DUANE ARNOLD ENERGY CENTER

UNIT #1

PALO, IOWA

Commercial Service Date: February 1, 1975

INSERVICE INSPECTION REPORT

June 30, 1987 through December 27, 1988

Date:

March 15, 1989

OWNER:

Iowa Electric Light and Power Company P.O. Box 351 Cedar Rapids, Iowa 52406

Reviewed by:

ASME Section XI Administrator

Concurred by:

PIC DIMARES Supermising Enginger

### Table of Contents

PART	DESCRIPTION	PAGE NO.
Α	Form NIS-1	A, page 1
В	Certificate of Inservice Inspection	B, page 1 - 8
С	Abstract	C, page 1
D	Table of Component and Weld Examination Identification Records	D, page 1 - 7
Ε	Abstract of ASME Section XI Repairs and Replacements	E, page 1 - 3
F	Form NIS-2's	F, page 1 - 69
G	Abstract of Conditions Noted and Corrective Measures Taken	G, page 1
Н	ISI Figures and ISO's	H, page 1 - 35

# FORM NIS-1 OWNERS' DATA REPORT FOR INSERVICE INSPECTIONS As required by the Provisions of the ASME Code Rules

1.	Owner Iowa Electric Light and Power, P.O. Box 351, Cedar Rapids, IA 52406 (Name and Address of Owner)
2.	Plant Duane Arnold Energy Center, 3277 DAEC Rd., Palo, IA 52324 (Name and Address of Plant)
3.	Plant Unit4. Owner Certificate of Authorization (if required)N/A
5.	Commercial Service Date 02-01-75 6. National Board Number for Unit N/A
7.	This report includes a Table of Contents (p.1), Part A (p.1), Components Inspected Part B (pp.1-8), Part C (p.1), Part D (pp.1-7), Part E (pp.1-3) Part F (pp.1-69), Part G (p.1), Part H (pp.1-36)

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Reactor Pressu	re			
Vessel (RPV)	Chicago Bridge and Iron	3-4833	NA	3663
HCA-H2	11	11	11	11
RPV Stabilizer Weld	11	11	tt	F1
CSA-BD-1	11	11	11	TT.
RRA-N2-A	II	11	11	11
Vessel Nozzle Inside Radius	11	11	11	11
RRA-BD-1	11	11	11	11
RRB-N2-B	11	11	11	
Vessel Nozzle Inside Radius	11	<b>?</b> 1	11	11
RRB-BD-1	11	11	11 * 4	, 11
				:
(Refer to Part	B, Pages 1 through 8, of	this report	for continuati	on of
	milited /			

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

#### FORM NIS-1 (back)

8.	<b>Examination Dates</b>	06-30-87	to <u>12-27-8</u>	8_ 9. Inspection	on Interval from $11-01$	<u>l –85</u> to	<u>11-01-9</u> 5

10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval.

11. Abstract of Conditions Noted

12. Abstract of Corrective Measures Recommended and Taken

We certify that the statements ma	ade in this report are correct and the examinations and corrective mea-
sures taken conform to the rules of the ASM	· / / / / / / / / / / / / / / / / / / /
	Iowa Electric Light (\ ///////////////////////////////////
Date	Iowa Electric Light  Signed and Power Company  Owner  Manager, Nuclear Division
	Owner Manager, Nuclear Division
Certificate of Authorization No. (if application	ble) N/A Expiration Date N/A
CERTIFICAT	TE OF INSERVICE INSPECTION
Long Grove, II have inspected the conditions and taken conditions are the requirements of the ASME Code, Sometimes are signing the examinations and correct concerning the examinations and correct	Inission issued by the National Board of Boiler and Pressure Vessel Lumbermens Mutual of Casualty Company of Components described in this Owners' Data Report during the period managed in this Owners' Data Report in accordance Section XI., except for the item listed below (Note 1) inspector nor his employer makes any warranty, expressed or implied, ive measures described in this Owners' Data Report. Furthermore, all be liable in any manner for any personal injury or property damage atted with this inspection.
Date March 22, 1989	
	Commissions National Board 5813 (I) (N), IA1041
Insp <b>oc</b> tor's Signature	National Board, State, Province and No.

Note 1: NIS-2 No. 09-89-26

(See Part F for NIS-2 form)

1) Owners: Iowa Electric Light and Power Company P.O. Box 351 Cedar Rapids, Iowa 52406

Central Iowa Power Cooperative Marion, Iowa

Corn Belt Power Cooperative

Humboldt, Iowa

- 2) Plant Duane Arnold Energy Center, Palo, Iowa
- 3) Plant Unit  $\underline{\#1}$  4) Owners Certificate of Authorization (if required)  $\underline{N/A}$
- 5) Commercial Service Date  $\underline{2-1-75}$  6) National Board Number of Unit  $\underline{N/A}$  GROSS GENERATING CAPACITY:  $\underline{565}$  MWE

#### CERTIFICATE OF INSERVICE INSPECTION

#### COMPONENTS EXAMINED:

#### Reactor Pressure Vessel

Manufacturer: Chicago Bridge and Iron

Post Office Box 13308 Memphis, TN 38113

National Board Number 3663, Mfr. Serial Number 3-4833

Refer to Part A, page 1, Form NIS-1, Owners Data Report for Inservice Inspections.

#### Piping:

Manufacturers, sizes, part numbers and locations are noted and traceable through the piping isometric and piping instrumentation drawings (P&ID). Installation contractor, fabricator, systems P&ID's and isometric drawings are listed below.

Constructor - Bechtel Power Co. P.O. Box 3865 San Francisco, CA 94119

Fabricator - Southwest Fabricating and Welding Co. P.O. Box 9449
Houston, TX 77011

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#### CERTIFICATE OF INSERVICE INSPECTION

#### COMPONENTS EXAMINED:

#### Class 1 Components

Reactor Pressure Vessel Figure 1.1-3

Control Rod Drive Figure 1.1-8

Main Steam Loops A, B, C and D P&ID M-1

in Steam Loops A, B, C and D P&ID M-103
GE Drawing 731E615

ISO No's 1.2-1, 1.2-2, 1.2-3,

1.2-4

Feedwater A and B P&ID M-106, M-107

Bechtel ISO DLA-2-4

ISO No. 1.2-5

Feedwater C and D P&ID M-106, M-107

Bechtel ISÓ DLA-2-4

ISO No. 1.2-6

Core Spray A P&ID M-121

Bechtel Drawings DLA-7-1

and DLA-7-2 ISO No. 1.2-7

High Pressure Coolant Injection - Steam

P&ID M-122

Bechtel Drawing DBA-3-1

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#### CERTIFICATE OF INSERVICE INSPECTION

#### COMPONENTS EXAMINED:

High Pressure Coolant Injection - Water P&ID M-123

Bechtel Drawing DLA-1-1

ISO No. 1.2-10

Reactor Water Clean-up - Discharge P&ID M-127

Bechtel Drawing DCA-6-1

ISO No. 1.2-11B

Control Rod Drive Return

P&ID M-117

Bechtel Drawing DBA-6-1 ISO No. 1.2-12A and 1.2-12B

Residual Heat Removal-20A

P&ID M-120

Bechtel Drawing DLA-5-1

ISO No. 1.2-15

Reactor Core Isolation Cooling - Steam

P&ID M-124

Bechtel Drawing DBA-4-1

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5) Commercial Service Date 2-1-75 6) National Board Number of Unit N/A GROSS GENERATING CAPACITY: 565 MWE

#### CERTIFICATE OF INSERVICE INSPECTION

#### COMPONENTS EXAMINED:

Reactor Core Isolation Cooling - Water

Bechtel Drawing DBA-7-1

ISO No. 1.2-18

Recirculation Drain Line 'A'

P&ID M-116

P&ID M-125

GE Drawing 731E781 APED B31-9-(1)-6 ISO No. 1.2-19A

Recirculation Pump B and Bypass

P&ID M-116

GE Drawing 731E781 APED B31-9-(1)-6 ISO No. 1.2-21

Recirculation Drain Line 'B'

P&ID M-116

GE Drawing 731E781 APED B31-9-(1)-6 ISO No. 1.2-21A

Recirculation Manifold B and Risers A, B, C and D

P&ID M-116

GE Drawing 731E781 APED B31-9-(1)-6 ISO No. 1.2-22

Head Vent

P&ID M-114

APED B11-2655-104-3

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GROSS GENERATING CAPACITY: 565 MWE

#### CERTIFICATE OF INSERVICE INSPECTION

COMPONENTS EXAMINED:

Bottom Head Drain

P&ID M-127

Bechtel Drawing FSK-3352B

ISO No. 1.2-32

Vessel Instrumentation N16A

P&ID M-115

Bechtel Drawing FSK-5555

ISO No. 1.2-33

Recirculation Pump 'A' Supports

P&ID M-116

GE Drawing 731E781 APED B31-9-(1)-6 Figure No. 1.3-2

Recirculation Pump 'B' Supports

P&ID M-116

GE Drawing 731E781 APED B31-9-(1)-6 Figure No. 1.3-3

Class 2 Components

RHR Pump Suction (S.E.)

P&ID M-120

Bechtel Drawing M-712

ISO No. 2.2-32

RHR Pump Suction (N.W.)

P&ID M-119

Bechtel Drawing M-713

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3) Plant Unit #1 4) Owners Certificate of Authorization (if required) N/A

5) Commercial Service Date  $\underline{2-1-75}$  6) National Board Number of Unit  $\underline{\text{N/A}}$  GROSS GENERATING CAPACITY:  $\underline{565}$  MWE

#### CERTIFICATE OF INSERVICE INSPECTION

COMPONENTS EXAMINED:

RHR Pump Discharge (N.W.)

P&ID M-119

Bechtel Drawing M-115

ISO No. 2.2-39

RHR Heat Exchanger Discharge (N.W.)

P&ID M-119

Bechtel Drawing M-721

ISO No. 2.2-40

RHR Fuel Pool Cooling and Cleanup

P&ID M-119 and M-134

Bechtel Drawing HBB-24-2,

3, 4 and 5

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#### CERTIFICATE OF INSERVICE INSPECTION

COMPONENTS EXAMINED:

**HPCI** Pump Discharge

P&ID M-123

Bechtel Drawing M-701

ISO No. 2.2-45

HPCI Turbine Steam Inlet

P&ID M-122

Bechtel Drawing M-702

ISO No. 2.2-46

**HPCI** Turbine Steam Exhaust

P&ID M-122

Bechtel Drawing M-703

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#### CERTIFICATE OF INSERVICE INSPECTION

#### COMPONENTS EXAMINED:

Core Spray Suction (N.W.)

P&ID M-121

Bechtel Drawing M-709

ISO No. 2.2-51

Core Spray Discharge (N.W.)

P&ID M-121

Bechtel Drawing M-711

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- 5) Commercial Service Date 2-1-75 6) National Board Number of Unit N/A

#### Abstract:

The Inservice Inspection addressed in this report was performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI 1980 Edition through Winter 1981 Addenda, and the Duane Arnold Energy Center Updated Final Safety Analysis Report. The inspections were performed utilizing Non-Destructive Examination techniques (i.e., Ut, Pt, Mt, etc.). The examinations were conducted during the period of June 30, 1987 thru December 27, 1988. The specific details and associated records of the examinations are on file at Iowa Electric Light and Power Company.

03/15/89

December 27, 1988

	SYSTEM OR COMPON DESCRIP	ACC REJ	WELD OR COMPONENT DESCRIPTION	UT ISI REPORT NUMBER	VISUAL ISI REPORT NUMBER	MT ISI REPORT NUMBER	PT ISI REPORT NUMBER	ISI ISO NUMBER	ASME XI CATEGORY	COMMENTS
	CLASS 1									
	RPV INTERIOR	X X	RPV INTERIOR		*	N/A N/A	N/A N/A	N/A N/A	B-N-1 B-N-2	100% REMOTE VT ACCESSIBLE AREAS ABOVE AND BELOW THE REACTOR CORE *(REF. 1988 RFO GE IN VESSEL INSPECTION BOOK)
	REACTOR PRESSURE VESSEL	х	НСА-Н2	N/A	N/A	88-082	N/A	FIG 1.1-3		TOTAL LENGTH OF WELD 40 FEET. EXAM FROM O' TO 13.4'
	RPV STABILIZERS	Х	RPV STABILIZER WELD	N/A	N/A	88-083	N/A	N/A		AT 0 DEG. UNITS 5 & 6
	CONTROL ROD DRIVE	X	1T-221(09) 18-03	N/A	88-407	N/A	N/A	FIG 1.1-8	B-G-2	
	(CRD)HOUSING-	Х	1T-221(76) 22-07	N/A	88-389	N/A	N/A	FIG 1.1-8	B-G-2	
	FLANGE BOLTING,		1T-221(06) 14-07	N/A	88-481	N/A	N/A	FIG 1.1-8	B-G-2	
	STUDS, & NUTS	Х	1T-221(40) 34-11	N/A	88-413	N/A	N/A	FIG 1.1-8	B-G-2	,
		Х	1T-221(34) 26-11	N/A	88-411	N/A	N/A	FIG 1.1-8	B-G-2	
		X		N/A	88-392	N/A	N/A	FIG 1.1-8	B-G-2	•
		Х		N/A	88-418	N/A	N/A	FIG 1.1-8	B-G-2	
		Х		N/A	88-343	N/A	N/A	FIG 1.1-8	B-G-2	
		X :		N/A	88-412	N/A	N/A	FIG 1.1-8	B-G-2	
		X :		N/A	88-408	N/A	N/A	FIG 1.1-8	B-G-2	
	:	Х :		N/A	88-410	N/A	N/A	FIG 1.1-8	B-G-2	
	:	Х :		N/A	88-409	N/A	N/A	FIG 1.1-8	B-G-2	
		K :		N/A	88-393	N/A	N/A	FIG 1.1-8	B-G-2	
)	2	<b>C</b> 1		N/A	88-395	N/A	N/A	FIG 1.1-8	B <b>-</b> G-2	

Part D

03/15/89

June 30, 1987 through December 27, 1988

	SYSTEM OR COMPON DESCRIP	ACC REJ	WELD OR COMPONENT DESCRIPTION		VISUAL ISI REPORT NUMBER	MT ISI REPORT NUMBER	PT ISI REPORT NUMBER	ISI ISO NUMBER	ASME XI CATEGORY	COMMENTS
	CRD BOLTING (Cont.)									
		Х	1T-221(43) 02-19	N/A	88-334	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(41) 38-23	N/A	88-414	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(60) 30-23	N/A	88-416	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(88) 38-31	N/A	88-406	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(75) 18-31	N/A	88-390	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(38) 30-35	N/A	88-341	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(86) 34-39	N/A	88-482	N/A	N/A	FIG 1.1-8	B-G-2	
		Х	1T-221(61) 30-39	N/A	88-417	N/A	N/A	FIG 1.1-8	B-G-2	•
		X	1T-221(36) 26-43	N/A	88-391	N/A	N/A	FIG 1.1-8	B-G-2	
	)	X	1T-221(50) 14-31	N/A	88-415	N/A	N/A	FIG 1.1-8	B-G-2	•
	CLASS 1			•						
	MAIN STEAM 'A'	Х	MSA-BJ-2	88-084	N/A	88-085	N/A	1.2-1	B-J	
		Х	CV-4412	N/A	88-419	N/A	N/A	1.2-1		VT-1 BOLTING
		Х	CV-4412	N/A	88-420	N/A	N/A	1.2-1		VT-3 VALVE BODY
		Х	CV-4413	N/A	88-431	N/A	N/A	1.2-1		VT-1 BOLTING
		Х	CV-4413	N/A	88-432	N/A	N/A	1.2-1		VT-3 VALVE BODY
		Х	MSA-BJ-3	88-436	N/A	88-437	N/A	1.2-1	B-J	VI S VALVE DODI
		X	PSV-4400	N/A	88-442	N/A	N/A	1.2-1	B-G-2	VT-1 BOLTING (LOWER FLANGE)
		X	PSV-4400	N/A	88-443	N/A	N/A	1.2-1		VT-3 VALVE BODY
		X	PSV-4400	N/A	88-477	N/A	N/A	1.2-1	B-G-2	VT-1 BOLTING (REF NCR 88-078)
		X	PSV-4401	N/A	88-477	N/A	N/A	1.2-1	B-G-2	VT-1 BOLTING (REF NCR 88-078)
	MAIN STEAM 'B'	X	CV-4415	N/A	88-421	N/A	N/A	1 2-2	D C 2	UM 1 DOVE
			CV-4415	N/A	88-422	N/A	N/A N/A	1.2-2		VT-1 BOLTING
			PSV-4403	N/A	88-476			1.2-2		VT-3 VALVE BODY
			PSV-4402	N/A	88-477	N/A	N/A	1.2-2		VT-1 BOLTING
		••	150 4402	N/A	00-4//	N/A	N/A	1.2-2		VT-1 BOLTING (REF NCR 88-078)
l	MAIN STEAM 'C'	X i	MSC-BJ-15	88-087	N/A	88-088	NI / N	1 1-2	D 7	
			MSC-BJ-12-IA		N/A N/A		N/A		B-J	
			MSC-BJ-12-0A		N/A N/A	88 <b>-</b> 090 88 <b>-</b> 092	N/A N/A		B-J B-J	

03/15/89

Inservice Inspection Report June 30, 1987 through December 27, 1988

SYSTEM ACC REJ WELD OR UT VISUAL MT PT ISI ASME COMMENTS OR. COMPONENT ISI ISI ISI ISI ISO ΧI COMPON DESCRIPTION REPORT REPORT REPORT REPORT NUMBER CATEGORY DESCRIP NUMBER NUMBER NUMBER NUMBER MAIN STEAM Х MSC-BJ-20 88-093 N/A 88-094 N/A 1.2-3 B-J 'C'(Cont) Х MSC-BJ-28 88-095 N/A 88-096 N/A 1.2-3 B-J Х MSC-BK-17 N/A 88-097 88-098 N/A 1.2-3 B-K-1 HGR.ID: MSC-HC-2 Х MSC-BK-38 N/A 88-099 N/A 1.2-3 B-K-1 \*REF NG-88-3682 HGR.ID: MSC-MS-3-14 Х PSV-4404 N/A 88-101 N/A N/A 1.2-3 B-G-2 VT-1 BOLTING (LOWER FLANGE) Х CV-4419 N/A 88-433 N/A N/A 1.2-3 VT-1 BOLTING B-G-2 Х CV-4419 N/A 88-434 N/A N/A 1.2-3 B-M-2 VT-3 VALVE BODY Х PSV-4405 N/A 88-477 N/A N/A 1.2-3 B-G-2 VT-1 BOLTING (NCR 88-078) MAIN STEAM 'D' Х MSD-BJ-19 88-102 N/A 88-103 N/A 1.2-4 B-J Х MSD-BJ-23 88-104 N/A 88-105 N/A 1.2-4 B-J Х MSD-BJ-23-IA 88-106 N/A 88-107 N/A 1.2-4 B-J Х MSD-BJ-23-OA 88-108 N/A 88-109 N/A 1.2-4 B-J Х MSD-BK-34 N/A 88-110 N/A 1.2 - 4B-K-1 \* REF NG-88-3682 HGR.ID: MSD-MS-4-9 Х MSD-BK-39 N/A 88-112 N/A N/A 1.2 - 4IWF VT-3/4 HGR.ID: MSD-H-27 Х CV-4420 N/A 88-113 N/A N/A 1.2-4 B-G-2 VT-1 BOLTING Х CV-4420 N/A 88-423 N/A N/A 1.2-4 B-M-2 VT-3 VALVE BODY Х CV-4421 N/A 88-463 N/A N/A 1.2-4 B-G-2 VT-1 BOLTING Х CV-4421 N/A 88-464 N/A N/A 1.2 - 4B-M-2 VT-3 VALVE BODY Х PSV-4406 N/A 88-399 N/A N/A 1.2-4 B-M-2 VT-3 VALVE BODY Х PSV-4406 N/A 88-477 N/A N/A 1.2-4 B-G-2 VT-1 BOLTING (NCR 88-078) Х PSV-4407 N/A 88-477 N/A N/A 1.2-4 B-G-2 VT-1 BOLTING (NCR 88-078) FEEDWATER 'A' Х FWA-BJ-3 88-114 N/A 88-115 N/A 1.2-5 B-J FEEDWATER 'B' X V-14-3 N/A 88-398 N/A N/A 1.2-5 B-M-2 VT-3 VALVE BODY REF. DCP 1422 FEEDWATER 'C' Х FWC-BJ-22 88-122 N/A 88-123 N/A 1.2-6 B-J Х FWC-BJ-25 88-124 N/A 88-125 N/A 1.2-6 B-J Х FWC-BK-14 N/A 88-126 N/A N/A 1.2-6 IWF VT-3/4 HGR.ID: DLA-2-SS-9 Х FWC-BK-13 N/A 88-127 N/A N/A 1.2-6 IWF VT-3/4 HGR.ID: DLA-2-H-10 Х FWC-BK-29 N/A 88-128 N/A N/A 1.2-6 IWF VT-3/4 HGR.ID:DLA-2-H-17 Х V-14-1 N/A 88-397 N/A N/A 1.2-6 VT-3 VALVE BODY B-M-2 REF DCP-1422

rage no. inservice inspection keport 03/15/89 June 30, 1987 through December 27, 1988 SYSTEM ACC REJ WELD OR UT VISUAL MT PΤ ISI ASME COMMENTS OR COMPONENT ISI ISI ISI ISI ISO ΧI COMPON DESCRIPTION REPORT REPORT REPORT REPORT NUMBER CATEGORY DESCRIP NUMBER NUMBER NUMBER NUMBER FEEDWATER 'D' Х FWD-BJ-17 88-134 N/A 88-135 N/A 1.2-6 B-J Х FWD-BK-4 N/A 88-136 N/A N/A 1.2-6 IWF VT-3/4 HGR.ID: DLA-2-H-16 CORESPRAY 'A' Х CSA-BD-1 88-143 N/A N/A N/A 1.2 - 7B-D O DEG. UT Х CSA-BD-1 88-144 N/A N/A N/A 1.2-7 B-D 45 DEG. UT Х CSA-BD-1 88-145 N/A N/A N/A 1.2-7 B-D 60 DEG. UT Х CSA-N5A 88-146 N/A N/A N/A 1.2-7 B-D INSIDE RADIUS SECTION HPCI STEAM Х PSA-BJ-22 88-165 N/A 88-166 N/A 1.2-9 B-J Х MO-2238 N/A 88-402 N/A N/A 1.2-9 B-M-2 VT-3 VALVE BODY HPCI WATER Х MO-2312 N/A 88-492 N/A N/A 1.2-10 B-M-2 VT-3 VALVE BODY REACTOR WATER Х CUB-BF-4 88-181 N/A N/A 88-182 1.2-11B B-F CLEANUP Х CUB-BJ-5 88-183 N/A N/A 88-184 1.2-11B B-J Х CUB-BK-12A N/A 88-185 N/A N/A 1.2-11B IWF VT-3/4HGR.ID: DCA-14-SS-74 Х CUB-BK-12 N/A 88-186 N/A N/A 1.2-11B IWF VT-3/4 HGR.ID: DCA-14-H-31 CONTROL ROD X CRA-BJ-3 N/A N/A N/A 88-194 1.2-12A B-J DRIVE RETURN Х CRA-BJ-47 N/A N/A 88-195 N/A 1.2-12B B-J Х CRA-BJ-46 N/A N/A 88-196 N/A 1.2-12B B-J Х CRA-BJ-43 N/A N/A 88-197 N/A 1.2-12B B-J Х CRA-BK-45A N/A 88-198 N/A N/A 1.2-12B IWF VT-3/4 HGR.ID: DBA-6-H-33 RESIDUAL HEAT Х RHC-BJ-1-LS 88-203 N/A N/A 88-204 1.2-15 B-J REMOVAL Х RHC-BF-2 N/A N/A N/A 88-333 1.2-15 B-F UT PERFORMED IN OUTAGE 08 Х MO-2003 N/A 88-405 N/A N/A 1.2-15 B-M-2 VT-3 VALVE BODY REACTOR CORE Х RSA-BJ-23 88-205 N/A 88-206 N/A 1.2-17 B-J ISOLATION COOLING -STEAM

REACTOR CORE

ISOLATION COOLING -WATER

DRAIN LINE

RECIRC 'A'

Х

Х

Х

Х

RSB-BJ-4

RDA-BJ-2

RDA-BJ-3

RDA-BK-8

88-207

N/A

N/A

N/A

N/A

N/A

N/A

88-223

88-208

N/A

N/A

N/A

N/A

88-221

88-222

N/A

1.2-18

1.2-19A

1.2-19A

1.2-19A

B-J

B-J

B-J

IWF

HGR.ID: SH-117

VT-3/4

June 30, 1987 through
December 27, 1988

SYSTEM ACC REJ WELD OR UT VISUAL MT PΤ ISI ASME COMMENTS OR COMPONENT ISI ISI ISI ISI ISO ΧI COMPON DESCRIPTION REPORT REPORT REPORT REPORT NUMBER CATEGORY DESCRIP NUMBER NUMBER NUMBER NUMBER DRAIN LINE Х V-16-85 N/A 88-224 N/A N/A 1.2-19A B-G-2 VT-1 BOLTING RECIRC 'A' (Cont.) Х V-16-30 N/A 88-225 N/A N/A 1.2-19A B-G-2 VT-1 BOLTING RECIRC PUMP Х RCB-BJ-4 N/A N/A N/A 88-326 1.2-21 B-J UT PERFORMED 'B' SUCTION IN OUTAGE 08 DRAIN LINE Х RDB-BJ-20 N/A N/A N/A 88-274 1.2-21A B-J RECIRC 'B' Х RDB-BK-15 88-275 N/A N/A N/A 1.2-21A IWF VT-3/4 RECIRC RISER Х RRA-N2-A 88-278 N/A N/A N/A 1.2-22 B-D INSIDE RADIUS 'A' SECTION Х RRA-BD-1 88-279 N/A N/A N/A 1.2-22 B-D O DEG.UT Х RRA-BD-1 88-280 N/A N/A N/A 1.2-22 B-D 45 DEG.UT Х RRA-BD-1 88-281 N/A N/A N/A 1.2-22 B-D 60 DEG UT RECIRC RISER Х RRB-N2-B 88-288 N/A N/A N/A 1.2-22 B-D INSIDE RADIUS 'B' SECTION Х RRB-BD-1 88-289 N/A N/A N/A 1.2-22 B-D O DEG UT Х RRB-BD-1 88-290 N/A N/A N/A 1.2-22 B-D 45 DEG UT Х RRB-BD-1 88-291 N/A N/A N/A 1.2-22 B-D 60 DEG UT RPV HEAD VENT Х HVA-BJ-2 88-312A N/A 88-313 N/A 1.2 - 24B-J Х HVA-BJ-2 88-312B N/A N/A N/A 1.2-24 B-J RPV BOTTOM Х HDA-BJ-27 N/A N/A 88-314 N/A 1.2-32 B-J HEAD DRAIN Х V-27-15 N/A 88-315 N/A N/A 1.2-32 B-G-2 VT-1 BOLTING VESSEL Х VIE-BJ-4 N/A N/A N/A 88-316 1.2-33 B-J INSTRUMENTATION RECIRC PUMP 'A' X SSA-1 N/A 88-466 N/A 88-321 1.3-2 B-K-1 EXTENT POSSIBLE RECIRC PUMP 'B' X SSB-1 N/A 88-323 N/A 88-322 1.3-3 B-K-1 EXTENT POSSIBLE Х SSB-4 N/A 88-324 N/A N/A 1.3-3 IWF VT-3/4 CLASS 1 Х REACTOR N/A 88-081 N/A N/A 1.1-8 VT-2 (STP46G022) B-P PRESSURE PRESSURE TEST VESSEL X **PIPING** N/A 88-081 N/A N/A **VARIOUS** B-P VT-2 (STP46G022) Х PUMPS N/A 88-081 N/A N/A **VARIOUS** B-P VT-2 (STP46G022) Х VALVES N/A 88-081 N/A N/A **VARIOUS** B-P VT-2 (STP46G022) Х CRD DRIVES N/A 88-081 N/A N/A 1.1-8 B-P VT-2 (STP46G022) TOTAL 89

SUCTION N.W.

Inservice Inspection Report June 30, 1987 through December 27, 1988

,	SYSTEM OR COMPON DESGRIP	ACC REJ	WELD OR COMPONENT DESCRIPTION	UT ISI REPORT NUMBER	VISUAL ISI REPORT NUMBER	MT ISI REPORT NUMBER	PT ISI REPORT NUMBER	ISI ISO NUMBER	ASME XI CATEGORY	COMMENTS
	CLASS 2									
	RHR PUMP SUCTION(SE)	Х	RHA-CE-61A	N/A	88-002	N/A	N/A	2.2-32	IWF	VT-3/4 HGR.ID: HBB-24-SG-2
		Х .	RHA-CE-9	N/A	88-004	N/A	N/A	2.2-32	IWF	VT-3/4
				(-		(-				HGR.ID: HBB-24-H-10-1
		Х	RHA-CE-22	N/A	88-006	N/A	N/A	2.2-32	IWF	VT-3/4 HGR.ID: HBB-24-H-9-1
		Х	RHA-CF-52	N/A	N/A	88-007	N/A	2.2-32	C-F	
		Х	RHA-CF-78	N/A	N/A	88-008	N/A	2.2-32	C-F	
		Х	RHA-CE-066	N/A	88-458	88-445	N/A	2.2-32	C-C	HGR.ID: HBB-24-H-2
	212 212									
	RHR PUMP	X	RHB-CF-74	N/A	N/A	88-009	N/A	2.2-33	C-F	
	SUCTION (N.W.)	Х	RHB-CF-75	N/A	N/A	88-010	N/A	2.2-33	C-F	
	RHR HEAT EXCHANGER	Х	RHD-CF-28	N/A	N/A	88-011	N/A	2.2-33	C-F	
	STEAM SUPPLY SE/NW									
	RHR PUMP DISCHARGE N.W.	X	RHI-CF-61	N/A	N/A	88-012	N/A	2.2-39	C-F	
	RHR HEAT EXCHANGER	х	RHJ-CF-13	N/A	N/A	88-013	N/A	2.2-40	C-F	
	DISCHARGE	X	RHJ-CF-47	N/A	N/A	88-014	N/A	2.2-40	C-F	
	RHR FUEL POOL	Х	RHM-CF-24	N/A	N/A	88-015	N/A	2.2-43	C-F	
	COOLING AND CLEAN UP	Х	RHM-CF-26	N/A	N/A	88-016	N/A	2.2-43	C-F	
	HPCI PUMP DISCHARGE	Х	HPB-CF-73	88-017	N/A	88-018	N/A	2.2-45	C-F	
	HPCI STEAM	X	HPC-CE-77	N/A	88-019	88-020	N/A	2.2-46	C-C	HGR.ID: EBB-14-H-3
				88-021	N/A	88-022	N/A		C-F	
	<del>.</del>			88-023	N/A	88-024	N/A		C-F	
	HPCI TURBINE STEAM EXHAUST	X i	HPD-CF-10	N/A	N/A	88-025	N/A		C-F	
	CORE SPRAY	Х	CSD-CF-4	N/A	N/A	88-026	N/A	2.2-51	C-F	

Part D

ACC REJ WELD OR SYSTEM UT VISUAL ΜT PΤ ISI ASME COMMENTS OŖ COMPONENT ISI ISI ISI ISI ISO ΧI COMPON DESCRIPTION REPORT REPORT REPORT REPORT NUMBER CATEGORY DESCRIP NUMBER NUMBER NUMBER NUMBER CORE SPRAY Х CSE-CF-73 N/A N/A 88-027 N/A 2.2-52 C-F DISCHARGE N.W. CLASS 2 Х CORE SPRAY N/A 88-388 N/A N/A **VARIOUS** C-H VT-2 (STP45A001-QA) PRESSURE TESTS Х RHR PUMP N/A 88-346 VARIOUS N/A N/A C-H VT-2 (STP45A002-QA) SUCTION DISCHARGE Х HPCI SYSTEM N/A 88-345 N/A N/A VARIOUS C-H VT-2 (STP45D001-Q) EXCEPT STEAM TUNNEL AREA Х HPCI SYSTEM N/A 88-486 N/A N/A VARIOUS C-H VT-2 (STP45D001-Q, APPENDIX 1) STEAM TUNNEL AREA Х CRD SCRAM N/A 88-438 N/A N/A VARIOUS C-H VT-2 (STP685001-6) DISCHARGE VOLUME Х CRD N/A 88-485 N/A N/A **VARIOUS** C-H VT-2 (STP-BS-47) HYDRUALIC TOTAL 89 CONTROL UNITS Х MAIN STEAM N/A 88-487 N/A N/A **VARIOUS** C-H VT-2 (STP-BS-49) LINES PRESSURE TEST OF INSTRUMENT Х RPV N/A 88-081 N/A N/A VARIOUS C-H VT-2 (STP46G022) LINES Х MAIN STEAM N/A 88-081 N/A N/A **VARIOUS** C-H VT-2 (STP46G022) X RECIRC N/A 88-081 N/A N/A VARIOUS C-H VT-2 (STP46G022) Х RCIC N/A 88-081 N/A N/A VARIOUS C-H VT-2 (STP46G022)

#### Abbreviations

**HPCI** 

CORE SPRAY

Х

Х

ACC - Accept

REJ - Reject

RPV - Reactor Pressure Vessel

N/A

N/A

88-081

88-081

N/A

N/A

N/A

N/A

**VARIOUS** 

**VARIOUS** 

C-H

C-H

VT-2 (STP46G022)

VT-2 (STP46G022)

COMPON - Component

DESCRIP - Description

HGR - Hanger

### ABSTRACT OF ASME SECTION XI REPAIRS AND REPLACEMENTS

The following is a list of the Repairs and Replacements completed with a brief description of work performed.

1) Owners: Iowa Electric Light and Power Company P.O. Box 351 Cedar Rapids, Iowa 52406

Central Iowa Power Cooperative Marion, Iowa

Corn Belt Power Cooperative Humboldt, Iowa

- 2) Plant Duane Arnold Energy Center, Palo, Iowa
- 3) Plant Unit  $\frac{\#1}{}$  4) Owners Certificate of Authorization (if required)  $\frac{N/A}{}$
- 5) Commercial Service Date  $\underline{2-1-75}$  6) National Board Number of Unit  $\underline{N/A}$

NIS-2 No.	COMPONENTS	DESCRIPTION
08-88-01	Snubber pins, see Table PSA-1-87	Replaced snubber pins
08-88-02	Snubber pins, see Table PSA-3-87	Replaced snubber pins
08-88-03	Snubber pins, see Table PSA-3-87B	Replaced snubber pins
08-88-04	Snubber pins, see Table PSA-10-87A	Replaced snubber pins
08-88-05	Snubber pins, see Table PSA-35-87	Replaced snubber pins
08-88-06	Snubber pins, see Table PSA-100-87	Replaced snubber pins
08-88-07	Snubber pins, DLA-6-SS-13	Replaced snubber pins
08-88-08	Snubber pins, GBB-13-SS-16	Replaced snubber pins
08-88-09	Snubber pins, see Table PSA-10-87B	Replaced snubber pins
09-88-10	LS 2206 (level switch)	Repaired Plug
09-88-11	Clevis assembly (Rear), EBB-16-SS-234A	Replaced clevis assembly
09-88-12	Pipe clamp-studs and nuts, DBA-7-SS-71	Replaced studs and nuts

NIS-2 No.	COMPONENTS	DESCRIPTION
09-88-13	Hydraulic snubber, EBB-14-SS-14	Replaced snubber
09-88-14	Cylinder tube & flange, see Table CRD-1	Replaced CRD's drives
09-88-15	Snubber pins, DLA-005-SS-011	Replaced snubber pins
09-88-16	Hydraulic snubber, HBB-001-SS-010	Replaced snubber
09-88-17	RHR pressure vessel, 1E-201A	Repaired defect in tube sheet cladding
09-88-18	Lug pad, SSA-1 and SSB-1	Repaired rejected indications (grinding)
09-88-19	Pipe clamp - studs and nuts, DCA-6-SS-50	Replaced studs and nuts
09-88-20	Pilot seat valve-bolts, see Table MSR-1	Replaced pilot seat - valve bolts
09-88-21	Base plate of support, DBA-6-H-1	Repaired base plate of variable support
09-88-22	Pilot seat valve-bolts, see Table MSR-2	Replaced pilot seat - valve bolts
09-88-23	Check valve-discs, V-14-1 and V-14-3	Replaced check valve disc
09-89-24	Hydraulic snubbers, DLA-14-SS-74, DCA-14-SS-73	Replaced snubbers
09-89-25	CV4400, see Table MSR-3	Replaced main valve body, pilot valve and pilot/main valve body bolts, and main dis
09-89-26	Recirc. drain line, 2"-DAC-19	Replaced pipe and elbows due to pin hole leaks
09-89-27	Disc, stem/stem disc assembly, CV4415	Replaced disc and stem/stem disk assembly
09-89-28	Disc, CV4421	Replaced valve disc
09-89-29	Stem/stem disc assembly, CV4412	Replaced stem/stem disc assembly
09-89-30	Stem/stem disc assembly, CV4413	Replaced stem/stem disc assembly Repaired main valve body

NIS-2 No.	COMPONENTS	DESCRIPTION
09-89-31	Stem/stem disc assembly, CV4419	Replaced stem/stem disc assembly
09-89-32	Main disc, CV4420	Replaced main disc
09-89-33	LS2206 (level switch)	Repaired by welding new plug
09-89-34	Hydrogen monitor, AE 4660	Replacement of blind flange with monitor
09-89~35	Main disc, PSV 4403	Replaced valve disc
09-89-36	Hydraulic Snubber, EBB-14-SS-16A	Replaced snubber

## FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS As Required by the Provisions of the ASME Code Section XI

	· · · · · · · · · · · · · · · · · · ·							
1.	Owner Iowa	L Electric Li	ight and Po	wer	Date <u>2-12</u>	-88		
		351, Cedar F	•		Sheet 1	of2_		
2.		e Arnold Ene			Unit1	4		
	3277 DAE	C Rd. Palo.	IA 52324		See Atto	h PSA-	-1-87 .O. No., Job No.,	
2	Work Portormed his	Town Floor	erd a					etc.
٥.	Work remonined by	Iowa Elect	Name		Type Code Symbo			
					Authorization No.			
		C Rd., Palo,	IA 32324		Expiration Date		None	
4.	Identification of Sy	stem <u>See</u>	Attch. PSA	-1-87				
	(b) Applicable Edit	struction Code <u>AS</u> ion of Section XI Ut mponents Repaired (	ilized for Repairs	or Replacement	s 19 <u>80 W/</u> 81	Addenda,	None	_Code Case
		T	<u> </u>					1
	Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(2	) Snubber	Iowa	See		Con App. 1		,	
_ ` _	Pins	Electric	Note 1	None	See Attch. PSA-1-87	Note 1	± 1.5	
				HOILE	F3A=1-67	1987	Replacemn	L NO
			1					1
	<u> </u>	<del></del>			<u> </u>	<u> </u>		
'. D	escription of Work_	Snubbe	er Pin Repl	acement				
. т		Hydrostatic Processure		minal Operating Test Temp			•	
T.	IOTE: Supplementation in items 1 throusecorded at the top of	al sheets in form of ugh 6 on this report of this form.	lists, skatches, or is included on ea	drawings may b ach sheet, and (	e used, provided (1) 3) each sheet is nun	size is 8½: obered and	in. x 11 in., (2) in the number of si	iforma- heets is

#### FORM NIS-2 (Back)

9. Remarks Replaced snubber pins with snubber pins fabricated from certified
Applicable Manufacturer's Data Reports to be ettached
round bar stock (P.O. S37978) (Note 1). VT-3/VT-4 preservice inspection
performed on replacement pins only.*
* No VT-3/VT-4 was performed on snubber pins of 2B, CMAR 085866 due to line size exemption.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI.
Type Code Symbol StampNone,
Certificate of Authorization No. None Expiration Date None
arall sout al -L/ MIII -A
Signed The War University Date Date 25, 1988
Owner of Owner's Designes Title
CERTIFICATE OF INSERVICE INSPECTION
1, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel, Inspectors and the State or Province of
I have the own must be
in this Owner's Report during the period 10-23-87 to 3-7-88, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
book and a second of the secon
Williagold Commissions Nat'/ Bd. 58/3 (N)(I) IA-104/
Aspector's Signature Netional Board, State, Province, and Endorsements
MA . T ad
Date

(12/82) Note 1: Replacement snubber pins were fabricated, by Iowa Electric, from 1/2-inch diameter SA-564-T-630 round bar stock (CMAR 85732), heat number 446004.

