

DAEC Plant Support Center Operated by Nuclear Management Company, LLC

March 29, 2002 NG-02-0268

Office of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Attn: Document Control Desk Mail Station 0-P1-17 Washington, DC 20555-0001

Subject:	Duane Arnold Energy Center
	Docket No: 50-331
	Op. License No: DPR-49
	Relief Requests NDE-R001 Revision 1, NDE-R028 Revision 2, NDE-R044 and NDE-R045
Reference:	1. Letter dated October 18, 1999, from NRC to E. Protsch (IES Utilities
	Inc.), Safety Evaluation of Third 10-Year Interval Inservice Inspection
	Program Plan Requests for Relief for Duane Arnold Energy Center
	2. Letter dated March 7, 2001, from NRC to G. Van Middlesworth (NMC),
	Safety Evaluation of Relief Request NDE-R028, Revision 1
File:	A-100, A-286

By letter dated October 18, 1999 (Reference 1) the NRC approved several Duane Arnold Energy Center (DAEC) Inservice Inspection (ISI) Program relief requests, including NDE-R001. NDE-R001 provided relief from performing examination of essentially 100% of the weld length for certain reactor vessel welds. Based upon examination coverage obtained during examinations performed in Spring of 2001 during Refueling Outage (RFO) 17, NDE-R001 requires revision. NDE-R001, Revision 1 is provided in Attachment 1. NDE-R001 was also revised to refer to Revision 12 of Regulatory Guide 1.147 rather than Revision 11.

Relief Request NDE-R028, Revision 1 was approved by letter dated March 7, 2001 (Reference 2) and allows relief from performing 100% examinations of nozzle-to-vessel welds. This relief has been revised to incorporate additional welds examined during RFO 17. As discussed in NDE-R028, Revision 2 (Attachment 1), the configurations of the nozzle-to-vessel welds do not allow 100% examination.

In addition, Nuclear Management Company, LLC (NMC), has identified the need for two new relief requests as a result of examinations performed during RFO 17. Relief Requests NDE-R044 and NDE-R045 (Attachment 1) involve welds located off of the Recirculation Pump Suction Piping and the Scram Discharge Piping, respectively. Configuration limits the examination coverage that can be obtained for both of these welds. Additional coverage would require radiography (which would require the draining of systems which would result in increased radiation exposure, while providing only a small potential of increasing plant safety margins).

Additional information concerning the four relief requests is provided in Attachment 2.

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Pursuant to the provisions of 10CFR50.55a, NMC requests approval of Relief Requests NDE-R001 Revision 1, NDE-R028 Revision 2, NDE-R044 and NDE-R045 prior to February 1, 2003 to support planning for the DAEC's Spring 2003 Refueling Outage.

Should you have any questions regarding this matter, please contact this office.

Sincerely.

Kenneth S. Putnam Manager, Licensing

Attachment 1: NDE-R001 Revision 1, NDE-R028 Revision 2, NDE-R044 and NDE-R045 Attachment 2: Supporting Information

cc: G. Park (w/a) C. Rushworth (w/a) G. VanMiddlesworth (w/o) B. Mozafari (NRC-NRR) (w/a) D. Hood (NRC-NRR) (w/a) J. Dyer (Region III) (w/a) NRC Resident Office (w/a) Docu (w/a)

RELIEF REQUEST NUMBER: NDE-R001 Rev. 1

COMPONENT IDENTIFICATION

Code Class:	1
References:	IWB-2500
	Table IWB-2500-1
Examination Category:	B-A
Item Number:	B1.11, B1.22, B1.30, B1.40
Description:	Circumferential Weld (Vessel)
	Meridional Weld (Bottom Head)
	Shell to Flange Weld
	Head to Flange Weld
Component Numbers:	VCB-B004, HMA-B002, VCB-C005, and HCC-C001

CODE REQUIREMENT

Section XI (1989 Edition), Table IWB-2500-1 Category B-A, Item B1.11, B1.22, B1.30, and B1.40 require a volumetric examination of applicable Class 1 pressure retaining welds, which includes essentially 100% of weld length once during the ten-year interval.

Code Case N-460 and 10CFR 50.55 permit a reduction in examination coverage of Class 1 reactor vessel welds provided the coverage reduction is less than 10%. The Duane Arnold Energy Center (DAEC) has adopted Code Case N-460 in the Inservice Inspection (ISI) Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 12.

Relief is requested from performing essentially 100% of the weld length for reactor vessel welds VCB-B004, HMA-B002, VCB-C005, and HCC-C001.

BASIS FOR RELIEF

The DAEC plant design was completed and a license to operate was requested in 1971. The reactor vessel was designed and installed to ASME Section III, 1965 Edition, 1967 Addenda. The parameters for accessibility for Inservice Inspection were not requirements at that time and therefore not <u>necessarily</u> factored into component and system configurations, thereby creating conditions where ASME Section XI Code required examination coverage of reactor vessel welds can not be obtained.

During refueling outage (RFO) 14, the DAEC performed the augmented weld examination of the reactor vessel using the General Electric GERIS 2000 ultrasonic examination system. The extent of examination coverage is outlined in the following table. The amount of coverage which will be obtainable when the third ten-year interval examinations are performed was based on the percentages obtained during RFO 14. Relief is therefore requested for the third ten-year interval for the four welds for which less than 90% coverage will be obtainable – VCB-B004, HMA-B002, VCB-C005, and HCC-C001.

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ASME Item No.	Weld Description	Weld ID	Accessible Exam Coverage	Comments
B1.11	Circumferential weld	VCB-B1	96.5%	
B1.11	Circumferential weld	VCB-A2	96.7%	
B1.11	Circumferential weld	VCB-B3	96.7%	
B1.11	Circumferential weld	VCB-B4	86.91%	
B1.12	Longitudinal Welds	VLA-A001	96.6%	
B1.12	Longitudinal Welds	VLA-A002	96.7%	
B1.12	Longitudinal Welds	VLB-A001	95.4%	
B1.12	Longitudinal Welds	VLB-A002	95.8%	
B1.12	Longitudinal Welds	VLC-B001	93.8%	
B1.12	Longitudinal Welds	VLC-B002	93.4%	
B1.12	Longitudinal Welds	VLD-B001	96.7%	
B1.12	Longitudinal Welds	VLD-B002	96.7%	
B1.21	Circ Weld (Bott Hd)	HCA-B001	100%	
B1.22	Meridional Welds (Bottom Head)	HMA-B002	80.3%	
B1.30	Shell to Flange Welds	VCB-C005	42.7%	(one side)
B1.40	Head to Flange Welds	HCC-C001	70.54%	(one side)
B1.51	Repair Welds (Beltline Region)	(VLA-A002) 118 R1	96.9%	Right side of weld, 31" X 38" area, Y=119" to 150"

REACTOR VESSEL WELD LIMITED EXAMINATION TABLE

VCB-B004

This is the Course 3 to Course 4 circumferential weld. The vessel stabilizers and an insulation support ring are located at the location and limit the examination to 86.91%. The insulation support ring is located 18" from the weld. The bottom of the stabilizer brackets are located on the weld. In order to perform the additional 13.09% of the weld, the stabilizers would require removal. Removing the vessel stabilizers is not a feasible option.

HMA-B002

This weld is located at the vessel skirt. There is a portion of the weld above and below the vessel skirt. Therefore the vessel skirt limits the examination coverage to approximately 80.3%. In order to perform the additional 19.7% of the weld, the vessel skirt would require removal and then reinstallation. This is not a feasible option.

VCB-C005

This is the Vessel to Flange weld. This weld is examined from the flange surface and the vessel wall. The examination is limited to approximately 42.7% due to the configuration of the weld. There is no feasible option in order to examine the additional 57.3%.

HCC-C001

This is the Head to Flange weld. This weld was examined from the head surface and is limited due to the configuration of the weld. There is no feasible option in order to examine the additional 29.46%. A third of this weld was examined in RFO14 (1st period) with a weld coverage of 36.8%. The second third was examined in RFO17 (2nd period) with a weld coverage of 70.54%. The third that was examined in RFO14 will be re-examined to obtain the 70.54% in the 3rd period.

ALTERNATE EXAMINATION

Pursuant to 10CFR50.55a(a)(3)(ii), the DAEC proposes to examine, once during the ten year interval, the applicable pressure retaining reactor vessel welds to the maximum extent practical within the limitations of the examination technique or design of the component. The welds and approximate coverage are:

VCB-B004	86.91%
HMA-B002	80.3%
VCB-C005	42.7%
HCC-C001	70.54%

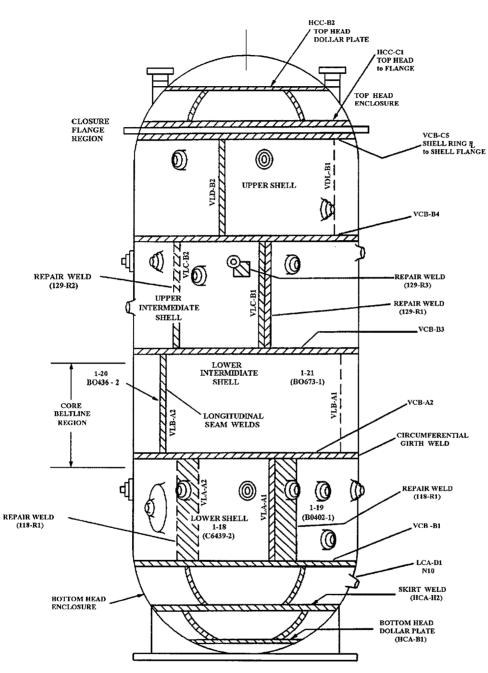
The inaccessible portions of the reactor vessel welds will continue to be subject to the applicable system pressure test requirements of IWA and IWB-5000 with a VT-2 visual examination.

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for DAEC.

RELIEF REQUEST NUMBER: NDE-R001 SKETCH

Reactor vessel



SCHEMATIC OF THE RPV SHOWING ARRANGEMENT OF VESSEL PLATES AND WELDS

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RELIEF REQUEST NUMBER: NDE-R028 (Rev. 2)

COMPONENT IDENTIFICATION

Code Class:	1
References:	IWB-2500
	Table IWB-2500-1
Examination Category:	B-D
Item Number:	B3.90
Description:	Nozzle-to-Vessel Welds
Component Numbers:	See "List of Nozzle-to-Vessel Welds" for Component
	Identification

CODE REQUIREMENT

Section XI (1989 Edition), Table IWB-2500-1 Category B-D, Item B3.90, requires a volumetric examination, which includes essentially 100% of the weld, once during the ten year interval. The examination volume is defined in Figure IWB-2500-7(b).

Code Case N-460 permits a reduction in examination coverage of Class 1 welds provided the coverage reduction is less than 10%. The Duane Arnold Energy Center (DAEC) has adopted Code Case N-460 in the Inservice Inspection (ISI) Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 12.

Relief is requested from performing essentially 100% of the weld length for those welds identified in the "List of Nozzle-to-Vessel Welds."

BASIS FOR RELIEF

Due to the design of these welds it is not feasible to effectively perform a volumetric examination of 100% of the volume as described in IWB-2500-7(b). The nozzle-to-vessel welds are accessible from the vessel side, but examination cannot be performed from the nozzle side because of the forging curvature. In addition to component configuration certain nozzle-to-vessel weld examinations are further limited by reactor pressure vessel (RPV) design obstructions (such as RPV appurtenances). In accordance with 10CFR50.55a(g)(6)(i) relief requests may be granted when the examination requirements are shown to be impractical.

ALTERNATE EXAMINATION

The DAEC proposes to perform volumetric examination from the vessel side of the nozzle-tovessel welds identified in the "List of Nozzle-to-Vessel Welds." Because of the design of these welds, there are no alternative examination techniques currently available to increase the examination volume.

