



**ALLIANT ENERGY.**

February 28, 2000  
NG-00-0319

IES Utilities Inc.  
Duane Arnold Energy Center  
3277 DAEC Road  
Palo, IA 52324-9785

Office: 319.851.7611  
Fax: 319.851.7986  
www.alliant-energy.com

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

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License No: DPR-49  
Inservice Inspection Report

File: A-107a, A-286a, B-31c, SpF-118

In accordance with the requirements of Paragraph IWA-6230 in Section XI of the ASME Boiler and Pressure Vessel Code and 10 CFR Section 50.55a(g), IES Utilities herewith submits the refueling outage (RFO) 16 inservice inspection summary report (Attachment 1). This report addresses examinations which were performed at the Duane Arnold Energy Center (DAEC) during the time period from May 23, 1998 through December 1, 1999.

Attachment 2 provides information regarding augmented inservice inspections performed during RFO 16. These inspections include those performed for NUREG-0313, Revision 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping" and Bulletin 80-13, "Cracking in Core Spray Spargers."

IES Utilities' review of the inspection reports has determined that all examined items are acceptable. These inspection reports are on file and are available for your review upon request.

A047

February 28, 2000

NG-00-0319

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

Sincerely,



Kenneth E. Peveler  
Manager, Regulatory Performance

Attachments: 1) ASME Section XI Summary Report  
Duane Arnold Energy Center Refueling Outage 16  
2) Augmented Inspection Results RFO 16

cc: C. Rushworth (w/o Attachments 1 and 2)  
E. Protsch (w/o Attachments 1 and 2)  
D. Wilson (w/o Attachments 1 and 2)  
G. Van Middlesworth (w/o Attachments 1 and 2)  
B. Mozafari (NRC-NRR)  
J. Dyer (Region III)  
NRC Resident Office  
ANII (w/o Attachments 1 and 2)  
Office of Labor Commission (State of Iowa) (w/o Attachment 2)  
DOCU

25 Years of



Rock Solid Performance

***ASME Section XI Summary Report***

***Duane Arnold Energy Center***

***Refueling Outage 16***

***(Period 1)***

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

DUANE ARNOLD ENERGY CENTER

UNIT #1 PALO, IOWA

Commercial Service Date: February 1, 1975

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION SUMMARY REPORT**

May 23, 1998 through December 1, 1999


Dated: December 1, 1999

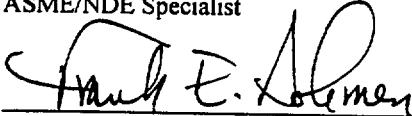
OWNER:

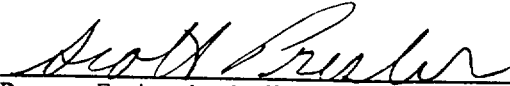
IES UTILITIES INC., AN ALLIANT COMPANY


P.O. Box 351

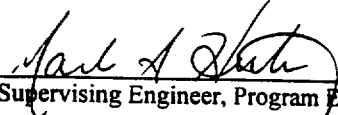
Cedar Rapids, Iowa 52406

Prepared by:  Date: 1/18/2000  
ASME/NDE Specialist

Reviewed by:  Date: 1/24/00  
NDE Level III

Reviewed by:  Date: 1-24-00  
Program Engineering Staff

Reviewed by:  Date: 1-26-00  
Equipment Monitoring Group, Team Leader

Concurred by:  Date: 1-31-00  
Supervising Engineer, Program Engineering

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**FORM NIS-1 OWNER'S DATA REPORT FOR INSERVICE INSPECTIONS**  
As Required by the Provisions of the ASME Code Rules

1. Owner: IES Utilities Inc., an Alliant company, P. O. Box 351, Cedar Rapids, IA 52406 (Note 2)  
(Name and address of Owner)

2. Plant: Duane Arnold Energy Center, 3277 DAEC Road, Palo, IA 52324  
(Name and Address of Plant)

3. Plant Unit 1 4. Owner Certificate of Authorization (if required) N/A

5. Commercial Service Date 02/01/75 6. National Board Number of Unit N/A

7. Components Inspected

This report includes a Table of Contents (P1), Part A (PP1-2), Part B (PP1-3), Part C (P1), Part D (PP1-4), Part E (P1), Part F (P1-2), Part G (PP1-80), Part H (P1), Part I (PP1-45), Part J (PP1-4), and Part K (P1).

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Reactor Pressure Vessel (RPV)	Chicago Bridge & Iron	3-4833	N/A	3663
Refer to Part B, Pages 1-4, of this report for a continuation of components examined				

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8.5 X 11 inches, (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.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part A, Page 2 of 2

**FORM NIS-1 (back)**

8. Examination Dates 05/23/98 to 12/01/99 9. Inspection Interval from 11/01/96 to 12/01/05

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

Refer to Part C, Part D, and Part J.

11. Abstract of Conditions Noted

Refer to Part H.

12. Abstract of Corrective Measures Recommended and Taken

Refer to Part H.

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Date FEB 7, 2000

Signed Gary Van Middelburg By Gary Van Middelburgh, Site General Mgr.

Certificate of Authorization No. (if applicable) \_\_\_\_\_ Expiration Date \_\_\_\_\_

**CERTIFICATE OF INSERVICE INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Iowa and employed by Hartford Boiler Co. of Hartford CT have inspected the components described in this Owner's Data Report during the period 05/23/98 to 12/01/99, 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 Data 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 Data 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.

Date 2/18/ 2000.

[Signature]  
Inspector's Signature

Commissions 1872 ANI, 1422 FA  
National Board, State, Province and No.

Note 1: As per letter NG-89-3390, the ASME Section XI "Vessels," RHR Heat Exchangers 1E-201A and 1E-201B and the Reactor Vessel are excluded from the Summary Report to the State.

Note 2: Other owners are Central Iowa Power Cooperative and Corn Belt Power Cooperative.



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part B, page 1 of 3

- 1) Owners: IES Utilities Inc., an Alliant company  
P.O. Box 351  
Cedar Rapids, IA 52406
- Central Iowa Power Cooperative  
Marion, IA.
- Corn Belt Power Cooperative  
Humbolt, IA.
- 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324
- 3) Plant Unit: #1
- 4) Owners Certificate of Authorization (if required): N/A
- 5) Commercial Service Date: 02/01/75
- 6) National Board Number of Unit: N/A
- Gross Generating Capacity: 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

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part B, page 2 of 3

- |  |   |   |
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| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**CERTIFICATE OF INSERVICE INSPECTION**

**COMPONENTS EXAMINED:**

CLASS 1	
Component	Iso No
VESSEL STUD AND LIGAMENT	1.1-05
CRD Figure	1.1-08B
Feedwater 'A' and 'B'	1.2-05
Core Spray 'A'	1.2-07
Core Spray 'B'	1.2-08
RWCU Suction (CLEAN)	1.2-11B
CRD Return	1.2-12AB
RHR-18B	1.2-14
RHR-20B	1.2-16
RCIC-Water	1.2-18
Recirculation Pump 'A' and Discharge Valve By-Pass	1.2-19A
Recirculation Manifold 'A' and Risers E, F, G, H	1.2-20
Recirculation Pump 'B' and Discharge Valve By-Pass	1.2-21A
Recirculation Manifold 'B' and Risers A,B,C,D	1.2-22
Reactor Head Vent	1.2-24
Standby Liquid Control	1.2-27
Reactor Vessel Instrumentation N-12B	1.2-31
Bottom Head Drain	1.2-32
Recirculation Pump 'B'	1.3-03