		İ
ុ1.	Owner <u>Iowa Electric Light and Power</u>	Date2-12-88
•	Name	
	P.O. Box 351, Cedar Rapids, IA 52406	Sheet 2 of 2
	Address	
2.	Plant Duane Arnold Energy Center	Unit 1
	Name	
	3277 DAEC Rd., Palo, IA 52324	see below
_	Address	Repair Organiz. P.O. No., Job No., etc.
3.	Work Performed by <u>Iowa Electric</u>	Type Code Symbol Stamp_ None
	Name	Authorization No. None
	3277 DAEC Rd. Palo LA 52324	Expiration Date None
	Address	
4.	Identification of System	see below
5.	(a) Applicable Construc. Code ASME III	19 74 Edition, W/76 Addenda None Code Case
	(b) Applicable Edition of Section XI Ut	ilized for Repairs or Replacement 19 80 W/81
6	Idontification of Community D. 1991	<del></del>

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber Pins	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

### Table PSA-1-87 (Class 1)

Identification of System	Repair Organization (CMAR)	Other Identification	Inspection Report
CRD Return Line	085825	DBA-6-SS-30	87-834
CRD Return Line	085824	DBA-6-SS-29	87-833
HPCI-Steam	085834	DLA-3-SS-1	87-831
Reactor Vessel Head Vent	085866	_ 2B	*
			·

 $<sup>^{\</sup>star}$  no VT-3/VT-4 was performed on snubber pins of 2B, CMAR 085866 due to line size exemption.

## FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS As Required by the Provisions of the ASME Code Section XI

_								
1. (	OwnerIowa	Electric Li	ght and Po	wer	Date 2	-12-88		
	P.O. Box	351, Cedar R	apids, IA	52406	Sheet1	of3		
2. F		Arnold Ener	gy Center		Unit1			
	2075 5455	Name						
-	32/7 DAEC	Rd., Palo,	IA 52324	<del></del>	See Attch	1 PS	SA-3-87A	
3 V							P.O. No., Job No.,	etc.
<b>.</b> .	TOTAL ELIGINIES BY	Iowa E	Name		Type Code Symbo			
_	3277 DAEC	Rd., Palo,	IA 52324		Authorization No. Expiration Date_			
					expiration Date		none	
4. le	dentification of Sy	stem <u>See</u>	Attch P	SA-3-87A				
		on of Section XI Ut			<del></del>			
	Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(2)	Snubber	Iowa	`See		See Attch.	Note	<del>                                     </del>	
	Pins	Electric	Note 1	None	PSA-3-87A	1987	Replacemn	No.
							Nep Ideemin	
		Ï						
			<del></del>	•	L	<u> </u>		
De	scription of Work_	Snubber P	in Replace	ment.				
Te	_	lydrostatic Pne	• •	minal Operating Test Temp.	_		:	
LIO	OTE: Supplements in in items 1 throus corded at the top o	ign bon this report	lists, sketches, or is included on ea	r drawings may t ach sheet, and (	pe used, provided (1) 3) each sheet is num	size is 8½ nbered and	in, x 11 in., (2) in the number of si	forma- neets is

(12/82)

#### FORM NIS-2 (Back)

9.	Remarks Replaced snubber pins with snubber pins fabricated from certified
	Applicable Menufecturer's Data Reports to be attached
	bar stock (P.O. S37978) (Ref. Note 1). VT-3/VT-4 preservice inspection
	performed on the replacement pins only.
Г	ACCULATE OF COMPLIANCE
ŀ	CERTIFICATE OF COMPLIANCE
i	We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
	ASME Code, Section XI.
	<u>.</u>
	Type Code Symbol Stamp None
	Certificate of Authorization No. None Expiration Date None
	Signed the Many as ME administra Date Fathers 25 19 88
	Owner o Owner's Designee, Title
-	
	CERTIFICATE OF INSERVICE INSPECTION
	I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of
İ	in this Owner's Report during the period 10 - 21 - 8 7 to 5 - 4 - 9 8 , and state that
	to the best of my knowledge and beliaf, the Owner has performed examinations and taken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificata neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
	shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
	inspection.
	Commissions Nat 1 84. 58/3(N)(I) IA104
	National Board, State, Province, and Endorsements
ĺ	
	May 5 10
	Date19 <b>24</b>

(12/82) Note 1: Replacement snubber pins were fabricated by Iowa Electric from 3/4" diameter SA564-T-630 round bar stock (CMAR 85732), heat number 9A2856.

1. Owner <u>Iowa Electric Light and Power</u>	Date 2-12-88
Name P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet 2 of 3
2. Plant <u>Duane Arnold Energy Center</u> Name	Unit1
3277 DAEC Rd., Palo, IA 52324	see below
Address  3. Work Performed by <u>Iowa Electric</u>	Repair Organiz. P.O. No., Job No., etc. Type Code Symbol Stamp <u>None</u>
Name 3277 DAEC Rd. Palo JA 52324	Authorization No. None Expiration Date None
Address 4. Identification of System	see below
(b) Applicable Construc. Code ASME III (b) Applicable Edition of Section XI Ut	_19_74 Edition, <u>W/76</u> Addenda <u>None</u> Code Case ilized for Repairs or Replacement 19_80 W/81
6. Identification of Components Repaired or	

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber ins	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

### Table PSA-3-87A (Class 1)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other ID	Inspection Report
Reactor FW Line 'C'	085764	10"	DLA-2-SS-9	87-758
Reactor FW Line 'C'	085833	10"	DLA-2-SS-8	87-815
RCIC-steam	085821	4"	DBA-4-SS-36	87-821
RCIC-steam	085820	4"	DBA-4-SS-35	87-820
RCIC-steam	085819	4"	DBA-4-SS-34	87-819
RCIC-water	085826	4"	DBA-7-SS-71	87-822
Reactor Water Cleanup-Discharge	085832	4"	DCA-14-SS-72	87-B1 <b>6</b>
ctor Water Cleanup-Suction	085831	4"	DCA-6-SS-50	87-817
	·			

.1.	Owner ' Iowa Electric Light and Power	Date 2-12-88	
	Name		
	P.O. Box 351, Cedar Rapids, IA 52406	_ Sheet 3 of 3	
_	Address		
2.	Plant <u>Duane Arnold Energy Center</u>	Unit 1	
	Name		
	3277 DAEC Rd., Palo, IA 52324	see below	
	Address	Repair Organiz. P.O. No., Job No., et	-
3.	Work Performed by <u>Iowa Electric</u>	Type Code Symbol Stamp None	
	Name	Authorization No. None	
	3277 DAEC Rd. Palo IA 52324	Expiration Date None	
	Address	Hone Hone	
4.	Identification of System	see below	
5.	(a) Applicable Construc. Code ASMF III	19 74 Edition W/76 Addenda None Code Co	
	(b) Applicable Edition of Section XI Ut	ilized for Repairs or Replacement 19 80 W/	'8:
6.	Identification of Components Repaired o	r Replaced and Replacement Components	

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber ins	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

## Table PSA-3-87A (Class 1) (con't)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
Reactor Water Cleanup-Suction	085830	4"	DCA-6-SS-49	87-818
'A' Recirc. Discharge	085837	22"	SSA-10(B)	87-836
'A' Recirc. Discharge	085836	22"	SSA-10(A)	87-835
'B' Recirc. Discharge	085838	22"	SSB-10(A)	87-837
'B' Recirc. Discharge	085839	22"	SSB-10(B)	87-838

## FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS As Required by the Provisions of the ASME Code Section XI

1. Owner <u>Iowa</u> E	Electric Ligh	it and Powe	r	Date 2-12	2-88				
	351, Cedar R	apids, in	32400	Sheet1	of	<del></del>			
2. Plant Duane	Arnold Ener	gy Center	<del></del>	Unit1		· · ·			
	Rd., Palo,		4.	See Attch PSA-3-87B  Repair Organization P.O. No., Job No., etc.					
				Repair Org	anization f	2.0. No., Job No.	etc.		
3. Work Performed by	/ Iowa Elec	tric	<u> </u>	Type Code Symbo		None			
				Authorization No.		None			
32// DAE	C Rd., Palo,	IA 52324	<del></del>	Expiration Date		None			
4. Identification of Sy				<del> </del>					
<ul><li>5. (a) Applicable Con</li><li>(b) Applicable Edit</li><li>6. Identification of Co</li></ul>	tion of Section XI Ut	ilized for Repeirs	or Replacement	s 19 <u>80 W</u> /81	Addenda,	none	_Code Case		
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Yeer Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)		
(2) Snubber	Bergen-	3-1007-004	None	See Attch	-	Pin			
Pins	Patterson	D		PSA-3-87B	1987	Replacemnt	. No		
		,	•						
					<u> </u>				
_									
		· · · · · ·		<u> </u>					
. Description of Work	Snubber Pi	n Replacem	ent .						
	Hydrostatic Pnotesture Pressure	17	ninal Operating Test Temp. <u>1</u>						
NOTE: Supplement tion in items 1 thro racorded at the top of	ugn bon this report	lists, sketches, or is included on ea	drawings may t ich sheet, and (	pe used, provided (1) 3) each sheet is num	size is 8½ bered and	in. × 11 in., (2) in the number of si	forma- neets is		

#### FORM NIS-2 (Back)

9. Remarks Replacement of snubber pins with certified snubber pins (P.O. S37975).
Applicable Menufacturer's Data Reports to be attached
VT-3/VT-4 preservice inspection performed on the replacement pins only.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacemnt conforms to the rules of the
ASME Code, Section XI.
Addition Att
Type Code Symbol Stamp None
Type Code Symbol StampNone
None None
Certificate of Authorization No. None Expiration Date None
Of and I work at ithe Will some
Owner's Designea, Titla Date Date 1988
Children S Contains Contains and Children
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Soiler and Pressure Vessel Inspectors and the State
or Province of Low and employed by Lumbahmens Motral Casualty Company of
Long Grove Illinois have inspected the components described
in this Owner's Report during the period 10-23-87 to 5-4-89, and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Williagles Commissions Natil Bd 58/3(N)(I) IA-1041
Indeptor's Signatura Commissions National Board, Stata, Province, and Endorsaments
- 41. 5 00
Date May 5 19 88

(12/82)

1. Owner <u>Iowa Electric Light and Power</u>	Date2-12-88
Name <u>P.O. Box 351, Cedar Rapids, IA 52406</u> Address	Sheet 2 of 2
2. Plant <u>Duane Arnold Energy Center</u> Name	Unit1
3277 DAEC Rd., Palo, IA 52324	see below
Address  3. Work Performed by <u>Iowa Electric</u> Name	Repair Organiz. P.O. No., Job No., etc Type Code Symbol Stamp <u>None</u> Authorization No. None
3277 DAEC Rd. Palo JA 52324	Authorization No. None Expiration Date None
Address 4. Identification of System	see below
5. (a) Applicable Construc. Code <u>ASME III</u> (b) Applicable Edition of Section XI U	19 74 Edition, W/76 Addenda None Code Case tilized for Repairs or Replacement 19 80 W/81
6. Identification of Components Repaired	or Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber ins	Bergen Patterson	3-1001 004D	None	See Below	1987	Replacement	No

## Table PSA-3-87B (Class 1)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
Reactor FW Line 'B'	085663	10"	DLA-2-SS-5	87-737
Reactor FW Line 'B'	085664	10"	DLA-2-SS-6	87-738
HPCI-steam	085667	10"	DLA-3-SS-3	87-741
Reactor Water Cleanup-Suction	085661	4" .	DCA-6-SS-48	87-735
	١			

## FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS As Required by the Provisions of the ASME Code Section XI

1. Owner <u>Iowa</u>	Electric Lig	ht and Pow	er	Date2-12	2-88			
P.O. Box	351, Cedar R	apids, IA	52406	Sheet1	of <u>2</u>			
2. Plant <u>Duane</u>	Arnold Energ	y Center		Unit1				
_3277 DAEC	Rd., Palo, I	A 52324		See Attch.	PSA-1	0-87A .O. No., Job No.,		
3. Work Performed by	Iowa Elect	ric		Type Code Symbol		None	etc.	
		Name		Authorization No None				
3277 DAE	C Rd., Palo,	IA 52324		Expiration Date _		None		
4. Identification of Sy	7124744							
<ul><li>5. (a) Applicable Con</li><li>(b) Applicable Edit</li><li>6. Identification of Co</li></ul>	ion of Section XI Ut	ilized for Repairs	or Replacements	19 80 W/81	Addenda,	None	_Code Case	
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)	
(2) Snubber Pins	Iowa Electric	Note 1	None	See Attch PSA-10-87A	See Nt 1 1987	Replac <b>em</b> n	t No	
			·	•		-		
					,			
7. Description of Work	Snubber I	oin Replace	ement .					
	Hydrostatic Pne		minal Operating ( Test Temp			. `		
NOTE: Supplement tion in items 1 throc recorded at the top of	ugh to on this report	lists, skatches, or is included on ea	r drawings may b ach sheet, and (3	e used, provided (1) i) each sheet is num	size is 6½ i bered and	n. x 11 in., (2) in the number of si	iforma- heets is	

#### FORM NIS-2 (Back)

9.	Remarks Replaced Snubber pins with snubbers pins fabricated from certified bar
	Applicable Manufacturer's Data Reports to be attached
	stock (P.O. S37975) (Ref. Note 1) VT-3/VT-4 preservice inspection performe
	on the replacement pins only.
	·
	CERTIFICATE OF COMPLIANCE
	We certify that the statements made in the report are correct and this Replacemen + conforms to the rules of the
	ASME Code, Section XI. rapair or replacement
	**
	Type Code Symbol Stamp
	41
	Certificate of Authorization No. None Expiration Date None
	NAIL 1008 11: th
	Owner or Owner's Designee, Title
_	Common of Contract & Contract of Contract
•	CERTIFICATE OF INSERVICE INSPECTION
	I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province ofand employed byof
	Long Grave, Tilinais have inspected the components described
	in this Owner's Report during the period 10-23-87 to 5-4-88 and state that
	to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
	shall be liable in any manner for any personel injury or property damage or a loss of any kind arising from or connected with this
	inspection,
	188 males 14 14 21 mal 16) - 2 14
	Commissions Nat'   M. 5813 N (3) IA - 1041  Respector's Signature  Commissions National Board, State, Province, and Endorsements
	Mational Board, State, Province, and Endorsements
•	May 5 01
	Date

(12/82) Note 1: Replacement snubber pins fabricated, by Iowa Electric, from SA-564-TP-630 bar stock (CMAR 85687), heat number 656177.

1. Owner <u>Iowa Electric Light and Power</u>	Date 2-12-88
Name	
P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet1_of2
2. Plant <u>Duane Arnold Energy Center</u>	Unit <u> </u>
Name	
3277 DAEC Rd., Palo, IA 52324	see_below
Address	Repair Organiz. P.O. No., Job No., etc.
<ol><li>Work Performed by <u>Iowa Electric</u></li></ol>	Type Code Symbol Stamp None
Name	Authorization No. None
3277 DAEC Rd. Palo IA 52324	Expiration Date None
Address	TAP TO TOTAL
4. Identification of Systemsee	below
5. (a) Applicable Construc. Code ASME III 19	74 Edition W/76 Addenda None Code Case
(b) Applicable Edition of Section XI Utili	zed for Repairs or Replacement 19 80 W/81
	<del></del>
6. Identification of Components Repaired or R	eplaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

### Table PSA-10-87A (Class 1)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
Reactor FW Line 'B'	085662	10"	DLA-2-SS-4	87-736
Reactor FW Line 'C'	085 <b>66</b> 5	16"	DLA-2-SS-7	87-739
A' Recirc. Suction	085741	22"	SSA-8	87-801
B' Recirc. Suction	085746	22"	SSB-8	87-795
RHR-20B	085752	20"	DLA-6-SS-12	87-804
HPCI-steam	085666	10"	DLA-3-SS-2	87-740
		,		

1. Owner Iowa	Electric Lig	ht and Pow	er	Date 2-1	2-88		
						· · - · - · - · - · - · - · - · - ·	
P.O. Box	351, Cedar R	apids, IA	52406	Sheet 1	of4		<del></del>
2. Plant <u>Duane</u>	Arnold Energ	y Center		Unitl		*	
3277 DAEC	Rd., Palo,	IA 52324		See Att	ch. PSA-	-35-87 .0. No., Job No.	atc .
3. Work Performed by	/Iowa Ele	ctric Name	<del></del>	Type Code Syr	nbol Stamp	lone	
2077 DARG	n 1 n 1			Authorization			
	Rd., Palo,			Expiration Dat	e <u>N</u>	lone	<del></del>
4. Identification of Sy	stem <u>See At</u>	tch. PSA-	35-87				
<ul><li>5. (a) Applicable Con</li><li>(b) Applicable Edit</li><li>6. Identification of Co</li></ul>	ion of Section XI Ut	ilized for Repairs	or Replacements	19 <u>80 W</u> /8	Addenda,_ 31	None	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Idantificatio	Year n Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(2) Snubber	Torro	Caa	<del></del>			<del></del> -	<u> </u>
	Iowa	See	_	See Attch	ı. Bee Nt	}	1
Pins	Electric	Note 1	None	PSA-35-87	<u>l 1987</u>	Replacemn	t No
				•			
					_		1
		İ					
							1
<del></del>		<u> </u>					
. Description of Work	Snubber	Pin Replac	ement				
	Hydrostatic Processure	sumatic No None psi	minal Operating I Test TempN				
NOTE: Supplement tion in items 1 thro recorded at the top of	ugn 6 on this report	lists, sketches, or is included on e	r drawings may b ach sheet, and (3	e used, provided B) each sheet is	(1) size is 8½ numbered and	in. × 11 in., (2) ir the number of s	nforma- iheets is

9.	Remarks Replaced snubber pins with snubber pins fabricated from certified
	Applicable Manufacturer's Data Reports to be attached
	round bar stock (P.O. S37978) (Note 1), VT-3/VT-4 preservice inspection was
	performed on the replacement pins only.
1	CERTIFICATE OF COMPLIANCE
	We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
	Type Code Symbol StampNone
	Certificate of Authorization No. None Expiration Date None
	Signed Le Muhale as ME administration Date Heldery 25th 19 88
	CERTIFICATE OF INSERVICE INSPECTION
	I, the undersigned, holding a valid commission issued by the National 80ard of Boiler and Pressure Vessel Inspectors and the State
	or Province of Towa and employed by Lumbermens Mutral Casualty Company of
	have inspected the components described
	in this Owner's Report during the period 10-23-87 to 5-4-68, and state that
	to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
	shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
	inspection,
	Commissions Nat'   Bd 58/3 (I) (N) IA - 10 41 Inspector's Signature  National Board, State, Province, and Endorsements
	Date May 5, 1988

Note 1: Replacement snubber pins were fabricated by Iowa Electric from  $1\ 1/2$  - inch diameter SA-564-T-630 round bar stock (CMAR 85732), heat number 9E 0331.

1.	Owner <u>Iowa Electric Light and Power</u>	Date 2-12-88	
	Name P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet 2 of 4	
2.	Plant Duane Arnold Energy Center	Unit 1	
	Name 3277 DAEC Rd., Palo, IA 52324	see below	
3.	Address Work Performed by Iowa Electric Name	Repair Organiz. P.O. No., Job No., of Type Code Symbol Stamp None Authorization No. None	<b>e</b> tc
	3277 DAEC Rd. Ralo JA 52324	Authorization No. None Expiration Date None	
<b>4</b> . 5.	Address Identification of System  (a) Applicable Construc. Code ASME III  (b) Applicable Constructure.	see below  19 74 Edition, W/76 Addenda None Code (	Caso
6.	Identification of Components Repaired o	ilized for Repairs or Replacement 19 80 V	<b>n/</b> 8:

Nam <b>e</b> of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber Pins	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

## Table PSA-35-87 (Class 1)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
'A' Main Steam	085673	20"	SSA-1-MS	87-747
'A' Main Steam	085674	20"	SSA-2-MS	87-748
'B' Main Steam	085675	20"	SSB-1-MS	87-749
'B' Main Steam	085677	20" .	SSB-2-MS	87-751
'C' Main Steam	085754	20"	SSC-1-MS	87-785
'C' Main Steam	085755	20"	SSC-2-MS	87-777
'D' Main Steam	085679	20"	SSD-1-MS	87-753
'D' Main Steam	085681	20"	SSD-2-MS	87-754
circ. Pump 'A'	085678	22"	SSA-5	87-752
Recirc. Loop 'A'	085760	22"	SSA-3	87-772
'A' Recirc. Suction	085739	22"	SSA-6	87-784

, 1.	Owner Iowa Electric Light and Power	Date 2-12-88
	Name	
•	P.O. Box 351, Cedar Rapids, IA 52406	Sheet3 of 4
	Address	
2.	Plant Duane Arnold Energy Center	Unit 1
	Name	
	3277 DAEC Rd., Palo, IA 52324	see below
_	Address	Repair Organiz. P.O. No., Job No., etc
3.	Work Performed by <u>Iowa Electric</u>	Type Code Symbol Stamp None
	Name	Authorization No. None
	3277 DAEC Rd. Palo JA 52324	Expiration Date None
	Address	
4.	Identification of System	see below
5.	(a) Applicable Construc. Code ASME III	19 74 Edition, W/76 Addenda None Code Case
	(b) Applicable Edition of Section XI Ut	ilized for Repairs or Replacement 19 80 W/8
6.	Identification of Components Repaired o	r Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

## Table PSA-35-87 (Class 1) con't

	Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
'A'	Recirc. Discharge	085740	22"	SSA-7	87-788
'A'	Recirc. Suction	085742	22"	SSA-9	87-786
'A'	Recirc. Pump Casing	085756	22"	SSA-1	87-116 766 55
'A'	Recirc. Discharge	085758	22"	SSA-2	87-768
'A'	Recirc. Discharge	085762	22"	SSA-11	87-771
'B'	Recirc. Pump	085676	22"	SSB-5	87-750
'B'	Recirc. Discharge	085745	22"	SSB-7	87-787
'B'	Recirc. Suction	085747	22"	SSB-9	87-762
	Recirc. Pump Casing	085757	22"	SSB-1	87-765
В'	Recirc. Discharge	085759	22"	SSB-2	87-764
В'	Recirc. Suction	085761	22"	SSB-3	87-769

1.	Owner Iowa Electric Light and Power	Date 2-12-88
	Name P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet 4 of 4
2.	Plant <u>Duane Arnold Energy Center</u> Name	Unit 1
	3277 DAEC Rd., Palo, IA 52324	see below
3.	Address Work Performed by <u>Iowa Electric</u>	Repair Organiz. P.O. No., Job No., etc Type Code Symbol Stamp None
	Name 3277 DAEC Rd. Palo LA 52324	Authorization No. None Expiration Date None
4.	Address Identification of System	see below
5.	<ul><li>(a) Applicable Construc. Code <u>ASME III</u></li><li>(b) Applicable Edition of Section XI Ut</li></ul>	19 <u>74</u> Edition, <u>W/76</u> Addenda <u>None</u> Code Case ilized for Repairs or Replacement 19 <u>80</u> W/81
6.	Identification of Components Repaired o	r Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

## Table PSA-35-87 (Class 1) con't

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
'B' Recirc. Discharge	085763	22"	SSB-11	87-770
'B' Recirc. Discharge	085744	22"	SSB-6	87-761
RHR-20A	085751	20"	DLA-5-SS-11	87-767
RHR-18B	085748	18"	DLA-4-SS-14	87-789

1. OwnerIowa	Electric Lig	tht and Pow	ver	Date2-12	-88		
		_					
P.O. Box	351, Cedar Ra Address	pids, Iowa	52406	Sheet1	of2		
2. Plant Duan	e Arnold Ener	gy Center		Unit1			
3277 DAE	C Rd., Palo,	Iowa 5232	24	See Attch	_ P	54-100-87	
				Repair Org	anization	SA-100-87 P.O. No., Job No.,	, atc.
3. Work Performed b	y <u>Iowa Elec</u>	tric Light	& Power	Type Code Symbo	I Stamp	None	
				Authorization No.		<u>None</u>	
_ JZII DAEC	Rd., Palo, I	owa 52324		Expiration Date	<del></del>	<u>None</u>	
4. identification of S	System <u>See Att</u>	ch PSA	-100-87			- Anno	
5 (a) Applicable Co	Δ	SME TTT	7/	N			
5. (a) Applicable Co	ition of Section VIII	SME III 19	<u> </u>	01 **/00	Addenda,_		_Code Case
(b) Applicable Ed	ition of Section XI Ut	ilized for Repairs	or Replacement	s 19 <del>01 W/02</del>	15-58		
6. Identification of C	omnonents Renaired	or Replaced and I	Poplesses Ca	20 4/6/	5-5-8	8	
		or neplaced and i	neplacement Col	mponents		•	,
				Ţ	1	T	T
							ASME
			NacioI	* * * * * * * * * * * * * * * * * * * *		Barried	Code
Name of	Name of	Manufacturer	National Board	Other	Year	Repaired, Replaced,	Stamped (Yes
Component	Manufacturer	Serial No.	No.	Identification	Built	or Replacement	1 ' ' 1
						}	J i
(2) Snubber	Iowa			See Attch.	Note	<del> </del>	
Pins	Electric	Note 1	None	PSA-100-87	1987	Replacemn	No.
				100 07	1707	Replacemi	t No
					ļ		
		• • • • • • • • • • • • • • • • • • • •	•			<u> </u>	
<ol><li>Description of World</li></ol>	< <u>Snubber Pi</u>	n Replacem	ient .				
		_					
B. Tests Conducted:	_	eumatic No	minal Operating	Pressure		•	
	Other Pressure_	None psi	Test Temp	None°F			
NOTE: Supplemen	stal shagts in farm is	lien ekster -					
tion in items 1 thre	ntal sheets in form of ough 6 on this report	ਾ।ਕਰਤ, sketches, Oi is included on e	romawings may b ach sheet and (	pe used, provided (1) 3) each sheet is num	size is 8½ hered end	in. x 11 in., (2) ir	nforma-
recorded at the top	of this form.			e, seem arroot is fidil	-resert auc	i tite number of \$	Heets IS

9.	Remarks Replaced snubber pins with snubber pins fabricated from certified
	Applicable Manufacturer's Data Reports to be attached
	round bar stock (P.O. S37978) (Note 1), VT-3/VT-4 preservice inspection was
	performed on the replacement pins only.
_	
	CERTIFICATE OF COMPLIANCE
	We certify that the statements made in the report are correct and this Replacemnt conforms to the rules of the
1	ASME Code, Section XI. repair or replacement
1	Type Code Symbol StampNone
	•
	Certificate of Authorization No. None Expiration Date None
l	WANT 11ancal-LL WILL and
	Signed La Melle Calvariston Date Flitadry 25 19 88
L	Owner of Owner's Designed, Title
_	
	CERTIFICATE OF INSERVICE INSPECTION
	I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
l	or Province of and employed by Lumbermens Whomal Change Company of
	in this Owner's Report during the period 10-23-87 to 5-4-88 and state that
	, one state that
	to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures describéd in this Owner's Report. Furthermore, neither the Inspector nor his employer
	shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
	inspection,
	(MOX), and (A)
	Commissions Not 1 St. 58/3(I)(N) IA 1041  Inglightor's Signeture  Commissions Not 1 St. 58/3(I)(N) IA 1041  National Board, State, Province, and Endorsements
ı	National Board, State, Province, and Endorsements
	Mh. dala a
	Date //Dy 7 and 3, 19/1
	//

(12/82) Note 1: Replacement snubber pins were fabricated by Iowa Electric from 2 inch diameter SA-564-T-630 round bar stock (CMAR 85732), heat number 646398.

1, Owner <u>Iowa Electric Light and Power</u>	Date 2-12-88
Name P.O. Box 351, Cedar Rapids, I <b>A</b> 52406 Address	Sheet 2 of 2
2. Plant <u>Duane Arnold Energy Center</u> Name	Unit <u>1</u>
3277 DAEC Rd., Palo, IA 52324	see below
Address  3. Work Performed by <u>Iowa Electric</u> Name	Repair Organiz. P.O. No., Job No., etc Type Code Symbol Stamp <u>None</u> Authorization NoNone
3277 DAEC Rd. Ralo IA 52324 Address	Authorization No. None Expiration Date None
4. Identification of System se	ee below
5. (a) Applicable Construc. Code ASMF III 1	19 <u>74</u> Edition, <u>W/76</u> Addenda <u>None</u> Code Case lized for Repairs or Replacement 19 <u>80</u> W/8
6. Identification of Components Repaired or	Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
2 Snubber	Iowa Electric	See Sheet 1	None	See Below	1987	Replacement	No

## Table PSA-100-87 (Class 1)

Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
Recirc. Pump 'A'	085738	22"	SSA-4	87-839
Recirc. Pump 'B'	085743	22"	SSB-4	87-840
$\longrightarrow$				

1. Owner Iowa	Electric Lig	tht and Pow	er	Date2-1	12-88			
P.O. Box	351, Cedar F	Rapids, IA	52406	Sheet 1	of1_			
2. PlantDuar	, , , , , , , , , , , , , , , , , , , ,			Unit1				
	EC Rd., Palo,			<u>CMAR 8573</u>	37			
	, , , , , , , , , , , , , , , , , , , ,			Repair Orga	nization F	.O. No., Job No.	, etc.	
3. Work Performed b	y <u>Iowa Elect</u>	ric	<del></del>	Type Code Symbol	Stamp	None		
				Authorization No. None				
SZ// DAEC	Rd., Palo, I	A 52324		Expiration Date		None		
4. Identification of St	ystem <u>Residua</u>	1 Heat Rem	oval 20B	(Class 1)				
<ul><li>5. (a) Applicable Cor</li><li>(b) Applicable Edi</li><li>6. Identification of Co</li></ul>	tion of Section XI Ut	ilized for Repairs	or Replacement	ts 19 <u>.:80 W</u> /81	Addenda,_	None	_Code Case	
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)	
Snubber	Iowa	,			Note 1			
Pins	Electric	Note 1	None	DLA-6-SS-13		Replacemn	L N	
				DER-0-33-13	1907	Keptacemii	t No	
7. Description of Work		n Replacem	ent .					
	Hydrostatic Pne Other Pressure N		minal Operating Test Temp.			,		
NOTE: Supplement tion in items 1 thro recorded at the top	rugn o on this report	lists, sketches, or is included on ea	drawings may lach sheet, and (	pe used, provided (1): 3) each sheet is num	size is 8½ i bered and	in. x 11 in., (2) in the number of s	nforma- heets is	

9. Remarks Replaced snubber pins with pins fabricated from certified round bar
Applicable Manufacturer's Data Reports to be attached
stock (P.O. S37978) (Note 1). VT-3/VT-4 preservice inspection performed on
replacement pins only. Reference inspection report 87-763.
<del>-</del>
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacemnt conforms to the rules of the
ASME Code, Saction XI.
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None
MALLARALITA MILL - + 00
Signed Owner or Owner's Designed Title Date Date 75 19 85
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of Lows and employed by Lumbermens Mutual Casualty Company of
in this Owner's Report during the period 10-23-87 to 5-4-18, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspactor nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in eny manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Willinggles Commissions Nat'l Bd. 5813(I)(N) IA-1041
Mational Board, State, Province, and Endorsements
Date
<u> </u>

(12/82) Note 1: One replacement snubber pin was fabricated by Iowa Electric from 1 1/2-inch diameter SA-564-T-630 round bar stock (CMAR 85732), heat number 9E0331 and one replacement snubber pin was fabricated by Iowa Electric from 2-inch diameter SA-564-T-630 round bar stock (CMAR 85732), heat number 646398.

1. Owner <u>Iowa</u>	Electric Lig	tht and Pow	er	Date 2-12-8	88		
P.O. Box	351, Cedar Address	Rapids, IA	52406	Sheet 1	of1		
2. Plant <u>Duane</u>	Arnold Energ	y Center	<del></del>	Unit1			<u> </u>
	Rd., Palo, I			CMAR_858:	35	•	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Repair Org	anization i	P.O. No., Job No.,	etc.
3. Work Performed by	/ Iowa Elec	tric		Type Code Symbo	l Stamp	None	
				Authorization No.		None	
_32// DAEC	Rd., Palo, I	A 52324		Expiration Date		None	
4. Identification of Sy	stem <u>Core</u> S	pray Disch	arge (S.E.	) (Class 2)			
5. (a) Applicable Con	struction Code ASM	E III 19	_74 Edition,	<u>W/76</u>	Addenda,_	None	_Code Case
	ion of Section XI Ut						_0000 0830
				•			
6. Identification of Co	mponents Repaired	or Replaced and F	Replecement Cor	MDOnents			
				inpolicints			,
				T	Τ		
				ļ			ASME
			,		İ .	.	Code
			National			Repaired.	Stamped
Name of	Name of	Menufacturer	Board	Other	Year	Replaced,	(Yes
Component	Manufacturer	Serial No.	No.	Identification	Built	or Replacement	or No)
						-	
(2) Snubber	T			<del> </del>			
l ' '	Iowa			GBB-13-SS-	Note	1	] [
Pins	Electric	Note 1	None	16	1987	Replacemn	t No
		1	-				
			•	<u> </u>	·		
7. Description of Work	Snubber P	in Replacem	ent ·				
3. Tests Conducted:	Hydrostatic Pn	eumatic No					
	Other Pressure_		minal Operating			,	
· ·	~e. [ ] LIA2201A _	MOILE DSI	iest iemp	None°F			
NOTE							
NOTE: Supplement	al sheets in form of	lists, sketches, or	drawings may b	e used, provided (1)	size is 81/3	in. x 11 in., (2) in	nforma-
tion in items 1 thro	ugn 6 on this report	: is included on ea	ch sheet, and (	<ol><li>each sheet is num</li></ol>	nbered and	the number of s	heets is
racorded at the top of	יני זחוג זטרוון.						

9. Remarks Replaced snubber pins with snubber pins fabricated from certified
Applicable Manufacturer's Data Reports to be attached
round bar stock (P.O. S37978) (Ref. Note 1), VT-3/VT-4 preservice
inspection performed on the replacement pins only. Reference inspection
report 87-832.
CERTIFICATE OF COMPLIANCE
We certify that the statements mede in the report are correct and this <u>Replacemnt</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol StampNone
Type Code Symbol Stamp
Certificate of Authorization No. None Expiration Date None  Signed Round Almoniotrated Date February 25 , 19 88
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Yessel Inspectors and the State or Province of Tours and employed by Lumbermens Murual Casualry Company of
have inspected the components described
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.    Commissions   Nat'   Bd 5813 (N) (I) IA - 1041     National Board, Stata, Province, and Endorsements
Inspector's Signature National Board, Stata, Province, and Endorsements
Date May 4, 19 88

(12/82) Note 1: Replacement snubber pins were fabricated by Iowa Electric from 1/2-inch diameter SA-564-T-630 round bar stock (CMAR 85732) heat number 446004.

1. OwnerIowa	Electric Li	ght and Por	wer	Date4-2	6-88		
	351, Cedar R		•	Sheet 1	of 2		
2. PlantDuane				Unit 1			
	Rd., Palo,			See Att	ch. P	SA-10-87B .O. No., Job No.,	
3. Work Performed by			<del></del>	Type Code Symbol	l Stamp	None	etc.
3277 DAEC	Rd., Palo,	[A 52324		Authorization No. Expiration Date			
4. Identification of Sy							
<ul><li>5. (a) Applicable Con</li><li>(b) Applicable Edit</li><li>6. Identification of Co</li></ul>	tion of Section XI Ut	ilized for Repairs	or Replacement	ts 19 <u>80 W</u> /81	Addenda,_	None	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Boerd No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(2) Snubber Pins	Iowa Electric	See Note 1	None	See Attch. PSA-10-87B	See Nt 1 1987	Replace- ment	No
		<u>.</u>					
7. Description of Work	Snubber ]	Pin Replace	ement-				
	Hydrostatic Pno		minal Operating Test Temp. <u>N</u>				
NOTE: Supplement tion in items 1 thro recorded at the top of	ugh 6 on this report	lists, sketches, or is included on ea	r drawings may ( ach sheet, and (	be used, provided (1) (3) each sheet is num	size is 8½ abered and	in. x 11 in., (2) in the number of s	oforma- heets is

9. Remarks Replaced snubber pins with snubber pins fabricated from certified
Applicable Manufacturer's Data Reports to be attached round bar stock (P.O. S37978) (Note 1), VT-3/VT-4 preservice inspection
performed on the replacement pins only.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI. repair or replacement
Type Code Symbol StampNone
- / /
Certificate of Authorization No. None Expiration Date None
Signed La Pell ASME Administrator Date Que 26 1985
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of
in this Owner's Report during the period 10-23-87 to 5-4-88 , and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with tha requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
16 41 01 co2(4)(x) x0 +104(
Commissions Nat' B. 583(W)(I) I.A-104/ National Board, State, Province, and Endorsements
Data 7/104 5 19 88

(12/82) Note 1: On each snubber listed in Table PSA-10-87B one replacement snubber pin was fabricated by Iowa Electric with 1 inch diameter SA-565-T-630 round bar stock (CMAR 85732), heat number 656177 and one pin was fabricated with 1 1/2 - inch diameter SA-564-7-630 round bar stock (CMAR 85732), heat number 9E0331.

