135161	
EXAMINER M. W. KLEINTJEN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 800-36	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 742526		COMPONENT ID: 24-51-1261-4-L00	
EXAMINER T. BOHLENKAMPER		SNT LEVEL I	Rev. 40 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 33-02-41			
SEARCH UNITS		<p style="text-align: center;">* CONTOUR TAKEN AT 6.1</p>							
BRAND	AEROTECH								
SERIAL NO.	C-16945								
SIZE	3/4								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	1								
DELAY	133-1								
MATL. CAL.	111								
RANGE	1								
REP. RATE	3K								
JACK USED	R/T	44 ^o Search Unit chosen for coverage using 4-8-12 nodes.		NAME: M. W. KLEINTJEN		SNT LEVEL: II			
TRANS. MODE	THRU	1/16 ^o Search Unit chosen for coverage using 1/16 nodes.		DATE:					
REVIEWED BY:		SNT LEVEL:							

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			DATE (DAY-MON-YR) 27 APRIL 88		TIME (24 HR CLK) EXAM STARTED 1601 EXAM ENDED 1640		SHEET NO 000029			
EXAMINATION AREA (SYST/COMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 24-SI-1201			(IDENTIFICATION) L40 4 WJRT R-7		L ₀ LOCATION 7 TUB		W ₀ LOCATION WELD E			
EXAMINER M.W. KLEINMAN		SNT LEVEL II	PROCEDURE NO 800-36 REV 40 DEV 1		CALIBRATION SHEET (S) 190093	ANGLE USED 45°	ANGLE USED 45°	WELD TYPE LONG SEAM		WELD LENGTH 9/2		
EXAMINER T. SCHNEIKAMPER		SNT LEVEL I				SCANNING dB 7/70	SCANNING dB 7/70	EXAM SURFACE TEMPERATURE 82°/82° F				
IND No	% OF DAC MAG	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX				
1	50	1	LW	3/2		1		1 1/2	cw	45°	NEAR EDGE CROWN	1.0" R ₂ INL
2	50	1	LW	3/2		1		1 1/2	ccw	45°	NEAR EDGE CROWN	
		NO RECORDABLE INDICATIONS							OR WELD	45°		UP/DN
		NO RECORDABLE INDICATIONS							cup/cw	45°		BASE METAL UP/DN
REMARKS * +6dB SWITCH DOWN												
SCANNED 6dB DUE TO NOISE TO SIGNAL RATIO												
(D) SECONDARY DAC SETTINGS												
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE												
REVIEWED BY <i>Russell H. [Signature]</i>				SNT LEVEL II		DATE 28 APR 88		CONTINUED ON SHEET N/A		PAGE 1 OF 1		



WELT INJECTION
 24 51-1001 A LUD
 15 ADE BR
 Russell June II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:		17-2116		SITE:				CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1				SHEET No.:		300400					
EXAMINATION AREA (SYSTEM / COMPONENT):				SIS				(LINE / SUBASSEMBLY):				24-SI-1201				(IDENTIFICATION):		4	
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS								
					N	I	G	C											
VT	INITIAL EXAMINATION	N / A									ELBOW → PIPE								
	FOLLOW-UP EXAMINATION	↓									800-36/40, DEV. 1								
PT <input type="checkbox"/>	INITIAL EXAMINATION										CC-53 (24" - .375" - SS)								
	FOLLOW-UP EXAMINATION										600-49/0, DEV. 1, 2, 3								
UT	0° LAM SCAN	181072	MK	4-27-88	X														
	0° WELD SCAN	N / A																	
	45° SCAN	582038 181072	MK	4-27-88	X														
	45° T SCAN	892038	MK	4-27-88	X														
	60° SCAN	N / A																	
	60° T SCAN	↓																	
	PROFILE	135163	MK	4-27-88							PROFILE ONLY.								
		N / A																	
		↓																	

SUMMARIZED BY:

Donald W. York

DATE

4-27-88

CONTINUED ON SHEET No.:

N/A

PAGE 1 OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 27 APRIL 88		TIME (24 HR. CLOCK) INT. 15:16 FINAL 16:07		SHEET NO.: 135163	
EXAMINER M. W. KLEINJAN		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 800-30		INSTRUMENT: SONIC MARK I <input type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 76C-529		COMPONENT ID: 24-31-1261-1
EXAMINER T. BOHNERKAMPER		SNT LEVEL I	Rev. 40 Dev. :		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 35-DC-11		
SEARCH UNITS									
BRAND	TECOTECH								
SERIAL NO.	C16-145								
SIZE	1/4								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	1								
DELAY	133-1								
MATL. CAL.	111								
RANGE	1								
REP. RATE	28								
JACK USED	RIT								
TRANS. MODE	THRU								
40" Search Unit chosen for coverage using 4-6-12 nodes.					NAME: M. W. KLEINJAN			SNT LEVEL: II	
40" Search Unit chosen for coverage using 11/11 nodes.					DATE: 28 APR 88				
REVIEWED BY: Russell L. Linn			SNT LEVEL: II						



Witness by Swri: *DAJ*

SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 27 APRIL 81	TIME (24 - HR CLOCK) EXAM STARTED 1552L EXAM ENDED 1600	SHEET NO. 181072	
SYSTEM / COMPONENT	LINE / SUBASSEMBLY	IDENTIFICATION	L _o LOCATION	W _o LOCATION	
EXAMINER W. J. KLEHMAN	SNT LEVEL II	CALIBRATION SHEET 190072	CROWN HEIGHT 1.500	ATTENUATION UP DOWN	
EXAMINER T. J. GARDNER	PROCEDURE NO. 1000-47 REV. 0 DEV. 2, 3	MEASURED THICKNESS UP DOWN SEE GANTOIR	CROWN WIDTH	WELD TYPE (- FLOW →) WELDED	
IND LOSS % OF BW F.S.	POSITION 1 L W ₁ W ₂ MP	POSITION 2 L W ₁ W ₂ MP	SEARCH UNIT LOCATION 600/600	REMARKS	WELD LENGTH 74 7/8
REMARKS: NO RECORDING INVESTIGATIONS					
SURFACE TEMP. N/A °F					
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE)					
REVIEWED BY NOME	SNT LEVEL II	DATE 28 APR 81	PAGE OF		

FORM NO. SWRI 17-18 (03-14-75)
 Reviewed by *T. J. Gardner*
 Witnessed by *Sw. R. I.*
 200000

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 27 APRIL 83		TIME (24 HR CLK) EXAM STARTED 1609 EXAM ENDED 1640		SHEET NO 00003	
EXAMINATION AREA (SYSTACOMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 24-5-1-201		(IDENTIFICATION) 4		L ₀ LOCATION WELL 5		W ₀ LOCATION	
EXAMINER M. V. KLEINJAN	SNT LEVEL II		PROCEDURE NO 800-36 REV-40 DEV 1		CALIBRATION SHEET (S) 190093 STC-E-1	ANGLE USED 45°	SCANNING dB 7/10	WELD TYPE ELECT → PIPE	WELD LENGTH 74 7/8
	SNT LEVEL I								
EXAMINER T. BOHNEKAMBER	L ₁	L	L ₂	SEARCH UNIT LOC	SEARCH UNIT ANGLE	SEARCH UNIT ANGLE	REMARKS	INI	
	W MAX W	100% DAC MP	100% DAC MAX	1/2 MAX MAX					
% OF DAC									
IND No									
REMARKS +60dB SWITCH DOWN									
SCANNED GEAR W/ DUE TO NOISE TO SIGNAL RATIO									
Ⓢ SECONDARY DAC SETTINGS									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
REVIEWED BY NONE		SNT LEVEL II		DATE 28 APR 83		CONTINUED ON SHEET N/A		PAGE OF 1 1	

Witnessed by *Dawn O'Neil*

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 319600
EXAMINATION AREA (SYSTEM/COMPONENT) <i>Safety Injection</i>	(LINE/SUBASSEMBLY) <i>6-51-1201</i>	(IDENTIFICATION) <i>1</i>

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N A									VALVE I-MOV-656 → PIPE
	FOLLOW-UP EXAMINATION	↓									600-31/24 Dev1
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									600-49/10 Dev 152
	FOLLOW-UP EXAMINATION	↓									CC-16 (6'-.562" - SS)
UT	0° LAM SCAN	B1026	WAT	15 Apr 85	X						NO UT FROM VALVE SIDE DUE TO VALVE CONFIGURATION.
	0° WELD SCAN	N A									
	45° SCAN	892075	WAT	18 Apr 83			X		310009		UTAS COVERAGE OBTAINED
	45° T SCAN	892075	WAT	13 Apr 83	X						FROM PIPE SIDE.
	60° SCAN	N A									RWZ ^{ANE} 57-08
	60° T SCAN	↓									
	Profile	B5085	WAT	18 Apr 88							Profile and Thickness Information
		N A									
		↓									

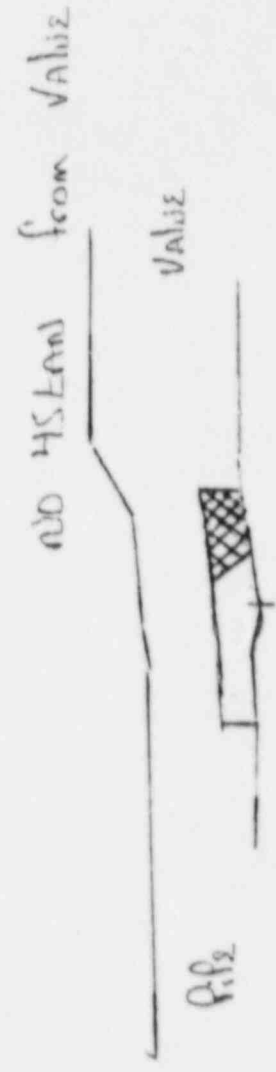
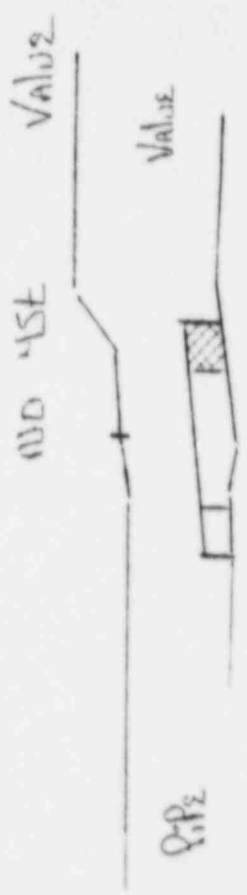
SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-29-88	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 18 APR 88	TIME (24 HR. CLOCK)	SHEET NO.: 1
EXAMINER: W.A. Jensen	THK. MEAS. REQ'D BY PROCEDURE: No. 600-45 Rev 0-24 Dev R 171	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	INT. 10:10	FINAL 15:58
EXAMINER: R Miller	SMT LEVEL: II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	SERIAL NO.: 760526	COMPONENT ID: 6-SZ-1201-1
SEARCH UNITS	SMT LEVEL: I	REFERENCE BLK NO.: 55-99		
BRAND: <i>Acotech</i>				
SERIAL NO.: <i>B02607</i>				
SIZE: <i>1/4 PL</i>				
FREQ. (MHZ): <i>2.25</i>				
INSTRUMENT SETTINGS				
SCREEN SIZE: <i>1</i>				
DELAY: <i>135-1</i>				
MATL. CAL.: <i>116</i>				
RANGE: <i>1</i>				
REP. RATE: <i>3K</i>				
JACK USED: <i>RAT</i>				
TRANS. MODE: <i>THRU TRANS</i>				
REVIEWED BY: <i>Russell Fin</i>	SMT LEVEL: <i>II</i>	DATE: <i>19 APR 88</i>		
45° Search Unit chosen for coverage using <i>20, 40, 10/8</i> nodes.		NAME: <i>William Jensen</i>	SMT LEVEL: <i>II</i>	
14A° Search Unit chosen for coverage using <i>1/4</i> nodes.		<i>CAN SEVER DAMAGED</i>		

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO		SITE		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR)		TIME (24 HR CLK)		SHEET NO				
17-2116		6 SI 1201		NO 600-31 REV. 24 DEV. 1		18 APR 88		11:25		600005				
EXAMINATION AREA (SYST/COMP)		SNT LEVEL		PROCEDURE		(IDENTIFICATION)		L ₀ LOCATION		W ₀ LOCATION				
SAFETY INJECTION		II		NO 600-31 REV. 24 DEV. 1		1		/		CF WELD				
EXAMINER		SNT LEVEL		100% DAC		CALIBRATION SHEET (S)		ANGLE USED		WELD TYPE				
W A JENSEN		I		-		190668		45°		VALVE - PIPE				
EXAMINER		SNT LEVEL		1/2 MAX		SEARCH UNIT ANGLE		SCANNING		WELD LENGTH				
R MILLER		I		-		45°		dB		21 1/2				
IND No	% OF DAC	W MAX	W	MP	1/2 MAX	100% DAC	L ₁	L ₂	SEARCH UNIT LOC.	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.		
1	50	0	0	0	0	0	0	0	DN		(CAN BE SEEN ALONG LENGTH OF WELD	waf		
									DN		ca/cew	waf		
									DN		DOWNSTREAM	waf		
											ca/cew			
REMARKS														
* + 600 SWITCH AREA BE SCANNABLE WEL														
UT 45° LOUZEAGE OBTAINED FROM P.I. SIDE AND														
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) AT 45° AT 45 TAN ON VALVE SIDE WEL														
REVIEWED BY			SNT LEVEL			DATE			CONTINUED ON SHEET			PAGE OF		
Russell Price			II			19 APR 88			N/A			1 OF 1		



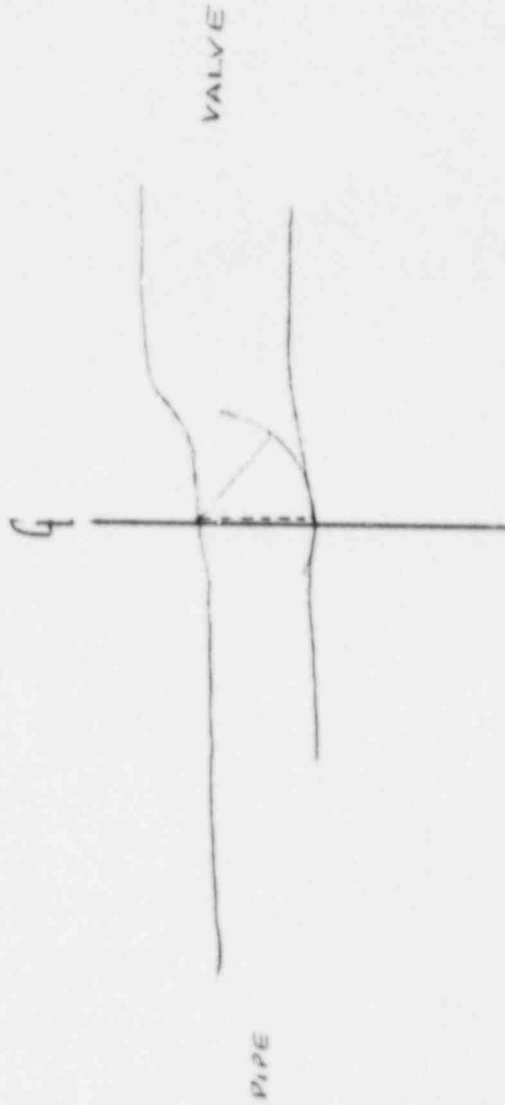
Partial Limitations
 6-SI-1201 #1

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310009
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 6-SI-1201	IDENTIFICATION 1	CALIBRATION SHEET (S) 190068
EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE NO. 600-31	EXAMINATION RECORD SHEET NO. (S) 892075
EXAMINER R MILLER	SNT LEVEL I	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____	

*45° INDICATION NO 1 IS A REFLECTOR FROM THE
ROOT AREA DUE TO SOUND REDIRECTION (REDIRECTED SHEAR)*

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>Russell Fine</i>	SNT LEVEL II	DATE 19 APR 88
	REVIEWED BY <i>Severin</i>	SNT LEVEL II	DATE 19 APR 88



SAFETY INJECTION

6 - ST - 1701 - 1

19 APR 88

Russell J. Fine

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 321300					
EXAMINATION AREA (SYSTEM / COMPONENT): Safety Injection		(LINE / SUBASSEMBLY): 6-51-1204		(IDENTIFICATION): 1					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN	181062	WAJ	4-22-88	X					600-496 Dec 1, 2 & 3
<input type="checkbox"/> 0° WELD SCAN	N/A								600-31/24 Dec 1 & 2
<input type="checkbox"/> 45° SCAN	392069	WAJ	22 Apr 88	X					CC-42 (6"-432"-SS)
<input type="checkbox"/> 45° T SCAN	392069	WAJ	22 Apr 88	X					RWZ AVE 5-9-88
<input type="checkbox"/> 60° SCAN	N/A								
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> AB Probe	135155	WAJ	22 Apr 88						Probe & Thickness Indentation
	N/A								
SUMMARIZED BY: <i>Dominick York</i>		DATE: 4-23-88		CONTINUED ON SHEET No.: NA		PAGE: 1		OF: 1	

S.A. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

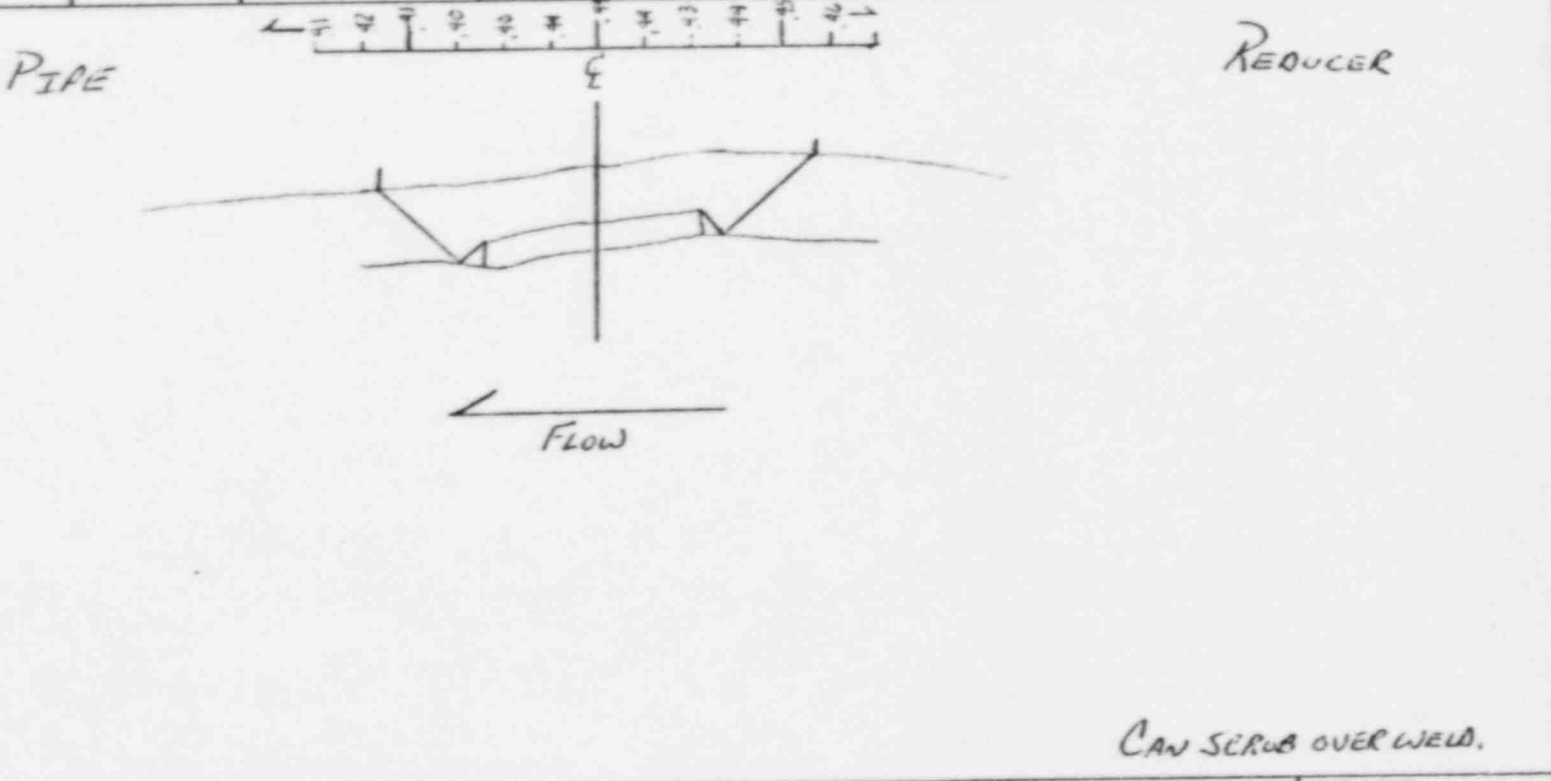
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 22 APR 88	TIME (24-HR CLOCK) 08:35	SHEET NO. 181062				
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 6-SI-1204	IDENTIFICATION 1	L. LOCATION 1	W. LOCATION E of W. 60				
EXAMINER W.A. JENSEN	SNT LEVEL II	CALIBRATION SHEET 190073	MEASURED THICKNESS UP 5/8 DOWN 20/100 R	ATTENUATION UP N DOWN A				
EXAMINER R. MILLER	SNT LEVEL I	PROCEDURE NO. 600-49 REV. 0 DEV. 1.2.3	CROWN HEIGHT 1/6 CROWN WIDTH 5/8	WELD TYPE (-FLOW →) REDUCER → PIPES WELD LENGTH 21				
IND NO. OF SW	% LOSS OF AMP F.S.	POSITION 1		POSITION 2		SEARCH UNIT LOCATION UP/DN	REMARKS	INCH
		L ₁	W ₁	W ₂	MP			
No RECORDABLE INDICATIONS								
REMARKS: SURFACE TEMP. N/A								
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) NONE was								
REVIEWED BY Russell Fin			SNT LEVEL II		DATE 23 APR 88		PAGE / OF /	

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 22 APR 88 TIME (24 HR. CLOCK) INT. 0821 FINAL 0852 SHEET NO.: 135155

EXAMINER <i>W.A. JENSEN</i>	SNT LEVEL <i>II</i>	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: <i>00609E</i>	COMPONENT ID: <i>SAFETY INJECTION</i> <i>6-SI-1204-1</i>
EXAMINER <i>R. MILLER</i>	SNT LEVEL <i>I</i>	Rev. 24 Dev. 1, 2	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: <i>SS-DC-41</i>

SEARCH UNITS	
BRAND	<i>Aerotech</i>
SERIAL NO.	<i>002607</i>
SIZE	<i>1/4 PC</i>
FREQ. (MHz)	<i>2.25</i>
INSTRUMENT SETTINGS	
SCREEN SIZE	<i>10</i>
DELAY	<i>134-1</i>
MATL. CAL.	<i>110</i>
RANGE	<i>1</i>
REP. RATE	<i>3K</i>
JACK USED	<i>RAT</i>



REVIEWED BY: <i>Russell H. Lin</i>	SNT LEVEL: <i>II</i>	NAME: <i>William G. Jensen</i>	SNT LEVEL: <i>II</i>
<i>45</i> Search Unit chosen for coverage using <i>3/8, 1/2, 1/4</i> nodes. <i>N/A</i> Search Unit chosen for coverage using <i>N/A</i> nodes.		DATE: <i>22 APR 88</i>	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR.) 22 APR 88		TIME (24 HR CLK) EXAM STARTED 0908 EXAM ENDED 0916		SHEET NO. 000003	
EXAMINATION AREA (SYSTEM/COMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 6-SI-120A		(IDENTIFICATION) 1		L ₀ LOCATION 1		W ₀ LOCATION E OF WELD	
EXAMINER W. A. JENSEN		SNT LEVEL II		PROCEDURE NO. 600-31 REV 24 DEV. 1, 2		ANGLE USED 45°		WELD TYPE BECKER-PIE	
EXAMINER R. MAUER		SNT LEVEL I		SEARCH UNIT LOC. UP/DN		SCANNING dB 80		WELD LENGTH 21	
IND No		L ₁ 100% MAX DAC		L ₂ 100% MAX DAC		DAMP'S (IF YES, EXPLAIN)		EXAM SURFACE TEMPERATURE 80180 °F	
		1/2 MAX		1/2 MAX		SEARCH UNIT ANGLE 45°		REMARKS	
		W MP		W MP				w/	
NO RECORDABLE INDICATIONS		INDICATIONS		INDICATIONS				CW/BASE	
NO RECORDABLE INDICATIONS		INDICATIONS		INDICATIONS				W/CEW MATERIAL	
NO RECORDABLE INDICATIONS		INDICATIONS		INDICATIONS				CW/CEW	
REMARKS A +6dB SWITCH DOWN FOR SCANNING. W/									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE W/									
REVIEWED BY <i>Russell Line</i>		SNT LEVEL II		DATE 22 APR 88		CONTINUED ON SHEET NA		PAGE / OF 1 / 1	

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 326000					
EXAMINATION AREA (SYSTEM / COMPONENT): Safety Injection		(LINE / SUBASSEMBLY): 6-51-1210		(IDENTIFICATION): 2					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
VT	N/A								VALVE 1-MV-615 → PIPE
PT									600-31/24 Dec 1
MT									CC-16 (6" - .562" - SS)
UT									
			16 Apr 88						
	892005	WAT	16 Apr 88	X					NO UT FROM THE VALVE SIDE
	892005	WAT	16 Apr 88	X					DUE TO VALVE CONFIGURATION.
	N/A								UT AS COVERAGE OBTAINED FROM PIPE SIDE.
			16 Apr 88						Profile and Thickness Information
	135080	WAT							RWZ 5-9-88
	N/A								
SUMMARIZED BY: <i>Donna W. York</i>				DATE: 5-1-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1			

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

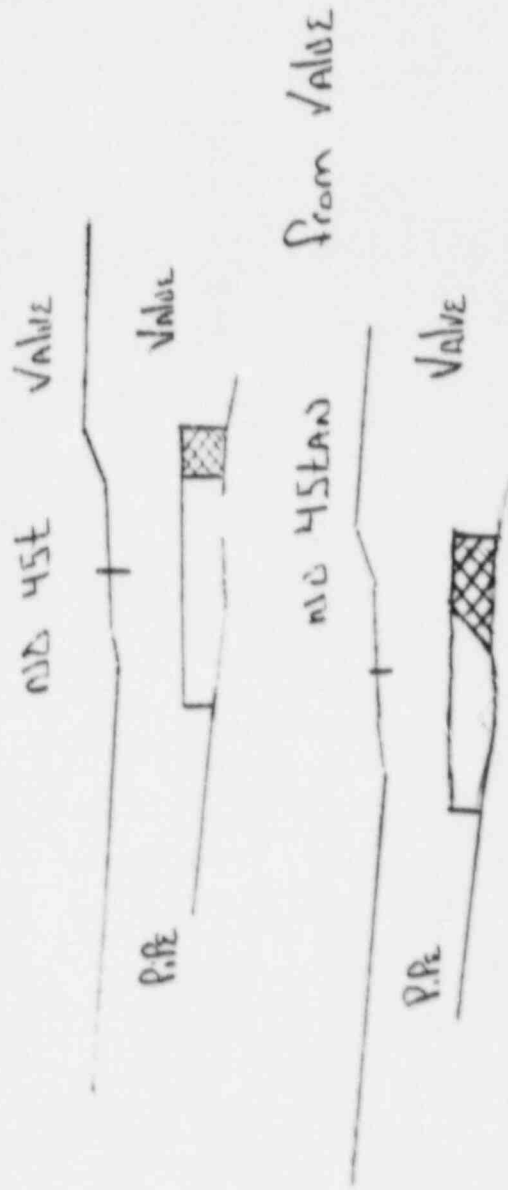
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON.-YR) 16 APR 88		TIME (24 HR CLK) EXAM STARTED 1100 EXAM ENDED 1111		SHEET NO 832005	
EXAMINATION AREA (SYST/COMP) SAFETY INJECTION		(LINE/SUBASSEMBLY) 6-SI-1210		(IDENTIFICATION) 2		L ₀ LOCATION 1		W ₀ LOCATION E OF WELD	
EXAMINER W. A. JENSEN		SNT LEVEL II	PROCEDURE NO 600-31 REV 24 DEV 1		CALIBRATION SHEET (S) 190066	ANGLE USED 45°	N/A°	WELD TYPE VALVE → PIPE	
EXAMINER P. MILLER		SNT LEVEL I			SCANNING dB +30 -1			WELD LENGTH 21 1/2	
								EXAM SURFACE TEMPERATURE 78/78 °F	

IND No	% OF DAC MAG	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
									DN	45			waf
									ONWELD	45T		DOWNSTREAM CW/CCW	waf
									DN	45TAN		CW/CCW	waf

REMARKS * + knob SWITCH DOWN FOR SCANNING. waf
UT 45° COVERAGE OBTAINED FROM PIPE SIDE W/

EXAMINATION AREA LIMITATION (IF NONE, SO STATE) **NONE waf!** NO 45°T AND 45°TAN ON VALVE SIDE. waf

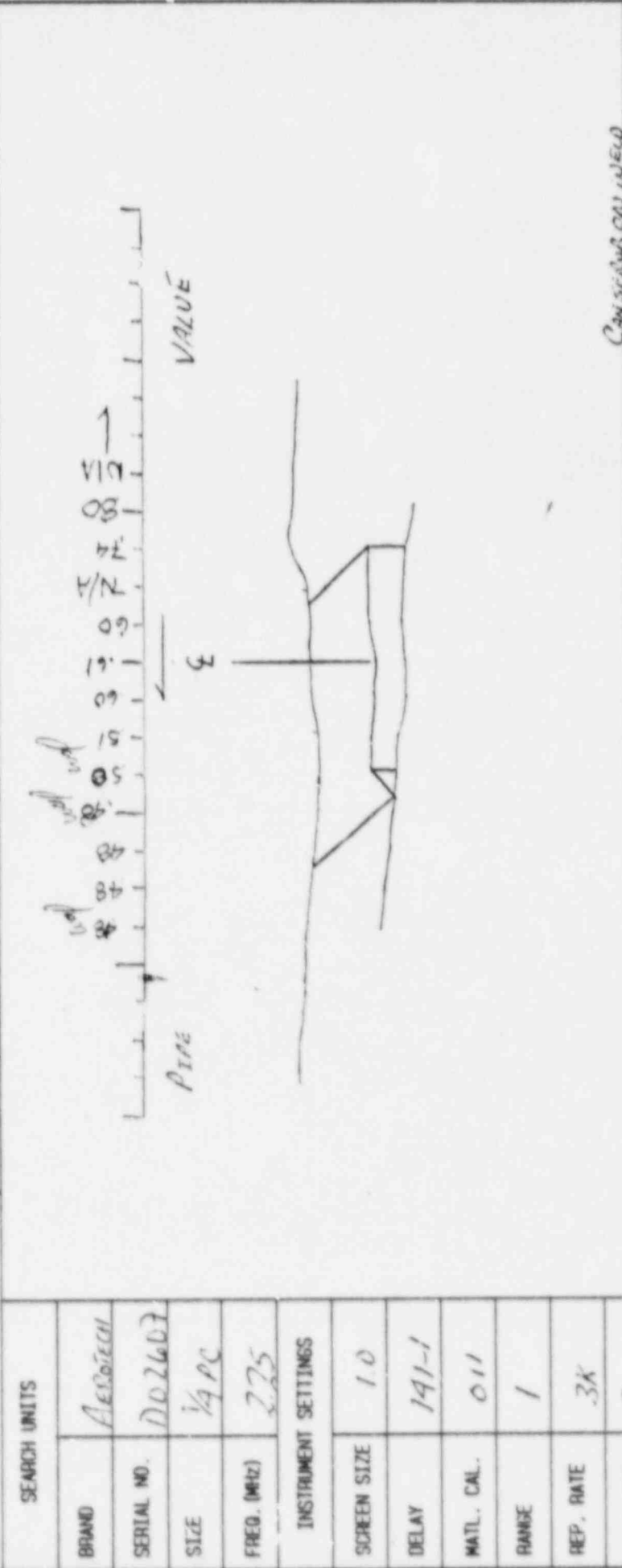
REVIEWED BY <i>P. Miller</i>	SNT LEVEL II	DATE 18 APR 88	CONTINUED ON SHEET NA	PAGE OF 1 1
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PARTIAL COVERAGE
 Lo S1-121D #2

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 16 APR 88	TIME (24 HR. CLOCK) INT. 1050 FINAL 1118	SHEET NO.: 1
EXAMINER: W.A. JENSEN	SNT LEVEL: I	THK. MEAS. REQ'D BY PROCEDURE: No. 60031 Rev. 24 Dev. 1	SERIAL NO.: 00609E	COMPONENT ID: 6-51-1210-2
EXAMINER: R. MAUER	SNT LEVEL: I	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY):	REFERENCE BLK NO.: 5599



45° Search Unit chosen for coverage using 2/8, 6/8, 12/8 nodes. 1/8° Search Unit chosen for coverage using 1/8 nodes.	NAME: William C. Jensen	SNT LEVEL: II	DATE: 15 APR 88
REVIEWED BY: R. MAUER			

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 330650
EXAMINATION AREA (SYSTEM / COMPONENT): <i>Safety Injection</i>	(LINE / SUBASSEMBLY): 6-51-1213	(IDENTIFICATION): 3

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A									PIPE → VALVE FSI-13A
	FOLLOW-UP EXAMINATION	↓									600-31/24 Dev-1
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓									
	FOLLOW-UP EXAMINATION	↓									600-49/6 Dev-1/2 CC-16
UT	0° LAM SCAN	181052	WAJ	4-18-81	X						NO UT FROM VALVE SIDE DUE TO VALVE CONFIGURATION. UTAS COVERAGE OBTAINED FROM PIPE SIDE. RWT ANE 5-9-88
	0° WELD SCAN	N / A									
	45° SCAN	592077	WAJ	18 Apr 88			X		310010		
	45° T SCAN	592077	WAJ	18 Apr 88	X						
	60° SCAN	N / A									
	60° T SCAN	↓									
	<i>Profile</i>	135101	WAJ	18 Apr 88							<i>Profile and Thickness Information</i>
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W York</i>	DATE: 5-1-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 18 APR 88	TIME (24-HR CLOCK) EXAM STARTED 12:46 EXAM ENDED 12:58	SHEET NO. 181052
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 6 SI 1213	IDENTIFICATION 3	L. LOCATION 1	W. LOCATION 2 OF WELD
EXAMINER W.A. JENSEN	SNT LEVEL II	PROCEDURE NO. 6-00-77-4 REV. 240 DEV. 1, 2	MEASURED THICKNESS UP 300 DOWN CONTOUR	ATTENUATION UP A DOWN A
EXAMINER R. ROLLER	SNT LEVEL I	NO. 190072	CROWN HEIGHT Flg. 5d	WELD TYPE (-FLOW →) PIPE - VALVE
IND. LOSS OF BW % NO RECORDABLE INDICATIONS	POSITION 1		POSITION 2	
	L1	W1	L2	W2
MP		MP		REMARKS: PIPE SIDE
L	W	L	W	
IND. NO.		SEARCH UNIT LOCATION		IML end
REMARKS: SURFACE TEMP. 82/82 °F				

EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) **None and**

REVIEWED BY **Jerry Duran**

SNT LEVEL **II**

DATE **19 APR 88**

PAGE **1** OF **1**

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 18 APR 88 TIME (24 HR. CLOCK) INT. 1050 FINAL 1558 SHEET NO.: 135101

EXAMINER: W. A. JENSEN SNT LEVEL: II THK. MEAS. REQ'D BY PROCEDURE: No. 60-49-51 Rev. 0 29 Dev. 2-1-1 INSTRUMENT: SONIC MARK I OTHER SERIAL NO.: 760526 COMPONENT ID: 6-SI-1213-3

EXAMINER: R. MILLER SNT LEVEL: I COUPLANT: GLYCERINE WATER OTHER (SPECIFY) _____ REFERENCE BLK NO.: 55-99

SEARCH UNITS

BRAND: MROTECH

SERIAL NO.: D02607

SIZE: 1/4 in.

FREQ. (MHz): 2.25

INSTRUMENT SETTINGS

SCREEN SIZE: 1.0

DELAY: 135-1

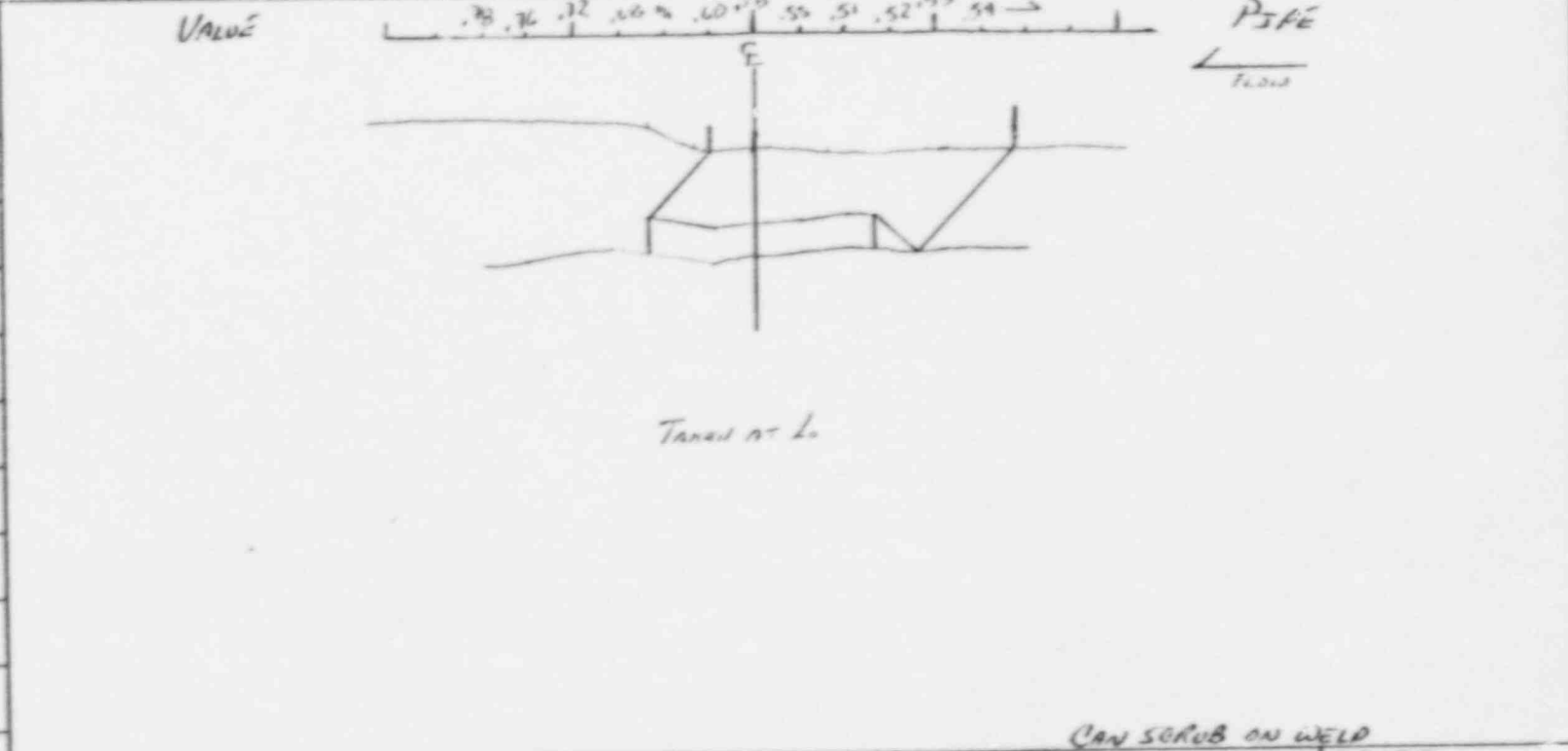
MATL. CAL.: 116

RANGE: 1

REP. RATE: 3K

JACK USED: R4T

TRANS. MODE: THRU TRANS



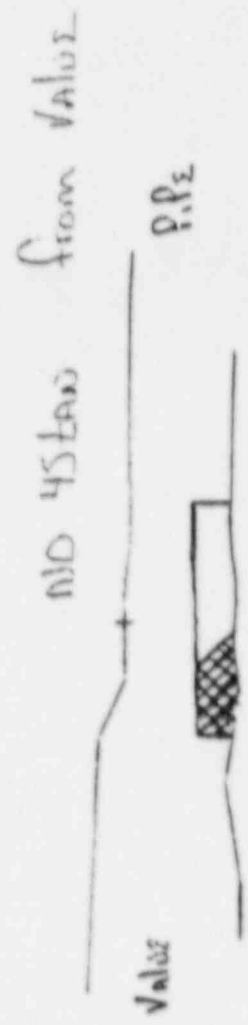
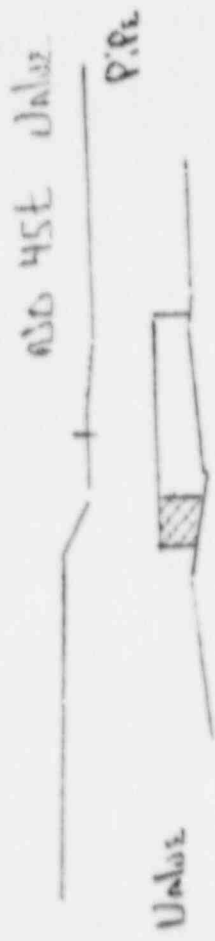
45° Search Unit chosen for coverage using 2/8, 6/8, 10/8 nodes. NAME: William Jensen SNT LEVEL: II

20° Search Unit chosen for coverage using N/A nodes. DATE: 19 APR 88

REVIEWED BY: Leo P. Duman SNT LEVEL: II

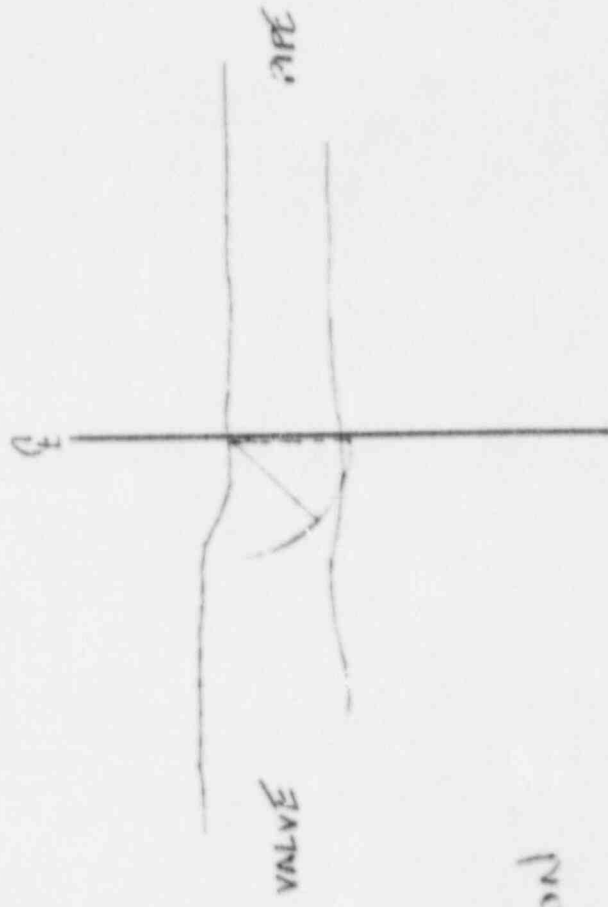
SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO.	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MON. YR.)		TIME (24 HR CLK)		SHEET NO.			
		18 APR 88		12:31			6		
EXAMINATION AREA (SYST/COMP)	(LINE/SUBASSEMBLY)	DATE (DAY MON. YR.)		TIME (24 HR CLK)		SHEET NO.			
		18 APR 88		12:31			6		
EXAMINER	PROCEDURE	CALIBRATION SHEET (S)	ANGLE USED	SCANNING DB	WELD TYPE	W ₀ LOCATION			
							NO. 600-31 REV. 24 DEV. 1	45°	80
IND No.	% OF DAC	L ₁	100% DAC	L	SEARCH UNIT	SEARCH UNIT LOC.	DAMP'S (IF YES, EXPLAIN)	REMARKS	INI
1	50	0	0	0	45	45		① CAN BE SEEN ALTHOUGH NOT ENTIRELY ALONG WELD LENGTH	Wf
No	REPROBABLE INDICATIONS				45T	45T		0w/00w	Wf
No	REPROBABLE INDICATIONS				45TAN	45TAN		UPSTIGAN	Wf
REMARKS * + 6db SWITCH PAIR FOR SCANNING and Coverage obtained from P.I.P. scan and UT 45° Coverage obtained from P.I.P. SIDE and									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
ALSO 45T of 45TAN EXAM OF DOWNSTREAM SIDE (VALVE SIDE) and									
REVIEWED BY <i>George Dwan</i> DATE 19 APR 88 CONTINUED ON SHEET NO/A PAGE 1 OF 1									



FORGED
VALVE
1-51-134

PARTIAL LEVERAGE
6-SI-1713 #3



SAFETY INJECTION

60 - S.E. - 17.13 - 3

10 APRIL 1983

Russell H. Fine, Jr.

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 332150					
EXAMINATION AREA (SYSTEM / COMPONENT): Safety Injection		(LINE / SUBASSEMBLY): 6-SI-1214		(IDENTIFICATION): 7					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	O			
Y INITIAL EXAMINATION	N/A								600-4970 Dec 24 1
Y FOLLOW-UP EXAMINATION									600-31124 Dec 1 CC-16
PT INITIAL EXAMINATION									RWZ ANI 5-7-88
MT FOLLOW-UP EXAMINATION									
U 0° LAM SCAN	131051	WAT	18 Apr 88	X					
U 0° WELD SCAN	N/A								
45° SCAN	892076	WAT	18 Apr 88	X					
45° T SCAN	892076	WAT	18 Apr 88	X					
60° SCAN	N/A								
60° T SCAN									
Pickle	135100	WAT	18 Apr 88						Pickle and Thickness Indication box
	N/A								
SUMMARIZED BY: <i>[Signature]</i>		DATE: 20 Apr 88		CONTINUED ON SHEET No.: NA		PAGE 1 OF 1			

SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

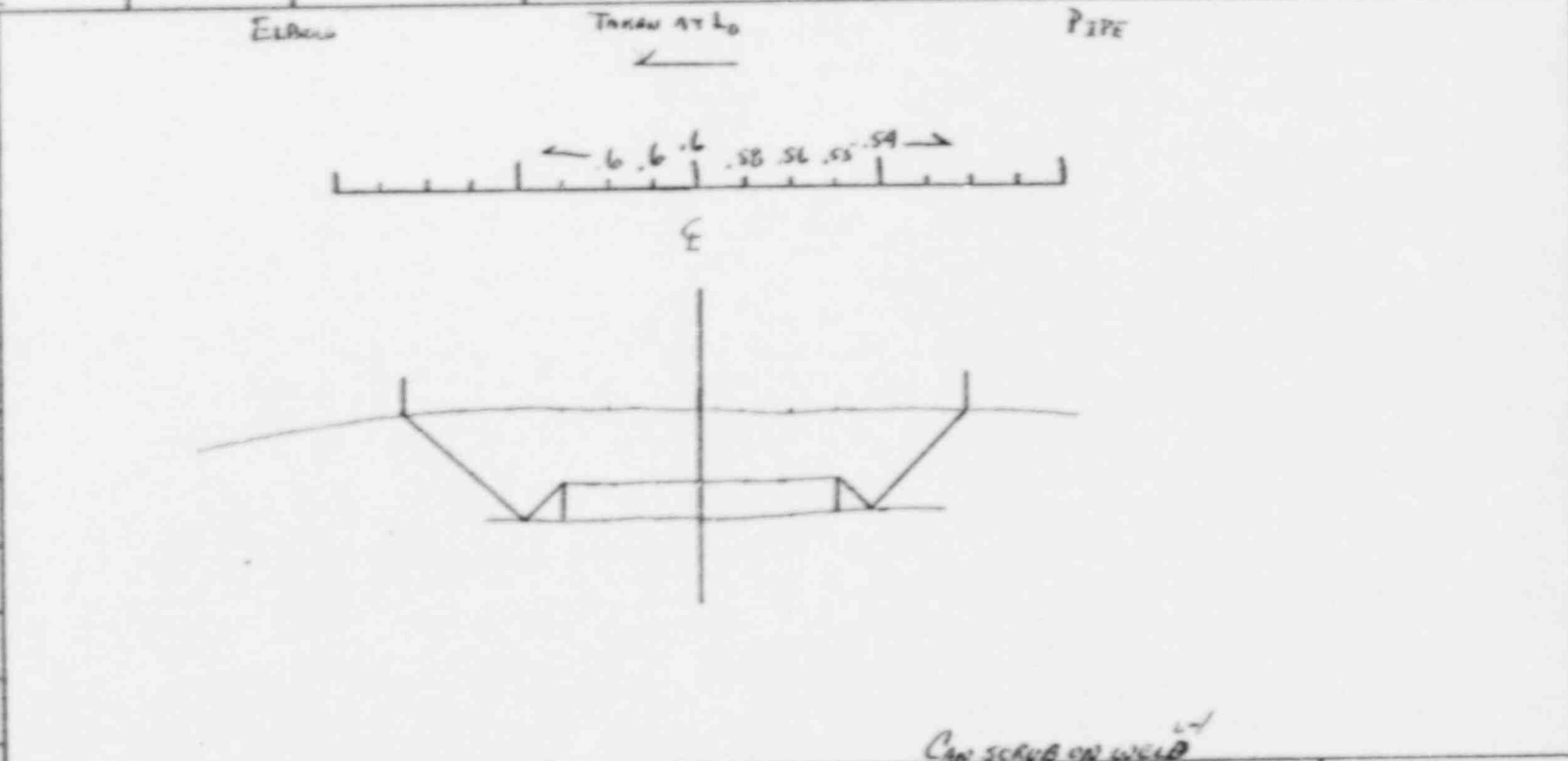
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1	DATE (DAY - MON - YR) 15 APR 88	TIME (24 - HR CLOCK) EXAM STARTED 1514 EXAM ENDED 1514	SHEET NO. 181051	
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 6-3I-1214	IDENTIFICATION 7	L. LOCATION 2	W. LOCATION 2 OF WELD	
EXAMINER W.A. JENSEN	SNT LEVEL II	CALIBRATION SHEET 190012	MEASURED THICKNESS UP 5cc DOWN CLM-PR	ATTENUATION UP N/A DOWN N/A	
EXAMINER R. Miller	SNT LEVEL I	PROCEDURE NO 600-49 REV. DEV 2.41	CROWN HEIGHT Flush	WELD TYPE (-FLOW →) Pipe - Elbow	
IND LOSS OF BW % NO RECORDABLE INDICATIONS	POSITION 1		POSITION 2		REMARKS 1" 2135
	L ₁ W ₁ W ₂ MP	L W ₁ W ₂ MP	L ₂ W ₁ W ₂ MP	MP	
REMARKS: SURFACE TEMP. 82/82 °F					IN. 1.0"
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) None					
REVIEWED BY Sewey Pinar	SNT LEVEL II	DATE 19 APR 88	PAGE 1 OF 1		

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1 DATE: (DAY-MONTH-YEAR) 18 APR 88 TIME (24 HR. CLOCK) INT. 1050 FINAL 1558 SHEET NO.: 135100

EXAMINER <i>W A JENSEN</i>	SNT LEVEL <i>II</i>	THK. MEAS. REQ'D BY PROCEDURE No. 600-89 Rev. 0-23 Dev. 21	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 760526	COMPONENT ID: 6-57-1214-7
EXAMINER <i>R MILLER</i>	SNT LEVE. <i>I</i>		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: 55-99

SEARCH UNITS	
BRAND	<i>AEROTECH</i>
SERIAL NO.	<i>D02607</i>
SIZE	<i>1/4 PC.</i>
FREQ. (MHz)	<i>225</i>
INSTRUMENT SETTINGS	
SCREEN SIZE	<i>1.0</i>
DELAY	<i>135-1</i>
MATL. CAL.	<i>116</i>
RANGE	<i>1</i>
REP. RATE	<i>3K</i>
JACK USED	<i>RAT</i>
TRANS. MODE	<i>THRU TRANS</i>



REVIEWED BY: <i>Jeoy Dwan</i>	SNT LEVEL: <i>II</i>	DATE: 19 APR 88	NAME: <i>William C Jensen</i>	SNT LEVEL: <i>II</i>
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Can scrub on weld

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 18 APR 88	TIME (24 HR CLK) EXAM STARTED 1316 EXAM ENDED 1339	SHEET NO 1
EXAMINATION AREA (SYST/COMP) SAFETY INJECTION	(LINE/SUBASSEMBLY) G-5I-12.14	(IDENTIFICATION) 7	L ₀ LOCATION 2	W ₀ LOCATION E OF WELD
EXAMPER W.A. JENSEN	PROCEDURE NO. 600-31 REV 2.4 DEV 1	CALIBRATION SHEET (S) 190068	ANGLE USED 45°	WELD TYPE PIPE - ELEV
EXAMINER R MILLER	SNT LEVEL II	SEARCH UNIT ANGLE 45	SCANNING dB 7	WELD LENGTH 21 3/8
	SNT LEVEL I	SEARCH UNIT LOC. UP/DN	DAMPS (IF Y.S., EXPLAIN)	EXAM SURFACE TEMPERATURE 82/82 °F
IND No	L ₁ 100% DAC	L ₂ 100% DAC		REMARKS
	1/2 MAX	1/2 MAX		
	W MP			
No RECORDABLE INDICATIONS				wf
No RECORDABLE INDICATIONS				wf
No RECORDABLE INDICATIONS				wf
REMARKS * 6db SWITCH DOWN FOR SCANNING				
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)				
REVIEWED BY Geary Dumas	SNT LEVEL II	DATE 19 APR 88	CONTINUED ON SHEET N/A	PAGE 1 OF 1

33250

Sw. R. I. EXAMINATION SUMMARY RECORD

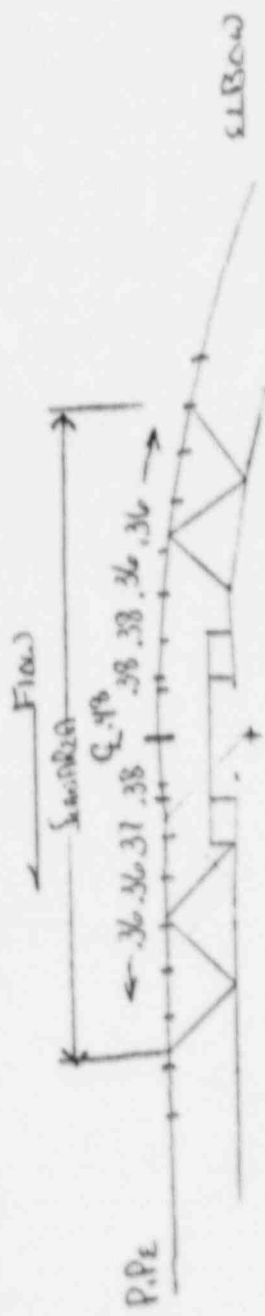
PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 337350					
EXAMINATION AREA (SYSTEM / COMPONENT): SIS		(LINE / SUBASSEMBLY): 4-SI-1208		(IDENTIFICATION): 4					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CMF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								ELBOW → PIPE
<input type="checkbox"/> FOLLOW-UP EXAMINATION									SCC-36/40, DEV. 1
<input type="checkbox"/> INITIAL EXAMINATION									600-4910, DEV 1,2,3
<input type="checkbox"/> FOLLOW-UP EXAMINATION									CC-64 (4" -331" -55)
<input type="checkbox"/> 0° LAM SCAN	181065	LS	4-25-88	X					REWORK ANZ 5-9-88
<input type="checkbox"/> 0° WELD SCAN	N/A								
<input type="checkbox"/> 45° SCAN	892031	LS	4-25-88		X		510029		
<input type="checkbox"/> 45° T SCAN	892031	LS	4-25-88	X					
<input type="checkbox"/> 60° SCAN	N/A								
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> PROFILE	135151	LS	4-25-88						
	N/A								
SUMMARIZED BY: Donald W. York			DATE: 4-27-88	CONTINUED ON SHEET No.: N/A		PAGE 1 OF 1			

#63

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 25 APR 88	TIME (24 HR. CLOCK): INT. 1635 FINAL 1655	SHEET NO.: 135/51
EXAMINER: L SPIESS	THK. MEAS. PROC'D BY PROCEDURE: No. 800-36	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: A1122E	COMPONENT ID: 4-SI-1208-4
EXAMINER: D Wagner	Rev. 40 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		Safety injection REFERENCE BLK NO.: SS-DC-4D

SEARCH UNITS	
BRAND: Aero-Lock	
SERIAL NO.: C16445	
SIZE: 1/4	
FREQ. (KHZ): 225	
INSTRUMENT SETTINGS	
SCREEN SIZE: 1	
DELAY: 1501	
MATL. CAL.: 106	
RANGE: 1	
REP. RATE: 3K	
JACK USED: R+T	
TRANS. MODE: TRW	



45° Search Unit chosen for coverage using 1/4, 9/8, 14/8, 1/5 nodes.	NAME: Dyle Spiess	SNT LEVEL: II
40° Search Unit chosen for coverage using 1/4 nodes.	DATE: 26 APR 88	
REVIEWED BY: Rosanna Lino	SNT LEVEL: II	

SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 25 APR 85	TIME (24-HR CLOCK) 1632	SHEET NO. 181065			
SYSTEM / COMPONENT Safety Injection	LINE / SUBASSEMBLY 4-SI-1208	IDENTIFICATION 4	L. LOCATION 2	W. LOCATION 9 of weld			
EXAMINER L. Spess	PROCEDURE NO. 600-49 REV. 0 DEV. 123	CALIBRATION SHEET 190154	CROWN HEIGHT 1/16	WELD TYPE (-- FLOW --) P.P.E to E.P.O.			
EXAMBER D. Wagar	SNT LEVEL II I	MEASURED THICKNESS UP 36.48 DOWN 36	ATTENUATION UP N DOWN A	WELD LENGTH 14 1/4			
IND LOSS NO. OF BW	IND AMP % F.S.	POSITION 1		SEARCH UNIT LOCATION UP/DN	REMARKS E2		
		L1	W1			W2	MP
no RECORDED		INDICATIONS					
REMARKS: SURFACE TEMP 73/78 °F							
EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) NONE ED							
REVIEWED BY R. ...	SNT LEVEL II	DATE 26 APR 88	PAGE OF				

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFF, NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 21 APR 88		TIME (24 HR CLK) EXAM STARTED 1420 EXAM ENDED 1520		SHEET NO 1	
EXAMINATION AREA (SYSTEM) CALVERT Test Area		(LINE/BRASS/MBL V) N-31-12.68		(IDENTIFICATION) 4		L ₀ LOCATION 2		W ₀ LOCATION EAST END	
EXAMINER L. S. GIBBS	SNT LEVEL II		PROCED. RE NO 820-36 REV 40 DEV 1		CALIBRATION SHEET (S) 19D11d	ANGLE USED SCANNING dB	WELD TYPE SLIP ON LAP	WELD LENGTH 14 3/4	
	SNT LEVEL I							EXAM SURFACE TEMPERATURE 78.75 °F	
IND No	W MAX	L ₁	100% DAC	L	SEARCH UNIT	DAMP'S (IF YES, EXPLAIN)	SEARCH UNIT		INI
1	1.49 10	-	-	10 3/4	D	NEAR EDGE	45	45	80
	NO RECORDABLE			Indication	SUP		45	45	80
	NO RECORDABLE			Indication	INDICATED APPROX		45E	45	80
REMARKS * P102 1403 Sabine									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE									
REVIEWED BY Russell J. ...		SNT LEVEL II		DATE 27 APR 88		CONTINUED ON SHEET 11/1		PAGE OF 1	

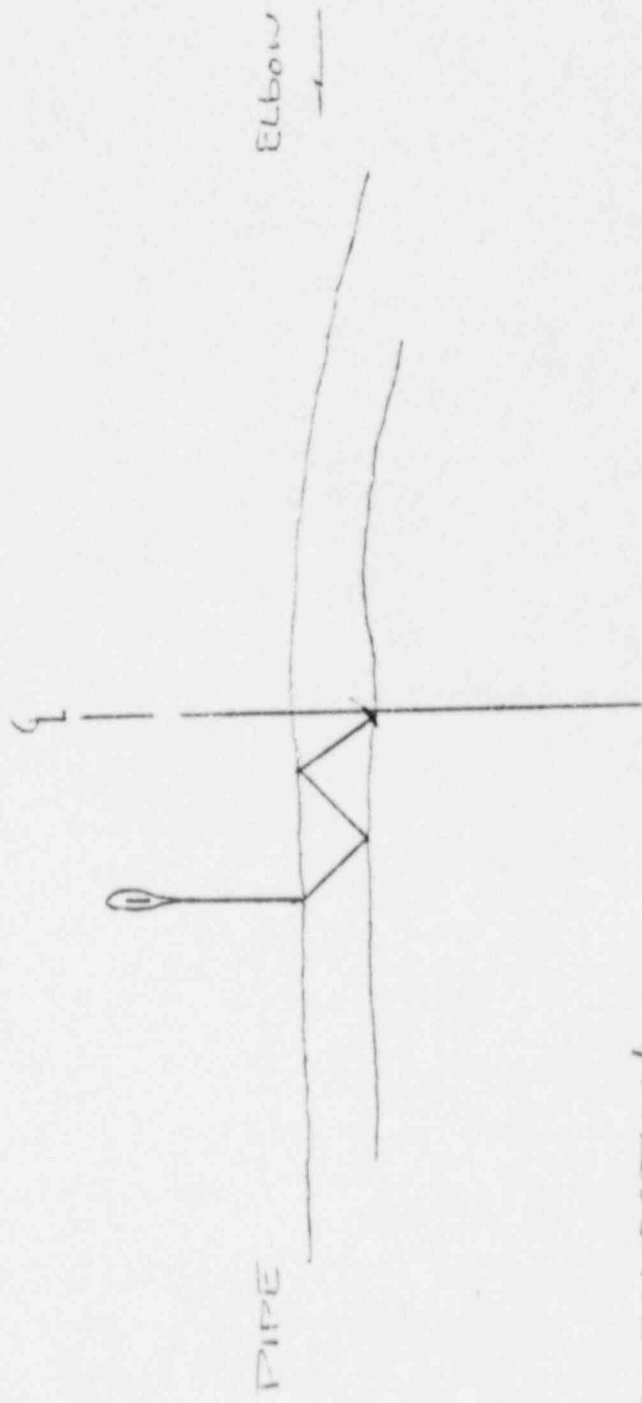
SW. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	IDENTIFICATION	SHEET NO. 310029
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 4-SI-1208	IDENTIFICATION 4	CALIBRATION SHEET (S) 190161
EXAMINER L SPIESS	PROCEDURE NO. 800-36	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 892031
EXAMINER D. WAGAR	SNT LEVEL II	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/>	
	SNT LEVEL I	NOZZLE-TO-SHELL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> OTHER <input type="checkbox"/>	

45° INDICATION NUI IS A GEOMETRIC REFLECTOR FROM THE WELD ROOT AREA. THIS REFLECTOR CAN BE SEEN THROUGH OUT THE LENGTH OF THE WELD

ATTACHMENT YES <input checked="" type="checkbox"/>	RESOLUTION BY <i>Russell et Fine</i>	SNT LEVEL II	DATE 27 APR 88
NO <input type="checkbox"/>	REVIEWED BY <i>Sub Spiess</i>	SNT LEVEL II	DATE 27 APR 88

337350



SAFETY INJECTION

4-SI-1208

27 APR 88

Russell W. Fine II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 337650
EXAMINATION AREA (SYSTEM / COMPONENT): SIS	(LINE / SUBASSEMBLY): 4-SI-1208	(IDENTIFICATION): 9

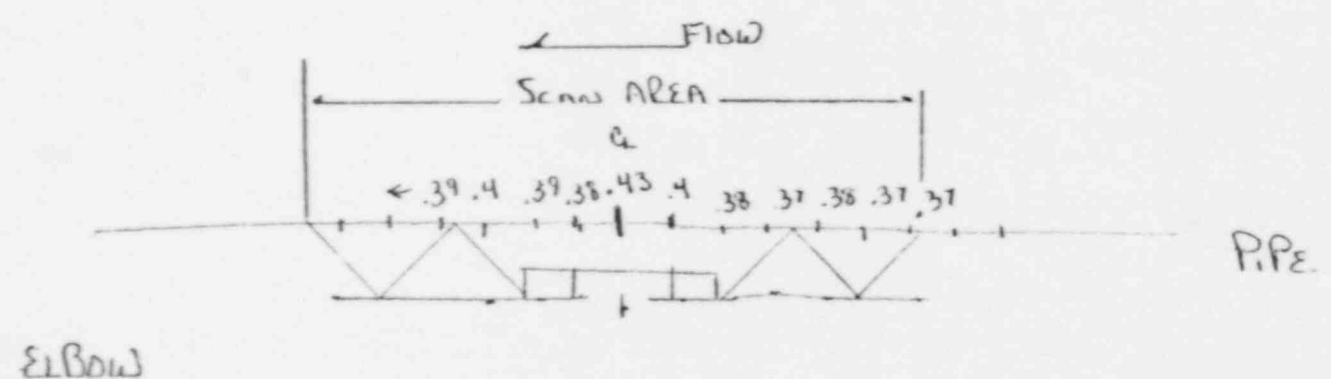
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECLRD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N / A								PIPE → ELBOW 600-49/0, DEV 1, 2, 3 800-36/40, DEV. 1	
	FOLLOW-UP EXAMINATION	↓									
PT <input type="checkbox"/>	INITIAL EXAMINATION	↓								CC-64 (4"-337"-SS) RUT ANI 5-9-88	
	FOLLOW-UP EXAMINATION	↓									
UT	0° LAM SCAN	181069	LS	4-25-88	X						
	0° WELD SCAN	N / A									
	45° SCAN	892019	LS	4-26-88		X		310032			
	45° T SCAN	892019	LS	4-26-88	X						
	60° SCAN	N / A									
	60° T SCAN	↓									
	PROFILE	135134	LS	4-25-88						PROFILE ONLY.	
		N / A									
		↓									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: <i>N/A</i>	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK)	SHEET NO.:
				INT. 1600	FINAL 1615
EXAMINER	L SPRESS	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE	No. 800-36
EXAMINER	D WAGAR	SNT LEVEL	I	Rev. 4D	Dev. 1
				INSTRUMENT:	SERIAL NO.:
				SONIC MARK I <input checked="" type="checkbox"/>	01122E
				OTHER <input type="checkbox"/>	COMPONENT ID:
				COUPLANT:	Safety Inspection
				GLYCERINE <input checked="" type="checkbox"/>	4-SI-1228#9
				WATER <input type="checkbox"/>	REFERENCE BLK NO.:
				OTHER (SPECIFY) _____	SS-DC-4D

SEARCH UNITS	
BRAND	READTECH
SERIAL NO.	C116445
SIZE	1/4
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	1501
MATL. CAL.	106
RANGE	1
REP. RATE	3K
JACK USED	R+T
TRANS. MODE	Thru



REVIEWED BY:	Russell [Signature]	SNT LEVEL:	II	NAME:	Lyle Spress
				DATE:	26 APR 88
				45° Search Unit chosen for coverage using 4/8 3/8 1/2 1/4 nodes. 45° Search Unit chosen for coverage using 1/2 nodes.	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 26 APR 88		TIME (24 HR CLK) EXAM STARTED 1307 EXAM ENDED 1343		SHEET NO 000029									
EXAMINATION AREA (SYSTEM/COMP) Safety Instruction		(LINE/SUBASSEMBLY) 4-SI-1208		(IDENTIFICATION) 9		L ₀ LOCATION 1		W ₀ LOCATION 2 of 4200									
EXAMINER L SHESS		SNT LEVEL II		PROCEDURE NO 800-36 REV. 40 DEV. 1		ANGLE USED 45°		WELD TYPE P.P.E. to 2L BOLL									
EXAMINER D WAGNER		SNT LEVEL I				SCANNING dB 5/60		WELD LENGTH 14 1/4									
IND No		% OF DAC		L ₁		L ₂		SEARCH UNIT ANGLE		DAMP'S (IF YES, EXPLAIN)		REMARKS		INI.			
		100% DAC		1/2 MAX		100% DAC		1/2 MAX									
1		ZD		7/16 13 3/4		14		14 1/16 UP		45		NO		SEEW Inspectible ALONG WELD LENGTH		RD	
2		ZD		1 1/8 1.6 13 3/4		14		14 1/16 UP		45		NEAR EDGE		SEEW Inspectible ALONG WELD LENGTH		RD	
		NO		REPRODUCIBLE		INDICATIONS		DN		45						RD	
		NO		REPRODUCIBLE		INDICATIONS		0.005 IN UP/DN		45				CW/CCL		RD	
REMARKS * PWS 14 DB Switch 20																	
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) U.S.G. 20																	
REVIEWED BY <i>Russell Hume</i>				SNT LEVEL II		DATE 21 APR 88		CONTINUED ON SHEET W/A		PAGE 1 OF 1							

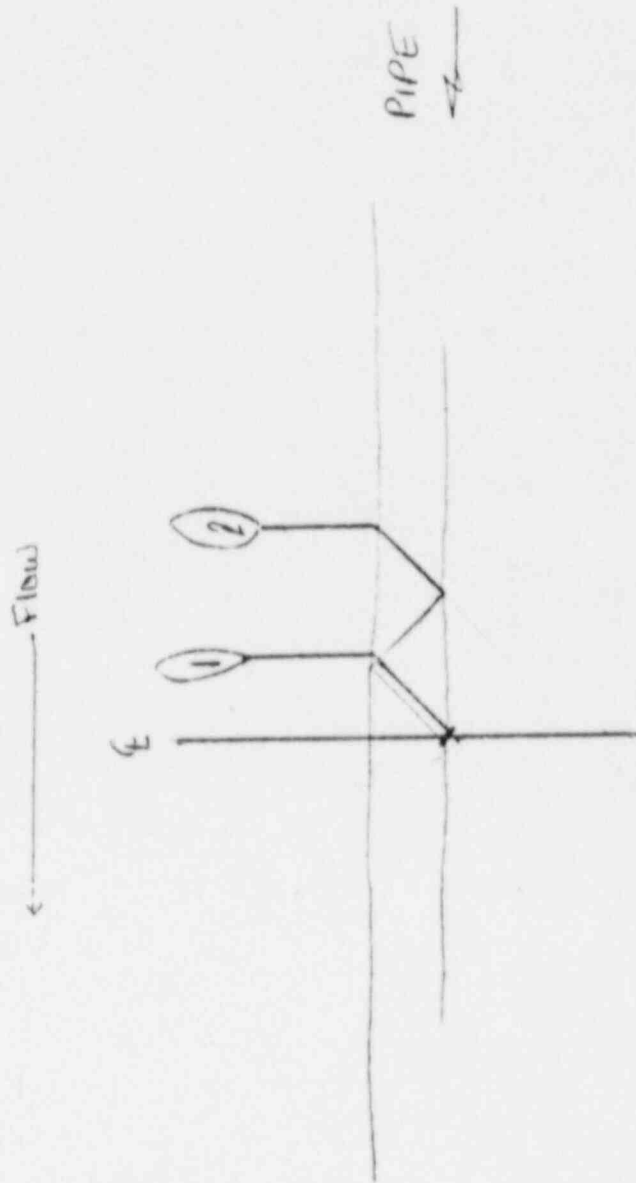
337650

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310032
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 4-SI-1208	IDENTIFICATION 9	CALIBRATION SHEET (S) 190161
EXAMINER L SPIESS	SNT LEVEL II	PROCEDURE NO. 800-36	EXAMINATION RECORD SHEET NO. (S) 892019
EXAMINER D. WAGAR	SNT LEVEL I	REV 40 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>			
WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATIONS 1 AND 2 ARE GEOMETRIC
 REFLECTORS FROM THE WELD ROOT AREA.
 THESE INDICATIONS CAN BE SEEN THROUGH
 OUT THE WELD LENGTH.