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part B, page 3 of 3

- |  |   |   |
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| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**CERTIFICATE OF INSERVICE INSPECTION**

**COMPONENTS EXAMINED:**

<b>IVVI</b>
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Component	Iso No
Top Head Assembly	VS-01-06
Guide Rod Bracket	VS-01-28
Jet Pump Riser Support Pad	VS-01-34
Ledge Segment Plates	VS-02-11
Core Plate	VS-03-02<1>
Top Guide	VS-04-01
Sample Holder	VS-10-02
Dry Tube	VS-13-02

<b>CLASS 2</b>
----------------

Component	Iso No
RHR Heat Exchanger	2.1-01
RHR Pump Shutdown	2.2-34
RHR Heat Exchange Discharge (SE)	2.2-37A
RHR Heat Exchange Discharge (SE)	2.2-37B
RHR Pump Discharge (NW)	2.2-39
RHR Heat Exchanger Discharge (NW)	2.2-40
RHR Fuel Pool Cooling & Clean-up	2.2-43
HPCI Pump Suction	2.2-44
HPCI Turbine Steam Inlet	2.2-46
HPCI Turbine Steam Exhaust	2.2-47
Core Spray Discharge (SE)	2.2-49
Core Spray Suction (NW)	2.2-51
Main Steam Loop 'D'	2.2-56
Main Steam Bypass	2.2-57
Scram Discharge Header (S)	2.2-60

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part C, page 1 of 1

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| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**CERTIFICATE OF INSERVICE INSPECTION**

**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 1989 Edition, No 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 May 23, 1998 through December 1, 1999. The specific details and associated records of the examinations are on file at IES Utilities Inc.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |  |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |  |

**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS I						
Component	Description	ISI Report	ISI Examination	ISI Iso	ASME XI Category	Results
Reactor Vessel	HCC-B002	199110	UT0 UT45 UT60	VS-01-06	B-A	Accepted
RPV Stud/Nut and Ligaments	CLSR HD-LGMNTS (1-20)	199001	UT0	1.1-05	B-G-1	Accepted
	CLSR HD-NUTS (1-20)	199002	VT-1	1.1-05	B-G-1	Accepted
	CLSR HD-STUDS (1-20)	199003	UT0	1.1-05	B-G-1	Accepted
	CLSR HD-WSHRS (1-20)	199004	VT-1	1.1-05	B-G-1	Accepted
Control Rod Drive	1R215(26-15)	199149	VT-1	1.1-08	B-G-2	Accepted
	1R215(14-31)	199150	VT-1	1.1-08	B-G-2	Accepted
Core Spray	CSA-D001	199010	UT0 UT45 UT60	1.2-07	B-D	Accepted
	CSA-D001-INNER RAD	199011	UT70	1.2-07	B-D	Accepted
	CSA-F002A	199013	PT UT45	1.2-07	B-F	Accepted
	CSA-F004	199014	PT UT45	1.2-07	B-F	Accepted
Reactor Water Cleanup	CUB-F004	199016	PT UT45	1.2-11B	B-F	Accepted
	CUB-K012	199026	VT-3	1.2-11B	F-A	Accepted
Control Rod Drive Return	CRA-J003	199029	PT	1.2-12A	B-J	Accepted
RHR-18B	RHB-J012	199124	MT UT45	1.2-14	B-J	Accepted
RHR-20B	RHD-J001	199031	PT UT45	1.2-16	B-J	Accepted
	RHD-J003	199032	MT UT45	1.2-16	B-J	Accepted
Reactor Core Isolation Cooling	RSB-J004	199037	MT UT45	1.2-18	B-J	Accepted
Recirculation System	RCB-D001	199042	UT0 UT45 UT60	1.2-21A	B-D	Accepted
	RCB-D001-INNER RAD	199043	UT70	1.2-21A	B-D	Accepted
	RCB-K010B	199146	VT-3	1.2-21A	F-A	Accepted

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS I con't							
Component	Description	ISI Report	ISI Examination	ISI Iso	ASME XI Category	Results	
Recirculation System (cont.)	RRA-D001	199046	UT0 UT45 UT60	1.2-22	B-D	Accepted	
	RRA-D001-INNER RAD	199047	UT70	1.2-22	B-D	Accepted	
	RRB-D001	199048	UT0 UT45 UT60	1.2-22	B-D	Accepted	
	RRB-D001-INNER RAD	199049	UT70	1.2-22	B-D	Accepted	
	RRC-D001	199050	UT0 UT45 UT60	1.2-22	B-D	Accepted	
	RRC-D001-INNER RAD	199051	UT70	1.2-22	B-D	Accepted	
	RRA-F002	199052	PT UT45	1.2-22	B-F	Accepted	
	RRB-F002	199053	PT UT45	1.2-22	B-F	Overlaid AR17604	
	Head Vent	HVA-FLG-STUD	199054	VT-1	1.2-24	B-G-2	Accepted
	Liquid Level Control System	LCA-J020	199059	PT	1.2-27	B-J	Accepted
	Reactor Vessel Instrumentation	VID-F002	199060	PT	1.2-31	B-F	Accepted
	Reactor Head Bottom Drain	HDA-J027	199061	MT	1.2-32	B-J	Accepted
	Recirculation Pump	RPB-K002	199064	VT-3	1.3-03	F-A	Accepted
RPB-K003		199065	VT-3	1.3-03	F-A	Accepted	
Reactor Pressure Vessel Internals	GUIDE ROD BRT (0)	199111	VT-3	Vs-01-28	B-N-1	Accepted	
	SHROUD LEDGE 0-180	199111	VT-3	VS-02-11	B-N-1	Accepted	
	CORE PLATE	199111	VT-3	VS-03-02	B-N-1	Accepted	
	TOP GUIDE	199111	VT-3	VS-04-01	B-N-1	Accepted	
	SAMPLE HOLDER-108DEG	199111	VT-3	VS-10-02	B-N-1	Accepted	
	INCR DRY TB PLUNGER	199111	VT-3	VS-13-02	B-N-1	Accepted	
	INCR DRY TUBES	199111	VT-3	VS-13-02	B-N-1	Accepted	



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part D, page 3 of 4

- |  |   |   |
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**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS 1 PRESSURE TEST						
Component	Description	ISI		ASME XI		Results
		Report	Examination	ISI Iso	Category	
Class 1 System	Leakage Test	199107	VT-2	ISONO-P	B-P	Accepted
CLASS 2						
Component	Description	ISI		ASME XI		Results
		Report	Examination	ISI Iso	Category	
RHR Heat Exchanger	HEA-CA-3	199067	UT45	2.1-01	C-A	Accepted
RHR Shutdown	RHC-CF047	199070	MT UT45	2.2-34	C-F-2	Accepted
RHR Ht Exchanger Discharge	RHF-CF079	199071	MT UT45	2.2-37A	C-F-2	Accepted
	RHF-CF127	199072	MT UT45	2.2-37A	C-F-2	Accepted
	RHF-CF001	199073	MT UT45	2.2-37B	C-F-2	Accepted
RHR Pump Discharge (NW)	RHI-CF061	199074	MT UT45	2.2-39	C-F-2	Accepted
	RHI-CF081	199075	MT UT45	2.2-39	C-F-2	Accepted
HPCI	HPA-CF052	199078	MT UT45	2.2-44	C-F-2	Accepted
	HPD-CF010	199081	MT UT45	2.2-47	C-F-2	Accepted
Core Spray Disch.	CSB-CF068	199082	MT UT45	2.2-49	C-F-2	Accepted
	CSD-CF004	199083	MT UT45	2.2-51	C-F-2	Accepted
Main Steam	MSD-CF034	199084	MT	2.2-56	C-F-2	Accepted
	MSE-CF007	199087	MT UT45	2.2-57	C-F-2	Accepted
Scram Discharge	SDS-CF001	199089	MT UT45	2.2-60	C-F-2	Accepted