1. Owner <u>Iowa Electric Light and Power</u>	Date 4-26-88
Name	
P.O. Box 351, Cedar Rapids, IA 52406	Sheet <u>2</u> of <u>2</u>
Address	
<ol><li>Plant <u>Duane Arnold Energy Center</u></li></ol>	Unit1
Name	
3277 DAEC Rd., Palo, IA 52324	see below
Address	Repair Organiz. P.O. No., Job No., etc.
3. Work Performed by <u>Iowa Electric</u>	Type Code Symbol Stamp None
Name	Authorization No None
3277 DAEC Rd. Palo IA 52324	Expiration Date None
Address	
4. Identification of System	see below
5. (a) Applicable Construc. Code ASME III	19 74 Edition, W/76 Addenda None Code Case
(b) Applicable Edition of Section XI Ut	ilized for Repairs or Replacement 19 <u>80</u> W/81
6. Identification of Components Repaired or	r Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Manufacturer Serial No.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Ýes or No)
2 Snubber ins	Iowa Electric	See Sheet	None	See Below	1987	Replacement	No

## Table PSA-10-87B (Class 1)

	Identification of System	Repair Organiz. (CMAR)	Line Size	Other IDs	Inspection Report
RHR	20-A	085749	18"	DLA-4-SS-15	87-802
RHR	20-A	085750	20"	DLA-5-SS-10	87-803
<u> </u>					
_					

1. Owner Iou	va Electric La Name	ight and Po	ower	Date <u>4/13/8</u>	8		
P.O. Box	351, Cedar I	Rapids, IA	52406	Sheet 1	of1_		
	e Arnold Ener			Unit 1		-	
	Rd. Palo, IA			CMAR 8	6840 A		
	y <u>Iowa Elect</u>			Repair Org		None	, etc.
	· · · · · · · · · · · · · · · · · · ·	Name		Authorization No.			
3277 DAEC	Rd. Palo, IA	52324		Expiration Date			
4. Identification of S	ystem <u>HPCI</u> S	upply Line	D.P. Lev	el Switch (L	S2206)		
(b) Applicable Edi	nstruction Code <u>AN</u> tion of Section XI Uti	lized for Repairs	or Replacement	s 19 <u>80 W81</u>	Addenda,_	N/A	_Code <b>C</b> as
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
T.S. 2206	Robertshaw			Model No.			
LS 2206	Controls Co	N/A	N/A	82938-GI	1970	Repaired	No
			<del></del>				
Description of Work	Seal we	ld of 3/4"	' NPT Plug				
Tests Conducted:		umatic No	minal Operating	Pressure  N/A F			
NOTE: Supplemention in items 1 throracorded at the top	tal sheets in form of lough 6 on this report	lists, sketches, or is included on ea	r drawings may b ach sheet, and ((	e used, provided (1) 3) each sheet is num	size is B½ bered and	in. x 11 in., (2) ir the number of s	nforma- heets is

9. Remarks A 3/4 NPT plug had a steam leak that was seal welded under CMAN	Ł
Applicable Manufacturer's Data Reports to be attached  86840 A. The seal weld was liquid penetrant inspected and found accepted	١.
CERTIFICATE OF COMPLIANCE	
We certify that the statements mede in the report are correct and this <u>Repair</u> conforms to the rules of the ASME Code, Section XI.	е
Type Coda Symbol StampN/A	
Certificate of Authorization No. N/A Expiration Date N/A	_
Signed Zenath Golf Manney, ASME Administrator Date april 14 , 1988	_
CERTIFICATE OF INSERVICE INSPECTION	
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Ste or Province of Iowa and employed by Lumbermens Mutual Casualty Company	ete of
Long Grove, Illinois in this Owner's Report during the period 4-12-88  to 4-14-88  , and state the	ed
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in the Owner's Report in accordance with the requirements of the ASME Code, Section XI.	
By signing this certificate neither the Inspector nor his employer makes any warrenty, expressed or implied, concerning t	he
examinations and corrective measures described in this Owner's Report. Furthermore, neither tha Inspector nor his employ shall be liable in any menner for any personal injury or property damage or a loss of any kind arising from or connected with the inspection.	er
Commissions Nat'l Bd. 5813 (I) (N) IA-1041	
ings stor's Signeture Commissions National Board, State, Province, and Endorsements	_
Date April 14 19 88	

1. Owner Iowa	Electric Lig			Date11-2-	·88		
P.O. Box 3	51, Cedar Ra	. •	52406	Sheet1	a 1		
_	Address			Office (	01		
2. Plant Duane	Arnold Energ			Unit1			
3277 D.	AEC Rd., Pal	o, IA 523	24	CMAR			
	Address		·	Repair Org	anization	P.O. No., Job No.	, etc.
3. Work Performed by	Iowa Elec	tric Name		Type Code Symbo	Stamp_	None	
3277 DAEC 1	Rd., Palo, I			Authorization No.		None	
	Address	32324		Expiration Data		None	
4. Identification of Sy	stem <u>Residua</u>	1 Heat Remo	oval Heat	Exchanger St	eam Su	pply (Clas	s 2)
<ul><li>5. (a) Applicable Cons</li><li>(b) Applicable Edit</li><li>6. Identification of Co</li></ul>	ion of Section XI U	tilized for Repairs	or Replacemen	ts 19 <u>80 W/81</u>	Addenda,_	N/A	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes
		(part no.)		. identification	Built	or replacement	or No)
(Rear) Clevis Assembly	Bergen- Paterson	980014	None	EBB-16-SS- 234A	1987	Replace- ment	No
					_		
				-			
							_
7. Description of Work_	Rear Clev	is Assembly	Replacem	ent			
	Hydrostatic Property Pressure National Pressure	T	minal Operating Test Temp			•	
NOTE: Supplements tion in items 1 throu recorded at the top o	ight of our fills report	lists, sketches, or is included on ea	drawings may lich sheet, and (	be used, provided (1): 3) each sheet is num:	size is 8½ bered and	in. x 11 in., (2) in the number of si	forma- heets is,
(12/82)	This Form (E00030	)) may <b>be</b> obtaine	d from the Orde	er Dept., ASME, 345	E. 47th St	., New York, N.Y	. 10017

9. Remarks Replacement of rear clevis assembly with certified clevis assembly
Applicable Manufacturer's Deta Reports to be attached (P.O. S34862)
(1.0. 534002)
VT-3/VT-4 Preservice inspection performed. Reference inspection report
88-079.
CERTIFICATE OF COMPLIANCE
. We certify that the statements made in the report are correct and this <u>Replacement</u> conforms to the rules of the ASME Code, Section XI.  repair or replacement
Type Code Symbol Stamp None
Type Code Symbol StampNOTIE
Certificate of Authorization No. None Expiration Date None
Oli Su /
Signed , ASME Administrator Date //- 4 , 19 88
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois
in this Owner's Report during the period 10-20-88 to 11-5-88, and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI <sub>2</sub> except IWA-7210.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Welling 1.1 (N) TA-10/1
Commissions National Board, State, Province, and Endorsements
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements  Date Movember 5 1988

1. OwnerIowa				Date 11-11-	-88		
	Narr	10		Date			·
P.O. Box 3	351, Cedar Ra	apids, IA	52406	Sheetl	of	1	
2. Plant Duane		gy Center					
	Nam		<del></del>	Unit1			
3277 DAEC	Rd., Palo,	IA 52324		CMAI	88444	4	
	Address			Repair Org	anization	P.O. No., Job No.	
3. Work Performed by	Iowa	Electric		Type Code Symbo		None	, etc.
2077		Name		Authorization No.		None	
_32// DAEC	Rd., Palo, 1	A 52324	_	Expiration Date	_	None	
	Address						
4. Identification of Sy	stem Reactor	Core Isol	ation Cool	ing - Water	(Class	s 1)	
5. (a) Applicable Con (b) Applicable Edit * Original 6. Identification of Co	ion of Section XI Ut Construction	tilized for Repairs  Code for	or Replacement support as	$_{\rm s 19} \frac{80 \text{ W}/81}{\text{sembly.}}$	Addenda,_	N/A	_Code Case
Name of Component	Name of Manufacturer	Manufecturer Serial No. (Heat No.)	National Board No,	Other Identification	Yeer Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Pipe clamp -				DBA-7-SS-71			
Studs	Cardinal	KC8972	NA	(snubber)	1986	Replaced	No
Pipe clamp -				DBA-7-SS-71			
nuts	Cardinal	X569B	NANA	(snubber)	1986	Replaced	No
. Description of Work_	Replaced pi	pe clamp -	studs and	l nuts			
. Tests Conducted: H	ther Pressure_	None psi	ninal Operating I	Pressure lonee			

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

9. Remarks Replaced pipe clamp - studs and nuts with certified studs and nuts,
Applicable Manufacturer's Data Reports to be ettached
(P.O. S26710) and (P.O. S26813, VT-3/VT-4 preservice inspection performed.
Reference inspection report no. 88-029.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI. repair or replacement
Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Expiration Date
Signad ASME Administrator Date 11-12 19 88
OWNERS Owner's Designee, Title Date 11-12 , 19 00
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province ofand employed by Lumber Harrs Mutual Casualty Company
have inspected the components described
in this Owner's Report during the period 10-31-88 to 11-18-88 and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report, Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection,
100 A 1
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041
National Board, State, Province, and Endorsements
Commissions Nat 1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements  Data 1988
Data November 18 1988

1. Owner Iow	a Electric L	ight and Po	wer	Date <u>11-8-8</u>	8		
	51, Cedar Ra			Sheet 1	of1_		
2. Plant <u>Duane</u>		y Center		Unit1			
_3277 DAEC	Rds., Palo,	IA 52324		CMAR_912	70		
				Repair Org	genization	P.O. No., Job No.	, etc.
3. Work Performed by	YLOWA E	Name		Type Code Symbo	ol Stamp_	None	
				Authorization No.			
	Rd., Palo,	IA 32324	<del></del>	Expiration Date		<u>None</u>	
4. Identification of Sy	stem <u>HPCI St</u>	eam Turbin	e Inlet (	Class 2)			
(a) Applicable Con     (b) Applicable Edit     dentification of Co	S. Scotlon XI S	inized for Repairs	or Heplacemen	ts 19 <u>80 W/</u> 81	Addenda,_	N/A	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Hydraulic	Bergen-	D. Arnold	None	EBB-14-SS	-	<del> </del>	
Snubber	Paterson	#17		-14	1097	D on 1 o	
	•			· · · · · · · · · · · · · · · · · · ·	170/	Replacement	No
				1			
Description of Work_	Hydraulic S	nubber Rep	lacement-	Type (HSSA-3)	)		
		oumatic Nor None psi	minal Operating Test Temp	Pressure None • F	\		
NOTE: Supplementation in items 1 throu recorded at the top o	A. a an mus rebotf	lists, sketches, or is included on ea	drawings may t ch sheet, and (	pe used, provided (1) 3) each sheet is num	size is 8½ bered and	in. x 11 in., (2) in the number of sh	forma- 1 <del>00ts</del> is

Remarks Replacement of Hydraulic Snubber with certified Hydraulic Snubber  Applicable Manufecturar's Data Reports to be ettached  (P.O. S34837) VT-3/VT-4 pre-service inspection performed. Reference inspection performed. Reference inspection performed.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this replacement conforms to the rules of the
ASME Code, Section XI. repeir or replacement
Type Code Symbol Stamp None:
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None
Signad Rea 2 Marie ASME Administrator Date 11-8 , 19 88
CERTIFICATE OF INCENTION
CERTIFICATE OF INSERVICE INSPECTION  , the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois
have inspacted the components described to 1/1-9-88 to 1/1-9-88, and state that
io the best of my knowledge and belief, the Owner hes performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Coda, Saction XI, except IWA-7210
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
xaminations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer nell be liable in any menner for any personal injury or property damage or e loss of any kind arising from or connected with this
expection,
Well Di sois in an ann
Commissions Nat 1 Bd. 5813 (I) (N) IA-1041  Inspector's Signature Netional Board, State, Province, and Endorsements
Date

1. Owner Iow	a Electric I Nam	ight and P	ower	Date12-28	-88		
P.O. Box	351. Cedar R Address	lapids, IA	52406	Sheet 1	of2		
2. Plant <u>Duane</u>	Arnold Ener	gy Center		Unit1	<u>-</u>		
3277 DAE	C Rd., Palo,	IA 52324		See A	ttach.	CRD-1 P.O. No., Job No.	
. Work Performed by	<u>Iowa Ele</u>	ctric		Type Code Symbo			, etc.
				Authorization No.			1
	Rd., Palo,	111 32324		Expiration Date_	<del></del>	6-16-90	
. Identification of Sy	stem <u>Control</u>	Rod Drives	(Class 1)	<b>)</b>			
. (a) Applicable Cons (b) Applicable Editi (c) Original Identification of Co	. Construction	ilized for Repairs on Code ASM	orReplacement E III 197	s 19 <u>80 W8</u> l l Edition pe	r GE C		n Quali
			·				ASME Code
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	Stamped (Yes
linder Tube	General	See Attach		See Attach	<del> </del>		
Flange	Electric	CRD-1	None	CRD-1	1987	Replacemen	* V
			· · · · · · · · · · · · · · · · · · ·		1	пертисешен	L IES
					<del> </del>		
-							
Description of Work_	Replacement	CRD Cylin	der Tube	& Flange	<u> </u>	<u> </u>	
Tests Conducted: H		eumatic Non	ninal Operating Test Tamp	Pressure X	. •		
NOTE: Supplementa tion in items 1 throu recorded at the top of	An a ou ruit Labour	lists, skatches, or is included on ea	drawings may b ch sheet, and ()	e used, provided (1) 3) each sheet is nun	size is 8½ nbered and	in. x 11 in., (2) in the number of st	forma- neets is

(12/82)

recorded at the top of this form.

9. Remarks Replacement CRD Cylinder Tube & Flange Assembly (P.O. S36324). Letter
APPRICADIA MARUTACTURAT & Data Bandeta do ha accesto de
NG-88-3356 reconciliation of ASME Section III 1974 Edition W75 addenda.
1361-2 Code case to original construction code ASME Section III 1971.
VT-2 of the pressure retaining components were performed under ISI report
700-001.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section Xi.
ASME Code, Section XI. repair or replacement
To a contract to the Name :
Type Code Symbol StampNone
Constitute of the second secon
Cartificate of Authorization No. None Expiration Data None
2 Medd
Signed , ASME Administrator Date December 3C , 19 88
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of <u>Iowa</u> end employed by <u>Lumbermans Mutual Casualty Company</u> of Long Grove, Illinois
in this Owner's Report during the period $10-12-88$ to $1-4-89$ , and state that
to the best of Turkson date and the period 10-12-88 to 1-4-89, and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore pairties the leasures described in this Owner's Report.
shall be liable in any menner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
inspection,
WEKE ONLY
Commissions Nat'1 Bd. 5813 (I)(N) IA-1041  National Board, State, Province, and Endorsements
Mational Board, State, Province, and Endorsements
our Commany of the Da
1907

1	. Owner <u>Iowa Electric Light and Power</u>	12-28-88
	Name	
,	P.O. Box 351, Cedar Rapids, IA 52406	Sheet
	Address	
2.	Plant Duane Arnold Energy Center	Unit 1
	Name	
	3277 DAEC Rd., Palo, IA 52324	see below
	Address	
3.	Work Performed by Iowa Electric	Repair Organiz. P.O. No., Job No., etc.
	Name	Type Code Symbol Stamp NPT
	3277 DAEC Rd., Palo, IA 52324	Authorization No. NPT N1151
		Expiration Date 6-16-90
4	Address	
4.	Identification of System	see below
5.	(a) Applicable Construc. Code ASME III	10 7/ Edition 11/75 Add 1 1000 0
	(b) Applicable Edition of Section XI Ut	ilized for Repairs or Replacement 19 80 W/81
	(c) Original Construction Code ASME III	1971 Edition per GE Construction Quality
	Requirements A22A252A	19/1 Edition per GE Construction Quality

Requirements A22A2534

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
Cylinder be Flange	General Electric	None	See Below	1987	Replacement	Yes

## Table CRD-1 (Class 1)

Installation Organization	Repair Organiz. (CMAR)	Manufac. Serial No.	Other Identification
CMAR 85920	60992C	A6806	CRD 6806 Spare
PMAR 1031922	71866A	A8360	CRD 8360 Spare
PMAR 1031917	73443A	A6933	CRD 6933 Spare
CMAR 85925	73447A	A8370	CRD 8370 Spare

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENA As required by the Provision of the ASME Code Rules, Section III, Div	NCES.
1. Many ectured & Certified by: GE Company, 2117 Centle Mayor Rd.	- 1
A TOTAL OF THE SECOND S	1
(Neme end Address of N Certificate Holder for completed nuclear 2. Identification-Certificate Holders's S/N of Part:  A6806  Net'l 8d. No.	companen
(a) Constructed According to Drawing No: 9190258G003 Dwg, Prepared by D. L.	N/A
The state of the s	
(c) Applicable ASME Code: Cook   1974	
(c) Applicable ASME Code: Section III, Edition 1974, Addende Date W'75  3. REMARKS: Sub-assembly of Costan State S	-2 Cleee
3. REMARKS: Sub-essembly of Control Rod Drive for use with reactor.  (Brief description of service for which component was designed)  Hydrostetically tested at 1825 per min	
p de l'imaille	
*Sheet 1 of 2	
We certify that the etatements in this report are correct and this vascal part or application of the code conforms to the rules of construction of the ASME Code Section applicable Designed Specification and Stress Report are not the responsibility of Certificate Holder for parts. An NPT Certification Holder for appurtanences is resincluded in the component Design Specification and Stress Report if the appurtanence in the component Design Specification and Stress Report).	tion III
DATE: 11/10, 19 87 Signed GE-NEBG-NF&CM-QA By Strudenmuc.  (NPT Certificate Holder)	
Certificate Of Authorization Expires: 6/16/90 Certification of Authorization No.: NPT	r N 1157
CERTIFICATION OF DESIGN FOR APPURISHANCE	10-11-51
Design information on file atGE COMPANY, SAN JOSE, CALIFORNIA	1
DC22A6253 Ray O	
DC2246254 Page 2 Control of the Boundary Born HAABERG Prof. Sec. State Control of the Boundary Born HAABERG Prof. Sec. State Control of the Boundary Born HAABERG Prof. Sec. State Control of the Boundary Boundar	
Strees enalysis report certified by <u>EDWARD YOSHIO</u> Prof. Eng. State <u>CALIF.</u> Reg. No.	15570
ros. Eng. State <u>Latir.</u> Rag. No.	M018646
CERTIFICATION OF SHOP INSPECTION	
I, the undereigned, holding m valid commission by the National Board of Boiler and Presonant Inspectors and/or the State or Province of NORTH CAROLINA and employed by DEPARTMENT OF LOS STATE OF NORTH CAROLINA have inspected the part of a pressure vassal described in and balief, the NPT Cartificate Holder has constructed that to the best of my knowledge Saction III.  By aigning this cartificate, naither the Inspector nor his employer makes any warrance that the Inspector has partial Data Books.	this ledge ASME
or property demages or a loss of any kind arising from or connected with this inspection	ury
NO 770 PALLONIES NO 770 PALLONIES	
nepector's signature National Board, State, Province a	nd No.

upplementel sheete in ferm of liste, sketchee or drawing may be used previded (1) size is

1/2" x 11", (2) information in 1-2 on this Date Report is included on each sheet, and (3) ach sheet is numbered and number of sheets is recorded in Item 3. "REMARKSe" (10/77)

Iteme 4-8 Incl. to be com	DISCOR LOS			AUT JECKEL	- A402618''	or shelle	of boo	<b>.</b>
4. Shell: Meterial (Kind & S	1 C +	ominal	Co	rrogion		4. matte	Of Des	t exchangers.
(Kind & S	pec.Ma) (Mi	urckuese	10 . Al	lowence	_in Die	_ftin.	Lengti	h ft. in
5. Seems: Long	H.T.	i or Kanga	o Specific	<b>e</b> d)			•	
				. '	Effic	iency		x
Girth  6. Header (e) Material	н.т.	1		•				·
6. Heade: (e) Material		T.S	^	•   • <del>                                 </del>	No. a	Courses		
			<del></del>	(0)mater	.101	¹.s		
Location (Inn	C =	<i>u</i>	<b></b>					
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8ottom,Ende) Thickness (a) (b)					TO WOOT	US 018	mter	(conv.ar con
16 22222								
(b)  If removable, bolte used (Materi				Other fa	etening			
7. Jacket Cloeure:	el,5pec.No.	, T.S. Si	ize Numbe	<del>r</del> )	etening (Dse	cribe or	ttach	akakak \
(Describe							i C GC()	exaccu)
(00001104	aa ogaa an	d weld, be	r,etc. I	f ber give	dimensions	, if bolte	. desc	ribm or shet
3. Design Pressure 2 1	250				Orop	Weight	,	or sudc(
			<u> </u>	75 <b>°</b> F	Cher	py Impact		ft-1h
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teme 9 and 10 to be comple	eted for tid	be sentia	^					
. Tube Sheets: Stationary Floating. Me D. Tubes: Material	/ Mat'l.		Die		<b>₹</b> ₩2 = i			
	(Kine	of Spec	. No.)	Sub i. to De	iurckue	.ee_in. V	tteched	ent
Floating. Me	terial		Dia.	ri Th	ickoeee	444 61	(Wa	lded, Bolted
N. Tuban, M. C.				inch		TI. ALLEC	nment_	
O. Tubee: Meterial	0.0	in, 1	Thickness	ויטיים ו	inon Nijeha	p 1	_	
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							(50	r. or U)
1. Shell: Material T.S  (Kind&Spec.No.)	Pleted for Nomin Thick (Min.ofRe	inner cha Mel Meae in Mge Speci	Corros Corros Allows (fied)	jecketed ian ncein.	vessels, or	channels in	of hee	A 2
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l. Shell: MeterielT.S (Kind&Spec.No.)	Pleted for Nomin Thick (Min.ofRe	inner cha Mel Meae in Mge Speci	Corros Corros Allows (fied)	jecketed ian ncein.	vessels, or	channels in	of hee	A 2
1. Shell: Material T.S  (Kind&Spec.No.)	Pleted for Nomin Thick (Min.ofRe	inner cha Mel Meae in Mge Speci	Corros Corros Allows (fied)	jecketed ian ncein.	vessels, or	channels in	of hee	t éxchangers ft. <u>i</u> n,
1. Shell: Meteriel T.S  (Kind&Spec.No.)  2. Seame: Long H.  Girth H.  3. Heade (e) Meterial	Nomin Nomin Thick (Min.ofRe	inner cha lel neee in nge Speci R.T T.S.	E No.	jecketed ion ncein.  fficiency_ o. of Cours (b)	vessels, or Dieft Dieft Dieft	chennels _inLor	of hea	t exchangers
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Comme II-14 Incl. to be comme.  Comme II-14 Incl. to be comme.	Nowin Nowin Thick (Min.ofRe  7.1 Crown Kr Redius Ro	inner cha lel nace in nge Speci R.T T.S. nucle El	Corroe . Allowerified)  E No lipticel Retio	fficiency  o. of Cours  Conciel  Apex Angle	Die. ft.  Die. ft.  Heniepher Redius	chennels _inLor	of hea	t exchangers
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Comme II-14 Incl. to be com  L. Shell: Meteriel	Nowin Nowin Thick (Min.ofRe  7.1 Crown Kr Redius Ro	inner cha lel nace in nge Speci R.T T.S. nucle El	Corroe . Allowerified)  E No lipticel Retio	fficiency  o. of Cours  Conciel  Apex Angle	Die. ft. Die. ft.  Ree Hemispher Redius	in Lor	gthT.S	t exchangers ftin.  Side to Prese conv.or Conc.
1. Shell: Meteriel T.S  (Kind&Spec.No.)  2. Seame: Long H.  Girth H.  3. Heade (a) Material Location a) Top, Battom, Ticnkess End b) Chennel	Nowin Nowin Thick (Min.ofRe  7.1 Crown Kr Redius Ro	inner cha lel nace in nge Speci R.T T.S. nucle El	Corroe . Allowerified)  E No lipticel Retio	fficiency  o. of Cours  Conciel  Apex Angle	Dieft Dieft  Bee Heterial Homispher Redius  ening(Deecr	in Lor	gthT.S	t exchangers ftin.  Side to Prese conv.or Conc.
I. Shell: Materiel T.S (Kind&Spec.No.)  C. Seame: Long H. Girth H.  Girth H.  Girth Cocation  e) Top, Bottom, Ticnkess End  b) Chennel removable, bolte used (a)	Nowin Nowin Thick (Min.ofRe  7.1 Crown Ki Redius Ri	inner cha lel neaein nge SpeciR.TT.S. nucle El edius	Corroe  Allower  Find  Allower  Corroe  Allower  Corroe  Allower  Corroe  Corr	fficiency  o. of Cours  Conciel  Apex Angle	vessels, or  Dieft  Dieft  Dieft  Dieft  Redius  ening(Description W	in Lor	gthT.S t eter ((	t exchangers ftin.  Side to Prese conv.or Conc.
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L. Shell: Material T.S (Kind&Spec.No.)  C. Seame: Long H. Girth H.	Pleted for Nomin Thick (Min.ofRe  7.1 Crown Ki Redius Re  (t	inner challed in	Corroe Allower Ified)  E Retio  Ce applic	fficiency_o. of Course (b); Conciel Apex Angle	vessels, or  Dieft  Dieft  Dieft  Rec  Redius  ening(Descr  Cherpy efat_tem	in Lor	gthT.S t :: eter ((	t exchangers ftin.  Side to Prese conv.or Conc.
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(Brief description of service for which component was designed)  Hydroetatically tested at 1825 pai, min.
*Sheet 1 of 2
We cartify that the etetemente in this report are correct end this vessel pert or appurtenence of defined in the code conforms to the rules of construction of the ASME Code Section III (The applicable Designed Specification and Strees Report are not the responsibility of the NP Certificate Holder for parts. An NPT Certification Holder for appurtenences is responsible for furnishing a separate Design Specification and Strees Report if the appurtenence is no included in the component Design Specification and Strees Report).
DATE: 11/10, 19 87 Signed GE-NEBG-NF&CM-QA By Cttoulemmer (NPT Certificate Holder)
Cartificate Of Authorization Expires: 6/16/90 Cartification of Authorization No.: NPT N-1151
CERTIFICATION OF DESIGN FOR APPURTENANCE
Deeign information on file at <u>GE COMPANY, SAN JOSE, CAL</u> IFORNIA
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Design specification certified by BJORN HAABERG Prof. Eng. State Calls Ros No. 1665
Stress analysis report certified by <u>EDWARD YOSHIO</u> Prof. Eng. State <u>CALIF.</u> Reg. No. <u>MO18646</u>
CERTIFICATION OF SHOP INSPECTION
I, the undereigned, holding a valid commission by the National Scard of Soilar and Prassure inspectors and/or the State or Province of NORTH CAROLINA and employed by DEPARTMENT OF LABOR STATE OF NORTH CAROLINA have inspected the part of a pressure vased described in this artial Date Report on 1/-/o 1987, and state that to the best of my knowledge ode Section III.  By signing this cortificate, noither the Inspector nor his amployer makes any warranty approach or implied, concerning the part described in the Partial Date Report. Furthermore, at the Inspector nor his amployer shall be liable in any manner for any personal injury of the Date Report.
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Ansportor's Signature National Board, Stato, Province and No.
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Purpose (Inlot Outlet, Drein)  Number  Die of Size Type Material Thicknome  Inspection Menholes, No.		
Outlet, Drein) Number Die of Size Type Material Thicknome  Inspection Menholes, No.		
Inspection Henholes, No.	Reinforcemen	nt
	Meterial	Attached
		-
	<del></del>	
5178		
Threaded, No. Size Location		
Supposites Chief		
(Yes or No) (Number) (Number) (Describe		

<sup>1</sup> If Postweld Hast-Treated.
2 List other internal or external pressure with conincident temporature when applicable.

As required by the Provisi	DATA REPORT FOR NUCLEAR PART AND APPURTENANCES.  on of the ASME Code Rulee, Section III, Div. i
1. Manufectured & Certified by: GE Company	y. 2117 Caetle Heyne Rd., Wilmington, M.C., 2010.
(b) Manufactured for: DUANE ARM	NOID
(Name and Addrage of A	N Certificate Holder for completed nuclear component
2. Identification-Cartificate Holders's S/N	W of Parts A8360 Nettled N
(a) Constructed According to Drawing No:	919D258G003 Dwg. Prepered by D. L. Paterson
(b) Description of Part Inspected: CYLIN	IDER TUBE & FLANGE
	tion 1974, Addende Deta W'75, Case No. 1361-2 Class
. REMARKS: Stenderd pert for use with Res	Ctor. Hydrostationly books to the
(Brief description of a	ervice for which component wee designed)
Sheet 2 of 2	
onesc 2 01 2	
	•
1. Cap 167A2343P1	
(167A2343)	
SA182-F304	
3/8 thick X 1 1/16 0D	
2. Indicator Tube 10481336P1	Resorter
SA312-TP316	Veesel Code Weld
	Thiable PSOYPLOS
3/4 ech 40-seamlese pipe	
0.113 well thickness 1.065 max. die.	
1.000 max. 018.	
3. Plug 159A1176P1	
SA182-F304	
1/4 thick x 0.812 0D	
-74 CHICK X 0.812 UU	
4. Flange 919D610P1 (719E474)	
SA182-F304	
3.37 thick x 9 5/8 0D	
5. Heed 12983539P1	
SA182-F304	
7/8 thick x 2.875 Dia.	
Code We	
6. Ring Flange 11485122P2 P50vP10	"
SA182-F304	
1" thick x 5.0 0D x 1.75 ID	
- CHICK X J.U UU X 1.75 ID	
. Cap Screw 117C4516P2	
SA193-86	
6 as. 1/2 dis. on 4 1/8 bolt circls	
	$\bigcirc \rightarrow \backslash \   \   \   \   \   \   \   \   \  $
Plug 175A7961P1	
SA182-F304	
0.38 thlck x 1.307 die.	Code Weld
	P50YP102
•	
	(D) 4   1   1   1   1   1   1   1   1   1

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENANCES.  As required by the Provision of the ASME Code Rules, Section III, Div. 1
The Hericagnetures a certified by: GE Company, 2117 Cantle Haves no.
(b) Menufectured for: DUANE ARNDLD (Name and Address of NPT Cortificate Holder)
(Name and Address of N Certificate Holder for completed nuclear components)  2. Identification-Certificate Holdere's S/N of Part:  A6933  Net'l Bd. No. N/A
(a) Constructed According to Drawing No: 9190258G003 Dwg. Prepared by D. L. Patered
VO / VOUCLADUIGH OF PRPF (AAAAAAA.
(c) Applicable ASME Code: Section III, Edition 1974, Addende Oato , Case No. 1361-2 Class
The state of the s
(Brief description of service for which component was designed)  Hydrostatically tested at 1825 pai. min.
+Sheet 1 of 2
We cortify that the atatemente in this report era correct and this vacable part or appurtenent ee defined in the code conforms to the rules of construction of the ASME Code Section II (The applicable Designed Specification and Stress Report are not the responsibility of the NI Certificate Holder for perts. An NPT Certification Holder for appurtenences is responsible for furnishing a separate Design Specification and Stress Report if the appurtenence is not constructed in the component Design Specification and Stress Report).
included in the component Design Specification and Strees Report if the appurtenence is not DATE:  11/10  11/10  19 87 Signed GE-NEBG-NF&CM-QA  (NPT Certificate Holder)  Certificate Of Authorization Expires: 6/16/90 Centificate Holder
Certificeta Of Authorization Expires: 6/16/90 Certification of Authorization No.: NPT N-1151
CERTIFICATION OF DESIGN FOR APPURTENANCE
Design information on file at GE COMPANY, SAN JOSE, CALIFORNIA
DC22A6253 Pay O
Design specification certified by SJORN HARBERG Prof. Eng. State CALLS Design State CALLS
Stress enelysis report certified by <u>EDWARD YOSHIO</u> Prof. Eng. State <u>CALIF.</u> Reg. No. <u>MO18646</u>
CERTIFICATION OF SHOP INSPECTION
I, the undereigned, holding a valid commission by the National Board of Boilar and Pressure napactors and/or the State or Province of NORTH CAROLINA and amployed by DEPARTMENT OF LABOR of STATE OF NORTH CAROLINA have imageded the part of a pressure vascal described in this artial Data Report on 1967, and state that to the best of my knowledge odd Section III.  By eigning this cortificate Holder has constructed this part in accordance with the ASME eigning this cortificate, naither the Inspector nor his amployer makes any werranty, sither the Inspector nor his amployer abeli be liable in any manner for any paraeonal injury or property damages or a loss of any kind arising from or connected with this inspection.    (/-/O
pplemental shoats in form of lists, ekstchos or drawing may be used provided (1) size is $1/2^n \times 11^n$ , (2) information in 1-2 on this Data Raport is included on each shoot, and (3) ich shoat is numbered and number of sheats is recorded in Item 3. "REMARKSm"
1/77)

10/77)

COMPISE COMPISE	led for single .					
Items 4-8 Incl. to be complet	Nominal	Co	reneien	s vessels,	or shells of h	est exchangers
i harrelatiet le	Thinkers			in Dia	en en	1
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	H.I.*	R	l.T.	Effic	·i encu	
Girth_ 6. Heads: (s) Material	1					
6. Heads: (a) Material	<sup>  </sup>	R	l.T	No. c	f Courses	
		•	(b)Mater	iel	T.S.	
Bottom, Ends) Thickness	Crown Knuckle Redius Redius	Cilibric	at Concial	Hamisphe	rical Flat	Side to Pres
(a) (b)		MACTO	Apex Ang	lis Redi	us Diameter	(conv.or con
(6)						
If removable, bolts used			Other fe	at an ion		
7. Jackst Closurs:	pec.No., T.S.	Size Numbe	<u>r</u> )	(Dee	aniha an att	
				,,,,,,	areas or effect	n skatch)
(Describs ss	ogse and weld,	per, stc. I	f ber give	disensions	de balla d	
8. Design Pressure 2 1250			•	Orop	Waicht	ecrice or shat
1230	041	st	<u>75</u> <b>•</b> ₹	Cher	y Ispect	
				et to	mp. of	't-18
Items 9 and 10 to be completed	for tube acces					
	CODE #8C(1	ons.				
7. Tube Shests: Stationary Mar Floating, Mater: 0. Tubes: Material	t'1.	D+-		•. • .		
•	(Kind of Som	C. No.)	(510 1 4- 5-	Thickne	in. Attaci	neent
Floating. Mater:	ial	Die	(Jubj.to Pr	<b>788.</b> )		Walded, Bolte
• • • · · · · · · · · · · · · · · · · ·			100	TCKU686	.10. Attachment	
O. Tubes: Material	0.Din.	Thickness	Dien Or o	us Joseph Marcha		
				aga, numbe	F ype	•
tone 11 14 1- 1					(	Str. or U)
tome 11-14 incl. to be complet	ed for incer o					
1. Shell: Material T.S.  (KindaSoes No.)	Nominal Thicknessi	corros Corros in. Allows	<u>jecketed</u> Bion Incein.(	vassels, or Dia. ft.	channels of h	set exchangere
(Kind&Spec.No.) (M	Thicknessi lin.ofRange Spec	in. Allows cified)	incain. (	01aft	inLength_	_ftin.
(Kind&Spec.No.) (M	Thicknessi lin.ofRange Spec	in. Allows cified)	incain. (	01aft	inLength_	_ftin.
(Kind&Spec.No.) (M	Thicknessi lin.ofRange Spec	in. Allows cified)	incain. (	01aft	inLength_	_ftin.
(Kind&Spec.No.) (M  C. Sasse: Long H.7.1  Girth H.7.1  Girth H.7.1  Girth Constian  Location	Thicknessi	in. Allows	fficiency_c. of Cours(b)M	Diaft	inLength_ \$	_ftin.
(Kind&Spec.No.) (M C. Sasse: Long H.7.1 Girth H.7.1 Girth H.7.1 Girth Constitution Constitut	Thicknessi	in. Allows	fficiency_c. of Cours(b)M	Diaft	inLength_ \$	_ftin.
(KindåSpec.No.) (M  2. Sasse: Long H.T.1  Girth H.T.1  5. Haeds (a) Material  Location Cro a) Top, Bottom, Ticnksee Rec End	Thicknessi	in. Allows	fficiency_c. of Cours(b)M	Diaft	inLength_ \$	_ftin.
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Crostian  S. Haeda (a) Material  Location Crostian  a) Top, Bottom, Ticnksee Rec	Thickness in the state of the s	in. Allows cified)  E N liptical Ratio	fficiency_c. of Cours_(b)MCConcisl	Disft Disft Hesispher Redius	inLength_ \$	_ftin.
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Hands (a) Material  Location Cro  a) Top, Bottom, Tichksee Rec  End	Thickness in the state of the s	in. Allows cified)  E N liptical Ratio	fficiency_c. of Cours_(b)MCConcisl	Disft Disft Hesispher Redius	inLength_ \$	_ftin.
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Cro  B. Haeds (a) Material  Location Cro  a) Top, Bottom, Ticnksee Rec  End	Thickness in the state of the s	in. Allows cified)  E N liptical Ratio	fficiency_c. of Cours_(b)MCConcisl	Disft  Disft  Res  Hemispher  Redius	intength	ftin. S Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Crostian  S. Haeda (a) Material  Location Crostian  a) Top, Bottom, Ticnksee Rec	Thickness in the state of the s	in. Allows cified)  E N liptical Ratio	fficiency_c. of Cours_(b)MCConcisl	Disft Dis Disft Disft	intength	ftin. S Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Crossion Crossion  s) Top, Bottom, Ticnksee Rec End  b) Channel removable, bolts used (s)	Thickness in the state of the s	in. Allows cified)  E N Lliptical Ratio	fficiency_c. of Cours_(b)MCConcisl	Disft  Dis	intength	_ftin. Side to Pree (Conv.or Conc.
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Crossion Crossion  s) Top, Bottom, Ticnksee Rec End  b) Channel removable, bolts used (s)	Thickness in the state of the s	in. Allows cified)  E N Liptical Ratio	fficiency_c. of Cours(b)MConciel Apex Angle	Disft  Disft	intength	ftinS Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth Crc  S) Top, Bottom, Ticnksee Rec End  b) Channel  removable, bolts used (s)  Design pressure2	Thickness in a fine of Range Special Range S	in. Allows cified)  E N i  Iliptical Ratio  (c)	fficiency c. of Cours (b)M Conciel Apex Angle	Disft  Disft	intength	_ftin.  Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth H.T.1  Location Cross Top, Bottom, Tichksee Rec End  b)Channel removable, bolts used (s)  Design pressure2	Thickness in the state of the s	in. Allows cified)  E N N Illiptical Ratio  (c)	fficiency c. of Cours (b)M Conciel Apex Angle	Disft  Disft	intength	ftinS Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1 Girth H.T.1  Girth H.T.1  Location Crossion Crossion, Tichksee Rec End b)Channel removable, bolts used (s)  Design pressure2	Thickness in the state of the s	in. Allows cified)  E N N Illiptical Ratio  (c)	fficiency_c. of Cours_(b)HConciel Apex Angle	des	intength	ftinS Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1 Girth H.T.1  Girth H.T.1  Girth Crossion Crossion Rec e) Top, Bottom, Ticnksee Rec End b) Channel removable, bolts used (s)  Design pressure2  Has below to be completed for Sefety Valve Outlets: Number	Thickness in the state of the s	in. Allows cified)  E N N Illiptical Ratio  (c)	fficiency c. of Cours (b)M Conciel Apex Angle	des	intength	ftinS Side to Pree (Conv.or Conc
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1 Girth H.T.1  3. Haeds (s) Meterial Location Cro a) Top, Bottom, Ticnksee Rec End b) Channel removable, bolts used (s)  Design pressure2  Mas below to be completed for Safety Valve Outlate: Number Nozzlas:	Thickness in the state of the s	in. Allows cified)  E N N Illiptical Ratio  (c)	fficiency_c. of Cours_(b)HConciel Apex Angle	des	intength	ftinS Side to Pres (Conv.or Conc.
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1 Girth H.T.1  3. Haeds (a) Material Location Cro a)Top, Bottom, Tichksee Rec End b)Channel removable, bolts used (a)  Design pressure2  Has below to be completed for Nozzlas: Purpese (Inlat	Thickness in the state of the s	in. Allows cified)  E N N Illiptical Ratio  (c)	fficiency_c. of Cours_(b)HConciel Apex Angle	des	intength	SSids to Pree (Conv.or Conc sketch
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1 Girth H.T.1  Girth H.T.1  Girth Crossion Crossion Crossion  a)Top, Bottom, Ticnksee Rec End  b)Channel removable, bolts used (a)  Design pressure2  Mas below to be completed for  Sefsty Valve Outlets: Number  Nozzles:	Thickness in a fin af Range Special R.T. R.T. T.S. T.S. awn Knucla Edius Redius (b) pai s	in. Allows cified)  E N Illiptical Ratio  (c)  st  Cra applic Size	fficiency_c. of Cours(b)MConcisl Apex Angls Other Fact	desft  des  deterial Hemispher Redius  ening(Descript Work Cherpy Cherpy ef et tem Locstian	intength	SSids to Pree (Conv.or Conc sketch
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth H.T.1  Location Crossion  a) Top, Bottom, Ticnkses Rec  End  b) Channel  removable, bolts used (a)  Design pressure2  Mass below to be completed for  Safaty Valve Outlate: Number  Nozzlas:  Purpese (Inlat	Thickness in a fin af Range Special R.T. R.T. T.S. T.S. awn Knucls Edius Redius (b) pai s	in. Allows cified)  E N Illiptical Ratio  (c)  st  Cra applic Size	fficiency_c. of Cours(b)MConciel Apex Angle	desft  des  deterial Hemispher Redius  ening(Descript Work Cherpy Cherpy ef et tem Locstian	intength	ftin.  S Side to Pree (Conv.or Conc  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth H.T.1  Girth Crossion  a) Top, Bottom, Ticnksee Rec  End  b) Channel  removable, bolts used (a)  Design pressure2  ms below to be completed for  Nozzles:  Purpese (Inlet	Thickness in a fin af Range Special R.T. R.T. T.S. T.S. awn Knucla Edius Redius (b) pai s	in. Allows cified)  E N Illiptical Ratio  (c)  st  Cra applic Size	fficiency_c. of Cours(b)MConcisl Apex Angls Other Fact	desft  des  deterial Hemispher Redius  ening(Descript Work Cherpy Cherpy ef et tem Locstian	intength	ftin.  S Side to Pree (Conv.or Conc  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1 Girth H.T.1  Girth H.T.1  Girth Crossian Location Crossian S)Top, Bottom, Tichksee Rec End b)Channel removable, bolts used (s)  Design pressure2  Has below to be completed for  Nozzlas: Purpese (Inlat Dutlet, Drain) Number	Thickness in Thick	in. Allows cified)  E N Illiptical Ratio  (c)  St  Type	fficiency_c. of Cours(b)M Concist Apex Angle Other Fast	desft  des  deterial Hemispher Redius  ening(Descript Work Cherpy Cherpy ef et tem Locstian	intength	ftin.  S Side to Pree (Conv.or Conc  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1 Girth H.T.1  3. Haeds (a) Material Location Cro a) Top, Bottom, Ticnksee Rec End b) Channel removable, bolts used (a)  Design pressure2  mas below to be completed for Nozzles: Purpese (Inlet Dutlet, Drain) Number  Inspection Manholes, No.	Thickness in Thick	in. Allows cified)  E N Illiptical Ratio  (c)  St  Type	fficiency_c. of Cours(b)M Concist Apex Angle Other Fast	des	intength	SSids to Preside (Conv.or Conc.)  sketch  ft-1b
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1  Girth H.T.1  3. Haeds (a) Material Location Cro a) Top, Bottom, Tienkase Rec End b) Channel removable, bolts used (a)  Dasign pressure  Nozelas: Purpese (Inlat Dutlet, Drain) Number  Inspection Manholes, No. Openings: Handles, No.	Thickness in Thick	in. Allows cified)  E N Illiptical Ratio  (c)  Size  Type	fficiency_c. of Cours(b)M Concist Apex Angls Other Fact	des	intength	ftin.  S Sids to Pres (Conv.or Conc.)  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  C. Sasse: Long H.T.1  Girth H.T.1  Girth H.T.1  Girth Crossial  Location Crossian  a) Top, Bottom, Tienkase Rec  End  b) Channel  removable, bolts used (a)  Design pressure2  Mass below to be completed for  Nozzlas:  Purpese (Inlat  Dutlet, Drain) Number  Inspection Manholes, No.  Openings: Handles, No.	Thickness in Thick	in. Allows cified)  E N Illiptical Ratio  (c)  st Type	fficiency_c. of Course_(b)MConcisl Apex Angls Other Feet	des	intength	ftin.  S Side to Pree (Conv.or Conc  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1 Girth H.T.1  3. Haeds (a) Material Location Cro a) Top, Bottom, Ticnksee Rec End b) Channel removable, bolts used (a)  Design pressure2  Mass below to be completed for  Nozzles: Purpese (Inlet Dutlet, Drain) Number  Inspection Manholes, No. Threaded, No. Threaded, No.	Thickness in Thick	in. Allows cified)  E N Illiptical Ratio  (c)  st Type	fficiency_c. of Course_(b)MConcisl Apex Angls Other Feet	des	intength	ftin.  S Sids to Pres (Conv.or Conc.)  ekstch ft-lb_ ef
(Kind&Spec.No.) (M  2. Sasse: Long H.T.1  Girth H.T.1  3. Haeds (a) Material Location Cro a) Top, Bottom, Ticnksee Rec End b) Channel removable, bolts used (a)  . Dasign pressure2  . Safety Valve Outlats: Number  . Nozzlas: Purpese (Inlat Dutlet, Drain) Number  Inspection Manholes, No. Openings: Handles, No.	Thickness in Thick	In. Allows cified)  E N Illiptical Ratio  (c) Size Type	fficiency_c. of Course_(b)MConcisl Apex Angls Other Feet	des	intength	ftin.  S Sids to Pree: (Conv.or Conc.)  ekstch ft-1b

<sup>1</sup> If Postweld Heet-Trested.
2 List other internal or external pressurs with conincident temperature when applicable.