ATTACHMENT	RESOLUTION BY <i>Russell J. ...</i>	SNT LEVEL II	DATE 27 APR 88
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>L. Spiess</i>	SNT LEVEL II	DATE 27 APR 88
NO <input type="checkbox"/>			



Elbow

Safety Inspection
 451-1208-9
 27 APR 88
 Thomas J. Smith

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	338850			
EXAMINATION AREA (SYSTEM / COMPONENT)	SIS	(LINE / SUBASSEMBLY)	4-SI-1209			(IDENTIFICATION)	1			
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	C N F No.	REMARKS REDUCING	
				N	I	G				O
<input type="checkbox"/> INITIAL EXAMINATION	N/A								BRANCH → ELBOW	
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓								600-47/0 DEV 1,2,3	
<input type="checkbox"/> INITIAL EXAMINATION									800-36/40 DEV 1	
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓								CC-64 (4" - .337" - SS)	
<input type="checkbox"/> 0° LAM SCAN	181066	LS	4-25-88	X					REDUCING	
<input type="checkbox"/> 0° WELD SCAN	N/A								PLANE 5-2-88	
<input type="checkbox"/> 45° SCAN	892021	LS	4-26-88		X		310031			
<input type="checkbox"/> 45° T SCAN	892021	LS	4-26-88	X						
<input type="checkbox"/> 60° SCAN	N/A									
<input type="checkbox"/> 60° T SCAN	↓									
<input type="checkbox"/> PROFILE	135133	LS	4-25-88							
	N/A									
	↓									
SUMMARIZED BY:		<i>Donald W. York</i>			DATE	4-27-88		CONTINUED ON SHEET No.:	N/A	
						PAGE	1		OF	1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK) INT. 1430 FINAL 1450	SHEET NO.: 135/133
EXAMINER: L SPIESS	THK. MEAS. REG'D BY PROCEDURE No. 800-36 Rev. 4D Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 01122E	COMPONENT ID: 4-S1-13094 Safety Injection
EXAMINER: D WAGAR	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: SS-DC-4D

SEARCH UNITS

BRAND	PRECITECH
SERIAL NO.	C16445
SIZE	1/4
FREQ. (MHz)	2.25

INSTRUMENT SETTINGS

SCREEN SIZE	1
DELAY	150-1
MATL. CAL.	106p
RANGE	1
REP. RATE	3K

45° Search Unit chosen for coverage using 1/8 9/8 12/8 14/8 nodes.	NAME: John Spies	SNT LEVEL: II
1/2° Search Unit chosen for coverage using 1A nodes.	DATE: 26 APR 88	
REVIEWED BY: Russell Line	SNT LEVEL: II	

SWRI MANUAL ULTRASONIC EXAMINATION RECORD

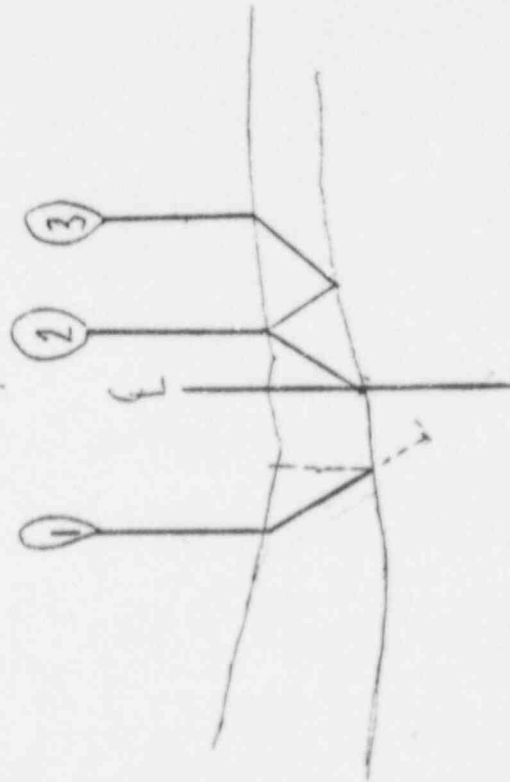
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 26 APR 89		TIME (24 HR CLK) EXAM STARTED 1021 EXAM ENDED 1047		SHEET NO 000001	
EXAMINATION AREA (SYST/COMP) Safety Injection		(LINE/SUBASSEMBLY) 4-SI-1209		(IDENTIFICATION) 1		L ₀ LOCATION Z		W ₀ LOCATION Σ of WELD	
EXAMINER L SPIESS		SNT LEVEL II		PROCEDURE NO 800-36 REV 40 DEV 1		ANGLE USED 45°		WELD TYPE Reducer to EL Bow	
EXAMINER D WAGAR		SNT LEVEL I		100% DAC		SCANNING dB		WELD LENGTH 14 1/2	
IND No		W MAX		L ₁ 100% DAC		SEARCH UNIT ANGLE		EXAM SURFACE TEMPERATURE	
1		3/4 1		D		45		77/77 °F	
2		5/16 .65 3/16		1/4		45			
3		1 1/16 1.55 1 1/16		D		45			
N/A		SYNDAYZ		INDICATIONS		45			
REMARKS									
SEEED 360° ABOVE 50% of L MAX CHANGE DUE TO BOW TAPER									
SEED TUBES COMPLETELY ABOVE WELD LEGS									
SEED TUBES COMPLETELY ABOVE WELD LEGS									
CW SCLL									
REMARKS									
4 P103140B S...L1 20									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
NONE									
REVIEWED BY Russell Price		SNT LEVEL II		DATE 27 APR 89		CONTINUED ON SHEET NA		PAGE 1 OF 1	

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 3100 21
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 4-SI-1209	IDENTIFICATION 1	CALIBRATION SHEET (S) 1901601
EXAMINER L. SPIESS	SNT LEVEL II	PROCEDURE NO. 500-36	EXAMINATION RECORD SHEET NO. (S) 892021
EXAMINER D. WAGAR	SNT LEVEL I	REV 40 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>			
WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATIONS 2 and 3 ARE GEOMETRIC REFLECTORS FROM THE WELD ROOT AREA.
45° INDICATION 1 IS A GEOMETRIC REFLECTOR FROM THE INSIDE SURFACE OF THE REDUCER.
THESE INDICATIONS CAN BE SEEN AND INTERMITTENTLY THROUGH OUT THE LENGTH OF THE WELD.

ATTACHMENT YES <input type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY <i>Russell Line</i>	SNT LEVEL II	DATE 27 APR 88
	REVIEWED BY <i>L. Spiess</i>	SNT LEVEL II	DATE 27 APR 88



REDUCER

ELBOW

SAFETY INJECTION
 4-SI-1208-1
 27 APR 88
 Russell J. Smith

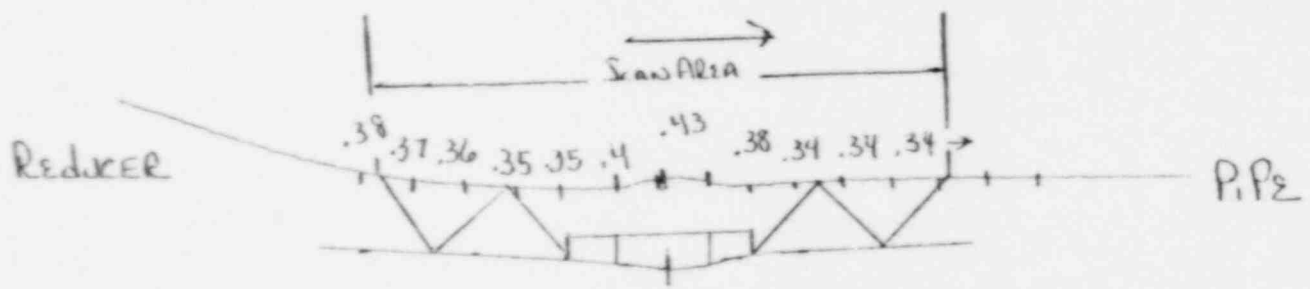
SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 340200					
EXAMINATION AREA (SYSTEM/COMPONENT): SIS		(LINE/SUBASSEMBLY): 4-SI-1210		(IDENTIFICATION): 1					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	C N F No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								REDUCER → PIPE
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓								600-4910 DEV 1, 2, 3
<input type="checkbox"/> INITIAL EXAMINATION									800-36190 DEV 1
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓								CC-64 (4"-.337"-SS)
<input type="checkbox"/> 0° LAM SCAN	181068	LS	4-25-88	X					REWORK 5-9-88
<input type="checkbox"/> 0° WELD SCAN	N/A								
<input type="checkbox"/> 45° SCAN	892022	LS	4-26-88		X			310030	
<input type="checkbox"/> 45° T SCAN	892022	LS	4-26-88	X					
<input type="checkbox"/> 60° SCAN	N/A								
<input type="checkbox"/> 60° T SCAN	↓								
<input type="checkbox"/> PROFILE	135150	LS	4-25-88						PROFILE ONLY.
	N/A								
	↓								
SUMMARIZED BY: <i>James D. W. York</i>			DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE: 1 OF 1				

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK) INT. 1455 FINAL 1520	SHEET NO.: 135150	
EXAMINER L. SPIESS	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 800-36 Rev. 40 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: D1122E	COMPONENT ID: 4-SI-1210-1 Safety Injection
EXAMINER D) Wagar	SNT LEVEL I		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: SS-DC-40

SEARCH UNITS	
BRAND	AeroTech Gumpson
SERIAL NO.	C16445
SIZE	1/4
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	150-1
MATL. CAL.	106
RANGE	1
REP. RATE	3K
JACK USED	R+T
TRANS. MODE	TRW



REVIEWED BY: Russell H. Finn	SNT LEVEL: II	NAME: Lyle Spiess	SNT LEVEL: II
45° Search Unit chosen for coverage using $\frac{1}{8}$ nodes. MA° Search Unit chosen for coverage using $\frac{1}{4}$ nodes.		DATE: 26 APR 88	

SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 25 APR 88	TIME (24 - HR CLOCK) EXAM STARTED 1455 EXAM ENDED 1520	SHEET NO. 181068																			
SYSTEM / COMPONENT Safety Injection	LINE / SUBASSEMBLY 4-SI-1210	IDENTIFICATION 1	L. LOCATION 1	W. LOCATION 9 of 10																			
EXAMINER L Spiess	PROCEDURE NO. 600-49 REV. 0 DEV. 1,2,3	CALIBRATION SHEET 19D154	MEASURED THICKNESS UP ε DOWN 35.43.38	ATTENUATION UP N DOWN A																			
EXAMINER D Wagar	SNT LEVEL I	WELD TYPE (-FLOW →) Reducer to P.B.	CROWN HEIGHT 1/8	WELD LENGTH 14 3/8																			
IND. LOSS NO. OF BW F.S.	POSITION 1		POSITION 2		REMARKS UP/DW																		
	L1	W1	MP	L		W1	W2	MP	L2	W1	W2	MP											
REMARKS: SURFACE TEMP. 78 / 78 °F																							
EXAMINATION AREA LIMITATIONS (IF NONE, SO STATE) NONE																							
REVIEWED BY Russell II Fine												SNT LEVEL II				DATE 26 APR 88				PAGE 1		OF 1	

340700

SwRI MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEA. POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 26 APRIL 88	TIME (24 HR CLK) EXAM STARTED 1002 EXAM ENDED 1020	SHEET NO 800000
EXAMINATION AREA (SYST/COMP) <i>Safety Injection</i>	(LINE/SUBASSEMBLY) 4-SI-1210	(IDENTIFICATION) 1	L ₀ LOCATION 1	W ₀ LOCATION E of WELD

EXAMINER L SPIESS	SNT LEVEL II	PROCEDURE NO 800-36 REV 40 DEV 1	CALIBRATION SHEET (S) 190161	ANGLE USED 45°	N/A	WELD TYPE REDUCER TO PIPE
EXAMINER D WAGAR	SNT LEVEL I			SCANNING dB 5/20	A	WELD LENGTH 14 3/8
						EXAM SURFACE TEMPERATURE 77/77 °F

IND No	% OF DAC MAG	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX					
1	20	7/8	1.5	13 7/16		13 7/8		13 15/16	DN	45	NEAR EDGE	CAN BE SEEN 360° IN W/OUT TRAY	20
	NO	RECORDABLE		INDICATIONS					UP	45			20
	NO	RECORDABLE		INDICATIONS					DWELL UP/DN	45E		CW/CCW	20

REMARKS *** Plus 14 DB Swtch ***

EXAMINATION AREA LIMITATION (IF NONE, SO STATE) **None 20**

REVIEWED BY <i>Russell Jones</i>	SNT LEVEL II	DATE 27 APRIL	CONTINUED ON SHEET N/A	PAGE 1 OF 1
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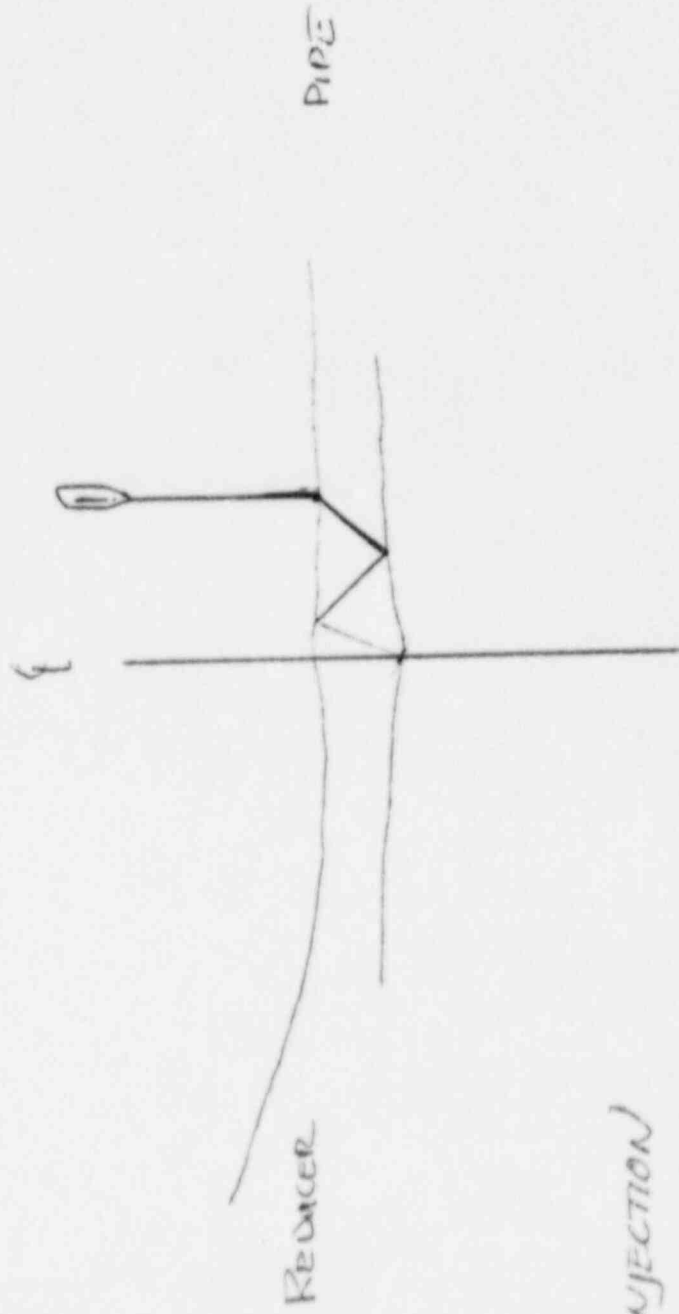
3007077

Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310030
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY 4-SI-1210	IDENTIFICATION 1	CALIBRATION SHEET (S) 190161
EXAMINER L SPIESS	SNT LEVEL II	PROCEDURE NO. 800 36	EXAMINATION RECORD SHEET NO. (S) 892022
EXAMINER D. WAGAR	SNT LEVEL I	REV 40 DEV. 1	
EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____			

45° INDICATION 1 IS A GEOMETRIC REFLECTOR FROM THE WELD ROOT AREA. THIS INDICATION CAN BE SEEN THROUGH OUT THE WELD LENGTH.

ATTACHMENT	RESOLUTION BY <i>Russell H. In...</i>	SNT LEVEL I	DATE 27 APR 88
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>L. Spiess</i>	SNT LEVEL II	DATE 27 APR 88
NO <input type="checkbox"/>			



SAFETY INJECTION

4-51-1210-1

27 APR. 88

Russell Fine II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2176	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 341900
EXAMINATION AREA (SYSTEM / COMPONENT): SIS	(LINE / SUBASSEMBLY): 4-SI-1211	(IDENTIFICATION): 9

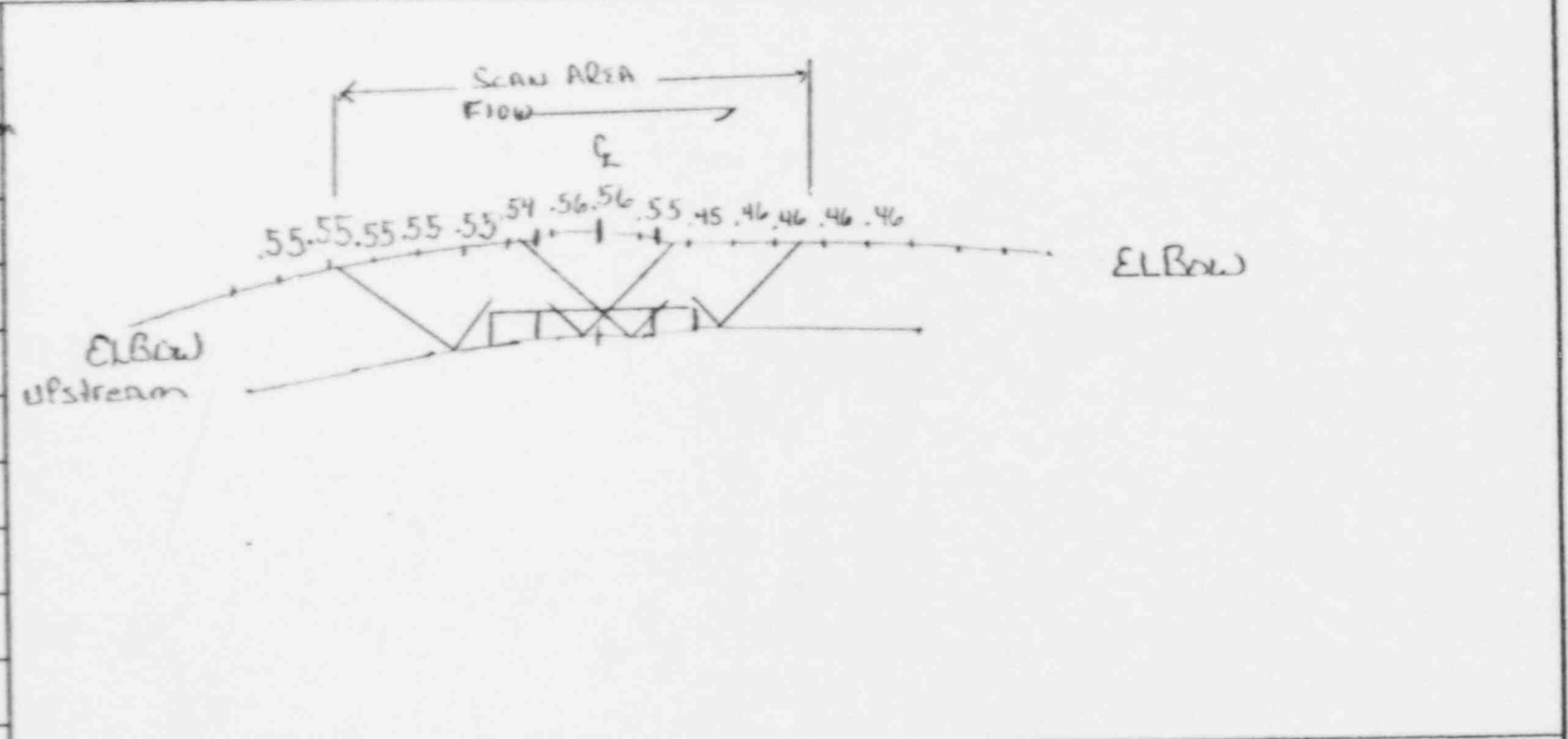
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION										ELBOW → ELBOW
	FOLLOW-UP EXAMINATION										600-47/0 DEV. 1, 2, 3
PT <input type="checkbox"/>	INITIAL EXAMINATION										600-31/24 DEV. 1
	FOLLOW-UP EXAMINATION										RWZ ANI 5-7-88
MT <input type="checkbox"/>	INITIAL EXAMINATION										CC-15
	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN	181063	LS	4-25-88	X						
	0° WELD SCAN	N / A									
	45° SCAN	892023	LS	4-26-88		X			310027		
	45° T SCAN	892023	LS	4-26-88	X						
	60° SCAN	N / A									
	60° T SCAN	↓									
	PROFILE	135154	LS	4-25-88							
		N / A									
		↓									

SUMMARIZED BY: <i>Donald Wilfork</i>	DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK) INT. 1405 FINAL 1425	SHEET NO.: 135154
EXAMINER <i>P Spiess</i>	SNT LEVEL <i>II</i>	THK. MEAS. REQ'D BY PROCEDURE No. 600-31	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: <i>01122E</i>
EXAMINER <i>D Wagar</i>	SNT LEVEL <i>I</i>	Rev. 24 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	COMPONENT ID: <i>4-SI-1211-9020</i> Safety Injection REFERENCE BLK NO.: <i>SS-DC-40</i>

SEARCH UNITS	
BRAID	<i>Aero tech 60mm</i>
SERIAL NO.	<i>C16445</i>
SIZE	<i>1/4</i>
FREQ. (MHz)	<i>2.25</i>
INSTRUMENT SETTINGS	
SCREEN SIZE	<i>1</i>
DELAY	<i>150-1</i>
MATL. CAL.	<i>106</i>
RANGE	<i>1</i>
REP. RATE	<i>3K</i>
JACK USED	<i>R-T</i>
TRANS. MODE	<i>Thru</i>



REVIEWED BY: <i>Russell Fine</i>	SNT LEVEL: <i>II</i>	NAME: <i>Dyle Spiess</i>	SNT LEVEL: <i>II</i>
45° Search Unit chosen for coverage using <i>1/8 1/8 1/8 1/8</i> nodes. ___° Search Unit chosen for coverage using _____ nodes.		DATE: <i>26 APR 88</i>	

SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 25 APR 88	TIME (24-HR CLOCK) EXAM STARTED 1405 EXAM ENDED 1425	SHEET NO. 181063
SYSTEM / COMPONENT Safety Injection	LINE / SUBASSEMBLY 4-SJ-1211	IDENTIFICATION 90³⁰	L. LOCATION 3	W. LOCATION E of weld
EXAMINER L. Spriess	SNT LEVEL II	PROCEDURE NO. 600-49	CALIBRATION SHEET 198154	MEASURED THICKNESS UP ϵ DOWN .55 .56 .46
EXAMINER D. Wagar	SNT LEVEL I	REV. 0 DEV. 1,2,3	CROWN HEIGHT 1/8	ATTENUATION UP DOWN N A
			CROWN WIDTH 5/8	WELD TYPE (-FLOW →) ELBOW to ELBOW
				WELD LENGTH 14 3/8

IND NO.	% LOSS OF BW	IND AMP % F.S.	POSITION 1				POSITION				POSITION				POSITION 2				SEARCH UNIT LOCATION	REMARKS :	INH.
			L ₁	W ₁	W ₂	MP	L	W ₁	W ₂	MP	L	W ₁	W ₂	MP	L ₂	W ₁	W ₂	MP			
			NO RECORDABLE INDICATIONS																UP/DN		20

REMARKS: SURFACE TEMP. 75/75 °F

EXAMINATION AREA LIMITATIONS (IF NONE , SO STATE) **none so**

REVIEWED BY <i>Russell Fin</i>	SNT LEVEL II	DATE 26 APR 88	PAGE 1 OF 1
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SwRI MANUAL ULTRASONIC EXAMINATION RECORD

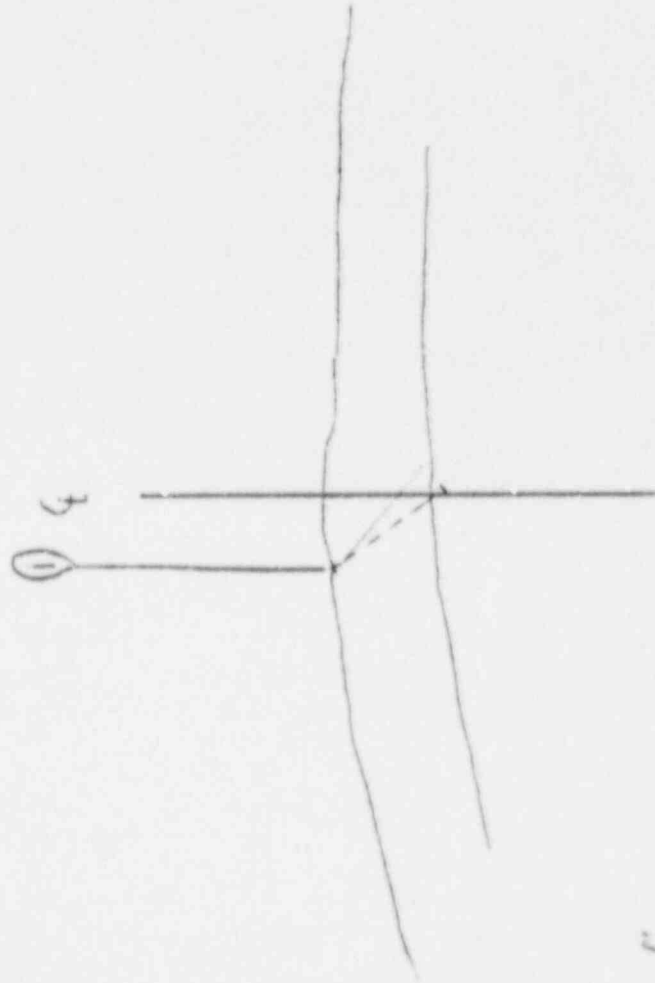
PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MON-YR) 26 APRIL 88		TIME (24 HR CLK) EXAM STARTED 0745 EXAM ENDED 1200		SHEET NO 000003							
EXAMINATION AREA (SYST/COMP) Safety Injection		(LINE/SUBASSEMBLY) 4-SI-1211		(IDENTIFICATION) 9		L ₀ LOCATION 3		W _e LOCATION 2 of weld							
EXAMINER L SPIESS		SNT LEVEL II		PROCEDURE NO. 6000-31 REV. 24 DEV. 1		CALIBRATION SHEET (S) 19A.16.2		ANGLE USED 45°							
EXAMINER D WAGAR		SNT LEVEL I				SCANNING dB 6/60 11/60		WELD TYPE ELBOW to ELBOW WELD LENGTH 14 3/8 EXAM SURFACE TEMPERATURE 78/78 °F							
IND No.	% OF DAC MAC	W MAX		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.		
		W	MP	1/2 MAX	100% DAC		100% DAC	1/2 MAX							
1	50	3/8	.7	1 1/4		2		2 1/4	UP	45	ND	Can Be Seen Intermittently Along Weld Length	20		
									ND	45			20		
									UP/DN	45E		CW/CCW	20		
									UP/DN	45E		CW/CCW	20		
REMARKS * Press 60dB Switch 20															
EXAMINATION AREA LIMITATION (IF NONE, SO STATE) NONE 20															
REVIEWED BY <i>Russell</i>				SNT LEVEL II				DATE 26 APR 88				CONTINUED ON SHEET 1/1		PAGE 1 OF 1	

SW. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET NO. 310027	
SYSTEM / COMPONENT SAFETY INJECTION	LINE / SUBASSEMBLY A-51-1211	CALIBRATION SHEET (S) 190162	
EXAMINEE L SPIESS	PROCEDURE NO 600-31	EXAMINATION RECORD SHEET NO. (S) 892023	
EXAMINER D WAGAR	REV Z 4 DEV. 1	IDENTIFICATION g	
	SNT LEVEL II	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> M <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	
	SNT LEVEL I	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> LONGITUDINAL <input type="checkbox"/>	
		MERIDIONAL <input type="checkbox"/>	
		NOZZLE-TO-SHELL <input type="checkbox"/>	
		OTHER _____	

AS INDICATION NO 1 IS A GEOMETRIC REFLECTOR FROM THE WELD ROOT AREA. THIS REFLECTOR CAN BE SEEN INTERMITTENTLY THROUGH OUT THE WELD LENGTH.

ATTACHMENT	RESOLUTION BY <i>Russell June</i>	SNT LEVEL II	DATE 27 APR 88
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>Lab Shiao</i>	SNT LEVEL II	DATE 27 APR 88
NO <input type="checkbox"/>			



ELBOW
DN.

ELBOW
UP

Safety Inspection

451-12119

27 APR 88

Russell J. Am... II

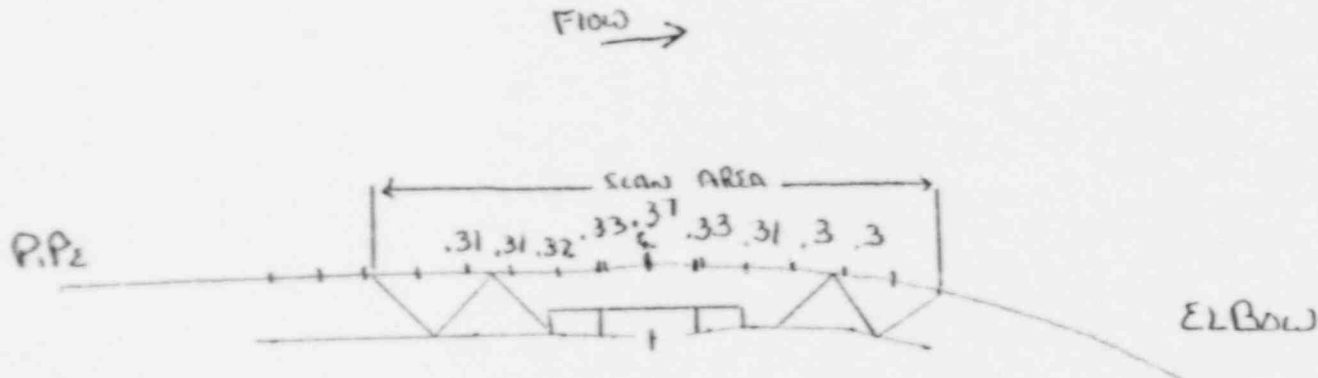
SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2116	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	344000	
EXAMINATION AREA (SYSTEM / COMPONENT):	SIS	(LINE / SUBASSEMBLY):	3-SI-1202			(IDENTIFICATION)	7	
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS		RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G	O	
<input type="checkbox"/> INITIAL EXAMINATION	N/A							PIPE → ELBElN
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓							600-49/0, DEV. 1, 2, 3
<input type="checkbox"/> INITIAL EXAMINATION								800-36/40, DEV. 1
<input type="checkbox"/> FOLLOW-UP EXAMINATION	↓							CC-66 (3"-.300"-SS)
UT	181064	LS	4/25/88	X				RWZ AMF 5-9-88
	N/A							
	892020	LS	4/26/88		X		310028	
	892020	LS	4/26/88	X				
	N/A							
	↓							
	135153	LS	4/25/88					
	N/A							
	↓							
SUMMARIZED BY:			DATE		CONTINUED ON SHEET No.:		PAGE 1 OF 1	
Donald Wright			4-27-88		N/A			

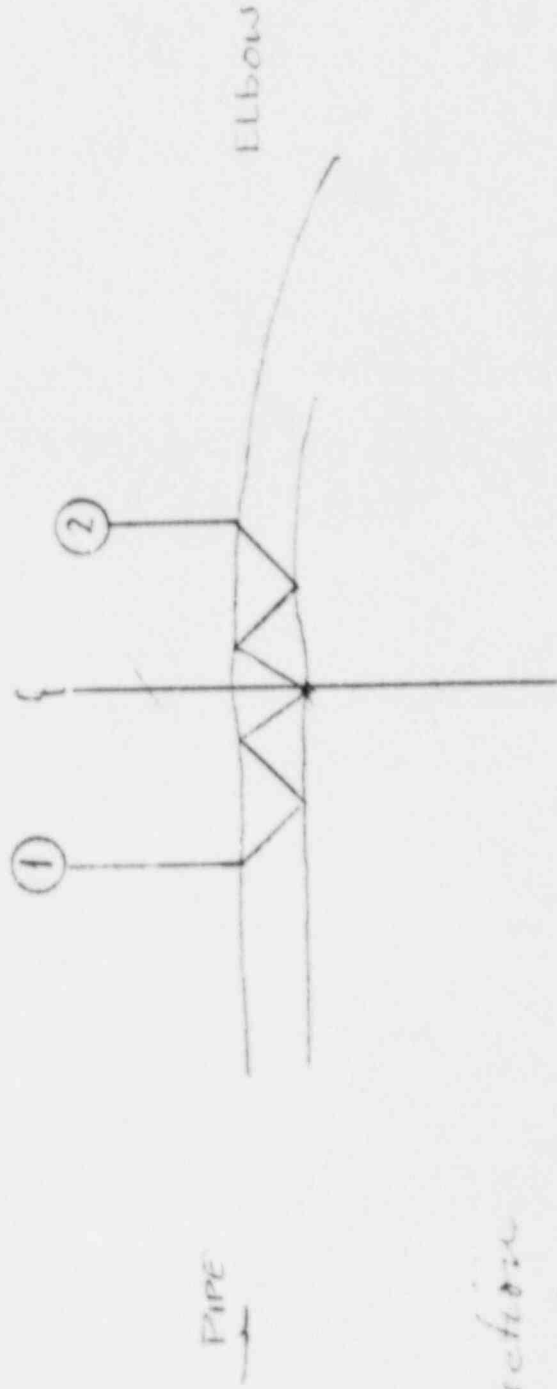
SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK) INT. 1616 FINAL 1631	SHEET NO.: 135/53
EXAMINER	L Spizess	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE No. 800-36	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
EXAMINER	D. Wagner	SNT LEVEL	I	Rev. 40 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____
			SERIAL NO.:	D1122E	
			COMPONENT ID:	3-S1-1202-7	
			REFERENCE BLK NO.:	SS-DC-40	

SEARCH UNITS	
BRAND	Hombach Exam
SERIAL NO.	C16445
SIZE	1/4
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	1SD-1
MATL. CAL.	1D6
RANGE	1
REP. RATE	3K
JACK USED	R+T
TRANS. MODE	THRU



REVIEWED BY:	Russell H. Fine	SNT LEVEL:	II	NAME:	Dyle Spizess
45° Search Unit chosen for coverage using 4/8 1/2 1/4 1/8 nodes.		* Search Unit chosen for coverage using _____ nodes.		DATE:	26 APR 88



Safety Injection

351-1202-1

27 APR 58

Russell W. Finley II

MAIN STEAM SYSTEM

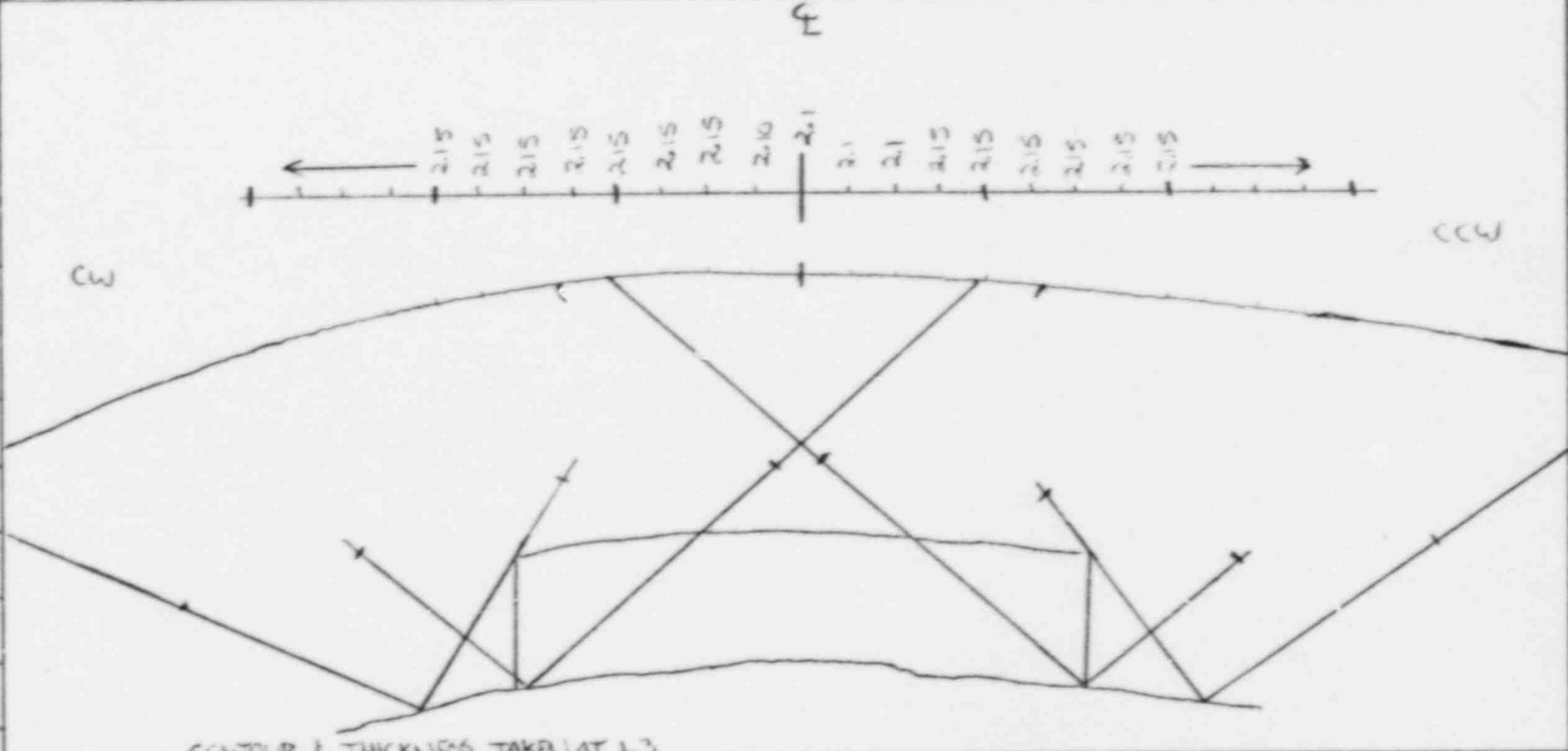
SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 422 000					
EXAMINATION AREA (SYSTEM / COMPONENT): <i>Main Steam</i>		(LINE / SUBASSEMBLY): <i>36 - A15 - 1201</i>		(IDENTIFICATION): <i>3LU</i>					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	<i>N/A</i>								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									<i>600-41/18 Dev-1</i>
<input type="checkbox"/> INITIAL EXAMINATION									<i>CC-23 (36"-2.0"-CS)</i>
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	<i>59007</i>	<i>RAR</i>	<i>19 Apr 88</i>						<i>5" (2.5t) OF WELD</i>
<input type="checkbox"/> 45° T SCAN	<i>N/A</i>			<input checked="" type="checkbox"/>					<i>REQUIRED, LENGTH EXAMINED.</i>
<input type="checkbox"/> 60° SCAN									<i>6" OF WELD ACTUALLY EXAMINED.</i>
<input type="checkbox"/> 60° T SCAN	<i>135095</i>	<i>RAR</i>	<i>19 Apr 88</i>						<i>Profile & Thickness Indication</i>
<i>Profile</i>	<i>N/A</i>								<i>RUT 5-3-88</i>
SUMMARIZED BY: <i>Donald W. York</i>			DATE: <i>4-23-88</i>	CONTINUED ON SHEET No.: <i>N/A</i>		PAGE OF			

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 19 APRIL 78	TIME (24 HR. CLOCK) INT. 1111 FINAL 1126	SHEET NO.: 207705	
EXAMINER <i>R. LaRosa</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716	COMPONENT ID: 36-M5-1201-3LU
EXAMINER T. BOHNENKOPFER	SNT LEVEL I	Rev. 18 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: CS-DC-41	

SEARCH UNITS	
BRAND	MATERIAL ASSURANCE
SERIAL NO.	E 7540
SIZE	1/2 RND
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	5
DELAY	095-1
MATL. CAL.	095
RANGE	5
REP. RATE	3K
JACK USED	R
TRANS. MODE	NORMAL



REVIEWED BY: <i>Kenneth J. ...</i>	SNT LEVEL: II	NAME: <i>R. LaRosa</i>	DATE: 21 APR 78
45° Search Unit chosen for coverage using 2/8, 3/8, 4/8 nodes.		SNT LEVEL: II	
1/4° Search Unit chosen for coverage using 1/8 nodes.			

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 19 APRIL 78	TIME: (24 HR CLOCK) EXAM STARTED 1450 EXAM ENDED 1508 RR	SHEET No. 850017
EXAMINATION AREA (SYST / COMP) MAIN STEAM	(LINE / SUBASSEMBLY) 36-MS-1201	(IDENTIFICATION) 3 LU	L ₀ LOCATION 7	W ₀ LOCATION WELD E
EXAMINER R.A. RIDDLES	SNT LL VEL II	PROCEDURE No 600-41 REV 11 DEVI	CALIBRATION SHEET(S) 190042	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>
EXAMINER T. SCHENKNER	SNT LEVEL I		ANGLE USED 45° N	WELD TYPE LONG SEAM
			SCANNING dB 26	WELD LENGTH **
				EXAM SURFACE TEMPERATURE 76°/76° F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.	
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC						
		NO RECORDABLE INDICATIONS																
													cw/ccw	45°				RR

REMARKS * **LOSS SWITCH DOWN RR**
 * **EXAMINED FROM L₀ TO L₆ RR**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE RR

REVIEWED BY <i>Russell Jones</i>	SNT LEVEL II	DATE 21 APR 88	PAGE 1 OF 1
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SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 422050					
EXAMINATION AREA (SYSTEM / COMPONENT): Main Steam		(LINE / SUBASSEMBLY): 36-113-1201		(IDENTIFICATION): 3					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
V T									PIPE → VALVE 10V-40A3 GC-41/18 Dec-1 CC-23 (36" - 2.0" - 05)
PT <input type="checkbox"/>									
MT <input type="checkbox"/>									
U T									
	390022	RAR	19 Apr 88						NO UT FROM THE VALVE SIDE DUE TO VALVE CONFIGURATION UTS only RUT ANL 3-9-88
	135094	RAR	19 Apr 88						Pipe and Thickness Inspections
SUMMARIZED BY: <i>[Signature]</i>			DATE: 21 Apr 88	CONTINUED ON SHEET No.: 422050		PAGE (OF)			

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY - MON - YR) 19 APRIL 73		TIME: (24 HR CLOCK) EXAM STARTED 1430 EXAM ENDED 1506		SHEET No. 800022	
EXAMINATION AREA (SYST / COMP) MAIN STEAM		(LINE / SUBASSEMBLY) 340MS-1201		(IDENTIFICATION) 3		L ₀ LOCATION WELD E		W ₀ LOCATION WELD E	
EXAMINER R. A. RIDDLE	SNT LEVEL II	PROCEDURE No 600-41 REV 17	CALIBRATION SHEET(S) 19004Z	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 10/40	45°	% N	WELD TYPE PIPE → VALVE	WELD LENGTH 113/4
EXAMINER T. BARBERKAMPER	SNT LEVEL I	DEVI	L	SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	EXAM SURFACE TEMPERATURE 76°/76° F	REMARKS	INI.
% OF DAC MAX	W MAX	100% DAC	L ₁	50% DAC	100% DAC	L ₂			
W ₁	MP	W ₂	MP	MP	MP				
NO RECORDABLE INDICATIONS									
REMARKS * 1/4" B. SWITCH DOWN R.R. * 2. COVERAGE OBTAINED FROM PIPE SIDE R.R.									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
REVIEWED BY <i>Russell Linn</i> DATE 21 APR 78									
SNT LEVEL <i>II</i> DATE 21 APR 78									
PAGE 1 OF 1									

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 19 APRIL 88	TIME (24 HR. CLOCK) INT. 1111 FINAL 1136	SHEET NO.: 3
EXAMINER: <i>D. P. R. 200</i>	THK. MEAS. BY PROCEDURE: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	THK. MEAS. REG'D NO. 600-41	SERIAL NO.: 774716	COMPONENT ID: 36-075-1201-3
EXAMINER: T. BOHLENKAMPFER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: 65-06-41	
SEARCH UNITS BRAND: MATERIALS ASSURANCE SERIAL NO.: E7516 SIZE: 1/2 RND FREQ. (MHz): 2.25 INSTRUMENT SETTINGS SCREEN SIZE: 5 DELAY: 095-1 MATL. CAL.: 095 RANGE: 5 REP. RATE: 3X JACK USED: R TRANS. MODE: NORMAL				
45° Search Unit chosen for coverage using 2/8 3/8 5/8 nodes. ° Search Unit chosen for coverage using _____ nodes.			NAME: <i>D. P. R. 200</i> SNT LEVEL: <i>I</i>	
REVIEWED BY: <i>Russell Fin</i> SNT LEVEL: <i>I</i>			DATE: 21 APR 88	

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 424250					
EXAMINATION AREA (SYSTEM / COMPONENT): <i>Main Steam</i>		(LINE / SUBASSEMBLY): <i>34-MS-1201</i>		(IDENTIFICATION): <i>3A201</i>					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	<i>N/A</i>								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN	<i>131013</i>	<i>RAR</i>	<i>16 Apr 88</i>	<input checked="" type="checkbox"/>					<i>LONG. SEAM</i>
<input type="checkbox"/> 0° WELD SCAN	<i>N/A</i>								<i>600-49/0 Dec 17 2</i>
<input type="checkbox"/> 45° SCAN	<i>890065</i>	<i>LD</i>	<i>13 Apr 88</i>	<input checked="" type="checkbox"/>					<i>600-41/18 Dec 1 CC-38</i>
<input type="checkbox"/> 45° T SCAN	<i>890061</i>	<i>RAR</i>	<i>4-22-88</i>	<input checked="" type="checkbox"/>					<i>2.5 t (4-INCHES) OF WELD</i>
<input type="checkbox"/> 60° SCAN	<i>N/A</i>								<i>LENGTH REQUIRED. 6" OF</i>
<input type="checkbox"/> 60° T SCAN									<i>WELD LENGTH ACTUALLY</i>
<i>Profile</i>	<i>135049</i>	<i>RAR</i>	<i>16 Apr 88</i>						<i>EXAMINED. RAR 5-9-88</i>
	<i>N/A</i>								<i>Profile & Thickness Interrelation</i>
SUMMARIZED BY: <i>Donald Lynch</i>			DATE: <i>4-23-88</i>	CONTINUED ON SHEET No.: <i>N/A</i>		PAGE: <i>1</i>	OF: <i>1</i>		

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 16 APR 88	TIME (24 HR. CLOCK) INT. 1550	SHEET NO.: 1	FINAL 1555
EXAMINER: <i>D. O. Reed</i>	THK. MEAS. REG'D BY PROCEDURE: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	INSTRUMENT: No. 600-41 Rev. 1.1 Dev. 1	SERIAL NO.: 0433ZE	COMPONENT ID: 34-015-1201-2ALU 1	REFERENCE BLK NO.: 34-015-1201-2ALU 1-PR
EXAMINER: T. R. WINKLER	SNT LEVEL: II	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)			CS-DC-41
SEARCH UNITS					
BRAND: AEROTECA					
SERIAL NO.: A11507					
SIZE: 1/4 DUAL					
FREQ. (MHz): 7.35					
INSTRUMENT SETTINGS					
SCREEN SIZE: 2					
DELAY: 1416-1					
MATL. CAL.: 110					
RANGE: 2					
REP. RATE: 2X					
JACK USED: P/T					
TRANS. MODE: THRU					
REVIEWED BY: <i>Russell June</i>	SNT LEVEL: II	NAME: <i>George Duma</i>	DATE: 20 APR 88		

CONTIGUOUS THICKNESSES TAKEN AT 1.1°
 45° Search Unit chosen for coverage using 7/8, 3/8, 5/8 nodes.
 N/A Search Unit chosen for coverage using N/A nodes.

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No.	17-2116		DATE: (DAY - MON - YR)	18 APR 88		TIME: (24 HR CLOCK)	EXAM STARTED 1542		SHEET No.	800005	
EXAMINATION AREA (SYST / COMP)	MAIN STEAM			(IDENTIFICATION)		L ₀ LOCATION		W ₀ LOCATION			
SITE	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			(IDENTIFICATION)		L ₀ LOCATION		W ₀ LOCATION			
EXAMINER	L. DURAN			8ALU1		7		9 of WELD			

EXAMINER	D. WAGER			PROCEDURE	No 600-41 REV 18 DEV 1		CALIBRATION SHEET(S)	190107		TYPE OF EXAMINATION	ID □ OD <input checked="" type="checkbox"/> SCANNING <input checked="" type="checkbox"/>	
SNT LEVEL	II			100% DAC	W ₂		L ₁	50% DAC		ANGLE USED	45° 45T°	
SNT LEVEL	I			100% DAC	W		L	100% DAC		SEARCH UNIT LOC	60/8	

IND No.	% OF DAC MAX	W ₁	100% DAC	W	MP	W ₂	MP	L ₁	L		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS
									MAX	DAC				
									100% DAC	50% DAC	CW	45°		LD

REMARKS * PLUS 6dB TO THE 30 FOR SCANNING LD EXAMINED L₀ TO L=6 LD.

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)		NONE LD.	
REVIEWED BY	<i>William A. Penner</i>		
SNT LEVEL	II		
DATE	20 APR 88		
PAGE	1		OF 1

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:		SITE:		SHEET No.:					
17-2116		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		424300					
EXAMINATION AREA (SYSTEM / COMPONENT)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)					
Main Steam		34- A/S-1201		SALVZ					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	C.N.F. No.	REMARKS
				N	I	G			
VT	N/A								LONG. SEAM.
PT	↓								600-49/6 Nov 1/82
MT	↓								600-41/18 Nov 1 CC-38
UT	131014	RAC	18 Apr 88	X					RWIZ ANI 5-9-88
	N/A								2.5 t (A.M.) OF WELD LENGTH
	890064	LD	15 Apr 88	X					REQUIRED. 6 IN. OF WELD LENGTH
	890062	RAC	20 Apr 88	X					EXAMINED.
	N/A								
	↓								
	135047	RAC	16 Apr 88						Pickle & Thickness Interpolation
	N/A								
	↓								
SUMMARIZED BY:		DATE		CONTINUED ON SHEET No.:		PAGE		OF	
[Signature]		21 Apr 88		N/A		1		1	

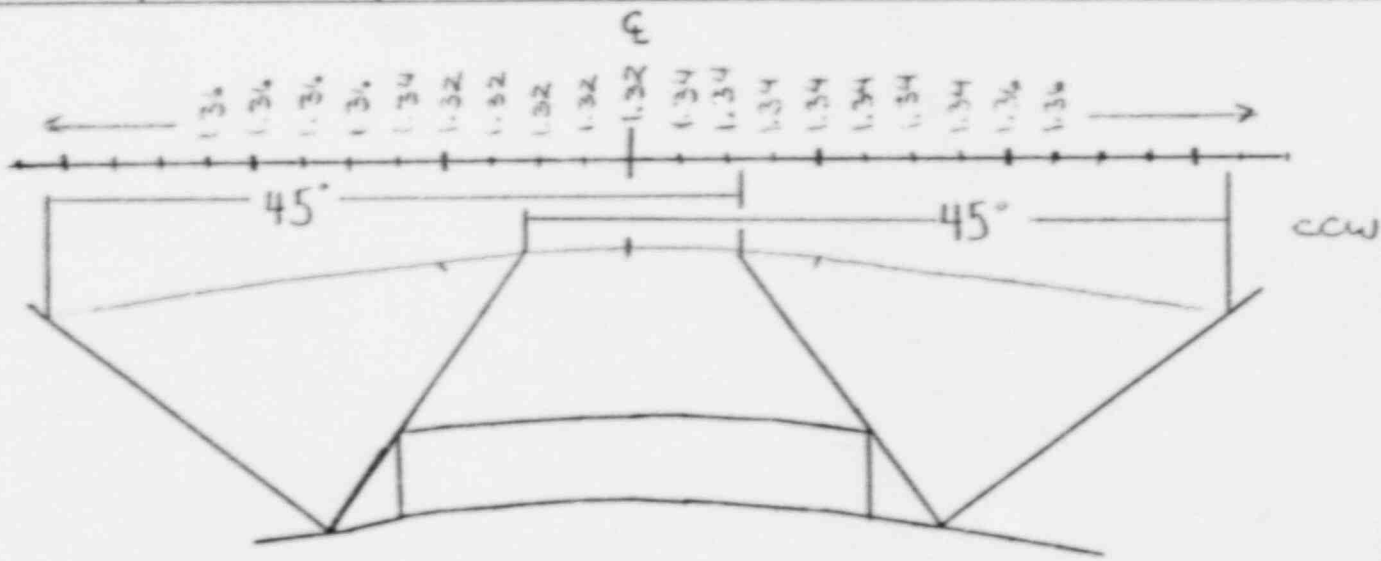
SW. R. I. STRAIGHT BEAM LAMINATION EXAMINATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 13 APR 73	TIME (24-HR CLOCK) EXAM STARTED 0754 EXAM ENDED 1100	SHEET NO. 181014
SYSTEM / COMPONENT STEAM	LINE / SUBASSEMBLY 34-002-1201	IDENTIFICATION 7	L.S. LOCATION	W.S. LOCATION WELD 4
EXAMINER R.A. RIDDLES	PROCEDURE NO. 600-49 REV. 0	CALIBRATION SHEET 190101	CROWN HEIGHT FLUSH	ATTENUATION UP N DOWN A
EXAMINER T. B. BARKER	SNT LEVEL I	POSITION I	CROWN WIDTH 2	WELD TYPE (- FLOW →) LONG SEAM
NO. LOSS OF BW NO RECORDABLE INDICATIONS	POSITION 1 L1 W1 W2 MP	POSITION 2 L W1 W2 MP	SEARCH UNIT LOCATION sw/ccw	REMARKS RR
REMARKS: IF EXAMINED FROM TO L6 R6				
SURFACE TEMP. N/A				
EXAMINATION AREA LIMITATIONS (IF NONE, SO STATE)				
REVIEWED BY R.A. RIDDLES	SNT LEVEL II	DATE 19 APR 78	PAGE 1	OF 1

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 16 APR 88	TIME (24 HR. CLOCK) INT. 1501 FINAL 1555	SHEET NO.: 10000007
EXAMINER: <i>R. O. Reese</i>	SNT LEVEL: II	THK. MEAS. REQ'D BY PROCEDURE No. 100-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E
EXAMINER: T. BOHNERKAMPER	SNT LEVEL: I	Rev. 17 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	COMPONENT ID: 34-MS-1201-8AW 2 34-MS-1201-8LW 2 RR REFERENCE BLK NO.: CS-DC-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUCK 20
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	140-1
MATL. CAL.	110
RANGE	2
REP. RATE	3x
JACK USED	R/T
TRANS. MODE	THRU



CONTIGUOUS THICKNESS TAKEN AT 102 RR

45° Search Unit chosen for coverage using <u>2, 3, 5, 7</u> nodes.	NAME: <i>Georg Dwan</i>	SNT LEVEL: II
W/A° Search Unit chosen for coverage using <u>1A</u> nodes.	DATE: <i>21 APR 88</i>	
REVIEWED BY: <i>Russell Linn</i>	SNT LEVEL: <i>II</i>	

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON - YR) 20 APR 78	TIME (24 HR CLOCK) EXAM STARTED 0943 EXAM ENDED 0953	SHEET No 820062
EXAMINATION AREA (SYST / COMP) DRAIN STEAM	(LINE / SUBASSEMBLY) 34-MS-1201	(IDENTIFICATION) 7. ALL 2	L ₀ LOCATION 7	W ₀ LOCATION WELD E

EXAMINER E.A. RIDDLES	SNT LEVEL II	PROCEDURE No 600-01 REV 13 DEV 1	CALIBRATION SHEET(S) 170048	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45°	SCANNING dB 5/63	WELD TYPE LONG SEAM	WELD LENGTH 4'	EXAM SURFACE TEMPERATURE 76°/76°
EXAMINER T. BOWENKUMPER	SNT LEVEL I								

IND No	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
		NO RECORDABLE INDICATIONS										45°	N/A	UP/DN	DR		

REMARKS * **1.5 dB SWITCH DOWN DR**
 * * **EXAMINED FROM L TO R DR**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE DR

REVIEWED BY <i>Russell T. ...</i>	SNT LEVEL II	DATE 21 APR 78	PAGE OF 1 1
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SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 42435C					
EXAMINATION AREA (SYSTEM / COMPONENT): <i>Main Steam</i>		(LINE / SUBASSEMBLY): <i>34- P13-1201</i>		(IDENTIFICATION): <i>8A</i>					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	<i>N/A</i>								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	<i>84006</i>	<i>LD</i>	<i>15 Apr 88</i>				<i>310022</i>		<i>NO EXAM FROM MANIFOLD SIDE</i>
<input type="checkbox"/> 45° T SCAN	<i>N/A</i>								<i>MANIFOLD DUE TO MANIFOLD CONFIGURATION.</i>
<input type="checkbox"/> 60° SCAN									<i>COVERAGE OBTAINED FROM ELBOW SIDE.</i>
<input type="checkbox"/> 60° T SCAN	<i>135010</i>	<i>RAE</i>	<i>14 Apr 88</i>						<i>RWZ ANI 5-9-88</i>
<i>Picble</i>	<i>N/A</i>								
SUMMARIZED BY: <i>Donald W. York</i>			DATE: <i>4-27-88</i>	CONTINUED ON SHEET No.: <i>N/A</i>		PAGE: <i>1</i> OF <i>1</i>			

SWRI PROFILE AND THICKNESS INFORMATION RECORD

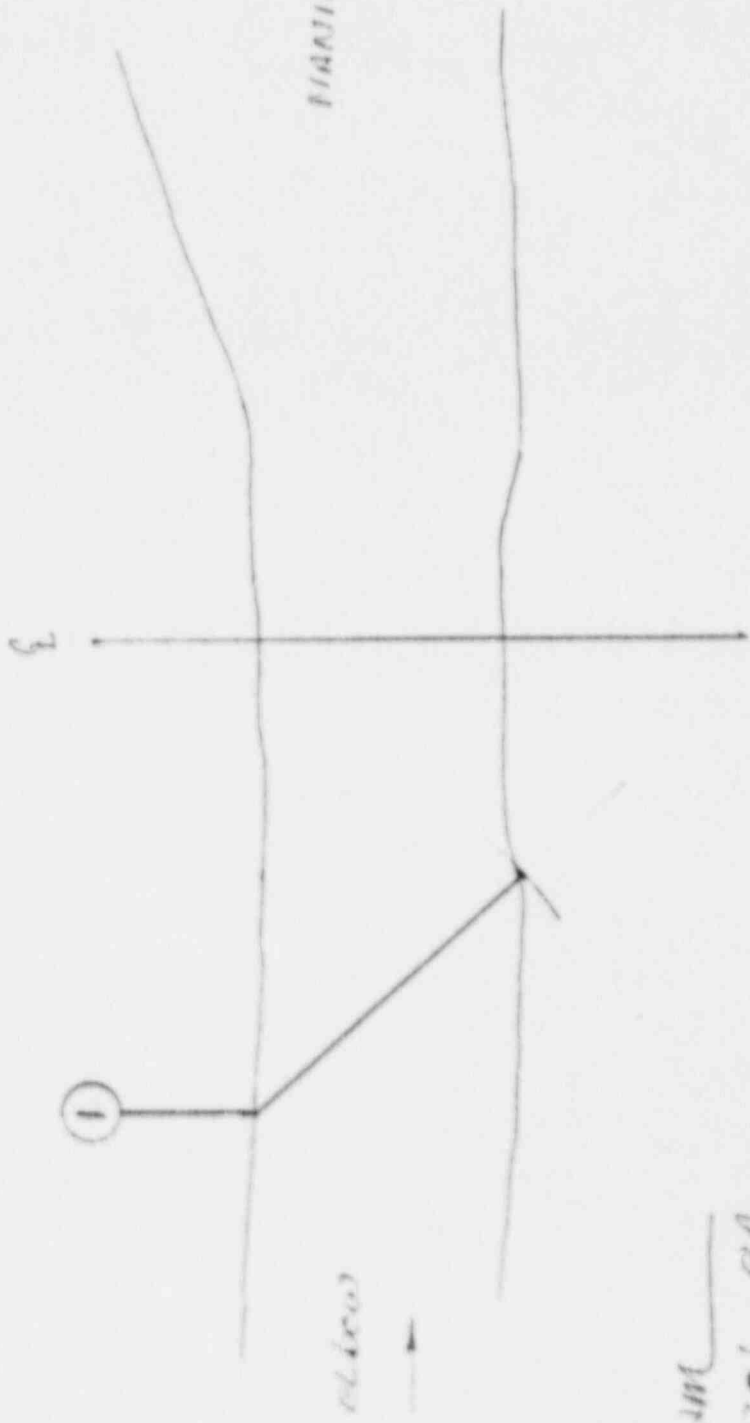
PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 14 APR 83	TIME (24 HR CLOCK): INIT. 1633 FINAL 1703	SHEET NO.: 500009
EXAMINER: <i>Bariss</i>	THK. MEAS. REG'D BY PROCEDURE: NO. 600-41 Rev. 11 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E	COMPONENT ID: 34
EXAMINER: T. BOHLENKAMPFER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY)	MATER <input type="checkbox"/>	REFERENCE BLK NO.: CS-DL-41
SEARCH UNITS				
BRAND: AERJTECH				
SERIAL NO.: A11507				
SIZE: $R_{25} \times \frac{1}{4} \times 2.25$				
FREQ. (MHz): 2.25				
INSTRUMENT SETTINGS				
SCREEN SIZE: Z				
DELAY: 145-1				
MATL. CAL.: 109				
RANGE: Z				
REP. RATE: 3K				
JACK USED: RJT				
TRANS. MODE: TTRU				
REVIEWED BY: <i>Mike Holsten</i>	SNT LEVEL: II	NAME: <i>Seoy Dmuch</i>	DATE: 17 APR 83	SNT LEVEL: II

CONTIGUOUS THICKNESS TAKEN AT $L = 29 \frac{1}{4}$ RB
 45° Search Unit chosen for coverage using $\frac{3}{8}, \frac{3}{16}, \frac{5}{8}$ Nodes.
 145° Search Unit chosen for coverage using N/A nodes.