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
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**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS 2 PRESSURE TESTS						
HPCI Functional Pressure Test	STP NS520001	199103	VT-2	ISONO-P	C-H	Accepted
Standby Liquid Control Functional Pressure Test	STP NS530001	199148	VT-2	ISONO-P	C-H	Accepted
Main Steam Inservice Pressure Test	STP NS830003	199104	VT-2	ISONO-P	C-H	Accepted
LPCI Functional Pressure Test	STP NS490003	199102	VT-2	ISONO-P	C-H	Accepted
Containment Penetrations	STP 3.6.1.1-08 (X-20, X-21, X-23A/B, X-24A/B, X-54, N229A)	N/A	Relief Request PR-002	ISONO-P	C-H	Accepted

IWE COMPONENTS						
Component	Description	ISI Report	Examination	ISI Iso	ASME XI Category	Results
Containment Vessel	General Visual	199140	VT	N/A	E-A	Accepted
Drywell Interior	757'-776' (270° to 0°)	199125	VT-3	N/A	E-A	Accepted
	742'-757' (270° to 0°)	199126	VT-3	N/A	E-A	Accepted
Moisture Barrier	742' (270° to 0°)	199141	VT-3	N/A	E-D	Accepted
Drywell Stabilizer	Stabilizer #2 (45°) X-58H	199130	VT-3	N/A	E-A	Accepted
	Stabilizer #2 Bolting	199130	VT-1	N/A	E-G	Accepted
	Stabilizer #8 (315°) X-58B	199129	VT-3	N/A	E-A	Accepted
	Stabilizer #8 Bolting	199129	VT-1	N/A	E-G	Accepted
Equipment Hatch	Bolting	199134	VT-1	N/A	E-G	Accepted
Torus Interior	Bays 13,14,15,16 Above Water	199127	VT-3	N/A	E-A	Accepted
Torus Exterior	Bays 13,14,15,16	199128	VT-3	N/A	E-A	Accepted (AR18128) (Ref. Part H)
Torus Hatch	Bolting	199135	VT-1	N/A	E-G	Accepted
Drywell Vents	Vent #A (30°)	199131	VT-3	N/A	E-A	Accepted
	Vent #B (330°)	199132	VT-3	N/A	E-A	Accepted
	Vent #G (150°)	199133	VT-3	N/A	E-A	Accepted

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part E, page 1 of 1

- 1) Owners: IES Utilities Inc., an Alliant company  
P.O. Box 351  
Cedar Rapids, IA. 52406  
Central Iowa Power Cooperative  
Marion, IA.  
Corn Belt Power Cooperative  
Humbolt, IA.
- 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324
- 3) Plant Unit: #1
- 4) Owners Certificate of Authorization (if required): N/A
- 5) Commercial Service Date: 02/01/75
- 6) National Board Number of Unit: N/A
- Gross Generating Capacity: 565 MWE

**ADDITIONAL EXAMINATION IDENTIFICATION RECORDS**

Class 1					
Original Component Examined	Expanded Component	ISI Report Number	Examination	ASME XI Category	Results
RRB-F002 (199053) (AR 17604)	RRE-F002	199153	UTRL UT45	B-F	Accepted
	RRF-F002	199154	UTRL UT45	B-F	*Accepted (AR17482)
	RRG-F002	199155	UTRL UT45	B-F	Accepted
	RRH-F002	199156	UTRL UT45	B-F	Accepted
	RRD-F002	199157	UTRL UT45	B-F	Overlaid (AR 17666)
	CSB-F002	199152	UTRL UT45	B-F	Accepted

\*AR17482 dispositioned subsurface flaw. Per IWB-3134 the evaluation is submitted for review under separate letter.

**SUCCESSIVE EXAMINATION IDENTIFICATION RECORDS**

Class 1					
Component Examined	Previous ISI Report Number	ISI Report Number	Examination	ASME XI Category	Results
FWB-K023	93-115	199008	VT-3	F-A	Accepted
FWB-K036	93-602	199009	VT-3	F-A	Accepted
CUB-K005A	93-175	199025	VT-3	F-A	Accepted
Class 2					
HEA-CC-8(02)	196094	199068	VT-3	F-A	Accepted
HEA-CC-8(04)	196096	199069	VT-3	F-A	Accepted
RHJ-CE033	93-622	199076	VT-3	F-A	Accepted
RHM-CE006	195139	199077	VT-3	F-A	Accepted
HPC-CE018	93-410	199079	VT-3	F-A	Accepted
HPC-CE062	93-725	199080	VT-3	F-A	Accepted
MSD-CE020	93-449	199086	VT-3	F-A	Accepted
MSF-CE030	93-466	199088	VT-3	F-A	Accepted

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part F, page 1 of 2

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**ABSTRACT OF ASME SECTION XI REPAIRS AND REPLACEMENTS**

The repairs and replacements addressed in this report were performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1989 Edition, 1989 Addenda (Ref. Relief Request NDE-R015), 1992 with the 1992 Addenda (Ref. Relief Request NDE-R015 Rev. 1).

<u>NIS-2 NO.</u>	<u>CLASS</u>	<u>COMPONENT</u>	<u>WORK DOCUMENT</u>	<u>DESCRIPTION</u>
16-99-03	2	EBD-002	CMAR A49464	Replacement of 2" RF SW 600# Flange
16-99-07	2	MO 2202	CWO A43691	Drilled hole in Disc to eliminate pressure locking
16-99-08	2	HPD-CF010	CWO A39266	Flat Topped weld for UT
16-99-10	2	HPA-CF052	CWO A39262	Flat Topped weld for UT
16-99-11	2	RHI-CF061	CWO A39263	Flat Topped weld for UT
16-99-15	2	CSB-CF068	CWO A39265	Flat Topped weld for UT
16-99-16	2	RHF-CF127	CWO A39261	Flat Topped weld for UT
16-99-18	2	HLE-015-SS-314	PWO 1106544	Replaced Snubber
16-99-21	2	HPC-CE034	PWO 1106526	Replaced Snubber
16-99-22	2	(EBB-014-SS-014) HPC-CE027	PWO 1106525	Replaced Snubber
16-99-23	2	(EBB-014-SS-013) HPC-CE059	PWO 1106527	Replaced Snubber
16-99-24	2	(EBB-014-SS-015) HPC-CE75	PWO 1106528	Replaced Snubber
16-99-25	2	(EBB-014-SS-016) HPC-CE070	PWO 1106529	Replaced Snubber
16-99-26	1	(EBB-014-SS-016A) RRB-F002	MWO 1111415	Applied Weld Overlay
16-99-27	1	RRD-F002	MWO 1111416	
16-99-27	1	RRF-F002	CWO A50080	Machined weld crown flush
16-99-28	2	XS2618A	PWO 1111419	Explosive Valve replaced per Technical Specification and O&M Code
16-99-29	1	PSV-4402	PWO 1108298	Replaced Pilot valve, one bolt and one nut
16-99-30	1	PSV-4405	PWO 1108301	Replaced Pilot valve, one nut and four bolts
16-99-31	1	PSV-4400	PWO 1108296	Replaced Pilot Valve
16-99-32	1	PSV-4406	PWO 1108302	Replaced Pilot Valve
16-99-33	1	Snubbers	ECP-1617	Replaced all PSA Mechanical Snubbers with Lisega Hydraulic Snubbers
16-99-34	1	PSV-4402	PWO 1111414	Replaced Main Valve Body
16-99-35	1	1R215(26-15)	PWO 1110278	Replaced Capscrews and CRD
16-99-36	2	1S220(30-31)	CWO A44840	Replaced HCU Accumulator