·	. FORM N-2 NPT CERTIFICATE HOLDERS' D As required by the Provision	ATA REPORT FOR NUCLEAR	PART AND APPURTENANCES •
1.	Manufactured & Certified by: GE Company, (N (b) Manufactured for: DUANE ARNO	2117 Costle Hayne Rd.	Wilmington, N.C. 28401 Cartificata Holder)
	(Nems end Address of N	Cartificate Holder for	completed nuclear component
2.	Identification-Certificate Holders's S/N		
(	(a) Constructed According to Drewing No:	9190258G003 Dwg	. Prepared by D. L. Peterson
(	(b) Description of Part Inspected: <u>CYLIND</u>	ER TUBE & FLANGE	
	(C) Applicable ASME Code: Section III, Edit.		
3. F	REMARKS: Standard part for use with React	tor. Hydroatatically (	teated at 1825 nei
	(Brisf description of as	rvice for which compone	ent was designed)
S	Sheet 2 of 2		
	•		
1.	. Cap 167A2343P1 (167A2343) SA182-F304		
	3/8 thick X 1 1/16 0D	1	
2.	Indicator Tuba 10481336P1 SA312-TP316	Reecter Veccel   Thimble	. Code Weld
	3/4 sch 40-ssemlese pips	\	
	0.113 wall thickness 1.065 max. die.	7   8	
	T. VO. MEA. UIE.		
3.	Plug 159A1176P1	i ∄	
	\$A182-F304		
	1/4 thick x 0.812 0D •		
4.	Flangs 919D61OP1 (719E474)		
	SA182-F304		
5.	3.37 thick x 9 5/8 0D Head 12983539P1		
•	SA182-F304		
•	7/8 thick x 2.875 Dis		
6.	Ring Flenge 11485122P2		
	SA182-F304		
	1" thick x 5.0 0D x 1.75 ID		
7.	Cap Screw 117C4516P2	(5)	
	SA193-B6 6 sa. 1/2 dis. on 4 1/8 bolt circle		
8.	Plug 175A7961P1		
	SA182-F304	11111	
	0.38 thick x 1.307 dis.	Cede Weld	
	•	67	
			<u> </u>
	•		

As required by the Provision of the ASME Code Rules, Section III, Div. 1	
1. Manufactured & Cartified by: GE Company, 2117 Caatla Hayna Rd., Wilmington, N.C. 28	,
to the contract th	
(Name and Address of N Cartificate Holder for	
A8370 A8370	
(e) Constructed According to Drawing No: 919D258G003 Dwg. Prepared by D. L. Pe	N/A
TO THE APPLICATION OF PERCENTAGE AND A STATE OF THE STATE	
(c) Applicable ASME Code: Section III, Edition 1974, Addende Date , Case No. 1361-2	
- Too-seemoly of Control Rod Daive Con	lees.
(Brief description of service for which component was designed)  Hydrostatically tasted at 1825 psi. min.	
Sheet 1 of 2	
	_
We cartify that the etatements in this report are correct and this vessel part or appurt as defined in the code conforme to the rules of construction of the ASME Code Section (The applicable Designed Specification and Strees Report are not the responsibility of the Cartificate Holder for parts. An NPT Certification Holder for appurtanences is responsing to the component Design Specification and Strees Report if the appurtanence in cluded in the component Design Specification and Strees Report).	n III
DATE: 11/10	110
DATE: 11/10, 19 87 Signed GE-NEBG-NF&CM-QA By Structum.	
Cartificate Of Authorization Expires: 6/16/90 Cartification of Authorization No.: NPT N.	-1151
CERTIFICATION OF DESIGN FOR APPURTEMANCE	
Design information on file at GE COMPANY, SAN JOSE, CALIFORNIA	
Strees analysis report on file st <u>GE COMPANY, SAN JOSE, CALIFORNIA</u>	
Design epscification cartified by Right Watern	
Dasign epscification cartified by BJORN HAABERG Prof. Eng. State CALIF. Reg. No. 155 Stress englysis report cartified by BJORN HAABERG Prof. Eng. State CALIF. Reg. No. 155	70
Stream analysis report cartified by <u>EDWARD YOSHIO</u> Prof. Eng. State <u>CALIF</u> . Rag. No. <u>MOI</u>	8646
CERTIFICATION OF SHOP INSPECTION	/ 
I. the understand have	
napactors and/or the State or Province of NORTH CARDLINA and amployed by DEPARTMENT OF LAB	re
STATE OF NORTH CARDLINA have inspected the part of a pressure vassel described in the notation of the NPT Cartificate Holder has constructed this part in account to the best of my knowledged and section III.	18
ods Section III	g e
vorsaged or inclied the instance of the inspector nor his employer makes	- 1
	<u>,                                     </u>
A compared or a loss of pay kind erising from or connected with this increase	,
11/10, 1987 Hondy NL.778. P.A. W. 260 - O.H.O.	1
Inspector's Agnature National Roard State Booking	

\*Supplemental aheets in form of lists, sketches or drawing say be used provided (1) size is 1/2" x 11", (2) information in 1-2 on this Data Raport is included on each sheet, and (3) of sheet is recorded in Itam 3. "REHARKSo"

National Board, State, Province and No.

Items 4-8 Incl. to be completed	for single well Nominal	l vassele, je Corrosio	<u>cksta vsecal</u> n	e. or shells of	hest exchangers
FB. Smell: MeterialT.S.	Thickness	in Allerson	 ■in Die.	ft. in te	
(Kind & Spec.No	) (Min. of Range :	Specified)			rgenrei
5. Seame: Leng		R.T	E	fficiency	
Girth  6. Heads: (a) Material	_H.T.1	R.T.	N		
6. Heads: (s) Material	T.S	(b)	4aterial	of Courage	
Location (Top Cr			* · ·	· · · · · ·	
Bottom,Ende) Thickness Ram (s)			. vidta i	moius Disset	er (conv.or cor
If removable, bolts used					
7. Jacket Cloaure:	ec.No., T.S. Siz	s Number)	r isstening	Describe or stt	ech skatch)
/Describs as W	388 800 wald bas	-A- 10 -			
8. Design Pressure 2 1250	noi ak		0	rop Weight	
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PURM N-2 NPT CERTIFICATE HULDERS' D  As required by the Provision	DAIA REPORT FOR NUCLEAR PART AND APPURTENANCES. Tof the ASME Code Rules, Section III, Div. i
1. Manufactured & Certified by: GE Company,	2117 Castle Hayne Rd., Wilmington M.C. 28401
(b) Manufectured for: DUANE ARNO	une and Address of NPT Cartificate Helder)
(Name and Addrass of N	Cartificate Holder for completed nuclear compone
2. Identification-Certificate Holdere's S/N	of Part: A8370 Nat'l 8d N
	919D258G003 Dwg. Prepared by D. L. Peters
(b) Description of Pert Inepacted: CYLIND	ER TUBE & FLANGE
	ion 1974, Addenda Date W'75, Caes No. 1361-2 Cless
. REMARKS: Stendard part for use with React	tor. Hydroptationly booked at long.
(Brief description of as:	rvice for which component was designed)
Sheet 2 of 2	
311886 2 07 2	
1. Cep 167A2343P1	
(167A2343)	
SA182-F304	
3/8 thick X 1 1/16 00	:
2. Indicator Tubs 10481336P1	Reactor (1)
SA312-TP316	Veese1 Code Ve
	Thieble PSOYPIO
3/4 sch 40-sesmlese pipe	\ a \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
0.113 wall thickness	
1.065 max. dis.	
3. Plug 159A1176P1	
SA182-F304	
1/4 thick x 0.812 00	
1/4 CHICK X 0.812 00	
Flanga 919D610P1 (719E474)	
SA182-F304	
3 37 bblok w 0 c/o oo	
. Head 12983539P1	
SA182-F304	
7/8 thick x 2.875 Dis	
Code Weld	
. Ring Flengs 11485122P2 PSGYP102	
SA182-F304	
1" thick x 5.0 0D x 1.75 ID	
× U X 1./5 IU	
. Cap Scraw 117C4516P2	
SA193-86	5
6 sa. 1/2 dia. on 4 1/8 bolt circls	
Plug 175A7961P1	
SA182-F304	المحجواليم المساليخي
0.38 thick x 1.307 dia.	Code Weld
	PROYPLOS
•	
	(6) H   H (7)
	TI I F

1. Owner Iow	va Electric Li Nam	ght and Por	wer	Date11-2	8-88		
	ox 351, Cedar :						
				Sheet 1	ofL	<del></del>	
2. Plant Du	ane Arnold Ene	ergy Center	<u> </u>	Unit1			
	AEC Rd., Palo,	, IA 52324	<u> </u>	CMAR	09121	0	
3. Work Performer	thy Towa Flec	rtric licht	· C Donner			P.O. No., Job No.	, etc.
	tby <u>Iowa Elec</u>	Name	<u>a rower</u>	Type Code Symbo			
3277 DA	EC Rd., Palo,	IA 52324	-	Authorization No.	_		
	Address			Expiration Date		None	
4. Identification of	System Residu	al Heat Re	moval 20A	(Class 1)			
(b) Applicable E	Construction Code AS dition of Section XI Un	tilized for Rapairs	or Replacemen	ts 19 <u>80 W8</u> 1	Addenda,	None	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No,	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Snubber	Iowa			DLA-005-SS-	<del> </del>	<del> </del>	
Pin	Electric	Note 1	None	011	1988	Replacemen	ht No
				· ·		incpraceme,	ac No
<u> </u>							
		_					
. Description of Wo	+ Smuhher Pin	Poplace		DG4 25		· · · · · · · · · · · · · · · · · · ·	
	rk Snubber Pin	кертасеще	nt for a	PSA-35 snubbe	r		
. Tests Conducted:	Hydrostatic Pressure	oumatic No None psi	minal Operating Test Temp	Pressure None F		<u>.</u>	
NOTE: Suppleme tion in items 1 th recorded at the top	ental sheets in form of rough 6 on this report p of this form,	lists, sketches, or is included on ea	r drawings may l ach sheet, and (	be used, provided (1): 3) each sheet is numi	size is 8½ bered and	in. x 11 in., (2) in the number of si	iforma- heets is
(2/82)	This Form (E00030	)) may be obtaine	d from the Orde	er Dept., ASME, 345 (	E. 47th St	, New York, N.Y	. 10017

9. Remarks Replaced snubber pin with pin fabricated from certified round bar stock
ADDICADIA MARIITACTICADE DARGAMA AGA NA AGA LA CALLA
(P.O. S37978) (Note 1). VT-3/4 preservice inspection performed, Reference
inspection report 88-379.
CERTIFICATE OF COMPLIANCE
We certify that the statements mede in the report are correct and this Replacement conforms to the rules of the
ASME Code, Saction XI. repair or replacement
Type Code Symbol StampNone
, , , , , , , , , , , , , , , , , , ,
Certificate of Authorization No. None Expiration Data None
al An //
Signed ASME Administrator Date December 1 19 88
Date Date
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowaand employed by Lumbermans Mutual Casualty Companyof
in this Owner's Report during the period 11-2-88 to 12-2-88 and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report, Furthermore, neither the Inspector par his employees
snall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection,
Weller 12 Colo (1)
Commissions Nat'l Bd. 5813 (I) (N) IA-1041    Properties   National Board, State, Province, and Endorsements
y v
Date 12 - 2 - 19 88

Note 1: Replacement snubber pins were fabricated by Iowa Electric from 2-inch diameter SA-564-T-630 round bar stock, heat number 646398. Bar stock was machined to a diameter approximately 1 3/4 inch.

1. Owner Iowa Electric Light and Power Name P.O. Box 351, Cedar Rapids, IA 52406 Address 2. Plant Duane Arnold Energy Center Name 3277 DAEC Rd. Palo, IA 52324 Address 3. Work Performed by Iowa Electric Neme 3277 DAEC Rd., Palo, IA 52324 Address 4. Identification of System Core Spray Suction (N.W.) (Class 2) 5. (a) Applicable Construction Code ANIS B31.719 69 Edition, 1971 Address Address Name of Manufacturer Seriel No. Name of Manufacturer Seriel No. Name of Component Manufacturer Seriel No. Name of Manufacturer Seriel No. Name of Manufacturer Seriel No. None SS-010 1988 Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement Components None Repaired, Replacement Components None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Repaired, Replacement No. None Replacement No. None Replacement No. None Replacement No. None Replacement No. None Replacement No. None Replacement No.								
P.O. Box 351, Cedar Rapids, IA 52406 Address  2. Plant Duane Arnold Energy Center Name  3277 DAEC Rd. Palo, IA 52324 Address  3. Work Performed by Iowa Electric Name Authorization No. None  3277 DAEC Rd., Palo, IA 52324 Address  4. Identification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.719 Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No.  Name of Manufacturer Serial No.  No.    National Board No.   Paragraphic No.	1. OwnerIow	a Electric L	ight and Po	wer	Date 12-5-8	38		
2. Plant Duane Arnold Energy Center Name  3277 DAEC Rd. Palo, IA 52324  Address  Repair Organization P.O. No., Job No., etc.  Type Code Symbol Stamp None  Authorization No. None  3277 DAEC Rd., Palo, IA 52324  Address  Address  Authorization No. None  Expiration Date None  4. Identification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.719 69 Edition, 1971  (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No. No. Identification P.O. No., Job No., etc.  Type Code Symbol Stamp None  Authorization No. None  Expiration Date None  Addenda, N/A Code Code  Repaired, Repaired, Replaced, Gode Stampe Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No. Identification Built or Replacement or No)  Hydraulic Bergen D. Arnold HBB-001-					05 1	. 1		
3277 DAEC Rd. Palo, IA 52324  Address Repair Organization P.O. No., Job No., etc.  Type Code Symbol Stamp None  None  None  Authorization No.  Authorization No.  Expiration Date None  Authorization Oster  None  Address  Address  Address  Alidentification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.719 69 Edition, 1971 Addends, N/A Code Cide (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No.  No. Identification Built or Replacement (Yes Or Replacement)  No. Identification Built or Replacement (Yes Or Replacement)  ASME Code Stampe Repaired, Replaced, (Yes Or Replacement)  No. Identification Built or Replacement (Yes Or Replacement)  Repaired, Replaced, (Yes Or Replacement)  ASME Code Stampe Repaired or Replacement Do. Arnold Bergen D. Arnold HBB-001-				32400	SheetI	. of <u>I</u>	<u> </u>	<del></del> -
3277 DAEC Rd. Palo, IA 52324  Address Repair Organization P.O. No., Job No., etc.  Type Code Symbol Stamp None  None  None  Authorization No.  Authorization No.  Expiration Date None  Authorization Oster  None  Address  Address  Address  Alidentification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.719 69 Edition, 1971 Addends, N/A Code Cide (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No.  No. Identification Built or Replacement (Yes Or Replacement)  No. Identification Built or Replacement (Yes Or Replacement)  ASME Code Stampe Repaired, Replaced, (Yes Or Replacement)  No. Identification Built or Replacement (Yes Or Replacement)  Repaired, Replaced, (Yes Or Replacement)  ASME Code Stampe Repaired or Replacement Do. Arnold Bergen D. Arnold HBB-001-	2. Plant Duane	Arnold Energ	y Center		Unit1			
Name    Second Performed by   Iowa Electric   Name   None								
Name of Component Name of Manufacturer Serial No.  Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  No.  Type Code Symbol Stamp None  Authorization No. None  Expiration Date None  Authorization No. None  Authorization No. None  Authorization No. None  Authorization No. None  Authorization Date None  Authorization No. None  Expiration Date None  Addenda, N/A Code Code Code Code Code Code Code Code				<del></del>	CMAR Beneix Ora	90840	5.6.1	
Address  4. Identification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.7 <sub>19</sub> 69 Edition, 1971 Addenda, N/A Code Cide (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No. No. Identification Built Or Replacement or No. No. Identification Built Or Replacement Or No. No. Identification Built Or Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. Replacement Or No. No. Replacement Or No. Replacement Or No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. Replacement Or No. No. No. Replacement Or No. No. Replacement Or No. No. No. Replacement Or No. No. No. Replacement Or No. No. No. Replacement Or No. No. No. Replacement Or No. No. No. No. Replacement Or No. No. No. No. No. No. No. No. No. No.	3. Work Performed b	y_ Iowa Elec	tric					, etc.
Address  4. Identification of System Core Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction Code ANIS B31.719 69 Edition, 1971 Addenda, N/A Code Call (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Name of Manufacturer Board								
A. Identification of System Core_Spray Suction (N.W.) (Class 2)  5. (a) Applicable Construction CodeANIS_B31.7 <sub>19</sub> 69 Edition, 1971 Addenda, N/A Code Cide (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81  6. Identification of Components Repaired or Replaced and Replacement Components  Name of Name of Manufacturer Serial No.	3277 DAEC	Rd., Palo,	IA 52324	<del></del>				
Solution of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No.  No.   Code Code Code Code Code Code Code Code					\ (01			
Name of Component Manufacturer Serial No.  No. Identification of Section XI Utilized for Repairs or Replacements 19 80 W81  Name of Component Manufacturer Serial No.  National Board Other Year Replaced, (Yes or Replaced) Or Replacement Or No.  No. Identification Built Or Replacement Or No.	4. Identification of 3	AstemOTE	Spray Suct	Lon (N.W.	) (Class 2)			
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Name of Component Name of Manufacturer Serial No.  No.   Component   Component No.   Component No.   Component   C	(b) Applicable Edi	tion of Section XI U	tilized for Repairs	or Replacemen	ts 19 80 W81	4aaenaa,_	M/A	_Code Ca
Name of Component Name of Manufacturer Serial No.  National Board Other Year Replaced, (Yes or No.)  Hydraulic Bergen- D. Arnold HBB-001-				•				
Name of Component Name of Manufacturer Serial No.  National Board Other Year Replaced, (Yes or No.)  Hydraulic Bergen- D. Arnold Spubler Replaced Other No.  No.   Hydraulic   HBB-001-   H	<ol><li>Identification of Control</li></ol>	omponents Repaired	or Replaced and F	Replacement Co	mponents			
Name of Component Name of Manufacturer Serial No.  National Board Other Year Replaced, (Yes or No.)  Hydraulic Bergen- D. Arnold Spubler Replaced Other No.  No.   Hydraulic   HBB-001-   H		<del></del>		<del></del>	Ţ			
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Component Manufacturer Serial No. No. Other Year Replaced, (Yes or No.)  Hydraulic Bergen D. Arnold HBB-001-	Nome of			National			Repaired,	1
Hydraulic Bergen D.Arnold HBB-001-			1 - 1		1	Year		
Snubber Betteren #20	,		Serial NO.	NO.	Identification	Built	or Replacement	or No)
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racterson #20 None SS-010 1988 Replacement No	•	_		X				
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repracement Type (h55A-3)	Tests Conducted:	Hydrostatic Pn	eumatic Non	ninal Operating	Pressure			
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The state of the s		•						
Tests Conducted: Hydrostatic Pneumatic Nominal Operating Pressure Other Pressure None psi Test Temp. None °F	NOTE: Supplement	al sheets in form of	lists, sketches, or	drawings may t	pe used, provided (1)	size is 8½	in. x 11 in., (2) in	forms-
Tests Conducted: Hydrostatic Pneumatic Nominal Operating Pressure Other Pressure None psi Test Temp. None F  NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 81% in v.11 in (2) in the list in the		wall this income	is included on ea	ich sheet, and (	3) eech sheet is num	bered and	the number of s	heets is
Tests Conducted: Hydrostatic Pneumatic Nominal Operating Pressure  Other Pressure None psi Test Temp. None F  NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of the number	top (	er wite rentil.						
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Tests Conducted: Hydrostatic Pneumatic Nominal Operating Pressure Other Pressure None psi Test Temp. None F  NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.	· · · · · · · · · · · · · · · · · · ·	inis Form (E0003)	II may be obtained	I from the Orde	er Dept., ASME, 345	E. 47th St	., New York, N.Y	. 10017
Tests Conducted: Hydrostatic Pneumatic Nominal Operating Pressure  Other Pressure None psi Test Temp. None ° F  NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of the numbe								

ASMECAND NOTE  CERTIFICATE OF COMPLIANCE  We certify that the statements mede in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  Type Code Symbol Stamp  None  Certificate of Authorization No.  None  Expiration Date  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Inspection  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa  and employed by Lumbermans Mutual Casualty Company  And employed by Lumbermans Mutual Casualty Company  And state that to the bast of my knowledge and belief, the Owner has performed examinations and terrocretive measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any war	9. Remarks Replacement of Hydraulic Snubber with certified Hydraulic Snubber
CERTIFICATE OF COMPLIANCE  We certify that the statements made in the report are correct and this Teplacement conforms to the rules of the repair or replacement  Type Code Symbol Stamp  None  Signed Asme Administrator  Certificate of Authorization No.  None  Expiration Date  None  Signed Asme Administrator  Date  December  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Authorization No.  None  Certificate of Housewise December  Oate  December  Oate  December  Oate  Certificate of Housewise Inspectors and the State or Province of  Long Grove, Illinois  have inspected the components described in this Owner's Report during the period  Owner's Report in accordance with the requirements of the ASME Code, Section XIs  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer makes any warranty, expressed or implied concerning the ex	Applicable Manufacturer's Data Reports to be assessed
CERTIFICATE OF COMPLIANCE  We certify that the statements made in the report are correct and this Teplacement conforms to the rules of the repair or replacement  Type Code Symbol Stamp  None  Signed Asme Administrator  Asme Administrator  Date December 6, 1988  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Long Grove, Illinois  In this Owner's Report during the period 10-26-88 to 12-6-89, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.	(P.O. 544346), VT-3/VT-4 pre-service inspection performed. Reference
We certify that the statements mede in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  Type Code Symbol Stamp None  None Expiration Date None  Certificate of Authorization No. None Expiration Date December 6, 1988  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois have inspected the components described in this Owner's Report during the period 10-26-88 to 12-6-88, and state thet to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	
We certify that the statements mede in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  Type Code Symbol Stamp None  None Expiration Date None  Certificate of Authorization No. None Expiration Date December 6, 1988  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois have inspected the components described in this Owner's Report during the period 10-26-88 to 12-689, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	
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Type Code Symbol Stamp  None  Expiration Date  None  Certificate of Authorization No.  None  Expiration Date  December  None  Certificate of Authorization No.  None  Expiration Date  December  None  Certificate of Authorization No.  Certificate of Authorization No.  Certificate of Authorization No.  Date  December  December  None  Certificate of Authorization No.  Certificate of Inspectors and the State of Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  In this Owner's Report during the period 10-26-88 to 10-28, and state thet to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	CERTIFICATE OF COMPLIANCE
CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois have inspected the components described in this Owner's Report during the period 10-26-88 to 12-6-88, and state thet to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	We certify that the statements made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Signed Asme Administrator  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  in this Owner's Report during the period 10-26-88 to 12-6-88, and state thet to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	Type Code Symbol StampNone,
CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  have inspected the components described in this Owner's Report during the period 10-26-88, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	Certificate of Authorization No. None Expiration Date None
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  have inspected the components described in this Owner's Report during the period 10-26-88 to 12-6-88, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	Signed The Man Asme Administrator Date December 6 1988
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  in this Owner's Report during the period 10-26-88 to 12-6-88, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	CERTIFICATE OF INSERVICE INSPECTION
in this Owner's Report during the period 10-26-88 to 12-6-88, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove Illinois
Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA-7210  By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	in this Owner's Report during the period 10-26-88 to 12-6-88 and state that
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examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	By signing this certificate neither the Increase and his application XI; EXCEPT IWA-/210
inspection.	examinations and corrective measures described in this Owens's Report Fundamental Processes or implied, concerning the
Commissions Nat 1 Bd. 5813 (I) (N) IA-1041 Netlonel Board, State, Province, and Endorsements  Date December 6, 19 88	shall be flable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
Commissions Nat' 1 Bd. 5813 (I) (N) IA-1041  National Board, State, Province, and Endorsements  Date December 6, 19 88	pool
Date December 6, 19 88	Commissions Nat'1 Bd. 5813 (I) (N) IA-1041
Date December 6, 19 88	National Board, State, Province, and Endorsements
	Date December 6, 19 88

P.O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 1    Plant   Duane Arnold Energy Center   Name   Santa		<u>a Electric Li</u> Nam 351. Cedar R	-		Date11/30			<del></del>
Address  3. Work Performed by Iowa Electric Name 3277 DAEC Rd., Palo, IA 52324 Address  4. Identification of System (1E-201A) RHR 'A' Heat Exchanger  5. (a) Applicable Construction Code ASME VIII 19 68 Edition, W70 Addends, N/A Code Ca (b) Applicable Edition of Section XI Utilized for Replaced and Replacement Components  Name of Component Repaired or Replaced and Replacement Components  Name of Manufacturer Serial No. No. Identification Built or Replaced, Yes Vessel Nogectric 731201 1 4594 IE-201A 1971 Repaired Yes  Note 1: Berlin Chapman Division of Perfex Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  *Repaired Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic Pressure Pressure Pressure Pressure Noninal Operating Pressure    Noninal Operating Pressure Pressure Pressure Poundary therefore NIS-2 require Tests Conducted: Hydrostatic Pressure				J2400	SheetL	of	<del>-</del>	
3. Work Performed by Iowa Electric Type Code Symbol Stamp None  3277 DAEC Rd., Palo, IA 52324 Expiration No. None  Address Authorization No. None  4. Identification of System (1E-201A) RHR 'A' Heat Exchanger  5. (a) Applicable Construction Code ASME VIII 19 68 Edition, W70 Addenda, N/A Code Ca (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 80 W81 Addenda  3. Identification of Components Repaired or Replaced and Replacement Components  Name of Component Manufacturer Serial No. No. Identification Built or Replaced, (Yes Pressure No. No. No. No. No. No. No. No. No. No.	2. Plant <u>Duan</u>	e Arnold Ener	gy Center	<del></del>	Unit1			
Note   Note	3277 DAEC	Rd., Palo, I	A 52324		CMAR 804	06 CS	R #A	
Authorization No. None  Address  Addres	3. Work Performed	by Iowa Ele	ectric				•	etc.
Address  4. Identification of System (1E-201A) RHR 'A' Heat Exchanger  5. (a) Applicable Construction Code ASME VIII 19 68 Edition, W70 Addenda, N/A Code Ca (b) Applicable Edition of Section XI Utilized for Replacements 19 80 W81 Addenda  5. Identification of Components Repeired or Replaced and Replacement Components  Name of Component Manufacturer Serial No. No. Identification Built or Replaced, Replaced, Pressure See Notactric 7 20201-11 4594 1E-201A 1971 Repaired Test No. Pressure No. Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure								
Solution of Components Repaired or Replaced and Replacement Components    Name of Component   Name of Manufacturer   Serial No.   No	J277 DAEC	Address	3 52324		Expiration Date_	None		
Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  No.  No.  No.  No.  No.  No.  No.	Identification of	System(1E-201	A) RHR 'A'	Heat Exc	hanger			
Name of Component Manufacturer Serial No.  Name of Component Manufacturer Serial No.  No.  No.  No.  No.  No.  No.  No.	5. (a) Applicable Co	onstruction Code AS	ME VIII 19	68 Edition	<u>, W70</u>	Addenda	N/A	Codo C-
Name of Component Name of Manufacturer Serial No.  Name of Component Manufacturer Serial No.  Name of Manufacturer Serial No.  No.  No.  No.  No.  No.  No.  No.	(b) Applicable Ec	lition of Section XI U	tilized for Repairs	or Replacemen	ts 19 80 W81 A	idenda		_Code Cas
Name of Component  Name of Manufacturer Serial No.  National Board No.  No.  Nother Identification  No.  No.  Nother Identification  No.  No.  No.  Nother Identification  No.  No.  No.  No.  No.  No.  No.  N	i. Identification of (	Components Repaired	or Replaced and R	leplacement Co	emponents			,
Vessel Norgactric 721201-1 4594 1E-201A 1971 Repaired Yes  Note 1: Berlin Chapman Division of Perfex  Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require  Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure	_			Boerd			Replaced,	Code Stamped (Yes
Note 1: Berlin Chapman Division of Perfex  Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require  Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure						<del> </del>		
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure	/eşq <u>e</u> l	Nogectric_	73120171	4594	1E-201A	1971	Repaired	Yes
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure						<del> </del>		
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure								
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require  Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure								
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure								
Description of Work Weld repair of defect in tube sheet cladding (Class 3)*  * Repair could have affected Class 2 pressure boundary therefore NIS-2 require Tests Conducted: Hydrostatic X Pneumatic Nominel Operating Pressure								
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rests conducted: Aydrostatic X Pneumatic Nominal Operating Pressure	ote 1: Berli	in Chapman Div	of dofort		book oloddin	o (Clad	se 3)*	
Other Pressure 495 psi Test Temp. 100 °s	Description of World	k Weld repair	of defect	in tube s	a boundarin	S (CIA.	33 37"	
	Description of Worl * Repair cou	k <u>Weld repair</u> ild have affec	cted Class	2 pressur	e boundary +	herefor	re NIS-2 re	quire

(3) each sheet is numbered and the number of sheets is recorded et the top of this form.

9. Remarks Repair to erroded tube sheet to channel shell fillet weld (seal weld)
Applicable Manufacturer's Date Benorts to be asset at
by excavation and weld repair. Repair of defects in tube sheet cladding by
excavation and weld repair. The repaired welds were liquid penetrant inspects
and found acceptable. The repaired welds also were processes tested and some
found acceptable (see ISI No. 88-462).
CERTIFICATE OF COMPLIANCE We certify that the stetements made in the moon are selected. Popular
We certify that the stetements made in the report are correct and this <u>Repair</u> conforms to the rules of the ASME Code, Section XI.  repair or raplacement
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None
Signed Color of McCarlos Date December / 1988
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issuad by the National Board of Boilar and Pressure Vessal Inspectors and the State or Province of
Long Grove, IIIInois have inspected the components described
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
shall be liable in eny manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041  Inspector Signature Commissions National Board, State, Province, and Endorsemants
Date December 3, 19 88

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Manufectured to General	etrio Commit	Market Market		
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By Signing this continue neither the laspecter nor his employer makes only warranty, expressed or implied, concerning the property of the second content of the second concerning the property damage or a less of any kind arising from or connected with this time.

This Form is obtainable from the ASMS, 345 E. 47th St., New York, No.

Man'l House, Mair, of 1700 and 2 and No.

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	_P.O. Box	351, Cedar R	apids, IA	52406	Sheet 1	_ of1		
		Arnold Ener						
		Nam	e center		Unit <u>l</u> Note A -	CDVAR C	02/6	
	3277 DAI	C Rd., Palo,	IA 52324					
					Repair Or	ganization	9347 P.O. No., Job No.	, etc.
	3. Work Performed	by <u>Iowa Ele</u>	ctric		Type Code Symbo			
					Authorization No			
	_ JZ// DAEC	Rd., Palo,	IA 52324		Expiration Date_		None	
	4. Identification of S	System Note A -	'A' Recirc	. Pump Ca	sing, Note B	- 'B'	Recirc. Pu	ımp (
								<u> </u>
,	o. (a) Applicable Co (b) Applicable Ed	instruction Code	19	<u>69</u> Edition	1971	Addenda,	NANA	_Code
	(a) Whitespie Fo	ition of Section XI U	tilized for Repairs	or Replacemen	ts 19 80 W8 I			
6	6. Identification of C	Components Repaired	or Repleced and F	Benjasamana Ca				
_			o. Hopicod and I	replacement CO	mponents			
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	Name of	Name of	Manufacturer	Board	Other	Yeer	Repaired, Replaced,	Starr (Y
	Component	Manufecturer	Serial No.	No.	Identification	Built	or Replacement	
Γ		Bergen		<del> </del>	<u> </u>		-	
L	Lug pad	Patterson	N/A	N/A	SSA-1	1988	Banada 1	
		Bergen		7.5	JULY 1	1306	Repaired	No
_	Lug pad	Patterson	N/A	N/A	SSB-1	1988	Repaired	No
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7.	Description of Work	Repaired re	ejected ind	ications	by grinding.		•	
					-) 8.1		<del></del>	
3.	Tests Conducted:		eumatic Non	ninal Operating	Pressure	*		
		Other Pressure_		Test Temp.			,	
		tal sheets in form of						

(12/82)

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

9. Remarks Lug pads on structural building side of support had unacceptable
Applicable Manufacturer's Data Reports to be accepted
indications grounded out. Indication removals did not effect the integrity
of the weld. Welding was not required. Grounded areas were dry magnetic
particle inspected and found acceptable.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this repair conforms to the rules of the
ASME Code, Section XI. repair or replacement
Type Code Symbol StampN/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Length Miles, ASME Administrator Date 12-8 1988
Owner or Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issuad by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of and amployed by Lumbermans Mutual Casualty Company
Long Grove, Illinois
Long Grove, Illinois  have inspected the components described in this Owner's Report during the period  11-14-88 to 12-9-88  , and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
now the second s
Commissions Nat 1 Bd. 5813 (I) (N) IA-1041  National Board, State, Province, and Endorsements
Inspector's Signeture National Board, State, Province, and Endorsements
•
Date December 9 19 88
19 00

Electric Lig	ht & Power		Date <u>12-1</u>	4-88		
						· · · · · · · · · · · · · · · · · · ·
		52406	Sheet 1	of		
Arnold Energ	y Center		Unit 1			
Address	IA 52324		CMAR 884	70		•
			Repair Org	anization	P.O. No., Job No.	, etc.
by Towa EI			Type Code Symbo	Stamp_	None	
C. Rd. Pala			Authorization No.		None	
Address	IA 52324		Expiration Date		None	
System <u>Reacto</u>	r Water Cle	anup - Su	ction			
onstruction Code AN	<u>SI B31.7</u> 19	69_Edition,	71	Addenda	N/A	Codo Coo
lition of Section XI U	tilized for Repairs	or Replacement	s 19 <u>80 W81</u>	,	.,	_Code Cas
		•				
Components Repaired	or Replaced and F	Replacement Co	mponents			
						,
						ASME
		National		1	Renaired	Code
Name of	Manufacturer	Board	Other	Year		Stamped (Yes
Manufacturer	Serial No.	No.	Identification	Built	or Replacement	1
	(Heat No.)				1	
			DCA-6-88-50			
Cardinal	KC8972	NA		1000		
·				1986	Replaced	No
Cardinal	Х569В	NA		1006		
			(Sindbbel)	1900	Replaced	No
						·
		•			<del>*</del>	
n1			1			
Replaced p	ipe clamp -	studs and	LINUES			
Hydrostatic Pn	eumatic Non	ninal Operating	Pressure	-		
	eumatic Non		Pressure	-		
Hydrostatic Pn Other Pressure	eumatic Non	ninal Operating Test Temp. $\frac{Nc}{2}$	Pressure   DRE F	·		
Hydrostatic Pn Other Pressure_	eumatic Non	ninal Operating Test Temp, No	Pressure DDE F	tize is 8½	in. x 11 in., (2) in	forms-
Hydrostatic Pn Other Pressure	eumatic Non	ninal Operating Test Temp, No	Pressure DDE F	iize is 8½ pered and	in. x 11 in., (2) in tha number of sh	forma- neets is
	Arnold Energy Nam C Rd., Palo, Address by Iowa El C Rd., Palo, Address System Reacto Construction Code AN dition of Section XI U Components Repaired  Name of Manufacturer  Cardinal	Arnold Energy Center  Name C Rd., Palo, IA 52324  Address by Iowa Electric Nama C Rd., Palo, IA 52324  Address System Reactor Water Cle  Instruction Code ANSI B31.7 19  dition of Section XI Utilized for Repairs Components Repaired or Replaced and F  Name of Manufacturer Manufacturer Serial No.  (Heat No.)  Cardinal KC8972	C Rd., Palo, IA 52324  Address  by Iowa Electric  Name  C Rd., Palo, IA 52324  Address  System Reactor Water Cleanup - Surpostruction Code ANSI B31.7 19 69 Edition, dition of Section XI Utilized for Repairs or Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired or Replaced and Replacement Components Repaired Replacement Replacement Repaired No. (Heat No.)	Arnold Energy Center  Name  C Rd., Palo, IA 52324  Address  by Iowa Electric Nama  C Rd., Palo, IA 52324  Address  System Reactor Water Cleanup - Suction  Components Repaired or Replaced and Replacement Components  Name of Manufacturer Serial No.  (Heat No.)  Cardinal KC8972  Name Contact I Wasser I In the Interval I	Address  Arnold Energy Center  Name  C Rd., Palo, IA 52324  Address  D Iowa Electric  Name  C Rd., Palo, IA 52324  Address  C Rd., Palo, IA 52324  Address  System  Reactor Water Cleanup - Suction  Construction Code ANSI B31.7 19 69 Edition, 71 Addenda, dition of Section XI Utilized for Repairs or Replacements 19 80 W81  Components Repaired or Replaced and Replacement Components  Name of Manufacturer Serial No. (Heat No.)  Cardinal KC8972  NA DCA-6-SS-50 (Snubber) 1986  Cardinal KC8972  NA Cardinal KC8972	Arnold Energy Center  Name C Rd., Palo, IA 52324  Address  Divational Experiments  C Rd., Palo, IA 52324  Address  Repair Organization P.O. No., Job No.  None  Authorization No.  Expiration Date  None  Address  System  Reactor Water Cleanup - Suction  Components Repaired or Replaced and Replacement 19 80 W81  Components Repaired or Replaced and Replacement Components  Name of Manufacturer Serial No.  (Heat No.)  Cardinal KC8972  NA DCA-6-SS-50  Cardinal V560P  Cardinal V560P  Name of Cardinal V560P  CAAAGR88470  CMAR 88470  Repair organization P.O. No., Job No.  None  Authorization No.  Expiration Date  Addenda, N/A  Repaired, Repaired, Replaced  Other Year Repaired, Replaced  Orall V560P  Cardinal V560P  Cardinal V560P  CAAAGR88470  CMAR 88470  Repair Organization P.O. No., Job No.  Address  None  CMAR 88470  Repair Organization P.O. No., Job No.  Address  None  CMAR 88470  Repair Organization P.O. No., Job No.  Address  None  CMAR 88470  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Address  None  CMAR 88470  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No., Job No.  Repair Organization P.O. No.  Repair Organization P.O. No.  Repair Organizat