Nozzle ID	Period Examined	Code Coverage*	Remarks
CRA-D001	1	61.3%	Control Rod Drive
CSA-D001	1	63%	Core Spray
CSB-D001	1	66%	Core Spray
FWA-D001	1	56.5%	Feedwater
HVA-D001	1	66.0%	Head Vent
HSB-D001	2	70.9%	Head Spare
JPA-D001	1	61.1%	Jet Pump
MSA-D001	1	59.6%	Main Steam
MSB-D001	2	63%	Main Steam
RHA-D001	1	65.7%	Head Spray
RCA-D001	2	59%	Recirculation Suction
RCB-D001	1	57%	Recirculation Suction
RRA-D001	1	63%	Recirculation Inlet
RRB-D001	1	63%	Recirculation Inlet
RRC-D001	1	63%	Recirculation Inlet
RRD-D001	1	51.4%	Recirculation Inlet
RRE-D001	1	64%	Recirculation Inlet
RRF-D001	2	73.36%	Recirculation Inlet
RRH-D001	1	64%	Recirculation Inlet
VIA-D001	2	86.2%	Vessel Instrumentation
VIC-D001	2	86.2%	Vessel Instrumentation
VID-D001	2	63%	Vessel Instrumentation
VIE-D001	1	66%	Vessel Instrumentation
VIF-D001	2	86.2%	Vessel Instrumentation

List of Nozzle-to-Vessel Welds

*Due to the nozzle design it is not feasible to effectively exam 100% of the required code volume as defined in Figure IWB-2500-7(b).

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for DAEC.

RELIEF REQUEST NUMBER: NDE-R044

COMPONENT IDENTIFICATION

Code Classes:	1
References:	IWA-2500,
	Table IWB-2500-1
Examination Categories:	B-J
Item Numbers:	B9.11
Description:	All pressure retaining welds
Component Numbers:	RCB-J030 Recirculation System Weld

CODE REQUIREMENT

Section XI (1989 Edition), Table IWB-2500-1 Category B-J, Item B9.11 requires a volumetric and surface examination which includes essentially 100% of weld length once during the ten year interval.

Relief is requested from performing essentially 100% of the weld length for Recirculation System Weld RCB-J030.

BASIS FOR RELIEF

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Per Table IWB 2500-1, applicable Class 1 pressure retaining welds are required to be volumetrically and/or surface examined, essentially 100% of the weld, once every ten years. DAEC has adopted Code Case N-460 in the ISI Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 12. Code Case N-460 permits a reduction in examination coverage of Class 1 welds provided that the coverage reduction is less than 10%.

This weld is a branch connection configuration (weld-o-let onto the 22" Recirculation Piping) and located off the Recirculation Pump Suction Piping. The configuration limits the examination from one side (weld-o-let side). This results in approximately 38% code required coverage of the weld volume. Supplemental angles (60RL and 35S) were used to increase the coverage to 38%. In order to perform a radiography of the weld, draining the Recirculation System would be required, which would result in an increase in exposure to personnel by a factor of 1.7 (150 mr/hr vs. 255 mr/hr) for a total of 1.02 Rem for the additional 62% coverage. The benefit of examining the additional 62% weld volume has only a small potential of increasing plant safety margins and a very disproportionate impact on expenditures of plant manpower and radiation exposure.

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ALTERNATE EXAMINATION

As an alternative to existing Section XI requirements per 10CFR 50.55a(a)(3)(i), DAEC proposes to perform volumetric examination of 38% of the weld volume. DAEC will examine applicable pressure retaining piping welds to the maximum extent practical within the limitations of the examination technique or design of the component. Should reportable indications be found in the accessible portions of the listed weld, an engineering evaluation will be performed to determine if the inaccessible portion of the weld would be affected.

Subsequent to examination of an affected weld, NDE data sheets will describe in detail, the extent of the limitation and any alternative examination techniques used to obtain coverage. The inaccessible portions of the weld will continue to be subject to the applicable system pressure test requirements of IWA, and IWB-5000 with a VT-2, visual examination.

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for DAEC. This weld was included in the RFO17 Outage Summary Report.

RELIEF REQUEST NUMBER: NDE-R045

COMPONENT IDENTIFICATION

Code Classes:	2
References:	IWA-2500,
	Table IWC-2500-1
Examination Categories:	C-F-2
Item Numbers:	C5.51
Description:	All pressure retaining welds
Component Numbers:	SDN-CF010, Scram Discharge Weld

CODE REQUIREMENT

Section XI (1989 Edition), Table IWC-2500-1 Category C-F-2, Item C5.51 requires a volumetric and surface examination which includes essentially 100% of weld length once during the ten year interval.

Relief is requested from performing essentially 100% of the weld length for Scram Discharge Weld SDN-CF010.

BASIS FOR RELIEF

Per Table IWC 2500-1, applicable Class 2 pressure retaining welds are required to be volumetrically and/or surface examined, essentially 100% of the weld, once every ten years. DAEC has adopted Code Case N-460 in the ISI Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 12. Code Case N-460 permits a reduction in examination coverage of Class 1 welds provided that the coverage reduction is less than 10%.

This weld is a pipe to cap configuration and located off the Scram Discharge Piping. The configuration limits the examination to approximately 84.36% of the code required coverage of the weld volume. In order to perform a radiography of the weld, draining the Scram Discharge piping would be required, which would result in an increase in exposure to personnel by a factor of 1.7 (5 mr/hr vs. 8.5 mr/hr) for a total of 232 mr for the additional 15.64% coverage. The benefit of examining the additional 15.64% weld volume has only a small potential of increasing plant safety margins and a very disproportionate impact on expenditures of plant manpower and radiation exposure.

ALTERNATE EXAMINATION

As an alternative to existing Section XI requirements per 10CFR 50.55a(a)(3)(i), DAEC proposes to perform volumetric examination of 84.36% of the weld volume. DAEC will examine applicable pressure retaining piping welds to the maximum extent practical within the limitations of the examination technique or design of the component. Should reportable indications be found in the accessible portions of the listed weld, an engineering evaluation will be performed to determine if the inaccessible portion of the weld would be affected.

Subsequent to examination of an affected weld, NDE data sheets will describe in detail, the extent of the limitation and any alternative examination techniques used to obtain coverage.

The inaccessible portions of the weld will continue to be subject to the applicable system pressure test requirements of IWA, and IWB-5000 with a VT-2, visual examination.

APPLICABLE TIME PERIOD

Relief is requested for the third ten-year interval of the Inservice Inspection Program for DAEC. This weld was included in the RFO17 Outage Summary Report.

Attachment 2 NG-02-0268

Supporting Information

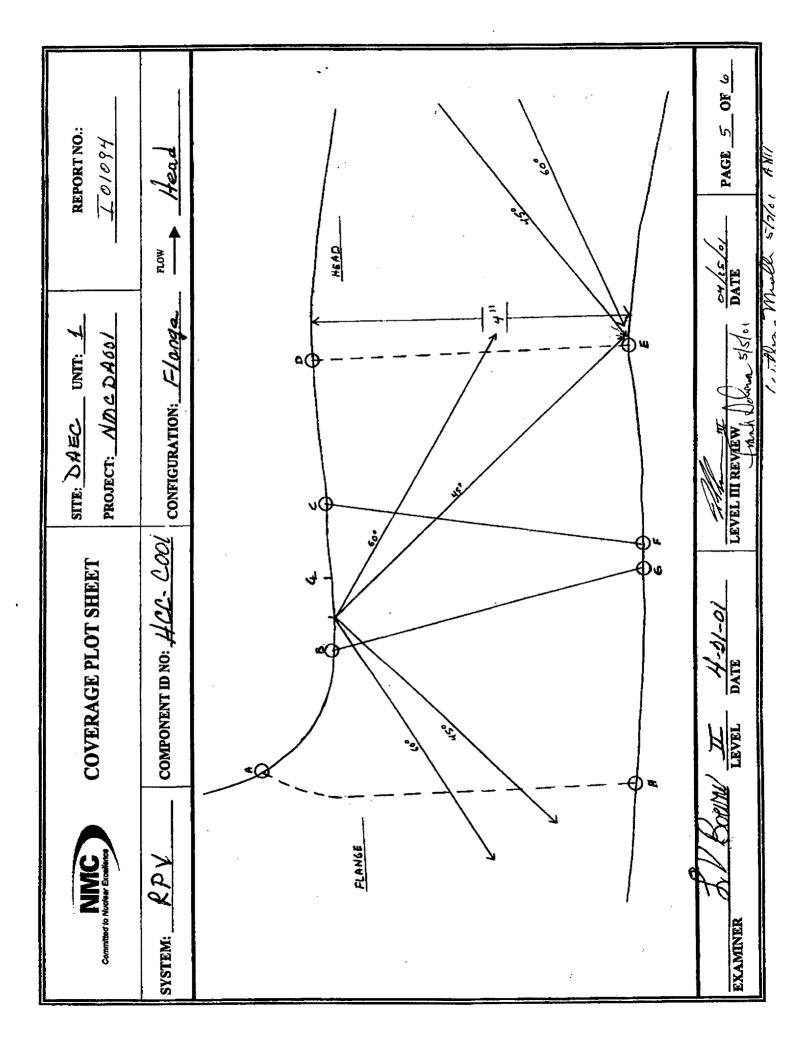
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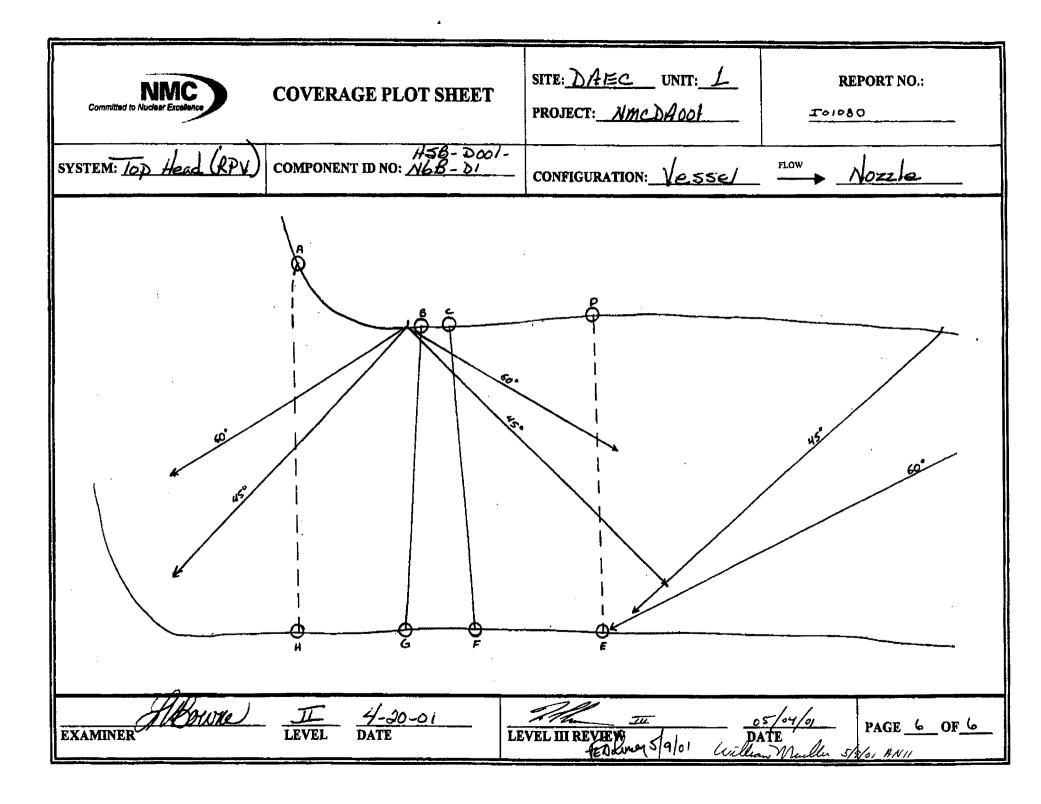
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Site: DUAN	EARNOL	D				Repor Calibi	rt No.:	101080 h eet Nc	.:C-018			
Procedure N	р.: AC	CP 1211.	30		Revisi		· · · · · · · · · · · · · · · · · · ·					
System: RI	۷V	E	xam Surf	ace Ten		°F	Coupla	HUI ant:	MEX	Exar	n Start:1014	
Veld ID: HSI	B-D001-N	6B-D1 т	hermom	eter S/N	3473		Batch	No	65		n End:1031	_
Search Unit_ .o Referenc No Referenc	e: TOP	OF NO	ZZLE		e: ID 🔲	OD 🛛	Materi	al Type:	CS 🛛 SS Axial Scan S Circ Scan S	Sensitivi	0ther: ty (dB)49.0 y (dB)	
					Perfor	med	Indica	tions				
	1 \/	Vith Flow	~/		Yes	No Ø	Yes	No			Component NOZZLE	1 t
Axial:		gainst F							Weld	d		F
Circ 🕻		pstrean				X X			Centerli	 ne		
cw:		ownstre										- W
	5 U	pstream	n			Ø		a			RPV TOP HEAD	
	6 D	ownstre	eam			\boxtimes					Component	
	7 L	-Wave I	Base Me	etal		\boxtimes						
	8 C	ther <u>CI</u>	RV		⊠							
Indication No.	L (li L-1	n) From L-	Ref	W-1	/ (in) Fro	W-2		Sweep R 1 SW Ma	/- SW-2	Max Amp %DAC		ination - 8)
NRI		Max			Max				x	/10AC		
Remarks: No Recorda Previous da			vith no si	nifican	t changes							
Examine	<u>l Baul</u>	Level	<u>4-21-</u> Date		evoltili	Review		05/04 J Date 9/0/	les Will	II Review	v Date	67 te of b