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part F, page 2 of 2

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**ABSTRACT OF ASME SECTION XI REPAIRS AND REPLACEMENTS**

<u>NIS-2 NO.</u>	<u>CLASS</u>	<u>COMPONENT</u>	<u>WORK DOCUMENT</u>	<u>DESCRIPTION</u>
16-99-37	2	1S220(38-15)	CWO A44687	Replaced HCU Accumulator
16-99-38	2	MO2202	CMAR A48209	Repaired bonnet
16-99-39	1	MO 1909	CMAR A39181	Machined Guide Slot and Bonnet
16-99-40	2	EBD-006	MWO 1110663	Installation of Spectacle Flanges to Isolate 2 <sup>nd</sup> Stage ReHeat
16-99-41	2	FO1064A/B/C/D/E	MWO 1111411	Relocation of Main Steam Lines Low Point Drains Low Flow Orifices
16-99-42	2	MO 1098	CWO A48551	Replaced Valve
16-99-43	1	RPB-K002 (DCA-004-SSB-004)	CWO A42356	Replaced Snubber
16-99-44	1	CUB-K009A (DCA-014-SS-073)	PWO 1109004	Replaced Snubber
16-99-45	1/2	1R215(14-31) 1S220(14-31)	CWO A48375	Replaced CRD and HCU Accumulator
16-99-46	1	CUB-K012A (DCA-014-SS-074)	CWO A49892	Replaced Snubber

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part G, page 1 of 80

- |   |   |  |
|---|---|--|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Com Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324                                       | 3) Plant Unit: #1                             |  |
| 4) Owners Certificate of Authorization (if required): N/A                                   | 5) Commercial Service Date: 02/01/75          |  |
| 6) National Board Number of Unit: N/A   | Gross Generating Capacity: 565 MWE            |  |

**Form NIS-2's**

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part G, page 2 of 80

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

1. Owners IES Utilities Inc. Date 02-24-99  
Name \_\_\_\_\_
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_
- 3277 DAEC Road, Palo, IA 52324 CMAR A49464  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by IES Utilities Inc Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: Main Steam System 83.02 (Class 2)
5. (a) Applicable Construction Code ANSI B31.1 19 67 Edition No Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89
6. Identification of Components Repaired or Replaced and Replacement Components

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)
(Two) 2" 600# SW RF A-105 flange	Dubose Steel Inc.	Heat # 745RNF	N/A	N/A	1990	Replacement	No
2" Length of 2" Sch 160 A-106 Pipe	Dubose Steel Inc.	Heat # 403552	N/A	N/A	1995	Replacement	No
(thirty two) 5/8"-11 nuts SA-194 2H	Cardinal	Heat Code: A2	N/A	N/A	1986	Replacement	No
(Sixteen) 5/8"-11 Studs SA-193 B7	Cardinal	Heat Code: H2	N/A	N/A	1986	Replacement	No

7. Description of Work: Replaced two 2" RF SW 600# flanges due to steam cut leakage. Short section of pipe & flange bolting was also replaced to ease installation.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure
- Other  Pressure 940 psi Test Temp 545 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Two 2" RF SW 600# flanges were replaced down stream of CV1064 on line EBD-002 due to steam cut leakage.  
Applicable Manufacturer's Data Reports to be attached

An inlet section (approx. 2") of 2" Sch 160 A-106 pipe and flange bolting was replaced with the installation of these flanges.  
Also bolting in a flange upstream of CV1064 was replaced during this repair. Code Case N 416-1 was utilized in lieu of hydrostatic test.

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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott A. Presler GL Equipment Monitoring Date 2-25 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 12/18/98 to 02/26/99, 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.

KA Saltzman Commissions NB 11047 A.N.I IA1290  
 Inspector's Signature National Board, State, Province, and Endorsements

Date Feb 26, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 05-05-99  
 Name \_\_\_\_\_  
 P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
 Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
 Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
 \_\_\_\_\_ CWO A43691  
 Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
 Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: HPCI Turbine Steam Supply Isolation (Class 2)  
 5. (a) Applicable Construction Code ASME P&V Draft 19 68 Edition Addenda \_\_\_\_\_ Code Case \_\_\_\_\_  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89

6. Identification of Components Repaired or Replaced and Replacement Components

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 (A216 Gr. WCB)	Anchor Valve Co.	0435-12B-4-2	N/A	MO 2202	1971	Repaired	NO

7. Description of Work: Drilled hole in Disc to eliminate the possibility of pressure locking.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Pressure/Thermal Relief Hole was drilled in the valve disc to assure that the internal pressure in the bonnet  
Applicable Manufacturer's Data Reports to be attached

will not be greater than the upstream pressure. Adding the hole was evaluated under EMA A43691. No pressure test is required per ASME Section XI Manual "Pressure Testing Administrative Document" paragraph 5.1.10(d) (Interpretation XI-1-95-48).

**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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date 6-17 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 05/20/99 to 06/17/99, 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.

[Signature] Commissions NB11047 A, N, I IA1790  
 Inspector's Signature National Board, State, Province, and Endorsements

Date June 17, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 05-24-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 CWO A39266  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: HPCI Turbine Exhaust to Torus Isolation Valve (Class 2)  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda Code Case.

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89  
6. Identification of Components Repaired or Replaced and Replacement Components

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)
HPD-CF010	South West Fab & Welding Co.	N/A	N/A	HBB-6-1-S-SW	1971	Repaired	NO

7. Description of Work: Flat topped weld for Ultrasonic Examination

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Weld HPD-CF010 was flat topped to allow for Ultrasonic Examination.  
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair  
 (repair or replacement)  
 conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Burley Date 5-24 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 04/16/99 to 06/16/99, 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.

KASaltman Commissions NB11047 A, N, I IA1290  
 Inspector's Signature National Board, State, Province, and Endorsements

Date June 16, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 05-27-99  
 Name \_\_\_\_\_  
 P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
 Name \_\_\_\_\_  
 3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
 CWO A39262  
 Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
 Name \_\_\_\_\_ Authorization No. None  
 3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: High Pressure Injection (HPCI) Pump Suction (Class 2)
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89
6. Identification of Components Repaired or Replaced and Replacement Components

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)
HPA-CF052	Bechtel	N/A	N/A	HLE-1-1-1-FW	1972	Repaired	YES

7. Description of Work: Flat topped weld for Ultrasonic Examination
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Weld HPA-CF052 was flat topped to allow for Ultrasonic Examination.  
Applicable Manufacturer's Data Reports to be attached

**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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott A. Pusker GL Equipment Monitoring Date 6-17 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 04/16/99 to 06/17/99, 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.