9. Remarks Replaced pipe clamp - studs and nuts with certified studs and nuts,
Applicable Manufacturer's Data Reports to be attached  (P.O. S26710) and (P.O. S26813), VT-3/VT-4 preservice inspection performed.
Reference inspection report no. 88-457
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this <u>Replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol StampN/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed N. Mehry Owner's Designee, Title  ASME Administrator Date December 19 , 19 88
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of
in this Owner's Report during the period 11-12-88 to 12-15-88, and state that
to the best of my knowledge and belief, the Owner has performed examinations end taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Coda, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041  National Board State Province and Endowment
inspector's Signature  National Board, State, Province, and Endorsements
Data December 15, 19 88

1. Owner Iowa	a Electric L	ight & Powe	er	Date 12-21-	-88		
	· <del>-</del> · ·	. •					
	351, Cedar	Rapids, IA	52406	Sheet1	of	2	
2. Plant Duane				Unit1			
							<del></del>
<u> </u>	Rd. Palo, IA	32324		See Atta	<u>ch</u>	MSR-1	
3. Work Performed h	v Towa F1	entria				P.O. No., Job No.	etc.
3. Work Performed b	y	Name		Type Code Symbol			
	Rd. Palo, I			Authorization No			
				Expiration Dete		None	
4. Identification of Sy	stem <u>Main St</u>	eam 'A', '	B', 'C' ((	Class 1)	·		
5. (a) Applicable Con (b) Applicable Edit	struction Code Se	ction TTT.	. 68	Winter 1069		•• / •	
(b) Applicable Edit	tion of Section XI U	tilized for Renaire	Edition,	WILLET 1900 A	ddenda,_	N/A	_Code Case
		mired for Hebsits	or neplacemen	ts 19 <u>00 W</u> 81			
6. Identification of Co	mponents Repaired	or Replaced and I	Penlacement Co				
			replacement Co	mponents			
						T	•
Name of	Name of	Manufacturer	National			Repaired,	ASME Code Stamped
Component	Manufacturer	Serial No.	Board No.	Other Identification	Year	Replaced,	(Yes
		(Heat No.)		Identification	Built	or Replacement	or No)
D.1		(neat No.)					
Pilot seat vlv Bolts -	s. Target Rock	184N <b>8</b> 44	37.4	See Attach.			
	ROCK	10411044	NA	MSR-1	1987	Replaced	No
		İ					
			•				
7. Description of Work_	Replaced P	ilot seat v	valve bolt	s			
	Hydrostatic Pne		ninel Operating Test Temp, <u>No</u>			got some his	
				·			
NOTE: Supplements tion in items 1 throu	sheets in form of	lists, skatches, or	drawings may b	e used, provided (1) e	ize is 84 :	n v 11 in /2\:-	
tion in items 1 throu recorded at the top o		is included on ea	ch sheet, and (3	) each sheet is numb	ered and	the number of sh	orma- eets is
. soor cad at the top o	i uil <b>s torm,</b>						

9. Remarks Replaced pilot seat valve bolts with certified bolts. (P.O. S21635)
Applicable Manufacturer's Data Reports to be attached  VT-1 of bolt preservice inspection performed.
Reference inspection report no. 88-477.
CERTIFICATE OF COMPLIANCE  We certify that the statements mede in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI. repeir or replacement
Type Code Symbol StampN/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed ————————————————————————————————————
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company
Long Grove, Illinois have inspected the components described in this Owner's Report during the period, and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property demage or a loss of any kind arising from or connected with this inspection.
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements  Data 1989
Data January 6 19 89

1.	Owner <u>Iowa Electric Light and Power</u>	Date12-21-88	
	P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet 2 of 2	
2.	Plant <u>Duane Arnold Energy Center</u> Name		
	3277 DAEC Rd., Palo, IA 52324 Address	see below	
3.	Work Performed by <u>Iowa Electric</u>	Repair Organiz. P.O. No., Job No., Type Code Symbol Stamp_ None	etc
	Name 3277 DAEC Rd., Palo, IA 52324	Authorization No. None Expiration Date None	
4.	Address Identification of System	see below	
5.	(a) Applicable Construc. Code <u>ASME III</u> (b) Applicable Edition of Section XI Ut	19_68 Edition, <u>W/68</u> Addenda <u>None</u> Code ilized for Repairs or Replacement 19 80	Case

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Comp.	Name of Manufac.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)
/ Pilot vlvs .ts (each)		None	See Sheet 1	1987	Replacement	No

belts (each)

#### Table MSR-1 (Class 1)

Repair Organiz. (PMAR)	Identifica- tion of Sys.	Other Identification
1026156	Main Steam A	PSV4401
1026157 .	Main Steam B	PSV4402
1026158	Main Steam C	PSV4405
		-

I. OwnerIowa	Electric Li	ght and Po	wer	Date 12-28-	88		
P.O. Box 3	51, Cedar Ra	pids, IA	52406	Sheet 1	of1		
Plant Duane	Arnold Ener	gy Center		Unitl			
	Rd., Palo,			CMAR	91632		
				Repair Org	enization	P.O. No., Job No.	, etc.
Work Performed by	lowa Ele	ctric		Type Code Symbo	Stamp	None	
				Authorization No.		None	
JZ// DAEC	Rd., Palo, I	owa 52324		Expiration Date_			
Identification of Sys				ass 1)			
(a) Applicable Cons (b) Applicable Editi Identification of Con	ion of Section XI Ut	ilized for Repairs	or Replacement	s 19 <u>80 W8</u> I	Addenda,_	N/A	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No. (Part No.)	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
se plate of	Bergen-					<del>                                     </del>	
riable suppo	rt Paterson	VS2F	N/A	DBA-6-H-1	1988	Repaired*	No
			· ·				
_							
					L		
escription of Work * f variable s	Removed har	iger to obt	ain acces	s to motor o	nersta	r Waldad	ha•
	-France co of	ractarat S	steel.		PETALO	T. METGEG	_pasep1.
ests Conducted: H	ydrostatic Pne Pne her Pressure 1	umatic 🔲 Non	ninal Operating	Pressure   None = F		grava i se	
NOTE: Supplemental ion in items 1 throug ecorded at the top of	and our river reboil	ists, skatches, or is included on ea	drewings may b ch sheet, and ((	e used, provided (1) 3) each sheet is num	size is 8½ bered and	in. x 11 in., (2) in the number of sh	forms-

9. Remarks Rewelded base plate of variable support to structural steel after work
Applicable Manufacturer's Data Raports to be attached
activities on motor operator was completed.
VT-3/VT-4 preservice inspection also was
performed. Reference inspection report no. 88-479,
CERTIFICATE OF COMPLIANCE
CERTIFICATE OF COMPLIANCE
We certify that the statemants made in the report are correct and this Repair conforms to the rules of the ASME Code, Section XI.
ASME Code, Section X1.
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Data None
2/
Signed L. Melw , ASME Administrator Date December 29 , 1988
Owner or Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Soard of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of
MOME OFORE TITINGIS
in this Owner's Report during the period
to the board will be defined, and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report, Furthermore, neither the Inspector nor his employer
shall be liable in any menner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041  Inspector's Signature National Board, State, Province, and Endorsements
Inspector's Signature National Board, Stata, Province, and Endorsements
Date 19 19
Date drumper 6 to 19
19
· · · · · · · · · · · · · · · · · · ·

1. Owner <u>Iowa</u>	Electric Li	ght & Power	<u>r</u>	Date12-2	9-88		
P.O. Box	351, Cedar	Rapids, Ia	52406	Sheet 1	of2		
2. Plant <u>Duan</u>				Unit1			
	C Rd. Palo Address			See Atta	ch. MS	BR-2 P.O. No., Job No.	
3. Work Performed by	V Iowa Ele	ectric					, etc.
				Type Code Symbo			
3277 DAI	EC Rd. Palo.	IA 52324	<del></del>	Authorization No. Expiration Date			
4. Identification of Sy				(Class 1)			
5 (a) Applicable Co-		tion III	6.0	•••			
5. (a) Applicable Con	struction Code_SEC	CLION III 19	_68_ Edition	<u>, Winter 1968,</u>	Addenda,	N/A	_Code Case
(a) Whitenia Edit	tion of Section XI Ut	tilized for Repairs	or Replacemen	ts 19 <u>80 W8 I</u>			
6. Identification of Co	mponents Repaired	or Reniaced and E	Poplacement C-				
			replacement Co	mponents		•	
					T	Т	•
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board	Other	Year	Repaired, Replaced,	ASME Code Stamped (Yes
,			No.	Identification	Built	or Replacement	or No)
		(Part No.)					
Pilot seat vlv				See Attach.			
bolts -	Rock	*	<u> </u>	MSR-2	1978	Replaced	No
* 1 1/8 - 12	2 x 6 lg		•			<u></u>	
. Description of Work_	Replaced pil	ot seat va	lve bolts				
	Hydrostatic Pne		ninal Operating Test Temp				
				<u></u> r			
NOTE: Supplementa	sheets in form of	lists, skatches, or	drawings may i	he used installed (4)	eisa is Ott	in 44 / /m/ -	
	A A A I THE I DEPORT	is included on ea	ch sheet, and (	3) each sheet is num	pered and	in. x 11 in., (2) in I the number of e	torma- nests i-
recorded at the top o	f this form,		·				.0019 IZ
e ·							

9. Remarks Replaced pilot seat valve bolts with certified bolts. (P.O. 13741)
Applicable Manufacturer's Data Reports to be attached
VT-1 of bolt preservice inspection performed. Reference inspection report
_no. 88-477.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
Type Code Symbol StampN/A
Certificate of Authorization No. N/A Expiration Data N/A
Signed 2 And Administrator Date January 3 , 19 58
CERTIFICATE OF MUSEUMON WAS A STATE OF THE S
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois
in this Owner's Report during the period $1/-19-88$ to $1-4-89$ , and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measuras described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Commissions Nat'1 Bd. 5813 (I)(N) IA-1041
Commissions Nat' 1 Bd. 5813 (1)(N) IA-1041  National Board, State, Province, and Endorsements
Commissions Nat'1 Bd. 5813 (I)(N) IA-1041 National Board, State, Province, and Endorsements  Date 1989

1.	Owner <u>Iowa Electric Light and Power</u>	Date12-28-88
	Name P.O. 8ox 351, Cedar Rapids, IA 52406	Sheet2_of2
2.	Address Plant Duane Arnold Energy Center	Unit1
	Name 3277 DAEC Rd., Palo, IA 52324	see below
3.	Work Performed by Iowa Electric	Repair Organiz. P.O. No., Job No., etc. Type Code Symbol Stamp None
	Name 3277 DAEC Rd., Palo, IA 52324 Address	Authorization No. None Expiration Date None
4. 5.	Identification of System	see below 19_68 Edition, W/68 Addenda None Code Case
	(b) Applicable Edition of Section XI Utilidentification of Components Repaired or	111780 TOP Menaine on Donlacement 10 00 11/04

Name of Comp.	Name of Manufac.	Board No.	Other Identif.	Year Built	ASME Code Repaired Replaced or Replacement	Stamped (Yes or No)		
3 Pilot vlvs bolts(each)	Target Rock	See Sheet 1	None	1978	Replaced	No		

#### Table MSR-2 (Class 1)

Repair Organiz.	Identifies	0.1.
(PMAR)	tion of Sys.	Other Identification
1026159	Main Steam D	PSV4406
1026160	Main Steam D	PSV4407

1. OwnerIow				Date 12-29	-88		
P.O. Box	351, Cedar F	Rapids, IA	52406	Sheetl	of <u>l</u>	<u> </u>	
2. Plant <u>Duane</u>	Arnold Energ	y Center		Unit 1			·
3277 DAE	C Rd., Palo,	IA 52324	· · · · · · · · · · · · · · · · · · ·	DCP 1422 (	P.O. S	40484)	
3. Work Performed by	Repeir Organization P.O. No., Job No., etc.  Type Code Symbol StampNone						
	Rd. Palo,			Authorization No. Expiration Date_		None None	
4. Identification of Sy			-				
5. (a) Applicable Con. (b) Applicable Edit (c) Origina. 6. Identification of Co	l Constructi	on Code ASI	or Replacement ME III 197	s 19 <u>80 W8</u> 1 7 Edition. V			
Name of Component	Name of Manufacturer	Manufacturar Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Check valve - Disc	Anchor/ Darling	U4082	N/A	V-14-1	1988	Poplace	
Check valve -	Anchor/				1,700	Replacemen	it ies
Disc	Darling	บ4083	N/A	V-14-3	1988	Replacemen	nt Yes
		•					
			• .				
Description of Work_	<u>Replacemen</u>	t of check	valve dis	sc			
	lydrostatic Pne		minal Operating Test Temp				
NOTE: Supplementation in items 1 throu	and our time tabout	lists, sketches, or is included on ea	drawings may b ich sheet, and (3	e used, provided (1) 3) each sheet is num	size is 8½ bered and	in. x 11 in., (2) in the number of si	iforma- heets is

9. Remarks Replacement of disc with certified disc (P.O. S40484). Anchor Darling
Applicable Manufacturar's Data Reports to ba attached  letter recondiliation of ASME Section III 1986 Edition 1986 Addenda to
original construction code, ASME Section III 1977 Edition, Winter 1977 Addenda.
VT-3 of check valve internals preservice perform. Reference inspection report no.
88-397A for valve V-14-1 and inspection report no. 88-398 for valve V-14-3. (continued below) *
CERTIFICATE OF COMPLIANCE  We certify that the statements mede in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None  Signed Manual ASME Administrator Date January 5 , 1989
CERTIFICATE OP INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State  Or Province of Towa
or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois  in this Owner's Report during the period 8-4-88 to 1-11-89, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or proparty damage or a loss of any kind arising from or connected with this inspection.
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Provinca, and Endorsements
Date_January //, 19 89

<sup>\*</sup> Pressure test (VT-2) was performed. Reference inspection report no. 88-081. Welded areas were liquid penetrant inspected and found acceptable.

\*REVISED COPY A.N.I.

# FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND AMERICANCES. As required by the Provision of the ASME Code Rules, Section III. Div.

L (a) Manufactured by Anchor/Darlind Valve Co. 701 First St., Williamsport, PA 17701  (b) Manufactured for IOWA Electric Light & Power Co. 9.0, 80 as 351. Gedar Rapids, Iowa 52406  Other and server of Correlate Newson Part St. 100 Box 351. Gedar Rapids, Iowa 52406  1. Manufactured for Lowa Electric Light & Power Co. 9.0, 80 as 351. Gedar Rapids, Iowa 52406  1. Manufactured According to Drawing No. 97 Part Sylve Control Part Syl	L (a) Manufactured by Anc	hor/Darling Valve Co., 701	First St., Williamson	ort 04 17701
2. Idensification-Certificate Holder's Serial No. of Par.  (a) Conscructed According to Drewing No. D12870 Drewing Prepared by Anchor/Darling Valve Comman.  (b) Description of Part Laspaced 155c, Heat No. V2242 SA216-WCC  (c) Applicable ASME Coder Sertion III, Edition 1577 Addends done WTT-77, Case No. N/A Class 1  16*-9009-Tilt Disc Check Christ description of variety for values ampenies was designed A/DV Shop Order EA667-1  Note: No Disc Hydro Pérformed  A/DV Shop Order EA667-1  Note: No Disc Hydro Pérformed  Ve certify that the reterments saids in this speers are carrect and this vessel part or apputessance as defined in the Code control of the speer of apputessances is responsible for furnishing a teneral Design Specification and Street Report and Street Report Design Specification and Street Report Services III. Commented the International History Commented the International History Commented the International History Commented the International History Commented the International History Commented H	(b) Manufactured for IO	wa Electric Light & Power	CO D O Day 351 Call	
(a) Conservated According to Drawing No. Drawing Prepared by Anchor/Darling Valve Company  (b) Description of Pure Laspected    DISC, Heat No. V2242	2. Identification-Certificate Ho	(Name and address of N Cr	radicate Holder for completed muclear com	ar Rapids, Iowa 52406
(e) Applicable ASME Coder Section III, Edition 1977 Addends date MIT 77, Case No. N/A Class 1  3. Remarks: 16"-9009-Tilt Disc Check (Three description of several for which sumposed was designed)  A/DV Shop Order EA667-1  Note: No Disc Hydro Performed  Ve certify that the statements made in this report are correct and this vessel part or appurenance as defined in the Code codeman to the rules of construction of the ASME Code several III.  The separation Design Specification and Stress Report and Stress Report and Stress Report and Stress Report of the appurenance is responsible for farmining a sessified Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurenance is not composed to the composed Design Specification and Stress Report of the appurence Notes of Authorization No. N1713  CERTIFICATION OF DESIGN FOR APPURTENANCE (when applies bid)  Design information on file as  Serens analysis report on file as  CERTIFICATE OF SHOP INSPECTION  I, the undergaged, balding a valid commission insend by the National Beard of Beilier and Pressure Vessel Inspectors and/as the State Health to be set of my knowledge by all and pressure reseal described in the State of any personal injury or property Jamas or a less of my howledge results of any personal injury or property Jamas or a less of my hist attains from or connected this importance.  Pennsylvania 2392	(a) Conserved Asset 19	112070	Nar'l Bd. No	N/A
(e) Applicable ASME Coder Section III, Edition 1977 Addends date MIT 77, Case No. N/A Class 1  3. Remadus 16"-9009-Tilt Disc Check (Bird 1977 Addends date MIT 77, Case No. N/A Class 1  3. Remadus 16"-9009-Tilt Disc Check (Bird 1977 Addends date MIT 77, Case No. N/A Class 1  A/DV Shop Order EA667-1  Note: No Disc Hydro Performed  We certify that the statements made in this report are correct and this vessel part or appuremance as defined in the Code code code to the rules of construction of the ASME Code reversion III. The superiods potential Section and Stress Report and Process Potential Section and Stress Report of the appuremance is responsible for farmining a sessified potential Section and Stress Report of the appuremance is not responsible for farmining a sessified potential Section and Stress Report of the appuremance is not responsible for farmining a sessified potential Section and Stress Report of the appuremance is not responsible for farmining a sessified potential Section and Stress Report of the appuremance is not response to the rules of components Decision and Stress Report of the appuremance is not response to the rules of the	(a) Constructed According	to Drawing No. U120/U	Drawing Prepared by Anchor	/Darling Valve Commany
Certificate of Authorization Expires   A/15/89   Certificate of Authorization No.   No.	(b) Description of Part In:	*peccedUISC, Heat No. V2; *1986 34 /2/	242 8/97 1006	SA216-WCC
Mote: No Disc Hydro Performed  Note: No Disc Hydro Performed  We carefully that the statements made in this report are convert and this vessel part or appurenance as defined in the Code comments to the rules of construction of the ASME Code Section III.  The sessicable Destine Specification and Stress Report are superioristic to the NPT Certificate Holder for appurenances is responsible for furnishing a senarate Design Specification and Stress Report at the appurenance is not to the NPT Certificate Holder for appurenances is responsible for furnishing a senarate Design Specification and Stress Report at the appurenance is not not not not not not not not not not	(e) Applicable ASME Code	: Section III, Edition 1977 , Adden	de date Wit - 177 Case No.	N/A Class 1
Note: No Disc Hydro Pérformed  Ve comity that the examinates made in this report are correct and this vessel part or apparenance as defined in the Code continues of one apparentment of the ASME Code Service in the responsibility of the NPT Certificate Holder for parts. An NPT Certificate and Stress Report at the responsibility of the NPT Certificate Holder for parts. An NPT Certificate in the component Design Specification and Stress Report of the apparentment of not in the component Design Specification and Stress Report of the apparentment of not in the component Design Specification and Stress Report of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the apparentment of the Authorization and Stress analysis report certified by prof. Eng. State Reg. No.  CERTIFICATE OF SHOP INSPECTION  1. the undersigned, holding a valid commission is sent of the National Beard of Beiler and Pressure vessel largestors and analysis report on Tile 19 19 19 19 19 19 19 19 19 19 19 19 19	i. Remarks: 16"-9001	F-ITIT UISC Check	•	•
Ve certify that the statements made in this report are correct and this vessel part or appurenance as defined in the Code continues to the rules of construction of the ASIC Code Section III.  The applicable Design Sectification and Street Report are not the responsibility of the NFT Certificate folder for appurenances is responsible to Report are not the responsibility of the NFT Certification and Street Report if the appurenance is responsible to the NFT Certification and Street Report if the appurenance is not certificated in the component Design Specification and Street Report.)  Section 1988 Signed Anchor/Darling Valve Co. By R. James Street Report if the appurenance is not certificate of Authorization Expires 4/15/89 Certificate Moder?  CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)  Design information on file of Street Report on file of President Report on file of President Report on file of President Report certified by Prof. Eng. State Rep. No.  CERTIFICATE OF SHOP INSPECTION  1, the undersigned, holding a valid commission is amost by the Nacional Board of Boiler and President Vessel Inspectors and see the State St	A/DV Sho	p Order EA667-1	for which sampenest was designed)	
see Holder for appartements in responsible for formishing a separate Design Specification and Stress Report if the appartements in responsible for formishing a separate Design Specification and Stress Report if the appartements in not returned in the component Design Specification and Stress Report.    O   0   19   88   Signed   Anchor/Darling Valve Co.   By   Hammit    O   19   19   19   19   19   19   19	Note: N	lo Disc Hydro Pérformed		
see Holder for appartements in responsible for formishing a separate Design Specification and Stress Report if the appartements in responsible for formishing a separate Design Specification and Stress Report if the appartements in not returned in the component Design Specification and Stress Report.    O   0   19   88   Signed   Anchor/Darling Valve Co.   By   Hammit    O   19   19   19   19   19   19   19				<del></del>
CERTIFICATE OF SHOP INSPECTION  I, the undersigned, helding a valid commission i asseed by the National Board of Beiler and Pressure Vessel Inspectors and/or the State disministration of Pennsylvania and employed by Commercial Union Insurance Company of Boston, Mass.  Partial Data Report on Policy Insurance Inspector of a pressure vessel described in this and belief, the NPT Certificate Holder has constructed this part in accordance with the ASME Code Section III.  By signing this certificate, seither the Inspector nor his employer makes my waterney, expressed or implied, concernshall be liable in any manner for my personal injury or preperty damage or a less of my kind missing from or consected this Data Report.  Commissions Pennsylvania 2392	certificare of Authorization Ex CERTI Design information on file of Scress analysis report on file	Anchor/Darling V  GET CATION OF DESIGN FOR APP	alve Co. By RL Horizonian No. Certificate of Authorization N	inmet N1713
CERTIFICATE OF SHOP INSPECTION  I, the undersigned, helding a valid exempission issued by the National Beard of Beiler and Pressure Vessel Inspectors and/or the Scale difficulty of Pennsylvania and employed by Commercial Union Insurance Company of Boston. Mass.  Partial Data Report on 1-1-88	Scress casivais report certifi	ed by		
I, the undersigned, helding a valid commission issued by the National Beard of Beiler and Pressure Vessel Inspectors and/or the State dimensional Pennsylvania and employed by Commercial Union Insurance Company of Boston. Mass.  Partial Data Report on 1-0-88   0-7-39   16 , and state that to the best of my knowledge By signing this certificate, seither the Inspector nor his employer makes any warranty, expressed or implied, concernshall be liable in any masser for my personal injury or property damage or a less of any kinet anising from or connected with this impaction.  Dece   0-9   19   88     19   88     19   19   19		CERTIFICATE OF SHO		, de 1, de 1
Charles Young Pennsylvania 2392  Medicant Board, State, Province and No.	of Boston, Mass, Partial Data Report on Tellor and belief, the NPT Certificate   By signing this everificate   By signing this everificate   shall be liable in any management this importion.	Pennsylvania and employ  bave laspe  10-7-8  Hodder has constructed this part in accord  a seither the laspecter are his employ  this Partial Data Repert. Furth  or for any personal injury or property	rional Beard of Beiler and Pres red by Commercial Union   step the part of a pressure ve 15, and state that to t lance with the ASME Code Section or makes any vertency, express ermore. Seither the Inspecto lannage or a less of any kind aci	asei described in this the best of my knowledge
	Charles Yallag	Commission	Nettenet Beard, State,	2392 Province and No.

# Anchor/Darling

# \*REVISED COPY (12.9-30)

### FORM QAS-14-1 SUPPLEMENTAL DATA REPORT FOR NUCLEAR VALVES OR PARTS

1.	Work performed byAnchor/Darling Valve Company	04667 5
_	701 First Street, Williamsport, PA 17701	RA667-5 (Shop Order No.)
2.		. Iowa 52406
3.	Name of Nuclear Power PlantDuane Arnold Energy Center	
4.		
5.	a: Identification of Component Repaired or Raplacement Component 16"-900#-TDC Tb: Name of Manufacturer (If different from line 1) Same	ilt Disc
	c: Identifying Nos. U4082 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	1988 Pr) Kear Built:
6.	Applicable Edition of Section III of ASME Code 19 77 Addanda Winter-1977 Code Code	is as Sqiit;
7.	Description of Work Disc repaired by welding one (1) disc lug to each	hinas ais
	(Use of additional sheet(s) or skatch(sa) is acceptable if probots.	perly identified)
	Material: Disc Lugs (2 each) SA105, Heat No. 8897880	
	3.50 Edgs (2 eddi) 3.103, heat No. 869/880	
		,
	CERTIFICATE OF COMPLIANCE	
We o	certify that the statements made in this report are correct and this repair or replace	ment conforms to
Sect	tion III of the ASME Coda. Signed	Q.A. Engineer
	(a control of Repair Organization)	(Titla)
	(Date) 19 68 . Our ASME Certificate of Authorization No. N1712 to use the	ne N symbol
expi	res <u>4/15/89</u>	
	CERTIFICATE OF INSPECTION	
l, t	the undersigned, holding a velid commission issued by the Nationel Board of Boiler and	Pressure Vaccal
nsp	ectors, employed by <u>Commercial Union Insurance Company</u> of <u>Boston</u>	
1246	inspected the repair or replacement described in this Report on 11-14-11-17 19	38 and state the
o ti	he best of my knowledge and belief, this repeir or replacement has been made or constr	ucted to accordant
ri th	Section III of the ASME Code. By signing this certificate, neither the Inspector nor	his seels accordance
ny v	warrenty, expressed or implied, concerning the repeir or replacement described in this	nis employer makes
ore,	, ndither the Inspector nor his employer shall be liable in any manner for any persona	Report. Further.
	OP OF A love of any bind and the second of	INJURY or property
eme ?	er or a ross of any kind arising grow or connected with this immedia-	o and on property
	ge or a loss of any kind arising from or connected with this inspection.	· · · · · · · · · · · · · · · · · · ·
	11-17-98 Olarles Choing Commissions Pennsylv	vania 2392

\*REVISED COPY

FORM N-2 NPT CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PART AND APPURTENANCES.

As required by the Provision of the ASME Code Rules, Section III. Div.

L	(a)	Manufactured by Anchor/Darling Valve Co., 701 First St., Williamsport, PA 17701	-
		VIVE SEE MACHINE MY VET Company of the company of t	_
	(h)	Manufactured for Iowa Electric Light & Power Co., P.O. Box 351, Cedar Rapids, Iowa 524	06
2	ide	Hame and section of N Cardicase Holder for completed nuclear components  NAME SAME SAME SAME SAME SAME SAME SAME S	_
	(a)	Constructed According to Drawing No. D12870 Drawing Prepared by Anchor/Darling Valve Comp	oa.
	<b>(b)</b>	Been lost to 10000	
		Applicable ASME Coder Section III, Edition 1977, Addesda date Wnt-177, Case No. N/A Class 1	_
	(e)	Applicable ASME Code: Section III, Edition 1977, Addenda date Wnt-177, Case No. N/A Class 1	
3.	2 au	16"-900#-Tilt Disc Check	
		A/DV Shop Order E-A667-1	
	_		
		. Note: No Disc Hydro Performed	_
			_
loa D	14 tq	ertify that the statements made in this report are correct and this vessel part or appurtenance as defined in the Code con likehile Design Specification of the ASME Code Section III.	-
æ	Ho	ider for secure secure and Seven Report are not the responsibility of the MPT Cartificate Maides has now	<b>!</b> •
-	4044	The separate specification and Stress Report.)	<b>)</b> (
Dec		10/6 1988 Signed Anchor/Darling Valve Co. By R. 2. Stannett	
_		UNIT Coredicate Heiders	-
Cer	tific	Me of Authorization Expires 4/15/89 Certificate of Authorization No. N1713	
		CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)	_
_		•	1
Į	Je si (	pa information on file or	
\$	C+1	a malysia report on file at	
Ε	esi q	p specifications certified by Prof. Eng. State Rog. No	
		Malysi's renew and Sala	
		Prof. Eng. State Reg. No	
		CERTIFICATE OF SHOP INSPECTION	i
	ı,		
•	₩•	the undersigned, helding a valid commission issued by the National Beard of Beiler and Pressure Vesasi Inspectors the State of Market Pennsylvania and employed by Commercial Union Insurance Company	
ei		have inspected the county	
an L	ad be	lief, the NET Complete Valder by	
		IN THE RESERVE AND AND AND AND AND AND AND AND AND AND	
SI Ti	<b>4</b>	he part described in this Partial Data Report. Furthermore, neither the Inspector ner his employer be liable in my manner for my personal injury or property damage or a lass of my kind arising from or connected	
_			;
Di	<b>"</b> >	1988	
ک		Harly Som	
	har	Les Yalling Notional Reard, State, Province and No.	
		and about in the state of the s	

# Anchor/Darling

\*REVISED COPY

#### FORM QAS-14-1 SUPPLEMENTAL DATA REPORT FOR NUCLEAR VALVES OR PARTS

1.	
	Work performed byAnchor/Darling Valve Company
	701 First Street, Williamsport, PA 17701 RA667-5 (Shop Order No.)
2.	Owner Iowa Electric Light & Power Co. P.O. Box 351. Cedar Rapids. Iowa 52406
	(Name and Address)
3.	Name of Nuclear Power Phant Duane Arnold Energy Center
4.	Address of Nuclear Power Plant 3277 DAEC Road, Palo, Iowa 52324
5.	a: Identification of Component Repaired or Replacement Component 16"-900#-TDC Tilt Disc b: Name of Manufacturer (If different from Line 1) Same c: Identifying Nos. U4083
	(Mfr.'s Serial No.) *86 (Mat'l 3d. No.) 1006 (Other) (Year Built
6.	Applicable Edition of Section III of ASME Code 19 -77 Addenda -Winter-1977 Code Case N/A
7.	Description of Work Disc repaired by welding one (1) disc lug to each hinge pin (Use of additional sheet(s) or skstch(es) is acceptable if properly identified)
	boss.
	Material: Disc Lugs (2 each) SA105, Heat No. 8897880
=	
	CERTIFICATE OF COMPLIANCE
We c	certify that the statements made in this report are correct and this repair or replacement conforms to
	tion III of the ASME Code. Signed
	(Asthorized Representative of Repeir Organization) (Title)
-	(Dade), 19 88. Our ASME Certificate of Authorization No. N1712 to use the N symbol
expi	
exp1	(Date), 19 88. Our ASME Certificate of Authorization No. N1712 to use the N symbol
·	(Page)  Our ASME Certificate of Authorization No. N1712 to use the N symbol res 4/15/89  CERTIFICATE OF INSPECTION
ľ, t	(Dage), 19 88. Our ASME Certificate of Authorization No. N1712 to use the N symbol ires 4/15/89  CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel
i, t	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.
i, t insp	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on 11-14-14-11-129 89 and state that
inspirave	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on //-///// and state that the best of my knowledge and belief, this repair or replacement hos been made or constructed in accordance
inspiave to the first	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on //-//// Be and state that the best of my knowledge and belief, this repair or replacement hos been made or constructed in accordance Saction III of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes
inspirate to the first the	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on //-///
inspirate the control of the control	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel vectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on //-//// and state that the best of my knowledge and belief, this repair or replacement hos been made or constructed in accordance Saction III of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermeither the Inspector nor his employer shall be liable in any manner for any parsonal injury or property.
inspirate the state of the stat	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel sectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on II-IVIII-IN BE and state that the best of my knowledge and belief, this repair or replacement has been made or constructed in accordance Section III of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes warranty, expressed or implied, concerning the repair or replacement described in this Report. Further, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property ge or a loss of any kind arising from or connected with this inspection.
inspirate the state of the stat	CERTIFICATE OF INSPECTION  the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel vectors, employed by Commercial Union Insurance Company of Boston, Mass.  inspected the repair or replacement described in this Report on //-//// and state that the best of my knowledge and belief, this repair or replacement hos been made or constructed in accordance Saction III of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermeither the Inspector nor his employer shall be liable in any manner for any parsonal injury or property.

1. Owner <u>Iow</u>	ra Electric Lig	ght and Pow	er	Date1-3-8	9	
	351, Cedar Ra	apids, IA	52406	Sheet 1	of1	
2. Plant <u>Dua</u>	ne Arnold Ener	rgy Center		Unit1		
				Note 1	- CMAR	92147
_ 32// DAE	C Rd., Palo, ]	IA 52324		Note 2	- CMAR	92148 P.O. No., Job No
				Repair Org	anization	P.O. No., Job No
o. Work renormed	by Iowa Elec	Name		Type Code Symbo		
_3277 DAE	C Rd., Palo, I	IA 52324		Authorization No.		
			<del></del>	Expiration Date		None
4. Identification of	System Reactor	Water Clea	an-up Disc	charge (Clas	ss 1)	
5. (a) Applicable C	onstruction Code ANS	SI B31.7 19	69 Edition	1971	1 elela	N/A
(b) Applicable E	dition of Section XI Ut	tilized for Repairs	or Replacement	ts 19 80 W81	Addenda,	N/A
				<del></del>		
6. Identification of	Components Repaired	or Replaced and R	eplacement Co	mponents		
				7		
Name of			National		1	Repaired,
Component	Name of Manufacturer *	Manufacturer Serial No.	Board	Other	Year	Replaced,
·		Serial NO.	No.	Identification	Built	or Replacemen
Hydraulic	Bergen-	Do Arnobda		DCA-14-SS-	ļ	
Snubber	Patterson	#250	None	74	1988	Replaced
Hydraulic	Bergen-	D. Arnold		DCA-14-SS-	1300	Keptaced
Snubber	Patterson	#251	None	73	1988	Replaced
,						
* refurbic	hmont norf					
. Description of Wor	shment perform * Hydraulic Sn	ued by Ancho	or/Darling	g m		•
		MADOEL MEDIA	rcement -	Type (HSSA-	3)	
. Tests Conducted:	Hydrostatic Pne	umatic Nom	inal Operating	Persona		
	Other Pressure_		Test Temp	None of		
		llata alessahas au	desuises man	ne used provided (4)	eizo io O1/	in v 44 in 70) :
NOTE: Supplemen	ntal sheets in form of	nsts, sketches, or	mananin Atau Liner A. C	vo asea, brosinsa rii.	3K4 12 U.	
NOTE: Supplemention in items 1 threecorded et the top	AAA A OU TIME ISPORT	is included on each	ch sheet, and (	3) each sheet is num	pered and	the number of s

9. Remarks Replacement of Hydraulic Snubbers with certified Hydraulic Snubbers
Applicable Menuference Date Da
(P.O. S45911), VT-3/VT-4 preservice inspection performed. Reference inspection
report no. 88-494 for note 1 and inspection report no. 88-493 for note 2.
CERTIFICATE OF COMPLIANCE  We certify that the statements mede in the report are correct and this replacement conforms to the rules of the
ASME Code, Section XI. repair or replacement
Type Code Symbol Stamp None
Certificate of Authorization No. None Expiration Date None
Cxpiration Date
Signed A. ASME Administrator Date January 4 , 19 89
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermans Mutual Casualty Company of Long Grove, Illinois
in this Owner's Report during the period 12-19-88 to 1-5-89 and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI, Except IWA 7210.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report, Furthermore, neither the Inspector nor his employer
shall be flable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Wat I Pd 5012 (T) W
Commissions Nat 1 Bd. 5813 (I) (N) IA-1041  National Board, State, Province, and Endorsements
Date January 5 19 89
19 07

1. OwnerIo	wa Electric Li Nam	ght and Po	wer	DateJanu	arv 16	1949		
					<del></del>	<del>/ * * * * * * * * * * * * * * * * * * *</del>		
	x 351, Cedar R Address			Sheet 1	of 2			
2. Plant <u>Dua</u>	ane Arnold Ene	rgy Center		Unit1				
	C Rd. Palo. IA			See Tabl	i a MCD	2		
				Repair Or	ganization I	.3 P.O. No., Job No	A*C	
3. Work Performed	by <u>Iowa El</u>	ectric-		Type Code Symbo			., 010.	
32// DAI	EC Rd. Palo, I.	A 52324		Authorization No. None  Expiration Date None				
						None		
4. Identification of	System Ma	ain Steam	'A' (Class	1)				
	Construction Code Section Code Section of Section XI Ut	mized for Hebairs	or Replacement	is 19 <u>00 W8</u> I	Addenda,_	N/A	_Code Case	
Name of Component	Name of Menufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)	
Note 1	Target-Rock	Note 1	NA	PSV4400	Note 1	Note 1	Note 1	
		j						
Note 1 - See	Table MSR-3							
. Description of War	Replaced ma	in valve h	odv. nilo	t valvo and	1 /	!		
bolts, and	main disc for	main stea	m relief	valve and	DITOE/I	nain valve	body	
Tests Conducted:	Hydrostatic Pne Other Pressure	umatic Non	ninal Operation	Proseuro 🗀	0.			
NOTE: Supplemention in items 1 the	ntal sheets in form of to rough 6 on this report	ists skatchae or	drawings man b		size is 8½ i bered and	n. x 11 in., (2) in the number of st	forma- neets is	

,
9. Remarks Replace 4 pilot seat valve bolts with certified bolts. (P.O. S21635)
Applicable Manufacturer's Data Reports to be attached
Replaced pilot valve S/N 218 with S/N 207 (P) of the attached
Replaced pilot valve S/N 218 with S/N 207. (P.O.59251). Replaced 1 pilot/
main body valve nut assembly with certified nut assembly (P.O. S21635).
Replacement of the main valve body and main disc (P.O. S18747). VT-1 of
bolting preservice was performed under inspection reports #88-442 and 88-4
VT-3 inspection of the valve body and internals was performed under inspec
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI. repair or replacement
The state of the s
_
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Deep None
2 AND IN Expiration Date None
Signed Trans Bulletten Systems Engineer
Signed Trend Livery , Systems Engineer Date January 16 , 19 89
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Court of the
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Jumbo mong Mutus 1. Commission is sued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Jumbo mong Mutus 1. Commission is sued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and Iow
or Province of <u>Iowa</u> and employed by <u>Lumbermens Mutual Casualty Company</u> or Province of <u>Iowa</u> and employed by <u>Lumbermens Mutual Casualty Company</u> or Province of <u>Iowa</u>
have increased at
in this Owner's Report during the period 77-77-88 to 2-7-89
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in the
Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210
By signing this certificate neither the inspector per his amplementation At. Chicago TWA-7210
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
and corrective measures described in this Owner's Report Surthermore anishes the
any marrier for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection,
11-20.
Commissions Nat'1 Bd. 5813 (I)(N) IA-1041
National Board, State, Province, and Endorsements
Date February 7 19 89
Down February 7 80
19_03

(12/82)

\*\*\* report #88-443, 443A and 484).