		U	TRASO		AMINAT		DATA SH	EET		
Site:	ARNOLD			Repo Calib	rt No.:	01080 eet No	.: <u>C-019</u>			
Brocedure No	ACP 1211.3	30	Rev			<u></u>				
System:	ν Ε» D001-N6B-D1 Τ	cam Surfac	ce Temp:	°F	Couplar	nt: lo0014	MEX 65	Exan Exan	n Start:1300 n End:1318	-
	5° / S TOP OF NO2 WELD CENT	ZZLE	urface: ID	DOD 5) Materia	І Туре:	CS 🖾 SS Axial Scan S Circ Scan S	Sensitivit	y (dB) 46.2	
			Perf	ormed	Indicati	ons		······································		
r	1 With Flow	v	Yes	No	Yes	No ⊠			Component FLANGE	1
Axial:	2 Against F					8	Wel	d		F
Circ 🕻	3 Upstream	า					Centerli	ne		
cw: į	4 Downstre	am								- W
Circ CCW	5 Upstream	1			ū	×			RPV TOP HEAD	
•	6 Downstre	am				X			Component	
	7 L-Wave E 8 Other _									
Indication No.	L (In) From L L-1 L- Max	Ref L-2	W-1 V	rom Ref /- W- ax		weep R SW Ma	- SW-2	Max Amp %DAC		nation - 8)
NRI										
Remarks: No Recordab	le Indications.									
	was reviewed w	vith no sign	ificant chang	jes.						
Examiner NG-143Z Re	Level	<u>4-30-0</u> Date	Level	Review A Do	anay 5	Date 9/01	by Willi	an. Ma Il Review	<u></u>	/ <u>/ /</u> e f _ lo

		L	JLTR/	ASONI				DATA SH	IEET		
Site: DUANE	ARNOLD				Repor	t No.: ^{I®}	01080	-			
Site:					Calibr	ation She	eet No	C-020			
					Data S	Sheet No.	:	1			
Procedure No	ACP 121	1.30		Revisi	on:					· · · · · · · · · · · · · · · · · · ·	
System:	v	Exam Surfa	ace Ter	np: <u>72</u>	°F	Couplan	HU:	MEX	Exa	am Start:	-
Weld ID:	-D001-N6B-D1	Thermome	eter S/N	3473		Batch N	o	65 	Exa	am End:1341	-
Search Unit_	60°/S Ex	xamination	Surface	:ID 🗋	od 🛛	Material	Туре:			Other:	
Lo Reference	TOP OF N	OZZLE				-		Axial Scan	Sensitiv	vity (dB)	
Wo Reference	e:	INTERLINE				-		Circ Scan S	Sensitiv	ity (dB)	
				Perfor	med	Indicati	งกร		 		
				Yes	No	Yes	No			Component FLANGE	 ↑
f.	1 With Fi	low		⊠			\boxtimes				-
Axial: [2 Agains	t Flow					\boxtimes	We	ld 		- L
Circ	3 Upstrea	am		\boxtimes			\boxtimes	Centeri	ine		o w
CM:	4 Downs	tream		\boxtimes					Γ		
Circ CCW	5 Upstrea	am		×	۵		⊠			RPV TOP HEAD	
	6 Downs	tream		\boxtimes			×			Component	
		e Base Me	tal		⊠						
	8 Other _	N/A									
Indication No.	L (In) From L-1 L- Max	L-2	W-1	(in) From W- Max	W-2		/eep R SW		Max Amp %DA((1	ination - 8)
NRI											
Remarks:		A								······································	
	le Indications.	•		······································		· · · · · · · · · · · · · · · · · · ·			· · · · ·		
Previous data	a was reviewed	1 with no sig	nificant	changes							
Examiner NG-143Z R	Lev		ט וק	evel HILE		men	<u>•4/25</u> Date 5/9/c	/., <u>Urll</u> AN	ean Y III Revie	Mulle -5/9/ w Dat Page <u>3</u> 0	/ <u>0/</u> ie if L

Site: DUANE	ARNOLD		Repo	rt No.:_	101080				
	***************************************		Calib	ration S	Sheet No	C-021			
				Sheet N	lo.:N/A	۱ 			
Procedure No	ACP 1211.30	Rev	ision: 0		•••• <u>•</u> •••••	· · · · · · · · · · · · · · · · · · ·			
System:	/ Exam Surface	e Temp:	°F	Coupi	HUI ant:	MEX	Exam	start:1342	
	D001-N6B-D1 Thermomete							1357 End:	_
7	^{/0° / S} Examination Su				• • •				
Search Unit	TOP OF NOZZLE	nace: 10		Mater	iai i ype:				
Lo Reference:	TOP OF NOZZLE		· .	-		Axial Scan S		(70	
Wo Reference	WELD CENTERLINE			-		Circ Scan S	ensitivity	(dB)	
			ormed	Indica			I		1
		Yes	No	Yes	No			Component FLANGE	1
Axial:	1 With Flow	⊠			×		.		$\left\{ \right\}$
, and the C	2 Against Flow	⊠			⊠	Weld			F L
Circ CW:	3 Upstream	⊠				Centerlir	ie		
	4 Downstream	⊠							
Circ CCW	5 Upstream				⊠			RPV TOP HEAD	•
	6 Downstream	⊠			⊠			Component	
	7 L-Wave Base Meta		X						
	8 Other								
Indication	L (In) From Ref		rom Ref		Sweep Re	eading	Max	Exami	nation
No.		W-1 W	/- W-2			- SW-2	Amp %DAC	(1-	- 8}
NRI									
Remarks:	Ł Ł	I	1	1	1	JJ		<u> </u>	
No Recordabl	e Indications.								
10.1	······		201		,	. I . M	C 4 1	M	
- XVB	Level Date	1	Review	-TI-	24/25/	61 Wille	<u>~. </u>	ulla 5/91	<u>81</u>

Committed to Nuclear Excellence	COVERAGE PLOT SHEET	SITE: DAEC UNIT: 1 PROJECT: NMC DA001	REPORT NO.:
SYSTEM: Top Head (RPV)	HSB - D00/- COMPONENT ID NO: <u>N6B - Di</u>	CONFIGURATION: SHELL	FLOW NOZZIE
D= 13.3125 L= 42.88	missing 0°- 25.25	nissy6e ^c VAU	- 1.5X.85 x 42.88 27.33
w : 4.10" H : 4.10" 158.6	いいよいり 45° VAU - 1.5×1.5	5 x42.88 48.24 VAD	<u>5x.</u> x 42.88 <u>6.432</u>
1.5x 6 = 45 Z Total	2- 7-17.18 VAD - 2.5 x2.	<u>48.24</u> <u>48.24</u> <u>60</u> × 42.88 - 747.18	- 2.5×1.65 × 42.88 -747.1
TetA1 0"- 747,1	VA Vew 1.5 XY	A 45 88 138.64 ACT	2- 1.5x4 x42.88 128.64
45° VAU - 747.1 VAD - 747.1 VCW - 747.1	8 139.36 1544	128.64 Y 42.84 128.64	<u>1.57.6</u> 742.88 <u>14.24</u> 2 1.574742.88 <u>128.64</u> 2
. veiw - 747.)	8 549.25 1.5x6	2 4 42.88 19.29	2 1.5x.6 2- 2- 14.24
VAD - 747. VOW - 747.	18 98,44 18 599,25		
View - 747	18 549.25		
	70.919	26	
EXAMINER	$\frac{1}{1 \text{ LEVEL}} \frac{4 - 20 - 01}{\text{DATE}} = \frac{1}{1}$	EVEL III REVIEW Any 5/9/01	-/04/01 PAGE 5_OF 6 ATE Jullion Meulla 5/5/01 ANII



ULTRAS		MINATION I	DATA SHEET					
Site: DUANE ARNOLD	Report	No.: 101067	·					
0.00.		Calibration Sheet No.: <u>C-081</u> Data Sheet No.: <u>N/A</u>						
······································	Data Sl	heet No.:N/A	<u> </u>		<u></u>			
	Revision:							
System: RECIRC Exam Surface Temp:				Exam Start:				
Weld ID: Thermometer S/N:	3473	Batch No. 0010	65 <u> </u>	Exam End:0955				
Search Unit_0° Examination Surface: IE		Material Type:	cs 🛛 ss 🗖	Other:N/A				
Lo Reference: TOP DEAD CENTER			Axial Scan Sen	sitivity (dB)				
Wo Reference:			Circ Scan Sens	itivity (dB)1.0				
Pe	erformed	Indications						
Ye	es No	Yes No		Component VESSEL	t			
1 With Flow								
1 2 Addinet Flow			Weld		F			
Circ 3 Upstream CW:			Centerline		o w			
Circ 5 Upstream				NOZZLE	I			
6 Daymatraam				Component				
		0 0						
8 Other <u>CRV</u>								
No. L-1 L- L-2 W-2) From Ref W- W-2 Max	Sweep R SW-1 SW Max	- SW-2 Am	np (1-8)				
NRI								
Remarks: No Recordable Indications.	I							
Remarks: No Recordable Indications. Reviewed previous Data Report # R-128. No chan	nges were observ	ved.						
Achieved 73.36% code coverage.								
			······					
<u>Cl. O. Con</u> <u>T</u> <u>4/366'</u> Examiner Level Date Leve	al III Review	<u>men 5/4/01</u>		Meuller 5/x/0, view Date Page 1_ of	<u>له</u>			
NG-143Z Rev. 1	(, , , , , , , , , , , , , , , , ,	`	. 1	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			

	ULTR/			MINATIO		DATA SHE	EET		
Site: DUANE ARNOLD			Report No.: 101067 Calibration Sheet No.: C-082 Data Sheet No.: N/A						
Procedure No.: ACP 121	1.30								
System:	Exam Surface Ter	np:_ ⁸⁴	_°F	Couplant:	HUN	MEX	Exam	Start:	_
Weld ID:	Thermometer S/N	l: <u>3473</u>		Batch No	0016	55	Exam	End: 1015	_
Search Unit_45° E Lo Reference:TOP DEA Wo Reference:WELD CE	D CENTER	e: ID	od 🛛	Material 7	⁻ype:	Axial Scan	Sensitivit		
· · · · · · · · · · · · · · · · · · ·		Perform	ned	Indicatio	ns				
1 With F	low		No	Yes N				Component VESSEL	
Axial: 2 Agains						Weld	,	<u> </u>	- F
Circ 3 Upstre						Centerlir			- L D
CW: 4 Downs					81 81				- w
Circ 5 Upstre	am	⊠						NOZZLE	
6 Downs	stream	⊠			8			Component	
	e Base Metal		×						
8 Other	N/A			a					
Indication L (In) Fro No. L-1 L-	L-2 W-2	(in) From W- Max	Ref		eep Ro SW Max		Max Amp %DAC		ination - 8)
NRI Max		IVIAX			IVIE/	<u> </u>	100710		
			1						
Remarks: No Recordable									
Reviewed previous Data R	***	changes w	ere obsei	rved.					
Achieved 73.36% code co	verage.								
Examiner Le	<u>Z 4/36/6</u> , evel Date L	evel III R	eview	iner J	<i>∞5/03</i> Date	for leill AN	in Ma Il Review	Page 2	ate