KA Saltzman Commissions NB 11047 A, N, I IA 1290  
 Inspector's Signature National Board, State, Province, and Endorsements

Date June 17, 19 99



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

1. Owners Alliant Energy (IES Utilities) Date 05-27-99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
CWO A39263  
Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Residual Heat Removal (Class 2)  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89

6. Identification of Components Repaired or Replaced and Replacement Components

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)
RHH-CF061	South West Fab.	N/A	N/A	GBB-6-1-1-SW	1971	Repaired	NO

7. Description of Work: Flat topped weld for Ultrasonic Examination

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A ° F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

## FORM NIS-2 (Back)

9. Remarks: Weld RHI-CF061 was flat topped to allow for Ultrasonic Examination.  
Applicable Manufacturer's Data Reports to be attached

## CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair  
 (repair or replacement)  
 conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed *Scott Pugh* GL Equipment Monitoring Date 5-27 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 03/02/99 to 06/16/99, 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.

*K.A. Saltman*  
 Inspector's Signature

Commissions

NB 11047 A N I IA 1290  
 National Board, State, Province, and Endorsements

Date June 16, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 06-09-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Address Sheet 1 of 2

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address  
CWO A39265  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name  
3277 DAEC Road, Palo, IA 52324 Authorization No. None  
Expiration Date None

4. Identification of System: Residual Heat Removal (Class 2)  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89

6. Identification of Components Repaired or Replaced and Replacement Components

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)
CSB-CF068	Bechtel	N/A	N/A	N/A	1971	Repaired	NO

7. Description of Work: Flat topped weld for Ultrasonic Examination

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Weld CSB-CF068 was flat topped to allow for Ultrasonic Examination.  
Applicable Manufacturer's Data Reports to be attached

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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date 6-14-99 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 02/23/99 to 06/16/99, 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.

[Signature]  
 Inspector's Signature

Commissions

NB 11047 A, N, I IA 1290  
 National Board, State, Province, and Endorsements

Date June 16, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 06-22-99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
CWO A39261  
Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Residual Heat Removal (Class 2)  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89

6. Identification of Components Repaired or Replaced and Replacement Components

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)
RHF-CF127	Bechtel	N/A	N/A	GBB-5-2-1-FW	1971	Repaired	NO

7. Description of Work: Flat topped weld for Ultrasonic Examination

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

## FORM NIS-2 (Back)

9. Remarks: Weld RHF-CF127 was flat topped to allow for Ultrasonic Examination.  
Applicable Manufacturer's Data Reports to be attached

## CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair  
 (repair or replacement)

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott A. Pusker GL Equipment Monitoring Date 6-23 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 08/23/99 to 07/12/99, 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.

KA Saltzman Commissions NB 11047 A, N, I IA 1290  
 Inspector's Signature National Board, State, Province, and Endorsements

Date July 12, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 09-09-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 PWO 1106544  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Core Spray Pump 1P-211A Test Return Line Snubber (Class 2)  
5. (a) Applicable Construction Code ASME III, 19 77 Edition W77 Addenda Code Case.  
Subsection NF

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89  
6. Identification of Components Repaired or Replaced and Replacement Components

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)
20 Kip Snubber	Bergen Paterson	N/A	N/A	DA-380		Replaced	NO
20 Kip Snubber	Pergen Paterson	N/A	N/A	DA-424	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber with a rebuilt previously installed snubber.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Snubber installed at location HLE-015-SS-314 (DA-380) failed visual inspection due to an oil leak at the front  
Applicable Manufacturer's Data Reports to be attached
- gland. A rebuilt previously installed snubber (DA-424) was installed at location HLE-015-SS-314. DA-424 was rebuilt as a  
spare snubber on PWO 1108673 (seal kit only was installed - no load bearing parts were replaced during rebuild).

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
 (repair or replacement)

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date September 9 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 9/8/99 to 10/14/99, 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.

[Signature] Commissions NB 8524 NSB 533  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 10/14, 19 99



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

1. Owners Alliant Energy (IES Utilities) Date 10-24-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 PWO 1106526  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: HPCI Steam Supply Snubber - Class 2  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92

6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBB-014-SS-014 HSSA-3 Snubber	Bergen Paterson	None	None	DA-015	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at EBB-014-SS-014 location with rebuilt spare S/N DA-015.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-022 from Location EBB-014-SS-014 and replaced it with a spare S/N DA-015. A pre-service Applicable Manufacturer's Data Reports to be attached
- VT-3 examination (P99107) was performed following installation. DA-015 was rebuilt & tested under PWO 1108672, 5/10/1999. No load bearing parts were installed replaced during the rebuild of DA-015 (only seal kit was installed). DA-015 was previously installed at location EBB-014-SS-015 prior to rebuild. This NIS-2 merely records currently installed location.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] for TL Equipment Monitoring Date October 25 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10/25/99 to 10/25/99, 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.

[Signature] Commissions NB 11872 W, A, F, 14222A  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 10-25-99, 19

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

1. Owners Alliant Energy (IES Utilities) Date 10-24-99  
Name \_\_\_\_\_
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_
- 3277 DAEC Road, Palo, IA 52324 PWO 1106525  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: HPCI Steam Supply Snubber - Class 2
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92
6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBB-014-SS-013 HSSA-3 Snubber	Bergen Paterson	None	None	DA-009	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at EBB-014-SS-013 location with rebuilt spare S/N DA-009.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-060 from Location EBB-014-SS-013 and replaced it with a spare S/N DA-009. A pre-service Applicable Manufacturer's Data Reports to be attached

VT-3 examination (P99106) was performed following installation. DA-009 was rebuilt & tested under PWO 1108666, 5/12/1999. No load bearing parts were installed replaced during the rebuild of DA-009 (only seal kit was installed). DA-009 was previously installed at location EBB-014-SS-016 prior to rebuild. This NIS-2 merely records currently installed location.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this conforms to the rules of the ASME Code, Section XI.

Replacement  
(repair or replacement)

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] TL Equipment Monitoring Date October 25 1999  
Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10/25/99 to 10/25/99, 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.

[Signature] Commissions NB 11872 A.N.E.  
Inspector's Signature National Board, State, Province, and Endorsements

Date 10/25/99, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 10-24-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 PWO 1106527  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: HPCI Steam Supply Snubber - Class 2  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92

6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBB-014-SS-015 HSSA-3 Snubber	Bergen Paterson	None	None	DA-008	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at EBB-014-SS-015 location with rebuilt spare S/N DA-008.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-301 from Location EBB-014-SS-015 and replaced it with a spare S/N DA-008. A pre-service Applicable Manufacturer's Data Reports to be attached

VT-3 examination (P99108) was performed following installation. DA-008 was rebuilt & tested under PWO 1108671, 5/10/1999. No load bearing parts were installed replaced during the rebuild of DA-008 (only seal kit was installed). DA-008 was previously installed at location DCA-014-SS-073 prior to rebuild. This NIS-2 merely records currently installed location.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this conforms to the rules of the ASME Code, Section XI.

Replacement  
(repair or replacement)

Type Code Symbol Stamp None

Certificate of Authorization No. None

Expiration Date N/A

Signed [Signature] TL Equipment Monitoring  
Owner or Owner's Designee, Title

Date October 25 1999

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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10/25/99 to 10/25/99, 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.