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 13 APR 88		TIME: (24 HR CLOCK) EXAM STARTED 15:26 EXAM ENDED 15:50		SHEET No. 8:00006					
EXAMINATION AREA (SYST / COMP) Main Steam		(LINE / SUBASSEMBLY) 34-MS-1201		(IDENTIFICATION) 8A		L ₀ LOCATION 1		W ₀ LOCATION Weld &					
EXAMINER L Duran	SNT LEVEL II	PROCEDURE No 600-41 REV 18 DEV 1	CALIBRATION SHEET(S) 190107	TYPE OF EXAMINATION IDP ODP SCANNING	ANGLE USED 45°	WELD TYPE Elbow to Manifold	WELD LENGTH 108% +D						
EXAMINER D. Wagar	SNT LEVEL I				80% 60%		EXAM SURFACE TEMPERATURE 72 / 72°F						
% OF DAC MAX	100% DAC	W MAX	W	MP	W _F	100% DAC	L ₁	L ₂	SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
150	—	2 1/2	1.9	—	—	—	23 1/2	—	UP	45	no	can be seen in terms of 360° SD	SD
REMARKS x + 6db while scanning. SD													
EXAMINATION AREA LIMITATION (IF NONE, 50 STATE) NONE SD													
NO EXAM ON MANIFOLD SIDE COVERAGE SD													
OBTAINED FROM PIPE SIDE SD													
ELBOW													
REVIEWED BY <i>William O. Person</i>		SNT LEVEL II		DATE 19 APR 88		PAGE 1 OF 1							

PLANTFIELD



MAIN ST. 100
 BR-1021-SM-10
 22 NOV 68
 Russell Fin II

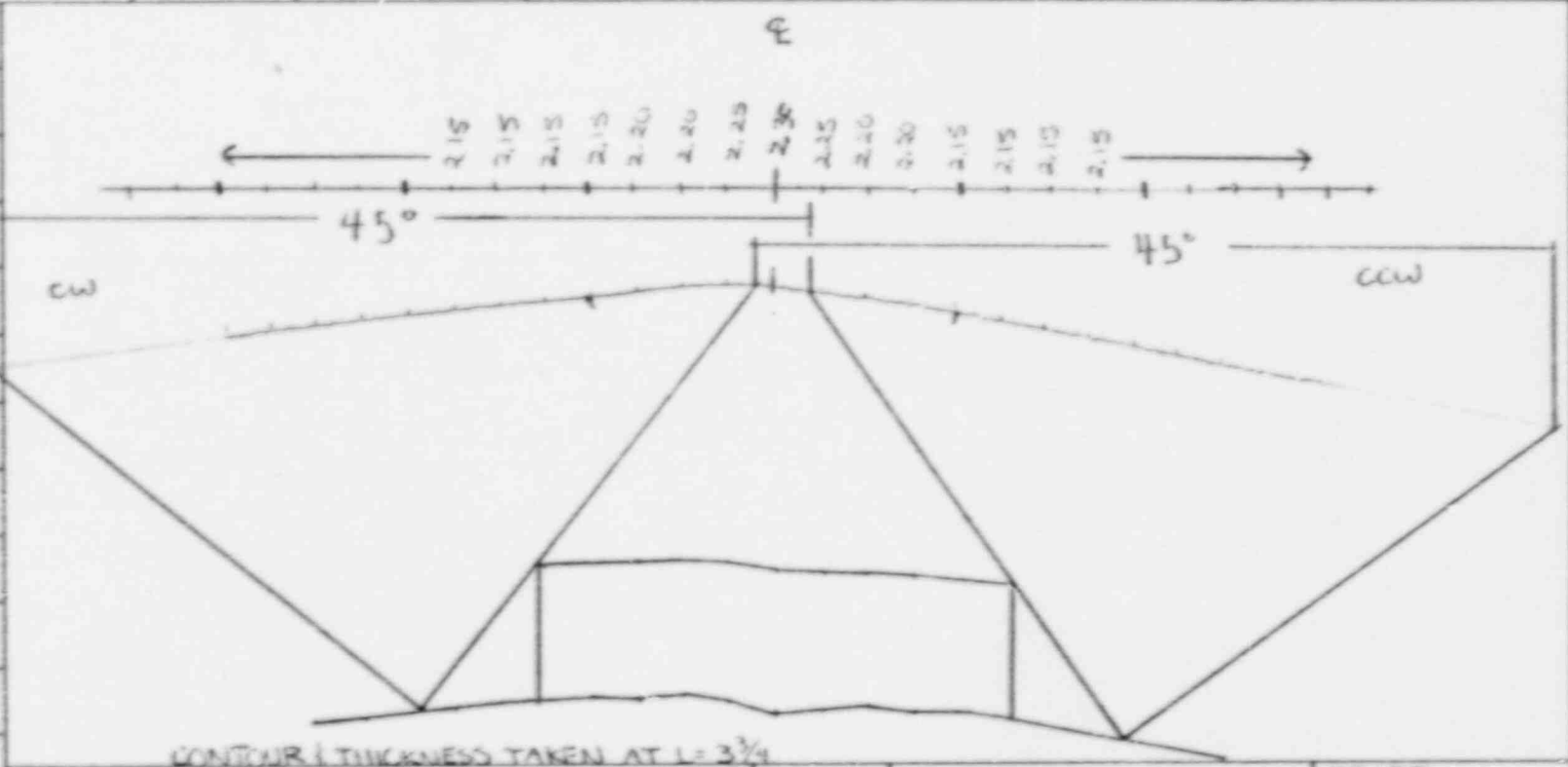
SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 42-1375					
EXAMINATION AREA (SYSTEM / COMPONENT): Main Steam		(LINE / SUBASSEMBLY): 34-M5-1201		(IDENTIFICATION): SAAD					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
VT	N/A								600-4/18 Div 1
PT	↓								CC-23 (36" - 2.0' - CS)
MT	↓								
UT	↓								
	340018	RAR	19 Apr 88	X					2.5t (6") OF WELD
	N/A								LENGTH EXAMINED.
	↓								RUTS 5-9-88
	60° T SCAN								
	Profile 135045	RAC	18 Apr 88						Profile Thickness Tabulation
	N/A								
	↓								
SUMMARIZED BY: <i>[Signature]</i>				DATE: 21 Apr 88	CONTINUED ON SHEET No.: NA	PAGE 1 OF 1			

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 17 APRIL 88	TIME (24 HR. CLOCK) INT. 0941 FINAL 0953	SHEET NO.: 100015	
EXAMINER <i>R. LaRocca</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41 Rev. 13 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E	COMPONENT ID: 34 DC-MS-1201-9AD
EXAMINER T. JOHNNENKAMPER	SNT LEVEL I		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE DLX NO.: CS-DC-41

SEARCH UNITS	
BRAND	MATERIALS APPEARANCE
SERIAL NO.	E 7540
SIZE	1/2
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	5
DELAY	13.1
MATL. CAL.	103
RANGE	5
REP. RATE	3x
JACK USED	R
TRANS. MODE	NORMAL



REVIEWED BY: <i>Russell P...</i>	SNT LEVEL: II	NAME: <i>Seoy An</i>	DATE: 19 APR 88
45° Search Unit chosen for coverage using 2, 3, 6 3/8 nodes. N/A° Search Unit chosen for coverage using N/A nodes.		SNT LEVEL: II	

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 19 APRIL 88		TIME: (24 HR CLOCK) EXAM STARTED 1511 EXAM ENDED 1532		SHEET No. 800018	
EXAMINATION AREA (SYST./COMP.) MAIN STEAM		(LINE / SUBASSEMBLY) 24-M5-1302 RR		(IDENTIFICATION) 7		L ₀ LOCATION WELD 4		W ₀ LOCATION	
EXAMINER R. A. RIDDLES		SNT LEVEL II		PROCEDURE No 600-41 REV 18 DEV 1		CALIBRATION SHEET(S) 190042		TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	
EXAMINER T. BANNIKUMPER		SNT LEVEL I		100% DAC		L ₁		ANGLE USED 45°	
		W MAX		MP		L ₂		WELD TYPE LONG SEAM	
		W ₁		W ₂		100% DAC		WELD LENGTH * * *	
		MP		MP		50% DAC		EXAM SURFACE TEMPERATURE 76°/76 °F	
		100% DAC		100% DAC		100% DAC		SEARCH SEARCH UNIT UNIT LUC. ANGLE	
		NO RECORDABLE INDICATIONS						DAMPS (IF YES, EXPLAIN)	
								REMARKS RR	

REMARKS * +6dB SWITCH DOWN RR
* * EXAMINED FROM L₀ TO L₆ RR

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

REVIEWED BY *Russell Jinn*

SNT LEVEL *CR*

DATE **21 APR 88**

PAGE **1** OF **1**

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 427050
EXAMINATION AREA (SYSTEM / COMPONENT) Main Steam	(LINE / SUBASSEMBLY) 34-115-1202	(IDENTIFICATION) 10101

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
VT	INITIAL EXAMINATION	N/A								UP LONG SEAM - 1 600-41/18 Dec-1 CC-38 (34"-1.06"-05)	
	FOLLOW-UP EXAMINATION										
PT	INITIAL EXAMINATION										
MT	FOLLOW-UP EXAMINATION										
UT	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	890044	RAR	15 Apr 88	X					2.5 t (4") OF WELD LENGTH	
	45° T SCAN	N/A								REQUIRED. 6" OF WELD	
	60° SCAN									LENGTH EXAMINED.	
	60° T SCAN									Ret LANE 5-9-88	
	Picfile	135050	RAR	16 Apr 88						Picfile 3 Thickness Information	
		N/A									

SUMMARIZED BY: <i>[Signature]</i>	DATE: 21 Apr 88	CONTINUED ON SHEET No.: 101A	PAGE 1 OF
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 17 APRIL 88	TIME: (24 HR CLOCK) EXAM STARTED 1513 EXAM ENDED 1604	SHEET No. 820044
EXAMINATION AREA (SYST / COMP) MAIN STEAM	(LINE / SUBASSEMBLY) 34-MS-1802	(IDENTIFICATION) L-01	L ₀ LOCATION 7	W ₀ LOCATION WELD E
EXAMINER R.A. RIDDLES	SNT LEVEL II	PROCEDURE No 600-41 REV 12 DEV 1	CALIBRATION SHEET(S) 190104	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/> SCANNING dB
EXAMINER T. BOHNENKAMPER	SNT LEVEL I		ANGLE USED 45°	WELD TYPE LONG JENT
			15 PR 15 PR 15 PR	WELD LENGTH ** i2
			A	EXAM SURFACE TEMPERATURE 75/75 °F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (If YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
		NO RECORDABLE INDICATIONS															
													CW 160	45°			RR

REMARKS * **16dB SWITCH DOWN RR**

**** 3/2 T OF WELD LENGTH WAS EXAMINED RR**

**** EXAMINED FROM L₀ TO L₆. RR**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)

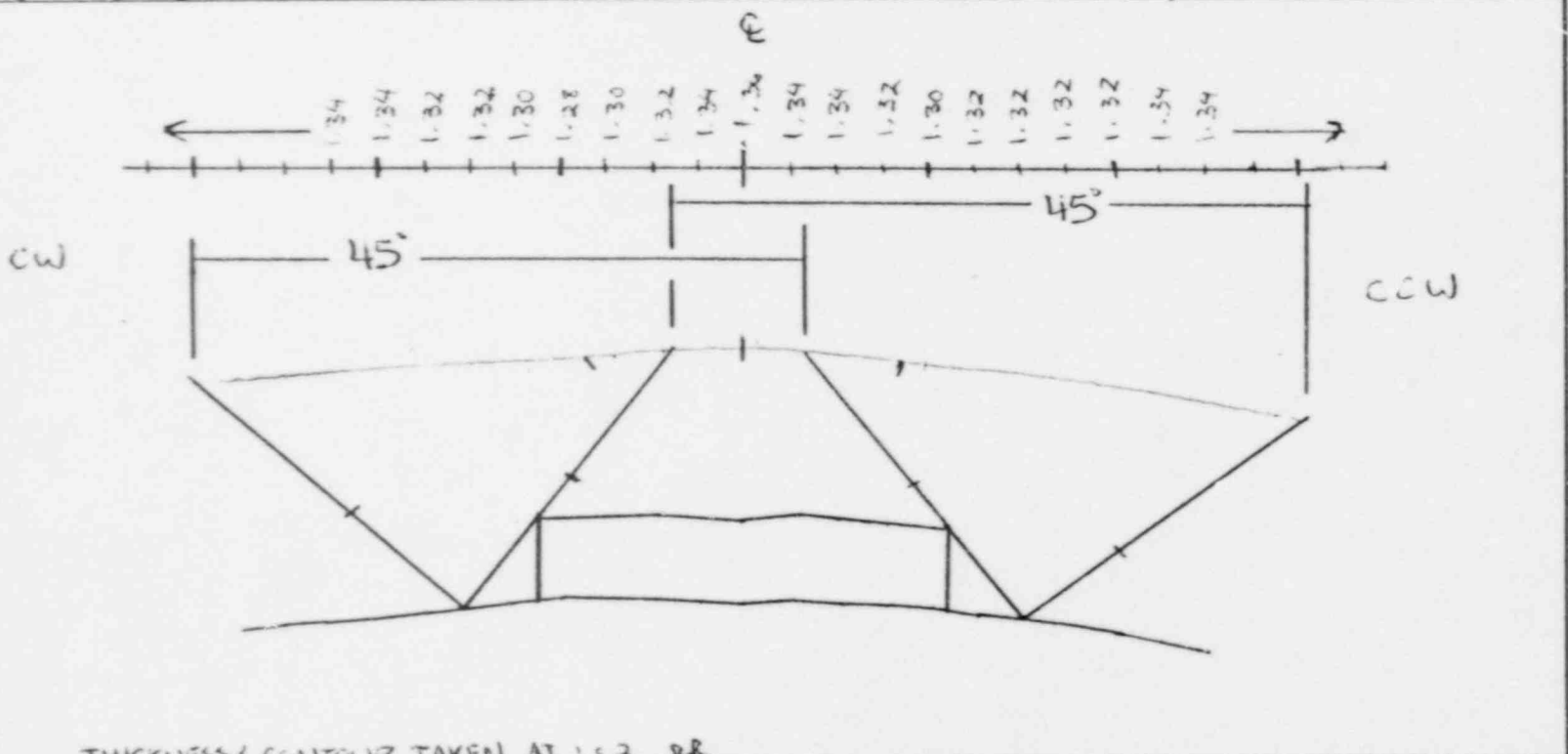
NONE RR

REVIEWED BY <i>Russell H. Rice</i>	SNT LEVEL II	DATE 21 APR 88	PAGE OF
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 16 APRIL 88	TIME (24 HR. CLOCK) INT. 1601 FINAL 1617	SHEET NO.: 10007	
EXAMINER <i>[Signature]</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41 Rev. 17 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 043325	COMPONENT ID: 34-MS-1202-10 LV1
EXAMINER T. BOHNENKAMPER	SNT LEVEL I		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: CS-IX-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	146-1
MATL. CAL.	110
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



THICKNESS & CONTOUR TAKEN AT 1.02 RR

45° Search Unit chosen for coverage using 2, 3, 5, 6, 7 nodes.	NAME: <i>[Signature]</i>	SNT LEVEL: II
1/4° Search Unit chosen for coverage using 1/4 nodes.		
REVIEWED BY: <i>[Signature]</i>	SNT LEVEL: II	DATE: 21 APR 88

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 427100
EXAMINATION AREA (SYSTEM / COMPONENT) <i>Main Steam</i>	(LINE / SUBASSEMBLY) <i>34-MS-1202</i>	(IDENTIFICATION) <i>10202</i>

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N A									<i>UP. LONG. SEAM - 2</i>
	FOLLOW-UP EXAMINATION										<i>600-41/18 Dev 1</i>
PT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
MT <input type="checkbox"/>	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	<i>890045</i>	<i>RAR</i>	<i>13 Apr 88</i>	<input checked="" type="checkbox"/>						<i>2.5t (4 INCHES) OF WELD</i>
	45° T SCAN	N A									<i>LENGTH REQUIRED. 6 INCHES</i>
	60° SCAN										<i>OF WELD EXAMINED.</i>
	60° T SCAN										<i>2 WEL ANI 5-9-88</i>
	<i>Profile</i>	<i>135098</i>	<i>RAR</i>	<i>16 Apr 88</i>							<i>Profile & Thickness Information</i>
		N A									

SUMMARIZED BY: <i>M. J. Kelly</i>	DATE: <i>21 Apr 88</i>	CONTINUED ON SHEET No.: <i>NA</i>	PAGE <i>1</i> OF <i>1</i>
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 18 APRIL 76		TIME: (24 HR CLOCK) EXAM STARTED 1513 EXAM ENDED 1604		SHEET No. 800015	
EXAMINATION AREA (SYST./COMP) MAIN STEAM		(LINE / SUBASSEMBLY) 34-MS-1302		(IDENTIFICATION) 10 L U 3		L ₀ LOCATION 7		W ₀ LOCATION WELD 6	
EXAMINER R.A. BUDDLES		SNT LEVEL II		CALIBRATION SHEET(S) 190104		ANGLE USED 45°		WELD TYPE LONG SEAM	
EXAMINER T. BOHNERKAMMER		SNT LEVEL I		PROCEDURE No 60C-41 REV 12 DEV 1		SCANNING dB 15/100		WELD LENGTH 12	
IND No. MAX		W MAX		L ₁ 100% DAC		SEARCH UNIT LOC.		EXAM SURFACE TEMPERATURE 75/75 °F	
W ₁ MP		W MP		50% DAC		SEARCH UNIT ANGLE		REMARKS	
W ₂ MP		W ₂ MP		100% DAC		L ₂ 100% DAC		DAMPS (IF YES, EXPLAIN)	
L MAX		L MAX		50% DAC		L ₂ 50% DAC		INI.	
NO RECORDABLE INDICATIONS									
100/500 45°									
RR									

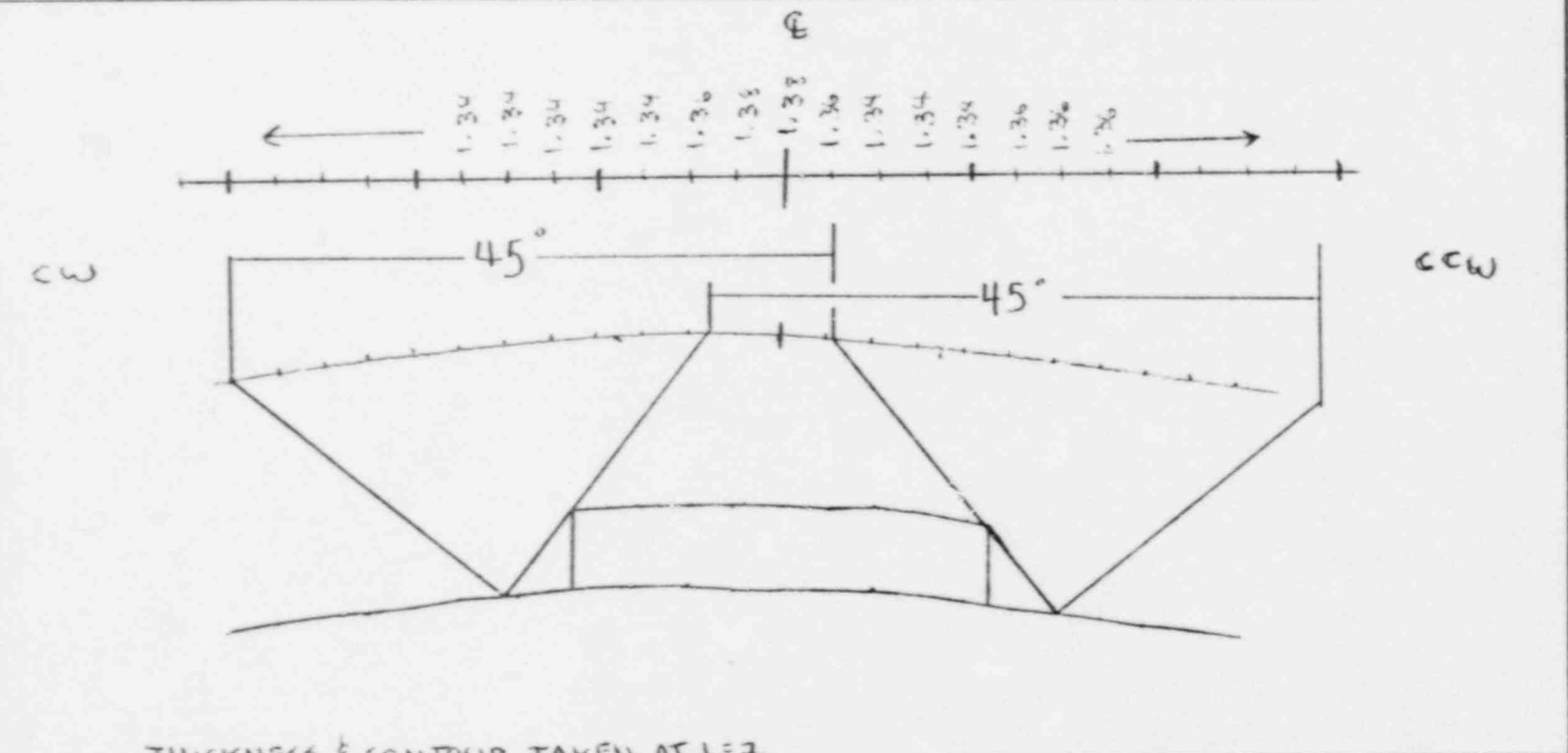
REMARKS * **46dB SWITCH DOWN RR**
 * * **EXAMINED 2 1/2 T OF WELD LENGTH RR**
 * * **EXAMINED FROM L₀ TO L₆ RR**

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE RR

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 16 APRIL 88	TIME (24 HR. CLOCK) INT. 1501 FINAL 1555	SHEET NO.: 200013	
EXAMINER <i>R. J. P. [Signature]</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41 Rev. 18 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 0433ZE	COMPONENT ID: 34-115-1202-10 LW 2
EXAMINER T. BOHNENKAMPER	SNT LEVEL I		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: CS-DC-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	111501
SIZE	1/4 DIA
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	146-1
MATL. CAL.	110
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



THICKNESS & CONTOUR TAKEN AT L=2		NAME: <i>Joseph [Signature]</i>	SNT LEVEL: II
45° Search Unit chosen for coverage using 2/8, 3/8, 5/8, 7/8 nodes.			
1/4° Search Unit chosen for coverage using N/A nodes.			
REVIEWED BY: <i>Russell [Signature]</i>	SNT LEVEL: II	DATE: 21 APR 88	

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 427150					
EXAMINATION AREA (SYSTEM / COMPONENT): MAIN STEAM		(LINE / SUBASSEMBLY): 3A-MS-1202		(IDENTIFICATION): 10					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	C N F No.	REMARKS
				N	I	G			
V T	N/A								600-41/18, DEV. 1
									20-38(34"-1.06"-25)
PT <input type="checkbox"/>									
MT <input type="checkbox"/>									
U T									
	890024	RAR	4-18-88	X			310013		TWO CODE ALLOWABLE UTAST
	890060	RAR	4-20-88	X			310015	1	INDICATIONS. SEE CNF 1.
	N/A								RWZ ANE 5-9-88
									FOLLOWING EVALUATION, THE
									INDICATIONS WERE ACCEPTED
									"AS" BY 664E PERSONNEL.
SUMMARIZED BY: Donald W York				DATE: 5-16-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1			

4-1150

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 13 APRIL 21		TIME: (24 HR CLOCK) EXAM STARTED 1533 EXAM ENDED 1604		SHEET No. 890024	
EXAMINATION AREA (SYST./COMP.)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)		L ₀ LOCATION		W ₀ LOCATION	
MAIN STEAM		34 - MS - 1202		10		1		WELD E	
EXAMINER	SNT LEVEL	PROCEDURE	CALIBRATION SHEET(S)	TYPE OF EXAMINATION	ANGLE USED	°	WELD TYPE	WELD LENGTH	EXAM SURFACE TEMPERATURE °F
RA RIDDLES	I	No 100-41 REV 17 DEV 1	190104	<input type="checkbox"/> ID <input checked="" type="checkbox"/> OD <input checked="" type="checkbox"/>	45	N	FLBW → PIPE	100 1/2	75°/75
EXAMINER	SNT LEVEL	100% DAC	L ₁	L ₂	SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
T. BOHNEKAOPER	I	W ₁ MP W ₂ 100% DAC	50% DAC 100% DAC L MAX	100% DAC 50% DAC	DN UP	45° 45°	NO NO	CAN BE SEEN INTERMITTENTLY	RR
1 03	1 3/2 1-55	NO REGRADABLE INDICATIONS	12 3/8 12 3/4	12 3/4					RR
REMARKS * 16dB SWITCH DOWN RR									
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)									
NONE RR									
REVIEWED BY		SNT LEVEL		DATE		PAGE		OF 1	
Russell J. Fin		II		21 APR 88		1		1	

SW. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	IDENTIFICATION	SHEET NO. 310013
SYSTEM / COMPONENT MAIN STEAM	LINE / SUBASSEMBLY 34. MS-1202	IDENTIFICATION 10	CALIBRATION SHEET (S) 190104
EXAMINER R. A. Riddle	PROCEDURE NO. 600-41	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 890024
EXAMINER T. Bohnenkammer	REV 18	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/>	
	DEVI I	NOZZLE-TO-SHELL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> OTHER _____	

45° INDICATION NO 1 IS A GEOMETRIC REFLECTOR

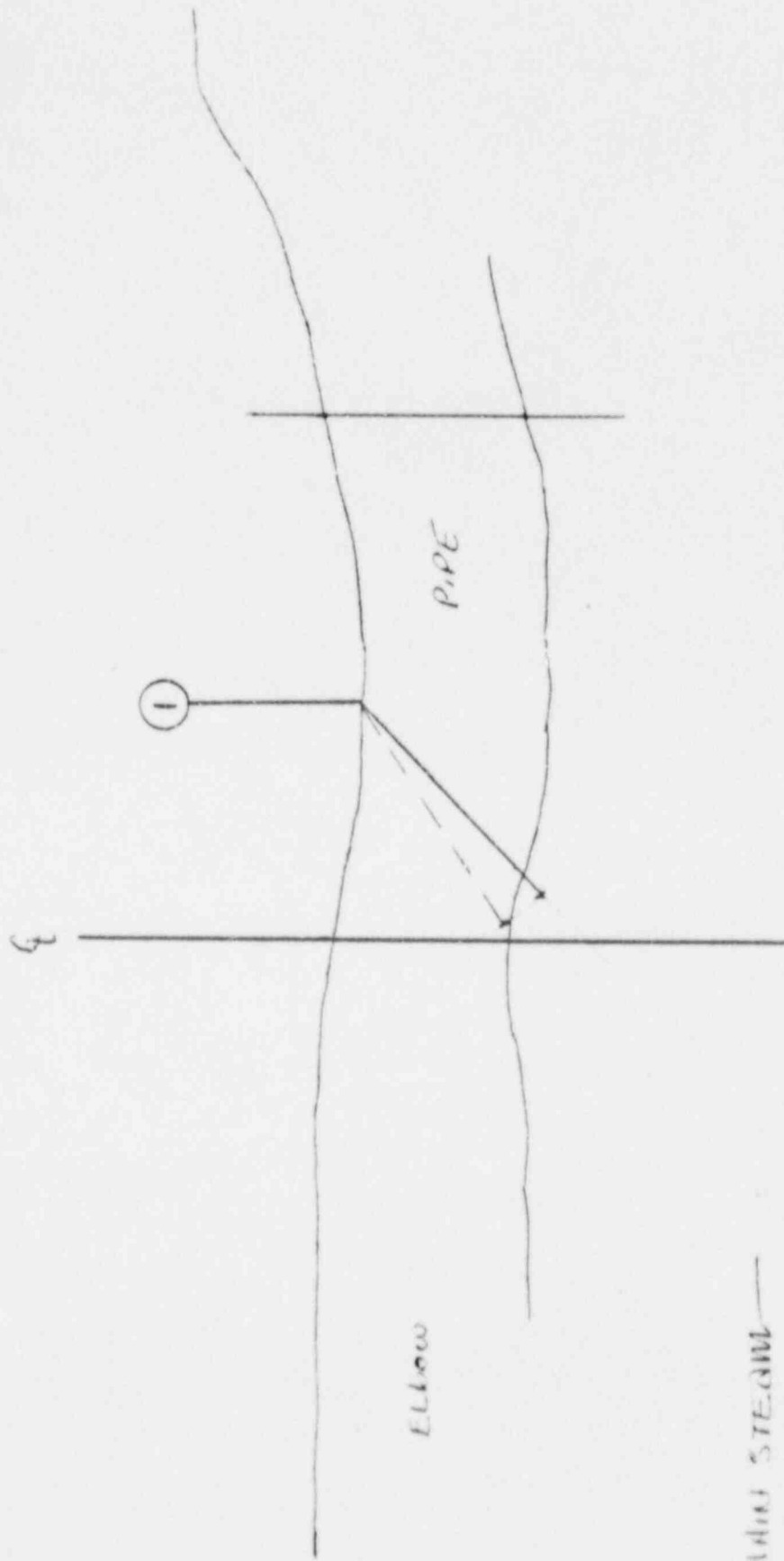
FROM THE WELD ROOT AREA. THIS INDICATION

CAN BE SEEN INTERMITTENTLY THROUGH OUT THE LENGTH

OF THE WELD.

ATTACHMENT	RESOLUTION BY <i>Russell Fin</i>	SNT LEVEL II	DATE 21 APR 88
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>T. Bohnenkammer</i>	SNT LEVEL II	DATE 23 APR 88
NO <input type="checkbox"/>			

47-1150



HIGH STEAM —
 34 MS - 1202 - 10
 21 APR 58
 Russell Fine Co.

1202

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 20 APRIL 88	TIME: (24 HR CLOCK) EXAM STARTED 1315 EXAM ENDED 1338	SHEET No. 820050
EXAMINATION AREA (SYST / COMP) MAIN STEAM	(LINE / SUBASSEMBLY) 34-MS-1202	(IDENTIFICATION) 10	L ₀ LOCATION 1	W ₀ LOCATION WELD E

EXAMINER R.A. RIDDLES	SNT LEVEL II	PROCEDURE No 600-41	CALIBRATION SHEET(S) 170048	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45°	SCANNING dB 760	WELD TYPE ELBOW → PIPE	WELD LENGTH 106 1/2	EXAM SURFACE TEMPERATURE 70 / 70 °F
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	REV 18 DEV 1							


IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
1	14			45 3/4	1.20					1/4			ON WELD	45°	NO	TRANS-DUCER SKEWED TOWARDS ELBOW CW	RR
2	10			47 3/4	1.02					0			ON WELD	45°	NO	TRANS-DUCER SKEWED 26° CCW	RR

REMARKS * +6dB SWITCH DOWN RR
 * RECORDED INDICATIONS #1, 2 AT LOW AMP TO CORRELATE WITH PREVIOUS DATA RR

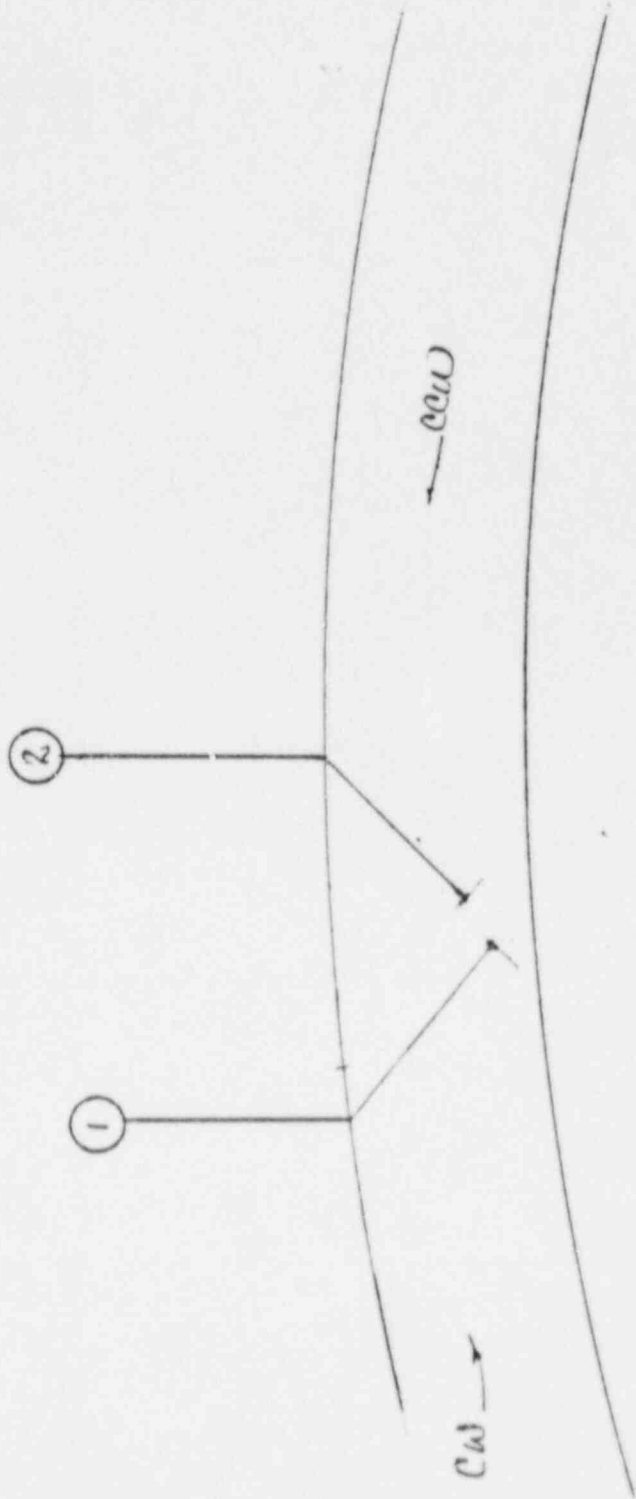
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
 NONE RR

REVIEWED BY <i>Russell Lim</i>	SNT LEVEL <i>II</i>	DATE 21 APR 88	PAGE OF 1 OF 1
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SW. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310015
SYSTEM / COMPONENT <i>MAIN STEAM</i>	LINE / SUBASSEMBLY <i>3A-M5-1202</i>	IDENTIFICATION 10	CALIBRATION SHEET (S) 190048
EXAMINER R.A. RULES	PROCEDURE NO. 600-41	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/>	EXAMINATION RECORD SHEET NO. (S) 890060
EXAMINER T. BOHNEMKAMPER	REV 18 DEV. 1	WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> LONGITUDINAL <input type="checkbox"/>	
<p><i>AS INDICATIONS 1 & 2 ARE SLAB LIKE REFLECTORS, THESE REFLECTORS ARE ACCEPTABLE IN ACCORDANCE WITH THE TABLES IN WB-35M-1 OF THE 1983 EDITION OF SECTION XI WITH ADDENDA THROUGH WINTER 1983. THE ACCEPTANCE STANDARDS FOR CLASS 2 PIPING IS IN THE COURSE OF PREPARATION THEREFORE THE RULES OF ILR-3000 MAY BE USED.</i></p> <p><i>THESE REFLECTORS WERE COMPARED TO THE DATA TAKEN DURING THE 1983 151, THE DATA CORRELATES.</i></p>			
ATTACHMENT	RESOLUTION BY <i>Russell J. ...</i>	SNT LEVEL II	DATE 22 APR 88
YES <input checked="" type="checkbox"/>	REVIEWED BY <i>R.A. Rules</i>	SNT LEVEL III	DATE 23 APR 88
NO <input type="checkbox"/>			

427150



MAIN STEAM
34 MS - 1702-10
21 APR 88
Russell H. Fitch II

10/1/88

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 427225
EXAMINATION AREA (SYSTEM / COMPONENT): Main Steam	(LINE / SUBASSEMBLY): 34-M5-1202 - top	(IDENTIFICATION): 10ALD

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N / A								LONG SEAM	
	FOLLOW-UP EXAMINATION	↓								600-41/18 Doc-1 CC-23	
PT <input type="checkbox"/>	INITIAL EXAMINATION										
WT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN	↓									
	45° SCAN	390001	RAR	19 Apr 88	X					25t (6") OF WELD LENGTH	
	45° T SCAN	N / A								EXAMINED. RUT LANE 5788	
	60° SCAN	↓									
	60° T SCAN	↓									
	Profile	135089	RAR	16 Apr 88						Profile & Thickness Information	
		N / A									
		↓									

SUMMARIZED BY: <i>[Signature]</i>	DATE: 22 Apr 88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 12 APRIL 83	TIME (24 HR. CLOCK) INT. 1032	SHEET NO.: 1
EXAMINER: <i>R. D. Riddell</i>	SNT LEVEL: II	THK. MEAS. REQ'D BY PROCEDURE: <input checked="" type="checkbox"/> SONIC MARK I <input type="checkbox"/> OTHER	SERIAL NO.: 04332E	COMPONENT ID: 311-005-1202-10A-D
EXAMINER: T. BOJNENKADPER	SNT LEVEL: I	COUPLANT: <input checked="" type="checkbox"/> GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: 65-DC-41	
SEARCH UNITS				
BRAND: MATERIALS ASSURANCE				
SERIAL NO.: E 7540				
SIZE: 1/2				
FREQ. (MHz): 3.35				
INSTRUMENT SETTINGS				
SCREEN SIZE: 5				
DELAY: 113-1				
MATL. CAL.: 103				
RANGE: 5				
REP. RATE: 38				
JACK USED: R				
TRANS. MODE: NORMAL				
REVIEWED BY: <i>Russell Rine</i>	SNT LEVEL: II	NAME: <i>R. D. Riddell</i>	SNT LEVEL: II	DATE: 19 APR 83

407755

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 427600
EXAMINATION AREA (SYSTEM/COMPONENT) <i>Main Steam</i>	(LINE/SUBASSEMBLY) <i>34-MS-1202</i>	(IDENTIFICATION) <i>132U</i>

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	<i>N/A</i>								LONG SEAM <i>600-41/18 Day 1</i> <i>CC-38 (34"-1.06"-CS)</i>	
	FOLLOW-UP EXAMINATION										
PT MT	INITIAL EXAMINATION										
	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN										
	45° SCAN	<i>890049</i>	<i>RAR</i>	<i>19 Apr 88</i>	X					<i>EXAMINED IN ACCORDANCE WITH PG&E AUGMENTED ISI PROGRAM 2.5t (3") REQUIRED. 4" EXAMINED. RWZ LANE 5-7-88</i>	
	45° T SCAN	<i>N/A</i>									
	60° SCAN										
	60° T SCAN										
Profile	<i>135093</i>	<i>RAR</i>	<i>19 Apr 88</i>								
	<i>N/A</i>										

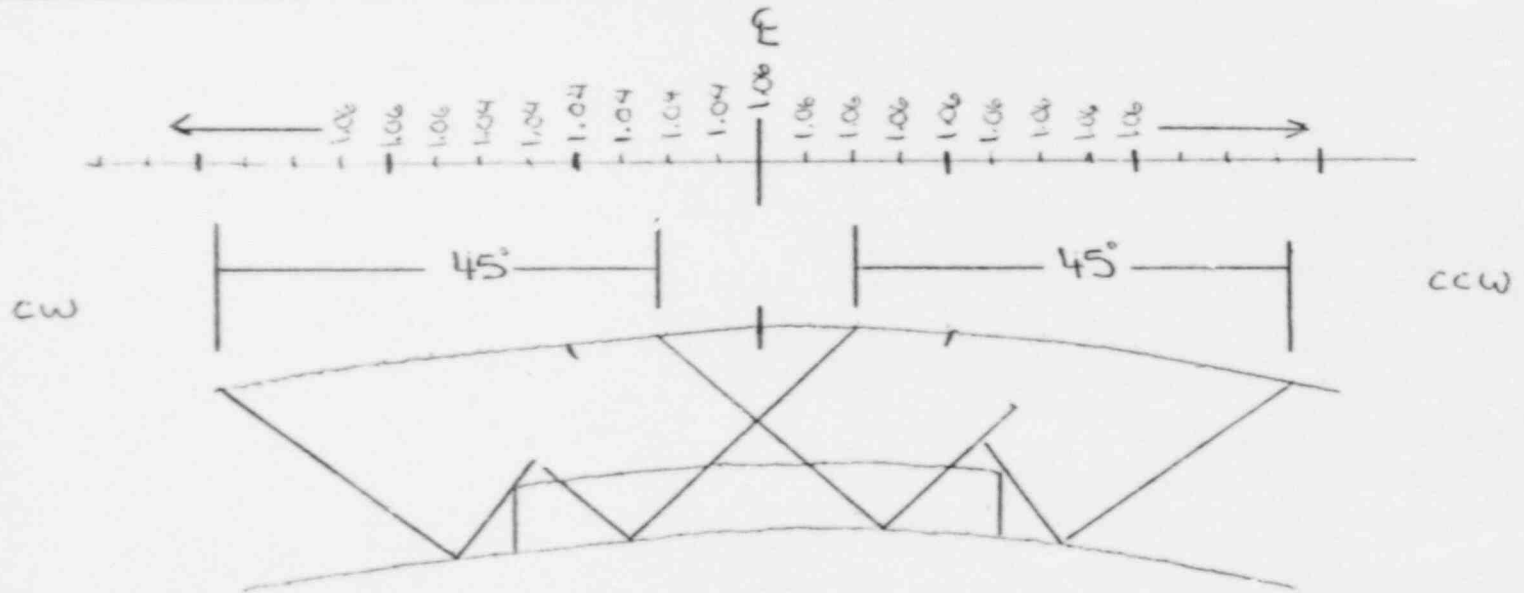
SUMMARIZED BY: <i>[Signature]</i>	DATE: <i>21 Apr 88</i>	CONTINUED ON SHEET No.: <i>NA</i>	PAGE <i>1</i> OF <i>1</i>
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427600

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 19 APRIL 88	TIME (24 HR. CLOCK) INT. 0953 FINAL 1004	SHEET NO.: 10003	
EXAMINER <i>R. LaRocca</i>	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41 Rev. 1B Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716	COMPONENT ID: 34-MS-1202-131U
EXAMINER T. BOHNENKAMPER	SNT LEVEL I		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: C5-DC-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2
DELAY	127-1
MATL. CAL.	104
RANGE	2
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



REVIEWED BY: <i>Russell In</i>	SNT LEVEL: II	DATE: 21 APR 88	NAME: <i>R. LaRocca</i>	SNT LEVEL: II
45° Search Unit chosen for coverage using 2 1/8 3/8 5/8 7/8 nodes.		N/A° Search Unit chosen for coverage using N/A nodes.		

SW. R. I. EXAMINATION SUMMARY RECORD

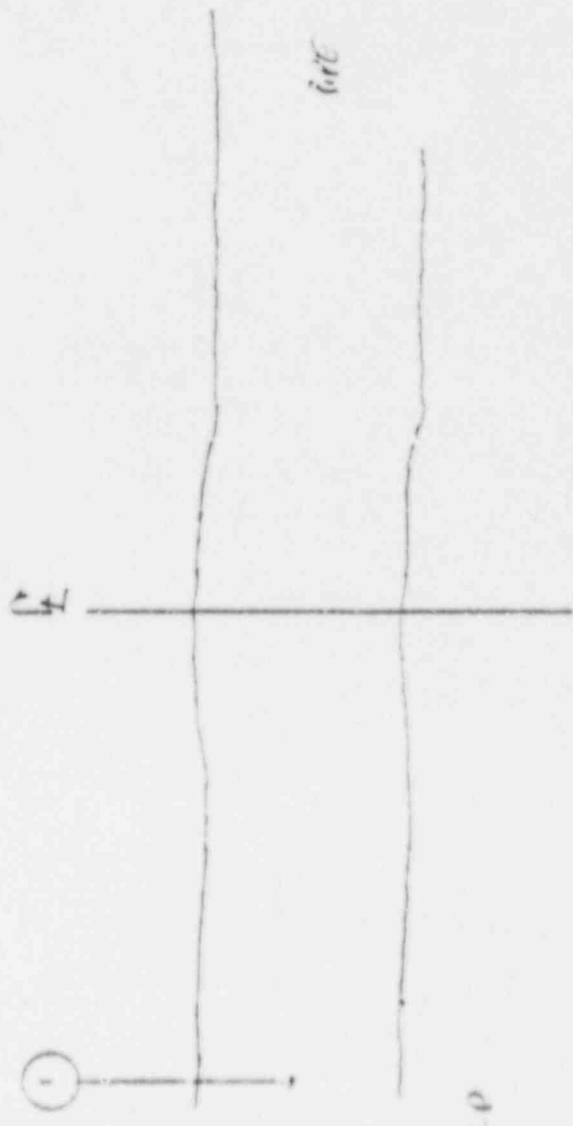
PROJECT No.:		SITE:		SHEET No.:					
17-2116		CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		427650					
EXAMINATION AREA (SYSTEM / COMPONENT)		(LINE / SUBASSEMBLY)		(IDENTIFICATION)					
Main Steam		34-M5-1202		13					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESCUATION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN	181015	RAR	19 Apr 88				X	310012	600-49/0 Dev 1, 2 & 3
<input type="checkbox"/> 0° WELD SCAN	N/A								600-41/18 Dev 1 C-38
<input type="checkbox"/> 45° SCAN	890046	RAR	19 Apr 88						ONE CODE ALLOWABLE CAMINPR-TYPE INDICATION. EARLY 88E
<input type="checkbox"/> 45° T SCAN	890058	RAR	20 Apr 88				X		CNF 2. RUT ^{ACI} 57-88
<input type="checkbox"/> 60° SCAN	N/A								FOLLOWING EVALUATION, THE INDICATION WAS ACCEPTED BY BEPE.
<input type="checkbox"/> 60° T SCAN									
Preble	135097	RAR	19 Apr 88						Profile & Thickness Information
	N/A								EXAMINED IN ACCORDANCE W/BEPE
									AVG-MONET ISI PROGRAM.
SUMMARIZED BY:			DATE	CONTINUED ON SHEET No.:		PAGE		OF	
<i>[Signature]</i>			22 Apr 88	NA		1		1	

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 19 APRIL 21	TIME (24 HR. CLOCK): INT. 0912 FINAL 0936	SHEET NO.:
EXAMINER: <i>R. P. P. P.</i>	THK. MEAS. REG'D BY PROCEDURE: No. 600-41 Rev. 17 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 774716	COMPONENT ID: 34-M5-1202-13
EXAMINER: T. BOHMENKAMPER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY):		REFERENCE BLK NO.: CS-DC-41
SEARCH UNITS				
BRAND: AEROTECH				
SERIAL NO. A11507				
SIZE: 1/4 DIAL				
FREQ. (MHZ): 3.35				
INSTRUMENT SETTINGS				
SCREEN SIZE: 2				
DELAY: 127-1				
MATL. CAL.: 104				
RANGE: 2				
REP. RATE: BK				
JACK USED: R/T				
TRANS. MODE: THRU				
REVIEWED BY: <i>Russell Price</i>	SNT LEVEL: <i>4E</i>	DATE: 21 APR 88	NAME: <i>R. P. P. P.</i>	SNT LEVEL: <i>II</i>

45° Search Unit chosen for coverage using 2/8 3/8 5/8 7/8 nodes.
 44° Search Unit chosen for coverage using N/A nodes.

05914



60E →

1100 STE. 401
 34 BUS. 1702-G P.O.
 10 APR. 68
 Russell L. ...

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 127700					
EXAMINATION AREA (SYSTEM / COMPONENT): Main Steam		(LINE / SUBASSEMBLY): 34-MS-1202		(IDENTIFICATION): 13LD					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No	REMARKS
				N	I	G			
INITIAL EXAMINATION									LONG SEAM
FOLLOW-UP EXAMINATION									600-41/18 D.v.1
INITIAL EXAMINATION									N-38
FOLLOW-UP EXAMINATION									
0° LAM SCAN									
0° WELD SCAN									
45° SCAN	890050	PAR	19 Apr 88	X					2.5 t (3") OF WELD LENGTH
45° T SCAN									REQUIRED. 4" OF WELD
60° SCAN									LENGTH EXAMINED. Rpt 5-9-88
60° T SCAN									
13509812									
Pictile	135098	PAR	19 Apr 88						Pictile & Thickness Ticker box
									EXAMINED IN ACCORDANCE w/BGIE
									Augmented ISI PROGRAM.
SUMMARIZED BY: <i>M. J. Long</i>			DATE: 21 Apr 88	CONTINUED ON SHEET No.: NA		PAGE (OF)			

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 19 APRIL 88		TIME: (24 HR CLOCK) EXAM STARTED 1010 EXAM ENDED 1041		SHEET No. 890050	
EXAMINATION AREA (SYST / COMP) MAIN STEAM		(LINE / SUBASSEMBLY) 34-M5-1202		(IDENTIFICATION) 13LD		L ₀ LOCATION 7		W ₀ LOCATION WELD 4	
EXAMINER R. RIDDLES		SNT LEVEL II	PROCEDURE No 600-41	CALIBRATION SHEET(S) 190105	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 45°	N	WELD TYPE LONG SEAM	
EXAMINER T. BOHNENKAMPER		SNT LEVEL I	REV 13 DEV 1		SCANNING dB 15/60		A	WELD LENGTH **	
								EXAM SURFACE TEMPERATURE 76/76 °F	

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.	
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC						
		NO RECORDABLE INDICATIONS																
														cw				R/R

REMARKS * 16dB SWITCH DOWN R/R
 ** EXAMINED FROM L₀ TO L₄ R/R

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
 NONE R/R

REVIEWED BY <i>Russell</i>	SNT LEVEL <i>II</i>	DATE <i>21</i>	
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 19 APRIL 88		TIME (24 HR. CLOCK) INT. 0918 FINAL 0936		SHEET NO.: 1000003	
EXAMINER <i>R. DeRosa</i>		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 774716		COMPONENT ID: 34-MS-1202-132D	
EXAMINER T. BOHLENKAMPER		SNT LEVEL I	Rev. 1 [] Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: CS-DC-41			
SEARCH UNITS									
BRAND	AERSONDA								
SERIAL NO.	A11307								
SIZE	1/4 DUAL								
FREQ. (MHz)	2.25								
INSTRUMENT SETTINGS									
SCREEN SIZE	2								
DELAY	123:1								
MATL. CAL.	104								
RANGE	2								
REP. RATE	3x								
JACK USED	R/T	(CONTOUR & THICKNESS) TAKEN AT L3 45° Search Unit chosen for coverage using $\frac{2}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}$ nodes. 1/2° Search Unit chosen for coverage using N/A nodes.							
TRANS. MODE	THRU	NAME: <i>R. DeRosa</i>		SNT LEVEL: II					
REVIEWED BY: <i>Russell Fin</i>		SNT LEVEL: I		DATE: 21 APR 88					

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.:	17-2115	SITE:	CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1			SHEET No.:	428750		
EXAMINATION AREA (SYSTEM / COMPONENT)	MAIN STEAM	(LINE / SUBASSEMBLY)	34-MS-1204			(IDENTIFICATION)	1A		
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N A								REDUCER → CURW
<input type="checkbox"/> FOLLOW-UP EXAMINATION									600-41/18, DEV. 1
<input type="checkbox"/> INITIAL EXAMINATION									CL-38 (34" - 1.06" - CS)
<input type="checkbox"/> FOLLOW-UP EXAMINATION									REXANE 5-1-88
<input type="checkbox"/> 0° LAM SCAN									
<input type="checkbox"/> 0° WELD SCAN									
<input type="checkbox"/> 45° SCAN	890072	RAR	4-25-88						
<input type="checkbox"/> 45° T SCAN	N A								
<input type="checkbox"/> 60° SCAN									
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> PROFILE	135119	RAR	4-25-88						PROFILE ONLY.
	N A								
SUMMARIZED BY:			Date			CONTINUED ON SHEET No.:		PAGE OF	
D. J. [Signature]			4-27-88			N/A		1 1	

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 25 APR 88	TIME (24 HR. CLOCK) INT. 0832 FINAL 0910	SHEET NO.: 135719
EXAMINER: <i>R. D. Barzila</i>	SNT LEVEL: II	THK. MEAS. PROC'D BY PROCEDURE: No. 600-41 Rev. 17 Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E
EXAMINER: T. SCUMENKADOPER	SNT LEVEL: I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)	REFERENCE BLK NO.: CS-DC-41	COMPONENT ID: 34-m5-1204-1A
SEARCH UNITS	UP	45°	45°	DN
BRAND: AEROTECH	SERIAL NO.: A11507	SIZE: 1/4 PC.	FREQ. (MHz): 225	
INSTRUMENT SETTINGS				
SCREEN SIZE: 2	DELAY: 143-1	MATL. CAL.: 108	RANGE: 2	REP. RATE: 3K
JACK USED: R,T	TRANS. MODE: THRU	45° Search Unit chosen for coverage using 218, 318, 718 nodes.		
REVIEWED BY: <i>Russell Tomic</i>	SNT LEVEL: II	NA° Search Unit chosen for coverage using NA nodes.		
NAME: <i>R. D. Barzila</i>			DATE: 26 APR 88	

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON. - YR) 25 APRIL 21		TIME: (24 HR CLOCK) EXAM STARTED 1525 EXAM ENDED 1558		SHEET No. 000072	
EXAMINATION AREA (SYST / COMP) MAIN STEAM		(LINE / SUBASSEMBLY) 34-035-1204		(IDENTIFICATION) 1A		L ₀ LOCATION Z		W ₀ LOCATION WELD E	
EXAMINER R. A. RIDDLES		SN. LEVEL II		CALIBRATION SHEET(S) 190078		TYPE OF EXAMINATION ID □ OD <input checked="" type="checkbox"/> SCANNING		WELD TYPE REDUCER → ELBOW	
EXAMINER T. BOAMENKAMPER		SNT LEVEL I		PROCEDURE No 600-41 REV 1B DEV 1		ANGLE USED 45 °		WELD LENGTH 107 1/2	
IND No. MAX		W MAX		L ₁ 100% DAC		SEARCH UNIT LOC		EXAM SURFACE TEMPERATURE 717 °F	
W ₁ MP W		W ₂ MP		50% DAC		UNIT ANGLE		REMARKS	
MP		MP		100% DAC		L ₂ 100% DAC		DAMPS (IF YES, EXPLAIN)	
MP		MP		50% DAC		50% DAC		INI.	
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MP		MP		100% DAC		100% DAC			
MP		MP		50% DAC					

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 430700
EXAMINATION AREA (SYSTEM / COMPONENT) <i>SAFETY INJECTION MAIN STEAM</i>	(LINE / SUBASSEMBLY) 6-115-1207	(IDENTIFICATION) 1

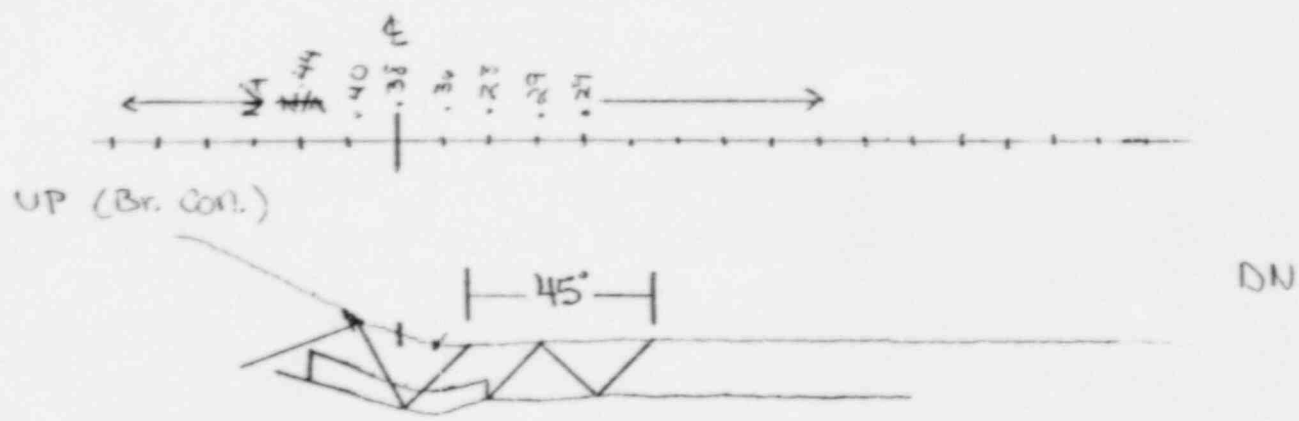
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N/A									BR. CONN → PIPE
	FOLLOW-UP EXAMINATION	↓									600-41/13 Div 1 CC-20
PT MT	INITIAL EXAMINATION	↓									
	FOLLOW-UP EXAMINATION	↓									
U T	0° LAM SCAN	↓									
	0° WELD SCAN	↓									
	45° SCAN	890012	RAR	14 Apr 88	X						Complete coverage obtained from pipe side. No UT from BC SIDE DUE TO BC CONFIGURATION.
	45° T SCAN	N/A									RWZ ANE 5-9-88
	60° SCAN	↓									
	60° T SCAN	↓									
	Profile	135004	RAR	13 Apr 88							Profile and Thickness Interrelation EXAMINED IN ACCORDANCE WITH BGE AUGMENTED ISI PROGRAM.
		N/A									
		↓									
		↓									

SUMMARIZED BY: <i>M. J. Hely</i>	DATE: 15 Apr 88	CONTINUED ON SHEET No.: NA	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 13 APRIL 88	TIME (24 HR. CLOCK) INT. 0830 FINAL 1205	SHEET NO.: 135001
EXAMINER	<i>R.A. Riddles</i>	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE No. 100-241 Rev. 18 RR Dev. 1	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
EXAMINER	T. BONNENKAMPER	SNT LEVEL	I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>
				SERIAL NO.:	04332E
				COMPONENT ID:	6-MS-1207-1
				REFERENCE BLK NO.:	CS-DC-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11307
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	147-1
MATL. CAL.	110
RANGE	1
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU
REVIEWED BY:	<i>Russell Fine</i>



CANNOT SCRUB OVER WELD R/R

45° Search Unit chosen for coverage using $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{8}$ nodes. 1/4" Search Unit chosen for coverage using $\frac{1}{4}$ nodes.	NAME: <i>R.A. Riddles</i>	SNT LEVEL: II
DATE: 15 APR 88		

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 430750					
EXAMINATION AREA (SYSTEM/COMPONENTS): MAIN STEAM		(LINE/SUBASSEMBLY): G-MS-1207		(IDENTIFICATION): 2					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
				N	I	G			
V T	N/A								PIPE → ELBOW
	↓								600-41/18, DEV. 1
PT MT									CC-20 (6"-3.30 CS)
U T									
	890013	RAK	4-14-88						COVERAGE OBTAINED FROM ELBOW
	N/A								SIDE. NO. OF FILM PIPE SIDE INUE
	↓								TO PROXIMITY OF PIPE COLLAR.
									Rec'd 4/15/88
	155005	RAK	4-13-88						THICKNESS & PROFILE ONLY
	N/A								EXAMINED IN ACCORDANCE WITH
	↓								BBTE AUGMENTED ISI PROGRAM.
SUMMARIZED BY: Donald W. York		DATE: 4-15-88		CONTINUED ON SHEET No.: N/A		PAGE 1		OF 04	

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON - YR) 14 APRIL 78	TIME: (24 HR CLOCK) EXAM STARTED 0942 EXAM ENDED 0945	SHEET No. 890013
EXAMINATION AREA (SYST / COMP) MAIN STEAM	(LINE / SUBASSEMBLY) 6-MS-1207	(IDENTIFICATION) 2	L ₀ LOCATION 1	W ₀ LOCATION WELD 4
EXAMINER R. A. RIDDLES	SNT LEVEL II	PROCEDURE No 600-41 REV 17 DEV 1	CALIBRATION SHEET(S) 190031	TYPE OF EXAMINATION 10 <input type="checkbox"/> OD <input checked="" type="checkbox"/>
EXAMINER T. BOHNENKAMPER	SNT LEVEL IT		ANGLE USED 45°	WELD TYPE PIPE → ELBOW
			SCANNING dB 10/50	WELD LENGTH 21 1/4
				EXAM SURFACE TEMPERATURE 78°/78 °F

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC					
		NO RECORDABLE INDICATIONS										DN	45°				RR

REMARKS **x +6dB SWITCH DOWN RR**
COVERAGE OBTAINED FROM ELBOW SIDE RR
RR ACCESSABLE FROM DOWN SIDE ONLY DUE TO PIPE ENCAPSULATION. RR

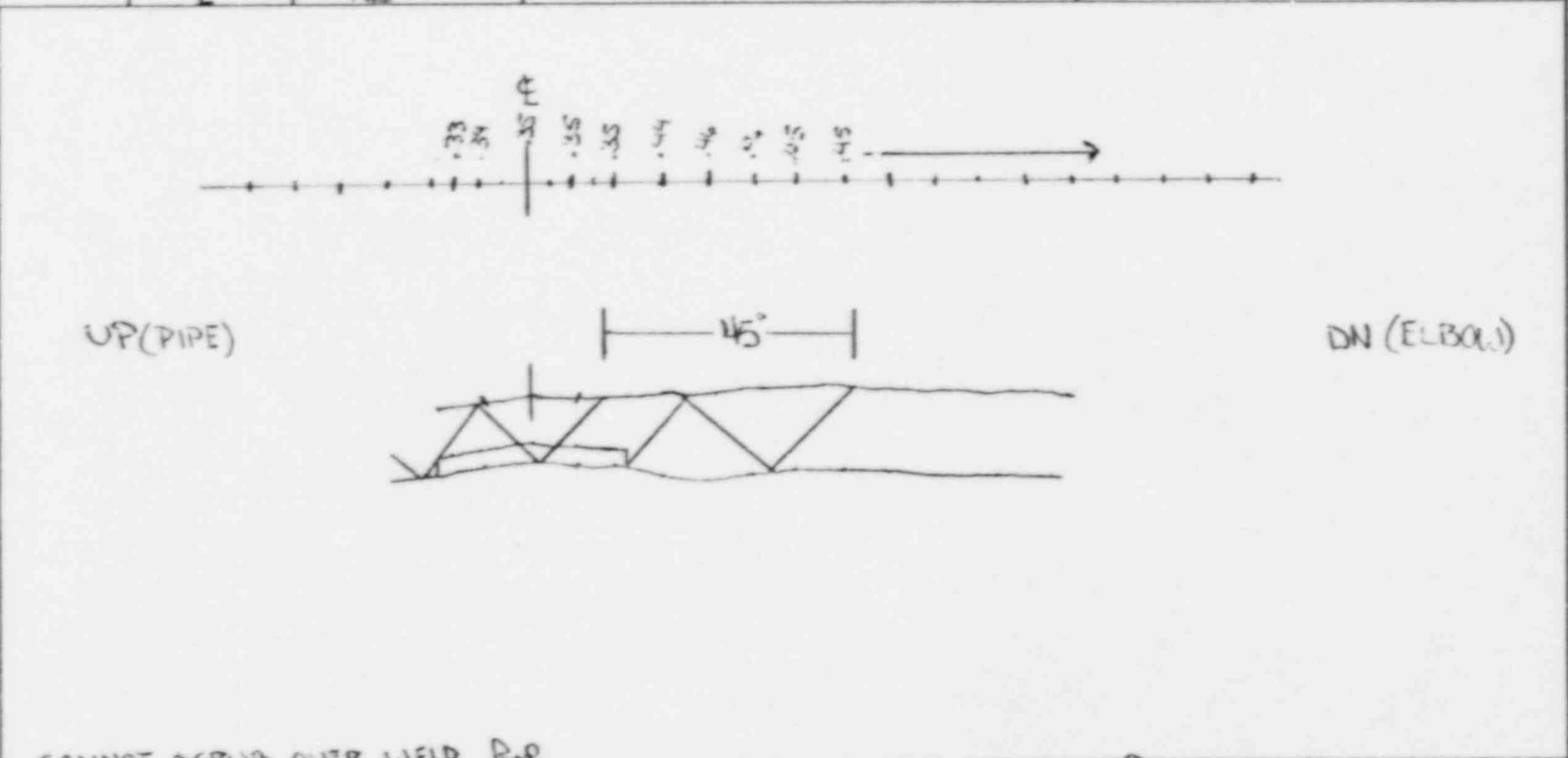
EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE RR SEE REMARKS. RR

REVIEWED BY <i>Russell J. ...</i>	SNT LEVEL II	DATE 15 APR 78	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.:	17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 13 APRIL 88	TIME (24 HR. CLOCK) INT. 0630 FINAL 1205	SHEET NO.: 137005
EXAMINER	<i>RD LaRosa</i>	SNT LEVEL	II	THK. MEAS. REQ'D BY PROCEDURE No. 600-4941 Rev. 18 Dev. 41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>
EXAMINER	R.A. RIDDLES	SNT LEVEL	I	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	SERIAL NO.: 04332E
EXAMINER	T. BOHNENKAMPER				COMPONENT ID: 6-MS-1207-2 REFERENCE BLK NO.: CS-DC-41

SEARCH UNITS	
BRAND	AEROTECH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	147-1
MATL. CAL.	110
RANGE	1
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



REVIEWED BY: <i>Russell Fine</i>	SNT LEVEL: II	NAME: <i>RD LaRosa</i>	DATE: 15 APR 88
45° Search Unit chosen for coverage using 1/2, 3/8, 1/4, 1/8 nodes. ___° Search Unit chosen for coverage using ___ nodes.		SNT LEVEL: II	

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	SHEET No.: 431750
EXAMINATION AREA (SYSTEM / COMPONENT): Main Steam	(LINE / SUBASSEMBLY): 6-MS-1208	(IDENTIFICATION): 10N

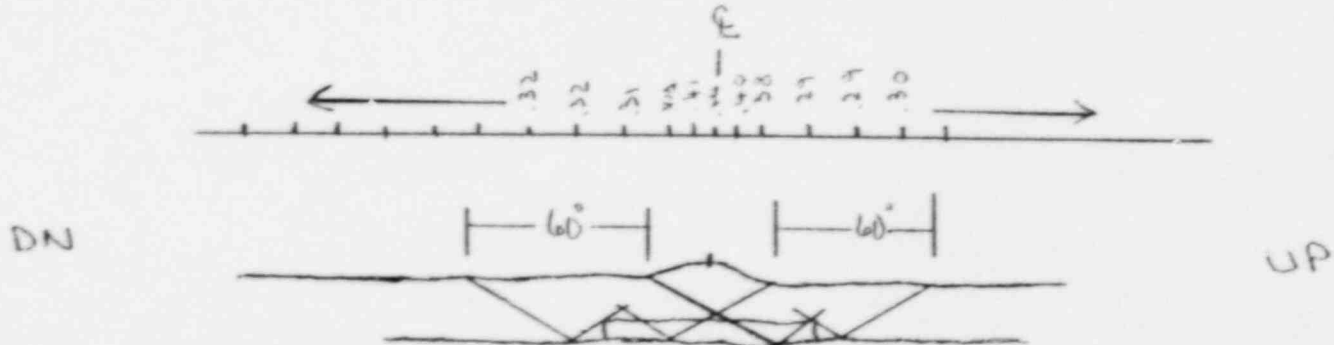
	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS	
					N	I	G	O				
VT	INITIAL EXAMINATION	N A									PIPE → PIPE	
	FOLLOW-UP EXAMINATION										600-41/18 Doc 1	
PT <input type="checkbox"/>	INITIAL EXAMINATION										CC-20 (6" - .310" - CS)	
MT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										Root ANI 54-28	
UT	0° LAM SCAN											
	0° WELD SCAN											
	45° SCAN											
	45° T SCAN										EXAMINED IN ACCORDANCE	
	60° SCAN	890019	RAR	14 Apr 88			X		310003			N/BBE AUGMENTED ISI PROGRAM.
	60° T SCAN	N A										
	Probe	135096	RAR	13 Apr 88								Thickness of Probe only
		N A										

SUMMARIZED BY: <i>[Signature]</i>	DATE: 20 Apr 88	CONTINUED ON SHEET No.: NA	PAGE 1 OF 1
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SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: (DAY-MONTH-YEAR) 13 APR 88	TIME (24 HR. CLOCK) INT. 1340 FINAL 1441	SHEET NO.: 25000	
EXAMINER: <u>R.A. RIDDLES</u>	SNT LEVEL: <u>II</u>	THK. MEAS. REQ'D BY PROCEDURE No. 600-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E	COMPONENT ID: 6-MS-1208-10N
EXAMINER: <u>T. BOHNENKAMP</u>	SNT LEVEL: <u>I</u>	Rev. 18 Dev. 1, 2, 2	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO.: CS-DC-41	

SEARCH UNITS	
BRAND	ACRUTCH
SERIAL NO.	A11507
SIZE	1/4 DUAL
FREQ. (MHz)	225
INSTRUMENT SETTINGS	
SCREEN SIZE	1
DELAY	147-1
MATL. CAL.	110
RANGE	1
REP. RATE	3K
JACK USED	R/T
TRANS. MODE	THRU



* CONTOUR & THICKNESS MEASUREMENTS TAKEN AT 1-3 RE. CANNOT SCRUB OVER WELD RE

REVIEWED BY: <u>Russell J. Fin</u>	SNT LEVEL: <u>II</u>	DATE: 20 APR 88	NAME: <u>R.A. Riddles</u>	SNT LEVEL: <u>II</u>
60° Search Unit chosen for coverage using 2/8, 6/8, 10/8 nodes.		1/4° Search Unit chosen for coverage using 1/4 nodes.		