1.	Owner <u>Iowa Electric Light and Power</u> Name	DateJanuary <i>  \( \begin{align*} \begin{align*} 1989 \end{align*} \end{align*}</i>
,	P.O. Box 351, Cedar Rapids, IA 52406 Address	Sheet 2 of 2
2.	Plant Duane Arnold Energy Center Name	Unit1
	3277 DAEC Rd., Palo, IA 52324  Address Work Performed by Iowa Electric  Name 3277 DAEC Rd., Palo, IA 52324	see below  Repair Organiz. P.O. No., Job No., etc.  Type Code Symbol Stamp None  Authorization No. None
4. 5.	Address  Identification of System Main Steam 'A'  (a) Applicable Construc. Code ASME III 19 68  (b) Applicable Edition of Section XI Utilized  Identification of Components Repaired or Repl	B Edition, <u>W/68</u> Addenda <u>None</u> Code Case

		γ <del></del>				
Repair Organization	Name of Comp.	Manufacturer Serial No.	Other Identif.	Year Built	Repaired Replaced or Replacement	ASME Code Stamped (Yes or No)
PMAR 1026155	Pilot valve	207	PSV4400	1974	Replacement	Yes
OMAR -026155	Pilot valve seat-bolts	*	PSV4400	1974	Replacement	No
CMAR 89573 CSR B	Main valve body	203	PSV4400	1975	Replacement	No
PMAR 1026155	Pilot/main vlv body nuts	**	PSV4400	1976	Replacement	No
CMAR CSRB <del>92917</del> 89573 ****** 1-16-48	Main valve body	203	PSV4400	1988	Note 1	No
CMAR 89573 CSR B	Main valve disc	643 .	PSV4400	1975	Replacement	No

Note 1 - A tack weld from main valve body to tube pilot inlet was performed and is noted on the NIS2 form for trending information only.

<sup>\*</sup> part no. 107

<sup>\*\*</sup> part no. 150

Owner <u>Iowa Electric Light and Power</u> Name				Date 1-6-89				
P.O. Box 351, Cedar Rapids, IA 52406			2406	Sheet 1 of 1				
Plant Duane Arnold Energy Center Name  3277 DAEC Rd., Palo, IA 52324				Unit1				
. Work Performed by Iowa Electric Name  3277 DAEC Rd., Palo, IA 52324 Address				Repair Organization P.O. No., Job No., etc  Type Code Symbol StampNone			etc.	
				Authorization No.				
				Expiration Date		None		
Identification of S	ystem <u>Recirc.</u>	pump Loop	B drain 1:	ine		<del></del>		
Identification of C	omponents Repaired o	or Replaced and R	leplacement Co	mponents				
?			. Alastanat			Barrier I	ASME Code	
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	Stampe (Yes or No)	
		(Part No.)	)	(Line No.)				
'/2" Dia.	·			i .				
ipe Sch 80	SANDVIK	*	NA	2"-DCA-19	1988	Replaced	No	
<u>ipe Sch 80</u> '/2" Dia.	SANDVIK Camco Fitting	· ·	NA NA	2"-DCA-19 2"-DCA-19	1988	Replaced Replaced	No No	
<u>ipe Sch 80</u> '/2" Dia.	Camco	· ·						
'/2" Dia. ipe Sch 80 '/2" Dia. O° Elbows	Camco	· ·						
ipe Sch 80 '/2" Dia. O° Elbows	Camco Fitting	**	NA	2"-DCA-19	1988	Replaced	No	
ipe Sch 80 '/2" Dia. O° Elbows	Camco	**	NA	2"-DCA-19	1988	Replaced	No	
ipe Sch 80 '/2" Dia. 0° Elbows  Description of Work	Camco Fitting  Replaced pip	e and elbo	NA ws due to	2"-DCA-19  weld (#12 or	1988	Replaced	No	
ipe Sch 80 '/2" Dia. 0° Elbows  Description of Work	Camco Fitting  Replaced pip  Hydrostatic Pne Other Pressure	e and elbo	NA ws due to ninal Operating Test Temp.	2"-DCA-19  weld (#12 or	1988 n FSK	Replaced	No ing wa	
ipe Sch 80 '/2" Dia. 0° Elbows  Description of Work Tests Conducted:	Camco Fitting  Replaced pip  Hydrostatic Pne Other Pressure  tal sheets in form of bugh 6 on this report	e and elbo	NA  ws due to  ninal Operating  Test Temp	weld (#12 or	1988	Replaced 4169) leaki	No	

\*\* A317/376 TP304

A182F TP304

9.	Remarks A 2" drain line (line no. 2"-DCA-19) had a leak found, pipe to elbow
	Applicable Manufacturer's Data Reports to be attached
	connection, during the reactor vessel and piping leakage test. Eight feet
	of the pipe and four elbows were replaced with certified material. (Pipe -
	P.O. 7884-F-4803) (elbows - P.O. 7884-F-7353). The 8 welds were liquid
	penetrant inspected and found acceptable. A VT-2 pressure test was performe
	and was found acceptable. Reference inspection report 88-081
	CERTIFICATE OF COMPLIANCE
	We certify that the statements made in the report are correct and this replacement conforms to the rules of the
	ASME Code, Section XI.
ŀ	Type Code Symbol Stamp None
	Type Code Symbol Stamp
	Certificate of Authorization No. None Expiration Data None
	Certificate of Authorization No. None Expiration Date None
	and the Marine a competitional and
^	Signed January 6 Josephae, Title Designae, Title Designae, Title
_	
	CERTIFICATE OF INSERVICE INSPECTION
	f, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
	or Province of Iowa and employed by Lumbermans Mutual Casualty Company of
	Long Grove, Illinoishave inspected the components described
	in this Owner's Report during the periodto, and state that
	to the best of my knowledge and belief, the Owner has performed examinations and teken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
	shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
	inspection. ANII takes exception to this NIS-2.
	No+11 D4 5012 (T)/N) TA 10/1
	Commissions Nat 1 Bd. 5813 (I)(N) IA-1041  Inspector's Signature National Board, Stata, Province, and Endorsements
	rectional agent, State, Floatice, and Endorgaments
	0.0
	Date1989

(12/82)

\* Owner meets the intent of the ASME Section XI as addressed in letter NG-89-0728.

1. Owner <u>Iowa</u>				Date/	- 11 - 3	7	
P.O. Box 3	51, Cedar Ra	pids, IA	52406	Sheetl	_ of	1	
2. Plant <u>Duane</u>	Arnold Energ	y Center		Unit1			
	Rd., Palo,			CMA	R 9084:	3	
3. Work Performed by	Iowa_Elect	ric		Type Code Symbo		P.O. No., Job No. None	, etc.
3277 DAEC	Rd., Palo, I	A 52324		Authorization No Expiration Date_		None None	
4. Identification of Sy	stem <u>Main</u>	Steam 'B'					
5. (a) Applicable Con (b) Applicable Edit * except a 6. Identification of Co	struction Code <u>II</u> tion of Section XI Ut as noted in (	ilized for Repairs GE spec 21A	or Replacement	s 19 <u>80 W8</u> 1 2	Addenda,		_Code Case
Neme of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Yaar Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Disc	Rockwell	*	None	CV4415	1988	Replaced	No
Piston assembl		**	None	CV4415	1985	Replacemen	it No
Stem/stem disk	Rockwell	***	None	CV4415	1988	Replaced	No
Note 1 - Disc of Description of Work_ Tests Conducted: H	control val	ve CV4415.	assembly	and stem/sto	l r fit. em disk	assembly	for

Note 3

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is racorded at the top of this form,

(12/82)

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

- \* 6053657-123
- 00179756-315443-01 (Part no.) \*\*
- \*\*\* 6053657-126

Note 3 - Piston assemblies included on the NIS2 form for trending information only.

9. Remarks Replaced disc and stem/stem disc assembly with certified disc and s  Applicable Manufacturer's Data Reports to be attached	
chom dian and the contracted	
Stem disc assembly (P.O. S38654). Replaced pictor assembly	
stem disc assembly (P.O. S38654). Replaced piston assembly with certifie	
piston assembly (P.O. E9-15157-N-DA) (see Note 2). VT-3 inservice inspec	
(see Note 2). VT-3 inservice inspec	tio
of valve internals performed and acceptable reference inspection report n	ο.
va cito pressure relativing componente work nonface i	ST
report 88-081.	-
CERTIFICATE OF COMPLIANCE	
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code Section XI	
ASME Code, Section X1. repair or replacement	8
Type Code Symbol StampNone	
	<u>.                                    </u>
Certificate of Authorization No. None Expiration Date None	
None Expiration Date None	
Signed ASME Administration (	
Signed	
OFFICIAL AS MANAGEMENT	
CERTIFICATE OF INSERVICE INSPECTION	
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Province of	ite
or Province of Iowa and employed by Lumbermens Mutual Casualty Company  Long Grove, Illinois	of
this Owner's Report during the period 10-25-88 to 1-23-89	
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described to	nie
Swife's Neport in accordance with the requirements of the ASME Code, Saction XI, Page 174 1210	
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and correction makes any warranty.	.
The state of the corrective measures described in this Owner's Report Furthermore points and the land	1
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the	er
inspection.	is
in the state of th	
Wat'l Rd 5012 (T) (W) Th 10/1	- 1
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements	_
Taxional Guerd, State, Province, and Endorsements	
- DAMMARIA 73 00	}
Date Hannay Z3, 19 89	ı
	- 1

Note 2 - Piston assembly for CV4415 was formerly in CV4421 (Class 1)

1 Owner Towa	Electric Lio	the and Poss			i	0.9	
1. Owner <u>Iowa</u>	Nam	e	er	Date	1 - 11	- 37	
P.O. Box 3	351, Cedar Ra Address	pids, IA	52406	Sheet 1	_ of1		
2. Plant <u>Duane</u>	Arnold Ener	gy Center	<del></del>	Unit1			
3277 DAEC	Rd., Palo,	IA 52324	<del></del>	CMAR 91	481 C	SR A , CMAR P.O. No., Job No.	91482
<ol><li>Work Performed by</li></ol>	<u> Iowa Elect</u>			Type Code Symbo			,
		Name		Authorization No			
3277 DAEC	Rd., Palo. Address	IA 52324	<del></del>	Expiration Date_			
4. Identification of Sy		Steam 'D' E Section	(Class 1)	)			
5. (a) Applicable Con (b) Applicable Edit	struction Code <u>II</u> tion of Section XI Ut	I19	or Replacemen	ts 19 80 W81	Addenda,		_Code Cas
* except a.  i. Identification of Co	s noted in G	E spec 21A9	9230 Rev.	2			
Name of Component	Name of Manufacturer	Manufecturer Serial No.	National Board No.	Other Identification	Yeer Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Disc	Rockwell	*	None	CV4421	1985	Replaced	No
Piston assemb Main	ly Rockwell	**	None	CV4421	1985	Replacemen	ıt No
alve body	Rockwell	N/A	None	CV4421	1988	Repaired	No
	· 22mz-14-	80					
Vota 1		Disc h	ad weld hi	uilt up and i	machine	ed for prop	er fit
Note 1 - Description of Work	rebored for p	Rep.	laced disc	for contro	ol valv	ze CV4421.	

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

(12/82)

Note 3

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

\* 6062065-56

\*\* 6062065-48

Note 3 - Piston assembly is included on the NIS2 form for trending information only.

9. Remarks Replaced disc	and piston assembly with certified disc and piston assemb
(D. O. BO 1555	Applicable Manufacturer's Data Reports to be attached
(P.O. E9-15757-N-DA)	) (see Note 2). VT-3 inservice inspection of valve
internals performed	and acceptable reference inspection report no. 88-464.
(	deceptable reference inspection report no. 88-464.
88-081 Acceptable	e retaining components were performed under ISI report
pisc was weided on a	and machined for proper fit. Valve was rebored for proper
	CERTIFICATE OF COMPLIANCE
We certify that the stateme	ents made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI.	repair or replacement
Type Code Symbol Stamp	None
Type dode symbol stamp	none ,
Constituent	17
Certificate of Authorization No.	None Expiration Date None
2 Aufry	None Expiration Date None
Signed	ASME Administration
图说述XXOwner's Designee,	, Title
	CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid com	Projection issued by the National Burning Indianal Burning
or Province of Iowa	nmission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Stateand employed by <u>Lumbermens Mutual Casualty Company</u> of
Long Grove, Illinois	s and employed by <u>Lumbermens Mutual Casualty Company</u> of
in this Owner's Report during the pe	eriod 10-29-88 to 3-15-89, and state that
to the best of much to the best of much to	eriod
to the best of my knowledge and beli	ier, the Owner has performed examinations and taken posterior
A THE STATE OF THE SECOND STATES AND STATES	e requirements of the ASME Code, Section XI, except INA7210 and Section TY
By signing this certificate neither t	the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures	s described in this Owner's Report. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any p	personal injury or property damage or a loss of any kind arising from or connected with this
inspection,	restant injury or property damage or a loss of any kind arising from or connected with this
Othypaker	N
Mepector's Signature	Commissions Nat 1 Bd. 5813 (I)(N) IA-1041
VV	Commissions Nat'1 Bd. 5813 (I)(N) IA-1041 National Board, State, Province, and Endorsements
March	
Date //Lance 15	19.89
82)	

Note 2 - Piston assembly and disc for CV4421 was formerly in CV4412 (Class 1)

				Tome odds sec			
1. Owner Iowa	Electric Li	ght and Po	wer	Date/	1-10.	39	
P.O. Box	351, Cedar R Address	apids, IA	52406	Sheet 1	_ of1		
2. Plant <u>Duane</u>	Arnold Ener	gy Center	<del></del>	Unit1			·
3277 DAEC	Rd. Palo, I	owa 52324		CMAR 90	841		
3. Work Performed by				Repair Or	gańization	P.O. No., Job No.	, etc.
o. Nork renormed by	Towa Frec	TT1C Name		Type Code Symbo	ol Stamp_	None	
3277 DAEC :	Rd., Palo, I	Δ 52324		Authorization No		None	
	Address	72324	-	Expiration Date_		None	
<ol> <li>Identification of Sy</li> <li>(a) Applicable Con</li> <li>(b) Applicable Edit</li> <li>* except as</li> <li>Identification of Co</li> </ol>	ASM: struction Code I ion of Section XI Ut noted in G	E Section II 19 ilized for Repairs E Spec 21AG	71 Edition	ts 19 <u>80 W8</u> 1	Addenda,	_	_Code Case
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Disc	Rockwell	*	None	CV4412	1985	Replacement (Note 1)	ıt No
Piston assembl		**	None	CV4412	1985	Replacement (Note 1)	
Stem/stem discussembly	Rockwell	***	None	CV4412	1988	Replaced	No
ote 1 - Disc	and piston a	ssembly we	re machin	ed for prope	r fir		
Description of WORK_	control val	sc, piston ve CV4412.	assembly	and stem/st	em disc	assembly	for
Tests Conducted: H	lydrostatic Pne Pne http://pressure	umatic Non	ninal Operating Test Temp	Pressure ⊠ ≥ 185 ° <sub>F</sub>			
NOTE: Supplements					aima ia Car	to date test	

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in, x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is

(12/82)

Note 3

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E, 47th St., New York, N.Y. 10017

- \* 606**206**5**-**62
- **\*\*** 6062065-50
- **\*\*\*** 6053657-125

Note 3 - piston assembly included on NIS2 for trending information only.

9. Remarks Replaced stem/stem disc assembly with certified stem/stem disc assembly
Applicable Manufacturer's Data Reports to be attached
(P.O. S38654). Replace disc and piston assembly with certified disc and
piston assembly (P.O. E9-15757-N-DA) (see Note 2). VT-3 inservice inspection
of valve internals performed and acceptable reference inspection report no.
88-420. VT-2 of the pressure retaining components were performed under
inspection report no. 88-081.
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
ASME Code, Section XI. repair or replacement
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None
C/ An / 1
Signed A. ASME Administrator Date January / 1989
OWNERS Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermens Mutual Casualty Company of
Long Grove, IIIInois
in this Owner's Report during the period 10-25-88 to 1-16-89, and state that
to the best of my knowledge and beliaf, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI, Except INA 7310.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer
shall be liabla in-any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
Will no solow with the solow
Commissions Nat'1 Bd. 5813(I) (N) IA-1041 National Board, State, Province, and Endorsements
V V
Commissions Nat'1 Bd. 5813(I) (N) IA-1041 National Board, State, Province, and Endorsements  Date Jonuary 16, 1989

Note 2 - Piston assembly and disc for CV4412 was formerly in CV 4415 (class 1)

	Electric Lig	ie	<del>-</del>	Date2-14	-89		
P.O. Box (	351, Cedar Ra Address	apids, IA	52406	Sheet 1	of1		
Plant Duane	Arnold Energ			Unit1			
3277 DAEC	Rd. Palo, IA	A 52324		CMAR 90842 Repair Org	. CSR#	A, CSR#B, 9	1482
Work Performed b	y Iowa Elec			Type Code Symbo			, etc.
2077 54		Name		Authorization No.			
32// DAE	EC Rd. Palo,	IA 52324	<del></del>	Expiration Date			
	ystem <u>Main</u> S						
Note 1 - ex	nstruction Code <u>Sec</u> tion of Section XI Unicept as note omponents Repaired	d in GE Sp	or Replacement ec. 21A923	ts 19 <u>80</u> 30 Rev. 2	Addenda,	<del></del>	_Code Cas
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Suilt	Repaired, Replaced, or Replacement	(Yes
Component	Manufacturer.	Serial No.	Board		1	Replaced,	Code Stamped (Yes
Component em/stem disc sembly	Manufacturer	1 -	Board		1	Replaced,	Code Stamped (Yes
Component em/stem disc sembly in valve	Manufacturer.	Serial No.	Board No.	Identification	8uilt	Replaced, or Replacement	Code Stamped (Yes or No)
Component em/stem disc sembly in valve dy	Manufacturer Rockwell	Serial No.	Board No. None	CV4413	8uilt 1985	Replaced, or Replacement	Code Stamped (Yes or No)
_	Rockwell Rockwell	Serial No.  ★  NA	Board No. None None	CV4413	1985 1988	Replaced, or Replacement  Replaced  Repaired	Code Stamped (Yes or No)  No
Component em/stem disc sembly in valve dy	Rockwell Rockwell Rockwell	Serial No.  *  NA  **	None None	CV4413 CV4413	1985 1988 1988	Replaced, or Replacement  Replaced  Repaired  Repaired	Code Stamped (Yes or No)  No  No
Component  cem/stem disc sembly in valve dy  sc lve bonnet  6062065-30 Description of Work	Rockwell Rockwell Rockwell Rockwell Rockwell	Serial No.  *  NA  **  NA  One  30  tem/stem d	None None None	CV4413 CV4413 CV4413 CV4413	1985 1988 1988 1988	Replaced Replaced Repaired Repaired Repaired	Code Stamped (Yes or No)  No  No  No
Component  em/stem disc sembly in valve dy  sc lve bonnet  6062065-30 Description of Work ett of valve	Rockwell Rockwell Rockwell Rockwell ** 6062065-	×  NA  **  NA  Outem/stem d  welded dis	None None None Sisc assemble, welded	CV4413 CV4413 CV4413 CV4413 CV4413 cv4413	1985 1988 1988 1988	Replaced Replaced Repaired Repaired Repaired	Code Stamped (Yes or No)  No  No  No

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017 As a note, under CMAR 91482 piston assembly (serial no. 6062065-56 were weld built up and machined for proper fit and went to CV-4421 on 91481 (FYI)

9. Remarks Replaced stem/stem disc assembly with certified stem/stem disc assembly
(P.O. E9-15757-N-DA). Main valve body was rebored for proper fit. Disc and
bonnet were welded then machined for proper fit. Leakoff line was welded in place.
VT-3 inservice inspection of valve internals performed and acceptable. Reference
inspection report no. 88-432. All welded components were PT after machining.
VT-2 of the pressure retaining components were PT after machining.
VT-2 of the pressure retaining components were performed and acceptable under inspection report no. 88-081.
CERTIFICATE OF COMPLIANCE repair &
conforms to the rules of the
ASME Code, Section XI.
Type Code Symbol StampNone
Certificate of Authorization No. None Expiration Date None
N M. 11. 3-15-69
Signed Au February / 4 10 20
Owher'of Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
and employed by Lumbermans Mutual Casualty Company of
have inspected the components described
in this Owner's Report during the period 10-25-88 to 1-20-89 3-15-89 and state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210 and Section 3.
Owner's Report in accordance with the requirements of the ASME Code, Section XI. except IWA-7210 and Section 3.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  Commissions Nat' 1 Bd. 5813 (I) (N) IA-1041
By signing this certificate neither tha Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  Commissions Nat'1 Bd. 5813 (I)(N) IA-1041
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  Commissions Nat' 1 Bd. 5813 (I) (N) IA-1041

	Electric Lic	ne		DateJani	uary 9,	1989	
P.O. Box	351, Cedar F	Rapids, IA	52406	Sheet 1	_ of1		
2. Plant Duane	Arnold Ener			Unit1			
3277 DAEC	Road, Palo,	IA 52324		— CMAR CMAR	91482	, CSR 'A',	CCD I
	Address			Repair Or	ganization	P.O. No., Job No.	. etc.
3. Work Performed	by <u>Iowa</u> Elec			Type Code Symbo		None	,
3277 DAFC	' Pond Daile	Name	•	Authorization No		None	·
DATE	Road, Palo,	IA 52324		Expiration Date_		None	
4. Identification of 9	System <u>Main</u>	Steam ICI	(Class 1)				
Note $5 - exc$	lition of Section XI U ept as noted Components Repaired	in GE Spec	2149230	Parr 2			
		T	T				
Name of Component	Name of Manufacturer	Manufacturer . Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Component	1		Board		Built	Replaced,	Code Stamped (Yes or No)
Component Disc Piston Assembly	Manufacturer	Serial No.	Board No.	Identification	Built 1985	Replaced, or Replacement	Code Stamped (Yes or No)
Component  Disc  Piston  Assembly  Stem/Stem  Disk Assembly	Manufacturer Rockwell Rockwell	Serial No.	Board No. None	Identification  CV4419	Built 1985	Replaced, or Replacement  (Note 1)  Replacement	Code Stamped (Yes or No)
Component Disc Piston Assembly Stem/Stem	Manufacturer Rockwell	* * *	Board No. None	CV4419	1985 1985	Replaced, or Replacement  (Note 1) Replacemen  (Note 1) Replacemen	Code Stamped (Yes or No)
Component  Disc  Piston Assembly  Stem/Stem Disk Assembly  Main Valve  Body  Calve Bonnet	Rockwell Rockwell Rockwell	*  **  **  N/A  N/A	None None None None	CV4419 CV4419 CV4419 CV4419 CV4419	1985 1985 1985 1988	Replaced (Note 1) Replacement (Note 1) Replacement Replacement	Code Stamped (Yes or No)  t No No

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is

(12/82)

Note 4

This Form (E00030) mey be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

- 6062065-59
- 6062065-49
- 6062065-28

Note 1 (Cont.) proper fit.Welded disc, welded bonnet and welded leakoff line. Machined disc and bonnet for proper fit.

Note 4 - Piston assembly included on NIS-2 for treading information only.

9. Remarks Replaced stem/stem disc assembly with certified stem/stem disc assembly
Applicable Manufacturer's Data Reports to be attached
(P.O. 25138). Replaced disc and piston assembly with certified disc and piston
assembly (P.O. E9-15757-N-DA) (See Note 2). VT-3 inservice inspection of valve
internals performed and acceptable. Reference inspection Report No. 88-420.
VT-2 of the pressure retaining components were performed and acceptable under inspection Report No. 88-081: Welded disc, bonnet and leakoff line as repairs,
Townson Wilder All Waldad Components and Dm - 1 c
CERTIFICATE OF COMPLIANCE and found acceptable. (Note 3)
We certify that the statements made in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp None
Certificate of Authorization No. None Expiration Date None
2-14-87 NA-3-15-87
Signed , ASME Administer Date January 13 , 19 89
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowa and employed by Lumbermens Mutual Casualty Company of
Long Grove, Illinois have inspected the components described
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IWA 7210 and Section X.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report, Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.
11 Telianolas
Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements  Date March 15, 19 89
M / - 20
Date

(12/82)

Note 2 - Piston assembly and disc for CV4419 was formerly spare components.

Note 3 - Rebore of main valve body for proper fit is considered as a repair.

	Electric Lig Nam 351, Cedar R	e		Date Janua Sheet 1	ry 13,		
2. Plant Duane	Arnold Energy			Unit 1			
3277 DAEC	Road, Palo,	_		CMAR	90845	P.O. No., Job No.	
. Work Performed b	y Iowa Elect	ric		Type Code Symbo			, etc.
2277 27-2		Name		Authorization No.			
32// DAEC	Road, Palo,	IA 52324		Expiration Date _			
	Address						
. Identification of S	ystem Main S		(Class 1)			·	
. (a) Applicable Co. (b) Applicable Edi	ASM  nstruction Code Sec  ition of Section XI Ut	tion III 19	* 9 <u>71</u> Edition,	re 19 80 W81	Addenda,_		_Code Cas
* except as dentification of C	s noted in GE omponents Repaired	Spec 21A9 or Replaced and	230 Rev. 3 Replacement Co	2 mponents	<b>T</b>	<del>-</del>	,
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Component	1	i	Board	ntification	Built	Replaced, or Replacement	Code Stamped (Yes or No)
Component Disc Diston	Manufacturer	Serial No.	Board No.	1	Built 1988	Replaced, or Replacement  (Note 1)  Replaced (Note 1)	Code Stamped (Yes or No)
Component Disc Diston	Manufacturer Rockwell	Serial No.	Board No.	CV4420	Built	Replaced, or Replacement  (Note 1)  Replaced	Code Stamped (Yes or No)
	Manufacturer Rockwell	Serial No.	Board No.	CV4420	Built 1988	Replaced, or Replacement  (Note 1)  Replaced (Note 1)	Code Stamped (Yes or No)
Component Disc Piston Assembly	Manufacturer Rockwell Rockwell	Serial No.	None None	CV4420 CV4420	1988 1988	Replaced, or Replacement  (Note 1) Replaced  (Note 1) Replaced	Code Stamped (Yes or No)
Component  Disc  Piston  ssembly  ote 1 - Disc	Rockwell Rockwell and piston a	*  **	None None	CV4420 CV4420	1988 1988	Replaced, or Replacement  (Note 1) Replaced (Note 1) Replaced	Code Stamped (Yes or No) NO
Component  Disc  Piston  ssembly	Manufacturer Rockwell Rockwell	*  **  assembly wear, piston	None None	CV4420 CV4420	Built  1988  1988  r fit.m disk	Replaced, or Replacement  (Note 1) Replaced (Note 1) Replaced	Code Stamped (Yes or No)  NO  NO

tion in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form,

(12/82)This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017 \* 6053657-124 \*\* 6053657-127 Note 1 - (Cont.) was machined for proper fit.

Note 2

Note 2 - Piston Assembly included on NIS-2 form for trending purposes only.

9. Remarks Replace disc and piston assembly with certified disc and pist	on
Applicable Manufacturer's Data Reports to be attached	
assembly (P.O. S38654). VT-3 inservice inspection of valve interna	ls perform
ed and acceptable reference inspection Report No. 88-423. VT-2 of	the press-
ure retaining components were performed under ISI Report 88-081.	
CERTIFICATE OF COMPLIANCE  We certify that the statements made in the report are correct and this Replacement conforms to the	
ASME Code, Section XI.  ASME Code, Section XI.	rules of the
	•
Type Code Symbol StampNon e	<u> </u>
Certificate of Authorization No. None Expiration Date None	•
Signed , ASME Administrator Date January 13	19_89
Owner or Owner's Designee, Title	-
CERTIFICATE OF INSERVICE INSPECTION	1
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors or Province of Iowa and employed by Lumbermens Mutual Casualty Compar	and the State
Long Grove, Illinois	of
Long Grove, Illinois  in this Owner's Report during the period 10-25-88  to 1-27-89  and the component of th	nd state that
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures des	cribed in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI, except IVA-7216	- · · · · · · · · · · · ·
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, co	oncerning the
examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor	his employer
shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connec	ted with this
inspection.	
Mat'l Bd 5813 (T) (N) TA-1	041
Commissions National Board, State, Province, and Ende	Orsements
Commissions Nat'1 Bd. 5813 (I) (N) IA-1 National Board, State, Province, and Endo Date January 27, 19 89	
	i

1. Own	er <u>Iowa</u>	Electric Ligh	nt & Power	·	Date Januar	cy /	7 198	9
_P	.0. Box	351, Cedar Ra	apids. TA	52406				
					Sheet1	of		
2. Plant	Duan	e Arnold Ener	gy Center		Unit1			
3:	277 DAEC	Rd., Palo, I	IA 52324		СМАВ	9 871/1		
					CMAR Repair Org	anization	P.O. No., Job No.	. etc.
3. Work	Performed by	/Iowa Ele	ctric	<del></del>	Type Code Symbo			,
					Authorization No.			
	Z// DAEC	Rd., Palo, I	A 52324	<del></del>	Expiration Date_			
		stem HPCI S			el Switch (I	S2206)		
		ANS	. <b>I</b>					
5. (a) A	pplicable Con	struction Code <u>B31</u>	<u>. 7</u> 19	69 Edition,		Addenda.	N/A	Code Cos
(b) A <sub>1</sub>	pplicable Edit	ion of Section XI Uti	lized for Repairs	or Replacements	19 <u>80 W81</u>	<b>,-</b>		_code case
6 Idons:	fination of O							
o. Identi	rication of Co	mponents Repaired o	r Replaced and F	Replacement Con	nponents			
					<del> </del>	<del></del>		,
1	ame of	Name of	Manufacturer	National Board	Other	Year	Repaired,	ASME Code Stamped (Yes
Con	nponent	Manufacturer	Serial No.	No.	Identification	Built	or Replacement	1 '
		Robert Shaw				ļ		
LS 22	06	Controls Co	N/A	N/A	Model No.	1070		
				N/A	82938-GI	1970	/repaired	No_
<u></u>								
				ŀ				
	<del></del> -					L		
7. Descrip	tion of Work_	LS2206 was	repaired b	v welding	in new 3//H	אידע א	1	
						тит р	Tug	
8. Tests Co		Hydrostatic Pneu Other Pressure N	umatic Non	ninal Operating P Test Temp	ressure [] N/A °F			
NOTE:	Supplementa	al sheets in form of light 6 on this report is	ists, sketches, or	drawings may be	used, provided (1)	size is 8½	in. x 11 in., (2) in	forma-
	d at the top o	and an analishour i	a meluudu on ea	ich sneet, and (3)	each sheet is num	bered and	the number of sh	neets is

9. RemarksI	In March 1988, LS2206 was repaired by seal welding the drain plug under
	Applicable Manufacturer's Data Reports to be attached
_ CMAR 8	36840A (Ref. NIS2 09-88-10). In order to be able to drain LS2206 it
	10 1010 to didin 102200 It
was ne	ecessary to weld a new 3/4" NPT plug (A105) in place. This was
	cessary to weld a new 3/4" NPT plug (AlO5) in place. This was
accomp	lished under CMAR 87141. The weld was liquid penetrant inspected
and fo	ound acceptable.
	and deceptable.
	CERTIFICATE OF COMPLIANCE
	certify that the statements made in the report are correct and this Repair conforms to the rules of the
ASME Code,	Section XI. repair or replacement
Type Code Sy	ymbol StampN/A
	,
Certificate of	Authorization No. N/A Expiration Date N/A
$\sim$	all
Signed L	ASME Administrator Date January /7 19 89
<b>X</b> V <b>y</b>	(M) or Owner's Designee, Title
	CERTIFICATE OF INSERVICE INSPECTION
I. the undersid	gned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of	f Iowa and employed by Lumbermens Mutual Casualty Company of
Long Gr	rove. Illinois
	illave inspected the components described
	f my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
	ort in accordance with the requirements of the ASME Code, Section XI.
By signing	this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
examinations	and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer
shall be liable	in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
inspection.	
100	
war	Commissions Nat 1 Bd. 5813(I)(N) IA-1041 National Board, Stata, Province, and Endorsements
	Inspector's Signature National Board, Stata, Province, and Endorsements
1	Commissions Nat'l Bd. 5813(I)(N) IA-1041  Phispector's Signature  National Board, Stata, Province, and Endorsements  National Board, Stata, Province, and Endorsements
Date_Jan	wary 30, 19 89

	a Electric Lig Nam 351. Cedar Ra		32406	Date 1-31-			
	351, Cedar Ra	pids, IA	2406	Sheet 1	of1	·	
Plant Duane	Arnold Energy	Center		Unit 1			
3277 DAEC	Rd. Palo, IA	52324		DCP 1	434		
				Repair Org	anization	P.O. No., Job No.	, etc.
Work Performed	by Iowa Elect:	ric Name		Type Code Symbo			
3277 DAEC	Rd. Palo, IA	52324		Authorization No.			
				Expiration Date _		None	
Identification of	System Rec	<u>circulation</u> E Section	Pump "B"	Suction (Cl.	ass 1)		
(a) Applicable C	Construction Code III	1011 3601	86 Edition	,		37 / 4	
(b) Applicable E	GILLOU OF SECTION VI OF	UNIZER FOR HEDAIRE	OF MANISONON	10 XII U/VI			
(c) Applic	able Construct	ion Code f	or studs	and nuts ASM	E Sect	ion III 107	77 633
Identification of	Components Repaired	or Replaced and F	Replacement Co	omponents Summ	ner 19	77 Addenda,	N/A (
<del></del>		<del></del>					
							ASME Code
Name of	Name of	Manufacturer	National			Repaired,	Code Stamped
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Suilt	Replaced,	Code Stamped (Yes
	· ·		Board	Other Identification	Year 8uilt	_ ' '	Code Stamped (Yes
Component	· ·		Board	1		Replaced,	Code Stamped (Yes
	Manufacturer		Board	1		Replaced, or Replacement	Code Stamped (Yes or No)
Component	Manufacturer GE Reuter Stokes, Inc	Serial No.	Board No. None	AE4660	8uilt 1988	Replaced, or Replacement	Code Stamped (Yes or No)
Component  * tud bolt	Manufacturer GE Reuter	Serial No.	Board No.	Identification	8uilt 1988	Replaced, or Replacement	Code Stamped (Yes or No)
*  ud bolt	Manufacturer GE Reuter Stokes, Inc	Serial No.	Board No. None	AE4660	1988 1988	Replacement Replacement Replacemen	Code Stamped (Yes or No)
* ud bolt	GE Reuter Stokes, Inc	Serial No.  G6802  GYH **	None None	AE4660	1988 1988	Replaced, or Replacement	Code Stamped (Yes or No)
*  ud bolt	GE Reuter Stokes, Inc	Serial No.  G6802  GYH **	None None	AE4660	1988 1988	Replacement Replacement Replacemen	Code Stamped (Yes or No)
*  ud bolt	GE Reuter Stokes, Inc GE Nuclear GE Nuclear	Serial No.  G6802  GYH **	None None	AE4660	1988 1988	Replacement Replacement Replacemen	Code Stamped (Yes or No)
*  tud bolt  t  Heat cod	GE Reuter Stokes, Inc GE Nuclear GE Nuclear	G6802  GYH **  CEI **	None None None	AE4660 AE4660 AE4660	1988 1988 1988	Replacement Replacemen Replacemen Replacemen	Code Stamped (Yes or No)  L Yes L No
tud bolt	Manufacturer  GE Reuter Stokes, Inc  GE Nuclear  GE Nuclear  e  e  Replaced bl:	G6802  GYH **  CEI **	None None None	AE4660 AE4660 AE4660	1988 1988 1988	Replacement Replacemen Replacemen Replacemen	Code Stamped (Yes or No)  L Yes L No
*  tud bolt  ut  ** Heat cod  Description of Wor	GE Reuter Stokes, Inc GE Nuclear GE Nuclear e Replaced bli	G6802  GYH **  CEI **	Board No. None None None	AE4660 AE4660 AE4660	1988 1988 1988	Replacement Replacemen Replacemen Replacemen	Code Stamped (Yes or No)  L Yes L No
* tud bolt	Manufacturer  GE Reuter Stokes, Inc  GE Nuclear  GE Nuclear  e  e  Replaced bl:	G6802  GYH **  CEI **  Lind flange	None None None	AE4660 AE4660 AE4660  Pressure	1988 1988 1988	Replacement Replacemen Replacemen Replacemen	Code Stamped (Yes or No)  L Yes L No

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017 \* Recirc Flange Stress Corrosion Monitoring Assembly

9.	Remarks Replaced blind flange with hydrogen monitor attachment. (P.O. 44865)
	Applicable Manufacturer's Data Reports to be attached
	Replaced flange studs and nuts with 8 new studs and 16 new nuts (P.O. 44865)
	VT-2 of the pressure retaining components were performed under inspection
	report no. 88-081. Flange studs and nuts were visually examined and were found satisfactory. Manufacturer performed PT and UT on welds and was found satisfactory. Manufacturer performed MT on studend nuts and was Sound satisfactory.
	CERTIFICATE OF COMPLIANCE
l	We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
	ASME Code, Section XI. repair or replacement
•	Type Code Symbol StampN/A
	Certificate of Authorization No. N/A Expiration Date N/A
	expiration Date N/A
	and the same of th
•	Signed ASME Administrator Date /-3/ ,19 89
	- Congress, Trails
	CERTIFICATE OF INSERVICE INSPECTION
1	, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
	or Province of LOWA and amplements. Limbermans Mutual Casualty Componer
:	n this Owner's Report during the period $10-15-88$ to $3-2-89$ , and state that
	to 3-2-7, and state that
ľ	o the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
(	Owner's Report in accordance with the requirements of the ASME Code, Section XI.
	By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
е	xaminations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
s	hall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
i	Aspection
	Maril Pd 5012/TV TA 10/1
-	Inspector's Signature Commissions Nat 1 Ed. 3813 (1) (N) 1A-1041
	National Board, State, Province, and Endorsements
0	Commissions Nat' 1 Bd. 5813(I)(N) IA-1041  National Board, State, Province, and Endorsements  Date March 2, 1989
	,

Work Order No.: 500310

### FORM N-2 MANUFACTURERS DATA REPORT FOR NUCLEAR PART AND APPURTENANCES

### As required by the Provisions of the ASME Code Rules

1. (4	Manufactured by GE Reute	er Stokes, Inc. 8499 De	arrow Rd. Twinshurg OH 44087
		rnold-IEL&P Co. 3277 D	AEC Road Palo. Iowa
			decturer of completed nuclear component)
2. Id	entification-Manufacturer's Seri	si No. of Pen <u>G0802</u>	Net'l Bd. NoN/A
(4	) Constructed According to Dra	wing No. <u>RS-E6-1200-215</u> D	rewing Prepared by <u>CE Reuter Stokes</u>
<b>( b</b>	Description of Part Inspected	Recirculation Pipe M	Sounted SCM
(c	Applicable ASME Code: Section	n III, Edicion <u>1986</u> , Addenda	dare, Case No. N/AClass1
3. R	marks: <u>Design: Pre</u>	ssure 1250 PSIG Temper (Brief description of service for	ature 575°F
-		tic Pressure Test:1613	
(The Manulin the	applicable Design Specification of the applicable Design Specification securer is responsible for furnity component Design Specification Design Specificatio	ne ASME Code Section III.  a and Stress Report are not the shing a separate Design Specifical and Stress Report.)  Signed <u>GE Reuter Stoke</u> (Monufacturer)	respensibility of the part Manufacturer. An appurtenance as defined in the Code con respensibility of the part Manufacturer. An appurtenance ation and Stress Report if the appurtenance is not included a second se
Certif	cate of Authorization Expires_	September 16, 1992	Certificate of Authorization No. N-2703
	CERTIFICA	MON OF DESIGN FOR APPU	RTENANCE (whee applicable)
De	sign information on file at	Reuter Stokes IncT	winsburg Ohio DC2346181
Ser	ess analysis report on file at CE	Reuter Stokes IncT	winsburg Ohio CDR-C-5003-01
De	ign specifications certified by_	Michael Potter	Prof. Eng. State Calif. Reg. No. 25904
Ser	ss analysis report certified by_	Surinder Kampani	Prof. Eng. State Ohio Reg. No E-034113
		CERTIFICATE OF SHOP	INSPECTION
and of _ Man and ing sha	for the State or Province of Hartford CT,  ufacturer's Partial Data Report belief, the Manufacturer has construently signing this certificate, neit the part described in this Mar	heve inspection on 10/07.  here inspection in accordance that the inspector nor his employed	ted the part of a pressure vessel described in this
Date	10/07	19 88	
_	Lawy Printly en	Commission	Notional Beard, Store, Province and No.
			Garage states and 1101

P.O. Box	wa Electric I Nam 351, Cedar F Address	apids, IA		Date/ Sheet1			
2. Plant <u>Duan</u>	e Arnold Ener	gy Center		Unit1			
3277 DA	EC Rd., Palo,	IA 52324		PMAR_102	9165		
2 14-1 5 6	Address	**		Repair Or	ganization	P.O. No., Job No.	., etc.
3. Work Performed t	y <u>Iowa El</u>	ectric Name		Type Code Symb	ol Stamp_	None	
3277 DAE	Rd., Palo.	TA 52324		Authorization No			
	Rd., Palo,	222 32324	<del></del>	Expiration Dete_		None	
4. Identification of S	ystem <u>Main</u> St	eam 'B'					
	ASI	ME Section				<del></del>	
5. (a) Applicable Co	nstruction Code II	<u> </u>	68 Edition	<u>Summer 1969</u>	Addenda	None	Codo Co
(b) Applicable Ed	ition of Section XI Ut	ilized for Repairs	or Replacemen	ts 19 <u>80 W8</u> 1			_Code Casa
6. Identification of C	omponents Repaired	or Replaced and R	Replacement Co	mponents			
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Suilt	Repeired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Disc	Dresser	*	NA	PSV4403	1978	Replacemen	t No
S/N AAJ21 \ -	Renord and Re	installed value	. PSV 4403 <sup>8</sup>	Se	e Note	l below	
Description of Work						* DETOM	

(12/82)

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

Note 1: Dresser disassembled (at vendor's facility), inspected, installed Iowa Electric's valve disk replacement, reassembled and tested safety valve PSV 4403.