[Signature]  
Inspector's Signature

Commissions NB 11872 A, N, E  
National Board, State, Province, and Endorsements

Date 10/25/, 19 99

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

1. Owners Alliant Energy (IES Utilities) Date 10-24-99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 PWO 1106528  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: HPCI Steam Supply Snubber - Class 2  
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92

6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBB-014-SS-016 HSSA-3 Snubber	Bergen Paterson	None	None	DA-370	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at EBB-014-SS-016 location with rebuilt spare S/N DA-370.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-004 from Location EBB-014-SS-016 and replaced it with a spare S/N DA-370. A pre-service Applicable Manufacturer's Data Reports to be attached

VT-3 examination (P99109) was performed following installation. DA-370 was rebuilt & tested under PWO 1108668, 5/12/1999. No load bearing parts were installed replaced during the rebuild of DA-370 (only seal kit was installed). DA-370 was previously installed at location DBA-007-SS-071 prior to rebuild. This NIS-2 merely records currently installed location.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this conforms to the rules of the ASME Code, Section XI.

Replacement  
(repair or replacement)

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] TL Equipment Monitoring Date October 25 1999  
Owner 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 or Province of Iowa and employed by Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10/25/99 to 10/25/99, 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.

[Signature] Commissions NB 11872 ANE  
Inspector's Signature National Board, State, Province, and Endorsements

Date 10/25/, 19 99



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

1. Owners Alliant Energy (IES Utilities) Date 10-24-99  
Name \_\_\_\_\_
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_
- 3277 DAEC Road, Palo, IA 52324 PWO 1106529  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: HPCI Steam Supply Snubber - Class 2
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda \_\_\_\_\_ Code Case \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92
6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBB-014-SS-016A HSSA-3 Snubber	Bergen Paterson	None	None	DA-368	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at EBB-014-SS-016A location with rebuilt spare S/N DA-368.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-063 from Location EBB-014-SS-016A and replaced it with a spare S/N DA-368.  
Applicable Manufacturer's Data Reports to be attached

A pre-service VT-3 examination (P99110) was performed following installation. DA-368 was rebuilt & tested under PWO 1108669, 5/17/1999. During the rebuild of DA-368 the front gland was replaced and documented on NIS-2 16-99-12. DA-368 was previously installed at location EBB-014-SS-013 prior to rebuild.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] TL Equipment Monitoring Date October 25 1999  
Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10/25/99 to 10/25/99, 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.

Inspector's Signature [Signature] Commissions NB 11872 A, N.E.  
National Board, State, Province, and Endorsements

Date 10/25/, 19 99

FORM NIS-2 16-99-26

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

1. Owners Alliant Energy (IES Utilities) Date 11-23-99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
MWO 1111415 & 1111416  
Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Welding Services Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
2225 Skyland Court, Norcross, Ga. 30071 Expiration Date None
4. Identification of System: Recirculation System - Class I
5. (a) Applicable Construction Code \*ANSI B31.1 19 67 Edition Addenda Code Case.  
\*GE Specification 22A1461AB ASME III 19 65 S67 N-504-1,  
N-606,  
N-416-1
- (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92
6. Identification of Components Repaired or Replaced and Replacement Components

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)
RRB-F002	GE	XC0040205	N 1189	N2B Nozzle to Safeend	1978	Repaired	NO
RRD-F002	GE	XC0040204	N 1189	N2D Nozzle to Safeend	1978	Repaired	NO

7. Description of Work: Weld Overlay of welds RRB-F002 and RRD-F002.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 16-99-26\

FORM NIS-2 (Back)

9. Remarks: During the Inservice Inspection of RRB-F002, the UT examination revealed two indications with the Applicable Manufacturer's Data Reports to be attached
- characteristics of IGSCC. The expanded scope included RRD-F002 which also revealed indications. Both welds were repaired by applying a weld overlay per WSI. See attached Form NR-1. A preservice UT (P991138 and P99139) was completed and accepted. An Structural Integrity evaluation was completed accepting interbead Lack of Fusion. A pressure test in accordance with Code Case N-416-1 was completed and accepted.

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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] TL Equipment Monitoring Date November 23 1999  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 11/10/99 to 11/23/99, 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.

[Signature] Commissions NB 11872 A, N, I 1422 IA  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 11/23/, 19 99

FORM NR-1 REPORT OF REPAIR  MODIFICATION  OR REPLACEMENT   
 TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by Welding Services Inc. 38094  
(name of NR certificate holder) (P.O. no., job no., etc.)  
2225 Skyland Court, Norcross Georgia 30071  
(address)

2. Owner IES Utilities Inc.  
(name)  
200 First Street, SE Cedar Rapids, IA 52406  
(address)

3. Name, address and identification of nuclear power plant Duane Arnold Energy Center  
Palo, Iowa

4. System Reactor Recirculation

5a. Items Which Required, Modification, or Replacement Activities

No	Identification							Construction Code			Activity	
	Type of Item	Mfg. Name	Mfg. Serial No.	Nat'l Bd. No.	Jurisd. No.	Other	Year Built	Name/Section/Division	Edition/Addenda	Code Case(s)		Code Class
1	Weld	GE	XC0040205	N 1189		N2B	1978	ASME III	1965/ S67		1	Mod
2	Weld	GE	XC0040204	N 1189		N2D	1978	ASME III	1965/ S67		1	Mod
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

5b. Items Installed During Replacement Activities

Type of Item	Installed or replaced 5a Item No	Identification						Construction Code				
		Mfg. Name	Mfg. Serial No.	Nat'l Bd. No.	Jurisd. No.	Other	Year Built	Name/Section/Division	Edition/Addenda	Code Case(s)	Code Class	

6. ASME Code Section XI applicable for inservices inspection: 1989 1989 n/a  
(edition) (addenda) (Code Case(s))

7. ASME Code Section XI used for repairs, modifications, or replacements: 1992 1992 N504-1 / N606  
(edition) (addenda) (Code Case(s))

8. Construction Code used for repairs, modification, or replacements: 1965 Sum. 1967 N/A  
(edition) (addenda) (Code Case(s))

9. Design responsibilities By Others

10. Tests conducted: hydrostatic  pneumatic  design pressure  pressure 1023 psi Code Case(s) N-416-1

\* Performed by owner

11. Description of work Installed weld metal build-up (overlays) to nozzle to safe end welds to Reactor Recirculation Nozzles  
(use of properly identified additional sheet(s) or sketch(es) is acceptable)  
N2B and N2D. Installation is in accordance with WSI Travelers 38094001, 38094002 and Site MWO 1111415 and 1111416.

12. Remarks Inco 52 and 152 filler material was utilized. Code cases 2142-1 and 2143-1.

### CERTIFICATE OF COMPLIANCE

I, Ronald Aggen, certify that to the best of my knowledge and belief the statements made in this report are correct and the repair, modification or replacement activities described above conform to Section XI of the ASME Code and the National Board Inspection Code "NR" rules.

National Board Certificate of Authorization No. 69 to use the "NR" stamp expires Nov. 7th, 2001  
NR Certificate Holder Welding Services Inc.  
(name)

Date 11-23-99 Signed [Signature] SITE QA MANAGER  
(authorized representative) (title)

### CERTIFICATE OF INSPECTION

I, Ron Clow, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of IOWA and employed by HSB I+I of Connecticut have inspected the repair, modification or replacement described in this report 38094 and state that to the best of my knowledge and belief, this repair, modification or replacement activity has been completed in accordance with Section XI of the ASME Code and the National Board Inspection Code "NR" rules.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or a loss of any kind arising from or connected with this inspection.