ULTRA			MINATI JAL PIP		DATA SH	EET		<u> </u>
DUANE ARNOLD	•		No.: 10					
Site:		-			C-083			
		ata Sheet No.: ^{N/A}						
Procedure No.:ACP 1211.30	_ Revision:	0						······································
System: RECIRC Exam Surface Ter	np:°						Start:	-
Weld ID: RRF-D001 Thermometer S/N	: <u>3473</u>	-	Batch No	0010		Exam	End:	-
Search Unit_60° Examination Surface			Material	Туре:	cs 🛛 ss	D Ot	her:N/A	
Lo Reference: TOP DEAD CENTER							y (dB)	
Wo Reference: WELD CENTERLINE					Circ Scan	Sensitivity	(dB)	
	Performe	a	Indicatio	ons				7
	Yes No	0	Yes N	0			Component VESSEL	l 🕇
1 With Flow		1		⊠	16/-1			
2 Against Flow		1		Ø	Wel	+		F L
Circ 3 Upstream CW: A Desumetreem		_			Centerli	ne		o w
4 Downstream				Ø				
Circ 5 Upstream)		X			NOZZLE	J
- 6 Downstream)					Component	
7 L-Wave Base Metal		1						
8 Other <u>N/A</u>)						
	(in) From R				eading	Max	Exami	
No. L-1 L- L-2 W-2 Max	W- Max	W-2	SW-1	SW Ma		Amp %DAC	(1.	- 6)
NRI								
							. <u></u>	
	·							
			ļ					
Remarks: No Recordable Indications. Reviewed previous Data Report # R-128. No c	hanges were	ohser	ved					
Achieved 73.36% code coverage.							· · · · · · · · · · · · · · · · · · ·	
_	10	2			1 1 -1	1 7	311 1	
<u>Clan II 4/30/04</u> Examiner Level Date L	evel III Revi	ew /`	TT (Date	AN	ion M Il Review	<u>hellen 5/4</u> Da	te
	with I	V.	5/4	101			Page <u>3</u> of	ftc
NG-143Z Rev. 1			··· { ···· / ····		l			

ULTR			MINAT JAL PI		DATA SHE	ET		
Site:		Report Calibra	: No.:	01067 eet No	.: C-084			
Procedure No.: ACP 1211.30	Revisi				<u></u>			
System: RECIRC Exam Surface Te			Couplan	nt: HUI	MEX	Exam	Start: 1037	
Veld ID:RRF-D001 Thermometer S/						Exam	End:1047	_
Search Unit_ ^{70°} Examination Surfac to Reference: TOP DEAD CENTER Weld CENTERLINE	ce: ID	OD 🛛	Material	Туре:		Sensitivit	y (dB)	
	Perfor	med	Indicati	ons				
	Yes	No		No			Component VESSEL	↑
1 With Flow	⊠	Q		\boxtimes	Weld			- F
2 Against Flow	×			\boxtimes	Centerlin			
Circ 3 Upstream				X	Centenni	-		- w
Circ 5 Upstream				\boxtimes			NOZZLE	
CCW 6 Downstream	Ø			8		L	Component	-
7 L-Wave Base Metal		⊠						
8 Other <u>N/A</u>				۵				
Indication L (In) From Ref V No. L-1 L- L-2 W-2 Max	V (in) Fro 2 W- Max	W-2				Max Amp %DAC		ination - 8)
NRI								
							· · · · · · · · · · · · · · · · · · · ·	
Remarks No Recordable Indications.								
Remarks: No Recordable Indications. Reviewed previous Data Report # R-128. No	changes v	were obsei	rved.					
Achieved 73.36% code coverage.								
<u>CLL Also II 4/30/01</u> Examiner Level Date	Level III	Review A Art	incy 3	os 63 Date /4/01	for <u>Crille</u> ANII	Review	Page <u>Y</u>	/// ate of

Committed to Nuclear Excellence	COVERAGE PLOT SHEET	SITE: And FRUILE UNIT: 1 PROJECT: AJA	REPORT NO.: IDIO 67
SYSTEM:	COMPONENT ID NO: <u>RRF-Dool</u>	CONFIGURATION: Nozzle,	FLOW R 51 1 52372
			25" 45° 60°
<u>Chel Olon</u> EXAMINER	<u>TI 4/30/01</u> LEVEL DATE I	EVEL III REVIEW Frank John 5/4/01	5/03/01 PAGE 5 OF 6 ATE Ceillian Mueller 5/4/01 ANII

Committed to Nuclear Excellence	COVERAGE	PLOT SHEET	SITE: <u>Prove Aenold</u> U PROJECT: <u>~//A</u>		REPORT NO.: <u>To1067</u>
system: <u><i>R PV</i></u>	COMPONENT ID	NO: <u>RRF-Doo</u>	CONFIGURATION:^	Vozzle	RPV Vessel
Total L= " w= H=	86.00'' <u>5 × 1.</u> 6.55'` 5.25'` 34.66 <u>2980.97</u>	<u>10</u> . 275 × 86.00	$\frac{Missin6}{0^{\circ}} 1.1 \times 5.25'' \leq \frac{.5 \times 1.10}{2} .275''$	5.775 × 86 <u>496.8</u> <u>11</u>	$\frac{60^{\circ}}{2} \cdot \frac{5 \times 1.10}{2} \cdot 275 \times 86}{2}$ $\frac{1.7 \times 1}{2} \cdot 85 \times 86 \cdot 73.10}{2}$ $\frac{1.7 \times 1}{2} \cdot 85 \times 86 \cdot 73.10}{76.75}$ $\frac{4.9 \times 3}{2} \cdot 7.35 \cdot 632.10$
VAD VACU VACU 60° VAU VAD VAD VACU	2980.97 2980.97 2980.97 2980.97 2980.97 2980.97 2980.97 2980.97 2	2831.59 032.43 460.77 460.77 884.22 532.10	$VAU = \frac{5VI.10}{2}$ $\frac{1.7\times1.7}{2}$ $VAD = \frac{4.4\times4}{2}$ $VACW = 1.1\times\frac{.5\times1.10}{2}$ $VACW = 2$	275 × 86 23. 72 1.46 × 86 12 9 12 0 4 46 1998.2 × 5.25' 5.775 520.20' 23 × 5.25'' 5.775 1.10 .275	$\frac{65}{5.73} = \frac{2348.87}{496.65}$ $\frac{5.73}{496.65} = \frac{496.65}{2} = \frac{520.20^{10}}{2}$ $\frac{1147.38}{2} = \frac{5\times1.10}{2} \cdot 275 = \frac{520.20^{10}}{520.20^{10}}$ $\frac{11}{54} = \frac{5\times1.10}{2} \cdot 275 = \frac{520.20^{10}}{2}$ $\frac{11}{54} = \frac{5\times1.10}{2} \cdot 275 = \frac{520.20^{10}}{2}$ $\frac{496.65}{2} = \frac{5\times1.10}{2} \cdot 275 = \frac{520.20^{10}}{2}$ $\frac{496.65}{2} = \frac{5\times1.10}{2} \cdot 275 = \frac{520.20^{10}}{2}$ $\frac{520.20^{10}}{2} = \frac{5}{2} \times 86$
VIALCW VIALCW EXAMINER	Z6828.73	4684.19 <u>4/30/01</u> ATE	73, 36%		<u>5/03/01</u> PAGE <u>6</u> OF <u>6</u> ATE M

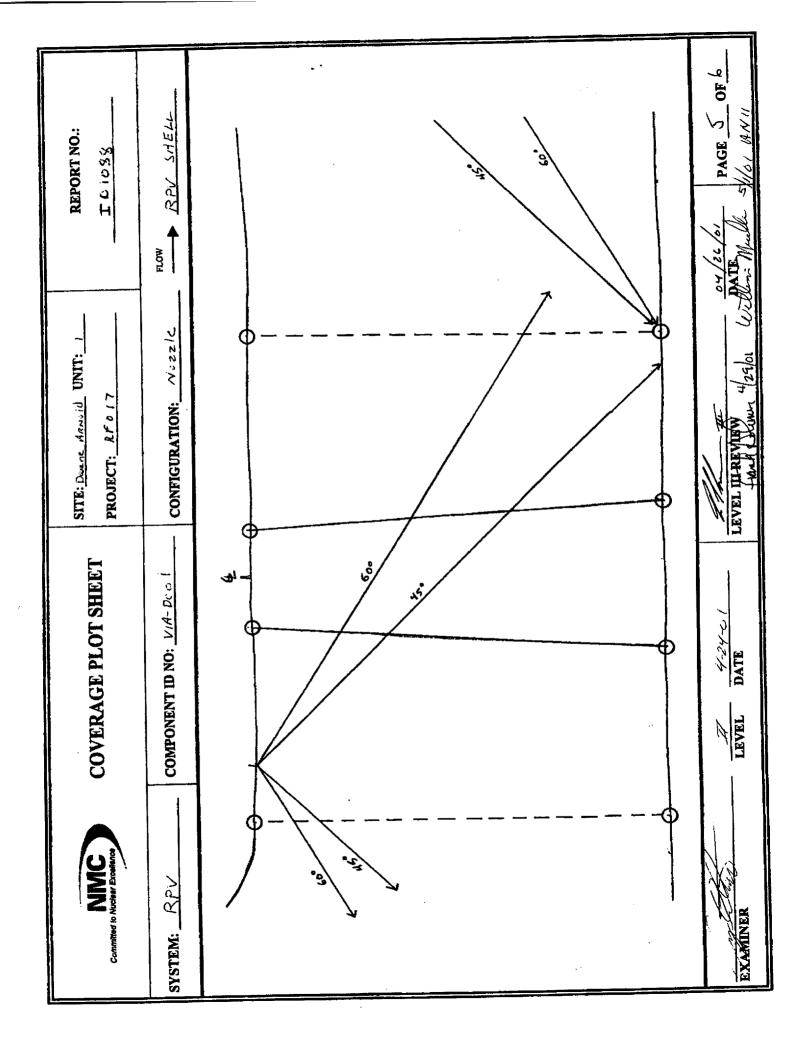
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			0	LTRA	SONI	C EXA (MAN	MINAT	ion e Ping)	DATA SHE	EET			
DUANE							t No.:_I						
Site:DUANE ARNOLD						Calibration Sheet No.: C-033							
						Data S	Sheet No	.: <u>N/A</u>					
Procedure No	.:AC	P 1211.3	0		_ Revis	ion:							
System:RP	v	Ex	am Surfa	ace Ten	np: <u>82</u>	°F	Couplai	nt:	1EX		n Start:		
Weld ID:VIA	A-D001	Tł	nermome	eter S/N	:3475		Batch N	lo	5	Exam	n End:	-	
Search Unit	0° / LON	IG Exan	nination	Surface	: ID 🗖	OD 🛛	Materia	il Type:	CS 🛛 SS		her:N/A		
Lo Reference									Axial Scan	Sensitivi	ty (dB)		
Wo Reference							_				y (dB)		
					Perfo	rmed	Indicat	ions					
					Yes	No	Yes	No	i		Component	+	
	1 V	Vith Flov	N			8					VESSEL		
Axial:		gainst F				8			Wei	d		- F	
Circ		- Ipstream		1					Centerli	ine		0	
CW:		ownstre				8				-		W	
Circ	5 U	lpstream	ו								NOZZLE		
	6 D	ownstre	eam			⊠					Component		
	7 L	-Wave	Base Me	etal			D						
	8 C	Other	RV					8					
				<u>, </u>					<u> </u>	[T		
Indication		n) From	Ref	W-2	/ (in) Fro			Sweep F		Max Amp			
No.	-L-1	L- Max	L-2	VV-2	Ma			Ma		%DAC			
NRI													
								_					
Remarks:													
No Recorda	ble Indi	cations.											
Reviewed p	orevious	data. Se	e attached	l sheet f	or cover	age.					<u></u>		
111	1/_	75					-		for Wil	12. 7	M. a	la.	
Examine	r r	<u>_</u> Leve	<u>- 4-24</u> el Date		Level III	Review		<u>04/z</u> Dal		NII Review	N D	ate	
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NG-143Z	Rev. 1												