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY - MON. - YR.) 14 APRIL 88	TIME: (24 HR CLOCK) EXAM STARTED 1439 EXAM ENDED 1455	SHEET No. 890019
EXAMINATION AREA (SYST / COMP) MAIN STEAM	(LINE / SUBASSEMBLY) 6-MS-1208	(IDENTIFICATION) 10N	L ₀ LOCATION 1	W ₀ LOCATION WELD E

EXAMINER R.A. RIDDLES	SNT LEVEL II	PROCEDURE No 600-41 REV 12 DEV 1	CALIBRATION SHEET(S) PR 1900147	TYPE OF EXAMINATION ID <input type="checkbox"/> OD <input checked="" type="checkbox"/>	ANGLE USED 60° N	SCANNING dB +	WELD TYPE PIPE → PIPE	WELD LENGTH 21 3/4	EXAM SURFACE TEMPERATURE 73°/72°
EXAMINER T. BOHNERKAMPER	SNT LEVEL I								

IND No.	% OF DAC MAX	100% DAC		W MAX		100% DAC		L ₁		L MAX	L ₂		SEARCH UNIT LOC.	SEARCH UNIT ANGLE	DAMPS (IF YES, EXPLAIN)	REMARKS	INI.	
		W ₁	MP	W	MP	W ₂	MP	50% DAC	100% DAC		100% DAC	50% DAC						
1	50			5/2	.7					4 3/4			DN	60°	NO	CAN BE SEEN INTERMITTENTLY	RR	
				NO RECORDABLE INDICATIONS													RR	

REMARKS * +6dB SWITCH DOWN RR

EXAMINATION AREA LIMITATION (IF NONE, SO STATE)
NONE RR

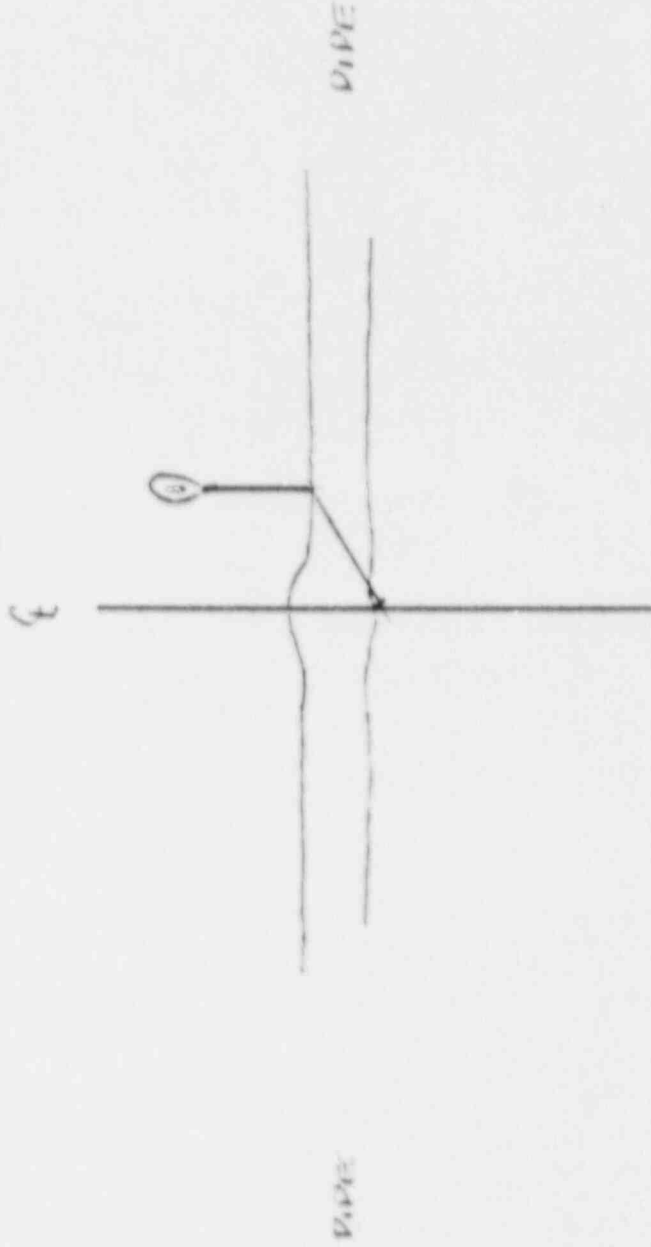
REVIEWED BY <i>Russell + Jim</i>	SNT LEVEL II	DATE 15 APR 88	PAGE 1 OF 1
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Sw. R.I. INDICATION RESOLUTION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET NO. 310003
SYSTEM / COMPONENT MAIN STEAM	LINE / SUBASSEMBLY 6-MS-1208	IDENTIFICATION 10N	CALIBRATION SHEET (S) 190017
EXAMINER R.A. RUTLES	SNT LEVEL II	PROCEDURE NO 600-41	EXAMINATION RECORD SHEET NO. (S) 890019
EXAMINER T. BOHNENKAMPER	SNT LEVEL I	EXAMINATION METHOD VT <input type="checkbox"/> PT <input type="checkbox"/> MT <input type="checkbox"/> UT <input checked="" type="checkbox"/> RT <input type="checkbox"/> WELD TYPE CIRCUMFERENTIAL <input checked="" type="checkbox"/> MERIDIONAL <input type="checkbox"/> LONGITUDINAL <input type="checkbox"/> NOZZLE-TO-SHELL <input type="checkbox"/> OTHER _____	

60° INDICATION NO 1 IS A GEOMETRIC REFLECTOR
FROM THE WELD ROOT AREA. THIS INDICATION
CAN BE SEEN THROUGH^{OUT} THE LENGTH OF THE WELD

ATTACHMENT YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	RESOLUTION BY Russell H. Fine	SNT LEVEL II	DATE 15 APR 88
	REVIEWED BY Lyle Spess	SNT LEVEL II	DATE 15 APR 88



HARD STEEL
 6 - 115 - 170 Ft - 10N
 15 APR 58
 Kusler Inc - II

Sw. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2146	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT No. 1	SHEET No.: 431900
EXAMINATION AREA (SYSTEM / COMPONENT): MAIN STEAM	(LINE / SUBASSEMBLY): 6-MS-1208	(IDENTIFICATION): 11 N

	EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS				RESOLUTION RECORD SHEET No.	CNF No.	REMARKS
					N	I	G	O			
V T	INITIAL EXAMINATION	N/A									(PIPE TO VALVE) 600-41/18, DEV. 1 CC-20 (6"-.310"-CS)
	FOLLOW-UP EXAMINATION	↓									
PT <input type="checkbox"/>	INITIAL EXAMINATION										
MT <input type="checkbox"/>	FOLLOW-UP EXAMINATION										
U T	0° LAM SCAN										
	0° WELD SCAN	↓									
	45° SCAN	890014	RAR	4-14-88	X						COVERAGE OBTAINED FROM PIPE ON
	45° T SCAN	N/A									SIDE NO UT FROM VALVE SIDE
	60° SCAN	↓									DUE TO VALVE CONFIGURATION.
	60° T SCAN	↓									RUL ^{ANE} 5-9-88
	WELD PROFILE	135026	RAR	4-15-88							THICKNESS: PROFILE ONLY
		N/A									EXAMINED IN ACCORDANCE WITH
		↓									SEE AUGMENTED ISI PROGRAM.
		↓									

SUMMARIZED BY: <i>Donald W. York</i>	DATE: 4-15-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1
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S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No 17-21:6		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE: (DAY - MON - YR) 14 APRIL 88		TIME: (24 HR CLOCK) EXAM STARTED 0951 EXAM ENDED 0955		SHEET No 890014	
EXAMINATION AREA (SYST/COMP) MAIN STEAM		(LINE / SUBASSEMBLY) 6-1005-1202		(IDENTIFICATION) 11N		L ₆ LOCATION WELDE			
EXAMINER R. A. RIDDLES		SNT LEVEL II		PROCEDURE No 500-141 REV 13 DEV 1		CALIBRATION SHEET(S) 190021		TYPE OF EXAMINATION 100% OD	
EXAMINER T. JOHANNENKAMPER		SNT LEVEL IT		L ₁ 100% DAC		L ₂ 100% DAC		WELD TYPE PIPE → VALVE	
IND No		100% DAC		W ₁ MP		W ₂ MP		WELD LENGTH 21 3/4	
% OF DAC MAX		W ₁ MP		W ₂ MP		SEARCH UNIT LOC		EXAM SURFACE TEMPERATURE 78°/78° F	
		NO RECORDABLE INDICATIONS		L ₁ 50% DAC		L ₂ 50% DAC		DAMPS (IF YES, EXPLAIN)	
				L ₁ 100% DAC		L ₂ 100% DAC		REMARKS RR	
				L ₁ 50% DAC		L ₂ 50% DAC			
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				L ₁ 100% DAC		L ₂ 100% DAC			
				L ₁ 50% DAC		L ₂ 50% DAC			
				L ₁					

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1	DATE: 13 APR 88	TIME (24 HR. CLOCK) INT. 1340 FINAL 1444	SHEET NO.: 3
EXAMINER: <i>R. A. Kiddle</i>	THK. MEAS. PROCEDURE: BY PROCEDURE No. 60-444-41 Rev. 6-78 Dev. 10-81	REG'D: <input checked="" type="checkbox"/> INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO.: 04332E	COMPONENT ID: 6-015-1208-11N
EXAMINER: T. DUMINEKHOFFER	SMT LEVEL: II	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> OTHER (SPECIFY) _____	WATER <input type="checkbox"/>	REFERENCE BLK NO.: CS-DC-41

SEARCH UNITS	BRAND: AERITECH	SERIAL NO.: AU1507	SIZE: 1/4 DUAL	FREQ. (MHz): 2.25
INSTRUMENT SETTINGS				
SCREEN SIZE: 1	DELAY: 147-1	MATL. CAL.: 110	RANGE: 1	REP. RATE: 3%
JACK USED: 3/4	TRANS. MODE: THRU	REVIEWED BY: <i>Russell</i>		

no. Extra Dux to Cast material

UP

CONTOUR THICKNESS TAKEN AT 1-3 R.P.

45° Search unit chosen for coverage using 4/8 5/8 12/8 1/8 nodes.

Search unit chosen for coverage using _____ nodes.

NAME: *R. A. Kiddle*

DATE: 16 APR 88

SMT LEVEL: II

FEEDWATER SYSTEM

SW. R. I. EXAMINATION SUMMARY RECORD

PROJECT No.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		SHEET No.: 432450					
EXAMINATION AREA (SYSTEM / COMPONENT): FEEDWATER		(LINE / SUBASSEMBLY): 16-FIV-1201		(IDENTIFICATION): 5					
EXAMINATION TYPE	EXAMINATION RECORD SHEET No.	EXAMINER INITIALS	EXAM DATE	INDICATIONS			RESOLUTION RECORD SHEET No.	C/NF No.	REMARKS
				N	I	G			
<input type="checkbox"/> INITIAL EXAMINATION	N/A								
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> INITIAL EXAMINATION									
<input type="checkbox"/> FOLLOW-UP EXAMINATION									
<input type="checkbox"/> 0° LAM SCAN	181071	RAR	4-25-88	X					600-49/0, DEV 1, 2, 3
<input type="checkbox"/> 0° WELD SCAN	N/A								600-41/18, DEV. 1
<input type="checkbox"/> 45° SCAN	890073	RAR	4-25-88	X					CC-24 (16" - .844" - CS)
<input type="checkbox"/> 45° T SCAN	N/A								RWZ ANE 5-9-88
<input type="checkbox"/> 60° SCAN									
<input type="checkbox"/> 60° T SCAN									
<input type="checkbox"/> FLOFILE	135129	RAR	4-25-88						
	N/A								
SUMMARIZED BY: Donald W. York			DATE: 4-27-88	CONTINUED ON SHEET No.: N/A	PAGE 1 OF 1				

SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO.: 17-2116		SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1		DATE: (DAY-MONTH-YEAR) 25 APRIL 88		TIME (24 HR. CLOCK) INT. 0920 FINAL 1010		SHEET NO.: 135/29	
EXAMINER <i>R. LaRocca</i>		SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. 600-41	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		SERIAL NO.: 04332E		COMPONENT ID: 16-FW-1201-5	
EXAMINER T. BOHNENKAMPER		SNT LEVEL I	Rev. 18 Dev. 1	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____		REFERENCE BLK NO.: CS-DC-41			
SEARCH UNITS		<div style="display: flex; justify-content: space-between;"> OP BR ← 0.0 0.0 0.0 0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.52 DN RR UP </div>							
BRAND	ALBOTECH								
SERIAL NO.	A11507								
SIZE	1/4 PC.								
FREQ. (MHz)	225								
INSTRUMENT SETTINGS									
SCREEN SIZE	2								
DELAY	143-1								
MATL. CAL.	108								
RANGE	2								
REP. RATE	3K								
JACK USED	R:T								
45° Search Unit chose: for coverage using <u>1/8 6/8 10/8</u> nodes.		NAME: <i>R. LaRocca</i>		SNT LEVEL: II					
TRANS. MODE: THRU		N/A° Search Unit chosen for coverage using <u>4/8</u> nodes.							
REVIEWED BY: <i>Russell Line</i>		SNT LEVEL: II		DATE: 26 APR 88					

S W R I MANUAL ULTRASONIC EXAMINATION RECORD

PROJECT No. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT. UNIT NO. 1		DATE (DAY - MON - YR) 25 APRIL 78		TIME (24 HR CLOCK) EXAM STARTED 1615		SHEET No. 000073	
EXAMINATION AREA (SYST / COMP) FEEDWATER		(LINE / SUBASSEMBLY) 16 - FW-1201		(IDENTIFICATION) 5		L ₀ LOCATION WELD 4		W ₀ LOCATION WELD 4	
EXAMINER R. A. RIDDLE	SNT LEVEL I	PROCEDURE NO SCOPE REV 1	CALIBRATION SHEET(S) 19C121	TYPE OF EXAMINATION 100% OD	ANGLE USED 45°	WELD TYPE BEVEL	WELD TYPE BEVELATION → PIPE		
EXAMINER T. BARRINGER	SNT LEVEL I	DEV 1		SCANNING dB	60	WELD LENGTH 52 1/2	EXAM SURFACE TEMPERATURE 77/77 °F		
IND No. NO RECORDABLE INDICATIONS	100% DAC	W MAX	100% DAC	L ₁	SEARCH UNIT LOC	DAMPS	REMARKS		INI
	W ₁	MP	MP	50% DAC	UNIT ANGLE	(IF YES, EXPLAIN)			
				100% DAC	UP 45				
REMARKS NO RECORDABLE INDICATIONS									
EXAMINATION AREA LIMITATION (IF NONE, 50 STATE)									
REVIEWED BY Russell DATE None DR									
SNT LEVEL SE									
PAGE 1 OF 1									

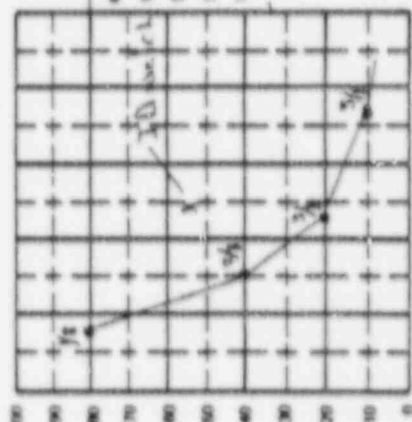
CALIBRATION RECORDS

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 19 Apr, 1988	TIME (24 HR CLOCK) 1300	SHEET NO 190003	
EXAMINER (SIGNATURE) <i>D. W. G. G. G.</i>	PROCEDURE No. 600-49 Rev. 0 Des. 18213	INSTRUMENT SONIC MARK SERIAL NO. 04329E	CALIBRATION VERIFICATION		
21 EXAMINER <i>D. W. G. G. G.</i>	COMPLAINT (1) Diaphragm () Water () Other (Specify)	TIME N/A () TEMPERATURE 72 INITIALS JD			
REFERENCE BLOCK SIZE CS-DC-30		ADDITIONAL INFORMATION			
NORMAL ANGLE 0°	NOMINAL ANGLE N/A	AMPLITUDE DETERMINATION S/B VEE PATH			
MEASURED ANGLE N/A	SIGNAL DISTANCE IN INCHES N/A	45° 3/B N/A % FSH 60° 5/B N/A % FSH 72° 8/B N/A % FSH			
BRAND SWRT	SCREEN DISTANCE IN INCHES N/A	CABLE TYPE N/A INITIAL CAL BLOCK 32			
SIZE 1		REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Documented <input type="checkbox"/> Other N/A			
FREQUENCY (MHz) 2.25		10 SCREEN DIVISIONS - 5 INCHES LONGITUDINAL <input checked="" type="checkbox"/> SHEAR ()			
INSTRUMENT SETTINGS		PYROMETER S/N SWRT 146 INST. LINEARITY SHEET No. A 087000943-N/A BEAM SPREAD SHEET No.			
REFLECT		BASIC CALIBRATION BLOCK NO. N/A			
DEC	REMARKS: * 37102380				
FINE dB	EXAMINATION AREA: Steam Generator SG-11-3				
COARSE dB	Length: 96 in				
6 dB SWITCH	Length: 96 in				
14 dB SWITCH	Length: 96 in				
FREQUENCY	Length: 96 in				
DELAY	Length: 96 in				
MATL. CAL	Length: 96 in				
RANGE	Length: 96 in				
DAMPING	Length: 96 in				
REP. RATE	Length: 96 in				
FILTER	Length: 96 in				
VIDEO	Length: 96 in				
TRAN. MODE	Length: 96 in				
JACK USED	Length: 96 in				
% ± dB	Length: 96 in				
METHOD-PRIMARY	Length: 96 in				
SECONDARY	Length: 96 in				
REVIEWED BY <i>K. ...</i>	SNT LEVEL IC	DATE 15 APR 88	SNT LEVEL IC		

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 14 APR 88	TIME (24 HR CLOCK) 0945	SHEET NO 19CC04
EXAMINER (SIGNATURE) <i>P. L. ...</i>	PROCEDURE No. 600-15 Rev. 2-20-80 71 <i>(r-...)</i>	INSTRUMENT SERIAL NO 01127E	CALIBRATION VERIFICATION	
EXAMINER D WAGAR	REFERENCE BLOCK S/N CS-DC-30 / TTT-24	COULPLANT <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME	INITIALS
SEARCH UNITS	NORMAL ANGLE 60°	NORMAL ANGLE	TEMPERATURE	INITIALS
	MEASURED ANGLE 59°	SIGNAL DISTANCE IN INCHES		
	BRAND ADDTECH	SCREEN DISTANCE IN INCHES		
	SIZE 1/2 x 1			
	FREQUENCY (MHZ) 2.25			
INSTRUMENT SETTINGS				
BEAT	D	REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	INITIAL CAL BLOCK	
DEC	ω/A	10-SCREEN DIVISIONS	TEMP	76
FINE dB	60	LONGITUDINAL <input type="checkbox"/>	PYROMETER S/N	5081 196
COARSE dB	70	SHEAR <input checked="" type="checkbox"/>	INST LINEARITY SHEET NO.	371009
8 dB SWITCH	ωP		BEAM SPREAD STREET NAME	360005
14 dB SWITCH	ωP			
FREQUENCY	Z			
DELAY	189-1			
MATL CAL	290			
RANGE	10			
DAMPING	10ms			
REP RATE	30			
FILTER	HI			
VIDEO	VIDEO			
TRAN MODE	NORMAL			
JACK USED	R			
40 Ω, 6 dB	30 Ω 10ms			
METHOD, PRIMARY	60dB Scale 1			
SECONDARY	N/A			
REVIEWED BY <i>Russell ...</i>	SMT LEVEL I			
	DATE 14 APR 88			



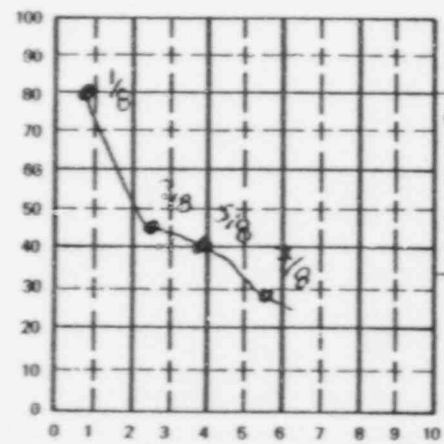
EXAMINATION AREA

CC-68

REMARKS: Calibration reflects have been checked
 a) scanning spread is

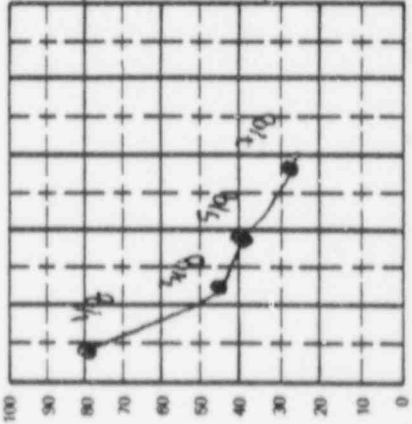
19CC04

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 14 APR 88		TIME (24 HR. CLOCK) 1040		SHEET NO. 150009				
1) EXAMINER (SIGNATURE) <i>William O Jensen</i>		SNT LEVEL II	PROCEDURE No 600-31 Rev 24 <i>up</i> Dev N/A		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 07011E		CALIBRATION VERIFICATION				
2) EXAMINER R. MILLER		SNT LEVEL I										
SEARCH UNITS			REFERENCE BLOCK S/N: 55-DC-36			TIME ANAL		N/A <input type="checkbox"/>				
NOMINAL ANGLE 45°	N/A	NOMINAL ANGLE N	SIGNAL DISTANCE IN INCHES	SCREEN DISTANCE IN INCHES A	TEMPERATURE 7	INITIALS <i>Ray</i>						
MEASURED ANGLE 44°												
BRAND SwRI	SERIAL NUMB.(S) 2676											
SIZE 3/8R												
FREQUENCY (MHZ) 1.5												
INSTRUMENT SETTINGS			 <p>REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES <input type="checkbox"/> Other</p> <p>10 SCREEN DIVISIONS 5.0 INCHES</p> <p>LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/></p>			AMPLITUDE DETERMINATION 5/8 VEE-PATH		INITIAL CAL BLOCK				
REJECT 0	N/A					45° N dB	60° A dB	TEMP. 78 °F				
DEC N/A						3/8 dB	3/8 dB					
FINE dB 4	N/A					5/8 dB	5/8 dB					
COARSE dB 80	N/A					A dB	A dB					
6 dB SWITCH UP												
14 dB SWITCH UP												
FREQUENCY 1												
DELAY 243-158-1												
MATL CAL 1092303												
RANGE 5		BASIC CALIBRATION BLOCK NO. CC-59										
DAMPING MIN		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED.										
REP. RATE 3K												
FILTER H1												
VIDEO NORM												
TRAN. MODE NORMAL												
JACK USED R												
40% ± 6 dB 80% N/A												
METHOD: PRIMARY 6dB Sweep												
SECONDARY N/A												
REVIEWED BY: <i>Russell H Line</i>		SNT LEVEL: II	DATE: 15 APR 88									

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 15 APR 88	SHEET NO. 0848	TIME (24 HR. CLOCK) 0950	CALIBRATION VERIFICATION
1) EXAMINER (SIGNATURE) <i>William C. Jensen</i>	PROCEDURE No. 600-31 Rev. 24 Dev. !	INSTRUMENT SONIC MARK P 1 () B () III	SERIAL NO. 07011E	TIME 0950	TEMPERATURE 78 F
2) EXAMINER <i>R. Miller</i>	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	REFERENCE BLOCK S/N: 55-DC-36	NOMINAL ANGLE N	INITIALS <i>Wol</i>	INITIAL CAL. BLOCK TEMP. 78 °F
NOMINAL ANGLE 45	SEARCH UNITS 45	SIGNAL DISTANCE IN INCHES A	SC-SCREEN DISTANCE IN INCHES A	AMPLITUDE DETERMINATION 5/8 VEE PATH	60° 3/8 dB % FSH 5/8 dB % FSH A dB A
MEASURED ANGLE 44	SERIAL NUMBER(S) N/A			ADDITIONAL INFORMATION	INITIAL CAL. BLOCK TEMP. 78 °F
BRAND SWRZ					PYROMETER S/N SWR2158
SIZE 3820					INST. LINEARITY SHEET No. 37100A
FREQUENCY (MHZ) 1.5					BEAM SPREAD SHEET No. (e)
INSTRUMENT SETTINGS		REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES <input type="checkbox"/> Other		CABLE TYPE N	
REJECT L.C.C.	0	10 SCREEN DIVISIONS - 5.0 INCHES		RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/> Other: _____	
FINE dB N/A	N/A	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		Length: 72 in. A in.	
COARSE dB 4 N/A	20 N/A			Length: _____	
6 dB SWITCH UP	UP			EXAMINATION AREA: SAFETY INSULATION 12-S-I-1009-15, 16 and	
14 dB SWITCH UP	UP				
FREQUENCY 1	1				
DELAY 158-1	303				
MATL. CAL. 303	5				
RANGE 5	MIN				
DAMPING 3K	HI				
FILT. NORM	NORMAL				
TRAX MODE R	40% ± 6 dB -				
JACK USED N/A	40% ± 6 dB -				
METHOD: PRIMARY N/A	40% ± 6 dB -				
SECONDARY N/A	40% ± 6 dB -				
REVIEWED BY: <i>Scott Duman</i>	SNT LEVEL II	DATE: 16 APR. 88			



SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJ. NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 16 APR 88		TIME (24 HR CLOCK) 1415		SHEET NO. 100011													
1) EXAMINER (SIGNATURE) <i>Willis Jensen</i>		SNT LEVEL II	PROCEDURE No. 600-31	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 07011E		CALIBRATION VERIFICATION													
2) EXAMINER R. MILLER		SNT LEVEL I	Rev. 24	COUPLANT # Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)						TIME 1502											
SEARCH UNITS			REFERENCE BLOCK S/N: SS DC 36			N/A <input type="checkbox"/>		TEMPERATURE 80 F N/A													
NOMINAL ANGLE 45°	N/A	NOMINAL ANGLE	N/A	N/A	N/A	INITIALS <i>wj</i>															
MEASURED ANGLE 44°		SIGNAL DISTANCE IN INCHES																			
BRAND SwRI	SERIAL NUMBER(S) 2676	SCREEN DISTANCE IN INCHES																			
SIZE 3/8 RO			REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential Holes <input type="checkbox"/> Other	45° N dB <input type="checkbox"/> % FSH 3/8 dB <input type="checkbox"/> % FSH 5/8 dB <input type="checkbox"/> % FSH A dB A		90° dB <input type="checkbox"/> % FSH 3/8 dB <input type="checkbox"/> % FSH 5/8 dB <input type="checkbox"/> % FSH A dB A															
FREQUENCY (MHZ) 1.5				10 SCREEN DIVISIONS 2.5 INCHES		LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		CABLE TYPE 45 N/A RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/> Other: Other:		INITIAL CAL. BLOCK TEMP. 80 °F											
INSTRUMENT SETTINGS			BASIC CALIBRATION BLOCK NO. CC-16			EXAMINATION AREA: SAFETY INJECTION: G-SI-1002-31 wj															
REJECT 0	DEC N/A	FINE dB 10 N/A	COARSE dB 70 N/A	6 dB SWITCH UP	14 dB SWITCH UP	FREQUENCY 1	DELAY 150-1	MATL. CAL. 493	RANGE 2	DAMPING MIN	REP. RATE 3K	FILTER HI	VIDEO NORM	TRAN. MODE NORMAL	JACK USED R	90% + 6 dB - 80 N/A	METHOD: PRIMARY 6 dB SWITCH	SECONDARY N/A	REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. wj		
REVIEWED BY: <i>Russell Jensen</i>		SNT LEVEL: II	DATE: 18 APR 88																		

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 28 APR 88	TIME (24 HR. CLOCK) 1414	SHEET NO. 100013
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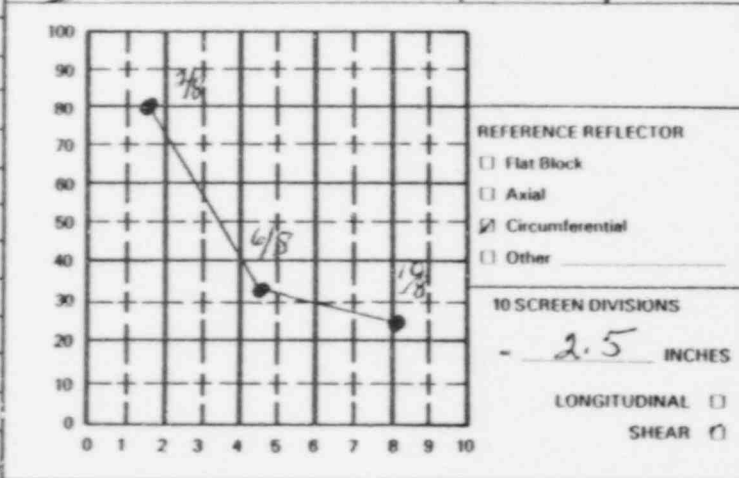
1) EXAMINER (SIGNATURE) <i>William A. Jensen</i>	SNT LEVEL II	PROCEDURE No. 600-31 Rev. 24 Dev. i	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 07011E
2) EXAMINER R. Miller	SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	

CALIBRATION VERIFICATION				
TIME	1441			
N/A <input type="checkbox"/>				
TEMPERATURE	68	FTN JAL		
INITIALS	<i>WJ</i>			

SEARCH UNITS	
NOMINAL ANGLE	45° N/A
MEASURED ANGLE	44°
BRAND	SwRI
SERIAL NUMBER(S)	2676
SIZE	3/8 RD
FREQUENCY (MHZ)	1.5

REFERENCE BLOCK S/N: SS-DC-36
NOMINAL ANGLE N
SIGNAL DISTANCE IN INCHES
SCREEN DISTANCE IN INCHES A

INSTRUMENT SETTINGS	
REJECT	0
DEC	N/A
FINE dB	10 N/A
COARSE dB	70 A
6 dB SWITCH	UP
14 dB SWITCH	UP
FREQUENCY	1
DELAY	162-1
MATL CAL	342
RANGE	2
DAMPING	MZN
REP. RATE	3K
FILTER	H1
VIDEO	NORM
TRAN. MODE	NORMAL
JACK USED	R
40% .6 dB	80% N/A
METHOD: PRIMARY	SwRI
SECONDARY	N/A



ADDITIONAL INFORMATION			
AMPLITUDE DETERMINATION 5/8 VEE PATH			
45°	N	dB	% FSH
3/8		dB	% FSH
5/8		dB	% FSH
A dB			A

CABLE TYPE		INITIAL CAL. BLOCK	
45	N	TEMP.	68 °F
RG 62	<input type="checkbox"/>	PYROMETER S/N	SwRI 148
RG 174	<input checked="" type="checkbox"/>	INST. LINEARITY SHEET No.	371004 <input type="checkbox"/> N/A
Other:		BEAM SPREAD SHEET No(s).	<input checked="" type="checkbox"/> N/A
Length:	72 in		

BASIC CALIBRATION BLOCK NO. CC-16
REMARKS: CALIBRATION REFLECTORS HAVE BEEN W/1 VERIFIED AT SCANNING SPEED. W/1

EXAMINATION AREA: SAFETY INJECTION 6-SI-1001-340 W/1

REVIEWED BY: <i>Russell H. Jensen</i>	SNT LEVEL: II	DATE: 29 APR 88
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SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO: 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 14 APRIL 88		TIME (24 HR. CLOCK) 1437		SHEET NO. 100017			
EXAMINER(S) SIGNATURE <i>R. D. DaRosa</i>		SNT LEVEL II		PROCEDURE No. 600-41 Rev. 18 Dev. 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E			
EXAMINER T. ZOHNNENKAMPER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION					
SEARCH UNITS				REFERENCE BLOCK S/N: CS-DC-41				TIME 456		N/A <input type="checkbox"/>	
NOMINAL ANGLE 60°		N/A		NOMINAL ANGLE N		TEMPERATURE 75° FINAL		INITIALS RR			
MEASURED ANGLE 60°				SIGNAL DISTANCE IN INCHES A							
BRAND AEROTECH		SERIAL NUMBER(S) 309165		SCREEN DISTANCE IN INCHES						ADDITIONAL INFORMATION	
SIZE 1/2 DIA.				SCREEN DISTANCE IN INCHES						AMPLITUDE DETERMINATION 5/8 VEE PATH	
FREQUENCY (MHZ) 2.25				SCREEN DISTANCE IN INCHES						45° 3/8 N dB % FSH 5/8 dB % FSH A dB	
INSTRUMENT SETTINGS				SCREEN DISTANCE IN INCHES						60° 3/8 N dB % FSH 5/8 dB % FSH A dB	
REJECT 0				SCREEN DISTANCE IN INCHES						CABLE TYPE	
DEC N/A				SCREEN DISTANCE IN INCHES						60 RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/>	
FINE dB 12		N/A		SCREEN DISTANCE IN INCHES						Other: <input type="checkbox"/> Other: <input type="checkbox"/>	
COARSE dB 60		A		SCREEN DISTANCE IN INCHES						Length: 96 in.	
6 dB SWITCH UP				SCREEN DISTANCE IN INCHES						INITIAL CAL. BLOCK	
14 dB SWITCH UP				SCREEN DISTANCE IN INCHES						TEMP. 75 °F	
FREQUENCY 2				SCREEN DISTANCE IN INCHES						PYROMETER S/N	
DELAY 134-1				SCREEN DISTANCE IN INCHES						SWRI 154	
MATL. CAL 302				SCREEN DISTANCE IN INCHES						INST. LINEARITY SHEET No.	
RANGE 2				SCREEN DISTANCE IN INCHES						371003 <input type="checkbox"/> N/A	
DAMPING MIN				SCREEN DISTANCE IN INCHES						BEAM SPREAD SHEET No(s).	
REP. RATE 3K				SCREEN DISTANCE IN INCHES						N/A	
FILTER III				SCREEN DISTANCE IN INCHES							
VIDEO NORM				SCREEN DISTANCE IN INCHES							
TRAN. MODE NORMAL				SCREEN DISTANCE IN INCHES							
JACK USED R				SCREEN DISTANCE IN INCHES							
40% ± 6 dB - 81		N/A		SCREEN DISTANCE IN INCHES							
METHOD: PRIMARY 6dB SWITCH				SCREEN DISTANCE IN INCHES							
SECONDARY N/A				SCREEN DISTANCE IN INCHES							
REVIEWED BY: <i>Russell</i>		SNT LEVEL: II		DATE: 15 APR 88				EXAMINATION AREA: MAIN STEAM RR			
				REMARKS: EDH SENSITIVITY = $\frac{1}{60}$ RR				6-MS-1208-10N RR			
				CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. RR							

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. **17-2116** SITE **CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1** DATE (DAY-MO-YR) **14 APRIL 88** TIME (24 HR. CLOCK) **0931** SHEET NO. **190021**

1) EXAMINER (SIGNATURE) *R. A. Reed* SNT LEVEL **II** PROCEDURE No. **600-41** INSTRUMENT SONIC MARK I II III SERIAL NO. **04332E**

2) EXAMINER **J. BOHNENKAMPER** SNT LEVEL **I** Rev. **18** Dev. **1** COUPLANT Glycerine Water Other (Specify) _____

CALIBRATION VERIFICATION				
TIME	0931			
N/A <input type="checkbox"/> TEMPERATURE	75° FINAL			
INITIALS	AR			

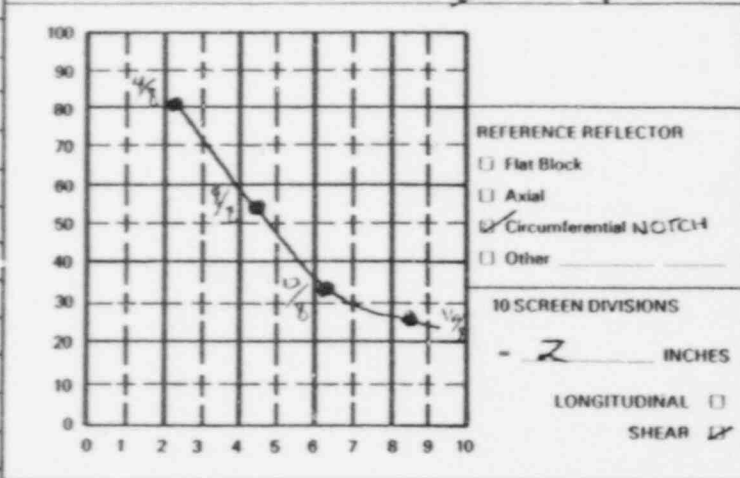
SEARCH UNITS REFERENCE BLOCK S/N: **CS-145**

NOMINAL ANGLE **45°** N/A NOMINAL ANGLE **N**

MEASURED ANGLE **44°** SIGNAL DISTANCE IN INCHES **N/A**

BRAND **AEROTECH.** SERIAL NUMBER(S) **K25222** SCREEN DISTANCE IN INCHES **A**

INSTRUMENT SETTINGS	
REJECT	0
DEC	N/A
FINE dB	10 N/A
COARSE dB	50 A
6 dB SWITCH	UP
14 dB SWITCH	UP
FREQUENCY	2
DELAY	154-1
MATL CAL	302
RANGE	2
DAMPING	MIN
REP. RATE	3K
FILTER	H1
VIDEO	NORM
TRAN. MODE	NORMAL
JACK USED	B
40% ± 6 dB =	21 * N/A * * *
METHOD: PRIMARY	6dB SWITCH
SECONDARY	N/A



ADDITIONAL INFORMATION			
AMPLITUDE DETERMINATION 5/8 VEE PATH			
45°	3/8 N dB	% SH	60°
	5/8 A dB	% FSH	3/8 N dB
			5/8 A dB
			% FSH

CABLE TYPE		INITIAL CAL BLOCK	
45	N	TEMP. 74	°F
RG 62 <input type="checkbox"/>	RG 62 <input type="checkbox"/>	PYROMETER S/N	
RG 174 <input checked="" type="checkbox"/>	RG 174 <input type="checkbox"/>	SWRI 154	
Other:	Other:	INST. LINEARITY SHEET No.	
Length: 96 in.	Length: A in.	371003 <input type="checkbox"/> N/A	
		BEAM SPREAD SHEET No(s).	
		N/A	

BASIC CALIBRATION BLOCK NO. **CC-20**

REMARKS: **CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. AR**

EXAMINATION AREA: **MAIN STEAM R/R**

6-MS-1207-1 AR

6-MS-1207-2 AR

6-MS-1207-11N AR

REVIEWED BY: *Russell + J. Bohnenkemper* SNT LEVEL **II** DATE: **15 APR 88**

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 14 APR 88		TIME (24 HR. CLOCK) 1000		SHEET NO. 190025				
1) EXAMINER (SIGNATURE) <i>D. Wagner</i>		SNT LEVEL II	PROCEDURE No. 600-15 Rev. 71 Dev. 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 04325E		CALIBRATION VERIFICATION				
2) EXAMINER D. WAGAR		SNT LEVEL I			COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME N/A					
SEARCH UNITS			REFERENCE BLOCK S/N: SWRI-IIW-24			N/A <input type="checkbox"/>		TEMPERATURE				
NOMINAL ANGLE 45	N/A	NOMINAL ANGLE	N/A	N/A	N/A	INITIALS						
MEASURED ANGLE 44		SIGNAL DISTANCE IN INCHES										
BRAND Acrotach Gamm	SERIAL NUMBER(S) 013723	SCREEN DISTANCE IN INCHES						ADDITIONAL INFORMATION				
SIZE 1/2 x 1								AMPLITUDE DETERMINATION 5/8 VEE-PATH				
FREQUENCY (MHZ) 2.25						45° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A dB	60° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A dB					
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	10 SCREEN DIVISIONS 20 INCHES	LONGITUDINAL <input type="checkbox"/>	SHEAR <input checked="" type="checkbox"/>			
REJECT 0	N/A											
DEC N/A												
FINE dB 5 7												
COARSE dB 60 70												
6 dB SWITCH UP												
14 dB SWITCH UP												
FREQUENCY 2												
DELAY 000-1												
MATL CAL 685												
RANGE 10												
DAMPING MIN												
REP. RATE 3K												
FILTER HI												
VIDEO NORM												
TRAN. MODE NORMAL												
JACK USED R												
40% ± 6 dB - 80% 80%												
METHOD: PRIMARY SECONDARY 6db switch 6db switch												
REVIEWED BY: <i>Russell Line</i>		SNT LEVEL: II	DATE: 14 APR 88	BASIC CALIBRATION BLOCK NO. CC-68		EXAMINATION AREA: For beam Spread Purposes only						
REMARKS: <i>Calibration Reflectors Have Been Verified At Scanning Speeds</i>												

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 16 APR 88	TIME (24 HR. CLOCK) 1400	SHEET NO. 10028					
1) EXAMINER (SIGNATURE) <i>P. P. ...</i>		SNT LEVEL H	PROCEDURE No. 600-49	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 774224			CALIBRATION VERIFICATION			
2) EXAMINER <i>D. Wagar</i>		SNT LEVEL I	Rev. 0 Dev. 1	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)			TIME 1500				
SEARCH UNITS		REFERENCE BLOCK S/N: CS-DC-37			N/A <input type="checkbox"/>		TEMPERATURE 78				
NOMINAL ANGLE 0°	N/A	NOMINAL ANGLE N			/		INITIALS EW				
MEASURED ANGLE N/A							SIGNAL DISTANCE IN INCHES		/		
BRAND <i>Matsuda</i>	SERIAL NUMBER(S) 62549	SCREEN DISTANCE IN INCHES			A		ADDITIONAL INFORMATION				
SIZE 1/2					AMPLITUDE DETERMINATION 5/8 VEE-PATH						
FREQUENCY (MHZ) 2.25					REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other		45° N dB 1 % FSH 3/8 dB % FSH 5/8 dB % FSH A dB A		60° dB % FSH 3/8 dB % FSH 5/8 dB % FSH A dB A		
INSTRUMENT SETTINGS		BASIC CALIBRATION BLOCK NO. N/A REMARKS: _____ _____ _____ _____ _____			10 SCREEN DIVISIONS 5 INCHES		CABLE TYPE				
REJECT 0	N/A				LONGITUDINAL <input checked="" type="checkbox"/>		Other: N		INITIAL CAL. BLOCK TEMP. 78 °F		
DEC N/A					SHEAR <input type="checkbox"/>		Other: _____		PYROMETER S/N SwRI 146		
FINE dB N/A	N/A						Other: _____		INST. LINEARITY SHEET No. 371014 <input type="checkbox"/> N/A		
COARSE dB N/A	N/A						Other: _____		BEAM SPREAD SHEET No(s). N/A		
6 dB SWITCH UP							Length: 96 in		EXAMINATION AREA: Reactor Coolant 30-RC-11B WELD/50		
14 dB SWITCH UP							Length: A				
FREQUENCY 2											
DELAY 0757											
MATL. CAL. 101											
RANGE 5											
DAMPING MIN											
REP. RATE 3K											
FILTER HI											
VIDEO NOISE											
TRAN. MODE NORMAL											
JACK USED R											
N/A % ± 1/2 dB =	N/A										
METHOD: PRIMARY SECONDARY	N/A N/A										
REVIEWED BY: <i>William A. ...</i>	SNT LEVEL: I	DATE: 16 APR 88									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 23 APR 88		TIME (24 HR. CLOCK) 1730		SHEET NO. 150029	
1) EXAMINER (SIGNATURE) <i>M. de K...</i>		SNT LEVEL II	PROCEDURE No. 600-6 Rev. 25 Dev. N/A		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 01122E		CALIBRATION VERIFICATION	
2) EXAMINER L. SPRESS		SNT LEVEL II	COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other (Specify) DE	TIME 1912	N/A <input type="checkbox"/>	TEMPERATURE 78	INITIALS <i>sd</i>		
SEARCH UNITS			REFERENCE BLOCK S/N: CS-DC-30						
NOMINAL ANGLE 45°		N	NOMINAL ANGLE		N	A	N	A	
MEASURED ANGLE 44°		A	SIGNAL DISTANCE IN INCHES						
BRAND AEDOTECH		SERIAL NUMBER(S) D13723	SCREEN DISTANCE IN INCHES						
SIZE 1/2 x 1		FREQUENCY (MHZ) 2.25							
INSTRUMENT SETTINGS		REJECT 0							
DEC N/A		FINE dB 6 N	REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other						
COARSE dB 80 A		6 dB SWITCH UP	10 SCREEN DIVISIONS 12 INCHES						
14 dB SWITCH UP		FREQUENCY 2	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>						
DELAY 662-2		MATH CAL 372	BASIC CALIBRATION BLOCK NO. CC-54						
RANGE 10		DAMPING MIN	REMARKS: Calibration Reflectors have been verified at scanning speed and screen represents 12 to 24 inches.						
REP. RATE 3rd IK		FILTER HI							
VIDEO NORM		TRAN. MODE NORMAL							
JACK USED R		METHOD: PRIMARY 60dB Switch							
40% + 6 dB -		SECONDARY N/A							
METHOD: PRIMARY		REVIEWED BY: <i>Russell...</i>							
METHOD: SECONDARY		SNT LEVEL: II							
REVIEWED BY:		DATE: 26 APR 88							
EXAMINATION AREA: FLYwheel 12A		AMPLITUDE DETERMINATION 5/8 VEE-PATH							
CABLE TYPE 45 N		INITIAL CAL. BLOCK TEMP. 78 °F							
RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N SWRI 146							
RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		INST. LINEARITY SHEET No. 371009 <input type="checkbox"/> N/A							
Other: Length: 96 in.		BEAM SPREAD SHEET No(s). N/A							
Other: Length: A in.									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 19 April 88		TIME (24 HR. CLOCK) 1300		SHEET NO. 190030	
1) EXAMINER (SIGNATURE) <i>Life Squad</i>		SNT LEVEL II		PROCEDURE No. 600-49		INSTRUMENT SONIC MARK I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/>		SERIAL NO. 04329E	
2) EXAMINER <i>D. Wagar</i>		SNT LEVEL I		Rev. 0 Dev. 1A2, 3		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS			REFERENCE BLOCK/S/N: CS-DC-30			TIME 1640		N/A <input type="checkbox"/>	
NOMINAL ANGLE 0°			NOMINAL ANGLE N/A			TEMPERATURE 72		INITIALS SD	
MEASURED ANGLE N/A			SIGNAL DISTANCE IN INCHES N/A			INITIALS SD		INITIALS K	
BRAND SWRI			SERIAL NUMBER(S) 3391			SCREEN DISTANCE IN INCHES N/A		ADDITIONAL INFORMATION	
SIZE 1			FREQUENCY (MHZ) 2.25			AMPLITUDE DETERMINATION 5/8 VEE-PATH		AMPLITUDE DETERMINATION 5/8 VEE-PATH	
INSTRUMENT SETTINGS			REFERENCE REFLECTOR			45°		60°	
REJECT 0			<input checked="" type="checkbox"/> Flat Block			3/8 N dB % FSH		3/8 N dB % FSH	
DEC N/A			<input type="checkbox"/> Axial			5/8 NA dB % FSH		5/8 NA dB % FSH	
FINE dB 4 N/A			<input type="checkbox"/> Circumferential			A dB		A dB	
COARSE dB 70 N/A			<input type="checkbox"/> Other			CABLE TYPE		INITIAL CAL. BLOCK	
6 dB SWITCH UP			10 SCREEN DIVISIONS 5 INCHES			O N/A		TEMP. 72 °F	
14 dB SWITCH UP			LONGITUDINAL <input checked="" type="checkbox"/>			RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N	
FREQUENCY 2			SHEAR <input type="checkbox"/>			RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		SWRI 146	
DELAY 110-1			BASIC CALIBRATION BLOCK NO. CC-68			Other: 96 in		INST. LINEARITY SHEET No 370009 <input type="checkbox"/> N/A	
MATL. CAL 106			REMARKS: <i>Calibration reflectors have been verified at scanning speed * 371023 SD</i>			Length: 96 in		BEAM SPREAD SHEET No(s).	
RANGE 5			REVIEWED BY: <i>Tommy Fin</i>			EXAMINATION AREA: Steam Generator: SG-11-3 SD		E-MTA	
DAMPING MIN			SNT LEVEL: II			DATE: 23 APR 88			
REP. RATE 3K			DATE: 23 APR 88						
FILTER HI									
VIDEO NORM									
TRAN. MODE NORMAL									
JACK USED R									
40% 6 dB - 80% N/A									
METHOD: PRIMARY 6db switch									
SECONDARY N/A									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 19 APRIL 88		TIME (24 HR. CLOCK) 1431		SHEET NO. 100042	
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. 600-41		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2) EXAMINER T. BOHNDORFER		SNT LEVEL I		Rev. 18 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) _____		CALIBRATION VERIFICATION	
SEARCH UNITS CIRC AXIAL		REFERENCE BLOCK S/N: CS-DC-41		NOMINAL ANGLE N		TIME 1405		N/A <input type="checkbox"/>	
NOMINAL ANGLE 45° 45°		NOMINAL ANGLE 45° 45°		SIGNAL DISTANCE IN INCHES N		TEMPERATURE 68°		FINAL	
MEASURED ANGLE 45° 45°		SCREEN DISTANCE IN INCHES A		INITIALS RR		ADDITIONAL INFORMATION			
BRAND SWRI		SERIAL NUMBER(S) 713 AR 49813		AMPLITUDE DETERMINATION 5/8 VEE-PATH					
SIZE 1/2 RND 1/2 RND		FREQUENCY (MHZ) 2.25 2.25		CIRC NOTCH AXIAL NOTCH		45° 3/8 N dB % FSH 5/8 A dB % FSH A dB A		60° 3/8 N dB % FSH 5/8 A dB % FSH A dB A	
INSTRUMENT SETTINGS		REJECT		REFERENCE REFLECTOR		CABLE TYPE		INITIAL CAL. BLOCK	
DEC N/A		DEC N/A		<input type="checkbox"/> Flat Block		45 N		TEMP. 68 °F	
FINE dB 10		FINE dB 12		<input checked="" type="checkbox"/> Axial NOTCH		RG 62 <input type="checkbox"/> RG 62		PYROMETER S/N	
COARSE dB 60		COARSE dB 60		<input type="checkbox"/> Circumferential NOTCH		RG 174 <input checked="" type="checkbox"/> RG 174		SWRI 154	
6 dB SWITCH UP		6 dB SWITCH UP		<input type="checkbox"/> Other _____		Other: _____		INST. LINEARITY SHEET No.	
14 dB SWITCH UP		14 dB SWITCH UP		10 SCREEN DIVISIONS		Length: _____		371003 <input type="checkbox"/> N/A	
FREQUENCY 2		FREQUENCY 2		- 10 INCHES		Length: _____		BEAM SPREAD SHEET Note.	
DELAY 143-1		DELAY 143-1		LONGITUDINAL <input type="checkbox"/>		Length: 96 in.		DNA	
MATL CAL. 294		MATL CAL. 294		SHEAR <input checked="" type="checkbox"/>		EXAMINATION AREA:			
RANGE 10		RANGE 10		BASIC CALIBRATION		MAIN STEAM RR			
DAMPING MIN		DAMPING MIN		BLOCK NO. CC-23		36-MS-1201-3, 3LU RR			
REP. RATE 3K		REP. RATE 3K		REMARKS: EDH SENSITIVITY = 7% S RR		34-MS-1201-8 AND, 10 OLD RR			
FILTER HI		FILTER HI		CALIBRATION REFLECTORS HAVE BEEN VERIFIED					
VIDEO NORM		VIDEO NORM		AT SCANNING SPEED. RR					
TRAN. MODE NORMAL		TRAN. MODE NORMAL							
JACK USED R+R RR		JACK USED R							
40% ± 6 dB - 21 * N/A * 21 * N/A *		METHOD: PRIMARY 6dB SWITCH 6dB 2-100							
METHOD: SECONDARY N/A		METHOD: SECONDARY N/A							
REVIEWED BY: <i>[Signature]</i>		SNT LEVEL: II		DATE: 21 APR 88					

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 20 APRIL 88		TIME (24 HR. CLOCK) 09:33		SHEET NO. 190048	
EXAMINER SIGNATURE <i>R. D. Karoon</i>		SNT LEVEL II		PROCEDURE No. 600-41 Rev. 18 Dev. 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
EXAMINER T. SCHNENKAMPER		SNT LEVEL I				COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS AXIAL CIRC		REFERENCE BLOCK S/N: CS-DC-41		NOMINAL ANGLE N		TIME 1005		N/A <input type="checkbox"/> TEMPERATURE 70° FINAL	
NOMINAL ANGLE 45° 45°		SIGNAL DISTANCE IN INCHES		/		INITIALS RR			
MEASURED ANGLE 45° 45°		SCREEN DISTANCE IN INCHES A				ADDITIONAL INFORMATION			
BRAND SWRI		SERIAL NUMBER(S) 813 813				AMPLITUDE DETERMINATION 5/8 VEE PATH			
SIZE 1/2 RND 1/2 RND		FREQUENCY (MHZ) 2.25 2.25				45° 3/8 N dB % FSH		60° 3/8 N dB % FSH	
INSTRUMENT SETTINGS						5/8 _____ dB % FSH		5/8 _____ dB % FSH	
REJECT 0 0		DEC N/A N/A				CABLE TYPE		INITIAL CAL. BLOCK TEMP. 69 °F	
FINE dB 9 5		COARSE dB 60 60				45 N		PYROMETER S/N SWRI 154	
6 dB SWITCH UP UP		14 dB SWITCH UP UP				RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		INST. LINEARITY SHEET No. 371003 <input type="checkbox"/> N/A	
FREQUENCY 2 2		DELAY 177-1 177-1				RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		BEAM SPREAD SHEET No. (al.) N/A	
MATL. CAL. 310 310		RANGE 2 2		BASIC CALIBRATION BLOCK NO. CC-38		Other: _____		EXAMINATION AREA: MAIN STEAM RR	
DAMPING MIN MIN		REP. RATE 3K 3K		REMARKS: EDH SENSITIVITY = 70% RR		Other: _____		34-MS-1201 - BALU1, BALU2 RR	
FILTER HI HI		VIDEO NORM NORM		CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED RR		Other: _____		34-MS-1202 - 13, 10 RR	
TRAN. MODE NORMAL NORMAL		JACK USED R R				Other: _____			
METHOD: PRIMARY 6dB SWITCH 6dB SWITCH		METHOD: SECONDARY N/A N/A		REVIEWED BY: <i>Russell Fine</i>		Length: 96 in.		Length: A in.	
SNT LEVEL II		DATE 21 APR 88							

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 15 APR 88		TIME (24 HR. CLOCK) 1128		SHEET NO. 190057	
1) EXAMINER (SIGNATURE) <i>L. Duran</i>		SNT LEVEL II		PROCEDURE No. 600-15		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 774123	
2) EXAMINER L. DURAN		SNT LEVEL II		Rev. 71 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS		REFERENCE BLOCK S/N: SWRI IIW-24		NOMINAL ANGLE 45° 60°		TIME 1449			
NOMINAL ANGLE 45° 60°		MEASURED ANGLE 46° 61		SIGNAL DISTANCE IN INCHES 4.0 4.0		TEMPERATURE 79° F		INITIALS <i>md</i>	
BRAND AEROTECH		SERIAL NUMBER(S) 013088		SCREEN DISTANCE IN INCHES 4.0 4.2		ADDITIONAL INFORMATION		AMPLITUDE DETERMINATION 5/8 VEE-PATH	
SIZE 10x1.0		FREQUENCY (MHZ) 2.25				45° 3/8 79 dB 50 % FSH 5/8 8 dB 50 % FSH Δ dB 7		60° 3/8 92 dB 50 % FSH 5/8 112 dB 50 % FSH Δ dB 20	
INSTRUMENT SETTINGS		REJECT 0				DEC N/A		CABLE TYPE	
COARSE dB 60		6 dB SWITCH UP		14 dB SWITCH UP		RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N SWRI 146	
DELAY 162-1		MATERIAL 584		RANGE 10		Other: A		INST. LINEARITY SHEET No. 371008 <input type="checkbox"/> N/A	
DAMPING MIN		REMARKS: CALIBRATION REFLECTORS		BASIC CALIBRATION BLOCK NO. CC-2		Length: _____ in.		BEAM SPREAD SHEET No(s). 360011 <input type="checkbox"/> N/A	
REP. RATE 3K		FILTER HI		REMARKS: HAVE BEEN VERIFIED AT		Length: _____ in.		REMARKS: 12-5-111-A	
VIDEO NORM		TRAN. MODE NORMAL		REMARKS: SCANNING SPEED.		Length: _____ in.		REMARKS: 12-5-111-B	
METH. PRIMARY 6dB switch		METH. SECONDARY N/A		REVIEWED BY: <i>Russell Fice</i>		SNT LF-EL: II		DATE: 18 APR 88	

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 21 APR 88		TIME (24 HR. CLOCK) 1300		SHEET NO. 100059	
1) EXAMINER (SIGNATURE) <i>Dyle Spores</i>		SNT LEVEL II		PROCEDURE No. 500-15		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04325E	
2) EXAMINER D WAGAR		SNT LEVEL I		Rev. 71 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS		REFERENCE BLOCK S/N: SWRI-IIW-24		NOMINAL ANGLE N/A N/A		TIME 1604			
NOMINAL ANGLE 45°		SERIAL NUMBER(S) 013723		SIGNAL DISTANCE IN INCHES N/A		INITIALS SD		ADDITIONAL INFORMATION	
MEASURED ANGLE 44°		SIZE 1/2 x 1		SCREEN DISTANCE IN INCHES N/A		AMPLITUDE DETERMINATION 5/8 VEE PATH			
BRAND Acoustic GAM		FREQUENCY (MHZ) 2.25				45° 3/8 N dB % FSH		60° 3/8 N dB % FSH	
INSTRUMENT SETTINGS		REJECT 0				REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other		5/8 A dB % FSH	
DEC N/A		FINE dB 2 7		10 SCREEN DIVISIONS - 20 INCHES		CABLE TYPE 45 N/A		INITIAL CAL. BLOCK TEMP. 78 °F	
COARSE dB 60 70		6 dB SWITCH UP		LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N	
14 dB SWITCH UP		FREQUENCY 2		BASIC CALIBRATION BLOCK NO. CC 68		RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		INST. LINEARITY SHEET No. 37108/1 <input type="checkbox"/> N/A	
DELAY 000-1		MATH CAL 68%		REMARKS: Calibration reflectors have been verified at scanning speed.		Other: _____		BEAM SPREAD SHEET Noted. 360004 <input type="checkbox"/> N/A	
RANGE 10		DAMPING MIN				EXAMINATION AREA: Steam Generator: SG-11-3		Length: 96 in	
FILTER HI		REP. RATE 3K		REVIEWED BY: <i>Seoy Dwan</i>		Other: _____		FROM L₀ to L=300	
VIDEO NORM		JACK USED R				SNT LEVEL: II		DATE: 22 APR 88	
TRAN. MODE NORMAL		METHOD: PRIMARY 60dB Switch							
SECONDARY 60dB Switch									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. **17-2116** SITE **CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1** DATE (DAY MO YR) **20 APR 88** TIME (24 HR. CLOCK) **0845** SHEET NO. **100061**

1) EXAMINER (SIGNATURE) *John Spence* SNT LEVEL **II** PROCEDURE No. **60075** INSTRUMENT SONIC MARK I II III SERIAL NO. **01122E**
 2) EXAMINER *D. Wagar* SNT LEVEL **I** Rev. **71** COUPLANT Glycerine Water Other (Specify) _____
 Dev. **1**

CALIBRATION VERIFICATION					
TIME	1240	1630			
N/A <input type="checkbox"/> TEMPERATURE	74	74			F.W.A.T.
INITIALS	JS	JD			

SEARCH UNITS

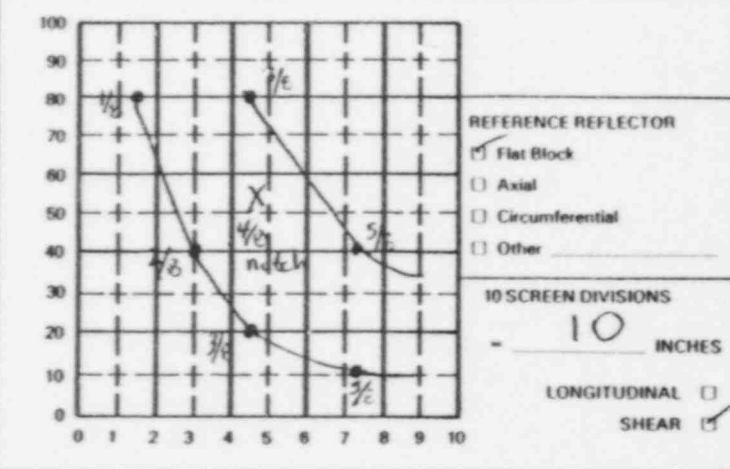
NOMINAL ANGLE	60°	N/A
MEASURED ANGLE	59°	
BRAND	SERIAL NUMBER(S)	
Aerotech Gamma	015841	
SIZE	1/2 x 1	
FREQUENCY (MHZ)	225	

REFERENCE BLOCK S/N: **C.S-DC-30**

NOMINAL ANGLE	N/A	N/A
SIGNAL DISTANCE IN INCHES		
SCREEN DISTANCE IN INCHES		

INSTRUMENT SETTINGS

REJECT	0	N/A
DEC	N/A	
FINE dB	5 4	
COARSE dB	70 80	
6 dB SWITCH	UP	
14 dB SWITCH	UP	
FREQUENCY	2	
DELAY	189-1	
MATL. CAL.	290	
RANGE	10	
DAMPING	MIN	
REP. RATE	3K	
FILTER	H1	
VIDEO	NORM	
TRAN. MODE	NORMAL	
JACK USED	R	
40% ± 6 dB -	80% 80%	* *
METHOD: PRIMARY	6db switch	
SECONDARY	6db switch	



ADDITIONAL INFORMATION

AMPLITUDE DETERMINATION 5/R VEE-PATH

45°	N	dB	% FSH	60°	N	dB	% FSH
3/8				3/8			
5/8	A	dB	% FSH	5/8	A	dB	% FSH
4 dB				4 dB			

CABLE TYPE

60	N/A
RG 62 <input type="checkbox"/>	RG 62 <input type="checkbox"/>
RG 174 <input type="checkbox"/>	RG 174 <input type="checkbox"/>
Other: _____	Other: _____
Length: 96 in.	Length: ↓ in.

INITIAL CAL. BLOCK TEMP: **74** °F

PYROMETER S/N: **SWRI 146**

INST. LINEARITY SHEET No. **371009** ^{9.2} N/A

BEAM SPREAD SHEET No. **360005** N/A

BASIC CALIBRATION BLOCK NO. **CC-68**

REMARKS: **Calibration reflectors have been verified at scanning speed. JS**

EXAMINATION AREA: **Steam Generator: SG-11-3 (note 20)**

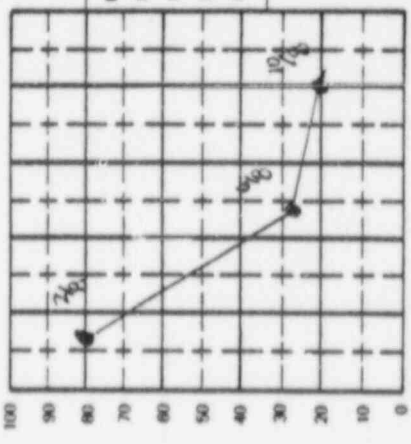
This is a partial exam JS

FROM L=0 to L=364 1/2 JS

REVIEWED BY: *John Spence* SNT LEVEL **II** DATE: **25 APR 88**

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 16 APR 88	TIME (24 HR. CLOCK) 1040	SHEET NO. 100066
1) EXAMINER (SIGNATURE) <i>William C. Jensen</i>	PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT SONIC MARK #1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/>	SERIAL NO. 760526	CALIBRATION VERIFICATION
2) EXAMINER R MILLER	COUPLANT #1 Glycerine <input type="checkbox"/> Water <input type="checkbox"/> #2 Other (Specify)	REFERENCE BLOCK S/N: 55 99	NOMINAL ANGLE 45°	TIME 1120
SEARCH UNITS	NOMINAL ANGLE 45°	SIGNAL DISTANCE IN INCHES NA	TEMPERATURE NA	INITIALS FLWAC
NOMINAL ANGLE 45°	MEASURED ANGLE 44°	SCREEN DISTANCE IN INCHES NA	TEMPERATURE NA	INITIALS FLWAC
BRAND SwRI	SERIAL NUMBERS 2466		TEMPERATURE NA	INITIALS FLWAC
SIZE 3/8 Rd			TEMPERATURE NA	INITIALS FLWAC
FREQUENCY (MHZ) 1.5			TEMPERATURE NA	INITIALS FLWAC
INSTRUMENT SETTINGS				
REJECT 0	DEC NA			
FINE dB NA				
COARSE dB 430				
6 dB SWITCH up				
14 dB SWITCH up				
FREQUENCY 1				
DELAY 154-1				
MATL CAL 310				
RANGE 2				
DAMPING normal				
REF. RATE 3K				
FILTER H1				
VIDEO Normal				
TRAIN MODE Normal				
JACK USED R				
40% ± 4 dB - 90				
METHOD: PRIMARY 40dB Switch				
SECONDARY NA				
REVIEWED BY: <i>Russell L. Davis</i>	SNT LEVEL: II	DATE: 18 APR 88	SNT LEVEL: II	DATE: 18 APR 88



REFERENCE REFLECTOR
 Flat Block
 Axial
 Circumferential
 Other
 HOLES
 10 SCREEN DIVISIONS
2.5 INCHES
 LONGITUDINAL
 SHEAR

CABLE TYPE
 RG 62 RG 62
 RG 174 RG 174
 Other: _____
 Length: **72** in.