Date 11/23/99 Signed [Signature] Commissions NB11872 A.N.I.  
(inspector) (National Board (incl endorsements), jurisdiction, and no.)

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

1. Owners Alliant Energy (IES Utilities) Date 11-24-99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Address \_\_\_\_\_  
Sheet 1 of 2
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
CWO A50080  
Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: Recirculation System - Class 1
5. Applicable Construction Code \*ANSI B31.1 19 67 Edition Addenda Code Case.  
\*GE Spec 22A1461AB  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92
6. Identification of Components Repaired or Replaced and Replacement Components

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)
RRF-F002	GE	N/A	N/A	NZF Nozzle to Safeend	1978	Repaired	NO

7. Description of Work: RRF-F002 was machined flush in order to obtain additional UT data.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: UT Data from the Inservice Examination of Weld RRF-F002 was indeterminate and additional data was required  
Applicable Manufacturer's Data Reports to be attached

for further evaluation. The weld crown interfered with the interpretation of the indication found. The weld crown in the area of the indication was machined flush with the pipe and the UT was performed. The indication was documented and accepted on AR 17482. A PT, UT thickness and a VT-2 (199107) was completed 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 Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Pender 11-24-99 TL Equipment Monitoring Date Nov. 24 1999  
Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 11/13/99 to 11/29/99, 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.

[Signature] Commissions NB 11872 A, N, F 1422 IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 11/29, 19 99



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

1. Owners IES Industries Date 11/24/99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 PWO 1111419  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Standby Liquid Control - Class2

5. (a) Applicable Construction Code ASME III 19 77 Edition S77 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 2-21/00  
1/24/00

6. Identification of Components Repaired or Replaced and Replacement Components

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)
Explosive Valve	Conax Buffalo	P/N N27006-01A S/N 409	N/A	XS2618A	1999	Replacement	NO

7. Description of Work: Explosive Valve replaced per Technical Specifications and O&M Code

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1240 psi Test Temp N/A ° F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Explosive Valve (Squib Valve) was replaced per Technical Specifications and O&M Code. Preservice VT-2  
Applicable Manufacturer's Data Reports to be attached  
(P99112) was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Bushin GL Equipment Monitoring Date Nov 24 1998  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 11/13/99 to 11/29/99, 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.

[Signature]  
Inspector's Signature

Commissions NB 11872 ANI 1422IA  
National Board, State, Province, and Endorsements

Date 11/29, 19 99

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

1. Owners IES Industries Date 11/30/99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 PWO 1108298  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: Main Steam - Class I
5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 *P/24/00*
6. Identification of Components Repaired or Replaced and Replacement Components

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)
Item #150 Nut (1 ea.)	Target Rock	Ht# IN85326	N/A	PSV 4402	1991	Replacement	NO
Item #107 (1 ea.)	Nova Machine	Ht Code #DMH	N/A	PSV 4402	1996	Replacement	NO
Safety Relief Valve Pilot	Target Rock	S/N 189	N/A	PSV 4402	1976	Replacement	YES

7. Description of Work: Pilot S/N 200 was replaced with S/N 189. In addition, 1 Nut and 1 Bolt was replaced.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Safety Relief Valve Pilot S/N 200 was removed for testing and replaced with S/N 189. Pilot (S/N 189) was  
Applicable Manufacturer's Data Reports to be attached  
tested and repaired under NIS-2 15-98-06. During installation a bolt and nut was replaced due to galling. A Preservice VT-1  
(P99135) was completed and accepted for the replacement bolt and nut. A VT-2 (system leakage test) (I99107) was  
completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Pusker GL Equipment Monitoring Date Dec 1 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 11-8-99 to 12-2-99, 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.

[Signature] Commissions NB11872 ANE 1422IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 12-2-, 19 99

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

1. Owners IES Industries Date 11/30/99  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
Repair Organization to P. O. No., Job No., etc. PWO 1108301

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Main Steam - Class 1

5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda \_\_\_\_\_ Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 *Refer to 1-1-00*

6. Identification of Components Repaired or Replaced and Replacement Components

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)
Item #150 Nut (1 ea.)	Target Rock	Ht# IN85326	N/A	PSV 4405	1991	Replacement	NO
Item #107 Bolt (4 ea.)	Nova Machine	Ht Code #DMH	N/A	PSV 4405	1996	Replacement	NO
Safety Relief Valve Pilot	Target Rock	S/N 141	N/A	PSV 4405	1976	Replacement	YES

7. Description of Work: Pilot S/N 176 was replaced with S/N 141. In addition, 1 Nut and 4 Bolts were replaced.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Safety Relief Valve Pilot S/N 176 was removed for testing and replaced with S/N 141. Pilot (S/N 141) was  
Applicable Manufacturer's Data Reports to be attached

tested and repaired under NIS-2 15-98-05. During installation a bolt and nut was replaced due to galling. Upon further  
examination of the remaining bolts, 3 additional bolts required replacement due to what appeared to be steam cutting. A  
Preservice VT-1 (P99133) was completed and accepted for the replacement bolts and nut. A VT-2 (system leakage test)  
(I99107) was completed and accepted. An expanded scope was added to inspect all other bolts/nuts on all other Safety Relief  
Pilot Valves (I99151).

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this  
 conforms to the rules of the ASME Code, Section XI.

replacement  
 (repair or replacement)

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date Dec. 1 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 11-2-99 to 12-2-99, 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.

[Signature]  
 Inspector's Signature

Commissions NB 11872 A, N, F 1422 IA  
 National Board, State, Province, and Endorsements

Date 12-2-99, 19

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

1. Owners IES Industries Date 11/30/99  
Name

P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name

3277 DAEC Road, Palo, IA 52324 Address PWO 1108296  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Main Steam - Class I

5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda Code Case.

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1980-A92 9/24/02

6. Identification of Components Repaired or Replaced and Replacement Components

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)
Safety Relief Valve Pilot	Target Rock	S/N 218	N/A	PSV 4400	1976	Replacement	YES

7. Description of Work: Pilot S/N 207 was replaced with S/N 218.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

**FORM NIS-2 (Back)**

9. Remarks: Safety Relief Valve Pilot S/N 207 was removed for testing and replaced with S/N 218. Pilot (S/N 218) was  
Applicable Manufacturer's Data Reports to be attached

tested and repaired under NIS-2 16-99-05. A VT-2 (system leakage test) (I99107) was completed and accepted.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement  
 (repair or replacement)  
 conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date Dec 1 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 12-2-99 to 12-2-99, 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.

[Signature] Commissions NB 11872 A, N I, 1422 IA  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 12-2, 19 99



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

1. Owners IES Industries Date 11/30/99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address  
PWO 1108302  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Main Steam - Class 1  
5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 9c 2/1/10  
6. Identification of Components Repaired or Replaced and Replacement Components 4/24/09

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)
Safety Relief Valve Pilot	Target Rock	S/N 203	N/A	PSV 4406	1976	Replacement	YES

7. Description of Work: Pilot S/N 227 was replaced with S/N 203.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Safety Relief Valve Pilot S/N 227 was removed for testing and replaced with S/N 203. Pilot (S/N 203) was  
Applicable Manufacturer's Data Reports to be attached

tested and repaired under NIS-2 16-99-01. A VT-2 (system leakage test) (I99107) was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Barber GL Equipment Monitoring Date Dec. 1 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 12-2-99 to 12-2-99, 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.