9. Remarks Replaced disc with certified disc (P.O. S33410) VT-2 of the
Applicable Manufacturer's Data Reports to be established
pressure retaining components were performed under ISI report 88-081.
Ultrasonic testing and magnetic particle testing was performed under
Mfg. order no. 86-22885-0 and was performed 9-10-78 and 9-14-78. Both reports accept the results.
CERTIFICATE OF COMPLIANCE  We certify that the statements mede in the report are correct and this Replacement conforms to the rules of the ASME Code, Section XI.
Type Code Symbol StampN/A
Certificate of Authorization No. N/A Expiration Date N/A  Signed ASME Administer - Legucont (C)
Signed 2 MAN ASME Administer Date January /C 19 89
CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Iowaand employed by Lumbermens Mutual Casualty Company of
Long Grove, Illinois  have inspected the components described to 3-9-89  to the best of my knowledge and building the period //-/4-88
to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  Commissions Nat 1 Bd. 5813 (I) (N) IA-1041  Netional Board, State, Province, and Endorsements
Dete_ Marcl 9, 19 89

Industrial Valves	(22555)
1010	G#8332#

<u>.</u>	FORM MVR-1 REPORT OF REPAIR , MODIFICATION , OR REPLACEMENT CORRECTED REPORT OF NUCLEAR PRESSURE RELIEF DEVICE
1.	Dresser Industries, Inc., Dresser Valva & Controls Div., Industrial Valva North American Operations, Work performed by Intersection Hwy. 167 & 3225 North, Alexandria, LA
2.	Owner Iowa Electric Light & Power Co. (name of repair organization)
	P. O. Box 351, Cedar Rapids, Idwa 52406
3.	(address)  Name, address and identification of nuclear power plant <u>Iowa Electric Light &amp; Power Co.</u> Duane Armold Energy Center, 3277 DAEC Road, Palo, Iowa 52324
4.	a. Identification of repaired pressure relief device: Safety Valves b. Name of manufacturer: Dresser IVO
	c. Identifying nos. 6"3777QA-RT-21 BM8491 N/A Steam 6 1972
5.	(type) (mfr's. serial no.) (Nat'l Bd. no) (service) (size) (year builties)
	N/A (Code Case) Winter 198 (addended)
6.	Applicable edition of ASME Code Section III to which repairs modifications or replacements were made: 1968 Summer 1969
	(Code Case) (addinda)
7.	Design responsibilities: Dresser IVO
8.	Opening pressure: 1240 PSIG Blowdown (if applicable): N/A Set pressure and blowdown adjustments made at Wyle Laboratories, Huntsville, AL
•	(location) using Steam
y. _	Description of work: (include name and identifying no. of replacement parts)  Disassembled, inspected, reassembled and tested.  Replaced Disc - S/N AAJ21
10.	Remarks: None
He dev	CERTIFICATE OF COMPLIANCE certify that the statements made in this report are correct and the repair, modification or replacement of the pressure relief ations NB-65 and NB-102, current editions.
Cer	rtificate of Authorization no. 121 to use the "VR" stamp expires 3-30 19 90 to use the "NR" stamp expires 18-01 19
ua to	2 3-2 19 7 . Signed Same as item 1 above (repair organization) (authorized representative) Principal OA Engineer (title)
states once on the state of the	CERTIFICATE OF INSPECTION  to of competency issued by the state or province of and certification of Hartford, CT have inspected the repair, modification or replacement described in this report on / and certification or replacement has been made or constructed in accordant to the best of my knowledge and belief, this repair, modification or replacement has been made or constructed in accordant Section XI and Section III of the ASME Code and the National Board rules as defined in the publications NB-65 and NB-102, merning the repair, modification or replacement described in this report. Furthermore, neither the inspector nor his employer makes any warranty, empressed or implied, I be liable in any menner for any personal injury or property demage or a loss of any kind arising from or connected with this section.
Date	(Authorized Inspector) (Nat'l Bd No. (Including endorsements) state or province & no.)

1. Owner Iowa E				Date Septemb	er 18,	1987	
<b>7</b> • - •	Name						
P.O. Box 3	51, Cedar Ra	pids, IA 5	2406	Sheet 1	of1		
2. Plant Duane	Arnold Energ	v Center		Unit1			
	Name			Unit	<del></del> -		T
_3277 DAEC	Rd., Palo, I	owa 52324	· ·	CMAR 0			
						O. No., Job No.,	etc.
3. Work Performed by	1 TOWN ELECT	Name		Type Code Symbol		N/A N/A	
_3277 DAEC	Rd., Palo, I	owa 52324		Authorization No. Expiration Date		N/A	
	Address		<del></del>	Expiration Date			
4. Identification of Sy	stem High Pr	essure Cool	ant Injec	tion Steam S	upply	(Class 2)	
5. (a) Applicable Con (b) Applicable Edit  6. Identification of Co	tion of Section XI Ut	ilized for Repairs	or Replacements	19 <u>80 w/</u> 81	Addenda,	N/A	_Code Case
Name of Component	Name of Manufecturer	Manufacturer Seriel No.	National Board No.	Other Identification	Year Built *	Repeired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Hydraulic	Bergen-	D. Arnold		EBB-14-SS-	<b></b>	<b>-</b>	
Snubber	Patterson	<i>#</i> 52	None	16-A	1987	Replacemen	nt No
							٠
. Description of Work	Hydraulic Sr	nubber Repl	acement -	Type (HSSA-	3)		
			minal Operating	· / . · · ·			<del></del>
	Other Pressure_	psi	Test Temp	N/A °F			
NOTE: Supplement tion in items 1 thro recorded at the top	tal sheets in form of ough 6 on this report of this form.	lists, sketches, or is included on ea	drawings may b ich sheet, and (3	e used, provided (1) B) each sheet is num	size is 8½ bered and	in. x 11 in., (2) in the number of s	nforma- heets is

(12/82)

This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

9.	Remarks Hydraulic snubber was found with fluid levels below allowable technical
	Applicable Manufacturer's Date Reports to be attached
	specification limits. The unacceptable hydraulic snubber was replaced with
	a like-for-like replacement (P.O. S34837). Preservice inspection report
	87-724. (VT-3/VT-4) was acceptable.
Γ	CERTIFICATE OF COMPLIANCE
	We certify that the statements made in the report are correct and this Replacement conforms to the rules of the
	ASME Code, Section XI.
l	
	Type Code Symbol Stamp N/A
	Certificate of Authorization No. N/A Expiration Date N/A
	al all soll and
	Signed The Moth asmE administrator Oate Moth 20 19 89
L	المنظم ا
	CERTIFICATE OF INSERVICE INSPECTION
	I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
	or Province of Iowa and employed by Lumberman Mutual Casualty Company of
	Long Grove, Illinoishave inspected the components described
	in this Owner's Report during the period $8-28-87$ to $3-20-89$ , and state that
	to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this
	Owner's Report in accordance with the requirements of the ASME Code, Section XI., except IWA-7210
	By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the
	examinations and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer
	shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this
	inspection.
	ATERILE OLD TO THE TOTAL TO THE TOTAL TOTA
i	Commissions Nat'1 Bd. 5813 (I) (N) IA-1041 National Board, State, Province, and Endorsements
	A serious and choosements
	Date March 20, 1989.

1) Owners: Iowa Electric Light and Power Company P.O. Box 351 Cedar Rapids, Iowa 52406

Central Iowa Power Cooperative Marion, Iowa

Corn Belt Power Cooperative Humboldt. Iowa

- 2) Plant Duane Arnold Energy Center, Palo, Iowa
- 3) Plant Unit #1 4) Owners Certificate of Authorization (if required) N/A
- 5) Commercial Service Date 2-1-75 6) National Board Number of Unit N/A

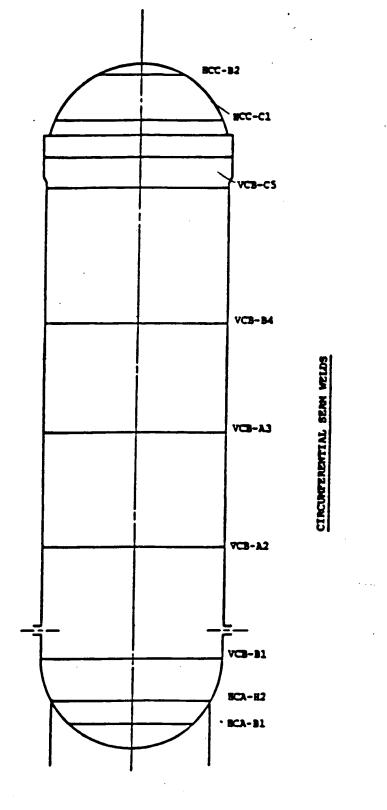
### Abstract of Conditions Noted and Corrective Measures Taken:

The corrective measures addressed in this report were performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1980 Edition through Winter 1981 Addenda, and the Duane Arnold Energy Center Updated Final Safety Analysis Report. The corrective measures performed as Repairs or Replacements are listed in Part E of this report and are documented, using Form NIS-2, in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1980 Edition through Winter 1982 Addenda. Specific details and associated records of additional corrective measures are on file at Iowa Electric Light and Power Company. The corrective measures addressed were performed during the period of June 30, 1987 through December 27, 1988.

Inservice Inspection Report June 30, 1987 through December 27, 1988

Part H Pg. 1 of 36

Figure No.



8

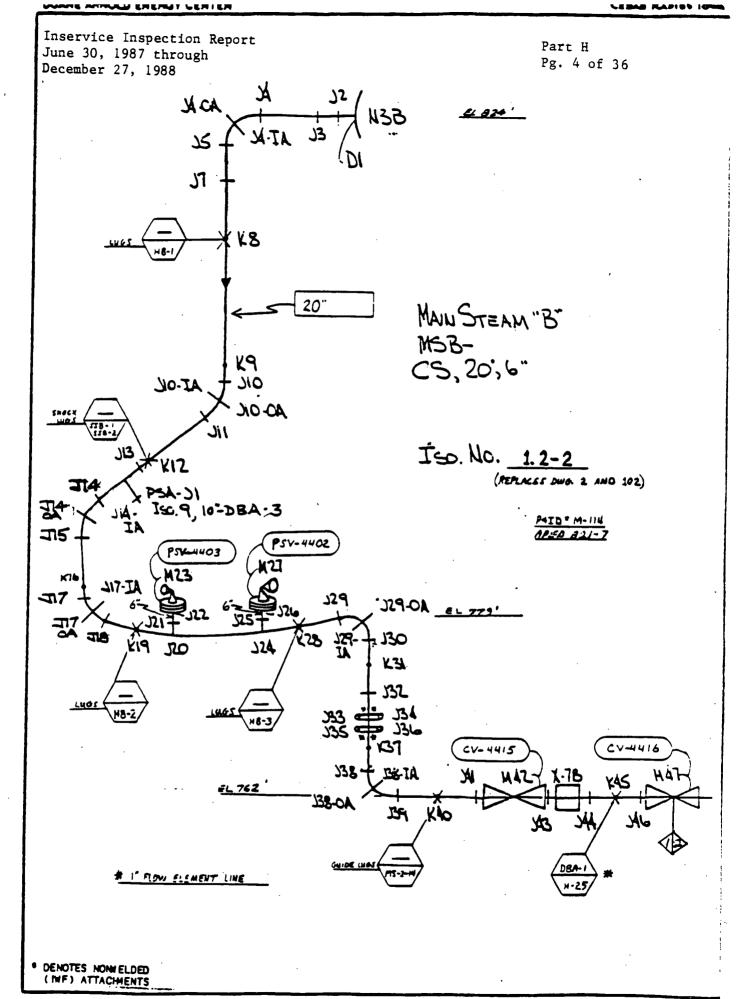
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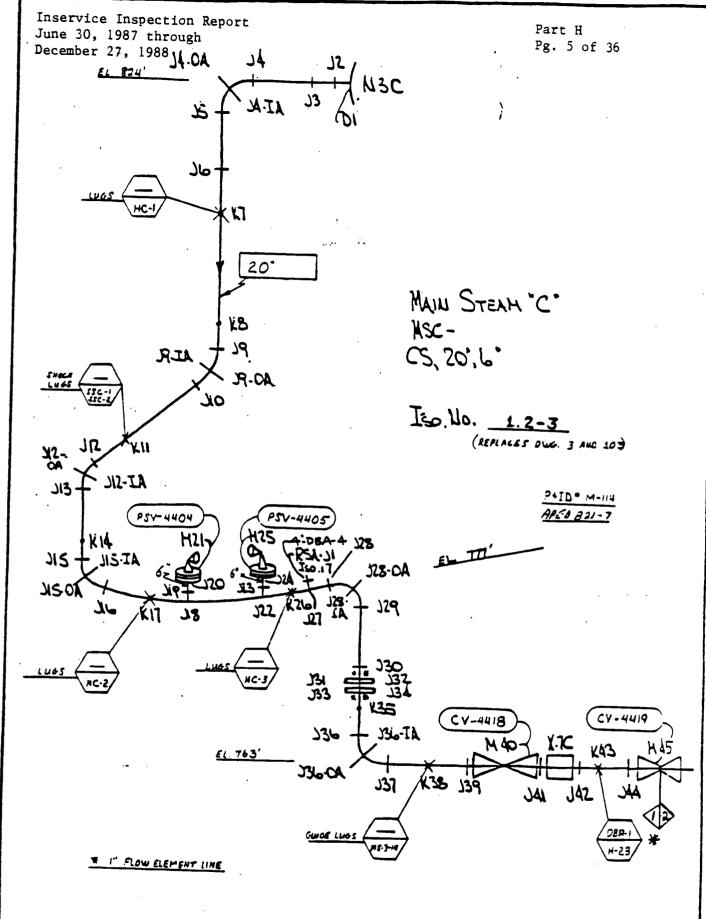
DRAWINGS: 7884- MII5-15-2 7884- MII5- 16-2

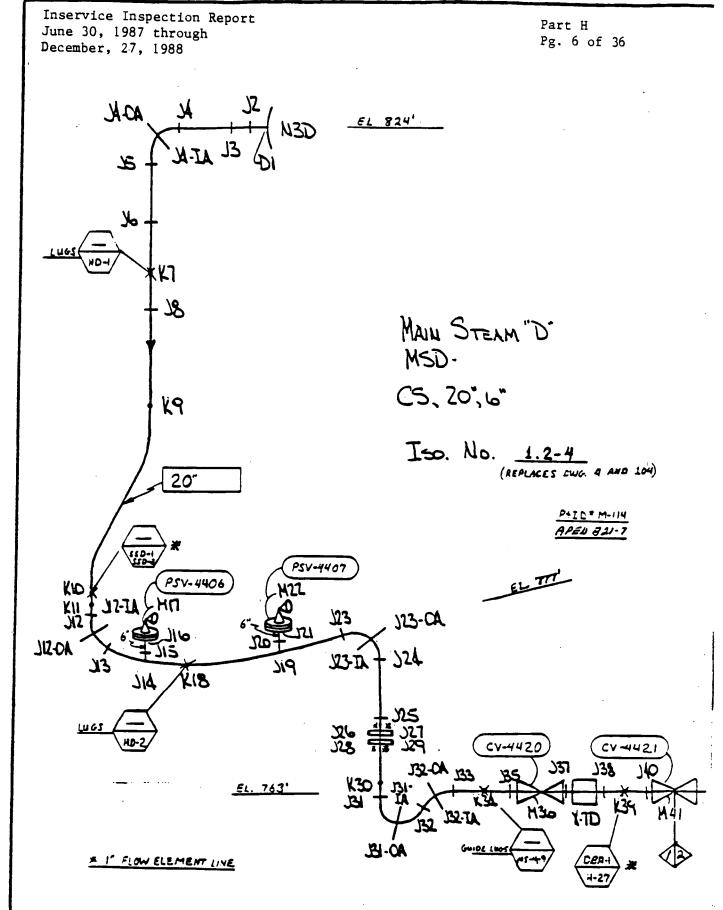
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Figure No. 1.1-8



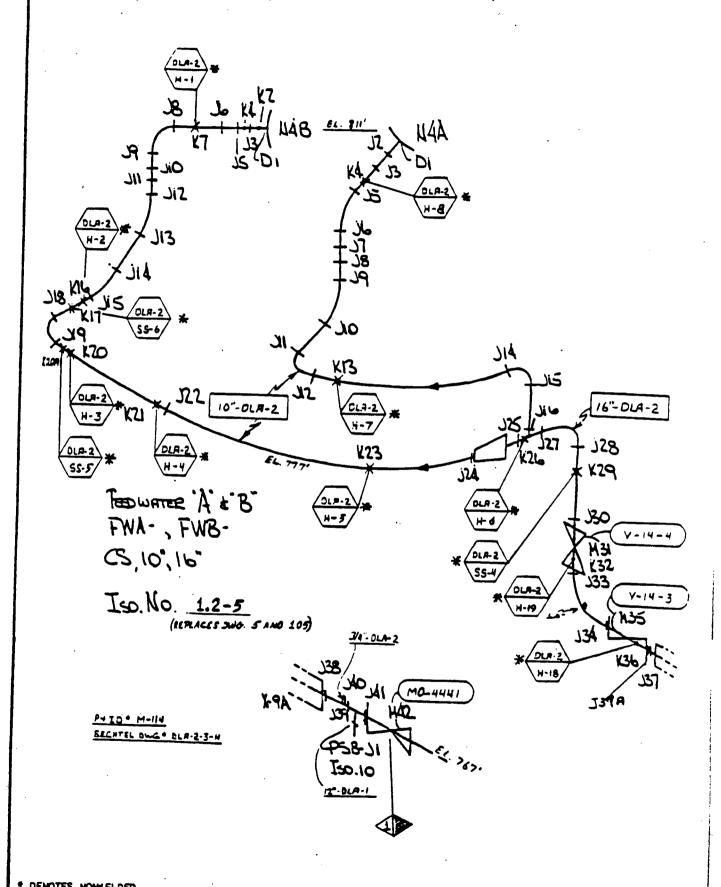
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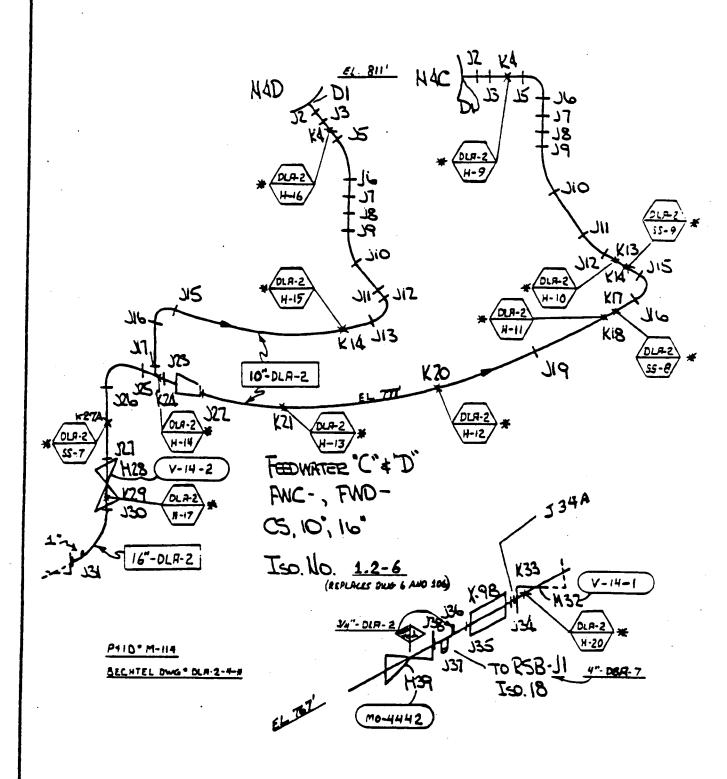
Inservice Inspection Report June 30, 1987 through December 27, 1988

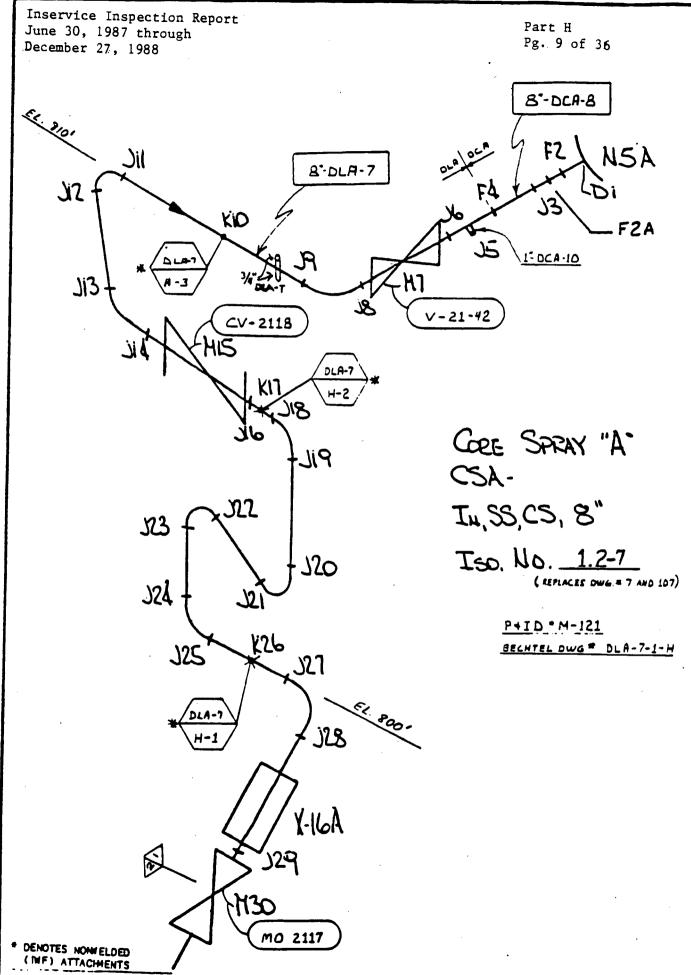
Part H Pg. 7 of 36



Inservice Inspection Report June 30, 1987 through December 27, 1988

Part H Pg. 8 of 36



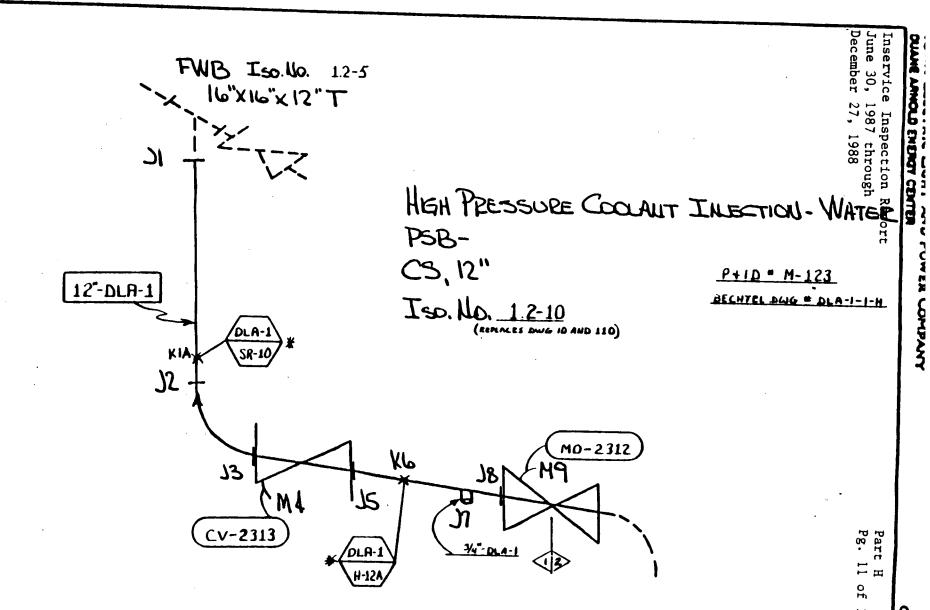


HIGH PRESSURE COCLAUT INJECTION-STEAM 10"-DBA-3 PSA-CS,10" P+10 M-122 Iso. No. 1.2-9 MO- 2238 RECHTEL DWG & DLA-3-1-H DLA 20 J21 X21A J22 10-DLA-3 KI8 KIBA 419 Klb JISA 11-1 115 MO 2239 10 H ST STATE STATE of.

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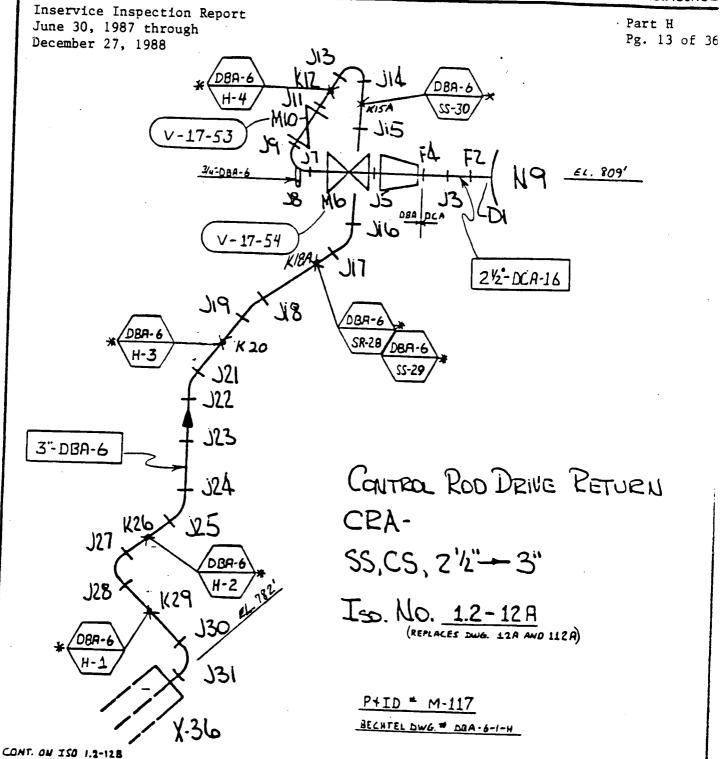
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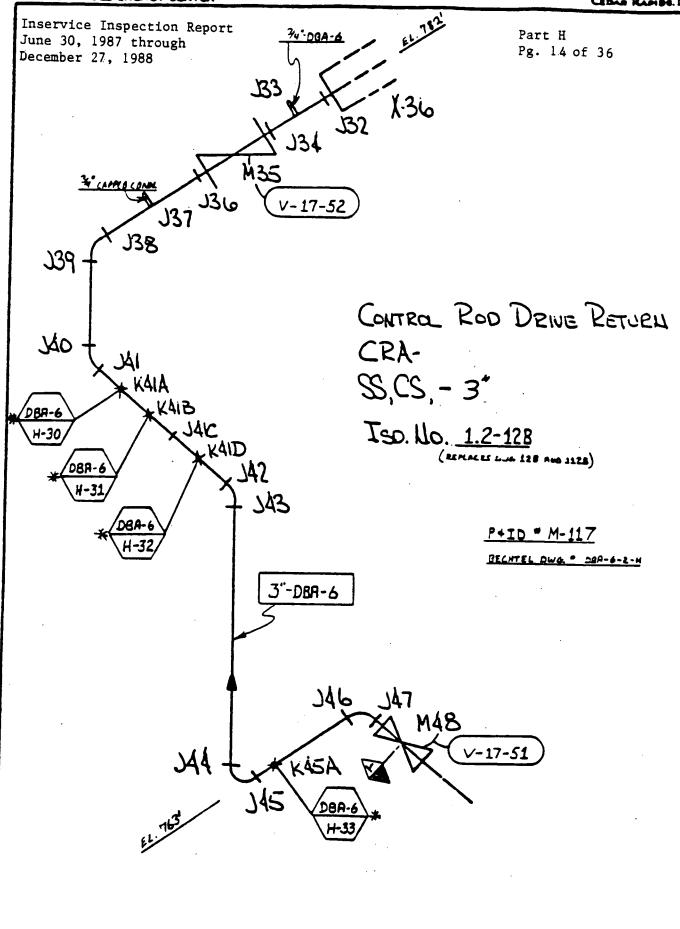


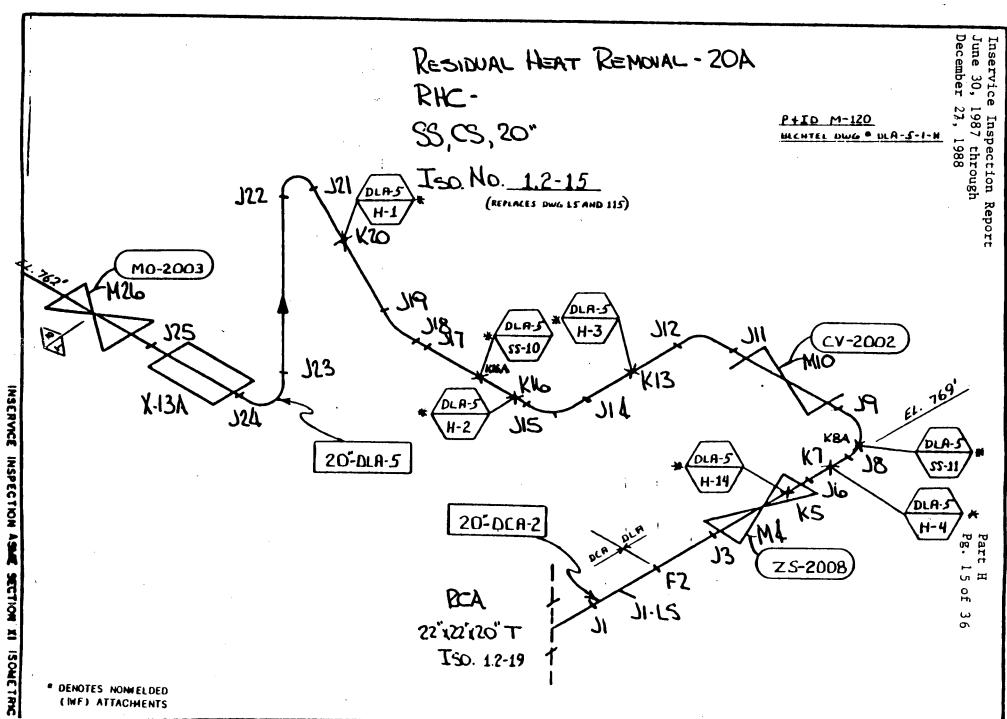
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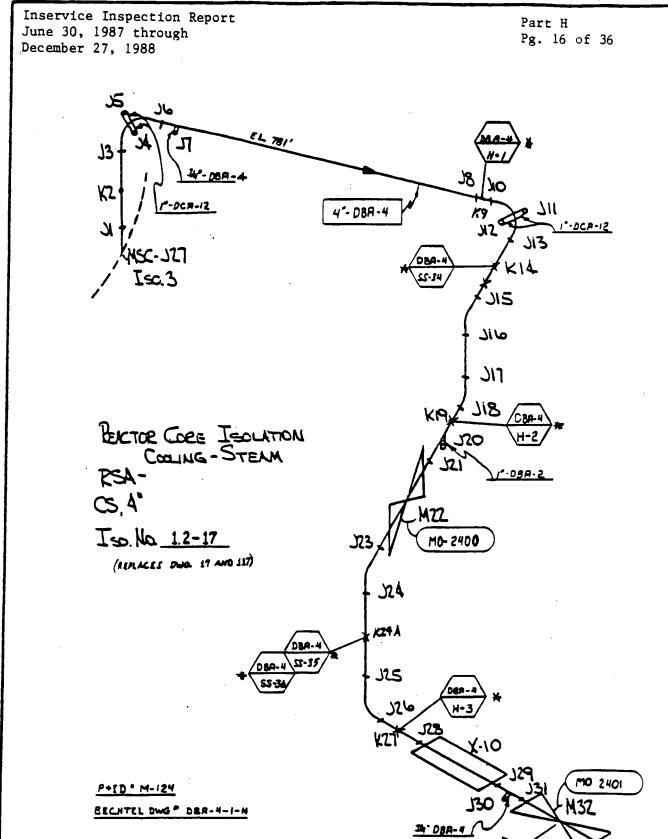
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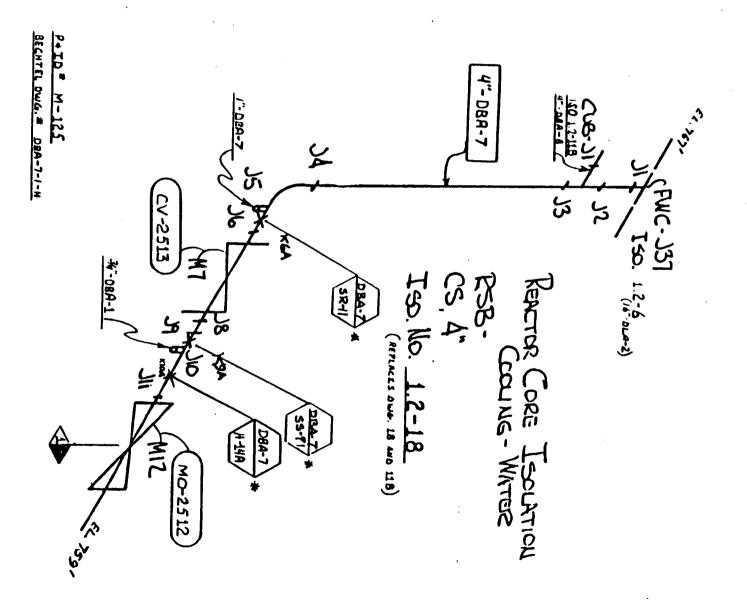
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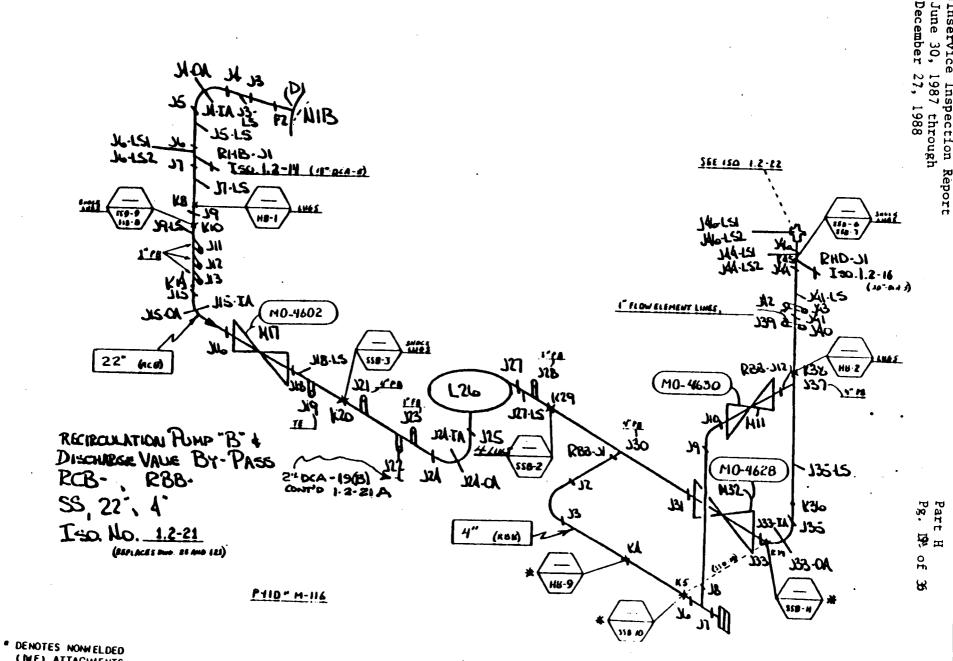