INITIAL CAL BLOCK
 TEMP. **62-72** °F
 PYROMETERS/S/N
SWRI 154
 INST. LINEARITY SHEET NO.
371010 N/A
 BEAM SPREAD SHEET NO.
6-51-1210-2 N/A

EXAMINATION AREA:
SAFETY INJECTION 6-51-1210-2

BASIC CALIBRATION
 BLOCK NO. **CC-16**

REMARKS: **CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEEDING**

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 18 APR 88		TIME (24 HR. CLOCK) 10 45		SHEET NO. 100068	
1) EXAMINER (SIGNATURE) <i>William A. Jensen</i>		SNT LEVEL II	PROCEDURE No. 600-31		INSTRUMENT SONIC MARK <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 00609E		CALIBRATION VERIFICATION	
2) EXAMINER R. MILLER		SNT LEVEL I	Rev. 24 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME 1148 1435 1557		
SEARCH UNITS			REFERENCE BLOCK S/N: 55-99			N/A <input type="checkbox"/>		TEMPERATURE 70° 70° 70°	
NOMINAL ANGLE 45°	N	A	NOMINAL ANGLE	N	A	N	A	INITIALS <i>WJ</i> <i>RM</i> <i>WJ</i> <i>FWJ</i> <i>AL</i>	
MEASURED ANGLE 44.1°			SIGNAL DISTANCE IN INCHES					ADDITIONAL INFORMATION	
BRAND SWRI	SERIAL NUMBER(S) 2526		SCREEN DISTANCE IN INCHES						
SIZE 3/8 Ad w/	FREQUENCY (MHZ) 1.5 w/					45° 3/8 N dB A % FSH 5/8 dB A % FSH A dB A	60° 3/8 N dB A % FSH 5/8 dB A % FSH A dB A		
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential Holes <input type="checkbox"/> Other			CABLE TYPE 45° N A
REJECT 0 w/	DEC N/A	FINE dB 7 N/A	COARSE dB 80 N/A	6 dB SWITCH 0P	14 dB SWITCH 4P	FREQUENCY 1	DELAY 121-1	MATH. CAL. 400	RANGE 2
DAMPING MIN	REP. RATE 3K	FILTER HIGH	VIDEO NORM	TRAN. MODE NORMAL	JACK USED R	40% ± 6 dB 82 N/A	METHOD: PRIMARY 6db Swr Test	SECONDARY N/A	REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED
REVIEWED BY: <i>George Duman</i>	SNT LEVEL: II	DATE: 19 APR 88	EXAMINATION AREA: SWRI INSPECTION 6-SI-1201-1 w/ 6-SI-1213-3, 6-SI-1214-7 w/						

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-5298	SITE CALVERT CLIFFS NUCLEAR PLANT UNIT 2	DATE (DAY-MO-YR) 22 APR 88	TIME (HR:MIN:SEC) 0905	SHEET NO. 1
1) EXAMINER (SIGNATURE) <i>William A. ...</i>	PROCEDURE No. 600-31 Rev. 24 Dev. 1, 2	INSTRUMENT SONIC MARK J1 Diaphragm () J2 Other (Specify)	SERIAL NO. 06907E	CALIBRATION VERIFICATION
2) EXAMINER R. MILLER	REFERENCE BLOCK S/N: SS-DC-41	COUPLANT J1 Diaphragm () J2 Other (Specify)	TIME N/A () TEMPERATURE 72	INITIALS F-NAL
SEARCH UNITS	NOMINAL ANGLE 45°	SIGNAL DISTANCE IN INCHES N	AMPLITUDE DE TERMINATION S/B VEE PATH	ADDITIONAL INFORMATION
	MEASURED ANGLE 40	SCREEN DISTANCE IN INCHES A	45° N dB % FSIL % FSH dB % FSH dB % FSH dB	
	BRAND SwRI		90° N dB % FSIL % FSH dB % FSH dB % FSH dB	
	SIZE 3/8-20		180° N dB % FSIL % FSH dB % FSH dB % FSH dB	
	FREQUENCY (MHZ) 1.5		270° N dB % FSIL % FSH dB % FSH dB % FSH dB	
INSTRUMENT SETTINGS				
REFLECT	0	REFERENCE REFLECTOR 1) Flat Block 1) Axial 1) Circumferential HOLES 1) Other	CABLE TYPE N	INITIAL CAL BLOCK TEMP 72
DEC	N/A		RG 42 RG 174	PYROMETER S/N SwRI 126
FINE dB	9		Other	INST LINEARITY SHEET No. 371012
COARSE dB	80		Length: 71 in	BEAM SPREAD SHEET No. N/A
8 dB SWITCH	UP			
14 dB SWITCH	UP			
FREQUENCY	1			
DELAY	155-1			
MATH CAL	322			
RANGE	2			
DAMPING	MIN			
REP RATE	3K			
FILTER	112			
VIDEO	NORM			
TRAN MODE	NORMAL			
JACK USED	R			
90° ± 6 dB	80%			
METHOD: PRIMARY	Webb Switch			
SECONDARY	N/A			
REVIEWED BY <i>K...</i>	SNT LEVEL II	DATE 22 APR 88	EXAMINATION AREA SAFETY INSULATION 6-52-1204-1001	
REMARKS: CALIBRATION REFLECTORS HAVE ^{MA} BEEN VERIFIED AT SWANNING SPEEDS ^{UP}				

190071

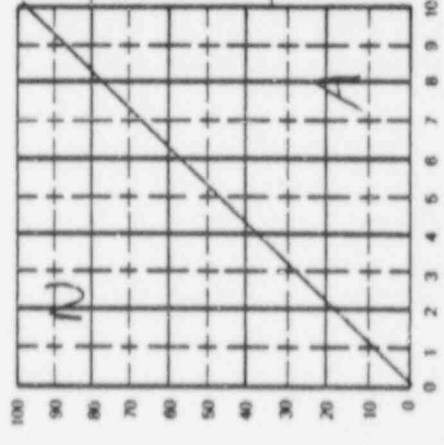
SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT,	DATE (DAY MO YR) 18 APR 88	TIME (24 HR. CLOCK) 1050	SHEET NO. 200072
1) EXAMINER (SIGNATURE) <i>William A. Miller</i>	PROCEDURE No. 600-44 Rev. 0 Des. 1/2	INSTRUMENT SERIAL NO. SONIC MARK FEL () B () III 760526	CALIBRATION VERIFICATION	
2) EXAMINER K. MILLER	SEARCH UNITS NOMINAL ANGLE 0° MEASURED ANGLE N/A BRAND ALCOTECH SIZE 1/4 P-2 FREQUENCY (MHZ) 2.25	COMPLIANT <input checked="" type="checkbox"/> Pyrex <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME N/A <input type="checkbox"/> TEMPERATURE 70° INITIALS 70° FENAL	
INSTRUMENT SETTINGS REJECT 0 DEC N/A FINE dB N/A COARSE dB +30A 6 dB SWITCH UP 14 dB SWITCH UP FREQUENCY 2 DELAY 135-1 MATH CAL 116 RANGE 1 DAMPING MIN REF. RATE 3K FILTER H1 VIDEO NORM TRAN. MODE THRU TRANS JACK USED A+T 40% + 6 dB - METHOD - PRIMARY 50% S/B SECONDARY 6dB SWEEP		REFERENCE BLOCK S/N: 55-99	AMPLITUDE DETERMINATION 5/8 VEE PATH 45° 3/B N dB A % FSH N dB A % FSH 60° 3/B N dB A % FSH N dB A % FSH 5/8 3/B N dB A % FSH N dB A % FSH A dB N dB A % FSH N dB A % FSH	ADDITIONAL INFORMATION
BASIC CALIBRATION BLOCK NO. N/A		REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	CABLE TYPE RG 62 <input type="checkbox"/> RG 62 RG 174 <input type="checkbox"/> RG 174 Other: DUAL	INITIAL CAL. BLOCK TEMP. 70 °F PYROMETER S/N SWRI 126 INST. LINEARITY SHEET No. 371010 <input type="checkbox"/> N/A BEAM SPREAD SHEET No. U-N/A
REMARKS: N/A		10 SCREEN DIVISIONS 1.0 INCHES LONGITUDINAL SHEAR <input type="checkbox"/>	EXAMINATION AREA: SAFETY IN ELECTRONICS - 6-SI-1201-1 6-SI-1213-3, 6-SI-1214-7	
SNT LEVEL: II	DATE: 19 APR 88	REVIEWED BY: <i>George Deane</i>		

17:072

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 22 APR 88	TIME (24 HR. CLOCK) 0821	SHEET NO. 100073
1) EXAMINER (SIGNATURE) <i>William C Jones</i>	PROCEDURE No. 600-49 Rev. 0 Dev. 1, 2, 3	INSTRUMENT SONIC MARK G I I B I III	SERIAL NO. 00609E	CALIBRATION VERIFICATION
2) EXAMINER <i>R. M. FLEED</i>	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	REFERENCE BLOCK S/N: SS-DC-41		
SEARCH UNITS	NOMINAL ANGLE 0°	SIGNAL DISTANCE IN INCHES N		TIME 0852
NOMINAL ANGLE 0°	MEASURED ANGLE N/A	SCREEN DISTANCE IN INCHES N		N/A <input checked="" type="checkbox"/> TEMPERATURE
BRAND AEROTECH	SERIAL NUMBER(S) 02D02607			INITIALS WJ
SIZE 1/4 PC				
FREQUENCY (MHZ) 2.25				
INSTRUMENT SETTINGS				
REJECT 0	DEC N/A	REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other N/A		
FINE dB 7N N/A	COARSE dB 80 N/A	10 SCREEN DIVISIONS 1.0 INCHES		
6 dB SWITCH UP	14 dB SWITCH UP	LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/>		
FREQUENCY 2	DELAY 134-1			
MATL CAL 110	RANGE 1			
DAMPING MIN	REP. RATE 3K			
FILTER HI	VIDEO NORM			
TRAN. MODE THRU TRANS	JACK USED RPT			
N/A dB -	METHOD - PRIMARY N/A			
SECONDARY N/A	REVIEWED BY: <i>Russell L. ...</i>			
SNT LEVEL: II	DATE: 22 APR 88			



45° N dB | 3/8 dB | 5/8 dB | A dB

90° 3/8 dB | 5/8 dB | A dB

% FSH | % FSH

INITIAL CAL. BLOCK TEMP: **N/A** °F

PYROMETER S/N: **N/A**

INST. LINEARITY SHEET NO.: **371022**

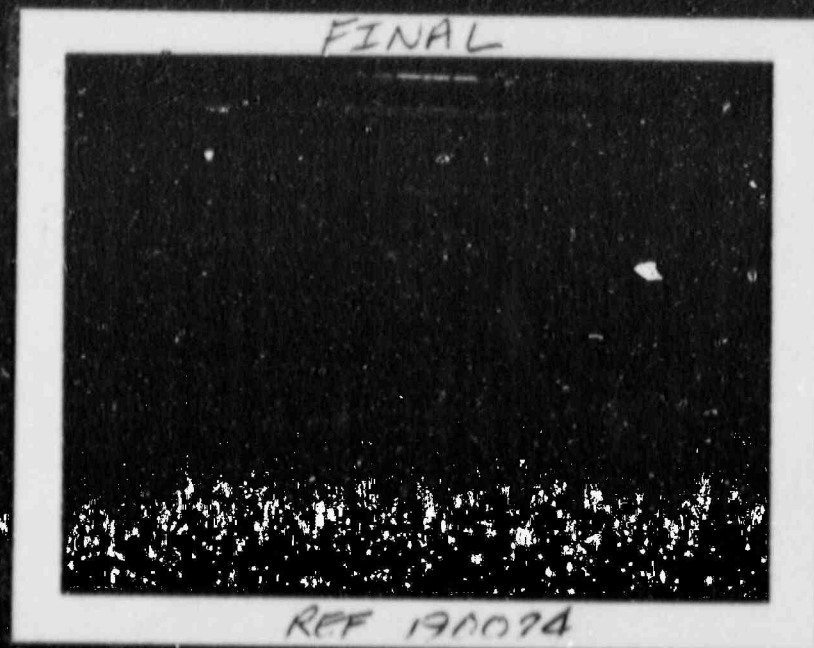
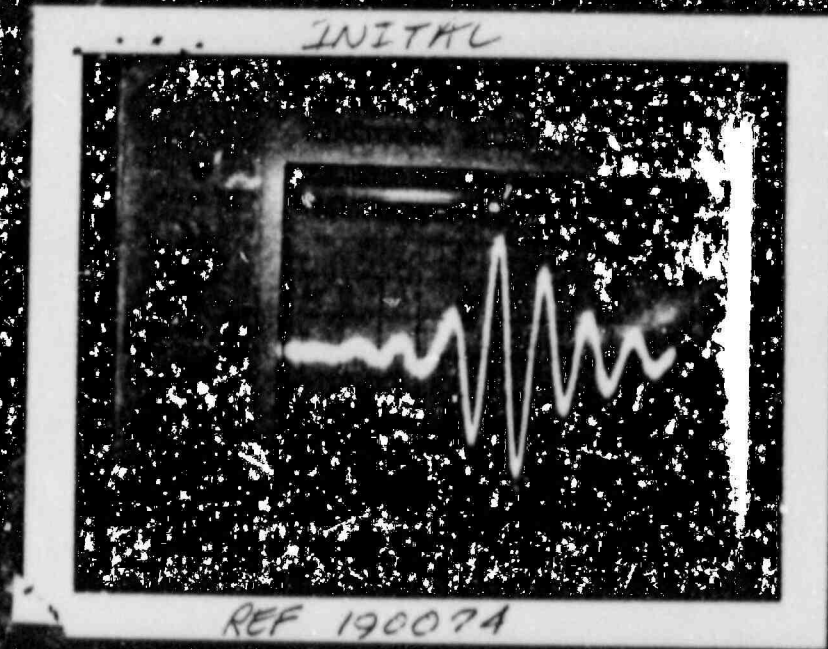
BEAM SPREAD SHEET No(s): **N/A**

EXAMINATION AREA: **SAFETY INJECTION 6-5E-1204-10**

SWRI SONIC INSTRUMENT CALIBRATION RECORD

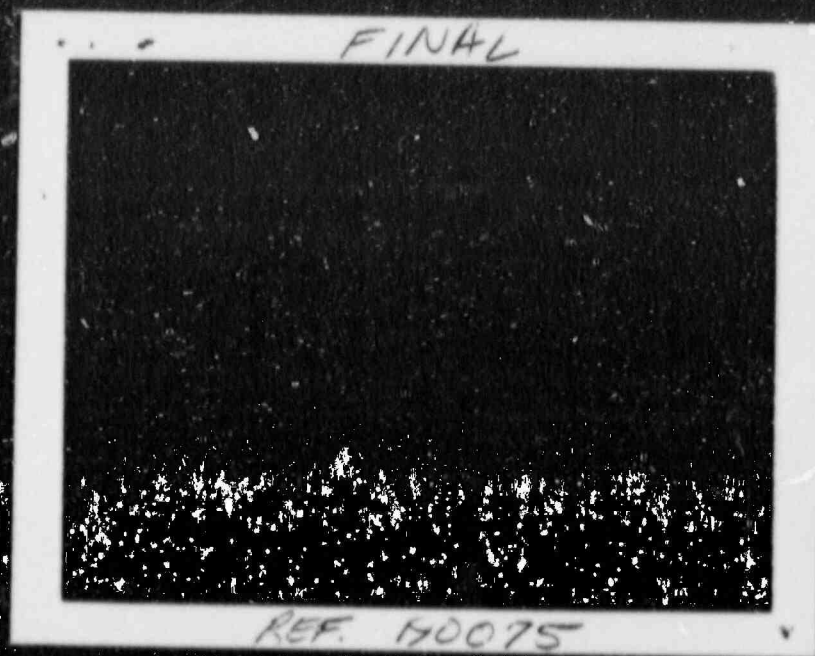
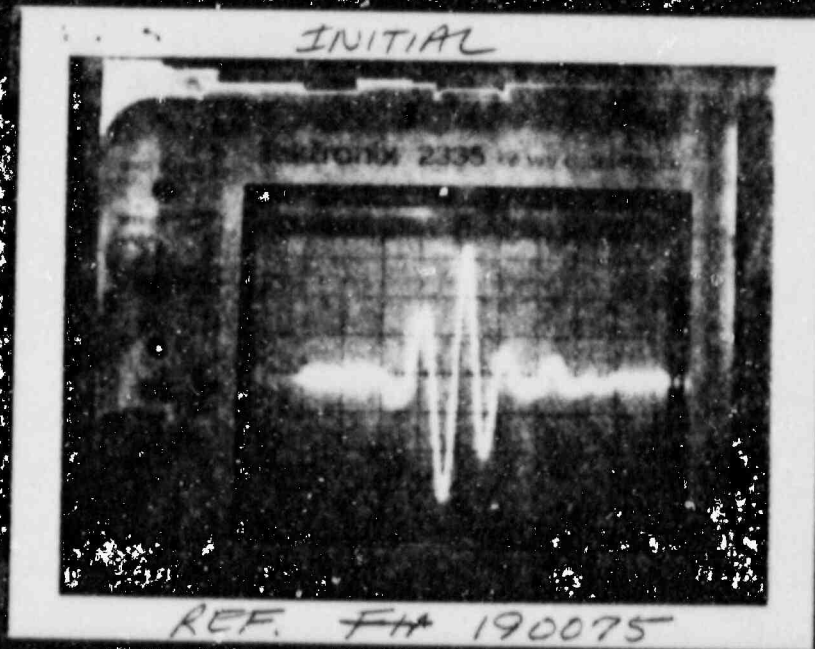
PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO YR) 18 APR 88	SHEET NO. 190074
1) EXAMINER (SIGNATURE) <i>Dyle Spive</i>	PROCEDURE No. 66013 Rev. 39 Dev. 1	INSTRUMENT SERIAL NO. Δ4329E	CALIBRATION VERIFICATION
2) EXAMINER M KLEINJAN	COUPLANT <input checked="" type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other (Specify) DZ	TIME 0950	TEMPERATURE 76
SEARCH UNITS	REFERENCE BLOCK S/N: 1111-27	INITIALS SK	
NOMINAL ANGLE 12.5°	NOMINAL ANGLE N	AMPLITUDE DETERMINATION 5/8 VEE PATH	
MEASURED ANGLE 12.0°	SIGNAL DISTANCE IN INCHES A	45° 3/B N dB	90° 3/B N dB
BRAND SWRI	SCREEN DISTANCE IN INCHES	5/8 dB	5/8 % FSH
SIZE 1		Δ dB	Δ dB
FREQUENCY (MHz) 2.25		INITIAL CAL BLOCK TEMP. 76 °F	
INSTRUMENT SETTINGS			
REJECT 0	REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	PYROMETERS/S/N SWRI 086	
DEC N/A	10 SCREEN DIVISIONS 40 INCHES	INST. LINEARITY SHEET No. 370009 <input type="checkbox"/> N/A	
FINE dB 7 N/A		BEAM SPREAD SHEET Noial. N/A	
COARSE dB 100		CABLE TYPE	
6 dB SWITCH UP		RG 62 <input type="checkbox"/>	RG 82 <input type="checkbox"/>
14 dB SWITCH UP		RG 174 <input checked="" type="checkbox"/>	RG 174 <input type="checkbox"/>
FREQUENCY 2		Other: _____	Other: _____
DELAY 0.4-1		Length: 94 in	Length: N in
MATL CAL 807		EXAMINATION AREA: Reactor Pressure Vessel 7-203 R	
RANGE 10		REMARKS: Calibration Reflectors Have Been Verified At scanning speed 10	
DAMPING min		BASIC CALIBRATION BLOCK NO. CC-67	
REF. RATE 3K		SNT LEVEL: II DATE: 19 APR 88	
FILTER HI			
VIDEO videom			
TRAN. MODE normal			
JACK USED R			
METHOD: PRIMARY 100% D/A			
SECONDARY 14 DR. S. L. 1			
REVIEWED BY: <i>Russell Line</i>			

190074



SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 18 APR 88		TIME (24 HR. CLOCK) D816		SHEET NO. 100075	
1) EXAMINER (SIGNATURE) <i>Dyle Press</i>		SNT LEVEL II		PROCEDURE No. 6013-13 Rev. 39 Dev. 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. D4329E	
2) EXAMINER m KLEINJAW		SNT LEVEL I		COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water DI <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS		REFERENCE BLOCK S/N: ITW-27		TIME		N/A G		TEMPERATURE	
				0945 1240		77° 76°		<i>Final</i>	
NOMINAL ANGLE 5.7'		MEASURED ANGLE 4.5'		SIGNAL DISTANCE IN INCHES		INITIALS		ADDITIONAL INFORMATION	
BRAND Swri		SERIAL NUMBER(S) 3391		SCREEN DISTANCE IN INCHES		AMPLITUDE DETERMINATION 5/8 VEE PATH		CABLE TYPE	
SIZE 1		FREQUENCY (MHz) 2.25				45° 3/8 dB N % FSH 5/8 dB % FSH A dB		60° 3/8 dB % FSH 5/8 dB % FSH A dB A	
INSTRUMENT SETTINGS		REJECT				REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other		INITIAL CAL BLOCK TEMP. 76 °F	
DEC		FINE dB		10 SCREEN DIVISIONS 40 INCHES		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		INST. LINEARITY SHEET No. 370009 N/A	
COARSE dB		8 dB SWITCH		LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/>		Other: <input type="checkbox"/> RG 174 <input type="checkbox"/>		BEAM SPREAD SHEET No(s). N/A	
14 dB SWITCH		14 dB SWITCH		EXAMINATION AREA: Reactor Pressure Vessel 7-203 80		Length: 96 in.			
FREQUENCY		DELAY				Length: _____ in.			
MATH CAL		RANGE							
DAMPING		DAMPING							
REP. RATE		REP. RATE							
FILTER		FILTER							
VIDEO		VIDEO							
TRAN. MODE		TRAN. MODE							
JACK USED		JACK USED							
20% +14 dB -		20% +14 dB -							
METHOD: PRIMARY		METHOD: PRIMARY							
SECONDARY		SECONDARY							
REVIEWED BY: <i>Russell Fine</i>		SNT LEVEL II		DATE: 19 APR 88					

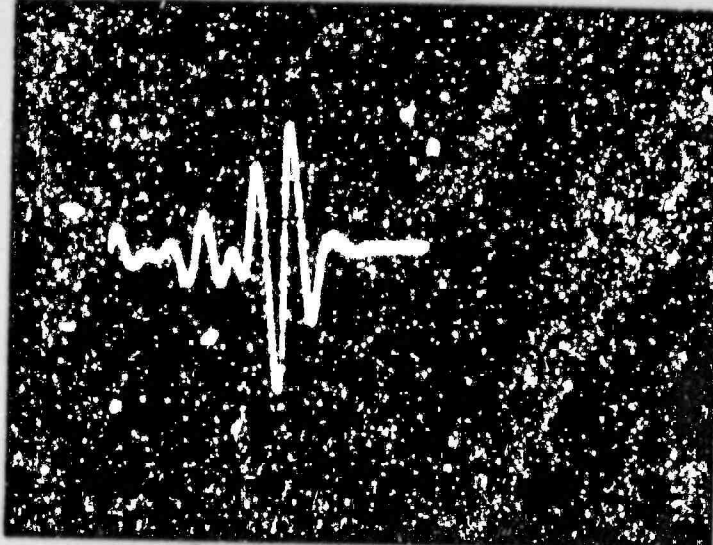


SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT.		DATE (DAY-MO-YR) 18 APR 88		TIME (24 HR. CLOCK) 0818		SHEET NO. 100076	
1) EXAMINER (SIGNATURE) <i>J. H. Brown</i>		PROCEDURE No. 600-13 Rev. 31 Dev. 1		INSTRUMENT SONIC MARK SERIAL NO. 04329E		CALIBRATION VERIFICATION			
2) EXAMINER <i>M. K. Winjan</i>		REFERENCE BLOCK SIZE II		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) DI		TIME			
SEARCH UNITS		NOMINAL ANGLE		TEMPERATURE		INITIALS			
		1.5°		76°F		JP			
		3.0°				JP			
NOMINAL ANGLE		SERIAL NUMBER(S)		AMPLITUDE DETERMINATION 5/8 VEE PATH		ADDITIONAL INFORMATION			
		3027		45° 3/8 N dB 90° 3/8 N dB					
MEASURED ANGLE				5/8 5/8 % FSH % FSH					
				A dB A dB					
BRAND				CABLE TYPE		INITIAL CAL. BLOCK			
SwRI				1.5 N A		TEMP 76			
SIZE				RG 62 <input type="checkbox"/> RG 82 <input type="checkbox"/>		PYROMETER S/N 5021 086			
1				RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		INST. LINEARITY SHEET No. 310009 <input type="checkbox"/> N/A			
FREQUENCY (KHZ)				Other: _____ Length: _____		BEAM SPREAD SHEET No. 7-203 D0			
2.25				10 SCREEN DIVISIONS					
				- 40 INCHES					
INSTRUMENT SETTINGS				LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/>					
REFLECT				EXAMINATION AREA: Reactor Pressure Vessel 7-203 D0					
0				REMARKS: Calibration Reflectors have been used at scanning speed					
21A				BASIC CALIBRATION BLOCK NO. CC-67					
9 N/A									
100									
10P									
2									
204-1									
807									
10									
min									
2K									
41									
WDRM									
3.2mm									
2									
100 N/A									
400 Switch									
METHOD-PRIMARY									
SECONDARY									
21A									
REVIEWED BY: Russell J. ...		SNT LEVEL II		DATE: 19 APR 88					

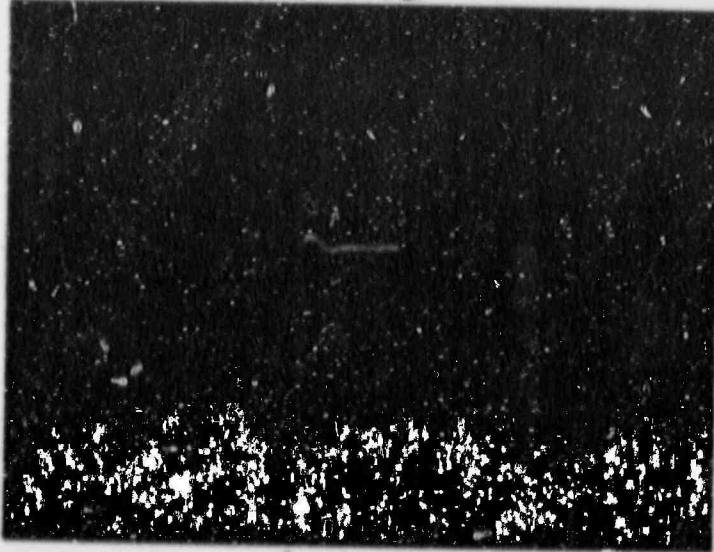
190076

INITIAL



REF 190076

FINAL

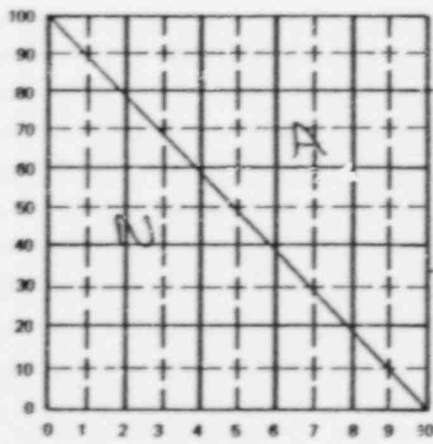


REF 190076

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 16 APR 88	TIME (24 HR. CLOCK) 1342	SHEET NO. 100077						
1) EXAMINER (SIGNATURE) <i>Jeroy Dwan</i>		SNT LEVEL II	PROCEDURE No. 600-49 Rev. 0 Dvs. 1;2	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 774123			CALIBRATION VERIFICATION				
2) EXAMINER M. KLEINJAN		SNT LEVEL II		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME 1550	N/A <input type="checkbox"/>	TEMPERATURE 71	F	I	N	A	L
SEARCH UNITS		REFERENCE BLOCK S/N: IIW-24		NOMINAL ANGLE N/A		INITIALS JD		ADDITIONAL INFORMATION				
NOMINAL ANGLE	0°	N/A	SIGNAL DISTANCE IN INCHES N/A		SCREEN DISTANCE IN INCHES A		AMPLITUDE DETERMINATION 5/8 VEE PATH					
MEASURED ANGLE	N/A		BRAND SWRI		SERIAL NUMBER(S) 1720		45° 3/8 N % FSH 5/8 A % FSH A dB A		90° 3/8 N % FSH 5/8 A % FSH A dB A			
SIZE	1.0		SIZE		FREQUENCY (MHZ) 2.25		CABLE TYPE		INITIAL CAL. BLOCK TEMP. 70 °F			
INSTRUMENT SETTINGS		REFERENCE REFLECTOR		10 SCREEN DIVISIONS		LONGITUDINAL <input checked="" type="checkbox"/>		PYROMETER S/N SWRI 148		INST. LINEARITY SHEET No. 371008 <input type="checkbox"/> N/A		
REJECT	0	N/A	<input type="checkbox"/> Flat Block		<input type="checkbox"/> Axial		Other: SIDE DRILLED HOLES		BEAM SPREAD SHEET No(s). N/A			
DEC	N/A		<input type="checkbox"/> Circumferential		<input checked="" type="checkbox"/> Other		RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/>		Length: A in			
FINE dB	5	N/A	10 SCREEN DIVISIONS		10 INCHES		Other: A		Length: A in			
COARSE dB	50	N/A	BASIC CALIBRATION BLOCK NO. CC-2		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. JD		EXAMINATION AREA: STEAM GENERATOR # 12 40		12-5-111A JD			
6 dB SWITCH	UP		REMARKS:		12-5-111B JD		12-5-111C JD					
14 dB SWITCH	UP											
FREQUENCY	2											
DELAY	093-1											
MATL CAL	102											
RANGE	10											
DAMPING	MIN											
REP. RATE	3K											
FILTER	HI											
VIDEO	NORM											
TRAN. MODE	NORMAL											
JACK USED	R											
40% ± 6 dB	80	N/A										
METHOD: PRIMARY	6dB SWEEP											
SECONDARY	N/A											
REVIEWED BY: <i>Russell Dwan</i>	SNT LEVEL II	DATE: 18 APR 88										

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 25 APR 88		TIME (H:MM:SS) (CLOCK) 0920		SHEET NO. 100079					
WORK ORDER (SIGNATURE) <i>R. Parson</i>		SNT LEVEL II	PROCEDURE No. 600-49 Rev. 0 Dev. 1,2,3		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 04332E		CALIBRATION VERIFICATION					
21 EXAMINER T. BOUNE NKAMPER		SNT LEVEL II			COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME 1010							
ARCH UNITS			REFERENCE BLOCK S/N: CS-DC-41			N/A IS							
NOMINAL ANGLE	0°	N/A	NOMINAL ANGLE			TEMPERATURE			FINAL				
MEASURED ANGLE	N/A		SIGNAL DISTANCE IN INCHES		A	INITIALS	BR						
BRAND	APROTECH	SERIAL NUMBER(S)	A11507	N/A									
SIZE	1/4 PL												
FREQUENCY (MHz)	225												
INSTRUMENT SETTINGS						REFERENCE REFLECTOR							
REJECT	0	N/A				<input type="checkbox"/> Flat Block			45°				
DEC	N/A					<input type="checkbox"/> Axial			3/8	dB	A	FSH	
FINE dB	2	A				<input type="checkbox"/> Circumferential			5/8	dB	N	FSH	
COARSE dB	N					<input type="checkbox"/> Other	N/A		A dB				
6 dB SWITCH	UP					10 SCREEN DIVISIONS	2	INCHES					
14 dB SWITCH	UP					LONGITUDINAL	<input checked="" type="checkbox"/>	SHEAR	<input type="checkbox"/>				
FREQUENCY	2								Other:				
DELAY	143-1								Length:	72	in.		
MATL. CAL.	108					BASIC CALIBRATION BLOCK NO.	N/A						
RANGE	2		REMARKS:										
DAMPING	MIN												
REP. RATE	3K												
FILTER	H1												
VIDEO	NORM												
TRAN. MODE	THRU												
JACK USED	R & T												
E/A % (10dB)	N/A												
METHOD: PRIMARY	N/A												
SECONDARY		N/A											
REVIEWED BY: <i>Russell Line</i>		SNT LEVEL: II	DATE: 26 APR 88										

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 26 APR 88	TIME (24HR. CLOCK) 1020	SHEET NO. 100081																																
1) EXAMINER (SIGNATURE) <i>R. Mueller</i>	PROCEDURE No 600-15 Rev 71 Dev 1	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 07011E	CALIBRATION VERIFICATION																																
2) EXAMINER R. Mueller	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME N/A <input type="checkbox"/> TEMPERATURE 71° 71°																																		
SEARCH UNITS	REFERENCE BLOCK S/N F107A	ADDITIONAL INFORMATION																																		
NOMINAL ANGLE 60°	NOMINAL ANGLE N	AMPLITUDE DETERMINATION S/B VEE PATH																																		
MEASURED ANGLE 59°	SIGNAL DISTANCE IN INCHES A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">45°</td> <td style="width: 10%;">N</td> <td style="width: 10%;">dB</td> <td style="width: 10%;">72</td> <td style="width: 10%;">dB</td> <td style="width: 10%;">14</td> <td style="width: 10%;">%</td> <td style="width: 10%;">FSH</td> </tr> <tr> <td>3/B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5/B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A dB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			45°	N	dB	72	dB	14	%	FSH	3/B								5/B								A dB							
45°	N	dB	72	dB	14	%	FSH																													
3/B																																				
5/B																																				
A dB																																				
BRAND ADW-TECH	SCREEN DISTANCE IN INCHES A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">60°</td> <td style="width: 10%;">N</td> <td style="width: 10%;">dB</td> <td style="width: 10%;">71</td> <td style="width: 10%;">dB</td> <td style="width: 10%;">22</td> <td style="width: 10%;">%</td> <td style="width: 10%;">FSH</td> </tr> <tr> <td>3/B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5/B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A dB</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			60°	N	dB	71	dB	22	%	FSH	3/B								5/B								A dB							
60°	N	dB	71	dB	22	%	FSH																													
3/B																																				
5/B																																				
A dB																																				
SIZE 1.5 X 1.0	REFLECTOR	CABLE TYPE																																		
FREQUENCY (MHZ) 2.25	<input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">RG 62</td> <td style="width: 10%;">N</td> <td style="width: 10%;">RG 82</td> <td style="width: 10%;">%</td> <td style="width: 10%;">FSH</td> </tr> <tr> <td>Other:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RG 174</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other:</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			RG 62	N	RG 82	%	FSH	Other:					RG 174					Other:																
RG 62	N	RG 82	%	FSH																																
Other:																																				
RG 174																																				
Other:																																				
INSTRUMENT SETTINGS		EXAMINATION AREA																																		
REFLECT	0	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
DEC	N/A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
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FINE dB	20	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">RG 62</td> <td style="width: 10%;">N</td> <td style="width: 10%;">RG 82</td> <td style="width: 10%;">%</td> <td style="width: 10%;">FSH</td> </tr> <tr> <td>Other:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RG 174</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other:</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			RG 62	N	RG 82	%	FSH	Other:					RG 174					Other:																
RG 62	N	RG 82	%	FSH																																
Other:																																				
RG 174																																				
Other:																																				
COARSE dB	70	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
5-dB SWITCH	UP	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
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14-dB SWITCH	UP	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
FREQUENCY	2	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
DELAY	1E-1	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
MATL CAL	LER	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
RANGE	10	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
DAMPING	MTW	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
REP RATE	5K	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
FILTER	HL	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
VIDEO	ADCM	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
TRAN MODE	NORMAL	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
JACK USED	A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
40% ± 6 dB -	81% N/A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
METHOD - PRIMARY	ULB 32-301	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																
SECONDARY	N/A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Length:</td> <td style="width: 10%;">72</td> <td style="width: 10%;">in.</td> <td style="width: 10%;">A</td> <td style="width: 10%;">in.</td> </tr> </table>			Length:	72	in.	A	in.																											
Length:	72	in.	A	in.																																

BASIC CALIBRATION
BLOCK NO. **CC-1**

REMARKS: **CALIBRATION REFLECTORS HAVE BEEN
VERIFYED AT SWANNING SLEEP. REF.**

REVIEWED BY: *Russell J. Fin* SMT LEVEL: **II** DATE: **27 APR 88**

100081

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 27 APR 88		TIME (24 HR. CLOCK) 1525		SHEET NO. 190082							
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II	PROCEDURE No. 100-49 Rev. 0 Dev. 1,2,3		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 760526		CALIBRATION VERIFICATION							
2) EXAMINER T. BOHNINGKAMPER		SNT LEVEL I	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) _____	TIME	N/A <input checked="" type="checkbox"/>	TEMPERATURE	N/A <input checked="" type="checkbox"/>			INITIALS	<i>[Initials]</i>				
SEARCH UNITS			REFERENCE BLOCK S/N: SS-DC-41			ADDITIONAL INFORMATION									
NOMINAL ANGLE	0	N/A	NOMINAL ANGLE	N	/	AMPLITUDE DETERMINATION 5/8 VEE PATH	45°	3/8 N dB	% FSH	60°	3/8 N dB	% FSH			
MEASURED ANGLE	N/A		SIGNAL DISTANCE IN INCHES			5/8	dB	I	% FSH	5/8	dB	A	% FSH		
BRAND	AEROTECH	SERIAL NUMBER(S)	SCREEN DISTANCE IN INCHES	A	/	CABLE TYPE	0	N	INITIAL CAL. BLOCK	TEMP. N/A	°F				
SIZE	1/4 DUAL		REFERENCE REFLECTOR	<input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other N/A		10 SCREEN DIVISIONS	RG 62	<input type="checkbox"/> RG 62	<input type="checkbox"/>	PYROMETER S/N	N/A				
FREQUENCY (MHZ)	2.25		10 SCREEN DIVISIONS	1	INCHES	Other:	N/A	Other:	INST. LINEARITY SHEET No.	371010	<input type="checkbox"/> N/A				
INSTRUMENT SETTINGS			BASIC CALIBRATION BLOCK NO. N/A			Length:	72	in.	Length:	A	in.	BEAM SPREAD SHEET No.:	N/A		
REJECT	0		REMARKS: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____			EXAMINATION AREA:	SAFETY INSTRUMENT								
DEC	N/A					LONGITUDINAL <input checked="" type="checkbox"/>	SHEAR <input type="checkbox"/>	Other:							
FINE dB	N					METHOD: PRIMARY	Acoustic	Other:							
COARSE dB	A					METHOD: SECONDARY	N/A	Other:							
6 dB SWITCH	UP					REVIEWED BY:	<i>[Signature]</i>	SNT LEVEL:	II	DATE:	28 APR 88				
14 dB SWITCH	UP														
FREQUENCY	2														
DELAY	133-1														
MATL. CAL.	III														
RANGE	I														
DAMPING	M14														
REF. RATE	3K														
FILTER	III														
VIDEO	NORM														
TRAN. MODE	THRU														
JACK USED	R/T														
40% + 6 dB	N/A														

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 27 APR 88		TIME (24 HR. CLOCK) 0916		SHEET NO. 100083			
1) EXAMINER (SIGNATURE) <i>Mike Kluge</i>		SNT LEVEL II		PROCEDURE No. 400-53		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 760576			
2) EXAMINER T BOHNENKAMPER		SNT LEVEL I		Rev. 7 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS				REFERENCE BLOCK S/N: IIW 27				TIME 1115			
NOMINAL ANGLE 20		N/A		NOMINAL ANGLE N/A		N/A		N/A <input type="checkbox"/>			
MEASURED ANGLE 20		A		SIGNAL DISTANCE IN INCHES N/A		N/A		TEMPERATURE 70			
BRAND SWRI		SERIAL NUMBER(S) 1264		SCREEN DISTANCE IN INCHES N/A		N/A		INITIALS nd			
SIZE 1		N/A		SCREEN DISTANCE IN INCHES N/A		N/A		ADDITIONAL INFORMATION			
FREQUENCY (MHZ) 2.25		N/A		SCREEN DISTANCE IN INCHES N/A		N/A		AMPLITUDE DETERMINATION 5/8 VEE PATH			
INSTRUMENT SETTINGS				<p>REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input checked="" type="checkbox"/> Other IR3 BLOCK</p> <p>10 SCREEN DIVISIONS 10 INCHES</p> <p>LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/></p>				45° 3/8 N dB / A % FSH 5/8 N dB / A % FSH A dB		60° 3/8 N dB / A % FSH 5/8 N dB / A % FSH A dB	
REJECT	0	N/A						CABLE TYPE 20		INITIAL CAL. BLOCK TEMP. 70 °F	
DEC	N/A	N/A						RG 62	<input type="checkbox"/>	RG 62	<input type="checkbox"/>
FINE dB	+4	N/A						RG 174	<input checked="" type="checkbox"/>	RG 174	<input type="checkbox"/>
COARSE dB	+40	N/A						Other:	N/A	Other:	N/A
6 dB SWITCH	UP	N/A						Length:	72 in.	Length:	72 in.
14 dB SWITCH	UP	N/A						PYROMETER S/N SWRI 126			
FREQUENCY	2	N/A						INST. LINEARITY SHEET No. 371010 <input type="checkbox"/> N/A			
DELAY	085-1	N/A						BEAM SPREAD SHEET No. N/A			
MATL. CAL.	110	N/A						EXAMINATION AREA: PRESSURIZER			
RANGE	10	N/A		REMARKS: 4-405-IR3							
DAMPING	MIN	N/A		BASIC CALIBRATION BLOCK NO. CC 41							
REP. RATE	3K	N/A		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED							
FILTER	111	N/A		REVIEWED BY: Russell Fin							
VIDEO	NORM	N/A		SNT LEVEL: II		DATE: 28 APR 88					
TRAN. MODE	NORMAL	N/A									
JACK USED	R	N/A									
40% + 6 dB -	80	N/A									
METHOD: PRIMARY	Cell 3 SWIRH	N/A									
SECONDARY	N/A	N/A									

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	DATE (DAY-MO-YR) 27 APR 88	TIME (24 HR. CLOCK) 14 40	SHEET NO. 1200035
SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		PROCEDURE No 600-33 Rev. 11 Dev. 1:2	
EXAMINER (SIGNATURE) <i>Sergio Ramirez</i>	INSTRUMENT SERIAL NO. SONIC MARK 04332E	CALIBRATION VERIFICATION	
EXAMINER R.A. RIDDLES	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME 11-20	
SEARCH UNITS	REFERENCE BLOCK S/N SS-DC-36	TEMPERATURE N/A <input type="checkbox"/>	INITIALS F I N A L
NOMINAL ANGLE 45°	NOMINAL ANGLE 45°	TEMPERATURE 78	
MEASURED ANGLE 45°	SIGNAL DISTANCE IN INCHES 1	INITIALS WD	
BRAND SWRI	SCREEN DISTANCE IN INCHES 1	ADDITIONAL INFORMATION	
SIZE 3/8	SCREEN DISTANCE IN INCHES 1.1	AMPLITUDE DETERMINATION S/B VEE PATH	
FREQUENCY (MHZ) 1.5	SCREEN DISTANCE IN INCHES 60°	45° 3/8 dB A FSH % FSH	90° 3/8 dB A FSH % FSH
INSTRUMENT SETTINGS			
REJECT 0	REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other	5/8 dB N	5/8 dB N
DEC N/A	10 SCREEN DIVISIONS 5 INCHES	4 dB	4 dB
FINE dB 6	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		
COARSE dB 80			
6 dB SWITCH UP			
14 dB SWITCH UP			
FREQUENCY 1			
DELAY 149-1			
MATL CAL 304			
RANGE 5			
DAMPING MIN			
REP RATE 3K			
FILTER HI			
VIDEO NORM			
TRAN MODE NORMAL			
JACK USED R			
3 1/2% ± 6 dB - 81			
METHOD-PRIMARY 6.25 sec. inch			
SECONDARY N/A			
REVIEWED BY <i>R. A. Riddles</i>	DATE 28 APR 88	INITIAL CAL BLOCK TEMP. 78 °F	EXAMINATION AREA R.H.E.-9 1D
REMARKS: CALIBRATION REFLECTORS UP HAVE BEEN VERIFIED AT SCANNING SPEED. WD		PYROMETER S/N SWRI 154	INST. LINEARITY SHEET No. 371003
		BEAM SPREAD SHEET No. N/A	

190085

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. **17-2116** CITY **CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1** DATE (DAY MO YR) **30 APR 88** TIME (24 HR. CLOCK) **1405** SHEET NO. **100086**

1) EXAMINER (SIGNATURE) *William C. Jensen* SNT LEVEL **II** PROCEDURE No. **800-109** INSTRUMENT SONIC MARK I II III SERIAL NO. **04328E**
 2) EXAMINER *R. Mauer* SNT LEVEL **I** Rev. 1 COUPLANT Glycerine Water
 Other (Specify)

CALIBRATION VERIFICATION				
TIME	1634	1715		
N/A <input type="checkbox"/>				
TEMPERATURE	70	70	FINAL	
INITIALS	<i>wj</i>	<i>wj</i>		

SEARCH UNITS

NOMINAL ANGLE	88°	N/A
MEASURED ANGLE	88°	
BRAND	Aerotech	SERIAL NUMBER/S/N
SIZE	1/4 DIA.	
FREQUENCY (MHZ)	225	

REFERENCE BLOCK S/N: **N/A**

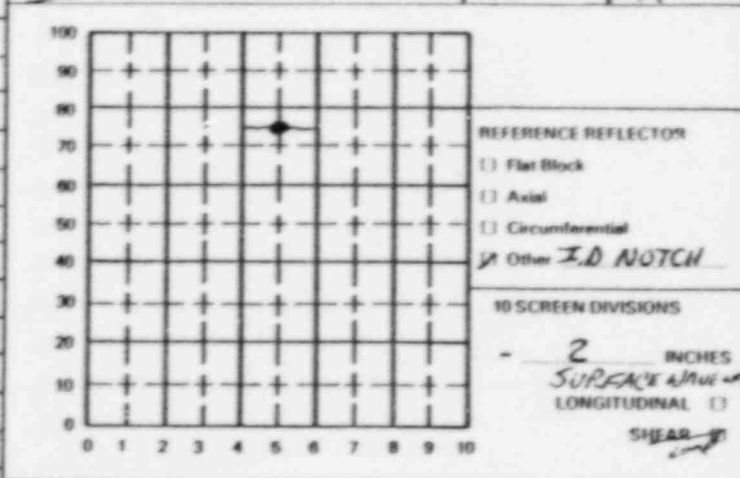
NOMINAL ANGLE **N**

SIGNAL DISTANCE IN INCHES

SCREEN DISTANCE IN INCHES **A**

INSTRUMENT SETTINGS

REJECT	0
DEC	N/A
FINE dB	9 N/A
COARSE dB	70 N/A
5 dB SWITCH	UP
14 dB SWITCH	UP
FREQUENCY	2
DELAY	164-1
MATL. CAL.	058
RANGE	2
DAMPING	MIN
REP. RATE	3X
FILTER	HZ
VIDEO	NORM
TRAN. MODE	NORMAL
JACK USED	R
90% ± 6 dB -	80% N/A
METHOD: PRIMARY	dB SWITCH
SECONDARY	N/A



ADDITIONAL INFORMATION

AMPLITUDE DETERMINATION S/B VEE PATH			
45°	N dB	% FSH	60°
3/8			3/8
5/8			5/8
A dB			A dB

CABLE TYPE

88	N
RG 82 <input type="checkbox"/>	RG 82 <input type="checkbox"/>
RG 174 <input type="checkbox"/>	RG 174 <input type="checkbox"/>
Other:	Other:
Length: 144 in.	Length: A in.

INITIAL CAL. BLOCK TEMP. **70** °F

PYROMETER S/N **SWRI 154**

INST. LINEARITY SHEET No. **371092** N/A

BEAM SPREAD SHEET No. N/A

BASIC CALIBRATION BLOCK NO. **CC-27**

REMARKS **CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED.**

EXAMINATION AREA: **REACTOR PRESSURE VESSEL: STDS 1-18 wj**

REVIEWED BY: *Russell H. Tice* SNT LEVEL: **I** DATE: **30 APR 88**

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 27 APR 88		TIME (24 HR. CLOCK) 1353		SHEET NO. 100088	
1) EXAMINER (SIGNATURE) <i>William G. Jensen</i>		SNT LEVEL II	PROCEDURE No. 600-15 Rev. 71 Dev. 1		INSTRUMENT SONIC MARK #1 <input type="checkbox"/> #2 <input type="checkbox"/> #3 <input type="checkbox"/>	SERIAL NO. 07011E		CALIBRATION VERIFICATION	
2) EXAMINER <i>R. MILLER</i>		SNT LEVEL I			COUPLANT Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) _____		TIME 1515		
SEARCH UNITS		REFERENCE BLOCK S/N: IIW-24		N/A <input type="checkbox"/>		TEMPERATURE 72		FINAL	
NOMINAL ANGLE 60		NOMINAL ANGLE N		N/A <input type="checkbox"/>		INITIALS <i>wol</i>			
MEASURED ANGLE 59		A		SIGNAL DISTANCE IN INCHES					
BRAND AERQ TECH		SERIAL NUMBER(S) 11797		SCREEN DISTANCE IN INCHES A					
SIZE 1 x 1						ADDITIONAL INFORMATION			
FREQUENCY (MHZ) 2.25						AMPLITUDE DETERMINATION S/B VEE PATH			
INSTRUMENT SETTINGS				REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES <input type="checkbox"/> Other _____		CABLE TYPE 60 N		INITIAL CAL. BLOCK TEMP. 71 °F	
REJECT 0				10 SCREEN DIVISIONS 20 INCHES		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N SwRI 148	
DEC N/A				LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		INST. LINEARITY SHEET No. 371004 <input type="checkbox"/> N/A	
FINE dB 2		N				Other: _____		BEAM SPREAD SHEET Notal. 360016 <input type="checkbox"/> N/A	
COARSE dB 70		A				Length: 72 in.			
6 dB SWITCH wp						Length: A in.			
14 dB SWITCH wp									
FREQUENCY 2									
DELAY 181-1									
MATL. CAL. 688				BASIC CALIBRATION BLOCK NO. CC-1				EXAMINATION AREA: PRESSURIZER: 8-411 wol	
RANGE 10				REMARKS <i>CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED wol</i>					
DAMPING MIN									
REP. RATE 3K									
FILTER Hi									
VIDEO NORM									
TRAN. MODE NORMAL									
JACK USED R									
40% + 6 dB - 81		N/A							
METHOD: PRIMARY 6 dB SWITCH									
SECONDARY N/A									
REVIEWED BY: <i>Russell H. Fine</i>		SNT LEVEL: II		DATE: 27 APR 88					

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 97-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 27 APRIL 77		TIME (24HR CLOCK) 0915		SHEET NO 100009			
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL I		PROCEDURE No. FOU 53 Rev. 7 Dev. 1 + 2		INSTRUMENT SONIC MARK 111 B 11 III		SERIAL NO. 00009E			
2) EXAMINER T. BOENIGER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION					
SEARCH UNITS		REFERENCE BLOCK S/N IIW 27		NOMINAL ANGLE N		TIME 1018		KHAC			
NOMINAL ANGLE 55		MEASURED ANGLE 55		SIGNAL DISTANCE IN INCHES N		N/A <input type="checkbox"/>		TEMPERATURE 67			
BRAND SWRI		SERIAL NUMBER(S) 1775		SCREEN DISTANCE IN INCHES A		ADDITIONAL INFORMATION					
SIZE 1.51 220		FREQUENCY (MHZ) 2.25				AMPLITUDE DETERMINATION 5/8 VEE PATH					
INSTRUMENT SETTINGS		REJECT 0				DEC 11A		45° 3/8 N dB % FSH		60° 3/8 N dB % FSH	
FINE dB 13		COARSE dB 100				6 dB SWITCH P		5/8 A dB % FSH		5/8 A dB % FSH	
14 dB SWITCH P		FREQUENCY 2				DELAY 0.22-1		A dB		A dB	
MATH CAL 3.4		RANGE 0				DAMPING 0.01		CABLE TYPE		INITIAL CAL BLOCK	
REP. RATE 50		FILTER III				VIDEO VIDEO		55 N		TEMP. 67 °F	
TRAN. MODE VIDEO		JACK USED R				METHOD: PRIMARY 1.51 220		RG 62 <input type="checkbox"/>		PYROMETER S/N 126	
METHOD: SECONDARY 1.51		REVIEWED BY Jule Brown				SNT LEVEL II		RG 174 <input type="checkbox"/>		INST. LINEARITY SHEET No. 33 <input type="checkbox"/> N/A	
DATE 28 APR 88		REMARKS CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED ✓				BASIC CALIBRATION BLOCK NO. CC-62		Other: A		BEAM SPREAD SHEET No(s) N/A	
								Length: 72 in		EXAMINATION AREA PRESSURIZER	
						Length: 72 in		4-4.5 INNER RADII			

170083

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 27 APRIL 88	TIME (24 HR. CLOCK) 1523	SHEET NO. 100093
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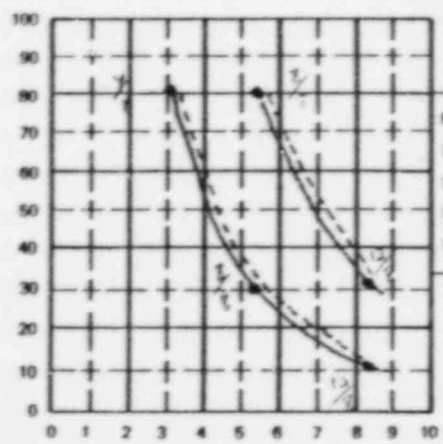
1) EXAMINER (SIGNATURE) <i>[Signature]</i>	SNT LEVEL II	PROCEDURE No. 200-34 Rev. 4.0 Dev. 1	INSTRUMENT SONIC MARK B I <input type="checkbox"/> B <input type="checkbox"/> III <input type="checkbox"/>	SERIAL NO. 00609E
2) EXAMINER T. BOJANENKAMPER	SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	

CALIBRATION VERIFICATION				
TIME	179	FINAL		
N/A <input type="checkbox"/>				
TEMPERATURE	28°			
INITIALS	-1			

SEARCH UNITS	
NOMINAL ANGLE	45° 45° T
MEASURED ANGLE	45° 45°
BRAND	SERIAL NUMBER(S)
AEROTECH	E14221 E14221
SIZE	1/4 DIAM. 1/4 DIAM.
FREQUENCY (MHZ)	2.25 2.25

REFERENCE BLOCK S/N: SS CC-41
NOMINAL ANGLE N
SIGNAL DISTANCE IN INCHES
SCREEN DISTANCE IN INCHES A

INSTRUMENT SETTINGS			
REJECT	0	0	
DEC	N/A	N/A	
FINE dB	5	7	6
COARSE dB	70	80	70
6 dB SWITCH	UP	UP	
14 dB SWITCH	UP	UP	
FREQUENCY	2	2	
DELAY	109.1	109.1	
MATL. CAL.	322	322	
RANGE	2 in	2 in	
DAMPING	MIN	MIN	
REP. RATE	3K	3K	
FILTER	HI	HI	
VIDEO	NORMAL	NORMAL	
TRAN. MODE	NORM	NORM	
JACK USED	R	R	
20% ±14 dB =	100% 100% 100% 100%		
METHOD: PRIMARY	FINE GAIN CONTROL	FINE GAIN CONTROL	
SECONDARY	FINE GAIN CONTROL	FINE GAIN CONTROL	



REFERENCE REFLECTOR
<input type="checkbox"/> Flat Block
<input type="checkbox"/> Axial
<input checked="" type="checkbox"/> Circumferential NOTCHES
<input type="checkbox"/> Other
10 SCREEN DIVISIONS
2 INCHES
LONGITUDINAL <input type="checkbox"/>
SHEAR <input checked="" type="checkbox"/>

ADDITIONAL INFORMATION			
AMPLITUDE DETERMINATION 5/8 VEE-PATH			
45°	3/8 N dB	% FSH	60°
	5/8 dB	% FSH	5/8 dB
	4 dB	A	4 dB

CABLE TYPE	INITIAL CAL. BLOCK
45 N	TEMP. 68 °F
RG 62 <input type="checkbox"/>	PYROMETER S/N
RG 174 <input checked="" type="checkbox"/>	SWRI 126
Other:	INST. LINEARITY SHEET No.
Length: 96 in	371022 <input type="checkbox"/> N/A
	BEAM SPREAD SHEET No(s).
	N/A

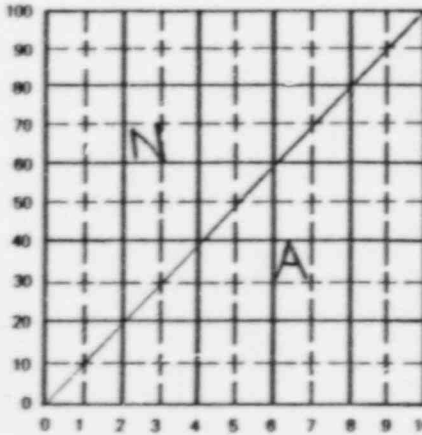
BASIC CALIBRATION BLOCK NO. CC-53
REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED.

EXAMINATION AREA: SAFETY INJECTION - 2
24-SI-1201-4, 4400, 4401 - 1

REVIEWED BY: <i>[Signature]</i>	SNT LEVEL: II	DATE: 28 APR 88
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SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 18 APRIL 88		TIME (24 HR. CLOCK) 0845		SHEET NO. 100101	
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL I		PROCEDURE No. 600-47 Rev. 0 Dev. 2, 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2) EXAMINER T. BONNENKAMPER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS				REFERENCE BLOCK S/N: C2 DC-41		TIME 0845			
NOMINAL ANGLE 0°		N/A		NOMINAL ANGLE N		N/A (TEMPERATURE) FINAL			
MEASURED ANGLE N/A				SIGNAL DISTANCE IN INCHES N		INITIALS BR			
BRAND AEROTECH		SERIAL NUMBER(S) AH-350 RT AH-501		SCREEN DISTANCE IN INCHES A		ADDITIONAL INFORMATION			
SIZE 1/4 DUAL		FREQUENCY (MHZ) 2.25				AMPLITUDE DETERMINATION 5/8 VEE PATH			
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferent. <input type="checkbox"/> Other N/A		45° 3/8 N dB % FSH 5/8 A dB % FSH A dB A	
REJECT 0		DEC N/A		10 SCREEN DIVISIONS 2 INCHES		CABLE TYPE		INITIAL CAL. BLOCK TEMP. N/A °F	
FINE dB N/A		COARSE dB N/A		LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/>		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N N/A	
6 dB SWITCH UP		14 dB SWITCH UP				Other: DUAL PORTED		INST. LINEARITY SHEET No. 3710073 <input type="checkbox"/> N/A	
FREQUENCY 2		DELAY 144-1				Length: 72 in.		BEAM SPREAD SHEET Note. <input checked="" type="checkbox"/> N/A	
MATH. CAL. 110		RANGE 2		BASIC CALIBRATION BLOCK NO. N/A		EXAMINATION AREA: MAIN STEAM BR			
DAMPING MIN		REP. RATE 3x		REMARKS:					
FILTER HI		VIDEO NORM				34-MS-1201-74U1, 74U2 BR			
TR. V. MODE BR THRU		JACK USED R/T							
METHOD. PRIMARY N/A		METHOD. SECONDARY A							
REVIEWED BY: <i>[Signature]</i>		SNT LEVEL: II		DATE: 19 APR 88					

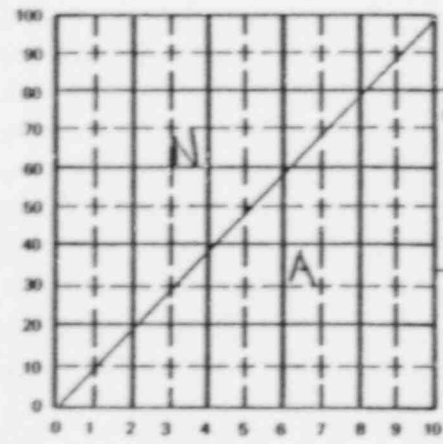
SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 19 APRIL 78		TIME (24 HR. CLOCK) 1454		SHEET NO. 100104					
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL I	PROCEDURE No. 600-41	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO 04332E	CALIBRATION VERIFICATION							
2) EXAMINER T. BUNENKAMPFER		SNT LEVEL I	Rev. 12 Dev. 1	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) _____									
SEARCH UNITS CIRC AXIAL		REFERENCE BLOCK S/N: CS-DC-41				TIME 1629							
NOMINAL ANGLE 45 45		NOMINAL ANGLE N								N/A <input type="checkbox"/>			
MEASURED ANGLE 45 45		SIGNAL DISTANCE IN INCHES				TEMPERATURE 72° FINAL							
BRAND SwRI		SERIAL NUMBER(S) 713 713				INITIALS RR							
SIZE 1/2 Rd 1/2 Rd		SPEAK DISTANCE IN INCHES A				ADDITIONAL INFORMATION							
FREQUENCY (MHZ) 2.25 2.25													
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input checked="" type="checkbox"/> Axial NOTCH <input checked="" type="checkbox"/> Circumferential NOTCH <input type="checkbox"/> Other _____				AMPLITUDE DETERMINATION 5/8 VEE PATH			
REJECT 0 0		10 SCREEN DIVISIONS 5 INCHES				45° 3/8 N dB % FSH 5/8 A dB % FSH A dB % FSH		90° 3/8 N dB % FSH 5/8 A dB % FSH A dB % FSH					
DEC N/A N/A						CABLE TYPE 45 N		INITIAL CAL. BLOCK TEMP. 72 °F					
FINE dB 12 N 15 N		BASIC CALIBRATION BLOCK NO. CC-38				RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N					
COARSE dB 60 A 60 A						RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		Other: A		INST. LINEARITY SHEET No. SWRI 154			
6 dB SWITCH UP UP		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. RR EDH SENSITIVITY = 80/5 RR				Other: _____		371005 <input type="checkbox"/> N/A					
14 dB SWITCH UP UP						Length: 96 in		Length: _____ in		BEAM SPREAD SHEET No(s). N/A			
FREQUENCY 2 2		EXAMINATION AREA: MAIN STEAM RR 34-MS-1202-10, 10LW2, 10LW2 RR											
DELAY 172-1 172-1													
MATH CAL 232 232		REVIEWED BY: <i>[Signature]</i>				SNT LEVEL: I				DATE: 21 APR 78			
RANGE 5 5													
DAMPING MIN MIN		METHOD: PRIMARY 6dB SWITCH 6dB SWITCH				METHOD: SECONDARY N/A N/A							
REP. RATE 3K 3K													
FILTER III III													
VIDEO NORM NORM													
TRAN. MODE NORMAL NORMAL													
JACK USED R R													
40% ± 6 dB - 21 N/A 21 N/A													
METHOD: PRIMARY 6dB SWITCH 6dB SWITCH													
METHOD: SECONDARY N/A N/A													
REVIEWED BY: <i>[Signature]</i>													

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 19 APRIL 88		TIME (24 HR. CLOCK) 0742		SHEET NO. 100105	
EXAMINER SIGNATURE <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. 600-41 Rev. 1 B Dev. 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 0433ZE	
EXAMINER T. JOHNNENKAMPER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS CIRC AXIAL		REFERENCE BLOCK S/N CS-DC-41		NOMINAL ANGLE N		TIME 1140		N/A <input type="checkbox"/>	
NOMINAL ANGLE 45° 45°		SIGNAL DISTANCE IN INCHES		SCREEN DISTANCE IN INCHES A		TEMPERATURE 68° FINAL		INITIALS RR	
MEASURED ANGLE 45° 45°		BRAND		SERIAL NUMBER(S)		ADDITIONAL INFORMATION			
BRAND SWRI		SERIAL NUMBER(S) 213 713		SIZE 1/2 RND 1/2 RND		AMPLITUDE DETERMINATION S/B VEE PATH			
FREQUENCY (MHZ) 2.25 2.25		INSTRUMENT SETTINGS		CIRC. NOTCH AXIAL NOTCH		45° 3/8 N dB % FSH		60° 3/8 N dB % FSH	
REJECT 0 0		DEC N/A N/A		REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input checked="" type="checkbox"/> Axial NOTCH <input checked="" type="checkbox"/> Circumferential NOTCH <input type="checkbox"/> Other		5/8 dB % FSH		5/8 dB % FSH	
FINE dB 12 15		COARSE dB 60 60		10 SCREEN DIVISIONS 5 INCHES		A dB A		A dB A	
6 dB SWITCH UP UP		14 dB SWITCH UP UP		LONGITUDINAL <input type="checkbox"/>		CABLE TYPE 45 N		INITIAL CAL. BLOCK TEMP. 67 °F	
FREQUENCY 2 2		DELAY 177-1 177-1		SHEAR <input checked="" type="checkbox"/>		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N	
MATL. CAL. 222 222		RANGE 5 5		BASIC CALIBRATION BLOCK NO. CC-36		RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		SWRI 154	
DAMPING MIN MIN		REP. RATE 3K 3K		REMARKS: EDH SENS = 70% RR		Other: Other: A		INST. LINEARITY SHEET No.	
FILTER HI HI		VIDEO NORM NORM		CALIBRATION REFLECTORS HAVE BEEN VERIFIED		Length: 96 in. Length: in.		371003 <input type="checkbox"/> N/A	
TRAN. MODE NORMAL NORMAL		JACK USED R R		AT SCANNING SPEED. RR		EXAMINATION AREA: MAIN STEAM RR			
40 % ± 6 dB = 21 * N/A * 21 * N/A *		METHOD: PRIMARY W/B SWITCH W/B SWITCH		DATE 21 APR 88		34-MS-1202-13, 134U, 134C RR			
METHOD: SECONDARY N/A N/A		REVIEWED BY: <i>[Signature]</i>		SNT LEVEL: I		BEAM SPREAD SHEET No(s). EP/N/A			

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 19 APRIL 28		TIME (24 HR. CLOCK) 0917		SHEET NO. 100106		
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II	PROCEDURE No 600-49 Rev 0 Dev 1,2,3		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> B <input type="checkbox"/> W	SERIAL NO. 774716		CALIBRATION VERIFICATION		
2) EXAMINER T. SCHENKENDORF		SNT LEVEL I			COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)			TIME 952		
SEARCH UNITS			REFERENCE BLOCK S/N: C2-DC-41			N/A <input type="checkbox"/>		TEMPERATURE N/A FINAL		
NOMINAL ANGLE 0	N/A	NOMINAL ANGLE N								
MEASURED ANGLE N/A		SIGNAL DISTANCE IN INCHES								
BRAND VERBTECH	SERIAL NUMBER(S) A11507	SCREEN DISTANCE IN INCHES								
SIZE 1/4 DUAL										
FREQUENCY (MHZ) 2.25										
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other N/A		AMPLITUDE DETERMINATION S/B VEE PATH		
REJECT 0	DEC N/A	FINE dB N				5/8 dB A		45° 3/8 N dB % FSH 5/8 dB % FSH A dB	60° 3/8 N dB % FSH 5/8 dB % FSH A dB	
COARSE dB A	6 dB SWITCH UP	14 dB SWITCH UP				10 SCREEN DIVISIONS 2 INCHES		CABLE TYPE 0 N RG 62 <input type="checkbox"/> RG 82 <input type="checkbox"/> RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/> DUAL POTTED <input type="checkbox"/> Other: <input type="checkbox"/> Length: 72 in		INITIAL CAL BLOCK TEMP. N/A °F
DELAY 1221	MATH CAL 104	RANGE 2				LONGITUDINAL <input checked="" type="checkbox"/> SHEAR <input type="checkbox"/>		PYROMETER S/N N/A		INST. LINEARITY SHEET No. 371013 <input type="checkbox"/> N/A
DAMPING MIN	REP. RATE 3K	FILTER HF				BASIC CALIBRATION BLOCK NO. N/A		BEAM SPREAD SHEET No. N/A		
VIDEO NORM	TRAN. MODE TURB	JACK USED R,T				REMARKS		EXAMINATION AREA: MAIN STEAM R/R		
METHOD- PRIMARY SECONDARY A								34-MS 1202-13 R/R		
REVIEWED BY: <i>[Signature]</i>	SNT LEVEL: II	DATE: 20 APR. 88								

SWRI SONIC INSTRUMENT CALIBRATION RECORD

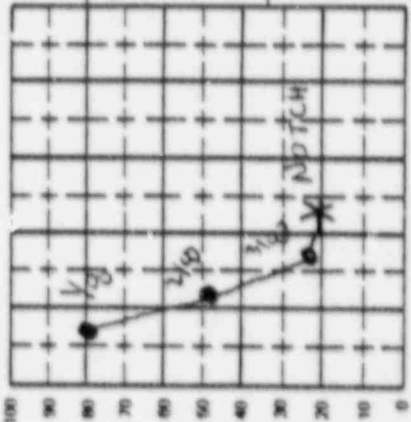
PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO. YR) 18 APR 1988	TIME (AMR. CLOCK) 1455	SHEET NO. 100107
1) EXAMINER (SIGNATURE) <i>S. Duncan</i>		INSTRUMENT SONIC MARK No. 600-41 Rev. 13 Dev. 1		CALIBRATION VERIFICATION
2) EXAMINER <i>D. Wagar</i>		S/N 774716		
SEARCH UNITS		REFERENCE BLOCK S/N: CS-DC-41		AMPLITUDE DETERMINATION S/B VEE-PATH
NOMINAL ANGLE 45°	N/A	NOMINAL ANGLE N/A	N/A	
MEASURED ANGLE 46°		SIGNAL DISTANCE IN INCHES ↓		45° 3/8 N dB % FSH 3/8 N dB % FSH
BRAND SWRT	SERIAL NUMBER(S) 844	SCREEN DISTANCE IN INCHES ↓		5/8 A dB % FSH 5/8 A dB % FSH
SIZE 1/2				A dB % FSH
FREQUENCY (MHZ) 2.25				INITIAL CAL. BLOCK TEMP. 72/78 °F
INSTRUMENT SETTINGS		REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input checked="" type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other		PYROMETER S/N SWRI 154
RECT 0	DEC N/A	10 SCREEN DIVISIONS 5 INCHES		INST. LINEARITY SHEET NO. B71013
9 dB dB N/A	COARSE dB 80	LONGITUDINAL SHEAR <input checked="" type="checkbox"/>		BEAM SPREAD SHEET NO. N/A
6 dB SWITCH UP	14 dB SWITCH UP			
FREQUENCY 2	DELAY 136-1			
MATL. CAL. 282	PANGE 5			
DAMPING MIN	REP. RATE 3K			
FILTER HI	VIDEO NORM			
TRAN. MODE NORMAL	JACK USED R			
40% 6 cm - 80%	METHOD: PRIMARY 6db notch			
SECONDARY N/A	REVIEWED BY <i>William O'Leary</i>			
DATE: 19 APR 88		EXAMINATION AREA: Main Steam: 34-MS-1201-BAFU1-30 34-MS-1201-BAFU2-30		
SNT LEVEL: II		BASIC CALIBRATION BLOCK NO. CC-38		
REMARKS: Calibration reflectors have been verified at scanning speed. * Axial notch sensitivity 60/9 db ⊗ Circ. notch sensitivity 60/8 db E.D.A. sensitivity 80/1 db ⊗ 40% + 6db = 80% 3D				