		0	LTRA			MINATI		DATA SHI	EET	· · · · · · · · · · · · · · · · · · ·			
Site: DUANE A	RNOLD				Repor	rt No.:10	1088						
Unc						Calibration Sheet No.:C-034 Data Sheet No.:N/A							
	ACP 1211	30				Jileet NO.	·						
Procedure No.: System:				_ Revisi	on:	Couples	, HUI	MEX	Exam	Start:1311			
		xam Surf		np: <u></u>		Batch N	001	55		End: 1327			
Weld ID: VIA-													
Search Unit_45	5° / SHR Exa	amination	Surface	e: ID 🔲	OD 🛛	Material	Туре:	cs 🛛 ss	🖸 Ot	her:			
Lo Reference:_	TOP DEAD	CENTER						Axial Scan	Sensitivi	ty (dB)			
Wo Reference	WELD CEN	ITERLINE	3			_		Circ Scan	Sensitivity	y (dB)			
				Perfor	med	Indicati	ons						
				Yes	No	Yes	No			Component VESSEL	t		
	1 With Flo	WC		⊠			X						
Axial:	2 Against	Flow	1	⊠			⊠	Wel			FL		
Circ CW:	3 Upstrea			⊠			⊠	Centerli	ine		o W		
	4 Downstr	ream		⊠			\boxtimes						
Circ CCW	5 Upstrea	m		⊠			X			NOZZLE			
	6 Downsti	ream		⊠			\boxtimes			Component			
	7 L-Wave		etal										
	8 Other _	N/A			X								
Indication	L (In) From	n Ref		/ (in) Fro				Reading	Max	Examina (1-8			
No.	L-1 L- Max	L-2	W-2	W- Max		2 SW-1	SV Ma		Amp %DAC	(1 - v			
NRI													
										·			
Remarks:													
	le Indications. evious data. S	ec attache	d sheet f	for covers	nge.								
										<u> </u>			
Baminer	2 Lev	<u>4.14-</u>		Levelill	Review	-	/a	e Will	lian /	Meulla 5/1	101 e		
			-	Ann	AA	hmg '	4/29/0	01		Page _2_ of	6		
NG-143Z R	ev. 1						T						

ULTRASC		INATION DA	TA SHEET						
		o .: 101088							
Site:	Calibratio	Calibration Sheet No.: C-035							
		et No.: N/A							
Procedure No.: ACP 1211.30 Re	evision: _0								
System: Exam Surface Temp:_ ⁸		Couplant:	<u>х</u> е	xam Start: 1328					
Weld ID:VIA-D001 Thermometer S/N:34	475 B	atch No. 00165	_ E	xam End:					
Search Unit_60° / SHR Examination Surface: ID		Material Type: C	s 🛛 ss 🗖	Other:N/A					
Lo Reference: TOP DEAD CENTER		ŀ	Axial Scan Sens	itivity (dB) 53.5					
Wo Reference:		(Circ Scan Sensi	tivity (dB)					
	rformed in	dications							
Ye		es No		Component VESSEL	†				
Axial: 2 Against Flow			Weld		F				
			Centerline		LO				
Circ 3 Upstream			Centerline		Ŵ				
4 Downstream	3 🗅				ł				
Circ 5 Upstream				NOZZLE					
6 Downstream				Component					
7 L-Wave Base Metal									
8 Other <u>N/A</u>									
No. L-1 L- L-2 W-2) From Ref W- W-2 Max	Sweep Rea SW-1 SW- Max	nding Ma SW-2 Am %D	np (1-8)					
NRI									
Remarks:									
No Recordable Indications.									
Reviewed previous data. See attached sheet for co	overage.								
Examiner Level Date	ELILL Review	- <u>70 04/26/</u> Date 4/29/01	ANII Re	Mulla 5-1/1 view Date Page <u>3</u> of _	61 L				
NG-143Z Rev. 1	may reaction								

				-			IAL PIF)					
DUANE	ARNOL	D				Report	No.:10	1088						
Site:							Calibration Sheet No.:C-036 Data Sheet No.:N/A							
							heet No.	. <u> </u>					<u> </u>	
rocedure No	. AC	P 1211.3	0		Revisio	on:								
System: RPV	1	Ex	am Surfa	ice Temp	. 82	_°F	Couplan	t:	MEX		Exam	Start:	-	
Veld ID:			ormome	tor S/N	3475		Batch N	o. 0010	65		Exam	End: 1400	_	
Search Unit	/0° / SH	R Exan	nination	Surface: I		od 🔯	Material	Туре:	cs 🛛	ss 🗖	Oth	ner:		
.o Reference	. TOP	DEAD C	ENTER				-		Axial So	an Ser	nsitivity	(dB)		
Vo Referenc	. WEI	LD CENT	ERLINE						Circ Sc	an Sen	sitivity	(dB)		
vo Referenc	e				erforr	nod T	Indicati	005		<u> </u>				
	_							No			[Component]	
				Y	es	No						VESSEL		
Avial [,]	1 V	Vith Flow	v		×			\boxtimes		Veld			F	
Axial:	2 A	gainst F	low		\boxtimes			\boxtimes			4		4 L	
Circ	3 U	lpstream	l		⊠			\boxtimes	Cent	erline	L		O W	
CW:	4 D)ownstre	am		\boxtimes		D	\boxtimes						
Circ	5 U	Ipstream	9					\boxtimes				NOZZLE		
ccw 🗌)ownstre				_	-				L	Component		
					X									
		Wave I		elai		\boxtimes								
	80	Other				\boxtimes								
					in) Froi	m Dof	9	ween F	Reading	N	<i>l</i> ax	Exam	ination	
Indication No.	L (I				W-			T SV	V- SW	.2 A	mp DAC	(1	1 - 8)	
		Max			Max			Ma	<u>x</u>					
NRI													<u> </u>	
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				ļ		_						·	<u></u>	
								-						
Remarks:		<u>.</u>												
No Recorda	ble Indi	cations.												
Reviewed p	revious	data. Se	e attached	I sheet for	covera	ge.	. <u></u>							
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a	Ð,	- A	4-24-	<u>u</u> .	Als		<u></u>	04/2	1/01 U	Elle	<u>m 1</u>	Veuller 57	1/01	
Examine	Γ	Leve	Date	Le	evel-UI I	Review	n		té	ANII F	<eview< td=""><td>r D</td><td>ale /</td></eview<>	r D	ale /	
				<u> </u>	Man	KAH	imay "	1/29/0	21			Page	of <u>b</u>	



	COVE	RAGE PLOT SHEE	SITE: Dune Arve 10 UNIT: 1 PROJECT: <u>RF017</u>	
SYSTEM: <u>RPv</u>	Сомрон	NENT ID NO: VIA-D¢C	i CONFIGURATION: Nozzle	FLOW RPV SHELL
<u> </u>	= 54.19 = 5.80		MISSING 0° - Ø	60°
17	= 4.68 27.144 <u>1</u>	470.93		VAU7 X.5 x54.19 2 2.70
0° - 45°		1476.93 -	45° VAU- 2567	VAD - 5.1×31 54.19 Z 1470.93
	1470.93 1470.93 1470.93 1470.93	703.76	VAU7x.7 x 54. 2 13. VAD- 4.68 x 4.85 x 54.1 2	VACW- OS
60° Vau Vap	1470.93 1470.93	1468.22 428.37	4.68 x.60 x 54.19 VACW- Ø	152.16 767.16 VACCW- Ø
VACW VACCW	1470,93 1470,93 13238.37	1470.93 1470.93- 1/412 67	VACCW- Ø	
EXAMINER			120% LEVEL III REVIEW Hand Juney 4/29/01	<u>DATE</u> DATE Willie M. M. Hiller Marrie

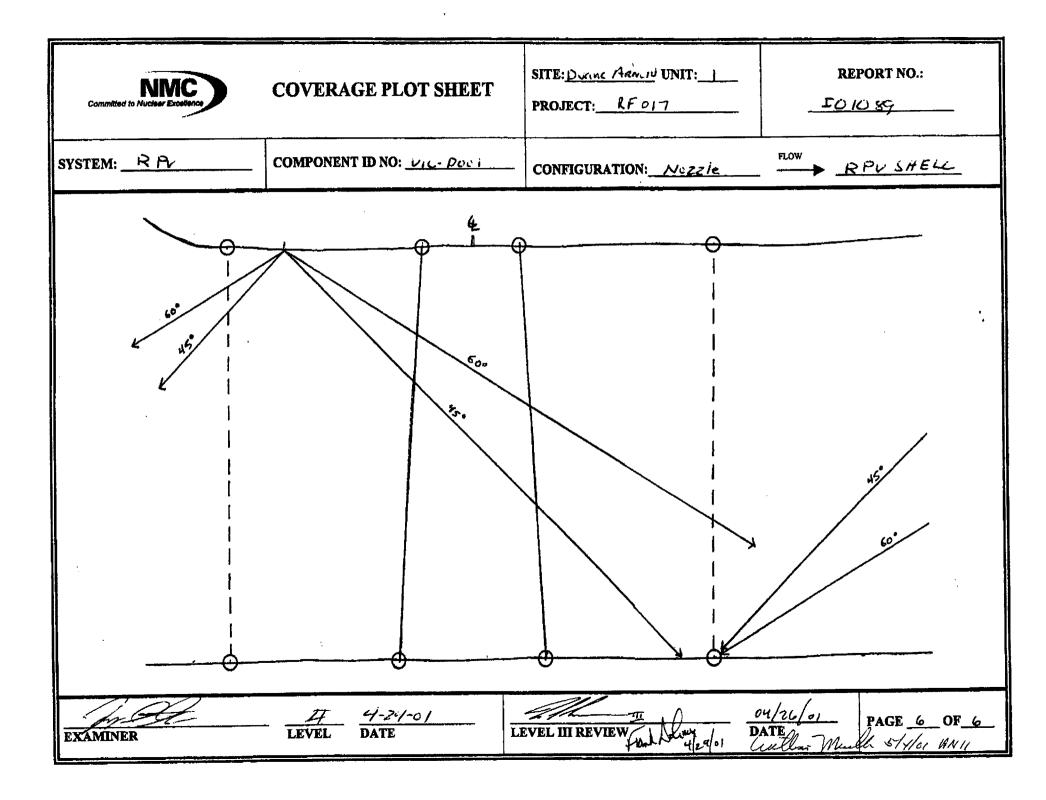
			TRA	SON	C EXA (MAN	MINA1	TON E PING)	ATA SHI	EET		
Site: DUANE A	ARNOLD				Report Calibi	rt No.: ration Si Sheet No	101089 neet No	.:C-041			
Procedure No.	ACP 1211.3	0		Revisi							
System: RPV	Ex	am Surfa	ce Ten	np:	°F	Coupla	Int:HUN	/EX	Exam	Start:	
Weld ID: VIC-	D001 TI	hermome	ter S/N	I: <u>3475</u>		Batch	No			End:	
Lo Reference:	VILONG Exar TOP DEAD C	CENTER		e: ID	OD 🛛	Materia	al Type:	Axial Scan	Sensitivit	ner: <u>N/A</u> y (dB) <u>41.0</u> (dB) <u>41.0</u>	
				Perfor	med	- ⊤ Indica	tions				
				Yes	No	Yes	No			Component VESSEL	
A : 1	1 With Flow	N			⊠			\ A /-1	,		c
Axial:	2 Against F	low			\boxtimes			Wel	- 		F L
Circ CW:	3 Upstream				⊠			Centerli	ine		o W
	4 Downstre	am			\boxtimes						
Circ	5 Upstream	n			X					NOZZLE	
ccw	6 Downstre	am			X					Component	
	7 L-Wave	Base Me	tal								
	8 Other _CI	RV		8							
Indication No.	L (In) From L-1 L- Max	Ref L-2	W W-2	/ (in) Fro W- Max	W		Sweep F -1 SW Ma	7- SW-2	Max Amp %DAC	Examinatior (1-8)	ı
NRI	IVIAX				<u>`</u>		_				
				-							
Remarks:		· · · · · · · · · · · · · · · · · · ·									
	le Indications.										
Reviewed pr	evious data. Se	e attached	sheet f	for cover	age.						
Examiner NG-143Z F	L- I Leve	<u>4-2-4</u> Date	~/_	Level III	Review	my	04/3 Dat 4/29/0	e Al	NII Review	Mculla <u>5/4/0</u> Date Page <u>1</u> of <u>6</u>	