Part H Pg. 17 of 36



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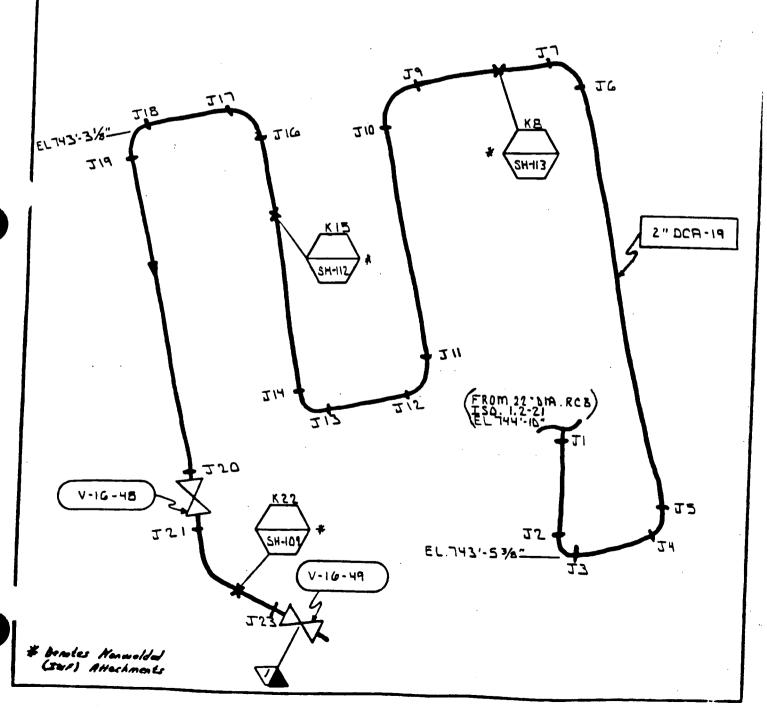
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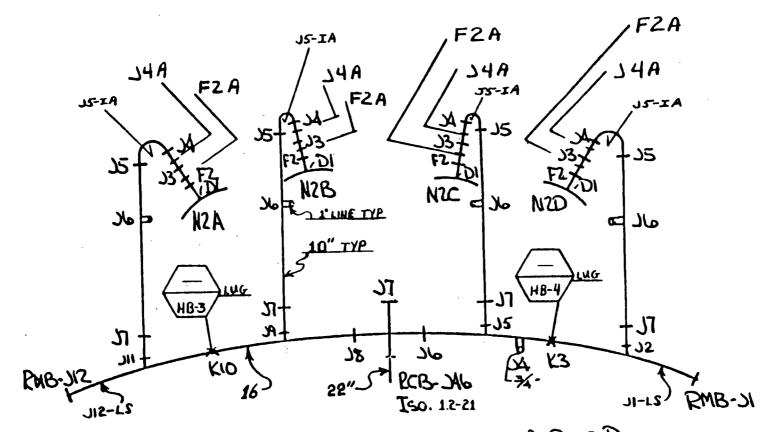
DRAIN LINE RECIRCULATION BY 2"S.S. RDB ISO. NO. 1.2-21A PEID MILL FSK-4169



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Inservice Inspection Report June 30, 1987 through December 27, 1988



RECIRCULATION HANIFOLD "B" & RISERS A.B.C.D RMB-, RRA-, RRB-, RRC-, RRD-,

55,16",10"

Iso. No. 1.2-22

(REPLACES DWG. = 21 AND 122)

P+ID # M-116

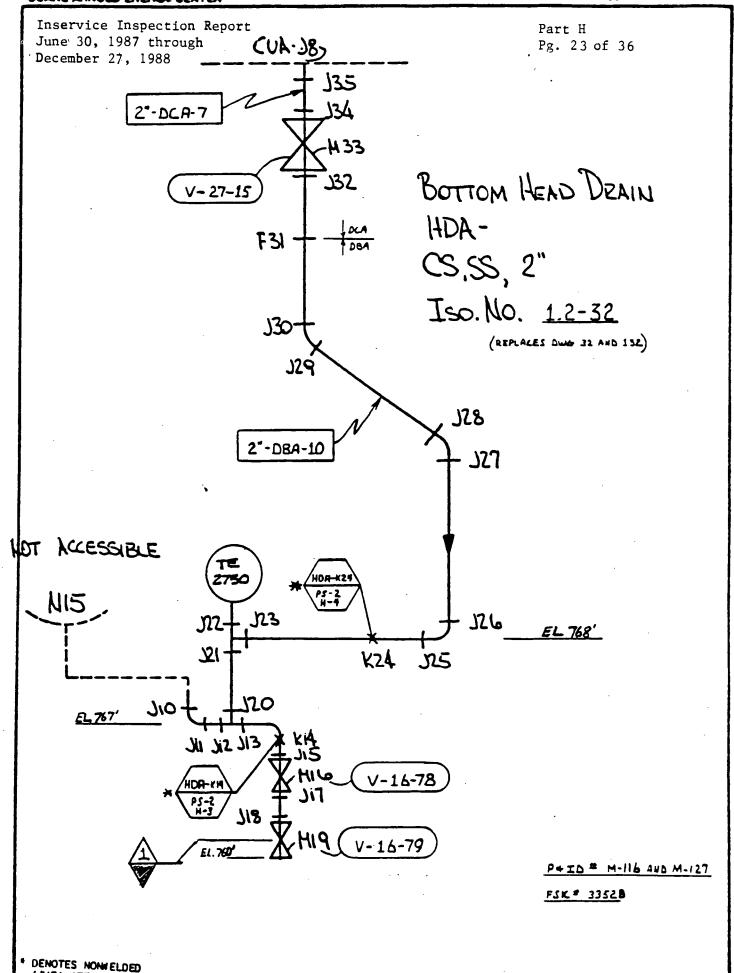
DENOTES NOW ELDED
(IWF) ATTACHMENTS

Part H Pg. 22 of 36

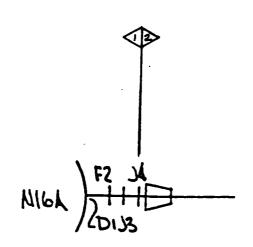


HEAD VENT HVA-CS, 4" Tso. No. 1.2-24 (REPLACES DUG 24 AND 124) P & ID M-114

(IWF) ATTACHMENTS



Part H Pg. 24 of 36



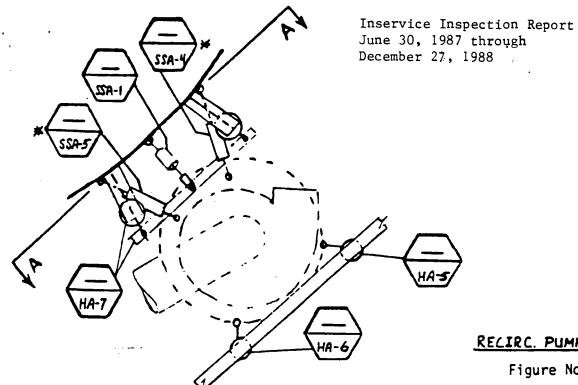
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S-2"5W

Iso. No. 1.2-33

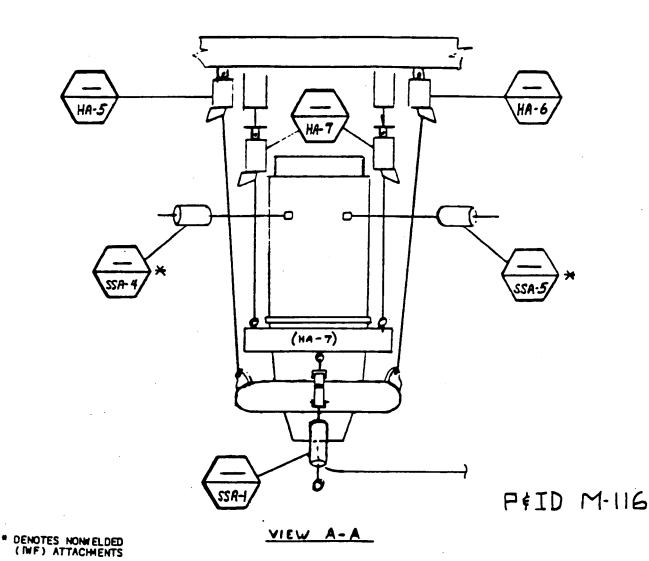
(REPLACES DING 33 AND 123)
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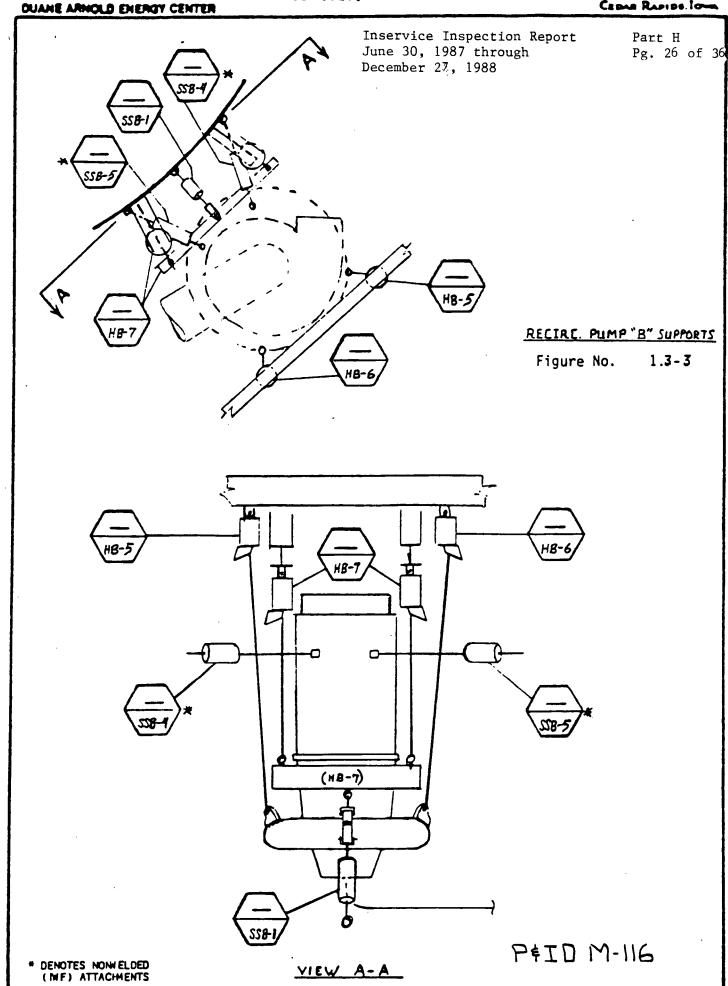


Part H Pg. 25 of 36

RELIRC. PUMP"A" SUPPORTS

1.3-2 Figure No.





December June

1988

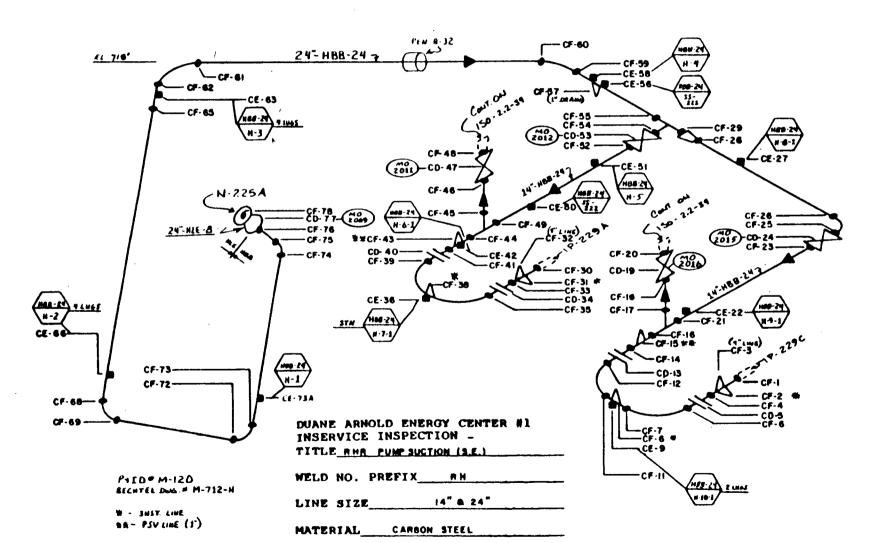
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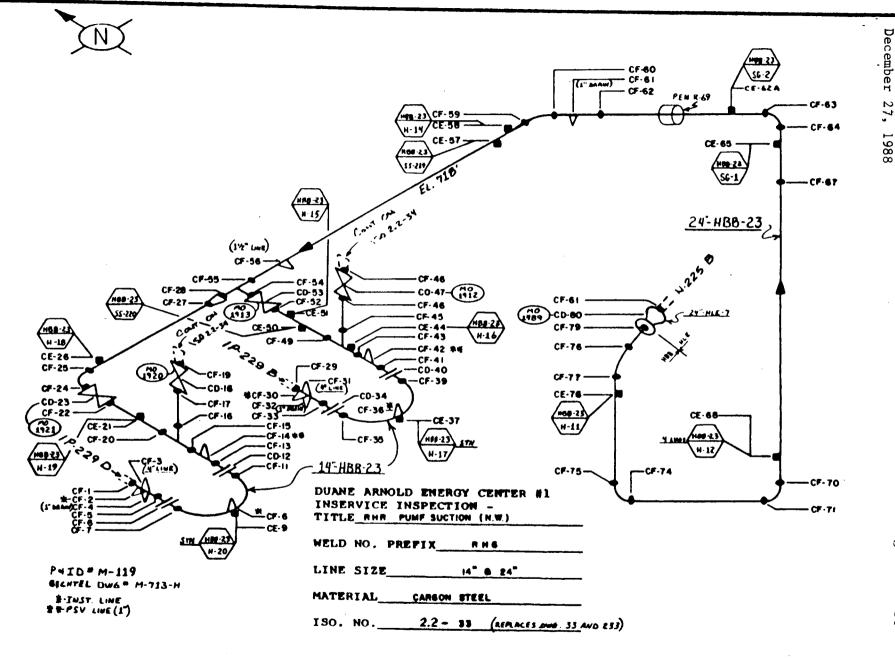
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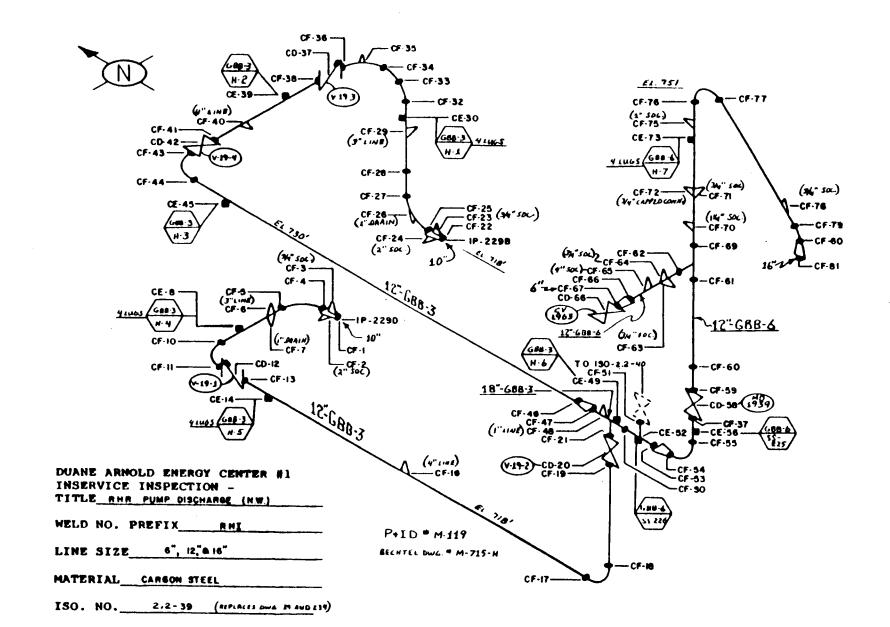
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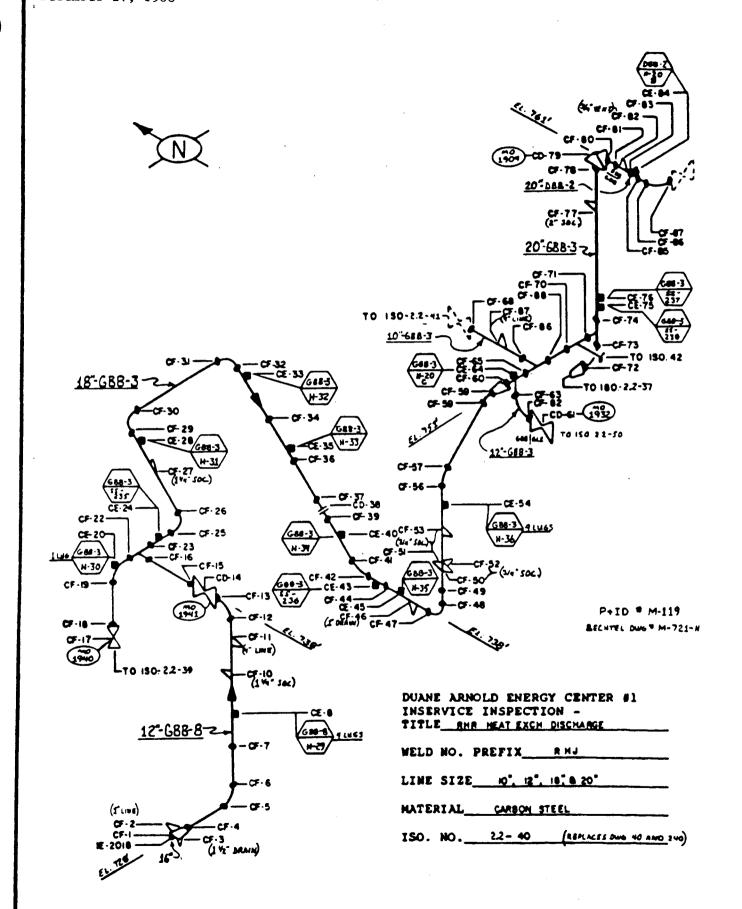
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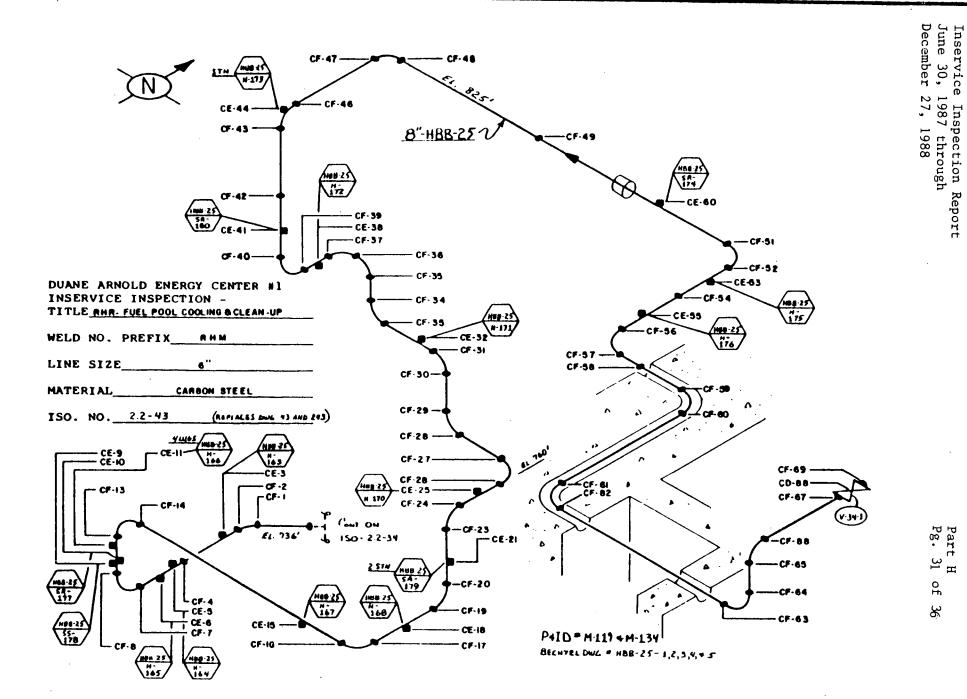
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Part H Pg. 30 of 36



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Inservice Inspection Report June 30, 1987 through December 27, 1988

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DUANE ARNOLD ENERGY CENTER #1
INSERVICE INSPECTION TITLE HPC | PUMP DISCHARGE

WELD NO. PREFIX HPO

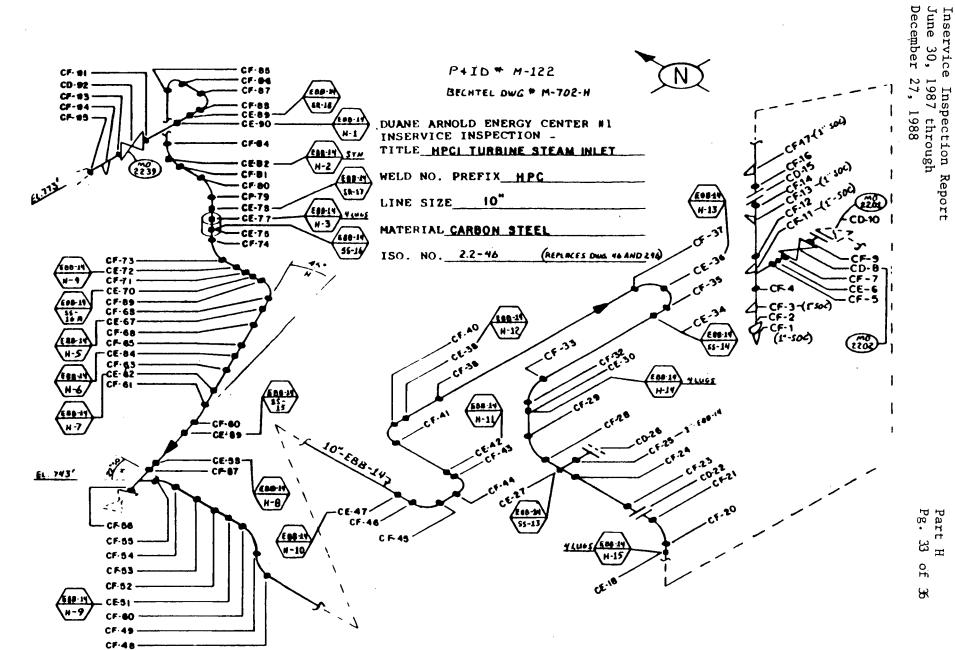
LINE SIZE 12. 8"

MATERIAL CARBON STEEL

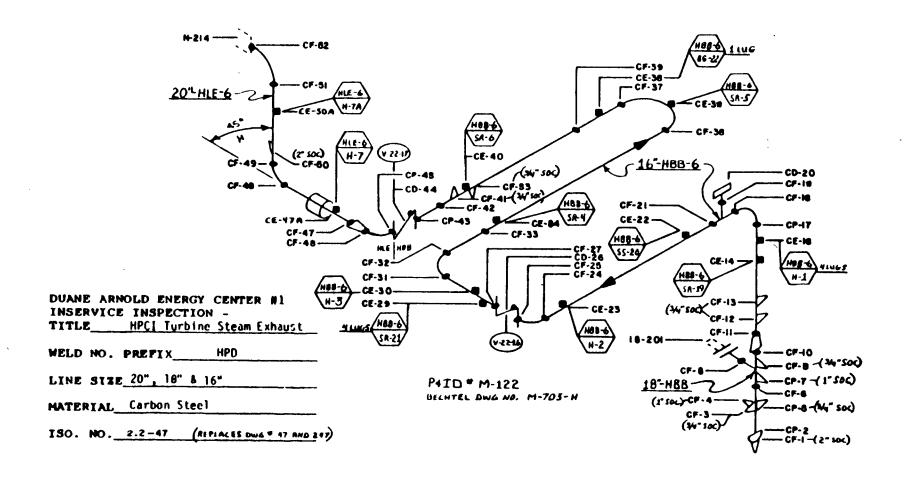
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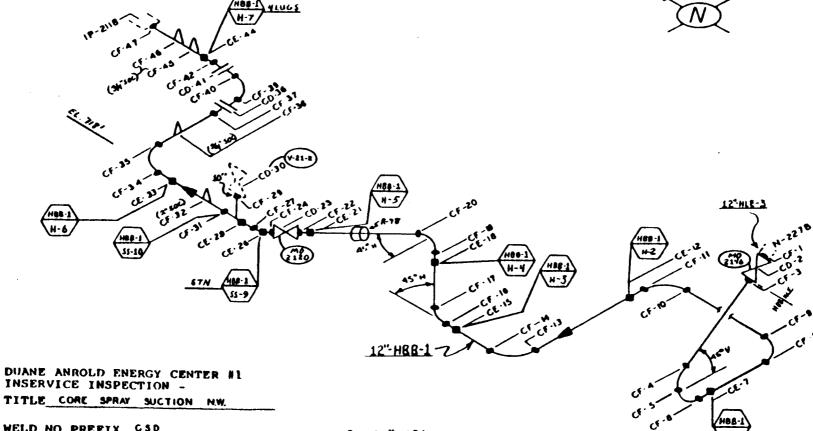
Inspection 1987 through

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INSERVICE INSPECTION -

TITLE CORE SPRAY SUCTION NW.

WELD NO PREPIX CSD

P+ID # 121

LINE SIZE 12"

BECHTEL DWG # M-709-H

MATERIAL CARBON STEEL

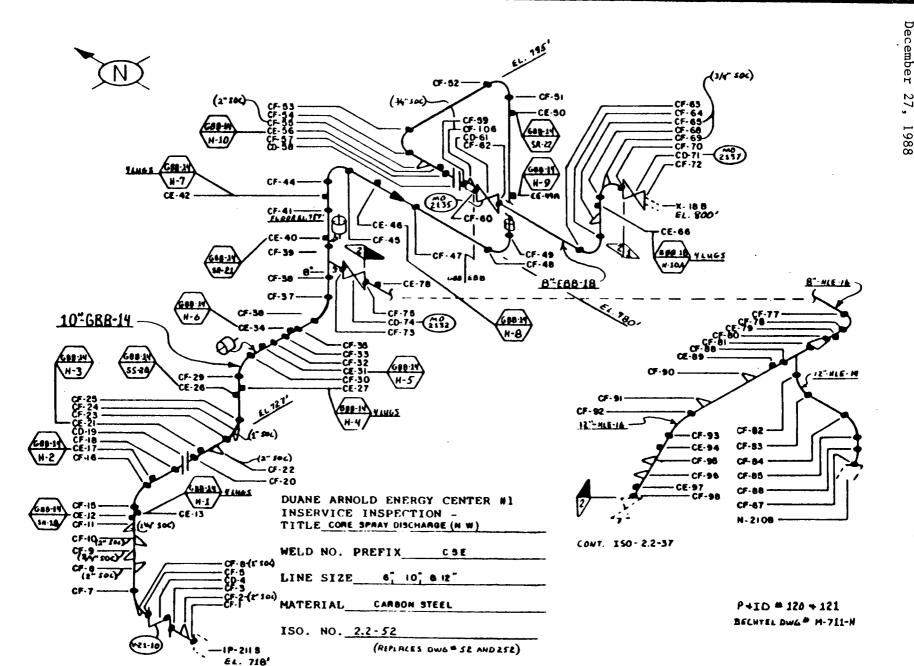
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# IOWA ELECTRIC POSITION REGARDING PRESSURE TESTING REQUIREMENTS FOR REPAIRS TO THE 'B' RECIRCULATION PUMP SUCTION DRAIN LINE

The purpose of this attachment is to document the position of Iowa Electric Light and Power Company with regard to the pressure test performed to support repairs to the two-inch diameter 'B' Recirculation Pump Suction drain line. This repair was accomplished in late December 1988 after pinhole leaks were discovered in this drain line during the Class I leakage test of the Reactor Vessel at the conclusion to the 1988 Refueling Outage. The method of repair is documented on Form NIS-2, No. 09-89-26 (found in Attachment 1 to this letter). The Authorized Nuclear Insurer Inspector (ANII) at the DAEC has taken exception to our interpretation of the ASME Code, Section XI, with regard to the required pressure testing requirements following this repair.

In accordance with the ASME Code, Section XI, 1980 Edition through Winter 1981 Addenda, Paragraph IWA-4400(a), "...after repairs by welding on a pressure retaining boundary, a system hydrostatic test shall be performed in accordance with IWA-5000." Section IWA-5000 states that the hydrostatic test pressure shall be 1.08 times the nominal operating pressure corresponding to 100% rated reactor power. The nominal operating pressure at the DAEC is 1025 psig, thus the required hydrostatic test pressure would be 1107 psig. However, at the time of the repair, the reactor vessel contained nuclear fuel and thus Paragraph IWA-5222(b) was applicable in determining the required test pressure. This paragraph states that "...the test pressure shall not exceed the limiting conditions specified in the plant Technical Specifications".

A test pressure of 1107 psig would have required us to remove or disable a number of Safety Relief Valves (SRVs). These SRVs provide the Low Low Set (LLS) and Automatic Depressurization System (ADS) safety functions and their opening setpoints (safety mode) range from 1110 to 1140 psig with a 1% setpoint tolerance. We interpret our Technical Specifications to not allow these safety functions to be disabled simultaneously with irradiated fuel in the reactor vessel and the vessel pressurized above atmospheric pressure.

At the time of the repair it was impractical to remove the SRVs from service as the valve pilots would have had to be removed. Industry experience indicates that exposure of the pilot valves to the atmosphere after they have been exposed to moisture causes oxidation on the valve internal surfaces which may cause SRV malfunctions, thus refurbishment would likely be required. The SRVs had been refurbished during the 1988 Refueling Outage and the valves had been exposed to moisture during the Class I leakage test of the reactor vessel. In addition, removal of the valves would require another Class I leakage test upon reinstallation due to breaking of the mechanical connections.

Based upon the above considerations, we were presented with three alternatives for pressure testing the repaired drain line:

- 1. Perform a hydrostatic test to 1107 psig. This would have required us to violate the DAEC Technical Specifications or seek discretionary enforcement. It is our policy to seek discretionary enforcement only when no other alternatives are viable.
- 2. Remove the fuel from the vessel and perform a hydrostatic test at 1107 psig. This alternative was dismissed as impractical since the risk of fuel and/or equipment damage during reactor vessel assembly/disassembly and refueling operations was significantly greater than the other options. In addition, after the reactor vessel was refueled, another Class I leakage test would be required.
- 3. Perform the hydrostatic test at a lower pressure than the code-required test pressure (1107 psig). This option would allow us to operate within the bounds of our Technical Specifications and also determine the adequacy of our repair by pressure testing at a pressure within 10% of the code-required hydrostatic test pressure. In addition, the risk of fuel and equipment damage caused by defueling and refueling would not be realized.

In considering the above options, Option 3 was chosen as the most practical and a test pressure of 1010 psig was specified (91% of the pressure specified by the ASME Code for hydrostatic pressure testing). Sound engineering judgment was used in the decision to perform the pressure test at 1010 psig to prevent damage to plant equipment, to prevent the plant from being in an unsafe condition, and to prevent the possibility of injury to personnel.

During the pressure test following the aforementioned repair, a pressure of 1010 psig was achieved and personnel were allowed to enter the area to conduct a VT-2 visual inspection of the repairs. No leakage was noted. It is our interpretation that when considering Paragraph IWB-5222(b) of the ASME Code and the alternative testing methods, the requirements and the intent of the Code were fully met.

Page No. 03/21/89

	ASTEM OR COMPONENT	ACCEPT	REJECT	0313	0619	WELD OR COMPONENT DESCRIPTION	UT REPORT NO.	COMMENTS
	DESCRIPTION					DESCRIPTION	110:	
	FEEDWATER"B"	Х			Х	FWB-BD-1	88-117	O DEG. UT
		X			X	FWB-BD-1	88-118	45 DEG. UT
		X			X	FWB-BD-1	88-119	60 DEG. UT
		Х			Х	FWB-N4-B	88-120	
		Х			Х	FWB-N4-B THERMAL SLEEVE	88-121A, 88-121B	
	FEEDWATER"C"	Х			X	FWC-BD-1	88-129	O DEG. UT
		X			X	FWC-BD-1	88-130	45 DEG. UT
		X			X	FWC-BD-1	88-131	60 DEG.UT
		Х			X	FWC-N4-C	88-132	
		X			X	FWC-N4-C THERMAL SLEEVE	88-133,	
							88-133A,	
	FEEDWATER "D"	X			X	FWD-BD-1	88-138	O DEG.UT
		Х			Х	FWD-BD-1	88-139	45 DEG. UT
		Х			Х	FWD-BD-1	88-140	60 DEG UT
		Х			X	FWD-N4-D	88-141	
		Х			Х	FWD-N4-D THERMAL SLEEVE	88-142, 88-142B	
	ORE SPRAY "A"	Х		Х		CSA-BF-2	88-147	NOZZLE SIDE
		Х		Х		CSA-BF-2	88-148	SAFE END SIDE
		Х		Х		CSA-BF-2A	88-149	SAFE-END TO PIPE
		Х		Х		CSA-BF-2A	88-150	INCONEL SIDE
		Х		Х		CSA-BJ-3	88-151	
		Х		X		CSA-BF-4	88-152	STAINLESS STEEL SIDE
		Х		Х		CSA-BF-4	88-153	CARBON SIDE
	CORE SPRAY "B"	Х		Х		CSB-BF-2	88-158	INCONEL SIDE
		X		X		CSB-BF-2	88-159	SAFE-END SIDE
		Х		X		CSB-BF-2A	88-160	SAFE-END TO PIPE
		Х		Х		CSB-BF-2A	88-161	INCONEL SIDE
		X		Х		CSB-BJ-3	88~162	CENTRAL CENTRAL CITY
		X		X		CSB-BF-4	88-163	STAINLESS STEEL SIDE
		X		Х		CSB-BF-4	88-164	CARBON STEEL SIDE
	REACTOR WATER CLEANUP	X		X		CUA-BJ-1	88-167	
	SUCTION	X		X		CUA-BJ-2	88-168	
		X		X		CUA-BJ-4	88-169	
		Х		X		CUA-BJ-5	88-170	
		Х		X		CUA-BJ-12	88-171	
		X		Х		CUA-BJ-13	88-172	
		Х		X		CUA-BJ-15	88-173	
		Х		Х		CUA-BJ-17	88-174	
		Х		Х		CUA-BJ-18	88-175	
Ø		Х		X		CUA-BJ-19	88-176	
		Х		Х		CUA-BJ-21	88-177	
		X		Х		CUA-BJ-23	88-178	

STEM OR COMPONENT DESCRIPTION	ACCEPT REJECT	0313	0619	WELD OR COMPONENT DESCRIPTION	UT REPORT NO.	COMMENTS
RWCU-SUCTION (cont)	X	Х		CUA-BJ-24	88-179,	
REACTOR WATER CLEANUP	Х	х		CUB-BF-4	88-181	
DISCHARGE	X	Х		CUB-BJ-5	88-183	
	X	Х		CUB-BJ-8	88-347	
	X	Х		CUB-BJ-10	88-348	
	Х	Х		CUB-BJ-11	88-349	
	X	Х		CUB-BJ-13	88-350	
	Х	Х		CUB-BJ-14	88-351	
	X	X		CUB-BJ-16	88-352	
	X	Х		CUB-BJ-17	88-353	
	X	X		CUB-BJ-19	88-354	
	X	Х		CUB-BJ-22	88-355	
	X	Х		CUB-BJ-25	88-357	
	Х	X		CUB-BJ-27	88-358	
CONTROL ROD DRIVE RETURN	х		х	CRA-BF-2	88-189, 88-189A	
	Х		Х	CRA-BJ-3	88-190	
	Х		Х	CRA-BF-4	88-191	STAINLESS STEEL SIDE
	х		X	CRA-BF-4	88-192	CARBON STEEL SIDE
RESIDUAL HEAT	х	Х		RHB-BJ-1-OVL	88-199	O DEG. UT
REMOVAL-18B	Х	X		RHB-BJ-1-OVL	88-200	60 DEG. UT
	Х	Х		RHB-BF-3	88-201	STAINLESS STEEL SIDE
	X	Х		RHB-BF-3	88-202	CARBON STEEL SIDE
	Х	Х		RHB-BJ-2	88-362	
RECIRC PUMP	Х	Х		RCA-BF-2	88-211	STAINLESS STEEL SIDE
"A" SUCTION	X	X		RCA-BF-2	88-212	CARBON STEEL SIDE
	X	Х		RCA-BJ-3	88-213	
	Х	Х		RCA-BJ-12	88-214	
	X	X		RCA-BJ-5A	88-359	
	X	Х		RCA-BJ-18	88-360	
	Х	X		RCA-BJ-27	88-365	
	Х	X		RCA-BJ-34	88-366	
RECIRC BYPASS "A"	Х	Х		RBA-BJ-2	88-215	
	Х	Х		RBA-BJ-3	88-216	
	Х	Х		RBA-BJ-6	88-217	
	Х	Х		RBA-BJ-8	88-218	
	X	Х		RBA-BJ-9	88-219	
	Х	Х		RBA-BJ-10	88-220	
RECIRC MANIFOLD "A"	х	Х		RMA-BJ-6	88-226	
	X	X		RMA-BJ-11	88-227	

	ISTEM OR COMPONENT DESCRIPTION	ACCEPT REJECT	0313 0619	WELD OR COMPONENT DESCRIPTION	UT REPORT NO.	COMMENTS
	RECIRC RISER "E"	х х х х	X X X X	RRE-BF-2 RRE-BF-2 RRE-BJ-4/4A-OVL RRE-BJ-4/4A-OVL	88-228 88-229 88-230 88-232 88-233	CARBON STEEL SIDE INCONEL SIDE STAINLESS STEEL SIDE O DEG. UT 60 DEG. UT
	RECIRC RISER "F"	х х х х	X X X X	RRF-BF-2 RRF-BF-2A RRF-BJ-4/4A-OVL RRF-BJ-4/4A-OVL	88-234 88-235 88-236 88-238 88-239	CARBON STEEL SIDE INCONEL SIDE STAINLESS STEEL SIDE O DEG. UT 60 DEG. UT
	RECIRC RISER "G"	X X X X X	х х х х х	RRG-BF-2 RRG-BF-2 RRG-BJ-4/4A-OVL RRG-BJ-4/4A-OVL	88-244 88-245 88-246 88-248 88-249	CARBON STEEL SIDE INCONEL SIDE STAINLESS STEEL SIDE O DEG. UT 60 DEG. UT
Ì	RECIRC RISER "H"	х х х х	x x x x	RRH-BF-2 RRH-BF-2 RRH-BJ-4/4A-OVL	88-254 88-255 88-256 88-258	CARBON STEEL SIDE INCONEL SIDE STAINLESS STEEL SIDE O DEG. UT
	RECIRC PUMP "B" SUCTION	X X X	х х х х	RRH-BJ-4/4A-OVL  RCB-BF-2  RCB-BJ-3  RCB-BJ-15	88-259 88-260 88-261 88-262 88-263	60 DEG. UT STAINLESS STEEL SIDE CARBON STEEL SIDE
	RECIRC BYPASS "B"	x x x	X X X	RCB-BJ-21 RCB-BJ-30 RCB-BJ-37 RBB-BJ-2	88-361 88-363 88-364 88-268	
		х х х х х	X X X X	RBB-BJ-3 RBB-BJ-6 RBB-BJ-7 RBB-BJ-9 RBB-BJ-12	88-269 88-270 88-271, 88-272 88-273	
	RECIRC MANIFOLD "B"	x x	X X	RMB-BJ-6 RMB-BJ-7	88-276 88-277	
	RECIRC RISER "A"	х х х х	X X X X	RRA-BF-2 RRA-BF-2A RRA-BJ-4/4A-OVL RRA-BJ-4/4A-OVL	88-282 88-283 88-284 88-286 88-287	CARBON STEEL SIDE STAINLESS STEEL SIDE O DEG. UT 60 DEG. UT

SYSTEM OR COMPONENT DESCRIPTION	ACCEPT REJEC	т 0313 0619	WELD OR COMPONENT DESCRIPTION	UT REPORT NO.	COMMENTS
RECIRC RISER "B"	Х	Х	RRB-BF-2	88-292	CARBON STEEL SIDE
	Х	Х	RRB-BF-2	88-293	INCONEL SIDE
	Х	Х	RRB-BF-2A	88-294	STAINLESS STEEL SIDE
	Х	Х	RRB-BJ-4/4A-OVL	88-296	O DEG.UT
	Х	Х	RRB-BJ-4/4A-OVL	88-297	60 DEG. UT
RECIRC RISER "C"	Х	Х	RRC-BF-2	88-298	CARBON STEEL SIDE
	Х	Х	RRC-BF-2	88-299	INCONEL SIDE
	Х	Х	RRC-BF-2A	88-300	STAINLESS STEEL SIDE
	Х	Х	RRC-BJ-4	88-302	
	Х	X	RRC-BJ-4A	88-303,	MANUAL AND AUTOMATIC UT
				88-303A	
RECIRC RISER "D"	Х	Х	RRD-BF-2	88-304	CARBON STEEL SIDE
	Х	Х	RRD-BF-2	88-305	INCONEL SIDE
	Х	Х	RRD-BF-2A	88-306	STAINLESS STEEL SIDE
	X	Х	RRD-BJ-4/4A-OVL	88-308	O DEG. UT
	Х	Х	RRD-BJ-4/4A-OVL	88-309	60 DEG. UT
<b>.</b>	X.	Х	RRD-BJ-7-OVL	88-310	O DEG. UT
	X	Х	RRD-BJ-7-OVL	88-311A,	60 DEG.UT