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 29 Apr 88		TIME (24 HR. CLOCK) 0832		SHEET NO. 100112	
1) EXAMINED (SIGNATURE) <i>William G. Jones</i>		SNT LEVEL II		PROCEDURE No 600-31		INSTRUMENT SONIC MARK (M) <input type="checkbox"/> (I) <input type="checkbox"/> (II) <input type="checkbox"/>		SERIAL NO. 0701.E	
2) EXAMINER R. MILLER		SNT LEVEL I		Rev. 24 Dev. WJH		COUPLANT M-Glycerine <input type="checkbox"/> Water <input type="checkbox"/> <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS		REFERENCE BLOCK S/N 55-DC-36		NOMINAL ANGLE N		TEMPERATURE 71		INITIALS WJH	
NOMINAL ANGLE 60°		NOMINAL ANGLE N		MEASURED ANGLE 59°		TEMPERATURE 71		INITIALS F-L JAL	
BRAND SwRI		SERIAL NUMBER(S) 2676		SCREEN DISTANCE IN INCHES A		ADDITIONAL INFORMATION		AMPLITUDE DETERMINATION S/B VEE PATH	
SIZE 3/8 RD		FREQUENCY (MHZ) 1.5		REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES <input type="checkbox"/> Other		CABLE TYPE 60 N		INITIAL CAL. BLOCK TEMP. 71 °F	
INSTRUMENT SETTINGS		10 SCREEN DIVISIONS 5.0 INCHES		LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		RG 82 <input type="checkbox"/> RG 82 <input type="checkbox"/> RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N SWRI 148	
REJECT 0		DEC N/A		FINE dB 4		Other: 72 in		INST. LINEARITY SHEET No. 371004 <input type="checkbox"/> N/A	
COARSE dB 80		6 dB SWITCH UP		14 dB SWITCH UP		Length: A in		BEAM SPREAD SHEET No. (S-N/A)	
FREQUENCY 1		DELAY 168-1		MATH CAL 314		EXAMINATION AREA: SAFETY INSPECTION 6-ST-1001-34 WJH			
RANGE 5		DAMPING MIN		REMARKS CALIBRATION REFLECTORS HAVE NOT BEEN VERIFIED AT SCANNING SPEED. WJH					
REP. RATE 3K		VIDEO NORM							
METHOD: PRIMARY 60dB SWITCH		METHOD: SECONDARY N/A							
REVIEWED BY: <i>K. Miller</i>		SNT LEVEL: I		DATE: 29 APR 88					

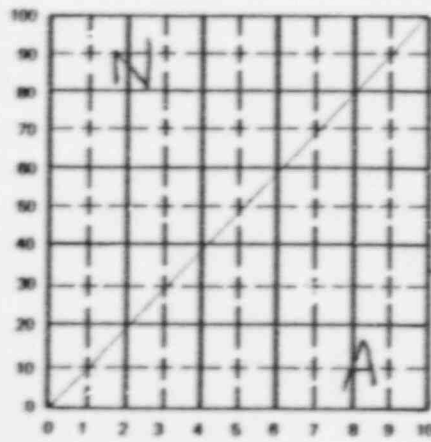
SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO-YR) 20 APR 88	TIME (24 HR. CLOCK) 0928	SHEET NO. 100115
1) EXAMINER (SIGNATURE) <i>R. Miller</i>	PROCEDURE No 602-41 Rev 1B Doc 1	INSTRUMENT MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 07011E	CALIBRATION VERIFICATION
2) EXAMINER R. MILLER	REFERENCE BLOCK S/N CS-DC-30	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME N/A <input type="checkbox"/>
SEARCH UNITS	NOMINAL ANGLE 45° N		TEMPERATURE 76°	INITIALS M
	MEASURED ANGLE 44°			
	BRAND SwRI	SIGNAL DISTANCE IN INCHES N		
	SIZE 42RD	SCREEN DISTANCE IN INCHES A		
	FREQUENCY (MHZ) 2.25			
INSTRUMENT SETTINGS				
REFLECT	0			
DEC	N / A			
FINE dB	1			
COARSE dB	60			
8 dB SWITCH	UP			
14 dB SWITCH	UP			
FREQUENCY	2			
DELAY	116-1			
MATL CAL	290			
RANGE	10			
DAMPING	PATW			
REF RATE	3K			
FILTER	HT			
VIDEO	NDM			
TRAN MODE	NORMAL			
JACK USED	R			
40 % I.C. dB -	90 N/A			
METHOD - PRIMARY	High Speed			
SECONDARY	N/A			
REVIEWED BY: <i>Russell Line</i>	SMT LEVEL II	DATE 21 APR 88	EXAMINATION AREA REACTOR COUPLANT: 30-RC-12A-7 w/ 30-RC-12A-7Hk-2, 7Lk-1 w/	



100115

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT. UNIT NO. 1		DATE (DAY MO YR) 23 APR 88		TIME (24 HR. CLOCK) 1225		SHEET NO. 100116		
1) EXAMINER (SIGNATURE) <i>William A Jensen</i>		SNT LEVEL II	PROCEDURE No 600-49 Rev 0 Dev 1,2,3	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> B <input type="checkbox"/> III	SERIAL NO. 774224	CALIBRATION VERIFICATION				
2) EXAMINER <i>R. Mueller</i>		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME 1305				
SEARCH UNITS			REFERENCE BLOCK S/N: SS-DC-36			N/A <input type="checkbox"/>	TEMPERATURE			
NOMINAL ANGLE	0°	N/A	NOMINAL ANGLE	N		INITIALS	<i>W</i>	<i>F</i>	<i>W</i>	<i>A</i>
MEASURED ANGLE	N/A	A	SIGNAL DISTANCE IN INCHES							
BRAND	SwRI	SERIAL NUMBER(S) 3278-7	SCREEN DISTANCE IN INCHES		A	ADDITIONAL INFORMATION				
SIZE	3/4					AMPLITUDE DETERMINATION S/B VEE PATH				
FREQUENCY (MHZ)	1.5					45° N	3/8	dB	% FSH	60°
						1" I	dB	% FSH	5/8	dB
						A dB			A dB	A
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other N/A	CABLE TYPE 0 N	INITIAL CAL. BLOCK TEMP. N °F		
REFLECT	0					10 SCREEN DIVISIONS 5.0 INCHES	RG 82 <input type="checkbox"/>	RG 82 <input type="checkbox"/>	PYROMETER S/N 37101A <input type="checkbox"/> N/A	
DEC	N/A					LONGITUDINAL <input checked="" type="checkbox"/>	RG 174 <input checked="" type="checkbox"/>	RG 174 <input type="checkbox"/>	INST. LINEARITY SHEET No. 37101A <input type="checkbox"/> N/A	
FINE dB	19	N/A				SHEAR <input type="checkbox"/>	Other	Other	BEAM SPREAD SHEET No(s) <input type="checkbox"/> N/A	
COARSE dB	70	A					Length: 56 in	Length: A in		
6 dB SWITCH	UP									
14 dB SWITCH	UP									
FREQUENCY	1									
DELAY	078									
MATH CAL	109									
RANGE	5		BASIC CALIBRATION BLOCK NO N/A							
DAMPING	m2w		REMARKS:							
REP. RATE	3K									
FILTER	HI									
VIDEO	NORM									
TRAN. MODE	NORM									
JACK USED	R									
% dB	N									
METHOD: PRIMARY	A									
SECONDARY										
REVIEWED BY: <i>Russell Jones</i>		SNT LEVEL: II	DATE: 25 APR 88							

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 27 APR 88		TIME (24HR. CLOCK) 0901		SHEET NO. 100118			
1) EXAMINER (SIGNATURE) <i>William C. Jones</i>		SNT LEVEL II	PROCEDURE No. 600-15		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 043 28E		CALIBRATION VERIFICATION			
2) EXAMINER R MILLER		SNT LEVEL I	Rev. 71 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME 1037				
SEARCH UNITS			REFERENCE BLOCK S/N CS-DB-2 IW-24			N/A <input type="checkbox"/>		TEMPERATURE 71			
NOMINAL ANGLE 45	MEASURED ANGLE 44	N/A	NOMINAL ANGLE N/A	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	INITIALS wol		FINAL			
BRAND NEPO TECH	SERIAL NUMBER(S) 013123		SCREEN DISTANCE IN INCHES A								
SIZE 1/2 x 1"	FREQUENCY (MHZ) 2.25					REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES NOTED <input type="checkbox"/> Other		AMPLITUDE DETERMINATION S/B VEE PATH			
INSTRUMENT SETTINGS						NO. SCREEN DIVISIONS 10 INCHES		LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		45° 3/B 71 dB 38 % FSH 5/B 92 dB 138 % FSH A dB 21	80° 3/B N dB % FSH 5/B A dB % FSH A dB
REJECT 0	DEC N/A	FINE dB 1	COARSE dB 70	6 dB SWITCH UP	14 dB SWITCH UP	FREQUENCY 2	DELAY 044-1	MATH CAL. 282	RANGE 10	DAMPING MIN	
REP. RATE 3K	FILTER H1	VIDEO NORM	TRAN. MODE NORMAL	JACK USED R	40% + 6 dB - 80	METHOD - PRIMARY High SWITCH	SECONDARY N/A	REVIEWED BY <i>Russell Fine</i>	SNT LEVEL I	DATE 27 APR 88	
			BASIC CALIBRATION BLOCK NO. CC-1			EXAMINATION AREA: PRESSURIZER; 8-411W					
			REMARKS: CALIBRATION REFLECTORS HAVE BEEN								
			VERIFIED AT SCANNING SPEED wol								

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO YR) 19 APR 88	TIME (24HR CLOCK) 1326	SHEET NO. 100119
1) EXAMINER (SIGNATURE) <i>Wilson Apson</i>	PROCEDURE No. 600-41 Rev. 18 Dev. 1	INSTRUMENT SONIC MARK VI I I B I I BI	SERIAL NO. 07011E	CALIBRATION VERIFICATION
2) EXAMINER <i>R. M. J. ...</i>	REFLECTOR BLOCK S/N: CS-DC-30	<input checked="" type="checkbox"/> Chryslar <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME N/A <input type="checkbox"/>
SEARCH UNITS	NOMINAL ANGLE 45°	ADDITIONAL INFORMATION		
	MEASURED ANGLE 44°	AMPLITUDE DETERMINATION S/B VEE-PATH		
BRAND SwRI	SIGNAL DISTANCE IN INCHES N	45° 3/B N dB 75 % FSH 75 dB A		
SIZE 1/2 R0	SCREEN DISTANCE IN INCHES A	60° 3/B N dB 75 % FSH 75 dB A		
FREQUENCY (MHZ) 2.25	REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block Holes & Notch <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	INITIAL CAL. BLOCK TEMP. 75 °F		
INSTRUMENT SETTINGS		PYROMETER S/N SwRI 158		
REJECT 0	COARSE dB 60	INST. LINEARITY SHEET No. 37100A <input type="checkbox"/> N/A		
DEC N/A	FINE dB 1	BEAM SPREAD SHEET NO.		
6 dB SWITCH UP	6 dB SWITCH UP	CABLE TYPE N		
14 dB SWITCH UP	FREQUENCY 2	RIG 82 <input type="checkbox"/> RIG 82 <input type="checkbox"/> RIG 174 <input type="checkbox"/> RIG 174 <input type="checkbox"/>		
DELAY 116-1	MATL. CAL 250	Length: 72 in.		
RANGE 10	DAMPING MIN	EXAMINATION AREA REACTOR COUPLANT: 30-RC-12A-1 w/d		
REF. RATE 3K	REF. RATE 3K	REMARKS: CALIBRATION REFLECTORS HAVE W/D BEEN VERIFIED AT SWANNING SPEED. W/D * HOLE SENSITIVITY R/3 w/d		
FILTER Hz	VIDEO NORM	BASIC CALIBRATION BLOCK NO. CC-7		
TRAN. MODE NORMAL	JACK USED 80 N/A	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		
40 N/A dB	METHOD: PRIMARY 46dB Switch	10 SCREEN DIVISIONS 1005.0 INCHES		
SECONDARY	REVIEWED BY: <i>Russell ...</i>	SENT LEVEL: 91		
	DATE: 21 APR 88	DATE: 21 APR 88		

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 23 APRIL 88		TIME (24 HR. CLOCK) 0627		SHEET NO. 100120	
1 EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. L000-31 Rev. 24 Dsz 1		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2 EXAMINER T. JOHNSONKAMPER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS		REFERENCE BLOCK S/N 55-DC-15		TIME		N/A <input type="checkbox"/>		TEMPERATURE	
NOMINAL ANGLE 45°		NOMINAL ANGLE N		INITIALS RR RR RR		TEMPERATURE 76 77 77		FINAL	
MEASURED ANGLE 44°		SIGNAL DISTANCE IN INCHES		ADDITIONAL INFORMATION		TEMPERATURE		INITIALS	
BRAND AEROTECH		SCREEN DISTANCE IN INCHES A		AMPLITUDE DETERMINATION 5/8 VEE PATH		TEMPERATURE		INITIALS	
SERIAL NUMBER(S) C 264586		REFERENCE REFLECTOR		45°		80°		INITIALS	
SIZE 1/4 DIA.		<input type="checkbox"/> Flat Block		3/8 N dB % FSH		3/8 N dB % FSH		INITIALS	
FREQUENCY (MHz) 2.25		<input type="checkbox"/> Axial		5/8 dB % FSH		5/8 dB % FSH		INITIALS	
INSTRUMENT SETTINGS		<input checked="" type="checkbox"/> Circumferential		A dB		A dB		INITIALS	
REJECT 0		<input type="checkbox"/> Other		CABLE TYPE		INITIAL CAL. BLOCK		INITIALS	
DEC N/A		10 SCREEN DIVISIONS		45 N		TEMP. 75 °F		INITIALS	
FINE dB 14		- 2 INCHES		RG 62 <input type="checkbox"/>		PYROMETER S/N		INITIALS	
COARSE dB 50		LONGITUDINAL <input type="checkbox"/>		RG 174 <input checked="" type="checkbox"/>		311003 <input type="checkbox"/> N/A		INITIALS	
6 dB SWITCH UP		SHEAR <input checked="" type="checkbox"/>		Other: <input type="checkbox"/>		SWRI 154		INITIALS	
14 dB UP		BASIC CALIBRATION		Length: 96 in		INST. LINEARITY SHEET No.		INITIALS	
5 dB 2		BLOCK NO. CC-15		Length: _____ in		311003 <input type="checkbox"/> N/A		INITIALS	
3 dB 38-1		REMARKS: CALIBRATION REFLECTORS VERIFIED AT		EXAMINATION AREA:		BEAM SPREAD SHEET No(s).		INITIALS	
2 dB 315		SCANNING SPEED PR		PRESSURIZED SPRAY		_____		INITIALS	
1 dB 2		_____		4-PS-1003-6, 5, 2, 1 RR		_____		INITIALS	
0 dB HI		_____		4-PS-1003M-16, 7 RR		_____		INITIALS	
SNT LEVEL II		DATE 25 APR 88		_____		_____		INITIALS	
REVIEWED BY: <i>Russell Lin</i>		WITNESSED BY: <i>[Signature]</i>		_____		_____		INITIALS	

SWRI SONIC INSTRUMENT CALIBRATION RECORD

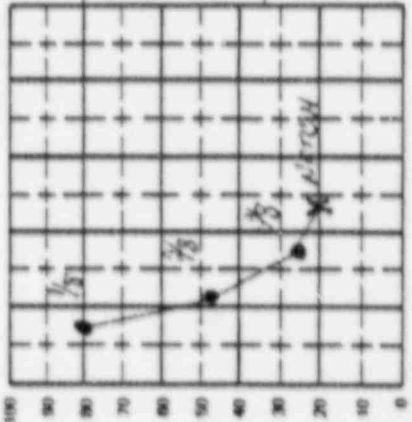
PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT	DATE (DAY MO YR) 25 APR 88	TIME (24 HR CLOCK) 1510	SHEET NO 100121
EXAMINER Russell	PROCEDURE No. 600-41 Rev. 1.1 Dev. 1	INSTRUMENT SONIC MARK M 11 B 11 B	SERIAL NO 04332E	CALIBRATION VERIFICATION
21 EXAMINER T. BAMBENKORER	REFERENCE BLOCK S/N C2-113	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		
SEARCH UNITS		AMPLITUDE DETERMINATION SUB-VEE PATH		
NOMINAL ANGLE 45°	NOMINAL ANGLE N/A	45° 60°		
MEASURED ANGLE 45°	SIGNAL DISTANCE IN INCHES N	3/8 N dB % FSH 3/8 N dB % FSH		
BRAND Senn	SCREEN DISTANCE IN INCHES A	5/8 A dB % FSH 5/8 A dB % FSH		
SIZE 3/4 Rd	CABLE TYPE			
FREQUENCY (MHz) 2.25	45° 3/8 N dB % FSH 5/8 A dB % FSH			
INSTRUMENT SETTINGS		INITIAL CAL. BLOCK TEMP. 76.4		
RECT G	CABLE TYPE N			
DEC N/A	PYROMETER S/N 2281 154			
FINE dB 6	INST. LINEARITY SHEET NO. 371603			
COARSE dB 60	BEAM SPREAD SHEET NO. N/A			
6 dB SWITCH UP	EXAMINATION AREA FEEDWATER RR			
14 dB SWITCH UP	16-FW-201-5 RR			
FREQUENCY 2	REMARKS EDM - 7/3 RR			
DELAY 14.5 1	CALIBRATION REFLECTORS HAVE BEEN			
MATL. CAL. 2.35	SERIALIZED AT CALIBRATION SPEED. RR			
RANGE 5	BASIC CALIBRATION BLOCK NO. 60-24			
DAMPING 100	10 SCREEN DIVISIONS 5 INCHES			
REP. RATE 36	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>			
FILTER HI	REMARKS FEEDWATER RR			
VIDEO MODE	REMARKS FEEDWATER RR			
TRAN. MODE MC/PC/DC	REMARKS FEEDWATER RR			
JACK USED R	REMARKS FEEDWATER RR			
% % dB 70 N/A	REMARKS FEEDWATER RR			
METHOD - PRIMARY MC/PC/DC	REMARKS FEEDWATER RR			
SECONDARY N/A	REMARKS FEEDWATER RR			
REVIEWED BY Russell	SRT LEVEL JT	DATE 26 APR 88	SHEET NO 100121	

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 20 APR 88		TIME (24HR. CLOCK) 1430		SHEET NO. 100122			
1) EXAMINER (SIGNATURE) <i>William C. Jones</i>		SNT LEVEL II	PROCEDURE No. 600-41 Rev. 18 Dev. 1		INSTRUMENT SONIC MARK <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 07011E		CALIBRATION VERIFICATION			
2) EXAMINER R. MILLER		SNT LEVEL I		COOLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)							
SEARCH UNITS			REFERENCE BLOCK S/N CS-DC-30			TIME 1625		N/A <input type="checkbox"/>			
NOMINAL ANGLE 45	N/A	NOMINAL ANGLE 44	N/A	NOMINAL ANGLE 44	N/A	TEMPERATURE 76°	Final				
MEASURED ANGLE		SIGNAL DISTANCE IN INCHES		SIGNAL DISTANCE IN INCHES		INITIALS wj					
BRAND SwRI	SERIAL NUMBER(S) 818	SCREEN DISTANCE IN INCHES		SCREEN DISTANCE IN INCHES		ADDITIONAL INFORMATION					
SIZE 1/2 Rd	FREQUENCY (MHZ) 2.25		REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block HOLES + NOTCH <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other 10 SCREEN DIVISIONS - 10 INCHES LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>	AMPLITUDE DETERMINATION S/B VEE PATH							
INSTRUMENT SETTINGS											
REJECT 0	DEC N/A							45° N	A	% FSH	90° N
FINE dB 1	N/A							3/8	A	% FSH	3/8
COARSE dB 60	A							5/8	I	% FSH	5/8
6 dB SWITCH UP								A dB		% FSH	A dB
14 dB SWITCH UP								CABLE TYPE		INITIAL CAL. BLOCK	
FREQUENCY 2								45	N/A		TEMP. 75 °F
DELAY 116-1								RG 62	<input type="checkbox"/>	RG 62	<input type="checkbox"/>
MATH CAL. 290								RG 174	<input checked="" type="checkbox"/>	RG 174	<input type="checkbox"/>
RANGE 10						Other:		Other:			
DAMPING MIN						Length:	72 in	Length:	72 in		
REP. RATE 3K											
FILTER H1											
VIDEO NORM											
TRAN. MODE NORMAL											
JACK USED R											
40% ± 6 dB 80%	N/A										
METHOD: PRIMARY SwRI 70M											
SECONDARY N/A											
REVIEWED BY: <i>Russell H. Jones</i>		SNT LEVEL: II		DATE: 21 APR 88		EXAMINATION AREA: REACTOR COOLANT: 30-RC-11A-1; -11B-1					
REMARKS: CALIBRATION REFLECTORS HAVE BEEN											
VERIFIED AT SCANNING SPEED w/											
* HOLE SENSITIVITY 7/8 w/											

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO YR) 22 Apr 88	TIME (24 HR CLOCK) 1335	SHEET NO. 100123
1) EXAMINER (SIGNATURE) <i>William C. Jensen</i>	PROCEDURE No. 600-41 Rev. 18 Dev. 1	INSTRUMENT SONIC MARK # () B () H	SERIAL NO. 774123	CALIBRATION VERIFICATION TIME N/A () TEMPERATURE 76° VIBRATIONS wal
2) EXAMINER <i>R. Miller</i>	COUPLANT M-Glycerine () Water () Other (Specify)	REFERENCE BLOCK S/N CS-DC-30		
SEARCH UNITS	NOMINAL ANGLE 45	N	A	
	MEASURED ANGLE 44			
	BRAND SwRI	SERIAL NUMBER(S)		
	SIZE 1/2 Rd	818		
	FREQUENCY (MHZ) 2.25			
INSTRUMENT SETTINGS				
REJECT	0			
DEC	N/A			
FINE dB	*			
COARSE dB	50			
6 dB SWITCH	UP			
14 dB SWITCH	UP			
FREQUENCY	2			
DELAY	122-1			
MATL CAL	787			
RANGE	10			
DAMPING	MIN			
REP RATE	3K			
FILTER	H			
VIDEO	NORM			
TRAM MODE	NORMAL			
JACK USED	R			
50 % ± 6 dB	80			
METHOD PRIMARY	+ 6 dB SWEEP			
SECONDARY	N/A			
REVIEWED BY: <i>Russell Jensen</i>	SMT LEVEL II	DATE 13 APR 88	REMARKS CC-7 CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING W/ SPEED W/ A HOLE SENSITIVITY 60/G W/	



AMPLITUDE DETERMINATION S/B VEE PATH

45°	3/8	A	% FSH	30°	3/8	N	% FSH
5/8			% FSH	5/8			% FSH
1				1			

INITIAL CAL BLOCK TEMP. **76** °F

PYROMETER S/N **SwRI 158**

INST. NEARITY SHEET No. **371008** () N/A

BEAM SPREAD SHEET No. **18-N/A**

EXAMINATION AREA
REACTOR COOLANT: 30 RC-11B-7, 7L
-7LV-1, -7LV-2 wal

SwRI SONIC INSTRUMENT CALIBRATION RECORD

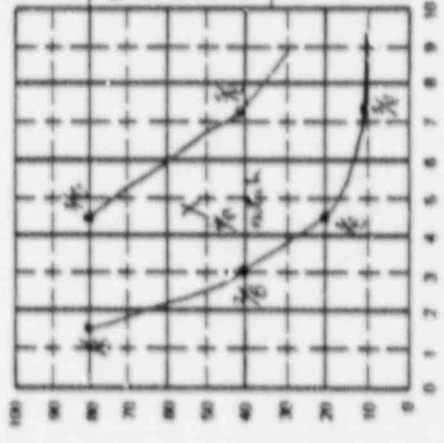
PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 20 APR 88		TIME (24 HR. CLOCK) 10 30		SHEET NO. 100124	
1) EXAMINER (SIGNATURE) <i>Jerry D. ...</i>		SNT LEVEL II	PROCEDURE No. 500-16		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> B <input type="checkbox"/> III	SERIAL NO. 774123		CALIBRATION VERIFICATION	
2) EXAMINER M W KLEINJAN		SNT LEVEL II	Rev. 31 Dev. 1-2-3		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME 1255		
SEARCH UNITS		REFERENCE BLOCK S/N SWRI - IIW - 24							
NOMINAL ANGLE 45° 60°		NOMINAL ANGLE 45° 60°		SIGNAL DISTANCE IN INCHES 4 4		N/A <input type="checkbox"/>		TEMPERATURE 74 F I N A L	
MEASURED ANGLE 46' 61'		SCREEN DISTANCE IN INCHES 4 4.4		INITIALS LD		ADDITIONAL INFORMATION			
BRAND AEROTECH		SERIAL NUMBER(S) 11791 01374		AMPLITUDE DETERMINATION S/B VEE-PATH					
SIZE 1/2 x 1		SIZE 1/2 x 1				45° <input type="checkbox"/> N dB <input type="checkbox"/> % FSH		60° <input type="checkbox"/> N dB <input type="checkbox"/> % FSH	
FREQUENCY (MHZ) 2.25		FREQUENCY (MHZ) 2.25				3/8 <input type="checkbox"/> N dB <input type="checkbox"/> % FSH		3/8 <input type="checkbox"/> N dB <input type="checkbox"/> % FSH	
INSTRUMENT SETTINGS		INSTRUMENT SETTINGS				5/8 <input type="checkbox"/> N dB <input type="checkbox"/> % FSH		5/8 <input type="checkbox"/> N dB <input type="checkbox"/> % FSH	
REFLECT		REFLECT		REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block		4 dB <input type="checkbox"/> N dB <input type="checkbox"/> % FSH		4 dB <input type="checkbox"/> N dB <input type="checkbox"/> % FSH	
DEC		DEC		<input type="checkbox"/> Axial		CABLE TYPE 45° 60°		INITIAL CAL. 74	
FINE dB		FINE dB		<input type="checkbox"/> Circumferential		RG 62 <input type="checkbox"/>		TEMP.	
COARSE dB		COARSE dB		<input type="checkbox"/> Other S.O.H.		RG 174 <input checked="" type="checkbox"/>		PYROMETER	
6 dB SWITCH		6 dB SWITCH		10 SCREEN DIVISIONS 20 INCHES		Other:		INST. LINEARITY SHEET no. 371008 <input type="checkbox"/> N/A	
14 dB SWITCH		14 dB SWITCH		LONGITUDINAL <input type="checkbox"/>		Length: 72 in		BEAM SPREAD SHEET Note.	
FREQUENCY		FREQUENCY		SHEAR <input checked="" type="checkbox"/>		Length: 72 in		N/A	
DELAY		DELAY		BASIC CALIBRATION BLOCK NO. CC 68		EXAMINATION AREA: STEAM GENERATOR LD			
MATL CAL		MATL CAL		REMARKS: CALIBRATION REFLECTORS		12-3-118 LD			
RANGE		RANGE		HAVE BEEN VERIFIED AT					
DAMPING		DAMPING		SCANNING SPEED. LD					
REP. RATE		REP. RATE							
FILTER		FILTER							
VIDEO		VIDEO							
TRAN. MODE		TRAN. MODE							
JACK USED		JACK USED							
40% ± 6 dB		40% ± 6 dB							
METHOD: PRIMARY		METHOD: PRIMARY							
SECONDARY		SECONDARY							
REVIEWED BY: <i>Russell ...</i>		SNT LEVEL: II		DATE: 21 APR 88					

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 30 APR 88		TIME (24 HR. CLOCK) 0828		SHEET NO. 100125								
1) EXAMINER (SIGNATURE) <i>Teroy D...</i>		SNT LEVEL II	PROCEDURE No 600-49	INSTRUMENT SONIC MARK <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	SERIAL NO. 774123		CALIBRATION VERIFICATION									
2) EXAMINER M W KLEINJAN		SNT LEVEL II	Rev 0 Dev 1,2,3	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)							TIME 09:40					
SEARCH UNITS			REFERENCE BLOCK S/N: C5-DC-30							N/A <input type="checkbox"/>	TEMPERATURE 75°	F	I	N	A	L
NOMINAL ANGLE	0	N/A	NOMINAL ANGLE	N/A	N/A											
MEASURED ANGLE	N/A		SIGNAL DISTANCE IN INCHES													
BRAND	SWRI	SERIAL NUMBER(S) 1720	SCREEN DISTANCE IN INCHES													
SIZE	1			REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other S.D.H.	45° 3/8" N dB A % FSH 5/8" N dB A % FSH 1" dB N dB A % FSH	90° 3/8" N dB A % FSH 5/8" N dB A % FSH 1" dB N dB A % FSH										
FREQUENCY (MHZ)	2.25															
INSTRUMENT SETTINGS																
REJECT	0	N/A														
DEC	N/A															
FINE dB	9															
COARSE dB	50															
6 dB SWITCH	UP															
14 dB SWITCH	UP															
FREQUENCY	2															
DELAY	094.1															
MATL CAL	102															
RANGE	5		BASIC CALIBRATION BLOCK NO. CC 68													
DAMPING	MIN		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED MD.													
REP. RATE	3K															
FILTER	H1															
VIDEO	NORM															
TRAN MODE	NORMAL															
JACK USED	R															
% + G dB	80% ± 1/8%															
METHOD PRIMARY	GAB SWITH															
METHOD SECONDARY	N/A															
REVIEWED BY: <i>Russell Line</i>		SNT LEVEL II		DATE 21 APR 88												

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO YR) 21 April 88	TIME (24HR CLOCK) 0800	SHEET NO. 100126
1) EXAMINER (SIGNATURE) <i>D. Wagar</i>	PROCEDURE No. 600-15 Rev. 71 Dev. 1	INSTRUMENT SONIC MARK M1 () B () B	SERIAL NO. 01122E	CALIBRATION VERIFICATION
2) EXAMINER <i>D. Wagar</i>	COBALTANT M () Synchronous () Wave () Other (Specify)	REFERENCE BLOCK S/N CS-DC-30	NOMINAL ANGLE N/A	TIME 1100
NOMINAL ANGLE 60°	SEARCH LIMITS	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 76
MEASURED ANGLE 59°				INITIALS sp
BRAND Ac. Cal. Co.	SERIAL NUMBER(S) 015841			ADDITIONAL INFORMATION
SIZE 1/2 x 1				AMPLITUDE DETERMINATION SURVEY PATH
FREQUENCY (KHZ) 2.25				45° 3/8 2 3/8 5/8 3/4 45° N dB 76 dB 76 dB 76 dB % FSH % FSH % FSH % FSH
INSTRUMENT SETTINGS		REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other		INITIAL CAL. BLOCK TEMP 76 °F
RECT 0				PYROMETER S/N SWR7146
DEC N/A				INST. LINEARITY SHEET NO. 371009 () N/A
FINE dB 5 4				BEAM SPREAD SHEET NO.
COARSE dB 70 80				
6 dB SWITCH UP				
14 dB SWITCH UP				
FREQUENCY 2				
DELAY 189-1				
MATH. CAL. 290				
RANGE 10				
DAMPING MIN				
REP. RATE 3K				
FILTER HI				
VIDEO AORM				
TRAN. MODE ACR.MA				
JACK USED R				
40% - 6dB 80% 80%				
METHOD - PRIMARY SECONDARY				
REVIEWED BY <i>D. Wagar</i>	SNT LEVEL II	DATE 22 APR 88	EXAMINATION AREA Steam Generator: SG-11-3 80 Partial Zoom from L-364% to L=0.10	



170126

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 23 APR 88		TIME (24 HR. CLOCK) 1735		SHEET NO. 100127			
1) EXAMINER (SIGNATURE) <i>W. H. ...</i>		SNT LEVEL II	PROCEDURE No 600-6 Rev 25 Dev N/A		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO 04392E-30	CALIBRATION VERIFICATION				
2) EXAMINER L. SPIESS		SNT LEVEL II			COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	DI	TIME 1910				
SEARCH UNITS			REFERENCE BLOCK S/N: CS-DC-30			N/A <input type="checkbox"/>					
NOMINAL ANGLE	45°		N	A	NOMINAL ANGLE	N	A	N	A		
MEASURED ANGLE	44°				SIGNAL DISTANCE IN INCHES						
BRAND	SERIAL NUMBER(S)				SCREEN DISTANCE IN INCHES						
AEROTECA	013723										
SIZE	1/2 x 1					REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other _____	10 SCREEN DIVISIONS _____ 12 INCHES	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>			
FREQUENCY (MHZ)	2.25										
INSTRUMENT SETTINGS											
REJECT	0										
DEC	N/A										
FINE dB	0	N/A									
COARSE dB	10	N/A									
6 dB SWITCH	UP										
14 dB SWITCH	UP										
FREQUENCY	2										
DELAY	146.1										
MATL CAL	364										
RANGE	10										
DAMPING	min										
REP. RATE	3K										
FILTER	H										
VIDEO	norm										
TRAN. MODE	normal										
JACK USED	R										
40% to 6 dB-	30%	N/A									
METHOD: PRIMARY	60dB Switch										
SECONDARY	N/A										
REVIEWED BY: <i>Russell Fine</i>		SNT LEVEL II		DATE 26 APR 88		EXAMINATION AREA: FLYWHEEL 12A					
BASIC CALIBRATION BLOCK NO. CC-54					REMARKS: <i>Calibration Reflectors Have Been Verified At Scanw Speed and</i> ★ 311023 20						

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 30 APR 88		TIME (24 HR. CLOCK) 0900		SHEET NO. 100128	
1 EXAMINER SIGNATURE <i>Lyle Spess</i>		SNT LEVEL II		PROCEDURE No. 600-49 Rev. 0 Dev. 1,2,3		INSTRUMENT SONIC MARK SW <input type="checkbox"/> H <input type="checkbox"/> B		SERIAL NO. 774224	
2 EXAMINER <i>D. Wagar</i>		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS		REFERENCE BLOCK S/N CS-DC 541110-24		TIME		N/A <input type="checkbox"/>		TEMPERATURE	
		NOMINAL ANGLE 0 N/A		N/A <input type="checkbox"/>		INITIALS		20 30 30	
MEASURED ANGLE N/A		SIGNAL DISTANCE IN INCHES		N/A		N/A		fury	
BRAND Swri		SERIAL NUMBER(S) 2894		SCREEN INSTANCE IN INCHES		N/A			
SIZE 1				AMPLITUDE DETERMINATION S/B VEE PATH		45° N <input type="checkbox"/> % FSH		90° N <input type="checkbox"/> % FSH	
FREQUENCY (MHZ) 2.25				REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other		CABLE TYPE 0 N/A		3/8" <input type="checkbox"/> % FSH	
INSTRUMENT SETTINGS		REJECT 0 N/A		10 SCREEN DIVISIONS 10 INCHES		5/8" <input type="checkbox"/> % FSH		8 dB <input type="checkbox"/> % FSH	
DEC N/A		LONGITUDINAL <input type="checkbox"/>		SHEAR <input type="checkbox"/>		INITIAL CAL. BLOCK TEMP. 77 °F		PYROMETER S/N SWRI 154	
FINE dB 14 N/A		BASIC CALIBRATION BLOCK NO. CC-2		REMARKS: <i>Calibration Reflectors have been verified at scanning speed. 30</i>		RG 62 <input type="checkbox"/>		RG 62 <input type="checkbox"/>	
COARSE dB 40 N/A		EXAMINATION AREA: STEAM GENERATOR 12				RG 174 <input checked="" type="checkbox"/>		RG 174 <input type="checkbox"/>	
6 dB SWITCH UP		REVIEWED BY: <i>E. M. [Signature]</i>		SNT LEVEL: II		DATE: 20 MAY 88		INST. LINEARITY SHEET No. 371014 <input type="checkbox"/> N/A	
14 dB SWITCH UP		METH. PRIMARY 6db switch		SECONDARY N/A		Length: 72 in		Length: 72 in	
FREQUENCY 2		40% = 6 dB - 80% N/A		BEAM SPREAD SHEET No. 360012 <input type="checkbox"/> N/A					
DELAY 046-1									
MATL. CAL. 093									
RANGE 10									
DAMPING MIN									
REP. RATE 3K									
FILTER H1									
VIDEO NORM									
TRAN. MODE NORMAL									
JACK USED R									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2113		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DA / MO / YR) 21 APR 88		TIME (24 HR. CLOCK) 10 55		SHEET NO. 100131									
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. 600-33		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 00609E									
2) EXAMINER M. W. KLEINJAN		SNT LEVEL II		Rev. 11 Dev. 1-2		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION									
SEARCH UNITS				REFERENCE BLOCK S/N: CS-122				TIME 1319									
NOMINAL ANGLE		45° 60°		NOMINAL ANGLE		45° 60		N/A <input type="checkbox"/>									
MEASURED ANGLE		44° 60°		SIGNAL DISTANCE IN INCHES		1 1		TEMPERATURE 72 F I N A L									
BRAND		SERIAL NUMBER(S)		SCREEN DISTANCE IN INCHES		1 1.1		INITIALS LD									
SWRI		2885 809						ADDITIONAL INFORMATION									
SIZE		3/8 3/8						AMPLITUDE DETERMINATION 5/8 V.C.E. PATH									
FREQUENCY (MHZ)		2.25 2.25						<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">45°</td> <td style="width: 50%; border: none;">60°</td> </tr> <tr> <td style="border: none;">3/8 N dB A % FSH</td> <td style="border: none;">5/8 N dB A % FSH</td> </tr> <tr> <td style="border: none;">5/8 N dB A % FSH</td> <td style="border: none;">5/8 N dB A % FSH</td> </tr> <tr> <td style="border: none;">A dB</td> <td style="border: none;">A dB</td> </tr> </table>		45°	60°	3/8 N dB A % FSH	5/8 N dB A % FSH	5/8 N dB A % FSH	5/8 N dB A % FSH	A dB	A dB
45°	60°																
3/8 N dB A % FSH	5/8 N dB A % FSH																
5/8 N dB A % FSH	5/8 N dB A % FSH																
A dB	A dB																
INSTRUMENT SETTINGS								REFERENCE REFLECTOR									
REJECT		0 0				<input checked="" type="checkbox"/> Flat Block											
DEC		N A N A				<input type="checkbox"/> Axial											
FINE dB		7 7				<input type="checkbox"/> Circumferential											
COARSE dB		70 80				<input type="checkbox"/> Other S.D.H.											
6 dB SWITCH		UP UP				10 SCREEN DIVISIONS		CABLE TYPE									
14 dB SWITCH		UP UP				- 2.5 INCHES		45 60									
FREQUENCY		2 2				LONGITUDINAL <input type="checkbox"/>		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>									
DELAY		442-1 442-1				SHEAR <input checked="" type="checkbox"/>		RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>									
MATL CAL		312 312						Other: Other:									
RANGE		2 2		BASIC CALIBRATION				INITIAL CAL. BLOCK									
DAMPING		MIN MIN		BLOCK NO. CC-56				TEMP. 72 °F									
REP. RATE		3K 3K		REMARKS: CALIBRATION REFLECTORS				PYROMETER S/N									
FILTER		H1 H1		HAVE BEEN VERIFIED AT				SWRI-126									
VIDEO		NORM NORM		SCANNING SPEED SD				INST. LINEARITY SHEET No.									
TRAN. MODE		NORMAL NORMAL						371022 <input type="checkbox"/> N/A									
JACK USED		R R						BEAM SPREAD SHEET No(s).									
40% + 6dB -		80% N/A 81% N/A						SD									
METHOD: PRIMARY		6dB SWITCH						SD									
SECONDARY		N / A N / A						SD									
REVIEWED BY: <i>[Signature]</i>		SNT LEVEL: II		DATE: 22 APR 88				EXAMINATION AREA: SHUTDOWN COOLING SD									
								HEAT EXCHANGER SD									
								SCHE - II - NI SD									
								SCHE - II - I SD									

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 21 APR 88		TIME (24 HR. CLOCK) 1050		SHEET NO. 100132						
1) EXAMINER (SIGNATURE) <i>Snog Duan</i>		SNT LEVEL II	PROCEDURE No 600-49 Rev. 0 Dev. 1-2-3		INSTRUMENT SONIC MARK No <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 760526		CAL. TION VERIFICATION					
2) EXAMINER M. W. KLEINSAN		SNT LEVEL II			COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		TIME 1325							
SEARCH UNITS			REFERENCE BLOCK S/N: CS-122			K/A <input type="checkbox"/>								
NOMINAL ANGLE	0°		N/A	N/A	N/A	TEMPERATURE		72		F I N A L				
MEASURED ANGLE	N/A		N/A	N/A	N/A	INITIALS		LD						
BRAND	SERIAL NUMBER(S)		SCREEN DISTANCE IN INCHES	N/A	N/A									
SWRI	2579		N/A	N/A	N/A									
SIZE	3/8													
FREQUENCY (MHZ)	2.25													
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other S.D.H.		AMPLITUDE DETERMINATION 5/8 VEE PATH						
REJECT	0					N/A	N/A	N/A	45°		60°			
DEC	N/A								3/8 N/A dB % FSH		3/8 N/A dB % FSH			
FINE dB	-5					N/A	N/A	N/A	5/8 N/A dB % FSH		5/8 N/A dB % FSH			
COARSE dB	+30					A			A dB		A dB			
6 dB SWITCH	UP								CABLE TYPE		INITIAL CAL. BLOCK			
14 dB SWITCH	UP								RG 62 <input type="checkbox"/>		TEMP. 72 °F			
FREQUENCY	2								RG 174 <input type="checkbox"/>		PYROMETER S/N			
DELAY	118-1								Other: DUAL POTTED		INST. LINEARITY SHEET No.			
MATL. CAL.	108								Length: 72 in.		371010 <input type="checkbox"/> N/A			
RANGE	2					EXAMINATION AREA:		BEAM SPREAD SHEET No.:						
DAMPING	MIN					SHUTDOWN COOLING		JD						
REP. RATE	3K					HEAT EXCHANGER		JD						
FILTER	H1					SCHE-11-N1		JD						
VIDEO	NORM					SCHE-11-1		JD						
TRAN. MODE	THRU													
JACK USED	R3T													
40% +6 dB -	80%		N/A											
METHOD: PRIMARY	6dB SWITCH													
SECONDARY	N/A													
REVIEWED BY: <i>Russell</i>		SNT LEVEL: II		DATE: 22 APR 88										

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 22 April 88	TIME (24 HR. CLOCK) 1240	SHEET NO. 100126			
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II	PROCEDURE No. 600-15	INSTRUMENT SONIC MARK (BT) (I) (II) (III) 04325E	CALIBRATION VERIFICATION				
2) EXAMINER D. Wagar		SNT LEVEL I	Rev. 71 Dev. 1	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)					
SEARCH UNITS		REFERENCE BLOCK S/N: SWRI-IIW-24			TIME 1605	N/A <input type="checkbox"/>			
NOMINAL ANGLE 45°	N/A	NOMINAL ANGLE N/A	N/A	N/A	TEMPERATURE 78				
MEASURED ANGLE 44°		SIGNAL DISTANCE IN INCHES			INITIALS 30	Final			
BRAND Aerotech Gamma	SERIAL NUMBER(S) 013723	SCREEN DISTANCE IN INCHES			ADDITIONAL INFORMATION				
SIZE 1/2 x 1					AMPLITUDE DETERMINATION 5/8 VEE-PATH				
FREQUENCY (MHZ) 2.25					45° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A	60° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A			
INSTRUMENT SETTINGS				REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other		CABLE TYPE		INITIAL CAL. BLOCK	
REJECT 0	N/A			10 SCREEN DIVISIONS 20 INCHES		45° 45	N/A	TEMP. 78 °F	
DEC N/A				LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		RG 62 <input type="checkbox"/>	RG 62 <input type="checkbox"/>	PYROMETER S/N	
FINE dB 2 7						RG 174 <input checked="" type="checkbox"/>	RG 174 <input type="checkbox"/>	SWRI 146	
COARSE dB 60 70						Other:	Other:	INST. LINEARITY SHEET No.	
6 dB SWITCH UP						Length: 96 in.	Length:	371011 <input type="checkbox"/> N/A	
14 dB SWITCH UP								BEAM SPREAD SHEET (Sols).	
FREQUENCY 2								360004 <input type="checkbox"/> N/A	
DELAY 000-1				BASIC CALIBRATION BLOCK NO. CC68		EXAMINATION AREA: Steam Generator: SG-11-3 & PARTIAL EXAM FROM L=300" to L=0"			
MATL. CAL. 686				REMARKS: Calibration reflectors have been verified at scanning speed.					
RANGE 10									
DAMPING MIN									
REP. RATE 3K									
FILTER H1									
VIDEO NORM									
TRAN. MODE NORMAL									
JACK USED R									
40% + 6 dB - 80% 81%									
METHOD: PRIMARY SECONDARY 6db Switch 6db Switch									
REVIEWED BY: <i>[Signature]</i>	SNT LEVEL II	DATE: 22 APR 88							

SwRI SONIC INSTRUMENT CALIBRATION RECORD

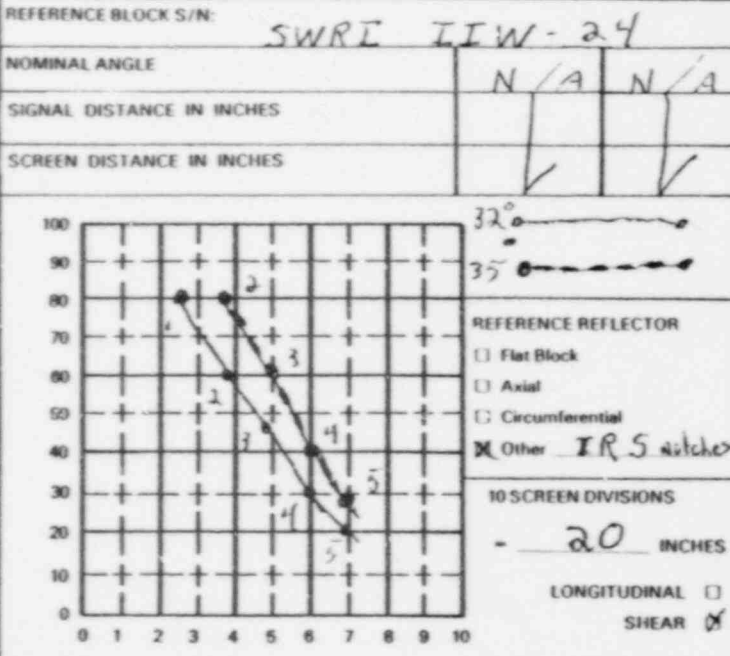
PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 23 APRIL 88		TIME (24 HR. CLOCK) 1241		SHEET NO. 100141	
1) EXAMINER (SIGNATURE) <i>R. LaRosa</i>		SNT LEVEL II		PROCEDURE No. 600-31		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2) EXAMINER T. SCHNENKAMPER		SNT LEVEL I		Rev. 24 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS				REFERENCE BLOCK S/N: 55-99				TIME 1521	
NOMINAL ANGLE 45°		N/A		NOMINAL ANGLE N		N/A <input type="checkbox"/>		TEMPERATURE 77°	
MEASURED ANGLE 44°				SIGNAL DISTANCE IN INCHES				INITIALS RLR	
BRAND AUTOTECH		SERIAL NUMBER(S) C 26456		SCREEN DISTANCE IN INCHES				ADDITIONAL INFORMATION	
SIZE 1/4 DIAM.				SCREEN DISTANCE IN INCHES		A		AMPLITUDE DETERMINATION 5/8 VEE-PATH	
FREQUENCY (MHZ) 2.25				SCREEN DISTANCE IN INCHES				45° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A dB	
INSTRUMENT SETTINGS				REFERENCE REFLECTOR				60° 3/8 N dB % FSH 5/8 A dB % FSH 8 dB A dB	
REJECT 0				<input type="checkbox"/> Flat Block		CABLE TYPE		INITIAL CAL. BLOCK	
DEC N/A				<input type="checkbox"/> Axial		45° N		TEMP. 75 °F	
FINE dB 4		N		<input checked="" type="checkbox"/> Circumferential		RG 62 <input type="checkbox"/> RG 62		PYROMETER S/N	
COARSE dB 60		A		<input type="checkbox"/> Other		RG 174 <input checked="" type="checkbox"/> RG 174		INST. LINEARITY SHEET No.	
6 dB SWITCH UP				10 SCREEN DIVISIONS		Other:		Other:	
14 dB SWITCH UP				- 2 INCHES		Length: 96 in.		Length: A in.	
FREQUENCY 2				LONGITUDINAL <input type="checkbox"/>				Other:	
DELAY 152-1				SHEAR <input checked="" type="checkbox"/>				Other:	
MATL. CAL. 314				BASIC CALIBRATION				Other:	
RANGE 2				BLOCK NO. CC-14				Other:	
DAMPING MIN				REMARKS: CALIBRATION REFLECTORS HAVE BEEN				Other:	
REP. RATE 3K				VERIFIED AT SCANNING SPEED. RLR				Other:	
FILTER HI								Other:	
VIDEO NORM								Other:	
TRAN. MODE NORMAL								Other:	
JACK USED R								Other:	
40% ± 2 dB - 81 % N/A % % %								Other:	
METHOD: PRIMARY 60dB SWITCH								Other:	
SECONDARY N/A								Other:	
REVIEWED BY: <i>Russell Fine</i>		SNT LEVEL: II		DATE: 23 APR 88		EXAMINATION AREA: PRESSURIZER RR		Other:	
						3-PS-1001-23 RLR		Other:	
						3-PS-1001M-28, 29, 30 RLR		Other:	
						3-PS-1002-27 RLR		Other:	
						3-PS-1002M-27, 28, 31, 32 RLR		Other:	

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY-MO-YR) 23 APR 88	TIME (24 HR. CLOCK) 1406	SHEET NO. 100142
1) EXAMINER (SIGNATURE) <i>William G. Jensen</i>	PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT SONIC MARK EPI I II III 774123	SERIAL NO. 774123	CALIBRATION VERIFICATION
2) EXAMINER <i>R. Miller</i>	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME N/A <input type="checkbox"/> TEMPERATURE 75 INITIALS <i>WJL</i>		
SEARCH UNITS		ADDITIONAL INFORMATION		
NOMINAL ANGLE 45	NOMINAL ANGLE N/A	AMPLITUDE DETERMINATION 5/8 VEE PATH		
MEASURED ANGLE 44	SIGNAL DISTANCE IN INCHES N/A	45° 3/8 N dB	60° 3/8 N dB	% FSH A
BRAND Swift	SCREEN DISTANCE IN INCHES N/A	5/8 dB	5/8 dB	% FSH A
SIZE 2X1"	REFERENCE BLOCK S/N: 55-DC-36	A dB	A dB	A dB
FREQUENCY (MHZ) 1.5		INITIAL CAL. BLOCK TEMP. 75 °F		
INSTRUMENT SETTINGS		PYROMETER S/N 50281 168		
REJECT D	REFLECTOR <input checked="" type="checkbox"/> Flat Block <i>Holes, Absent</i> <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	INST. LINEARITY SHEET NO. 371028 N/A		
DEC N/A	10 SCREEN DIVISIONS 10 INCHES	BEAM SPREAD SHEET NO. N/A		
FINE dB 8	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>	EXAMINATION AREA: 3-10-110-7 w/		
COARSE dB 90		REMARKS: CALIBRATION REFLECTORS w/ HAVE BEEN VERIFIED AT SCANNING SPEED. w/		
6 dB SWITCH UP		BASIC CALIBRATION BLOCK NO. CC-10		
14 dB SWITCH UP		SNT LEVEL: II DATE: 25 APR 88		
FREQUENCY 1		REVIEWED BY: <i>Russell J. ...</i>		
DELAY 434-1		SwRI FORM No. NDTR 17-19 (Rev. 12-1-83)		
MATL CAL 298		190142		
RANGE 10				
DAMPING MID				
REP. RATE 3K				
FILTER HI				
VIDEO NORM				
TRAN. MODE NORMAL				
JACK USED R				
40% + 60 dB - 80% N/A				
METHOD: PRIMARY SECONDARY N/A				

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 23 APR 88		TIME (24 HR. CLOCK) 1145		SHEET NO. 100143				
1) EXAMINER (SIGNATURE) <i>Teroy Druce</i>		SNT LEVEL II	PROCEDURE No. 800-53	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 00609E		CALIBRATION VERIFICATION					
2) EXAMINER M W KLEINJAN		SNT LEVEL II	Rev. 7	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify) _____		TIME 142						
SEARCH UNITS			REFERENCE BLOCK S/N: SWRI IIW-24			N/A <input type="checkbox"/>	TEMPERATURE 72	F	I	N	A	L
NOMINAL ANGLE	35°	32°	NOMINAL ANGLE	N/A	N/A	INITIALS LD						
MEASURED ANGLE	35°	32°	SIGNAL DISTANCE IN INCHES									
BRAND	SERIAL NUMBER(S)		SCREEN DISTANCE IN INCHES									
SWRI	1264	1775										
SIZE	1	1										
FREQUENCY (MHZ)	2.25	2.25										
INSTRUMENT SETTINGS												
REJECT	0	0										
DEC	N/A	N/A										
FINE dB	8	N/A	6	N/A								
COARSE dB	100	N/A	100	N/A								
6 dB SWITCH	UP		UP									
14 dB SWITCH	UP		UP									
FREQUENCY	2		2									
DELAY	068-1		068-1									
MATL CAL.	282		282									
RANGE	10		10									
DAMPING	MIN		MIN									
REP. RATE	3K		3K									
FILTER	H1		H1									
VIDEO	NORM		NORM									
TRAN. MODE	NORMAL		NORMAL									
JACK USED	R		R									
40% + GdB -	80	N/A	80	N/A								
METHOD: PRIMARY	GdB SWITCH		GdB SWITCH									
SECONDARY	N/A		N/A									
REVIEWED BY: <i>Russell J...</i>		SNT LEVEL: II	DATE: 25 APR 88									



ADDITIONAL INFORMATION

AMPLITUDE DETERMINATION 5/8 VEE PATH

45°		60°	
3/8	N/A dB % FSH	3/8	N/A dB % FSH
5/8	N/A dB % FSH	5/8	N/A dB % FSH
Δ dB		Δ dB	

CABLE TYPE

35 **32**

RG 62	<input type="checkbox"/>	RG 62	<input type="checkbox"/>
RG 174	<input checked="" type="checkbox"/>	RG 174	<input checked="" type="checkbox"/>
Other:		Other:	
Length:	72 in.	Length:	72 in.

INITIAL CAL. BLOCK
TEMP. **72** °F

PYROMETER S/N
SWRI 126

INST. LINEARITY SHEET No.
371022 N/A

BEAM SPREAD SHEET Notal.
 N/A

BASIC CALIBRATION
BLOCK NO. **CC 41**

REMARKS: **CALIBRATION REFLECTORS
HAVE BEEN VERIFIED AT
SCANNING SPEED LD**

EXAMINATION AREA:

STEAM GENERATOR LD

12-5-111A IRS	LD
12-5-111B IRS	LD
12-5-111C IRS	LD

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 23 APR 88		TIME (24 HR. CLOCK) 1054		SHEET NO. 100146	
1) EXAMINER (SIGNATURE) <i>Lyle Spruss</i>		SNT LEVEL II		PROCEDURE No. 600-15		INSTRUMENT SONIC MARK <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04325E	
2) EXAMINER <i>D. Wagar</i>		SNT LEVEL I		Rev. 71 Dev. 1		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION	
SEARCH UNITS		REFERENCE BLOCK S/N: Swri-IIW-24		TIME 1430		N/A <input type="checkbox"/>		TEMPERATURE 78 <i>Final</i>	
NOMINAL ANGLE 45° N		NOMINAL ANGLE N/A N/A		INITIALS so		ADDITIONAL INFORMATION		AMPLITUDE DETERMINATION 5/8 VEE PATH	
MEASURED ANGLE 44° A		SIGNAL DISTANCE IN INCHES		5/8 <input type="checkbox"/> % FSH		3/8 <input type="checkbox"/> % FSH		60° <input type="checkbox"/> % FSH	
SERIAL NUMBER(S) 013723		SCREEN DISTANCE IN INCHES		A dB <input type="checkbox"/>		5/8 <input type="checkbox"/> % FSH		5/8 <input type="checkbox"/> % FSH	
SIZE 1/2 x 1 in		REFERENCE REFLECTOR		45° <input type="checkbox"/> dB		A dB <input type="checkbox"/>		A dB <input type="checkbox"/>	
FREQUENCY (MHZ) 2.25		<input type="checkbox"/> Flat Block		CABLE TYPE 45 N/A		RG 62 <input type="checkbox"/>		INITIAL CAL. BLOCK TEMP. 78 °F	
INSTRUMENT SETTINGS		<input type="checkbox"/> Axial		RG 174 <input checked="" type="checkbox"/>		Other: <input type="checkbox"/>		PYROMETER S/N Swri 146	
REJECT 0		<input type="checkbox"/> Circumferential		10 SCREEN DIVISIONS 20 INCHES		Other: <input type="checkbox"/>		INST. LINEARITY SHEET No. 371011 <input type="checkbox"/> N/A	
DEC N/A		<input type="checkbox"/> Other		LONGITUDINAL <input type="checkbox"/>		Length: 96 in.		BEAM SPREAD SHEET No(s). 360004 <input type="checkbox"/> N/A	
FINE dB 2 7		BASIC CALIBRATION BLOCK NO. CC-68		SHEAR <input checked="" type="checkbox"/>		EXAMINATION AREA: Steam Generator: SG-11-3 so			
COARSE dB 60 20		REMARKS: Calibration reflectors have been so				Rilook in EXAM AREA so			
6 dB SWITCH UP		Verified at scanning speed. so							
14 dB SWITCH UP									
FREQUENCY 2									
DELAY 000-1									
MATH CAL 686									
RANGE 10									
DAMPING MIN									
REP. RATE 3K									
FILTER H1									
VIDEO NORM									
TRAX. MODE NORMAL									
JACK USED R									
40% ω dB - 80 81 %									
METHOD: PRIMARY 6dbswitch									
SECONDARY 6dbswitch									
REVIEWED BY: <i>Russell H Fine</i>		SNT LEVEL: II		DATE: 25 APR 88					

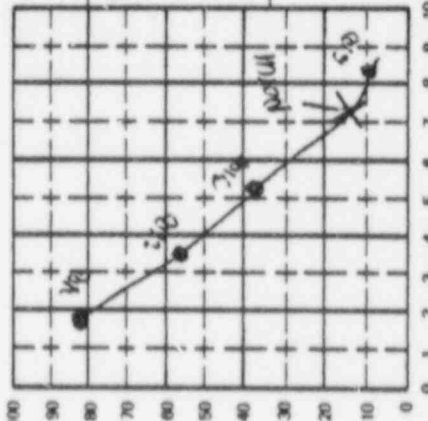
SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 25 APR 88	TIME (24 HR. CLOCK) 0910	SHEET NO. 100149
1) EXAMINER (SIGNATURE) <i>William A. Jones</i>	PROCEDURE No. 600-49 Rev. 0 Dev. 3, 1, 2, 3	INSTRUMENT SONIC MARK <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 774123	CALIBRATION VERIFICATION
2) EXAMINER <i>R. Miller</i>	REFERENCE BLOCK S/N: CS-DC-37	COUPLANT Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	INITIALS WAF	TIME 1520
SEARCH UNITS	NOMINAL ANGLE N/A	SIGNAL DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
NOMINAL ANGLE 0	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
MEASURED ANGLE N/A	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
BRAND SWRI	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
SIZE 1" Rd	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
FREQUENCY (MHZ) 2.25	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	TEMPERATURE 75	INITIALS WAF
INSTRUMENT SETTINGS				
PROJECT 0	DEC N/A	FINE dB 3	COARSE dB 40	6 dB SWITCH UP
14 dB SWITCH UP	FREQUENCY 2	DELAY 033-1	MATL CAL 100	RANGE 10
DAMPING MIP	REP. RATE 3K	FILTER Hi	VIDEO NORM	TRAN MODE NORMAL
JACK USED R	40% + 6 dB - N/A	METHOD: PRIMARY TECH	METHOD: SECONDARY N/A	REVIEWED BY: <i>Russell Price</i>
REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential HOLES <input type="checkbox"/> Other		10 SCREEN DIVISIONS 10 INCHES LONGITUDINAL <input type="checkbox"/> SHEAR <input type="checkbox"/>		EXAMINATION AREA: 8-411 4-405
BASIC CALIBRATION BLOCK NO. CC-1		REMARKS: CALIBRATION REFLECTORS HAVE NOT BEEN VERIFIED AT SCANNING SPEED. WAF		EXAMINATION AREA: 8-411 4-405
SNT LEVEL: II		DATE: 27 APR 88		EXAMINATION AREA: 8-411 4-405

170147

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 26 APR 88	TIME (24 HR CLOCK) 0948	SHEET NO. 100150
OPERATOR (SIGNATURE) <i>William J. Miller</i>	PROCEDURE No. 600-15 Rev. 71 Dev. 1	SERIAL NO. 04328E	CALIBRATION VERIFICATION	
EXAMINER R. MILLER	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME	INITIALS	
SEARCH UNITS	REFERENCE BLOCK S/N: N	N/A <input type="checkbox"/>	13K/1514	
NOMINAL ANGLE 45°	NOMINAL ANGLE N	TEMPERATURE	71	
MEASURED ANGLE 44°	SIGNAL DISTANCE IN INCHES A	INITIALS	71	
BRAND ABRATTECH	SCREEN DISTANCE IN INCHES		leaf	
SIZE 1.5 X 1.0			F. J. V. A. C.	
FREQUENCY (MHZ) 2.25				
INSTRUMENT SETTINGS				
REJECT N				
DEC 1				
FINE dB 70				
COARSE dB UP				
6 dB SWITCH UP				
14 dB SWITCH 2				
FREQUENCY 043-1				
DELAY 264				
MATL. CAL. 10				
RANGE MIN				
DAMPING 3K				
REP. RATE HI				
FILTER NORM				
TRAN. MODE NORMAL				
JACK USED R				
40 % ± 6 dB 80% N/A %				
METHOD - PRIMARY 4dB 50:2:01				
SECONDARY N/A				
REVIEWED BY: <i>R. Miller</i>	DATE 27 APR 88			



AMPLITUDE DETERMINATION 5/8 VEE PATH

45°	71 dB	38 % FSH	60°	N	dB
3/8	92 dB	38 % FSH	3/8		dB
5/8			5/8		dB
A dB	21		A dB		A

CABLE TYPE: N

INITIAL CAL. BLOCK TEMP: 71 °F

PYROMETER S/N: SWRI 148

INST. LINEARITY SHEET No. 371006 N/A

BEAM SPREAD SHEET No. 360017 N/A

EXAMINATION AREA: 100150

BASIC CALIBRATION BLOCK NO. CC-1

REMARKS: Calibration Records have not been calibrated. Remaining 3000 and

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 25 APR 88		TIME (24 HR. CLOCK) 0858		SHEET NO. 100151	
1) EXAMINER (SIGNATURE) <i>Georg Duman</i>		SNT LEVEL II		PROCEDURE No. 600-6		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04324E	
2) EXAMINER M W KLEINJAN		SNT LEVEL II		Rev. 25 Dev. N/A		COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Other (Specify) DI		CALIBRATION VERIFICATION	
ARCH UNITS		REFERENCE BLOCK S/N: CS-DC-30		NOMINAL ANGLE N/A N/A		TIME 1107		TEMPERATURE 74	
NOMINAL ANGLE 45° N/A		SIGNAL DISTANCE IN INCHES		SCREEN DISTANCE IN INCHES		INITIALS LD.		ADDITIONAL INFORMATION	
MEASURED ANGLE 44°		SERIAL NUMBER(S) AEROTECH 013723 N/A		SIZE 1/2 x 1		AMPLITUDE DETERMINATION 5/8 VEE PATH		CABLE TYPE	
BRAND		FREQUENCY (MHZ) 2.25		INSTRUMENT SETTINGS		45° 3/8 dB N % FSH 5/8 dB N % FSH A dB A		60° 3/8 dB % FSH 5/8 dB % FSH A dB A	
REJECT 0 N/A		DEC N/A		FINE dB 0 N/A		CABLE TYPE 45		INITIAL CAL. BLOCK TEMP. 74 °F	
COARSE dB 70 N/A		6 dB SWITCH UP		14 dB SWITCH UP		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N SWRI 146	
FREQUENCY 2		DELAY 146-1		BASIC CALIBRATION BLOCK NO. CC-54		Other: N		INST. LINEARITY SHEET No. 341023 N/A	
MATS. CAL 364		RANGE 10		DAMPING MIN		Other: A		BEAM SPREAD SHEET Noted.	
REP. RATE 3K		FILTER H1		VIDEO NORM		Length: 96 in.		EXAMINATION AREA: FLYWHEEL 12 B LD.	
METHOD PRIMARY 6dB SWITCH		METHOD SECONDARY N/A		REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED H.		LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>			
REVIEWED BY: <i>Russell Fine</i>		SNT LEVEL: II		DATE: 26 APR 88					

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY MO YR) 25 APR 88		TIME (24 HR. CLOCK) 0904		SHEET NO. 100152	
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. 600-6		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 01122E	
2) EXAMINER M W KLEINJAN		SNT LEVEL II		Re. 25 Dev. N/A		COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Other (Specify) DI		CALIBRATION VERIFICATION	
SEARCH UNITS		REFERENCE BLOCK S/N: CS-DC-30		TIME 1118		N/A <input type="checkbox"/>		TEMPERATURE 74	
NOMINAL ANGLE 45°		NOMINAL ANGLE		INITIALS LD		ADDITIONAL INFORMATION		AMPLITUDE DETERMINATION 5/8 VEE-PATH	
MEASURED ANGLE 44°		SIGNAL DISTANCE IN INCHES N		SCREEN DISTANCE IN INCHES A		45° 3/8 dB N % FSH		60° 3/8 dB % FSH	
BRAND AEROTECH		SERIAL NUMBER(S) 013723		SCREEN DISTANCE IN INCHES		5/8 dB % FSH		5/8 dB % FSH	
SIZE V2 x 1		SCREEN DISTANCE IN INCHES		REFERENCE REFLECTOR		A dB		A dB	
FREQUENCY (MHZ) 2.25		SCREEN DISTANCE IN INCHES		<input type="checkbox"/> Flat Block		CABLE TYPE 45		INITIAL CAL. BLOCK TEMP. 74 °F	
INSTRUMENT SETTINGS		SCREEN DISTANCE IN INCHES		<input type="checkbox"/> Axial		RG 62 <input type="checkbox"/> RG 62		PYROMETER S/N	
REJECT 0		SCREEN DISTANCE IN INCHES		<input checked="" type="checkbox"/> Circumferential		RG 174 <input checked="" type="checkbox"/> RG 174		SWRI 146	
DEC N/A		SCREEN DISTANCE IN INCHES		<input type="checkbox"/> Other		Other: N		INST. LINEARITY SHEET No. 371009 <input type="checkbox"/> N/A	
FINE dB 6		SCREEN DISTANCE IN INCHES		10 SCREEN DIVISIONS 12* INCHES		Length: 96 in.		BEAM SPREAD SHEET No(s). <input checked="" type="checkbox"/> N/A	
COARSE dB 80		SCREEN DISTANCE IN INCHES		LONGITUDINAL <input type="checkbox"/>		Length: _____ in.			
6 dB SWITCH UP		SCREEN DISTANCE IN INCHES		SHEAR <input checked="" type="checkbox"/>		EXAMINATION AREA: FLY WHEEL 12.13 LD			
14 dB SWITCH UP		SCREEN DISTANCE IN INCHES		BASIC CALIBRATION BLOCK NO. CC-54					
FREQUENCY 2		SCREEN DISTANCE IN INCHES		REMARKS CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED LD. SCREEN REF^{SD} REPRESENTS 12 LD TO 24 INCHES. LD.					
DELAY 662-2		SCREEN DISTANCE IN INCHES							
MATL CAL 372		SCREEN DISTANCE IN INCHES							
RANGE 10		SCREEN DISTANCE IN INCHES							
DAMPING MIN		SCREEN DISTANCE IN INCHES							
REP. RATE 1K		SCREEN DISTANCE IN INCHES							
FILTER HI		SCREEN DISTANCE IN INCHES							
VIDEO NORM		SCREEN DISTANCE IN INCHES							
TRAN. MODE NORMN		SCREEN DISTANCE IN INCHES							
JACK USED R		SCREEN DISTANCE IN INCHES							
40% ± 6 dB - 80		SCREEN DISTANCE IN INCHES							
METHOD: PRIMARY 6dB SWITCH		SCREEN DISTANCE IN INCHES							
SECONDARY N/A		SCREEN DISTANCE IN INCHES							
REVIEWED BY: <i>[Signature]</i>		SNT LEVEL II		DATE 26 APR 88					