UL		KAMINATION			
DIJANE ARNOLD	Rep	ort No.: 101089	· · · · · · · · · · · · · · · · · · ·	····	
Site:DUANE ARNOLD	Cali	bration Sheet N	o .: <u>C-042</u>		
	Data	a Sheet No.:	A		
Procedure No.: ACP 1211.30	Revision:)			
System:RPV Exam Surface	e Temp:°F	Couplant:	MEX	Exam Start: 1421	_
Weld ID: VIC-D001 Thermometer	s/N:	Batch No	.65	Exam End:	
Search Unit 45° / SHR Examination Su	rface: ID 🔲 OD	Material Type:	cs 🛛 ss 🗖	Other:N/A	
Lo Reference:			Axial Scan Sen	sitivity (dB)_ ^{47.0}	
Weld CenterLine			Circ Scan Sens	itivity (dB)	
	Performed	Indications			
	Yes No	Yes No		Component VESSEL	1 t
1 With Flow Axial: 2 Against Flow			Weld		
_			Centerline		
Circ 3 Upstream CW: A Deventement			Centenine		- W
4 Downstream					
Circ 5 Upstream CCW				NOZZLE	
6 Downstream				Component	
7 L-Wave Base Meta					
8 Other <u>N/A</u>					
Indication L (In) From Ref	W (in) From Rei	f Sweep F			ination
No. L-1 L- L-2 Max	N-2 V- V Max	V-2 SW-1 SV Ma			- 8)
NRI					
Remarks:					
No Recordable Indications.					
Reviewed previous data. See attached she	eet for coverage.				
000 -	1	2/	1 land.	WA MA -	1.1
Examiner <u>A</u> 4-24-ci Examiner Level Date	Level III Review	N / Dat	e ANII Re	view Di	<i>YL0,</i> ate
	I Sm. A.A.	1 ma. 4/2a/1		Page _ 2	of (a
NG-143Z Rev. 1	1 I MORE CO	non (10		·	

	ULTRASON		MINATION		EET	······································	
Site: DUANE ARNOLD	-	Report Calibra	t No.: ^{I01089} ation Sheet I heet No.: ^N	No.: C-043			
Procedure No.: ACP 1211.30	Revis						
System: <u>RPV</u> Exam S	Surface Temp: ⁸²	۴F	Couplant:H	UMEX	Exam	Start:1440	_
Weld ID: VIC-D001 Thermo						End: 1455	_
Search Unit_60° / SHR Examinati Lo Reference:TOP DEAD CENT Wo Reference:WELD CENTERL	ion Surface: ID			e: CS 🔀 SS Axial Scan	Sensitivit	ner:N/A y (dB)53.5 (dB)53.5	
	Perfoi	med	Indications				
	Yes	No	Yes No			Component VESSEL	1 t
Axial: 2 Against Flow				Wel	Id		- F
	⊠			Centerl			
Circ 3 Upstream CW: 4 Downstream				Center		• • • • • • • • • • • • • • • • •	- w
Circ 5 Upstream						NOZZLE	
ccw 🦳					L	Component	
6 Downstream 7 L-Wave Base	Metal					Component	
8 Other <u>N/A</u>							
Indication L (In) From Ref No. L-1 L- L- Max	W (in) Fro 2 W-2 W- Max	W-2	SW-1 S	Reading W- SW-2 lax	Max Amp %DAC		ination - 8)
NRI							
		_					
Remarks: No Recordable Indications.				l	1	L	
Reviewed previous data. See attac	hed sheet for covera	ige.					
Examiner Level D	24-01 Level III	Review A Alu		ate At	<u>leai N</u> III Review	Page <u>3</u>	<u>////</u> ate of _ b

				(MANU	JAL PIP	ING)	ATA SH			
Site: DUANE A	RNOLD				No.: 10					_
Site:		-		Calibra	ation She	et No	.: <u>C-044</u>			
Procedure No.:	ACP 1211.30		Revis	ion:						
System: RPV	Exam S	urface Te	mp: ⁸²	°F	Couplant	HUN	1EX	Exam	Start:	
VIC-	D001 Thermo	motor SI	N. 3475		Batch No	0016	5	Exam	End: 1512	
Search Unit 70	°/SHR Examinat	on Surfac	e: ID 🔲	OD 🛛	Material	Туре:	cs 🛛 ss	D Oth	ner:	
	TOP DEAD CENT				_		Axial Scan	Sensitivity	(dB)	
	WELD CENTERL				-				(dB)	
wo Reference.					- Indicatio	ne				
			Perfo						Component	
			Yes	No	Yes	lo			VESSEL	
Avial:	1 With Flow		⊠			⊠	18/-1			E
Axial:	2 Against Flow					⊠	Wel	+		FL
Circ	3 Upstream						Centerl	ine		o W
CW:	4 Downstream		⊠							••
Circ	5 Upstream			a					NOZZLE	
	6 Downstream							L	Component	
	7 L-Wave Base	Metal				ĺ				
	8 Other N/A		a	\mathbf{X}						
				\boxtimes						
Indication	L (In) From Ref	v	V (in) Fro	om Ref	Sw	eep R	eading	Мах	Examination	ı
				W-2	SW-1	SW Max	1	Amp %DAC	(1-8)	
NIDI	Max		14101/	<u> </u>		11102	<u>`</u>			
NRI			_							
Remarks:										
No Recordabl	e Indications.									
Reviewed pre	vious data. See attac	ched sheet	for cover	age.						
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m	4.	14-01	Level-III	Raviou		04/2	for len	<u>Illan 1</u> VII Review	<u>Date</u>	/
Examiner	Levei L	ale	Leverni		4/-			111101104	Page 4 of 6	

NM Committed to Nuclear Exc		COVER	AGE PLOT SHEE	ET	SITE: Durc Arwid UNIT: 1 PROJECT: <u>RF 017</u>	REPORT NO.:
SYSTEM: <u>RP</u> V		COMPON	ENT ID NO: <u>VIC - Pec</u>	.i	CONFIGURATION: Nozzic	RIPU SHELL
	L = 54.19 w = 5.80 l+= 4.68 27.144	, <u> </u>	170.93		D° - X	60° VAU7 X.5 ×54.19 Z
	1470. 1470 1470.	93 . 93 93	1476.93 - 1457.67 703.76 1470.93. 1470.93		VAU7x.7 x 54.19 2 13.27 VAD- 4.68 x 4.85 x 54.19 2	VACU-DK
60° VAU VAD VACW VACCU	1470.9 1470.9 1470.9 1470.9	3	1468.22 428.37 1470.93 1470.93		4.68 x,60 x 54.19 1	152.16 767.16 VACCW- Ø
	13239	3.37	11412.67	86.	20%	
EXAMINER	2	Z LEVEL	<u> </u>	LEV		ATE Muelle PAGE 5 OF 6