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY MO YR) 25 APR 88	TIME (24 HR. CLOCK) 1312	SHEET NO. 200154
1) EXAMINER (SIGNATURE) <i>Kyle Pias</i>	PROCEDURE No. 600-49 Rev. 0 Dev. 1, 2, 3	INSTRUMENT SERIAL NO. 01122E	CALIBRATION VERIFICATION	
2) EXAMINER <i>D Wagar</i>	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	SS-DC-4D	TIME 1656	TEMPERATURE 78
SEARCH UNITS	REFERENCE BLOCK S/N: N/A	NOMINAL ANGLE N/A	INITIALS FD	ADDITIONAL INFORMATION
NOMINAL ANGLE 0	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	AMPLITUDE DETERMINATION 5/8 VEE PATH	
MEASURED ANGLE N/A			45°	60°
BRAND <i>Acoustic Comm.</i>	SERIAL NUMBER(S) C16445		3/8	3/8
SIZE 1/4			5/8	5/8
FREQUENCY (MHZ) 2.25			A dB	A dB
INSTRUMENT SETTINGS			CABLE TYPE	
REJECT D	DEC N/A	REFERENCE REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	RG 62 <input type="checkbox"/>	RG 62 <input type="checkbox"/>
FINE dB N/A	COARSE dB N/A	#9 SCREEN DIVISIONS 1 INCHES	RG 174 <input type="checkbox"/>	RG 174 <input type="checkbox"/>
6 dB SWITCH N/A	14 dB SWITCH N/A	LONGITUDINAL SHEAR <input type="checkbox"/>	Other: Dual Ratio	Other: SWRI 146
FREQUENCY 150-1	DELAY 106		Length: 70 in	Length: N/A in
MAX. CAL 1	RANGE MIN	BASIC CALIBRATION BLOCK NO. N/A	EXAMINATION AREA: Safety Injection SD	EXAMINATION AREA: 4-SI-1208 * 4 SD
DAMPING 3K	REP. RATE HI	REMARKS:		3-SI-1202 * 7 SD
FILTER NORM	VIDEO NORMAL			4-SI-1208 * 9 SD
TRAN. MODE RJT	JACK USED N/A			4-SI-1210-1 SD
METHOD: PRIMARY	SECONDARY			4-SI-1209-1 SD
REVIEWED BY: <i>Kassell J...</i>	SNT LEVEL: II	DATE: 26 APR 88		4-SI-1211-9 SD

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 26 APRIL 88		TIME (24 HR. CLOCK) 1354		SHEET NO. 100159																																																																																																														
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL I	PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT SONIC MARK W10110 III	SERIAL NO. 041332E	CALIBRATION VERIFICATION																																																																																																																
2) EXAMINER T. BOHNERKAMPER		SNT LEVEL I		COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)						TIME 1533	N/A <input type="checkbox"/>	TEMPERATURE 79°	INITIALS RP																																																																																																									
SEARCH UNITS		REFERENCE BLOCK S/N: 55-DC-42		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>NOMINAL ANGLE</td> <td>45°</td> <td>N/A</td> </tr> <tr> <td>MEASURED ANGLE</td> <td>22°</td> <td>N</td> </tr> <tr> <td>BRAND</td> <td>SWRI</td> <td>2070</td> </tr> <tr> <td>SIZE</td> <td>3/8 RD</td> <td></td> </tr> <tr> <td>FREQUENCY (MHZ)</td> <td>1.5</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">INSTRUMENT SETTINGS</td> </tr> <tr> <td>REJECT</td> <td>0</td> <td></td> </tr> <tr> <td>DEC</td> <td>N/A</td> <td></td> </tr> <tr> <td>FINE dB</td> <td>12</td> <td>N/A</td> </tr> <tr> <td>COARSE dB</td> <td>20</td> <td>A</td> </tr> <tr> <td>6 dB SWITCH</td> <td>UP</td> <td></td> </tr> <tr> <td>14 dB SWITCH</td> <td>UP</td> <td></td> </tr> <tr> <td>FREQUENCY</td> <td>1</td> <td></td> </tr> <tr> <td>DELAY</td> <td>149-1</td> <td></td> </tr> <tr> <td>MATL. CAL.</td> <td>304</td> <td></td> </tr> <tr> <td>RANGE</td> <td>5</td> <td></td> </tr> <tr> <td>DAMPING</td> <td>MIN</td> <td></td> </tr> <tr> <td>REP. RATE</td> <td>2K</td> <td></td> </tr> <tr> <td>FILTER</td> <td>HE</td> <td></td> </tr> <tr> <td>VIDEO</td> <td>NR11</td> <td></td> </tr> <tr> <td>TRAN. MODE</td> <td>NR11</td> <td></td> </tr> <tr> <td>JACK USED</td> <td>R</td> <td></td> </tr> <tr> <td>30% V₀ dB</td> <td>30</td> <td>N/A</td> </tr> <tr> <td>METHOD: PRIMARY</td> <td>60dB SWITCH</td> <td></td> </tr> <tr> <td>SECONDARY</td> <td>N/A</td> <td>V</td> </tr> </table>		NOMINAL ANGLE	45°	N/A	MEASURED ANGLE	22°	N	BRAND	SWRI	2070	SIZE	3/8 RD		FREQUENCY (MHZ)	1.5		INSTRUMENT SETTINGS			REJECT	0		DEC	N/A		FINE dB	12	N/A	COARSE dB	20	A	6 dB SWITCH	UP		14 dB SWITCH	UP		FREQUENCY	1		DELAY	149-1		MATL. CAL.	304		RANGE	5		DAMPING	MIN		REP. RATE	2K		FILTER	HE		VIDEO	NR11		TRAN. MODE	NR11		JACK USED	R		30% V ₀ dB	30	N/A	METHOD: PRIMARY	60dB SWITCH		SECONDARY	N/A	V	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">REFERENCE REFLECTOR</td> </tr> <tr> <td><input type="checkbox"/> Flat Block</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Axial</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Circumferential</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other</td> <td></td> </tr> <tr> <td colspan="2">10 SCREEN DIVISIONS</td> </tr> <tr> <td colspan="2" style="text-align: center;">- 5 INCHES</td> </tr> <tr> <td>LONGITUDINAL <input type="checkbox"/></td> <td></td> </tr> <tr> <td>SHEAR <input checked="" type="checkbox"/></td> <td></td> </tr> </table>		REFERENCE REFLECTOR		<input type="checkbox"/> Flat Block		<input type="checkbox"/> Axial		<input checked="" type="checkbox"/> Circumferential		<input type="checkbox"/> Other		10 SCREEN DIVISIONS		- 5 INCHES		LONGITUDINAL <input type="checkbox"/>		SHEAR <input checked="" type="checkbox"/>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="text-align: center;">AMPLITUDE DETERMINATION S/B VEE PATH</td> </tr> <tr> <td>45°</td> <td>3/8 N dB</td> <td>% FSH</td> <td>60°</td> </tr> <tr> <td>5/8</td> <td>A dB</td> <td>% FSH</td> <td>5/8 N dB</td> </tr> <tr> <td>1 dB</td> <td>A</td> <td>% FSH</td> <td>1 dB A</td> </tr> </table>		AMPLITUDE DETERMINATION S/B VEE PATH				45°	3/8 N dB	% FSH	60°	5/8	A dB	% FSH	5/8 N dB	1 dB	A	% FSH	1 dB A
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ADDITIONAL INFORMATION		CABLE TYPE		INITIAL CAL. BLOCK		TEMP. 78 °F		PYROMETER S/N																																																																																																														
		45 N		78				SWRI 154																																																																																																														
		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>						INST. LINEARITY SHEET No.																																																																																																														
		RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>						371003 <input type="checkbox"/> N/A																																																																																																														
		Other: A						BEAM SPREAD SHEET No. N/A																																																																																																														
		Length: 9 1/2 in.																																																																																																																				

BASIC CALIBRATION
BLOCK NO. **CC-60**

REMARKS: CALIBRATION REFLECTORS HAVE BEEN VERIFIED AT SCANNING SPEED. RP

EXAMINATION AREA:
SHUTDOWN COUNT RP

14-56-1005-5, 10 RP

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO. YR) 26 APR 88	TIME (24 HR. CLOCK) 1300	SHEET NO. 100160
1) EXAMINER (SIGNATURE) <i>[Signature]</i>	PROCEDURE No. 400-36 Rev. 40 Dev. 1	INSTRUMENT SOPAC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. Δ1122E	CALIBRATION VERIFICATION
2) EXAMINER D. W. ALGER	SNT LEVEL I	COULPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	REFERENCE BLOCK S/N SS-DC-41	TIME N/A <input type="checkbox"/> TEMPERATURE 76 INITIALS 3D
NOMINAL ANGLE 45	SEARCH UNITS 45	NOMINAL ANGLE N/A	REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other (Specify)	ADDITIONAL INFORMATION
MEASURED ANGLE 46	SIGNAL DISTANCE IN INCHES N/A	SIGNAL DISTANCE IN INCHES N/A	10 SCREEN DIVISIONS 2 INCHES	AMPLITUDE DETERMINATION 5/8 VEE PATH
BRAND KH229	SCREEN DISTANCE IN INCHES	SCREEN DISTANCE IN INCHES	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>	45° 3/8 45° 3/8 60° 3/8 dB dB dB % FSH % FSH % FSH dB dB dB A dB A dB A dB
SIZE 44	INSTRUMENT SETTINGS	INSTRUMENT SETTINGS	INITIAL CAL. BLOCK TEMP. 76 °F	INITIAL CAL. BLOCK TEMP. 76 °F
FREQUENCY (MHZ) 2.25	REJECT D	REJECT D	PYROMETER S/N SWEL 146	PYROMETER S/N SWEL 146
DEC N/A	DEC N/A	DEC N/A	INST. LINEARITY SHEET No. 371009 <input type="checkbox"/> N/A	INST. LINEARITY SHEET No. 371009 <input type="checkbox"/> N/A
FINE dB 4	FINE dB 4	FINE dB 4	BEAM SPREAD SHEET No.	BEAM SPREAD SHEET No.
COARSE dB 60	COARSE dB 60	COARSE dB 60	EXAMINATION AREA Safety Injection Lo	EXAMINATION AREA Safety Injection Lo
6 dB SWITCH UP	6 dB SWITCH UP	6 dB SWITCH UP	3-SI-1202-7 Lo	3-SI-1202-7 Lo
14 dB SWITCH 2	14 dB SWITCH 2	14 dB SWITCH 2		
FREQUENCY 140.1	FREQUENCY 140.1	FREQUENCY 140.1		
DELAY 308	DELAY 308	DELAY 308		
MATL CAL 2	MATL CAL 2	MATL CAL 2		
RANGE max	RANGE max	RANGE max		
DAMPING 3K	DAMPING 3K	DAMPING 3K		
REP. RATE 41	REP. RATE 41	REP. RATE 41		
FILTER normal	FILTER normal	FILTER normal		
VIDEO 2	VIDEO 2	VIDEO 2		
TRAN. MODE normal	TRAN. MODE normal	TRAN. MODE normal		
JACK USED 100% N/A	JACK USED 100% N/A	JACK USED 100% N/A		
10% FSH dB 140B SWEL	10% FSH dB 140B SWEL	10% FSH dB 140B SWEL		
METHOD: PRIMARY N/A	METHOD: PRIMARY N/A	METHOD: PRIMARY N/A		
SECONDARY	SECONDARY	SECONDARY		
REVIEWED BY: <i>Russell J...</i>	SNT LEVEL I	DATE 27 APR 88		

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SWRI SONIC INSTRUMENT CALIBRATION RECORD

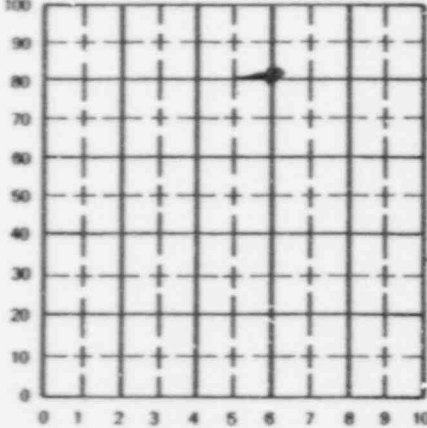
PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 26 APR 88	TIME (24 HR. CLOCK) 0915	SHEET NO. 100162
1) EXAMINER (SIGNATURE) <i>Dyle Speed</i>	PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT SONIC MARK PT I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/>	SERIAL NO. 0122E	CALIBRATION VERIFICATION
2) EXAMINER <i>D. Wagar</i>	COMPLIANT <input checked="" type="checkbox"/> Glycine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	REFERENCE BLOCK S/N: 55-DC-41	NOMINAL ANGLE N/A	TIME 1057
SEARCH UNITS	SIGNAL DISTANCE IN INCHES N/A	SCREEN DISTANCE IN INCHES N/A	INITIAL CAL. BLOCK TEMP. 76	N/A <input type="checkbox"/> 3/8 <input type="checkbox"/> 1/2 <input type="checkbox"/> 5/8 <input type="checkbox"/> 3/4 <input type="checkbox"/> 1 <input type="checkbox"/> 1 1/4 <input type="checkbox"/> 1 1/2 <input type="checkbox"/> 1 3/4 <input type="checkbox"/> 2 <input type="checkbox"/> 2 1/4 <input type="checkbox"/> 2 1/2 <input type="checkbox"/> 2 3/4 <input type="checkbox"/> 3 <input type="checkbox"/> 3 1/4 <input type="checkbox"/> 3 1/2 <input type="checkbox"/> 3 3/4 <input type="checkbox"/> 4 <input type="checkbox"/> 4 1/4 <input type="checkbox"/> 4 1/2 <input type="checkbox"/> 4 3/4 <input type="checkbox"/> 5 <input type="checkbox"/> 5 1/4 <input type="checkbox"/> 5 1/2 <input type="checkbox"/> 5 3/4 <input type="checkbox"/> 6 <input type="checkbox"/> 6 1/4 <input type="checkbox"/> 6 1/2 <input type="checkbox"/> 6 3/4 <input type="checkbox"/> 7 <input type="checkbox"/> 7 1/4 <input type="checkbox"/> 7 1/2 <input type="checkbox"/> 7 3/4 <input type="checkbox"/> 8 <input type="checkbox"/> 8 1/4 <input type="checkbox"/> 8 1/2 <input type="checkbox"/> 8 3/4 <input type="checkbox"/> 9 <input type="checkbox"/> 9 1/4 <input type="checkbox"/> 9 1/2 <input type="checkbox"/> 9 3/4 <input type="checkbox"/> 10
NOMINAL ANGLE 45°	SERIAL NUMBERS E14229	INSTRUMENT SETTINGS	AMPLITUDE DETERMINATION 5/8 VEE PATH	ADDITIONAL INFORMATION
MEASURED ANGLE 46°	SIZE 1/4	REJECT 0	45° 3/8 N/A % FSH N/A 90° 3/8 N/A % FSH N/A	
BRAND Aerotech	FREQUENCY (MHz) 2.25	DEC N/A	5/8 1A % FSH 1A 5/8 1A % FSH 1A	
FINE dB 6	COARSE dB 60	FINE dB 11	4 dB 1A % FSH 1A 4 dB 1A % FSH 1A	
6 dB SWITCH UP	14 dB SWITCH UP	COARSE dB 60	INITIAL CAL. BLOCK TEMP. 76	
FREQUENCY 2	DELAY 141-1	6 dB SWITCH UP	CABLE TYPE N/A	
MATL. CAL. 30B	RANGE 2-	14 dB SWITCH UP	RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/> Other: _____	
DAMPING MIN	REP. RATE 3K	FREQUENCY 2	Other: _____	
FILTER H1	VIDEO MOR 51	DELAY 141-1	Length: 96 in.	
TRAN. MODE NORMAL	JACK USED R	MATL. CAL. 30B	Pyrometer S/N SWRI 146	
40 % 6 dB - 6dB switch	METHOD - PRIMARY 6dB switch	RANGE 2-	INST. LINEARITY SHEET No. 371009	
SECONDARY 6dB switch	REVIEWED BY: <i>Russell J. J...</i>	DAMPING MIN	BEAM SPREAD SHEET No. <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
REMARKS: Calibration Reflectors Have Been Verified At Sewing Speed 20	DATE: 26 Nov 88	REP. RATE 3K	EXAMINATION AREA: Safety Inspection 20	
		FILTER H1		
		VIDEO MOR 51		
		TRAN. MODE NORMAL		
		JACK USED R		
		40 % 6 dB - 6dB switch		
		SECONDARY 6dB switch		

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY-MO-YR) 26 APR 88	TIME (24 HR. CLOCK) 1014	SHEET NO. 100163																
1) EXAMINER (SIGNATURE) <i>L. Duran</i>	PROCEDURE No. 800-97 Rev. 4 Dev. 1	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> B <input type="checkbox"/> H	SERIAL NO. 04329E	CALIBRATION VERIFICATION																
2) EXAMINER L. DURAN	COUPLANT <input checked="" type="checkbox"/> Glycerine <input type="checkbox"/> Water <input type="checkbox"/> Other (Specify)	TIME N/A <input type="checkbox"/> TEMPERATURE INITIALS																		
SEARCH UNITS	REFERENCE BLOCK S/N IIW	ADDITIONAL INFORMATION																		
NOMINAL ANGLE 0°	NOMINAL ANGLE N/A	AMPLITUDE DETERMINATION 5/8 VEE PATH																		
MEASURED ANGLE N/A	SIGNAL DISTANCE IN INCHES N/A	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">45°</td> <td style="width: 15%; text-align: center;">60°</td> <td style="width: 15%; text-align: center;">3/8</td> <td style="width: 15%; text-align: center;">3/8</td> <td style="width: 15%; text-align: center;">5/8</td> <td style="width: 15%; text-align: center;">5/8</td> <td style="width: 15%; text-align: center;">A dB</td> <td style="width: 15%; text-align: center;">A dB</td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> </tr> </table>			45°	60°	3/8	3/8	5/8	5/8	A dB	A dB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
45°	60°	3/8	3/8	5/8	5/8	A dB	A dB													
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A													
BRAND E-105	SERIAL NUMBER(S) E7540	CABLE TYPE																		
SIZE 1/2 RA	FREQUENCY (MHZ) 2.25	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">RG 62</td> <td style="width: 15%; text-align: center;">RG 62</td> <td style="width: 15%; text-align: center;">Other:</td> <td style="width: 15%; text-align: center;">Length:</td> <td style="width: 15%; text-align: center;">in</td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">96</td> <td style="text-align: center;">N/A</td> </tr> </table>			RG 62	RG 62	Other:	Length:	in	N/A	N/A	N/A	96	N/A						
RG 62	RG 62	Other:	Length:	in																
N/A	N/A	N/A	96	N/A																
INSTRUMENT SETTINGS		INITIAL CAL. BLOCK TEMP. 72 °F																		
REJECT 0	DEC N/A	PYROMETER S/N SWRI 126																		
FINE dB 7	COARSE dB 4	INST. LINEARITY SHEET No. 370010 <input type="checkbox"/> N/A																		
6 dB SWITCH UP	14 dB SWITCH UP	REAM SPREAD SHEET No.																		
FREQUENCY 2	DELAY 100-1	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">RG 174</td> <td style="width: 15%; text-align: center;">RG 174</td> <td style="width: 15%; text-align: center;">Other:</td> <td style="width: 15%; text-align: center;">Length:</td> <td style="width: 15%; text-align: center;">in</td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> <td style="text-align: center;">96</td> <td style="text-align: center;">N/A</td> </tr> </table>			RG 174	RG 174	Other:	Length:	in	N/A	N/A	N/A	96	N/A						
RG 174	RG 174	Other:	Length:	in																
N/A	N/A	N/A	96	N/A																
MATL. CAL 33h	RANGE 10	EXAMINATION AREA																		
DAMPING PLAIN	REP. RATE 3K	<p style="text-align: center;">BASIC CALIBRATION BLOCK NO. CC-37</p>																		
FILTER HI	VIDEO NORM	REMARKS: CALIBRATION REFLECTORS																		
TRAN MODE NORM	JACK USED R	HAVE BEEN VERIFIED AT																		
AC S.C. dB 80	METHOD - PRIMARY 6 dB switch	SCANNING SPEED. 1/4																		
SECONDARY 6 dB switch	REVIEWED BY: <i>Rassett</i>	<p style="text-align: center;">PUMP REACTOR COOLANT STUDS ON</p> <p style="text-align: center;">11-B <i>exp</i></p> <p style="text-align: center;">EXAMINED 1-16 STUDS <i>exp</i></p>																		
SNT LEVEL: II	DATE: 30 APR 88																			

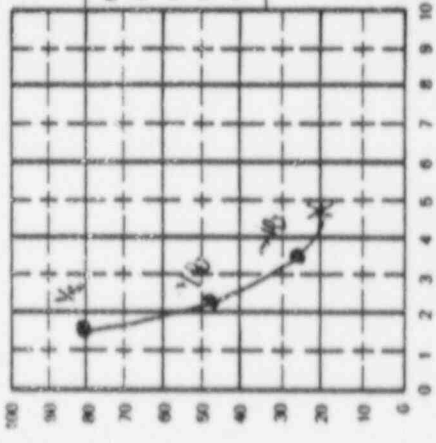
100163

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 30 APR 88		TIME (24 HR. CLOCK) 0853		SHEET NO. 100170	
1) EXAMINER (SIGNATURE) <i>William O Jensen</i>		SNT LEVEL II		PROCEDURE No. 600-18 Rev. 42 Dev. 2		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2) EXAMINER R. MILLER		SNT LEVEL I		COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS				REFERENCE BLOCK S/N. CS-DC-3D				TIME 1251 1635 1715	
NOMINAL ANGLE 60°		N		NOMINAL ANGLE 60°		N		N/A <input type="checkbox"/>	
MEASURED ANGLE 60°		A		SIGNAL DISTANCE IN INCHES				TEMPERATURE 70 70 70	
BRAND HEROTECH		SERIAL NUMBER(S) A13436		SCREEN DISTANCE IN INCHES				INITIALS wol wol wol	
SIZE 1/2 DIAMOND						ADDITIONAL INFORMATION			
FREQUENCY (MHZ) 2.25						AMPLITUDE DETERMINATION 5/8 VEE-PATH			
INSTRUMENT SETTINGS						REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input checked="" type="checkbox"/> Other OD NOTCH		45° 3/8 N dB % FSH 5/8 _____ dB % FSH A dB A	
REJECT	0			10 SCREEN DIVISIONS 10 INCHES		CABLE TYPE 60 N		INITIAL CAL. BLOCK TEMP. 70 °F	
DEC	N/A			LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N SWRI 154	
FINE dB	5	N				Other: _____		INST. LINEARITY SHEET No. 371003 <input type="checkbox"/> N/A	
COARSE dB	90	A				Length: 144 in. A in.		BEAM SPREAD SHEET No(s). E-N/A	
6 dB SWITCH	UP			BASIC CALIBRATION BLOCK NO. CC-27		EXAMINATION AREA: REACTOR PRESSURE VESSEL STUDS 1-18 wol			
14 dB SWITCH	UP			REMARKS: CALIBRATION REFLECTORS HAVE wol BEEN VERIFIED AT SCANNING SPEED wol					
FREQUENCY	2								
DELAY	224-1								
MATL. CAL.	286								
RANGE	10								
DAMPING	MIN								
REP. RATE	3K								
FILTER	Hi								
VIDEO	NORM								
TRAN. MODE	NORMAL								
JACK USED	R								
40% + 6dB -	80%	N							
METHOD: PRIMARY	6dB SWITCH								
SECONDARY	N/A								
REVIEWED BY: <i>Russell</i>	SNT LEVEL: I		DATE: 30 APR 88						

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 28 APR 88	TIME (24 HR. CLOCK) 0839	SHEET NO. 200111
1) EXAMINER (SIGNATURE) <i>William C. Jones</i>	PROCEDURE No. 600-31 Rev. 24 Dev. 1	INSTRUMENT SONIC MARK E-F L B U H	SERIAL NO. 07011E	CALIBRATION VERIFICATION
2) EXAMINER R. MILLER	COUPLANT U-Glycerine <input type="checkbox"/> Wax <input type="checkbox"/> <input type="checkbox"/> Other (Specify)	REFERENCE BLOCK S/N 03-DC-30	TIME 0951	
SEARCH UNITS	NOMINAL ANGLE 45	SIGNAL DISTANCE IN INCHES N	TEMPERATURE 72	ADDITIONAL INFORMATION
	MEASURED ANGLE 44	SCREEN DISTANCE IN INCHES A	INITIALS wp	
BRAND S.W. & I.	SERIAL NUMBER(S) 818			
SIZE 1/2 RD				
FREQUENCY (MHZ) 2.25				
INSTRUMENT SETTINGS				
REFLECT 0	REFLECTOR <input checked="" type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other	10 SCREEN DIVISIONS 10 INCHES	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>	
DEC N/A				
FINE dB 3				
COARSE dB 70				
8-dB SWITCH up				
14-dB SWITCH up				
FREQUENCY 2				
DELAY 118-1				
MATL. CAL 298				
RANGE 10				
DAMPING MIN				
REP RATE 3K				
FILTER Hi				
VIDEO NORM				
TRAN MODE NORMAL				
JACK USED R				
40% G dB 80				
METHOD: PRIMARY REDSNATCH				
SECONDARY N/A				
REVIEWED BY <i>Rob Spind</i>	SNT LEVEL II	DATE 28 APR 88	EXAMINATION AREA REAR COOLANT: 30-RC-12A-7, wd 30-RC-11B-7 wd	



SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY MO YR) 28 APR 88	TIME (24 HR. CLOCK) 1530	SHEET NO. 100173
EXAMINER (SIGNATURE) <i>Greg Dwyer</i>	PROCEDURE No 800 97 Rev. 4 Dev. 1, 2	INSTRUMENT SONIC MARK S I I I I I I I I I	SERIAL NO. 774224	CALIBRATION VERIFICATION TIME N/A <input type="checkbox"/> TEMPERATURE 72 INITIALS FD
EXAMINER R. RODDUS/M. KUEHN	COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water DL 50 <input type="checkbox"/> Other (Specify)	ADDITIONAL INFORMATION AMPLITUDE DETERMINATION 5/8 VEE-PATH		
SEARCH UNITS	REFERENCE BLOCK S/N: CS 145	AMPLITUDE DETERMINATION 5/8 VEE-PATH		
NOMINAL ANGLE 70°	NOMINAL ANGLE N/A	CABLE TYPE RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/> Other: N Length: 172 in.		
MEASURED ANGLE 69°	SIGNAL DISTANCE IN INCHES 172	INITIAL CAL. BLOCK TEMP. 72 °F		
BRAND SWRI	SCREEN DISTANCE IN INCHES 172	PYROMETER S/N SWRI 154		
SIZE 1/4		INST. LINEARITY SHEET No. 371014 N/A		
FREQUENCY (MHZ) 5		REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other NOVA	BEAM SPREAD SHEET No. 10	
INSTRUMENT SETTINGS				
REJECT 0	10 SCREEN DIVISIONS 10 INCHES	EXAMINATION AREA: RCP 11B STUOS 1-708		
DEC N/A	LONGITUDINAL <input type="checkbox"/>	REMARKS: CALIBRATION REFLECTOR LD		
FINE dB 13	SHEAR <input checked="" type="checkbox"/>	HAVE BEEN VERIFIED AT SCANNING		
COARSE dB 100		DOED LD.		
6 dB SWITCH UP		*INST LINEARITY SHEET NO. 371028 LD.		
14 dB SWITCH UP				
FREQUENCY 5				
DELAY 0.14				
MATL. CAL 2.66				
RANGE 10				
DAMPING MIN				
REP. RATE 3K				
FILTER HI				
VIDEO NORM				
TRAN. MODE NORMAL				
JACK USED R				
40% ± 6 dB - 62				
METHOD: PRIMARY 6dB 24.15, N				
SECONDARY N/A				
REVIEWED BY <i>Russell Fine</i>	SNT LEVEL: II	DATE: 30 APR 88		

100173

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT.	DATE (DAY-MO-YR) 29 APR 88	SHEET NO. 1007	TIME (24HR. CLOCK) 1007
1) EXAMINER'S SIGNATURE <i>Life Spiess</i>	PROCEDURE No. 800-97 Rev. 4 Dev. 1-2	INSTRUMENT SONIC MARK <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	SERIAL NO. 774224	CALIBRATION VERIFICATION
2) EXAMINER'S INITIALS n/a	REFERENCE BLOCK S/N: CS-DC-37	COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water DI <input type="checkbox"/> Other (Specify)		TIME 1239 1532
SEARCH UNITS	NOMINAL ANGLE 70	SIGNAL DISTANCE IN INCHES N		N/A <input type="checkbox"/>
	MEASURED ANGLE 69	SCREEN DISTANCE IN INCHES		TEMPERATURE 77
	BRAND SWRI			INITIALS 80 80
	SIZE 1/4			ADDITIONAL INFORMATION
	FREQUENCY (MHZ) 5			AMPLITUDE DETERMINATION 5/8 VEE PATH
INSTRUMENT SETTINGS				
REFLECT	D	REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input type="checkbox"/> Other NACTL	45° 3/8 N dB	60° 3/8 dB
DEC	n/a	10 SCREEN DIVISIONS 10 INCHES	5/8 dB	% FSH
FINE dB	8 N/A	LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>	dB	% FSH
COARSE dB	90 N/A		A dB	% FSH
6 dB SWITCH	UP			A
14 dB SWITCH	DN			
FREQUENCY	5			
DELAY	014-1			
MATL. CAL.	268			
RANGE	10			
DAMPING	min			
REP. RATE	3K			
FILTER	H1			
VIDEO	MODEM			
TRAN. MODE	NO. 2 MINL			
JACK USED	R			
50% x 6 dB	80% n/a			
METHOD: PRIMARY	EDS.L.L.L			
SECONDARY	n/a			
REVIEWED BY: <i>Russell Davis</i>	DATE: 30 APR 88			
BASIC CALIBRATION BLOCK NO. CC-37				
REMARKS: Calibration Reflectors have been checked at scanning speed to				
EXAMINATION AREA: Reactor Coolant Pump Studs 9-16-B				
Length: 172 in				
CABLE TYPE: N				
INITIAL CAL. BLOCK TEMP: 77 °F				
PYROMETER S/N: SWRI 154				
INST. LINEARITY SHEET No. 371028				
BEAM SPREAD SHEET Note: N/A				

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SWRI SONIC INSTRUMENT CALIBRATION RECORD

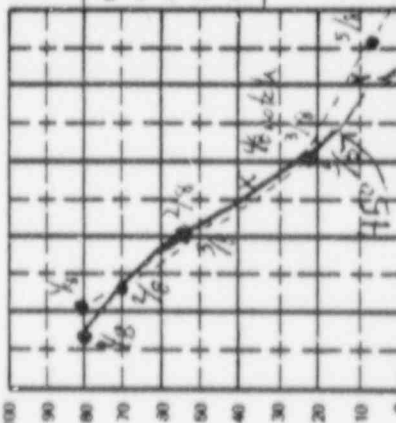
PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 29 APR 88		TIME (24 HR. CLOCK) 1100		SHEET NO. 200177					
1) EXAMINER (SIGNATURE) <i>Dyle Spies</i>		SNT LEVEL II	PROCEDURE No. 800-97 Rev. 4 Dev. 1+2	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 01122E		CALIBRATION VERIFICATION					
2) EXAMINER N/A		SNT LEVEL N/A		COUPLANT <input type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> DI <input type="checkbox"/> Other (Specify)									
SEARCH UNITS			REFERENCE BLOCK S/N: CS-DC-37							N/A <input type="checkbox"/> TEMPERATURE 77 71 INITIALS DS DS <i>FINAL</i>			
NOMINAL ANGLE	50	N	A	NOMINAL ANGLE N A N A									
MEASURED ANGLE	49			SIGNAL DISTANCE IN INCHES									
BRAND	SERIAL NUMBER(S)		SCREEN DISTANCE IN INCHES							ADDITIONAL INFORMATION AMPLITUDE DETERMINATION 5/8 VEE-PATH			
SwRI	2396		100 90 80 70 60 50 40 30 20 10 0										
SIZE	44												
FREQUENCY (MHz)	5												
INSTRUMENT SETTINGS			REFERENCE REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input type="checkbox"/> Circumferential <input checked="" type="checkbox"/> Other NOTCH 10 SCREEN DIVISIONS 5 INCHES LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>							45° 3/8 dB N % FSH 5/8 dB I % FSH A dB A		60° 3/8 dB _____ % FSH 5/8 dB _____ % FSH A dB _____	
REJECT	0									CABLE TYPE 50 N		INITIAL CAL. BLOCK TEMP. 77 °F	
DEC	N/A		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 <input checked="" type="checkbox"/> RG 174 <input type="checkbox"/>		PYROMETER S/N SWRI 154								
FINE dB	6 N/A		Other: _____		INST. LINEARITY SHEET No. 371009 <input type="checkbox"/> N/A								
COARSE dB	90 N/A		Length: 172 in		BEAM SPREAD SHEET No(s) N/A								
6 dB SWITCH	UP		BASIC CALIBRATION BLOCK NO. CC-37 REMARKS: Calibration Reflectors have been verified At scanning speed so Screen represents 8 to 13 inches so DATE: 30 APR 88 SNT LEVEL: II							EXAMINATION AREA: Reactor Coolant Pump Studs 1-16-80			
14 dB SWITCH	DN												
FREQUENCY	5												
DELAY	408-2												
MATL CAL	288												
RANGE	5												
DAMPING	min												
REP. RATE	3K												
FILTER	H1												
VIDEO	NORM												
TRAN. MODE	NORMAL												
JACK USED	R												
90 & 6 dB-	80 N/A												
METHOD: PRIMARY	WDB Sub L												
SECONDARY	N/A												
REVIEWED BY: <i>Russell Fin</i>	DATE: 30 APR 88												

SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1		DATE (DAY-MO-YR) 29 APR 88		TIME (24 HR. CLOCK) 0954		SHEET NO. 100178	
1) EXAMINER (SIGNATURE) <i>[Signature]</i>		SNT LEVEL II		PROCEDURE No. 800-109 Rev. 1 Dev. 112		INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III		SERIAL NO. 04332E	
2) EXAMINER N/A		SNT LEVEL N/A		COUPLANT <input checked="" type="checkbox"/> Glycerine <input checked="" type="checkbox"/> Water DI <input type="checkbox"/> Other (Specify)		CALIBRATION VERIFICATION			
SEARCH UNITS		REFERENCE BLOCK S/N: N/A		TIME		TEMPERATURE		INITIALS	
		NOMINAL ANGLE 98 N		N/A <input type="checkbox"/>		77 77		PNA	
		MEASURED ANGLE N/A A		SIGNAL DISTANCE IN INCHES		TEMPERATURE		INITIALS	
BRAND SWRI		SERIAL NUMBER(S) 3401 N/A		SCREEN DISTANCE IN INCHES		ADDITIONAL INFORMATION			
SIZE 1/4		FREQUENCY (MHZ) 5				AMPLITUDE DETERMINATION 5/8 VEE-PATH			
INSTRUMENT SETTINGS		REJECT 0 N/A				45°		60°	
DEC N/A		FINE dB 9 N/A				3/8 N dB % FSH		3/8 N dB % FSH	
COARSE dB 80 N/A		6 dB SWITCH UP		5/8 A dB % FSH		5/8 A dB % FSH			
14 dB SWITCH UP		14 dB SWITCH UP		A dB		A dB			
FREQUENCY 5		DELAY 110-1		CABLE TYPE 88		INITIAL CAL. BLOCK TEMP. 77 °F			
MATH. CAL. 130		RANGE 2		RG 62 <input type="checkbox"/> RG 62 <input type="checkbox"/>		PYROMETER S/N			
DAMPING MIN		REMARKS: CALIBRATION REFLECTORS		RG 174 <input type="checkbox"/> RG 174 <input type="checkbox"/>		SWRI 154			
REP. RATE 3K		HAVE BEEN VERIFIED AT SCANNING SPEED. <i>[initials]</i>		Other: NOTCH		INST. LINEARITY SHEET No.			
FILTER H1				10 SCREEN DIVISIONS N/A INCHES		Other: A		371003 <input type="checkbox"/> N/A	
VIDEO NORM				LONGITUDINAL <input checked="" type="checkbox"/>		Length: 168 in.		BEAM SPREAD SHEET Noted.	
TRAN. MODE NORMAL		BASIC CALIBRATION BLOCK NO. CC-37		EXAMINATION AREA: REACTOR COOLANT PUMP 11B		STUDS 1-16 <i>[initials]</i>			
JACK USED R		REMARKS: CALIBRATION REFLECTORS		Other: NOTCH		Length: 168 in.			
40% ± 6 dB - 80 N/A		REMARKS: CALIBRATION REFLECTORS		Other: A		Length: 168 in.			
METHOD: PRIMARY 6dB SWITCH		REMARKS: CALIBRATION REFLECTORS		Other: A		Length: 168 in.			
SECONDARY N/A		REMARKS: CALIBRATION REFLECTORS		Other: A		Length: 168 in.			
REVIEWED BY: <i>[Signature]</i>		SNT LEVEL: II		DATE: 30 APR 88		EXAMINATION AREA: REACTOR COOLANT PUMP 11B			
		WITNESSED <i>[Signature]</i> ANZ 4-29-88							

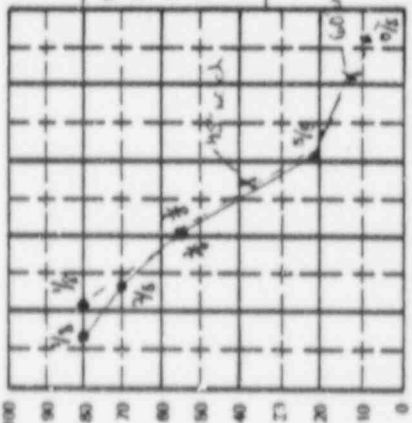
SwRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 30 APR 88	TIME (LOCK) 30	SHEET NO. 100179
1) EXAMINER (SIGNATURE) <i>D. Wagner</i>	PROCEDURE No. 600-15 Rev. 71 Dev. 1	INSTRUMENT SONIC MARK () () () () () COUPLANT () Glycerine () Water () Other (Specify)		
2) EXAMINER <i>D. Wagner</i>	SMT LEVEL I	SERIAL NO. 01122E		
SEARCH UNITS				
NOMINAL ANGLE 45°	60°	REFERENCE BLOCK S/N Swri-11w-24	NOMINAL ANGLE 45	60
MEASURED ANGLE 44°	61°	SIGNAL DISTANCE IN INCHES 4.0	SIGNAL DISTANCE IN INCHES 4.0	4.0
BRAND Pratt & Swri	SERIAL NUMBER(S) 1774	SCREEN DISTANCE IN INCHES 4.0		
SIZE 1	1	REFLECTOR REFLECTOR <input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other		
FREQUENCY (MHZ) 2.25	2.25	10 SCREEN DIVISIONS 20 INCHES LONGITUDINAL <input type="checkbox"/> SHEAR <input checked="" type="checkbox"/>		
INSTRUMENT SETTINGS				
REFLECT	0	BASIC CALIBRATION BLOCK NO. CC-2		
DEC	N/A	REMARKS: Calibration reflectors have been verified at scanning speed so		
FINE dB	8			
COARSE dB	70			
6 dB SWITCH	UP			
14 dB SWITCH	UP			
FREQUENCY	2			
DELAY	001-1			
MATL CAL	714			
RANGE	10			
DAMPING	MIN			
REP. RATE	3K			
FILTER	H1			
VIDEO	NORM			
TRAIN MODE	NORMAL			
JACK USED	R			
40% ± 6dB -	90° N/A			
METHOD PRIMARY	6dB Switch			
SECONDARY	N/A			
REVIEWED BY <i>D. Wagner</i>	SMT LEVEL I	DATE 2 May 88	EXAMINATION AREA: STEAM Generator 12	



SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO. 17-2116		SITE CALVERT CLIFFS NUCLEAR POWER PLANT.		DATE (DAY-MO-YR) 3 MAY 88		TIME (24HR. CLOCK) 1345		SHEET NO. 100104	
1) EXAMINER: <i>E. Escobedo</i>		PROCEDURE No. 600-15		INSTRUMENT SERIAL NO. 06901E		TIME		CALIBRATION VERIFICATION	
2) EXAMINER: <i>E. Escobedo</i>		Rev. 71		COMPLANT <input type="checkbox"/> Glycerine <input type="checkbox"/> Water		N/A <input type="checkbox"/> TEMPERATURE			
SNT LEVEL II		Dev. 1		<input type="checkbox"/> Other (Specify)		INITIALS			
SEARCH UNITS		REFERENCE BLOCK S/N: SWRI 113-24		NOMINAL ANGLE		45		60	
NOMINAL ANGLE 45°		60°		SIGNAL DISTANCE IN INCHES		4.5		6.0	
MEASURED ANGLE 44°		57°		SCREEN DISTANCE IN INCHES		4.0		4.0	
BRAND: AUBTECH		SERIAL NUMBER(S): 013088		1774		4.0		4.2	
SIZE: 1		FREQUENCY (MHZ): 2.25		2.25		2.25			
INSTRUMENT SETTINGS									
REFLECT	D	D	D	D	D	D	D	D	D
DEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FINE dB	10	14	14	14	14	14	14	14	14
COARSE dB	70	A	90	A	A	A	A	A	A
6 dB SWITCH	UP	UP	UP	UP	UP	UP	UP	UP	UP
14 dB SWITCH	UP	UP	UP	UP	UP	UP	UP	UP	UP
FREQUENCY	2	2	2	2	2	2	2	2	2
DELAY	240-1	240-1	240-1	240-1	240-1	240-1	240-1	240-1	240-1
MATL CAL	65Z	65Z	65Z	65Z	65Z	65Z	65Z	65Z	65Z
RANGE	10	10	10	10	10	10	10	10	10
DAMPING	mid	mid	mid	mid	mid	mid	mid	mid	mid
REP. RATE	3K	3K	3K	3K	3K	3K	3K	3K	3K
FILTER	H1	H1	H1	H1	H1	H1	H1	H1	H1
VIDEO	norm	norm	norm	norm	norm	norm	norm	norm	norm
TRAIN MODE	normal	normal	normal	normal	normal	normal	normal	normal	normal
JACK USED	R	R	R	R	R	R	R	R	R
40% ± 6 dB	80% N/A	80% N/A	80% N/A	80% N/A	80% N/A	80% N/A	80% N/A	80% N/A	80% N/A
METHOD: PRIMARY	LDAS	LDAS	LDAS	LDAS	LDAS	LDAS	LDAS	LDAS	LDAS
SECONDARY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
REVIEWED BY: <i>P. A. Escobedo</i>	SNT LEVEL: II	DATE: 3 MAY 88	BASIC CALIBRATION BLOCK NO. CC-2						
REMARKS: Calibration Reflectors have been verified at scanning speeds									
EXAMINATION: REBOOK STRAM BEASER 129									
4-102 Lower r/f pins to lower head									



190189

SWRI SONIC INSTRUMENT CALIBRATION RECORD

PROJECT NO 17-2116	SITE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MO-YR) 3 MAY 88	SHEET NO. 100100	TIME (24 HR. CLOCK) 1330
1) EXAMINER (SIGNATURE) <i>E. Escobedo</i>	PROCEDURE No. 600-8549 60 Rev. 71 60 0 Dev. 1, 2, 3	INSTRUMENT SONIC MARK <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	CALIBRATION VERIFICATION	
2) EXAMINER E. ESCOBEDO	REFERENCE BLOCK S/N: SWRI 1101-14	SERIAL NO. DILLE	TIME	
SEARCH UNITS	NOMINAL ANGLE	N/A <input type="checkbox"/>		
NOMINAL ANGLE D	SIGNAL DISTANCE IN INCHES	TEMPERATURE		
MEASURED ANGLE N/A	SCREEN DISTANCE IN INCHES	INITIALS 1/2 71 3P		
BRAND Sund		ADDITIONAL INFORMATION		
SIZE 1		AMPLITUDE DETERMINATION S/B VEE-PATH		
FREQUENCY (MHZ) 2.15		45° 3/8 N dB 3/8 % FSH 5/8 dB 5/8 % FSH 8 dB A		
INSTRUMENT SETTINGS				
REJECT D	REFLECTOR	CABLE TYPE		
DEC N/A	<input type="checkbox"/> Flat Block <input type="checkbox"/> Axial <input checked="" type="checkbox"/> Circumferential <input type="checkbox"/> Other	D N <input type="checkbox"/> RG 62 <input type="checkbox"/> RG 174 Other: Length: 96 in. A in.		
FINE dB 5	10-SCREEN DIVISIONS	INITIAL CAL. BLOCK TEMP. 77 °F		
COARSE dB 20	10 INCHES	PYROMETER S/N SWRI 154		
6 dB SWITCH 3P	LONGITUDINAL SHEAR <input checked="" type="checkbox"/>	INST. LINEARITY SHEET No. 31043 <input type="checkbox"/> N/A		
14 dB SWITCH UP		BEAM SPREAD SHEET Noted. <input checked="" type="checkbox"/> N/A		
FREQUENCY 2		EXAMINATION AREA: REPAIR STEAM GENERATOR 12 20		
DELAY 198-1		4-102 LOWER EX/PW6 to LOWER HEADS		
MATL. CAL. 198				
RANGE 10				
DAMPING mid				
REP RATE 3K				
FILTER HI				
VIDEO NORM				
TRAN MODE NORMAL				
JACK (V-20) R				
40% ± 6 dB 80% W/A				
METHOD: PRIMARY W/A				
SECONDARY				
REVIEWED BY: <i>E. A. Escobedo</i>	SMT LEVEL: II	DATE: 3 MAY 88		

SWRI BEAM SPREAD RECORDS

SWRI BEAM SPREAD RECORD

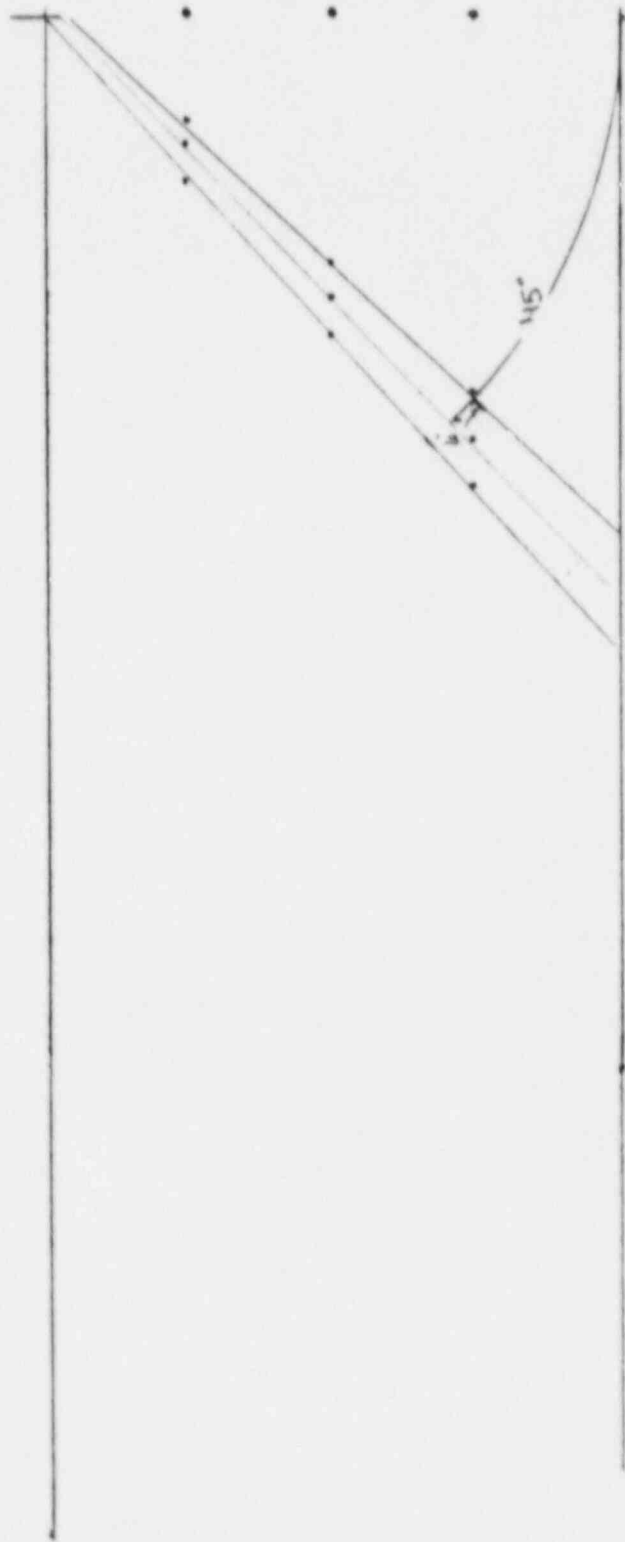
PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 14 APR 88	TIME COMPLETED (24HR.CLOCK) 1045	SHEET NO. 360001
CALIBRATION SHEETS: <u>190025, 90027,</u> <u>190037, 190146,</u>	dB AT 50% 71	TRANSDUCER BRAND: Aerotech Gam. a	TRANSDUCER SERIAL No.: 013723	BASIC CALIBRATION BLOCK: CCL68
	EXAMINER: L SPIESS	SNT LEVEL: II	EXAMINER: D. WAGAR	SNT LEVEL: I

MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W ₁ 20% DAC		W ₁ 50% DAC		W MAX		W ₂ 50% DAC		W ₂ 20% DAC		
	W	MP	W	MP	W	MP	W	MP	W	MP	
1/8 VEE - PATH	N	N	9/16	1.0	11/16	1.0	7/8	N	N	N	N
2/8 VEE - PATH	A	A	15/16	2.1	1 1/2	2.1	1 1/16	A	A	A	A
3/8 VEE - PATH			2	3.1	2 1/4	3.1	2 1/2				
5/8 VEE - PATH											
6/8 VEE - PATH											
7/8 VEE - PATH											

MEASURED ANGLE OF BEAM SPREAD: <u>6°</u>	ACTUAL REFRACTED ANGLE: <u>45°</u>
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REMARKS: SEE ATTACHED 20

REVIEWED BY: <u>Russell Lee</u>	SNT LEVEL: <u>II</u>	DATE: <u>14 APR 88</u>
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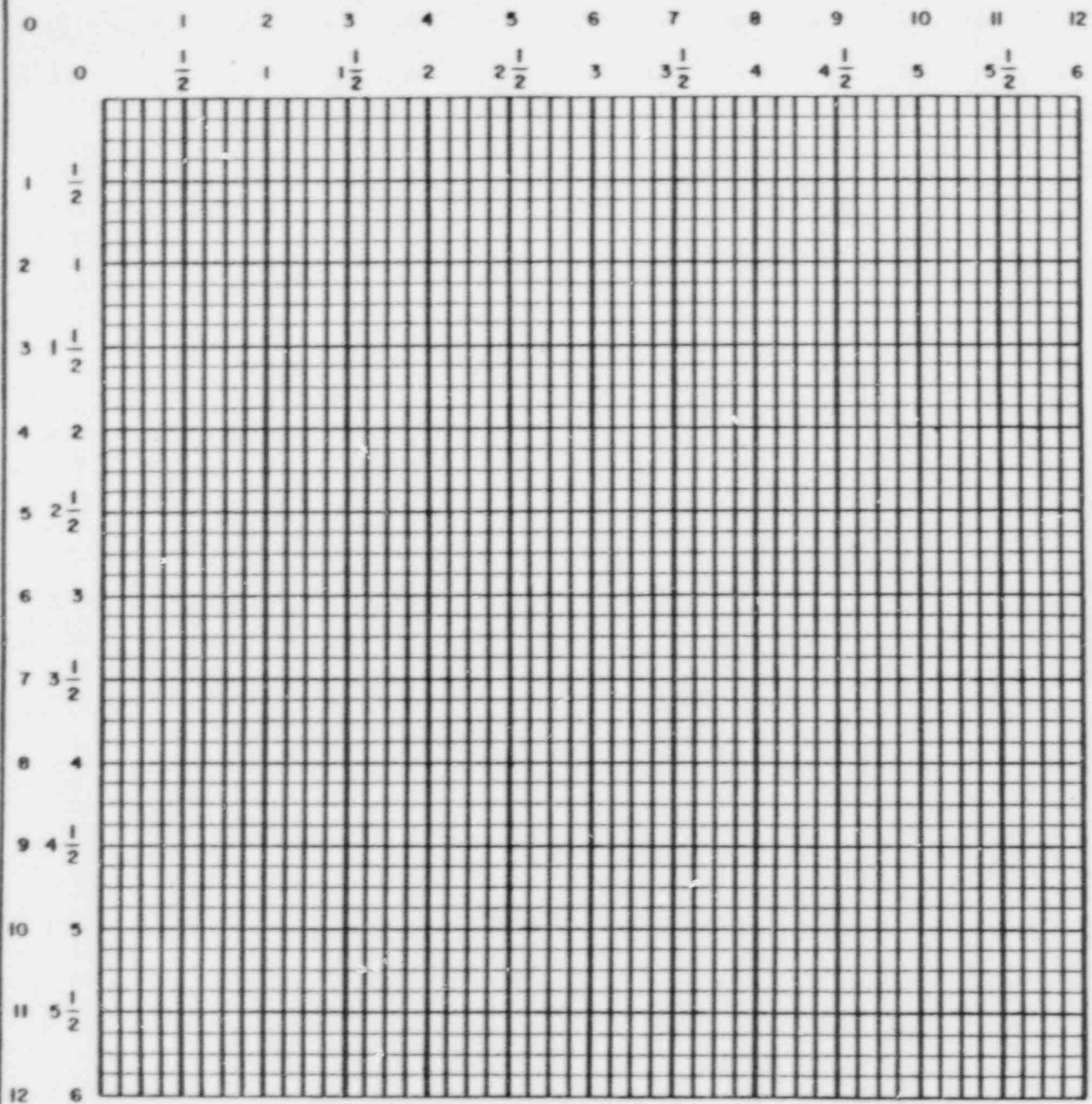


FOR 60° BEAM SPREAD REF 360DD5

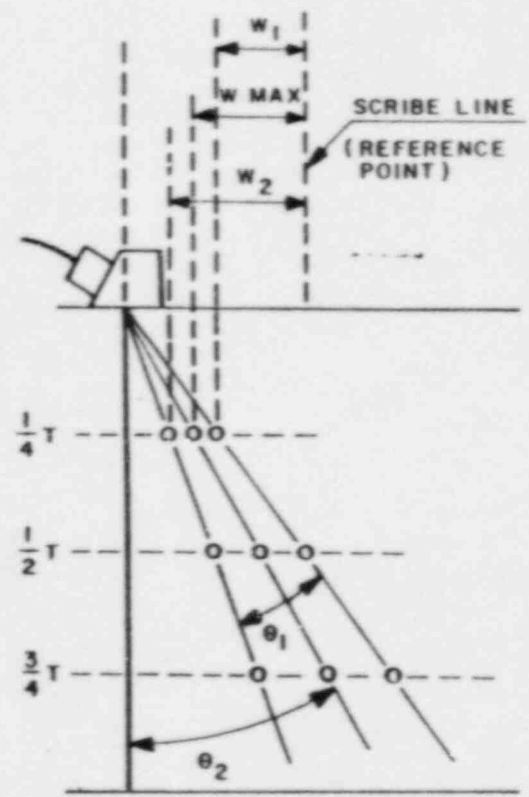
STEAM GENERATOR

45° BEAM SPREAD REF 360DD4

Paul James II 14 APR 88

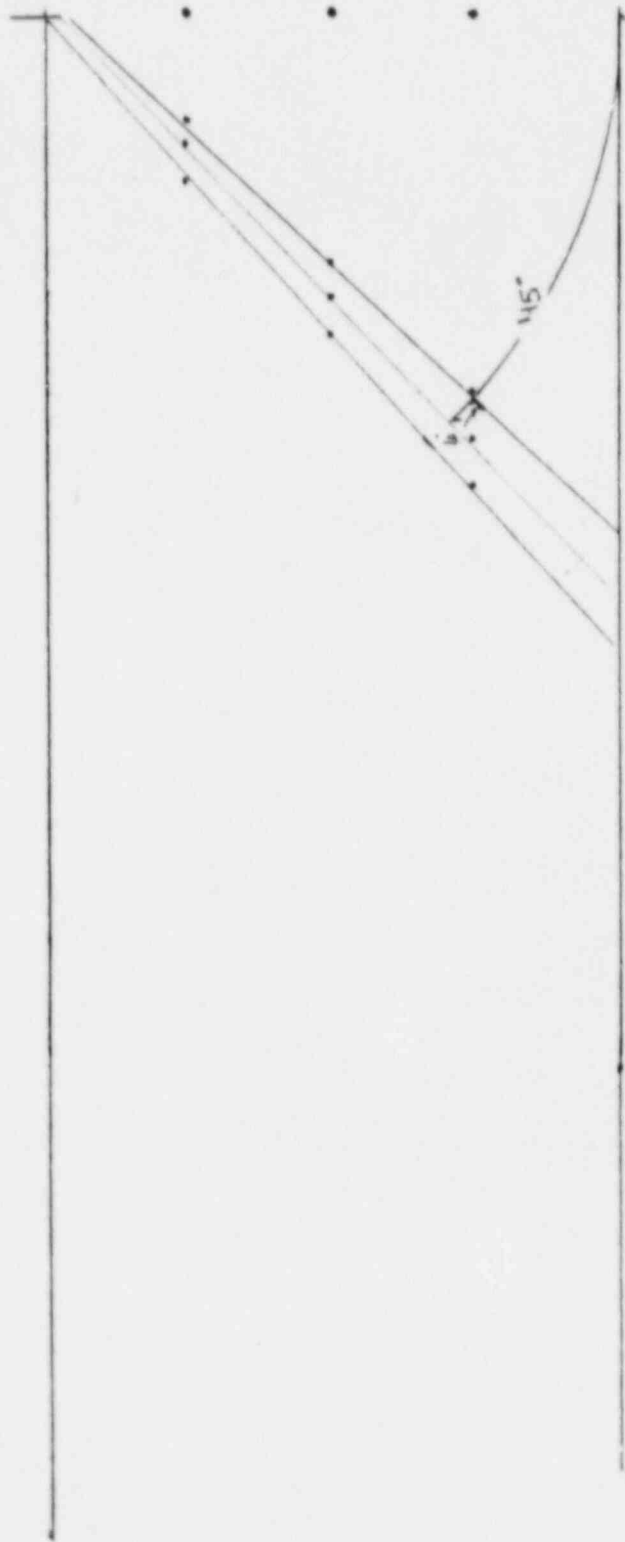


USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 6"
 USE 1" - 12" ($\frac{1}{2}$) SCALE FOR METAL DEPTH \geq 6"



BEAM SPREAD DIAGRAM

θ_2 = BEAM ANGLE
 θ_1 = BEAM SPREAD



FOR 60° BEAM SPREAD REF 360005

STEAM GENERATOR

45° BEAM SPREAD REF 360004

Paul Jones II 14 APR 88

SWRI BEAM SPREAD RECORD

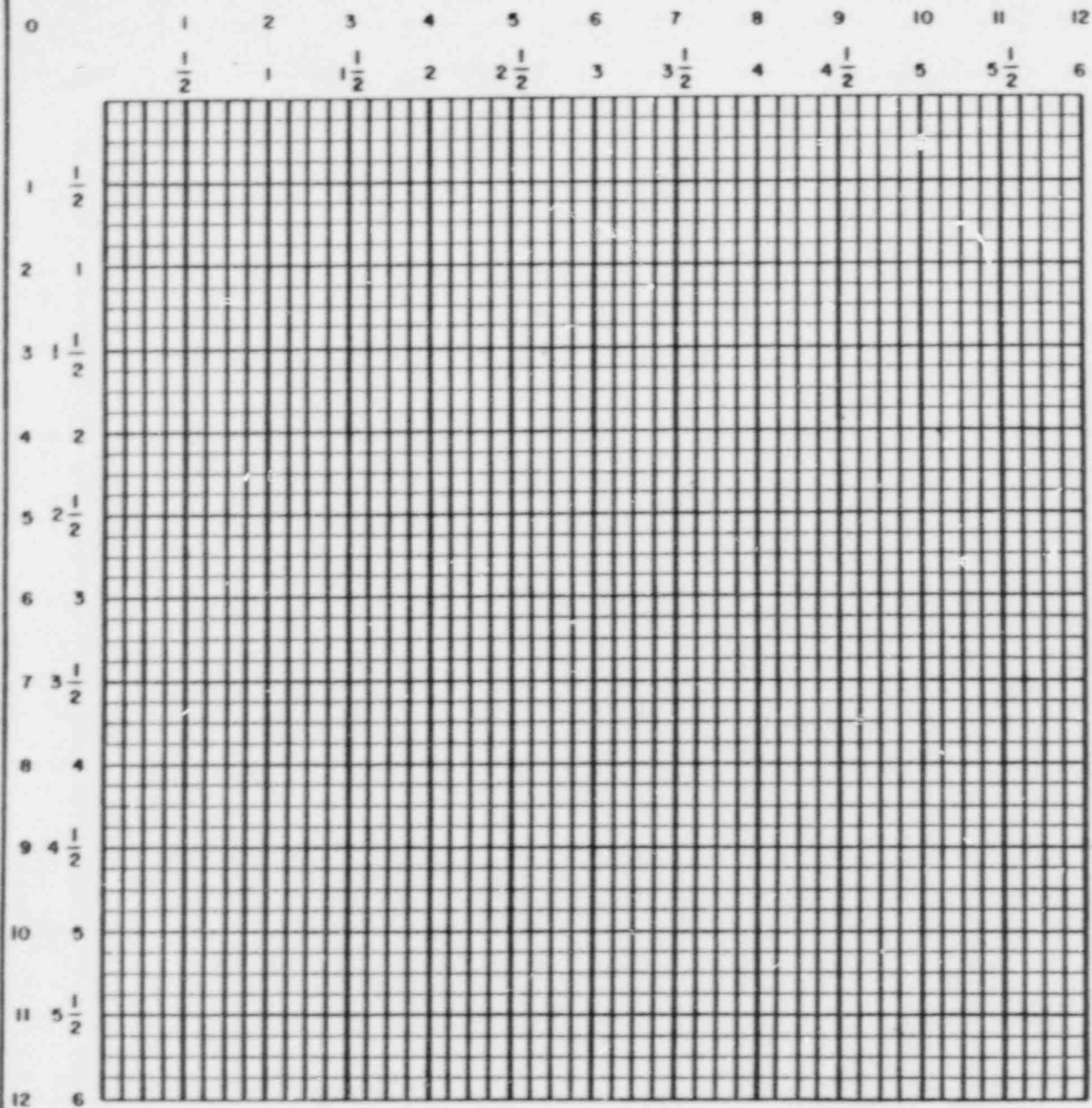
PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 14 APR 88	TIME COMPLETED (24HR. CLOCK) 1100	SHEET NO. 360005
CALIBRATION SHEETS: <u>190004, 190061,</u> <u>190126, 190145</u>	dB AT 50% 82	TRANSDUCER BRAND: <i>Aerotech Gamma</i>	TRANSDUCER SERIAL No.: 015841	BASIC CALIBRATION BLOCK: CC 68
	EXAMINER: L SPIESS	SNT LEVEL: II	EXAMINER: D WAGAR	SNT LEVEL: I

MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W ₁ 20% DAC				W ₁ 50% DAC				W MAX				W ₂ 50% DAC				W ₂ 20% DAC			
	W		MP		W		W		MP		W		W		MP		W		MP	
	N	A	N	A																
1/8 VEE - PATH	N	A	N	A	1 1/16		1 1/4		1.4		1 7/16		N		A		N		A	
2/8 VEE - PATH					2 1/4		2 1/2		2.85		2 7/8									
3/8 VEE - PATH					3 3/8		3 7/8		4.4		4 5/16									
5/8 VEE - PATH																				
6/8 VEE - PATH																				
7/8 VEE - PATH																				

MEASURED ANGLE OF BEAM SPREAD: <u>6°</u>	ACTUAL REFRACTED ANGLE: <u>60°</u>
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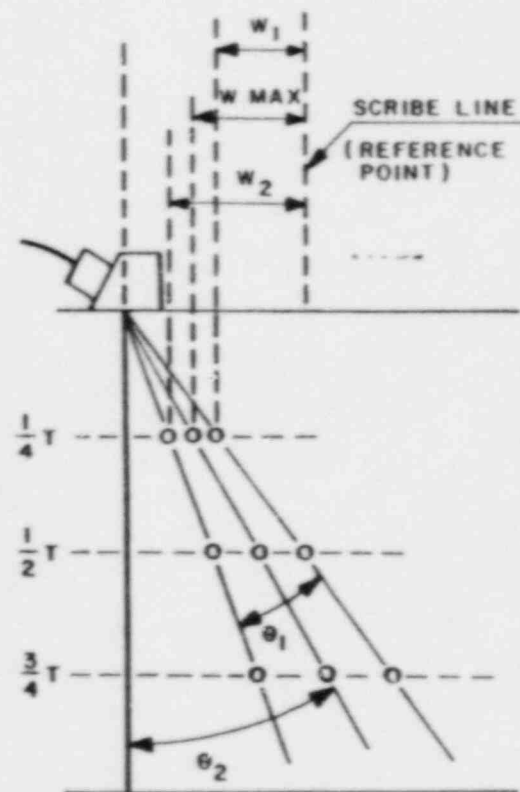
REMARKS: SEE ATTACHED PLS

REVIEWED BY: <u>Russell H. Fine</u>	SNT LEVEL: <u>II</u>	DATE: <u>14 APR 88</u>
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USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 6"