						(MANL	JAL PI	PING)	DATA SH		<u></u>	·····
Site: DUAN	E ARNOLD	······					No.:!					
Sile		<u></u> .					tion Sh					
						Data SI	heet No	. <u>N/A</u>				
Procedure N					_ Revisi							
System:RF	νv	_ Exa	m Surf	ace Ten	np:	•F	Couplan	t:	IEX	Exam	Start: 1140	
Weld ID: VI										Exam	End:1150	
Search Unit	0° / LONC	[;] Exam	ination	Surface		OD 🖂	Material	Type:	CS 🛛 SS	D Ot	her:N/A	
Lo Reference						-					y (dB)_41.0	
Wo Reference											(dB)	
				- 1	Perform	ned	Indicati	ons				
				-	Yes	No	Yes I	VO			Component	•
	1 Wit	th Flow				X					VESSEL	41
Axial:	2 Aga	ainst Flo	w	1		8			We	d		- F
Circ	3 Up:	stream				8			Centeri	ine		0
cw:	4 Dov	wnstrea	m									- w
Circ CCW	5 Ups	stream									NOZZLE	
	6 Doi	wnstrea	m		D	×					Component	
		Vave Ba		etal		\boxtimes	D					
	8 Oth	er <u>CRV</u>	, 					8				
Indication		From R			(in) Fron			eep Re		Max		ination - 8)
No.	L-1	L- Max	L-2	W-2	W- Max	W-2	SW-1	SW- Max		Amp %DAC	····	- 0,
NRI											······	
								1				
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Remarks:	I	.		L			L	•				
No Recordal	ble Indicati	ons.										
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ma			<u> </u>		Num TI R	eview	/	Date	AN	II Review	Da	ste
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		1	ULTR			MINAT		DATA SH)	TEET		<u>** · ·</u>
Site: DUANE		· · · · ·			•	t No.:		·			
Site:								D.: C-038			
						heet No					
Procedure No	D.:ACP 12	11.30		_ Revisi	ion: _0						· · · · · · · · · · · · · · · · · · ·
System:	v	Exam Sur	face Ter	np:	•F	Couplar	nt:	MEX	Exar	n Start: 1157	
Weld ID:	F-D001	Thermom	eter S/N	I: <u>3475</u>		Batch N	lo	55	Exar	n End: 1215	
Search Unit	45°/SHR E	xamination	Surface	e: ID 🖸	OD 🕅	Materia	I Type:	CS 🛛 SS	6 D 0	ther:N/A	
.o Reference	TOP DEA	D CENTER	2			_		Axial Sca	n Sensitivi	ty (dB)	
	e:WELD CE							Circ Scan	Sensitivit	y (dB)	
			T	Perfor	ned	Indicati	ons				
			ľ	Yes	No	Yes	No			Component	•
Avial	1 With F	low		\boxtimes			⊠			VESSEL	41
Axial:	2 Agains	t Flow		⊠				We	Id		F - L
Circ CW:	3 Upstre	am			a		8	Centerl	ine		- Ö W
	4 Downs	tream		\boxtimes	D		8				
Circ CW	5 Upstre	am		8	D		8			NOZZLE]. 1
	6 Downs	tream		\boxtimes	a		8			Component	
		e Base Me	etal		×						
	8 Other	N/A									
ndication	L (In) Fro			(in) From			veep Re		Max		nation
No.	L-1 L- Max	L-2	W-2	W- Max	W-2	SW-1	SW- Max		Amp %DAC	(1	- 8)
NRI											
				<u> </u>	<u> </u>			_			<u>_</u>
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Remarks:											
	le Indications.					<u> </u>				·	
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						<u>.</u>	UAL PI					
Site: DUAN	IE ARNO	DLD					t No <u>.:</u>					
									.: <u>C-039</u>			
							heet No	.:N/A				
Procedure N	No.:	CP 1211	.30		Revisi	on:						
System:	PV	E	Exam Su	face Te	mp:_ <mark>82</mark>	_•F	Couplar	nt:	1EX	Exar	n Start:_1215	-
Weld ID:	IF-D001		Thermon	ieter S/I	N: <u>3475</u>		Batch N	o0016	5	Exar	m End:1230	-
Search Unit	60°/S	HR Exa	mination	Surfac	e: 1D 🔲	OD 🛛	Material	Туре:	CS 🛛 SS		ther:N/A	
Lo Referenc											ity (dB)	
Wo Referen											y (dB)	
					Perform	ned	Indicati	ons				
·					Yes	No	Yes !	No			Component	
	11	With Flo	W								VESSEL	
Axial:	2/	Against I	Flow			0			We	ld		F
Circ	3 (Jpstrear	n						Center	line		
cw:		Downstre						8				w
Circ		Jpstream			_			ଷ			NOZZLE	1
	61	Downstre	eam							L	Component	
		-Wave		lete							Component	
		Dther N		stai		\boxtimes						
	01	Jinei										
Indication	L (I	in) From	Ref		(in) From	n Ref		eep Rea		Мах	Examin	
No.	L-1	L- Max	L-2	W-2	W- Max	W-2	SW-1	SW- Max	SW-2	Amp %DAC	(1-	8)
NRI												
			 						-			
			<u> </u>				1		-			
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Remarks:												
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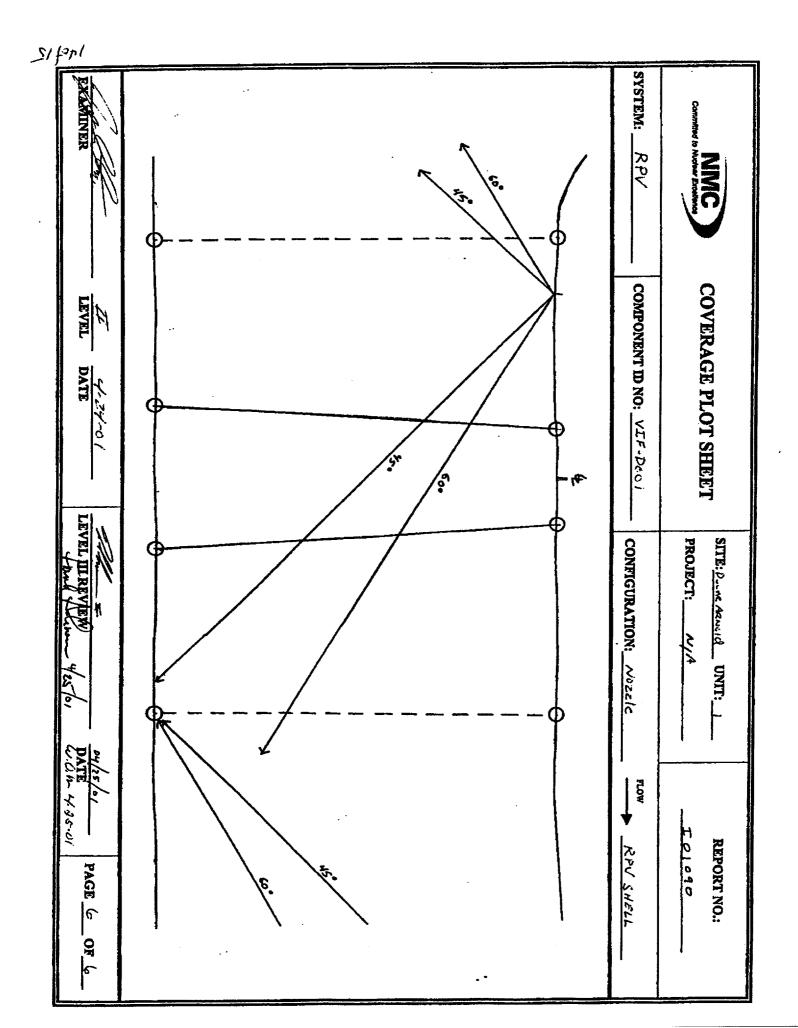
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Site: DUAN	E ARNO	LD				Calibr	ation Sh	eet N	o.:C-040			
							heet No			<u></u>		
		CD 1011	20			h		••			<u></u>	
Procedure N					Revis							
System:							Couplar			Exan	n Start: 1216	
Weld ID: VI	F-D001	T	hermom	eter S/N	N: <u>3475</u>		Batch N	o. <u>001</u>	65	Exan	n End:	_
Search Unit	70° / SH	^{IR} Exa	mination	Surfac	e: ID 🗋	OD 🛛	Material	Туре:	CS 🛛 SS		ther:	
Lo Referenc	e:TOI	P DEAD	CENTER				_		Axial Sca	n Sensitivi	ty (dB)_ ^{60.0}	
Wo Referen									Circ Scan	Sensitivit	y (dB)	
					Perfor	med	Indicati	ons			· · · · · · · · · · · · · · · · · · ·	
					Yes	No	Yes	No			Component	•
	1 V	Nith Flo	w			D					VESSEL	
Axiai:	2 A	lgainst F	low						We	ld		F
Circ		Jpstrean			8				Center			
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لــــ)ownstre			Ø			X				
Circ CCW	5 L	Jpstrean	n		\boxtimes			X			NOZZLE]
	6 C	Downstre	am		X			X			Component	
	7 L	-Wave	Base M	etai		8						
	8 0	Other	/A				_					
						8				I		
Indication	L (I	n) From	Ref		(in) Fro				eading	Max	Exami	
No.	L-1	L- Max	L-2	W-2	Max	W-2	SW-1	SW Ma		Amp %DAC	(1)	- 0)
NRI		Inch				-		1			······································	
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Remarks:												
No Recorda	ble India	cations.										
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(in 10	U	T.	4-2-1-2			2	5	ouhs	hi Will	lear Th	weller 4:	95.01
Examine	r	Leve			ever Til F	Review /	/	Pate	AN	III Review	Da	te
				K	french	1 Ala	men "	1/25/)/		Page <u>4</u> o	f
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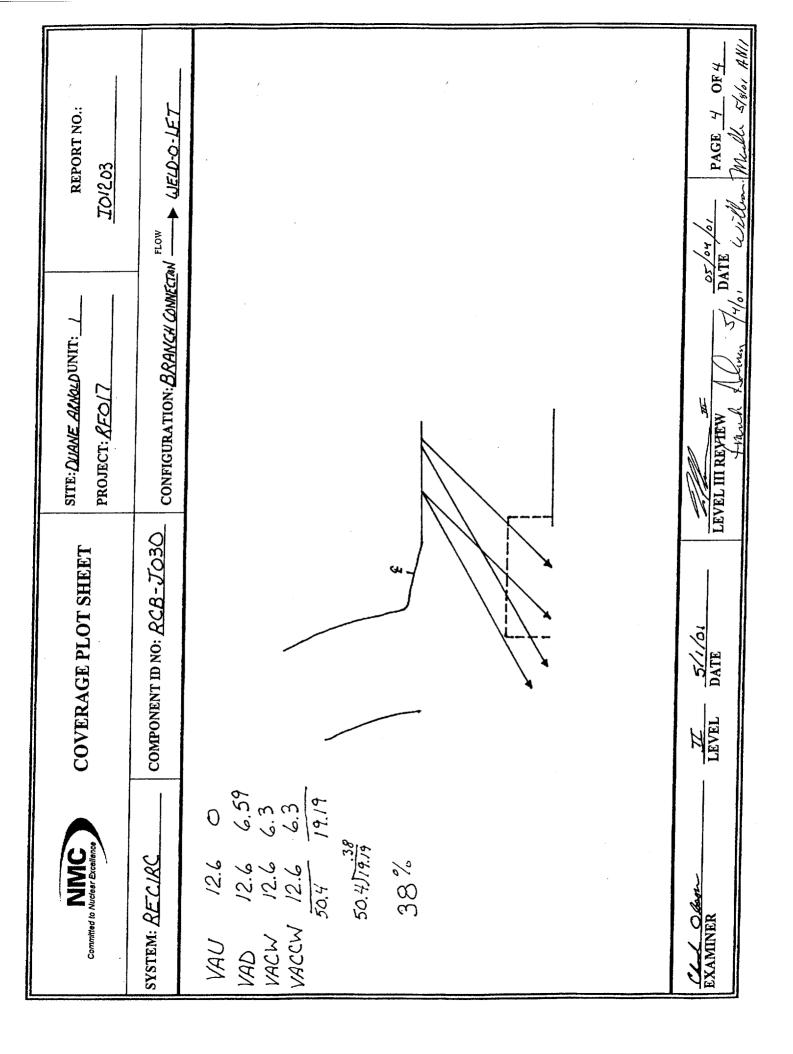
Committeed to Nuclear Excellen		RAGE PLOT SHEE	T SITE: Duche Aquib UNIT: 1 PROJECT: N/A	
system: <u>RPV</u>	Сомро	NENT ID NO: VIF- DOOL	CONFIGURATION: Nozzle	FLOW RPV SHELL
TOTAL L	= 54.19		MISSING	
	= 5.80			/. O
1+	= 4.68		0° - 14	60°
	27.144	1470.93		VAU7 X.5 X54.1
				2.70
0° -	1470.93	1476.93 -		
			450	VAD - 5.1×31,54
45° VAU -				VAD - 5.1+31,54.
	1470.93 1470.93	1457.67	VAU7x.7 x 54.	19= 1042.55
re .	1470.93	703.76 1470.93.	/ 3. ·	27 VACW-Ø
VACCW-	1470.93	1470.93	VAD_ 4.68 × 4.85	VACU-Ø
60°			VAD_ 4.68 x 4.85 x 54.1	
VAU	1470.93	1468.22	4.68 7.60 7 54.19	
VAD VAD	1470.93		VACW- Ø	VACCW- Ø
VAcw	1470.93	428.37		A CONTRACTOR OF
11		1470.93	VACCW- Ø	
VAccw	1470,93	1470.93-	,	
	13238.37	11412.67	86.20%	
Con A	TE.	4-24-21	111 -	
EXAMINER	<i>Æ</i> Levei	DATE	LEVEL III REVIEW	DATE PAGE 5 OF 6
			- + Hant dram 4/25/81	Wom 4-25-01



<u> </u>		U	LTRA					DATA SH	EET		
Site:DUANE	ARNOLD				Repor	t No.:	101203				
					Calibr Data S	ation S Sheet N	neet No N/A	C-096			
	ACP 121	1.20									
	ACP 121			Revisio	on:		HUI	MEX		1329	
		Exam Surfa								n Start:	
	B-J030						No			n End:	
Search Unit	60° RL Ex	xamination §	Surface:	ID 🗖	od 🛛	Materi	al Type:	cs 🗖 ss	X C	other:	
Lo Reference	TOP DEAL	D CENTER				_		Axial Scan	Sensitivi	ty (dB)	
Wo Referenc		NTERLINE				_		Circ Scan S	Sensitivity	/ (dB)	
				Perfor	med	Indica	tions				· · · · · · · · · · · · · · · · · · ·
			-	Yes	No	Yes	No			Component	
٢	1 With FI	low			⊠					Weld-O-Let	
Axial:	2 Agains			<u> </u>				Wel	d		F
Circ r	3 Upstrea	am						Centerli	ine		0
cw: í	4 Downs	tream									W
Circ r	5 Upstrea	am			8					Branch Connection	. 1
ccw į	6 Downs	tream			\boxtimes				I	Component	I
	7 L-Wave	e Base Me	tal								
	8 Other	N/A									
Indication No.	L (In) From	L-2	W (W-1	(in) Fror W- Max	n Ref		Sweep R 1 SW Ma	/- SW-2	Max Amp %DAC	Examir (1-	
NRI	Max	<u> </u>		IVIAX	1		(VIC	^			
		-									
						_					
							_				
				.l	1		L		1	<u> </u>	
Remarks: No Recordal	ble Indications	<u>.</u>				_,					
	revious Data R		57. No c	hanges	were obs	served.					
·	3% code covera										
					201				.).1	1	
Charl O		5/1/2	, _=			71	05/04	6 Will	lean 7	Nulla 5/81	<u>lo</u> 1
Examiner	- Lev	vel Date	Le	evel III F	eview	men	Date 5/4/	AN	III KEVIEV		-
NG-143Z F	Rev. 3		17	VEN M	¥.2~1		, ., o	/		Page 1 of	4

			U	LTR/	SONI		AMINA IUAL P		DATA SH)	EET				
Site:DUANE	ARNOLD)				Repo	rt No.:	101203						
			<u> </u>			Calibration Sheet No.:								
	~						Sheet N	o .:N/A	<u> </u>			······		
Procedure No	ACI	P 1211.2	20		Revisi	on:								
System:			am Surf	ace Ter	np:	°F	Coupla	HUI	MEX	Exar	n Start:			
Weld ID:RC		וד _					Batch			Exar	n End:1325	-		
Search Unit_	45° SHR	Exar	nination	Surface	: ID 🔲	OD D	Materi	al Type:	cs 🗖 ss	🖾 C	N/A)ther:			
Lo Reference	TOP I	DEAD (CENTER						Axial Scan	Sensitivi	ty (dB)			
Wo Reference	e:	D CENI	ERLINI	E					Circ Scan S	Sensitivity	v (dB)			
					Perfor	med	Indica	tions				 ๅ		
					Yes	No	Yes	No			Component Weld-O-Let	•		
ſ	1 Wi	ith Flov	v			⊠								
Axial:	2 Ag	ainst F	low		×			\boxtimes	We	ld		F - L		
Circ r	3 Up	stream	1			8			Centerl	ine	0			
cw:	4 Do	wnstre	am			X						- W		
Circ r	5 Up	stream	1			\boxtimes					Branch Connection			
ccw į	6 Do	wnstre	am							Component				
	7 L-\	Wave E	Base Me	etal										
		her ^{N/}												
				.				لیا						
Indication	L (in) From I	Ref	W-1	/ (in) Fro	m Ref		Sweep F		Max Amp		ination - 8)		
	L "	Max			Max			Ma	1X	%DAC				
NRI														
				ļ								. <u></u>		
										ļ				
										<u> </u>				
Remarks:								<u></u>						
No Recorda	ble Indica	tions.												
Reviewed p	revious D	ata Rep	ort # 91-2	257. No	changes	were of	oserved.							
Achieved 38	8% code c	overage												
Examiner NG-143Z		Level	<u>5/1/6</u> Date	- ע	Level III	Review G Ac	 (] himm	5/4/0	AN	lia	Maulla 57 w Da Page 2	<u>(«/ o/</u> te of <u>4</u>		

		U	LTRA	SONI	(MAN	UAL PI	PING	DATA SH)	EET				
DUANE A					Repor	t No.:	101203						
Site:					Calibration Sheet No:								
					Data S	Sheet No	n:N/#	\ 					
Procedure No.:	ACP 121	1.20		Revisi	2	t							
system:REC	IRC	Exam Surfa				Coupla	HU	MEX	Exam	Start:			
Veld ID:							40 ⁻⁰⁰¹	65	Exam	End:1328	_		
Search Unit_35	5° SHR EX	camination	Surface:		od 🛛	Materia	il Type:	cs 🛯 ss	🛛 Ot	her:			
o Reference:								Axial Scan	Sensitivity	(dB)			
vo Reference:		APPEND AND				-		Circ Scan S					
				Perfor	med	Indicat	ions						
				Yes	No	Yes	No			Component	•		
	1 With F	low			Ø					Weld-O-Let			
Axial:	2 Agains			_				Wel	d		F		
	3 Upstrea							Centerli					
Dirc (DW: (4 Downs										- w		
						_			B	ranch Connection			
Circ (CCW	5 Upstre	am			\boxtimes								
	6 Downs	tream		\boxtimes			\boxtimes			Component			
	7 L-Wav	e Base Me	etal		\boxtimes								
	8 Other	N/A											
Indication	L (In) Fro	(In) From Ref W (in)			m Ref W-	Sweep F -2 SW-1 SV			Max Amp	mp (1-8)			
	Max			Max			Ma	ax	%DAC				
NRI			ļ		_								
			1										
Remarks:													
No Recordab													
Reviewed pro	evious Data R	Report # 91-2	257. No	changes	were of	served.							
Achieved 389	% code cover	age.											
<u>CL O</u> Examiner	Le	vel Date		evelili	Review		Date	te, Ci	Ilinii NII Review	Malla S	<u>ile</u>		
NG-143Z R			<u> </u>	trant	(1)+	ime	-/4/	01		Page 3	of <u>4</u>		



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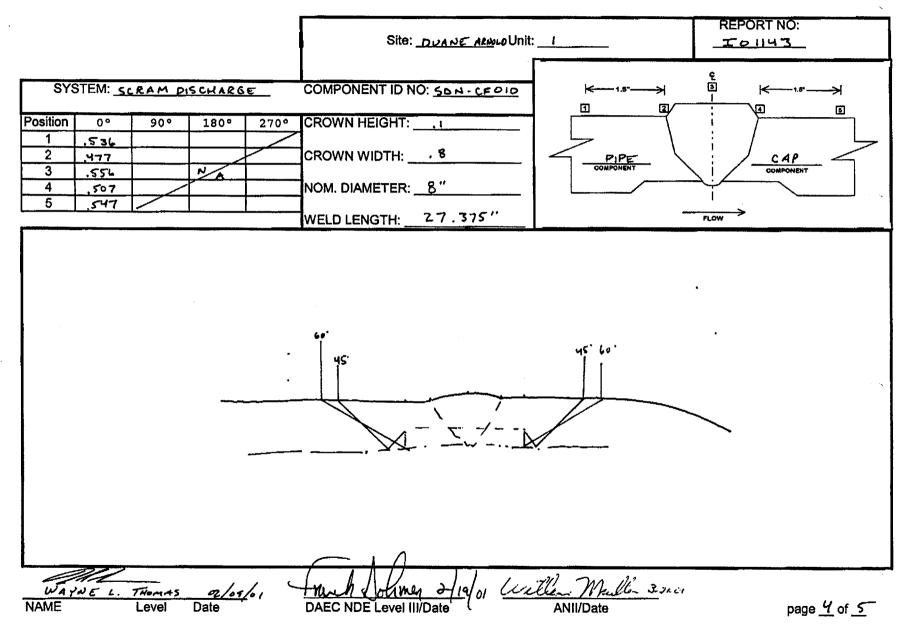
Site: DVA	NE A	RNDL	<u>D</u>			Calibra	eport No.: alibration Sheet No.: ata Sheet No.: <i>N/a</i>						
Procedure N	lo.: <u>17</u>	11.19	1		Revis	ion: <u>z</u>							
ا System: <u>sc</u>	RAM DISCI	1) <u>Var</u> ge Ex	kam Surf	ace Tei	mp: <u>8</u> €	<u>3_</u> ⁰F	Coupl	ant: <u>H</u> u	MEX	Ex	am Start: <u>1350</u>		
Weld ID: <u>5</u>	DN-CA	: <i>010</i> T	hermom	eter S/N	N:16(<u>659</u> 9	Batch	No. <u>14</u>	<u>565</u> A	Ex	am End: 1400		
Search Unit	66573	Exa	mination	Surface	e: 🔲 ID	DO 🕅	Mater	ial Type:	⊠cs 🗖	SS	Other: N/A		
Lo Referenc	e: <u>7</u>	DC							Axial Scan	Sensiti	vity (dB) <u>5⁻6</u>		
Wo Referen	ce:	ELD	4						Circ Scan	Sensitiv	ity (dB) <u>56</u>		
					Perfo	rmed	Indica	tions					
					Yes	No	Yes	No			Component +		
	1 W	ith Flov	v		X			X			CAP		
Axial:	Axial: 2 Against Flo				X			X	We	ld	F		
Circ	3 Up	stream	ı		X			X	Center	line	0		
CW:	4 Do	wnstre	am		X			X		F	W		
Circ	5 Up	stream	n		X			X			PIPE		
CCW	6 Do	wnstre	am		X			X		L	Component		
7 L-Wave Base Metal						X							
	8 Ot	her				X							
Indication) From I			/ (in) Fro			Sweep R		Max			
No.	L-1	L- Max	L-2	W-2	W-W-2 Max		SW-1 SW Ma				np (1-8) DAC		
				· · · · · · · · · · · · · · · · · · ·									
							-						
Remarks:	NO R	ECOR	OA BLE		DICA		. 56	E AT	TACHED	FOR	SCAN LIMITATIO		
ACHI	EVED (CODE	- Cov	ERAG	SE I		2100				AM + SUPPLEME		
a.	Ľ		/		ful	Artime		hal	. Unit	ר. א	Mulla <u>3 31.01</u> w Date		

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Site: סע	ANE ARNOLD		Calib	port No.: <u>Toli43</u> libration Sheet No.: <u>C-0013</u> ta Sheet No.: <u>N/A</u>					
Procedure	No.: 1211.19	Revi	sion:Z	-					
	(NORTH) AM DISCHAAGCExam Surface	Гетр: <i>61</i>	<u>8_</u> °F	Coup	lant: <u>H</u> u	JMEK	Exa	am Start: <u>/40 /</u>	
Weld ID:	「DN-CF 0」の Thermometer :	S/N: <u>16</u>	1599	Batch	n No. <u>1</u>	<u>si</u> sa	Exa	am End: <u>1412</u>	
Search Uni	t 66573 Examination Surf	ace: 🗌 ID	DO 🖸	Mater	rial Type:	🛛 cs 🗖	SS (Other:/A	
Lo Referen	ce: TDC			_		Axial Scar	sensitiv	ity (dB)/	
Wo Refere	nce: WELD'E		<u> </u>	-		Circ Scan	Sensitivit	y (dB)/	
		Perfo	rmed	Indica	ations				
		Yes	No	Yes	No			Component	+
Aviali	1 With Flow	X			\boxtimes			CAP	
Axial:	2 Against Flow	\mathbf{X}			X	We	id		F
Circ CW:	3 Upstream		\mathbf{X}			Center	line		o w
011.	4 Downstream		X						~~~
Circ CCW	5 Upstream		\mathbf{X}					PIPE	•
0011	6 Downstream		X					Component	
	7 L-Wave Base Metal		\mathbf{X}						
	8 Other		\boxtimes						
Indication No.	L (in) From Ref L-1 L- L-2 W- Max	W (in) Fro 2 W- Max	W-2	SW-	Sweep Re 1 SW Max	- SW-2	Max Amp %DAC	Examina (1-1	
Remarks:	NO RECORDABLE	INDIC	ATION	5. 5	EE AT	TACHED	FIR	SCAN LIAIT	AT INA S.
	· · · · · · · · · · · · · · · · · · ·								
	72.			}					
	HOMAS THE 02/08/01	fr. l	M	/	أوالد	of lill	? W	Julla 3. 21. 01	,
Examine		Level III F	Review				I Review	Date	

				ULTR	ASON			ATION PIPING	DATA S	HEET			
<u>يرمSite</u>	ANE	ARNO	<u>LD</u>			Calib	ort No.: ibration Sheet No.: a Sheet No.:						
Procedure			19		Revis	ion:							
System: <u>sc</u>	CNORT RAM DIS	ч) <u>нагд</u> е [Exam Sur	face Te	mp:8	°F	Coupl	ant: <u> H</u> u	VMEX	Exa	m Start: <u>1000</u>		
Weld ID:	50N - C	6010	Thermon	neter S/I	N: <u>/66</u>	599	Batch	No/1	1565A	Exa	m End: <u>100 5</u>		
Search Un	it <u> </u>	<u>/ B</u> Exa	aminatior	I Surfac	e: 🔲 ID	🕅 OD	Mater	ial Type:	🛛 cs 🗆	SS (Other: J/A		
Lo Referen	ice:	TOC					-		Axial Scar	n Sensitivi	ty (dB) 67.4		
Wo Refere	nce:	WELD	æ				-		Circ Scan	Sensitivit	y (dB)		
	- .				Perfor	med	Indica	tions			······································		
					Yes	No	Yes	No			Component 🛉		
Axial:	1 '	With Flo	w			\mathbb{X}					CAP	F L O W	
	27	Against I	Flow					\square	We	#d 			
Circ CW:	3	Jpstrear	n			\square			Center	line			
	4 [Downstr	eam			X						vv	
Circ CCW	5 (Jpstrear	n			X					PIPE		
6 Downstream							Component						
	7 เ	-Wave	Base Me	etal		X							
	8 (Other				\square							
Indication No.	L (In) From	Ref	W-2	(in) Fron			Sweep Re	eading Max SW-2 Amp		Examination (1-8)		
NQ.	L-1	Max	L-2	VV-2	Max		300-	Max		%DAC	(1-8)		
		l				<u> </u>					L		
											DEL TO GAIN		
FURT RE PO		COVE	FRAGE	<u>A7</u>	807	TOM	(180	<u> </u>	F WED	<u>568</u>	Pg. 5 DF THIS		
NE FO	<u>··· (</u>					. /	1	. <u> </u>					
6/	21				<u> </u>	1/)	11		<i>i</i> -	. ' •		
Examine	Tomas		02/13	101	hull evel III Re	Nh	ney	2/19/0	1 fizle	en Me	<u>alle 3.1.01</u> Date		
Examine	ſ	Level	Date		evei III Ke	WIEW	Dat	e ((AN	II REVIEW			
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Wall Thickness Profile Sheet



REPORT# IDI143	Tion	L= 27.35". X H= 166	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	£ 7.	· ·	EXAMINED - 23.6 84.36%		2°2 5
χ.,	LIMITATION CALCULATION SHEET	ED LUGS (.75"ERCH). (9.125"LONG)	5 2/5 C			(= 2.4) 3.5 cu. 1N = 5.47 cu. N = 5.47 cu. N = 19.91 cu. N	2-11a/	
		WELD # SDN- CFOID LIMITATION : ZWELDED LUGS (.75"EACH) SANDLE (9.125"LONG)	56.5	VEW 5.90 VECW 5.90 23.6 CU.IN.		(5.10) VAU - 1.9743 (5.90) VAD43 (5.72) VCU43 (5.72) VCU43 (5.72) VCU43		