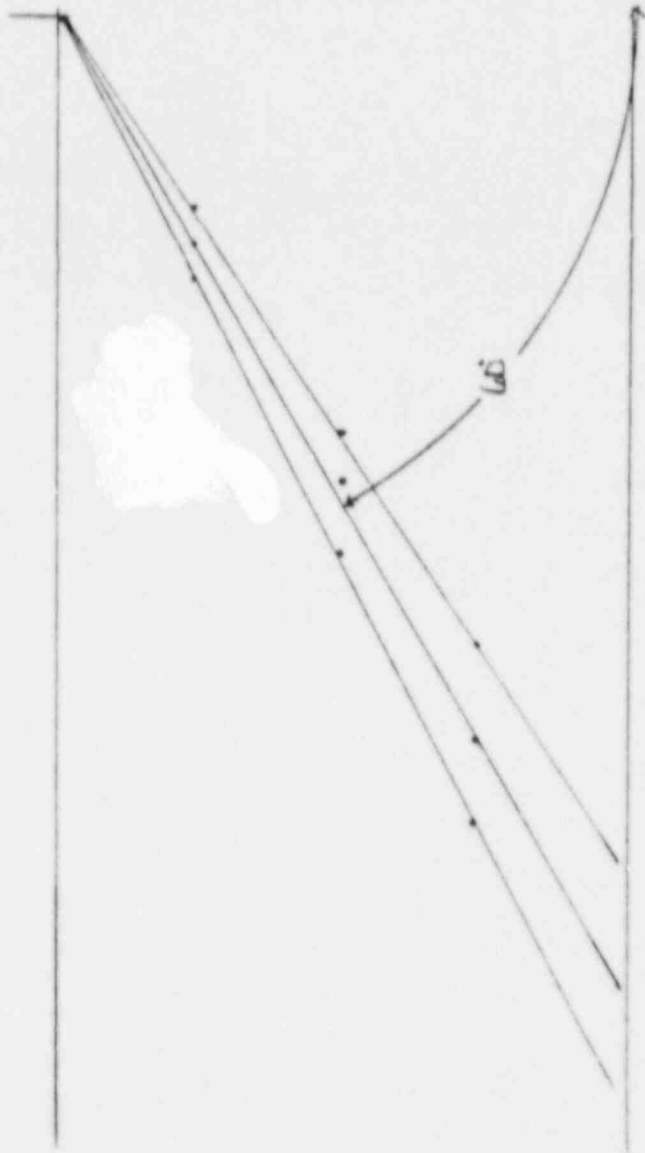
USE 1" - 12" ($\frac{1}{2}$) SCALE FOR METAL DEPTH \geq 6"



BEAM SPREAD DIAGRAM

θ_2 = BEAM ANGLE

θ_1 = BEAM SPREAD



60° Beam Spread
Ref sheet No 360005
Sub Spas II 14 APR 88

SWRI BEAM SPREAD RECORD

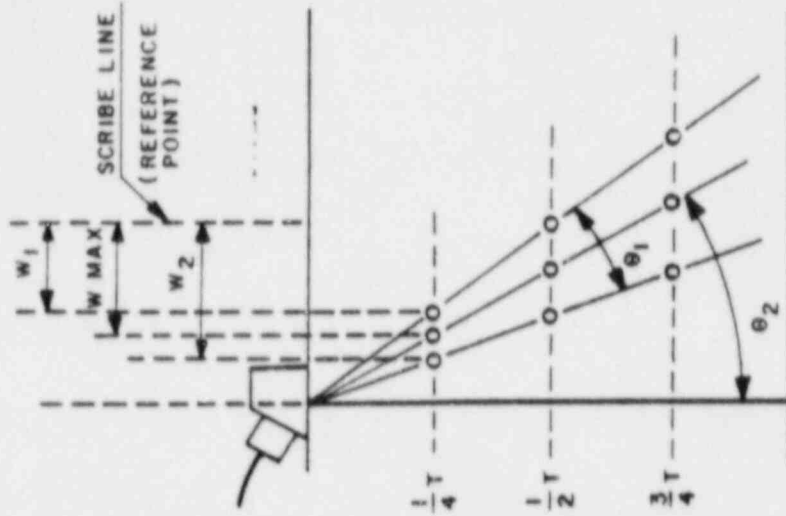
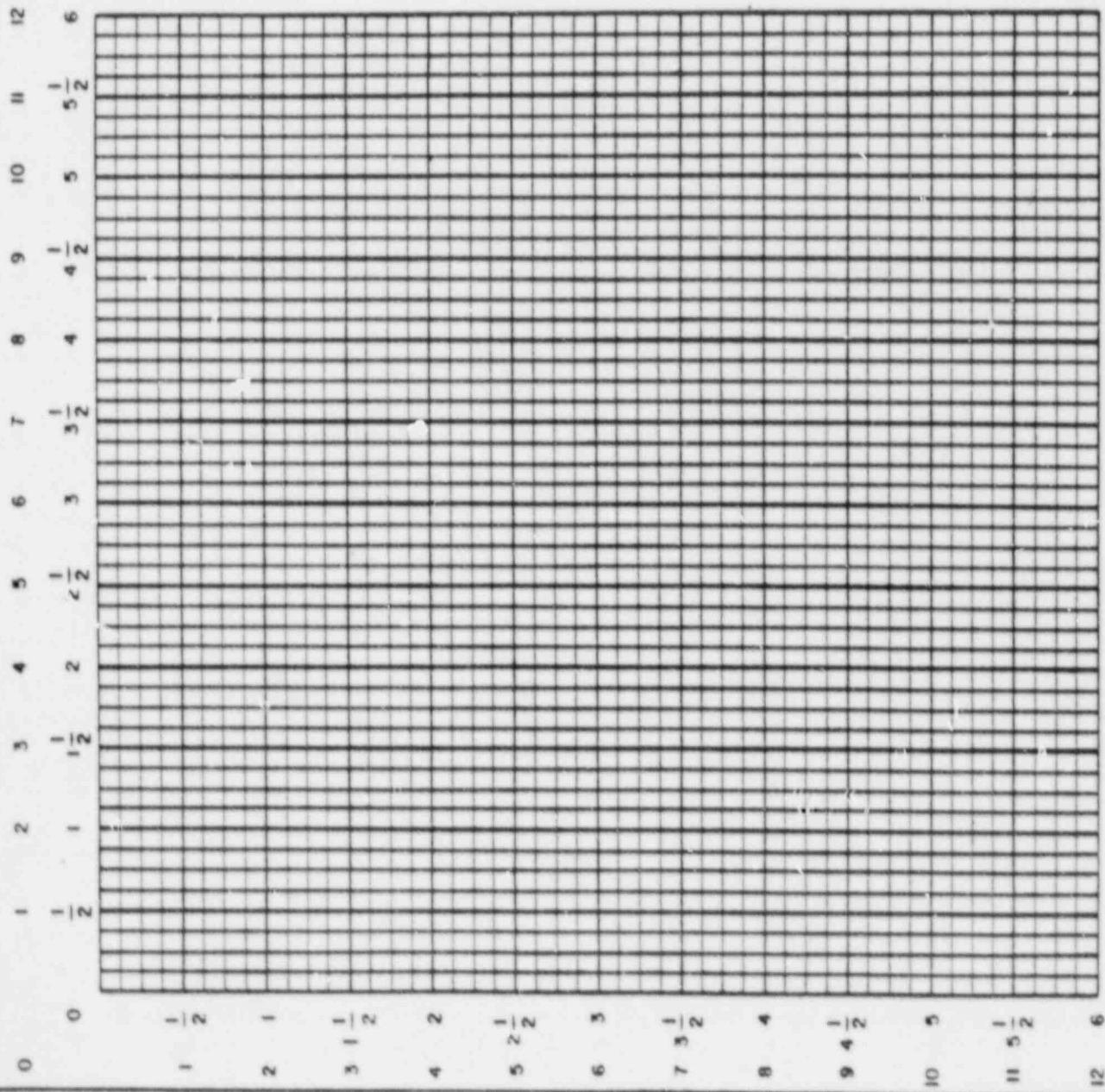
PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 15 APR 88	TIME COMPLETED (24HR. CLOCK) 1142	SHEET NO. 360011
CALIBRATION SHEETS: <u>190057</u>	dB AT 50% 76	TRANSDUCER BRAND: AEROTECH	TRANSDUCER SERIAL No.: 013088	BASIC CALIBRATION BLOCK: CC-2
	EXAMINER: M. KLEINJAN	SNT LEVEL: II	EXAMINER: L. DURAN	SNT LEVEL: II

MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W ₁ 20% DAC		W ₁ 50% DAC	W MAX		W ₂ 50% DAC	W ₂ 20% DAC	
	W	MP	W	W	MP	W	W	MP
1/8 VEE - PATH	—	—	1 3/8	1 3/8 ₈₄	2.4	2 1/4	—	—
2/8 VEE - PATH	—	—	3 1/4	3 3/4	5.0	4 1/4	—	—
3/8 VEE - PATH	—	—	5 1/4	5 3/4	8.0	6 1/2	—	—
5/8 VEE - PATH								
6/8 VEE - PATH								
7/8 VEE - PATH								

MEASURED ANGLE OF BEAM SPREAD: <u>8</u>	ACTUAL REFRACTED ANGLE: <u>46.1°</u>
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REMARKS:

REVIEWED BY: <i>Russell J. Tice</i>	SNT LEVEL: II	DATE: 18 APR 88
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BEAM SPREAD DIAGRAM

θ_2 = SEAM ANGLE

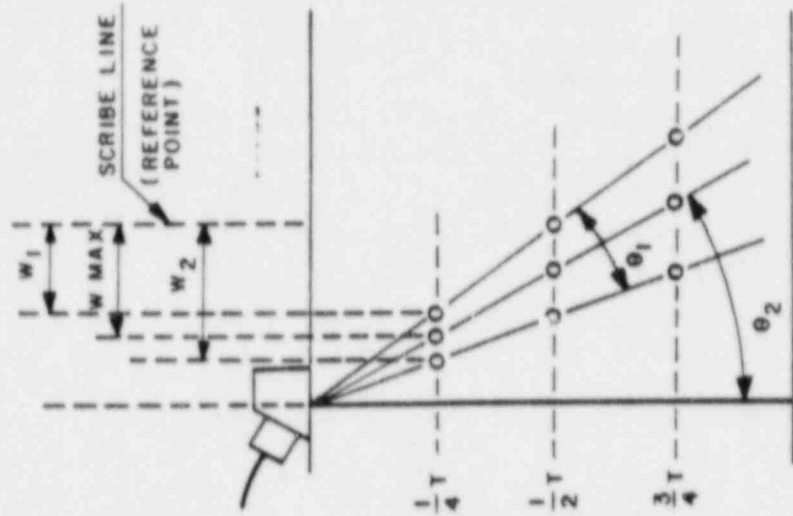
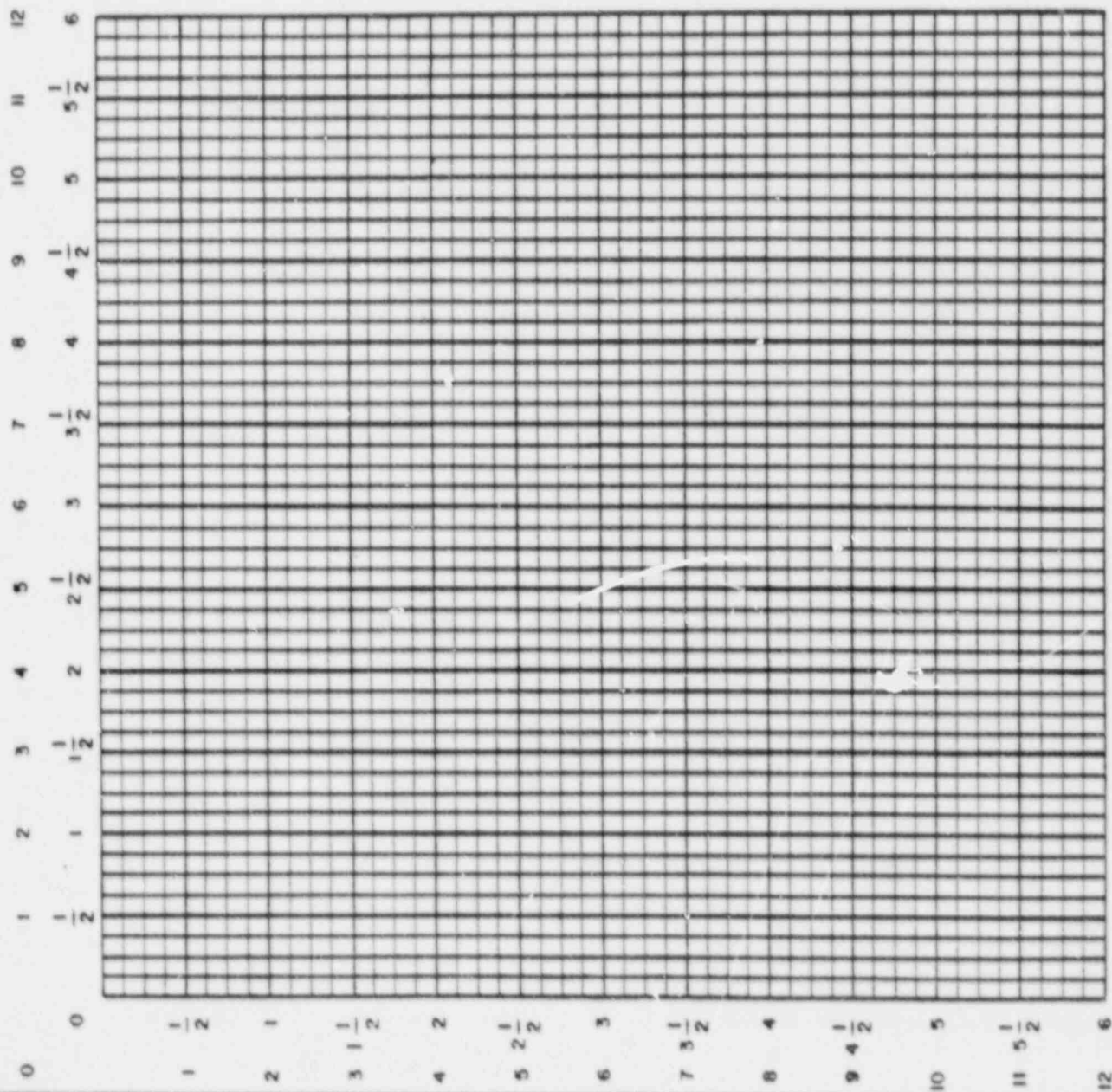
θ_1 = BEAM SPREAD

USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 6"

USE 1" - 12" ($\frac{1}{2}$) SCALE FOR METAL DEPTH \geq 6"

SWRI BEAM SPREAD RECORD

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 15 APR 88	TIME COMPLETED (24HR. CLOCK) 1156	SHEET NO. 360012						
CALIBRATION SHEETS: 190057	dB AT 50% 896	TRANSDUCER BRAND: SWRI	TRANSDUCER SERIAL No.: 1774	BASIC CALIBRATION BLOCK: CC-2						
	EXAMINER: M. KLEINJAN	SNT LEVEL: II	EXAMINER: L. DURAN	SNT LEVEL: II						
MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W ₁ 20% DAC		W ₁ 50% DAC		W MAX		W ₂ 50% DAC		W ₂ 20% DAC	
	W	MP	W		W	MP	W		W	MP
1/8 VEE - PATH	—	—	3		3 ³ / ₄	4.4	4 ¹ / ₄		—	—
2/8 VEE - PATH	—	—	6 ¹ / ₂		7 ¹ / ₄	8.0	8 ⁵ / ₈		—	—
3/8 VEE - PATH	—	—	10 ¹ / ₂		11 ³ / ₄	13.2	15		—	—
5/8 VEE - PATH										
6/8 VEE - PATH										
7/8 VEE - PATH										
MEASURED ANGLE OF BEAM SPREAD: <u>7</u>					ACTUAL REFRACTED ANGLE: <u>65</u>					
REMARKS: 										
REVIEWED BY: <i>Russell Price</i>			SNT LEVEL: II				DATE: 18 APR 88			

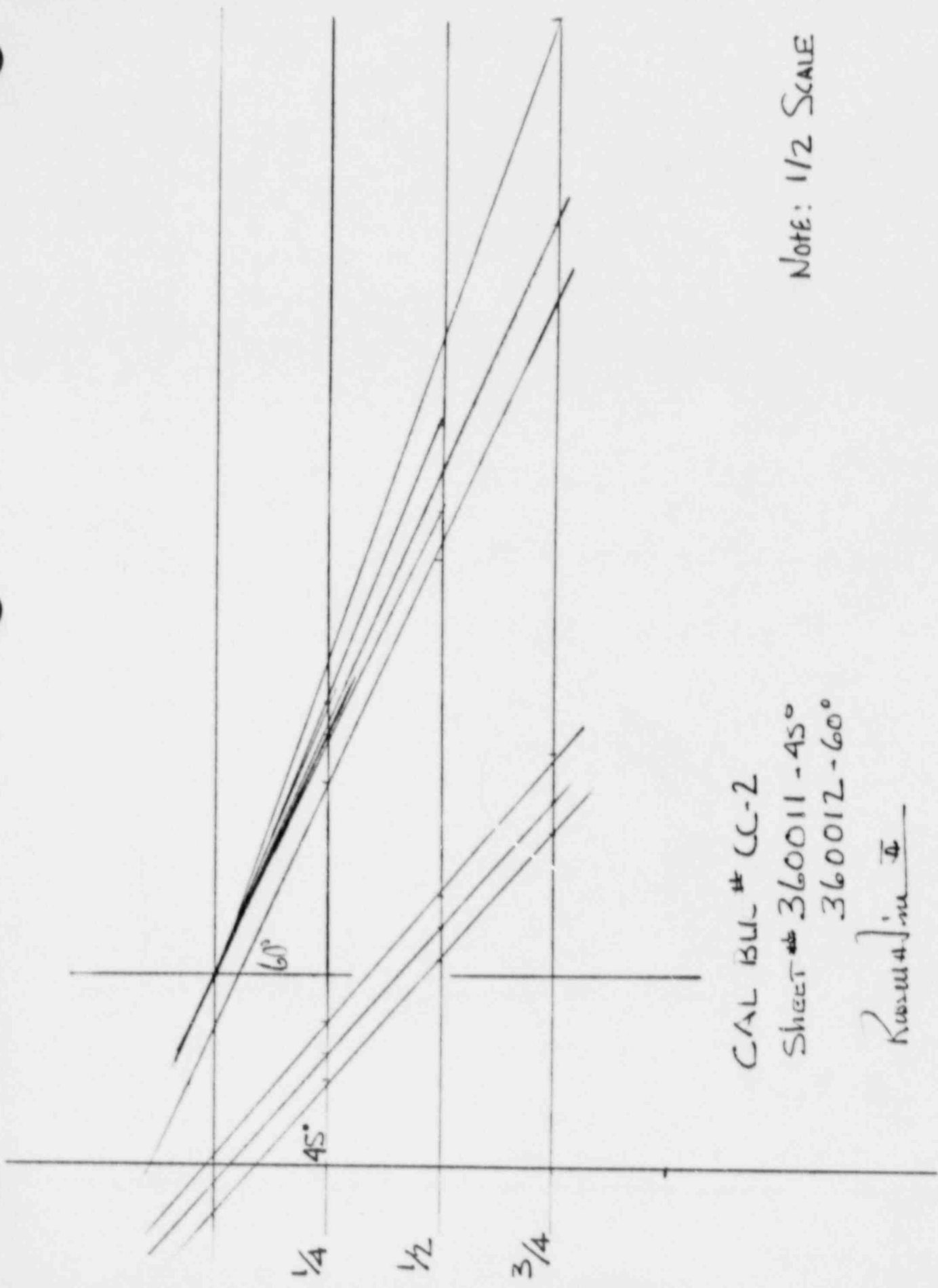


BEAM SPREAD DIAGRAM

θ_2 = BEAM ANGLE
 θ_1 = BEAM SPREAD

USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 6"

USE 1" - 12" (1/2) SCALE FOR METAL DEPTH ≥ 6"

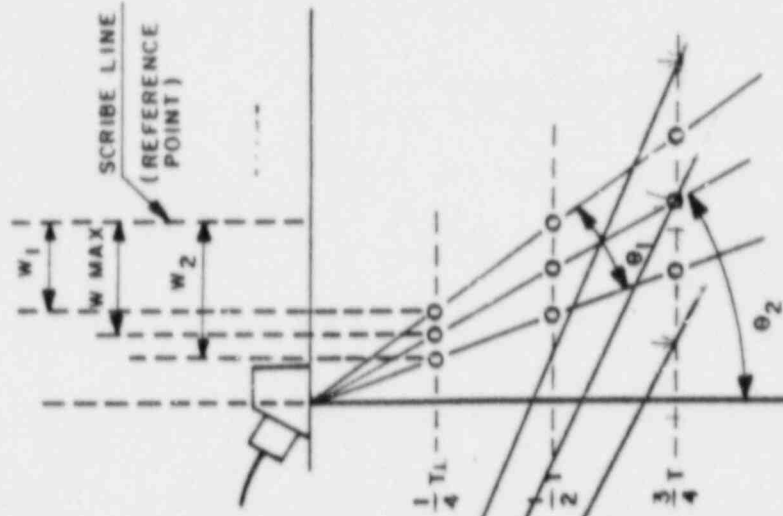
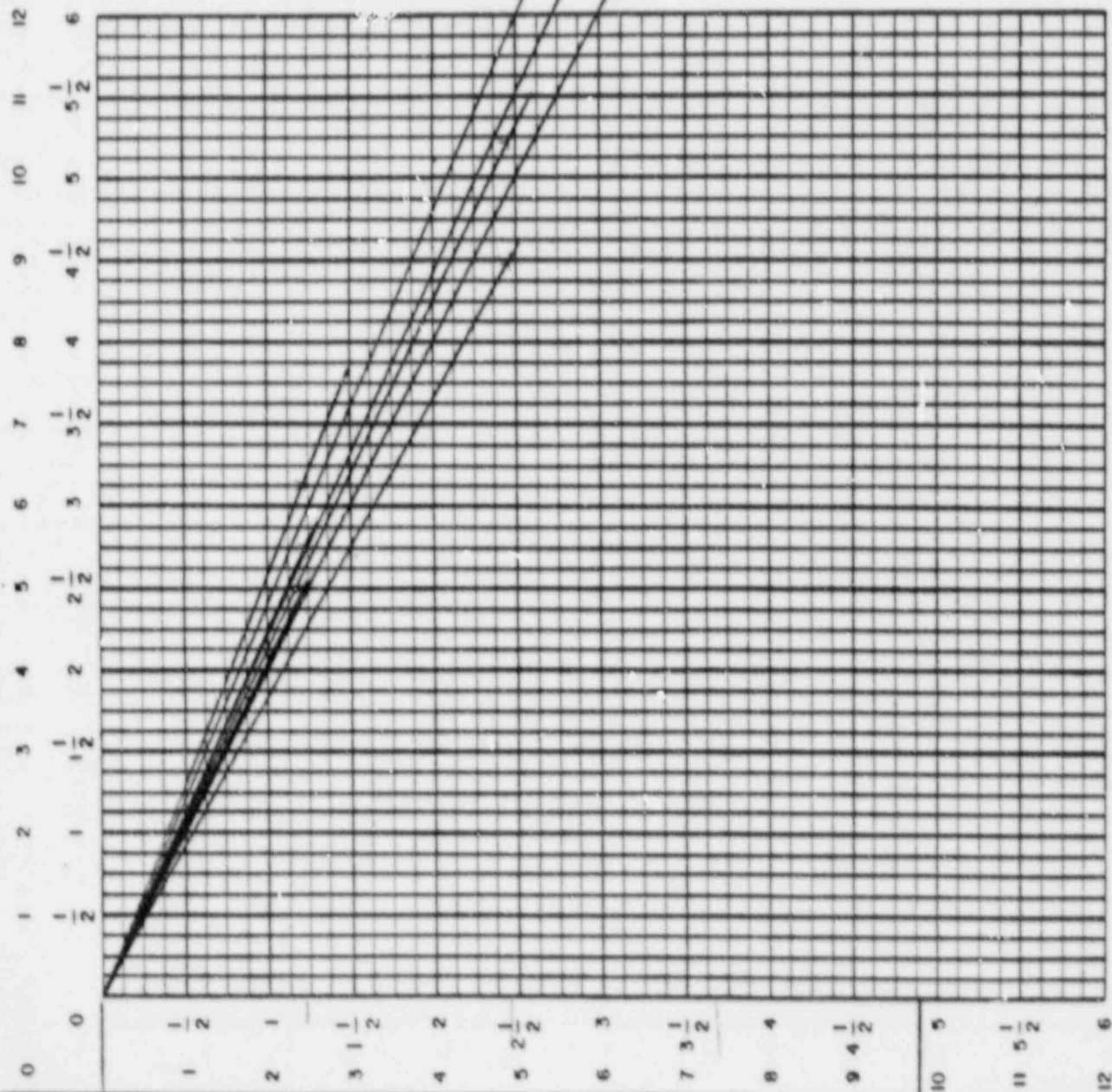


CAL BUL # CC-2
 SHEET # 360011 - 45°
 360012 - 60°
 R. W. J. in Φ

NOTE: 1/2 SCALE

SWRI BEAM SPREAD RECORD

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 26 APR 88	TIME COMPLETED (24HR CLOCK)	SHEET NO. 360016		
CALIBRATION SHEETS: 19017 and 190081	øB AT 50% 70 - 2 *	TRANSDUCER BRAND: AERO TECH	TRANSDUCER SERIAL No.: 11797	BASIC CALIBRATION BLOCK: CC-1		
EXAMINER: W.A. JENSEN	SNT LEVEL: II	EXAMINER: R. MILLER	SNT LEVEL: I			
MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W1 20% DAC		W2 50% DAC		W2 20% DAC	
	W	MP	W	MP	W	MP
	N		2 1/2	2 3/4	3 1/8	N
			4 1/2	5 1/4	5 3/4	
			7 3/8	8 1/8	8 7/8	
			N			
MEASURED ANGLE OF BEAM SPREAD: 7		ACTUAL REFRACTED ANGLE: 64				
REMARKS: X 1 GDB SOUTH						
REVIEWED BY: Russell Thie		SNT LEVEL: II		DATE: 27 APR 88		



BEAM SPREAD DIAGRAM

θ_2 = BEAM ANGLE
 θ_1 = BEAM SPREAD

USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 6"

USE 1" - 12" ($\frac{1}{2}$) SCALE FOR METAL DEPTH \geq 6"

SWRI BEAM SPREAD RECORD

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY - MON. - YR.) 26 APR 88	TIME COMPLETED (24-HR. CLOCK)	SHEET NO. 360017
CALIBRATION SHEETS: 190 150, 190, 118,	4B AT 50% 70-1 *	TRANSDUCER BRAND: AEROTECH	TRANSDUCER SERIAL No: 013 733	BASIC CALIBRATION BLOCK: 00-1
EXAMINER: W.A. JENSEN	SNT LEVEL: II	EXAMINER: R. MILLER	EXAMINER: R. MILLER	SNT LEVEL: I

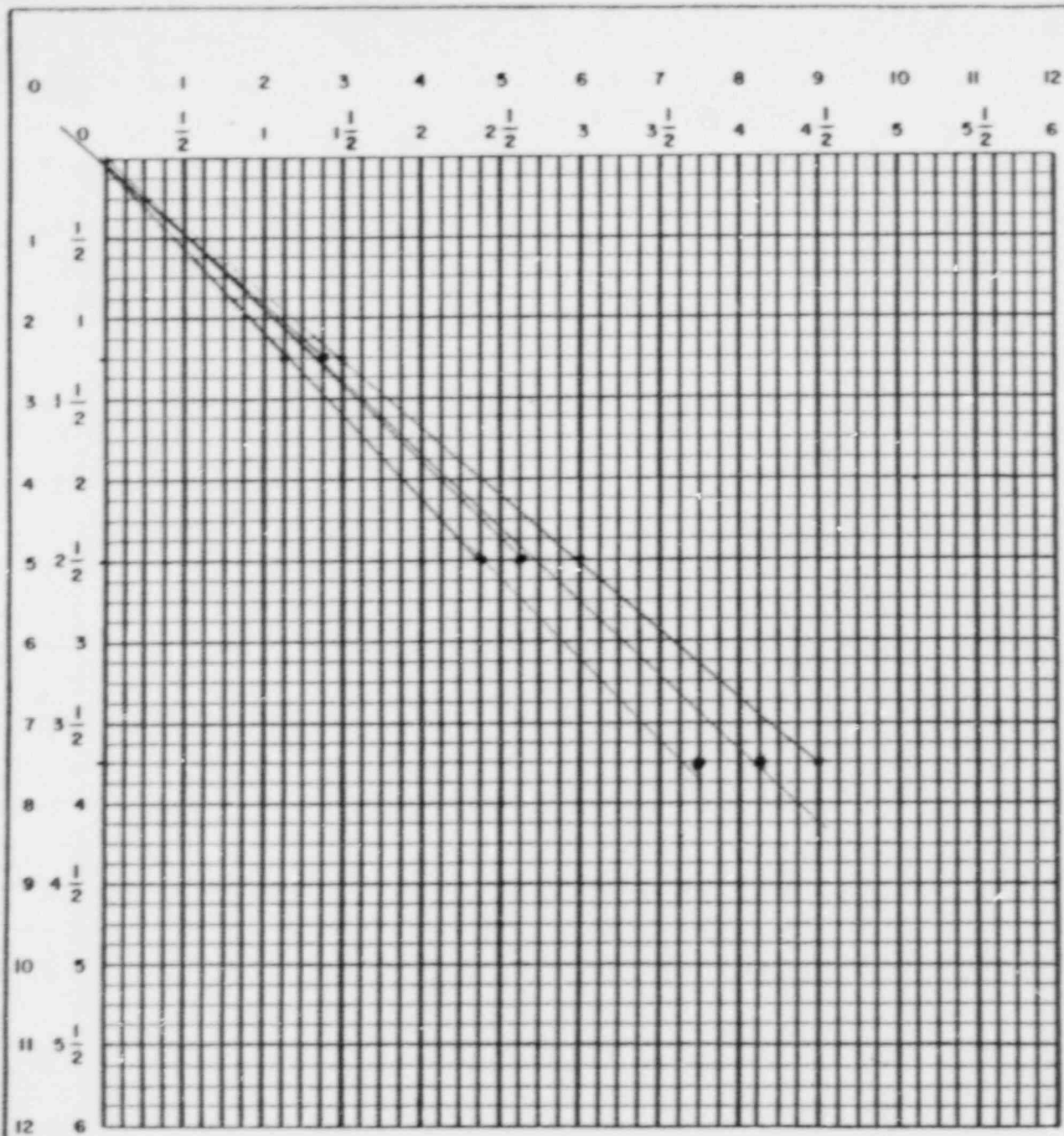
MEASUREMENTS TAKEN FROM INCIDENT POINT TO SCRIBE LINE	W ₁ 20% DAC		W ₂ 50% DAC		W ₂ 20% DAC	
	W	MP	W	MP	W	MP
1/8 VEE - PATH	N		1 1/8	1.7	1 1/2	
2/8 VEE - PATH	N		2 3/8	3.6	3	N
3/8 VEE - PATH	N		3 3/4	5.5	4 1/2	
5/8 VEE - PATH	N		N			
6/8 VEE - PATH	N					
7/8 VEE - PATH	N					

MEASURED ANGLE OF BEAM SPREAD: <u>6°</u>	ACTUAL REFRACTED ANGLE: <u>47.3</u>
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REMARKS: x + G. Ab. SWITCH

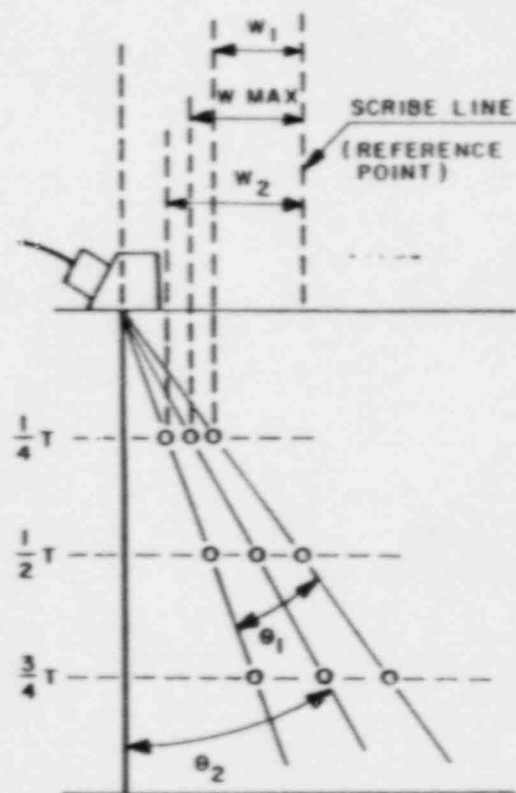
REVIEWED BY: Russell Levine SNT LEVEL: II DATE: 27 APR 88

See Attached Page 1 of 2



USE 1" - 6" (FULL) SCALE FOR METAL DEPTH < 3"

USE 1" - 12" ($\frac{1}{2}$) SCALE FOR METAL DEPTH ≥ 6 "



BEAM SPREAD DIAGRAM

θ_2 = BEAM ANGLE

θ_1 = BEAM SPREAD

9WRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 15 APR 88	TIME COMPLETED (24 HR CLOCK) 1500	SHEET NO. 370009
INSTRUMENT USED: BRANSON 301 <input type="checkbox"/> 60J <input type="checkbox"/> SONIC MK I <input checked="" type="checkbox"/> MK II <input type="checkbox"/> MK III <input type="checkbox"/>		SERIAL NO. 04329E	BASIC CALIBRATION BLOCK NO. Thickness = 9 in CC-8	
EXAMINER: L SPIESS	SNT LEVEL: II	REMARKS: Hi Sensitivity 124 - Low Sensitivity 76 80 Initial 80		
EXAMINER: D WAGAR	SNT LEVEL: I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN
FIRST SIGNAL IN %	SECOND SIGNAL IN % *	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN % *				
100	50	100		N A	80	-6dB	32 TO 48	43 40
90	46	N A	-2dB		80	-12dB	16 TO 24	19 20
80	40		-2dB		40	+8dB	64 TO 96	82 80
70	35		-2dB		20	+12dB	64 TO 96	80 81
60	30		-2dB					
50	25		-2dB					
40	20		-2dB					
30	15		-2dB					
20	10		-2dB IF REQUIRED					

REVIEWED BY: <i>Russell White</i>	SNT LEVEL: 44	DATE 19 APR 88
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9WRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE: (DAY-MON-YR) 18 APR 88	TIME COMPLETED (24 HR CLOCK) 1250	SHEET NO. 070020
INSTRUMENT USED: 301 <input type="checkbox"/> BRANSON 600 <input type="checkbox"/>		MK I <input checked="" type="checkbox"/> MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>		SERIAL NO. 04329E
EXAMINER: L SPIESS		SNT LEVEL: II		BASIC CALIBRATION BLOCK NO. CC-8
EXAMINER: M KLEINJAN		SNT LEVEL: II		REMARKS: Hi SENSITIVITY 124 Low SENSITIVITY 76 PD REF LINEARITY 370009 FINAL PD

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN % *	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN % *					
100	50	100	X	N A	80	-6dB	32 TO 48	42	39
90	45	N A	-2dB						
80	40		-2dB		80	-12dB	16 TO 24	20	21
70	35		-2dB						
60	31		-2dB		40	+6dB	64 TO 96	83	81
50	26		-2dB						
40	20		-2dB		20	+12dB	64 TO 96	81	81
30	15		-2dB						
20	10		-2dB IF REQUIRED						

REVIEWED BY: <i>Russell H Line</i>	SNT LEVEL: II	DATE 19 APR 88
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* READING MUST BE 50 % OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

370009

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 21 APR 88	TIME COMPLETED (24 HR CLOCK) 1325	SHEET NO. 070011
INSTRUMENT USED: 301 <input type="checkbox"/>	MK I <input checked="" type="checkbox"/>	SERIAL NO. 07011E	BASIC CALIBRATION BLOCK NO. 05-DC-37 / 35 IIW-24 cal	
BRAND: 600 <input type="checkbox"/>	SONIC MK III <input type="checkbox"/>			

EXAMINER: WA. JENSEN	SNT LEVEL: II	REMARKS: HIGH GAIN 103dB Low GAIN 63dB cal
EXAMINER: R. MILLER	SNT LEVEL: I	

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN
FIRST SIGNAL IN %	SECOND SIGNAL IN % *	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN % *				
100	49	100	 	 	80	-6dB	32 TO 48	40/40
90	45	N	-2dB	 	80	-12dB	16 TO 24	20/21
80	40		-2dB	 	40	+6dB	64 TO 96	85/81 80 cal
70	34		-2dB	 	20	+12dB	64 TO 96	80/82
60	30		-2dB	 	A			
50	25		-2dB	 	 			
40	20		-2dB	 	 			
30	15		-2dB	 	 			
20	10		-2dB IF REQUIRED	 	 			

REVIEWED BY: Russell Tim	SNT LEVEL: II	DATE 27 APR 88
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* READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 19 APR 88	TIME COMPLETED (24 HR CLOCK) 0730	SHEET NO. 070015	
INSTRUMENT USED: SONIC <input type="checkbox"/> MK I <input checked="" type="checkbox"/> BRANSON 301 <input type="checkbox"/> MK II <input type="checkbox"/> 600 <input type="checkbox"/> SONIC MK III <input type="checkbox"/>		SERIAL NO. 04329E	BASIC CALIBRATION BLOCK NO. CCS4		
EXAMINER: L SPIESS	SNT LEVEL: II	REMARKS: FOR FINAL LINEARITY REF CAL SHEET DUE TO CRT FAILURE 20			
EXAMINER: D WAGAR	SNT LEVEL: I	SENS.: HIGH 121 LOW 56 20			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN
FIRST SIGNAL IN %	SECOND SIGNAL IN % *	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN % *				
100	50	100	X					40
90	46		-2dB		80	-6dB	32 TO 48	40
80	40		-2dB					20
70	35		-2dB		80	-12dB	16 TO 24	20
60	30		-2dB					
50	25		-2dB		40	+6dB	64 TO 96	82
40	20		-2dB					80
30	15		-2dB					80
20	10		-2dB IF REQUIRED		20	+12dB	64 TO 96	81

REVIEWED BY: <i>William A. Lewis</i>	SNT LEVEL: II	DATE 19 APR 88
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* READING MUST BE 50 % OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO. 17-2116	SITE: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1	DATE (DAY-MON-YR) 2 MAY 88	TIME COMPLETED (24 HR CLOCK) 1235	SHEET NO. 00003	
INSTRUMENT USED: 301 <input type="checkbox"/> BRANSON 600 <input type="checkbox"/>		MK I <input checked="" type="checkbox"/> MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO. DT011E	BASIC CALIBRATION BLOCK NO. CS-DC-37 CCIS	
EXAMINER: L SPIESS	SNT LEVEL: II	REMARKS: HIGH 103 LOW 63 20			
EXAMINER: n/a	SNT LEVEL: n/a	FINAL LINEARITY 30			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN
FIRST SIGNAL IN %	SECOND SIGNAL IN % *	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN % *				
100	50	100	X	N A	80	-6dB	32 TO 48	40
90	45	N A	-2dB					40
80	40		-2dB					
70	35		-2dB		80	-12dB	16 TO 24	20
60	30		-2dB					20
50	25		-2dB		40	+6dB	64 TO 96	80
40	21		-2dB					80
30	16		-2dB					80
20	10		-2dB IF REQUIRED		20	+12dB	64 TO 96	80

REVIEWED BY: <i>E. H. [Signature]</i>	SNT LEVEL: II	DATE: 2 MAY 88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 9 APR 88 FINAL NA	TIME (24 HR. CLOCK) INT. 0825 FINAL NA	SHEET NO.: 371001
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 07011E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: 53 99	
EXAMINER: R.H. Fine	SNT LEVEL: II	REMARKS:		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY				AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL		INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE				SECOND SIGNAL IN %	HI GAIN SETTING
100	50	100	100					
90	45		-2 dB	80	-6 dB	32 to 48	40	40
80	40		-2 dB					
70	35		-2 dB	80	-12 dB	16 to 24	20	21
60	30		-2 dB					
50	25		-2 dB	40	+6 dB	64 to 96	85	81
40	20		-2 dB					
30	15		-2 dB					
20	10		-2 dB IF REQUIRED	20	+12 dB	64 to 96	80	90

REVIEWED BY: <i>Russell Fine</i>	SNT LEVEL: II	DATE: 13 APR 88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 12 APRIL 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1235 FINAL N/A	SHEET NO.: 371003
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/>		SERIAL NO.: 04332E		BASIC CALIBRATION BLOCK NO.
OTHER: _____ SONIC MK II <input type="checkbox"/>				REFERENCE BLK NO.: 55-DC-42/IIW-27
SONIC MK III <input type="checkbox"/>				
EXAMINER R. RIDGES	SNT LEVEL II	REMARKS: DAMPING CONTROL IN MID POSITION OK		
EXAMINER T. BOHNENKAMPER	SNT LEVEL I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A	80	-6 dB	32 to 48	41	40
90	46	N/A	-2 dB		80	-12 dB	16 to 24	20	21
80	40		-2 dB		40	+6 dB	64 to 96	83	84
70	35		-2 dB		20	+12 dB	64 to 96	78	75
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						
REVIEWED BY: <i>Georg Duran</i>					SNT LEVEL: II		DATE: 12 APR 88		

Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE *5% FULL SCREEN HEIGHT

371003

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 12 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1227 FINAL N/A	SHEET NO.: 371001
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INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/>	SONIC MK II <input type="checkbox"/>	SONIC MK III <input type="checkbox"/>	SERIAL NO.: 07011E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CS-06-37 / 18-IW-24
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EXAMINER: W.A. JENSEN	SNT LEVEL: II	REMARKS: Intermediate Linearity 25
EXAMINER: Ron Miller	SNT LEVEL: I	

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INITICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	49	100	 	N A					
90	45	N	-2 dB	A	80	-6 dB	32 to 48	40	39
80	40		-2 dB						
70	34		-2 dB		80	-12 dB	16 to 24	20	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓	20	+12 dB	64 to 96	80	85

REVIEWED BY: Russell H. [Signature]	SNT LEVEL: II	DATE: 13 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.:	17-2116	SITE:	CALVERT CLIFFS UNIT I	DATE: (DAY-MONTH-YEAR)	TIME (24 HR. CLOCK)	SHEET NO.:	371096
INSTRUMENT USED:		SONIC MK I <input checked="" type="checkbox"/>		INT. 1345		FINAL N/A	
OTHER:		SONIC MK II <input type="checkbox"/>		BASIC CALIBRATION BLOCK NO.			
		SONIC MK III <input type="checkbox"/>		REFERENCE BLK NO.:		CS-20-37/HW-55-24	

EXAMINER	REMARKS:
W.A. JENSEN	04328E
EXAMINER	
RON MILLER	

AMPLITUDE LINEARITY				AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE DB CONTROL		INSTRUMENT WITHOUT FINE DB CONTROL		INDICATION SET AT % OF FULL SCREEN	DB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	SECOND SIGNAL IN %	HI GAIN SETTINGS	LOW GAIN SETTINGS	HI GAIN SETTINGS	LOW GAIN SETTINGS	LOW GAIN SETTINGS
100	50	100	50	80	-6 db	32 to 48	112 db	53 db
90	43	N	N	80	-12 db	16 to 24	40	40
80	40			40	+5 db	64 to 96	20	20
70	35			20	+12 db	64 to 96	80	80
60	30						90	90
50	26							
40	20							
30	14							
20	10	A	A					

REVIEWED BY:	DATE:
Russell J. ...	13 APR 88

Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE *5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT I	DATE: (DAY-MONTH-YEAR) INT. 11. 899. 35 / FINAL 11. 899. 35	TIME (24 HR. CLOCK) INT. 11. 55 / FINAL 11. 55	SHEET NO.: 371003
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>		SERIAL NO.: 774123		
OTHER: _____		REFERENCE BLK NO.: CS DC-3T / Sub-B-1101 55-24		

EXAMINER: L. SP. E. S. S.	REMARKS:
EXAMINER: D. WAGNER	

AMPLITUDE LINEARITY				AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE DB CONTROL		INSTRUMENT WITHOUT FINE DB CONTROL		INDICATION SET AT % OF FULL SCREEN	DB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTINGS
100	50	100	A	80	-6 db	32 to 48	42	42
90	46	N	A	80	-12 db	16 to 24	20	19
80	40			40	+6 db	64 to 96	80	78
70	35			20	+12 db	64 to 96	82	90
60	30							
50	25							
40	20							
30	15							
20	9							

REVIEWED BY: Russell + Fin	DATE: 13 APR 88
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Form No. SWRI 17-37 (REV. 03-24-68)
 READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT OFFS UNIT 1	DATE: (DAY-MON-TH-YEAR) INT. 12 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1235 FINAL 01A	SHEET NO.: 371009
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: D1122E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CS DC-37 / S-011101-55-24	
EXAMINER L SPRESS	SNT LEVEL II	REMARKS:		
EXAMINER D WAGAR	SNT LEVEL I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A	80	-6 dB	32 to 48	42	42
90	46	N A	-2 dB		80	-12 dB	16 to 24	18	21
80	40		-2 dB		40	+6 dB	64 to 96	81	79
70	35		-2 dB		20	+12 dB	64 to 96	180	80
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						

REVIEWED BY: <i>Russell Line</i>	SNT LEVEL: II	DATE: 13 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)

READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371009

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS DATE: (DAY-MONTH-YEAR) TIME (24 HR. CLOCK) 1300^{SP} SHEET NO.: 37101
 UNIT: 1 INT. 12 APR 88 FINAL N/A INT. 1300 FINAL N/A

INSTRUMENT USED: SONIC MK I SERIAL NO.: 760526 BASIC CALIBRATION BLOCK NO. CS-DC-41
 OTHER: _____ SONIC MK II REFERENCE BLK NO.: SWRI IIW-27
 SONIC MK III

EXAMINER: RA KLIENJAN SNT LEVEL: II REMARKS:
 EXAMINER: L. DURAN SNT LEVEL: II

AMPLITUDE LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE
100	50	100	N A
90	45	N A	-2 dB
80	40		-2 dB
70	35		-2 dB
60	30		-2 dB
50	25		-2 dB
40	20		-2 dB
30	15		-2 dB
20	10	✓	-2 dB IF REQUIRED

AMPLITUDE CONTROL LINEARITY				
INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
			HI GAIN SETTING	LOW GAIN SETTING
80	-5 dB	32 to 48	48 dB	-10 dB
80	-12 dB	16 to 24	19	17
40	+6 dB	64 to 96	81	85
20	+12 dB	64 to 96	81	71

REVIEWED BY: R. D. Parrella SNT LEVEL: II DATE: 12 APR 88

Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 12 APR 88 FINAL N/A	TIME (24 HR. CLOCK) 132430 INT. 1304 FINAL N/A	SHEET NO.: 371011
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 04325 E	BASIC CALIBRATION BLOCK NO. CS-DC-41 REFERENCE BLK NO.: SWRI IIW-27	
EXAMINER M. KLIENJAN	SNT LEVEL II	REMARKS:		
EXAMINER L. DURAN	SNT LEVEL II	REMARKS:		

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A					
90	45	N A	-2 dB		80	-6 dB	32 to 48	38	40
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	16	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	84	80
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	75	80

REVIEWED BY: <u>R. LaRocca</u>	SNT LEVEL: <u>II</u>	DATE: 12 APR 88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 22 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 0727 FINAL N/A	SHEET NO.: 371012
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INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 06907E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: 25-DC-37
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EXAMINER W.A. JENSEN	SNT LEVEL II	REMARKS:
EXAMINER P. MILLER	SNT LEVEL I	

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A				105 dB	44 dB
90	45	N/A	-2 dB		80	-6 dB	32 to 48	41	40
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	20	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	80	81
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓	20	+12 dB	64 to 96	80	80

REVIEWED BY: <i>Russell</i>	SNT LEVEL: <i>I</i>	DATE: 22 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 12 APRIL 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1249 FINAL N/A	SHEET NO.: 371013
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 774714	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO. 55-DC-42 / IIW-27	
EXAMINER R. RIDDLES	SNT LEVEL II	REMARKS: DAMP CONTROL IN MIN POSITION R/R		
EXAMINER T. BONNENKÄMPER	SNT LEVEL I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A	80	-6 dB	32 to 48	39	39
90	45	N/A	-2 dB		80	-12 dB	16 to 24	20	20
80	40		-2 dB		40	+6 dB	64 to 96	82	80
70	35		-2 dB		20	+12 dB	64 to 96	80	75
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						

REVIEWED BY: <i>George D. Man</i>	SNT LEVEL: II	DATE: 12 APR 88
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Form No. SwRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371013

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 13 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 0905 FINAL N/A	SHEET NO.: 371014	
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> OTHER: _____ SONIC MK III <input type="checkbox"/>		SERIAL NO.: 774224	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: SWRI-11W-27/CS-DC-37		
EXAMINER L SPIESS	SNT LEVEL II	REMARKS:			
EXAMINER D. Wagar	SNT LEVEL I	REMARKS:			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A	80	-6 dB	32 to 48	39	40
90	45	N/A	-2 dB		80	-12 dB	16 to 24	21	19
80	40		-2 dB		40	+6 dB	64 to 96	83	80
70	35		-2 dB		20	+12 dB	64 to 96	80	85
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10	↓	-2 dB IF REQUIRED	↓					

REVIEWED BY: Russell H. Line	SNT LEVEL: II	DATE: 13 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371114

SwRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 15 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1325 FINAL N/A	SHEET NO.: 371022
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INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 00609E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CS-DC-41
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EXAMINER W.A. JENSEN	SNT LEVEL II	REMARKS:
EXAMINER R. MILLER	SNT LEVEL I	

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A				106 dB	52 dB
90	45	N/A	-2 dB		80	-6 dB	32 to 48	81 ^{wal} 40	81 ^{wal} 40
80	40		-2 dB						
70	36		-2 dB		80	-12 dB	16 to 24	20	19
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	81	81
40	20		-2 dB						
30	15		-2 dB						
20	11		-2 dB IF REQUIRED		20	+12 dB	64 to 96	80	81

REVIEWED BY: Russell H. Fine	SNT LEVEL: II	DATE: 16 APR 88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 19 April 88	TIME (24 HR. CLOCK) INT. 0715	SHEET NO.: 371023
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>		SERIAL NO.: 04329E		
OTHER: _____		BASIC CALIBRATION BLOCK NO. CC54		
EXAMINER: L. Spiess		REFERENCE BLK NO.: CS-DC-41		
EXAMINER: D. Wagar		REMARKS: Initial File Final Linearities Ref Cal sheet See to CRT VALUEL 88		

AMPLITUDE LINEARITY				AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE DB CONTROL		INSTRUMENT WITHOUT FINE DB CONTROL		INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	N/A	80	-6 dB	32 to 48	40	40
90	46	N/A		80	-12 dB	16 to 24	20	20
80	40			40	+6 dB	64 to 96	82	80
70	35			20	+12 dB	64 to 96	80	81
60	30							
50	25							
40	20							
30	15							
20	10							

REVIEWED BY: <i>William C. Laven</i>	DATE: 19 APR 88
SMT LEVEL: II	
SMT LEVEL: I	

Form No. SWRI 17-37 (REV. 03-24-88)
 READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371023

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 28 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1459 FINAL N/A	SHEET NO.: 371023
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 71224	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC14 & CC27	
EXAMINER R.A. RIDDLES	SNT LEVEL II	REMARKS: DAMPING SWITCH IN MIN RR		
EXAMINER L. DURAN M.W. KLEINJAN	SNT LEVEL II II			

AMPLITUDE LINEARITY

AMPLITUDE CONTROL LINEARITY

INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A	80	-6 dB	32 to 48	42	42
90	45	N/A	-2 dB		80	-12 dB	16 to 24	21	22
80	40		-2 dB		40	+6 dB	64 to 96	74	78
70	34		-2 dB		20	+12 dB	64 to 96	74	82
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓					

REVIEWED BY: <i>Russell Line</i>	SNT LEVEL: II	DATE: 30 APR 88
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Form No. SwRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371028

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. NIA FINAL 29 APR 88	TIME (24 HR. CLOCK) INT. NIA FINAL 1202	SHEET NO.: 371034
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 00609E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-15	
EXAMINER W.A. JENSEN	SNT LEVEL II	REMARKS: DAMPING - MAIN POSITION work		
EXAMINER R MILLER	SNT LEVEL 7			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	NIA	80	-6 dB	32 to 48	40	39
90	45	NIA	-2 dB		80	-12 dB	16 to 24	19	18
80	40		-2 dB		40	+6 dB	64 to 96	80	81
70	35		-2 dB		20	+12 dB	64 to 96	81	83
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓					

REVIEWED BY: <i>Rumelt</i>	SNT LEVEL: II	DATE: 20 APR 88
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Form No. SwRI 17-37 (REV. 03-24-88)

READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371034

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 29 APR 88 FINAL N/A	TIME (24 HR. CLOCK) INT. N/A FINAL 1210	SHEET NO.: 371035
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/>		SERIAL NO.: 64328E	BASIC CALIBRATION BLOCK NO.	
OTHER: _____ SONIC MK II <input type="checkbox"/>			REFERENCE BLK NO.: CC-15	
SONIC MK III <input type="checkbox"/>		REMARKS: DAMPING - MIN POSITION w/p		
EXAMINER: W.A. JENSEN	SNT LEVEL: II			
EXAMINER: R. MILLER	SNT LEVEL: I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A					
90	43	N/A	-2 dB		80	-6 dB	32 to 48	40	41
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	20	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	80	79
40	21		-2 dB						
30	15		-2 dB						
20	11		-2 dB IF REQUIRED		20	+12 dB	64 to 96	90	89

REVIEWED BY: <i>Russell Luce</i>	SNT LEVEL: II	DATE: 20 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 29 APR 88	TIME (24 HR. CLOCK) INT. N/A FINAL 1216	SHEET NO.: 371036
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 06907E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-15	
EXAMINER W. A. JENSEN	SNT LEVEL II	REMARKS: DAMPING - MIN. POSITION <i>way</i>		
EXAMINER R. MILLER	SNT LEVEL I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A					
90	46	N/A	-2 dB		80	-6 dB	32 to 48	40	40
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	20	20
60	30		-2 dB						
50	24		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓	20	+12 dB	64 to 96	81	80
REVIEWED BY: <i>Ronald Lee</i>					SNT LEVEL: II		DATE: 19 APR 88		

Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 29APR88	TIME (24 HR. CLOCK) INT. N/A FINAL 1228	SHEET NO.: 371037
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> OTHER: _____ SONIC MK III <input type="checkbox"/>		SERIAL NO.: 760526		BASIC CALIBRATION BLOCK NO.
		REFERENCE BLK NO.: CC-15		
EXAMINER: W.A. JENSEN	SNT LEVEL: II	REMARKS: DAMPING: MIN POSITION w/ol		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	51	100	X	N/A					
90	45	N/A	-2 dB		80	-6 dB	32 to 48	39	38
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	19	18
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	80	82
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	81	75

REVIEWED BY: Russell Fine	SNT LEVEL: II	DATE: 29 APR 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371037

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 29 APR 58 FINAL 29 APR 58	TIME (24 HR. CLOCK) INT. N/A FINAL 1240	SHEET NO.: 371033
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 64325E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-15	
EXAMINER W. A. JENSEN	SNT LEVEL H	REMARKS: DAMPING: MIN POSITION		
EXAMINER R. MILLER	SNT LEVEL I			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A					
90	45	N/A	-2 dB		80	-6 dB	32 to 48	39	40
80	40		-2 dB						
70	36		-2 dB		80	-12 dB	16 to 24	18	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	82	81
40	20		-2 dB						
30	15		-2 dB						
20	10	✓	-2 dB IF REQUIRED	✓	20	+12 dB	64 to 96	79	78

REVIEWED BY: <i>Russell Price</i>	SNT LEVEL: H	DATE: 29 APR 58
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 7-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 29 APR 88	TIME (24 HR. CLOCK) INT. N/A FINAL 0900	SHEET NO.: 371039
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> OTHER: _____ SONIC MK III <input type="checkbox"/>		SERIAL NO.: 07011E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-16	
EXAMINER: W.A. Jensen	SNT LEVEL: II	REMARKS: DAMPING - MIN POSITION ✓		
EXAMINER: R. Miller	SNT LEVEL:			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	49	100	X	N/A					
90	45	N/A	-2 dB		80	-6 dB	32 to 48	40	39
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	21	20
60	30		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	81	83

REVIEWED BY: <i>Russell Hill</i>	SNT LEVEL: II	DATE: 29 APR 88
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Form No. SwRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 29 APR 88	TIME (24 HR. CLOCK) INT. N/A FINAL 1554	SHEET NO.: 371010
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 774716	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-15	
EXAMINER: W.A. JENSEN	SNT LEVEL: II	REMARKS: DAMPING: MIN POSITION waf		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N/A					
90	45	N/A	-2 dB		80	-6 dB	32 to 48	39	41
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	20	20
60	29		-2 dB						
50	25		-2 dB		40	+6 dB	64 to 96	81	82
40	20		-2 dB						
30	14		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	79	78

REVIEWED BY: Russell H. Finn	SNT LEVEL: II	DATE: 30 APR 88
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Form No. SwRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371010

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 30 APR 88	TIME (24 HR. CLOCK) INT. 0715	SHEET NO.: 371011	FINAL N/A
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>		SERIAL NO.: 07011E			
OTHER: _____		BASIC CALIBRATION BLOCK NO. _____			
EXAMINER: W.A. JENSEN		REFERENCE BLK NO.: 00-15			
EXAMINER: R. MILLER		REMARKS: <i>Amplitude: mzo. position w/d</i> <i>Intermediate Linearity w/d</i>			

AMPLITUDE LINEARITY

INSTRUMENT WITH FINE dB CONTROL	INSTRUMENT WITHOUT FINE dB CONTROL		DECIBEL CHANGE	FIRST SIGNAL IN %	SECOND SIGNAL IN %
	FIRST SIGNAL IN %	SECOND SIGNAL IN %			
100	50	100	N/A	100	N/A
90	44	-2 dB	N/A		
80	40	-2 dB			
70	35	-2 dB			
60	30	-2 dB			
50	25	-2 dB			
40	20	-2 dB			
30	14	-2 dB			
20	10	-2 dB	IF REQUIRED		

AMPLITUDE CONTROL LINEARITY

INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
			HI GAIN SETTING	LOW GAIN SETTING
80	-6 dB	32 to 48	41	40
80	-12 dB	16 to 24	20	19
40	+5 dB	64 to 96	80	80
20	+12 dB	64 to 96	81	80

REVIEWED BY: *C.A. Black* SMT LEVEL: *II* DATE: *EMR 88*

Form No. SWRI 17-37 (REV. 03-24-88)
 READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371041

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116 SITE: CALVERT CLIFFS UNIT 1 DATE: (DAY-MONTH-YEAR) INT. 30 APR 88 FINAL 44 TIME (24 HR. CLOCK) INT. 1410 FINAL 1410 SHEET NO.: 371012

INSTRUMENT USED: SONIC MK I SERIAL NO.: 04328E BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-27
 SONIC MK II
 SONIC MK III
 OTHER: _____

EXAMINER: W.A. JENSEN SNT LEVEL: II REMARKS:

EXAMINER: R. MILLER SNT LEVEL: I

AMPLITUDE LINEARITY			
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	SECOND SIGNAL IN %
100	50	100	
90	44	N/A	N/A
80	40		
70	35		
60	30		
50	24		
40	20		
30	15		
20	10		

AMPLITUDE CONTROL LINEARITY				
INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
			HI GAIN SETTING	LOW GAIN SETTING
80	-6 dB	32 to 48	40	42
80	-12 dB	16 to 24	20	20
40	+6 dB	64 to 96	81	80
20	+12 dB	64 to 96	91	89

REVIEWED BY: Russell Linn SNT LEVEL: II DATE: 30 APR 88

Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 1328 20 FINAL N/A	TIME (24 HR. CLOCK) INT. 1328 FINAL N/A	SHEET NO.: 371013
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 3 MAY 88 01122E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-2 SWRI 11W-SS-24	
EXAMINER: L. SPIESS	SNT LEVEL: II	REMARKS:		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A					
90	45	N A	-2 dB		80	-6 dB	32 to 48	40	41
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	19	20
60	30		-2 dB						
50	26		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	80	81

REVIEWED BY: E. A. [Signature]	SNT LEVEL: II	DATE: 3 MAY 88
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Form No. SwRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371043

SwRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 3 MAY 88 FINAL N/A	TIME (24 HR. CLOCK) INT. 1340 FINAL N/A	SHEET NO.: 371011
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/>		SERIAL NO.: D6907E		BASIC CALIBRATION BLOCK NO.
OTHER: _____ SONIC MK II <input type="checkbox"/>				REFERENCE BLK NO.: CC-2 / SwRI 11W-24
OTHER: _____ SONIC MK III <input type="checkbox"/>				
EXAMINER: L SPRESS	SNT LEVEL: <u> 1 </u>	REMARKS:		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	 X 	N A	80	-6 dB	32 to 48	40	40
90	46	N A	-2 dB		80	-12 dB	16 to 24	20	21
80	40		-2 dB		40	+6 dB	64 to 96	80	81
70	35		-2 dB		20	+12 dB	64 to 96	81	79
60	30		-2 dB						
50	25		-2 dB						
40	21		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						

REVIEWED BY: <i>P. A. ...</i>	SNT LEVEL: <u> II </u>	DATE: 3 MAY 88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT :	DATE: (DAY-MONTH-YEAR) 3 May 88 INT. N/A FINAL +54D 80	TIME (24 HR. CLOCK) INT. N/A FINAL 1540	SHEET NO.: 371015
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 06907E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-2 / SWRI 11W-24	
EXAMINER: L Spess	SNT LEVEL: II	REMARKS:		
EXAMINER: n/a	SNT LEVEL: n/a			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A					
90	45	N A	-2 dB		80	-6 dB	32 to 48	40	41
80	40		-2 dB						
70	36		-2 dB		80	-12 dB	16 to 24	20	21
60	30		-2 dB						
50	26		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	80	79

REVIEWED BY: P. A. [Signature]	SNT LEVEL: II	DATE: 3 MAY 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371045

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 3/11/88	TIME (24 HR. CLOCK) INT. N/A FINAL 1535	SHEET NO.: 371016
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: D1122E	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CC-2 SwRI 11W-24	
EXAMINER L Spess	SNT LEVEL II	REMARKS:		
EXAMINER N/A	SNT LEVEL N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A					
90	45	N A	-2 dB		80	-6 dB	32 to 48	40	41
80	40		-2 dB						
70	35		-2 dB		80	-12 dB	16 to 24	20	20
60	30		-2 dB						
50	26		-2 dB		40	+6 dB	64 to 96	80	80
40	20		-2 dB						
30	15		-2 dB						
20	11		-2 dB IF REQUIRED		20	+12 dB	64 to 96	80	81

REVIEWED BY: P. A. ...	SNT LEVEL: II	DATE: 3/11/88
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SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 2 MAY 88	TIME (24 HR. CLOCK) INT. N/A FINAL 1040	SHEET NO.: 371050
INSTRUMENT USED: OTHER: _____		SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: D1122E	BASIC CALIBRATION BLCK NO. REFERENCE BLK NO.: CS DC-37 SWRI HW-24
EXAMINER: L Spiess	SN LEVEL: 11	REMARKS:		
EXAMINER: N/A	SNT LEVEL: N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INDICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A	80	-6 dB	32 to 48	42	41
90	45	N A	-2 dB		80	-6 dB	32 to 48	42	41
80	40		-2 dB		80	-6 dB	32 to 48	42	41
70	35		-2 dB		60	-12 dB	16 to 24	18	20
60	30		-2 dB		60	-12 dB	16 to 24	18	20
50	25		-2 dB		40	+6 dB	64 to 96	80	79
40	20		-2 dB		40	+6 dB	64 to 96	80	79
30	15		-2 dB		20	+12 dB	64 to 96	80	80
20	10		-2 dB IF REQUIRED		20	+12 dB	64 to 96	80	80

REVIEWED BY: <i>P. A. ...</i>	SNT LEVEL: <i>11</i>	DATE: <i>2 MAY 88</i>
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Form No. SWRI 17-37 (REV. 03-24-88)
 *READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. 31A FINAL 2 MAY 88	TIME (24 HR. CLOCK) INT. 31A FINAL 1145	SHEET NO.: 371051
INSTRUMENT USED: OTHER: _____	SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/>	SERIAL NO.: 774224	BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: SWRI 11W-27 CCIS	
EXAMINER L SPIESS	SNT LEVEL II	REMARKS:		
EXAMINER N/A	SNT LEVEL N/A			

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A	80	-6 dB	32 to 48	40	40
90	45	N A	-2 dB		80	-12 dB	16 to 24	20	19
80	40		-2 dB		40	+6 dB	64 to 96	82	80
70	35		-2 dB		20	+12 dB	64 to 96	80	83
60	30		-2 dB						
50	26		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						

REVIEWED BY: <i>E. H. [Signature]</i>	SNT LEVEL: II	DATE: 2 MAY 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371051

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 2 MAR 88	TIME (24 HR. CLOCK) INT. N/A FINAL 1200	SHEET NO.: 371052
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/> SONIC MK II <input type="checkbox"/> SONIC MK III <input type="checkbox"/> OTHER: _____		SERIAL NO.: 04328E		BASIC CALIBRATION BLOCK NO. REFERENCE BLK NO.: CS AC-37 CC15
EXAMINER L SPRESS	SNT LEVEL II	REMARKS:		
EXAMINER N/A	SNT LEVEL N/A	REMARKS:		

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A	80	-6 dB	32 to 48	40	41
90	45	N A	-2 dB		80	-12 dB	16 to 24	19	20
80	40		-2 dB		40	+6 dB	64 to 96	80	80
70	35		-2 dB		20	+12 dB	64 to 96	85	81
60	30		-2 dB						
50	25		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10		-2 dB IF REQUIRED						

REVIEWED BY: <i>E.A. [Signature]</i>	SNT LEVEL: II	DATE: 2 MAY 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371052

SWRI INSTRUMENT LINEARITY VERIFICATION

PROJECT NO.: 17-2116	SITE: CALVERT CLIFFS UNIT 1	DATE: (DAY-MONTH-YEAR) INT. N/A FINAL 2 MAY 88	TIME (24 HR. CLOCK) INT. N/A FINAL 1440	SHEET NO.: 371053
INSTRUMENT USED: SONIC MK I <input checked="" type="checkbox"/>		SERIAL NO.: 04332E	BASIC CALIBRATION BLOCK NO. CC-15	
OTHER: _____ SONIC MK II <input type="checkbox"/>			REFERENCE BLK NO.: SS-DC-42 11W-27	
EXAMINER L SPRESS		SNT LEVEL II		REMARKS:
EXAMINER N/A		SNT LEVEL N/A		

AMPLITUDE LINEARITY					AMPLITUDE CONTROL LINEARITY				
INSTRUMENT WITH FINE dB CONTROL		INSTRUMENT WITHOUT FINE dB CONTROL			INDICATION SET AT % OF FULL SCREEN	dB CONTROL CHANGE	INICATION LIMITS % OF FULL SCREEN	ACTUAL % OF FULL SCREEN	
FIRST SIGNAL IN %	SECOND SIGNAL IN %	FIRST SIGNAL IN %	DECIBEL CHANGE	SECOND SIGNAL IN %				HI GAIN SETTING	LOW GAIN SETTING
100	50	100	X	N A	80	-6 dB	32 to 48	40	40
90	46	N A	-2 dB		80	-12 dB	16 to 24	20	20
80	40		-2 dB		40	+6 dB	64 to 96	81	80
70	35		-2 dB		20	+12 dB	64 to 96	79	80
60	20		-2 dB						
50	26		-2 dB						
40	20		-2 dB						
30	15		-2 dB						
20	10	V	-2 dB IF REQUIRED	V					

REVIEWED BY: P. H. Burt	SNT LEVEL: II	DATE: 3 MAY 88
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Form No. SWRI 17-37 (REV. 03-24-88)

*READING MUST BE 50% OF FIRST SIGNAL AMPLITUDE ±5% FULL SCREEN HEIGHT

371053

ENCLOSURE (3)

TO

BALTIMORE GAS AND ELECTRIC COMPANY'S

INSERVICE INSPECTION REPORT

FOR CALVERT CLIFFS UNIT 1

STEAM GENERATOR #11 AND #12
EDDY CURRENT TESTING FINAL REPORT
APRIL/JUNE 1988