[Signature]  
Inspector's Signature

Commissions NB 11872 A, NE 1422EA  
National Board, State, Province, and Endorsements

Date 12-2, 19 99

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

1. Owners IES Industries Date 11/30/99  
 Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of       
 Address
2. Plant Duane Arnold Energy Center Unit 1  
 Name  
3277 DAEC Road, Palo, IA 52324 ECP 1617 (See Attached Listing for Specific MWO Numbers)  
 Address Repair Organization to P. O. No., Job No., etc.
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
 Name 3277 DAEC Road, Palo, IA 52324 Authorization No. None  
 Expiration Date None
4. Identification of System: See Attached Listing for SUS
5. (a) Applicable Construction Code ASME III 19 74 Edition W76 Addenda      Code Case.

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1982-A92 <sup>Q2</sup> <sub>7-21-00</sub>  
 Identification of Components Repaired or Replaced and Replacement Components 9/24/00

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)
See attached List	See attached List	See Attached List	N/A	See Attached List	See Attached List	See Attached List	No

7. Description of Work: ECP 1617 replaced all Mechanical Snubbers with Hydraulic Snubbers
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: All mechanical snubbers were replaced with a second generation hydraulic design snubber. Replacement  
Applicable Manufacturer's Data Reports to be attached  
of degraded mechanical snubbers was required to improve snubber reliability.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date 1/5/ 2000  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 10-18-99 to 1-12-00, 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.

[Signature] Commissions NB 11872 A, NE 1422 IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 1-12, 2000

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
DBA-004-SS-034 / RSA-K014	1109007	50.00	PSA-3 / 602	Lisega 3038 / 99614403-73	1999	P99004
DBA-004-SS-035 / RSA-K024AA	1109009	50.00	PSA-3 / 603	Lisega 3052 / 97614262-09	1997	P99005
DBA-004-SS-036 (Note #1) / RSA-K024AB	1109008	50.00	PSA-3 / 1902	Lisega 3052 / 97614263-07	1997	P99006
DBA-006-SS-029 (Note #6) / CRA-K017AA	1109012	55.00	PSA-1 / 1157	Lisega 3038 / 99614403-43	1999	P99007
DBA-006-SS-030 / CRA-K015A	1109013	55.00	PSA-1 / 1304	Lisega 3038 / 99614403-42	1999	P99008
DBA-007-SS-071 / RSB-K009A	1109014	50.00	PSA-3 / 605	Lisega 3052 / 97614263-15	1997	P99009
DBA-009-SS-002B / N/A	1109015	62.00	PSA-1 / 1288	Lisega 3038 / 99614403-18	1999	P99010
DCA-001-SSA-002 (Note #2) / RCA-K026	1109016	64.01	PSA-35 / 419	Lisega 3072 / 98614153-51	1998	P99011
DCA-001-SSA-006 / RCA-K042A	1109017	64.01	PSA-35 / 9551	Lisega 3072 / 98614153-68	1998	P99012
DCA-001-SSA-007 / RCA-K042B	1109018	64.01	PSA-35 / 427	Lisega 3072 / 98614153-44	1998	P99013
DCA-001-SSA-010A / RBA-K005A	1109019	64.01	PSA-3 / 1898	Lisega 3052 / 97614263-12	1997	P99014
DCA-001-SSA-010B / RBA-K005B	1109020	64.01	PSA-3 / 1900	Lisega 3052 / 97614263-10	1997	P99015
DCA-001-SSA-011 (Note #4) / RCA-K031	1109021	64.01	PSA-35 / 9552	Lisega 3072 / 98614153-45	1998	P99016
DCA-001-SSB-002 / RCB-K029	1109022	64.01	PSA-35 / 420	Lisega 3072 / 98614153-64	1998	P99017
DCA-001-SSB-006 (Note #4) / RCB-K045A	1109023	64.01	PSA-35 / 418	Lisega 3072 / 98614153-52	1998	P99018
DCA-001-SSB-007 / RCB-K045B	1109024	64.01	PSA-35 / 428	Lisega 3072 / 98614153-50	1998	P99019

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
DCA-001-SSB-010A / RBB-K005A	1109025	64.01	PSA-3 / 26374	Lisega 3052 / 97614263-02	1997	P99020
DCA-001-SSB-010B / RBB-K005B	1109026	64.01	PSA-3 / 1896	Lisega 3052 / 97614263-13	1997	P99021
DCA-001-SSB-011 / RCB-K034	1109027	64.01	PSA-35 / 7826	Lisega 3072 / 98614153-38	1998	P99022
DCA-004-SSA-001 (Note #4) / RPA-K003	1109028	64.01	PSA-35 / 421	Lisega 3072 / 98614153-66	1998	P99023
DCA-004-SSA-003 / RCA-K017	1109029	64.01	PSA-35 / 410	Lisega 3072 / 98614153-61	1998	P99024
DCA-004-SSA-004 (Note #8) / RPA-K002	1109030	64.01	PSA-100 / 352	Lisega 3082 / 98614043-17	1998	P99025
DCA-004-SSA-005 / RPA-K004A	1109031	64.01	PSA-35 / 424	Lisega 3072 / 98614153-37	1998	P99026
DCA-004-SSA-008 / RCA-K007A	1109032	64.01	PSA-10 / 1532	Lisega 3062 / 99614213-46	1999	P99027
DCA-004-SSA-009 (Note #9) / RCA-K007B	1109033	64.01	PSA-35 / 369	Lisega 3072 / 98614153-42	1998	P99028
DCA-004-SSB-001 / RPB-K003	1109034	64.01	PSA-35 / 414	Lisega 3072 / 98614153-46	1998	P99029
DCA-004-SSB-003 / RCB-K020	1109035	64.01	PSA-35 / 422	Lisega 3072 / 98614153-54	1998	P99030
DCA-004-SSB-005 / RPB-K004A	1109036	64.01	PSA-35 / 423	Lisega 3072 / 98614153-55	1998	P99031
DCA-004-SSB-008 / RCB-K010A	1109037	64.01	PSA-10 / 1533	Lisega 3062 / 99614213-09	1999	P99032
DCA-004-SSB-009 / RCB-K010B	1109038	64.01	PSA-35 / 417	Lisega 3072 / 98614153-60	1998	P99033
DCA-006-SS-048 / CUA-K013AA	1109039	61.00	PSA-3 / 607	Lisega 3052 / 97614263-06	1997	P99034
DCA-006-SS-049 / CUA-K013AB	1109040	61.00	PSA-3 / 608	Lisega 3052 / 97614263-11	1997	P99035

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
DCA-006-SS-050 / CUA-K020AA	1109041	61.00	PSA-3 / 1905	Lisega 3052 / 97614263-18	1997	P99036
DCA-014-SS-072 (Note #2) / CUB-K007	1109048	61.00	PSA-3 / 606	Lisega 3052 / 97614263-16	1997	P99037
DLA-002-SS-004 / FWB-K029	1109066	45.01	PSA-10 / 1514	Lisega 3062 / 99614213-08	1999	P99038
DLA-002-SS-005 / FWB-K020A	1109067	45.01	PSA-3 / 610	Lisega 3052 / 97614263-17	1997	P99039
DLA-002-SS-006 / FWB-K017	1109068	45.01	PSA-3 / 611	Lisega 3052 / 97614263-08	1997	P99040
DLA-002-SS-007 / FWC-K026A	1109069	45.01	PSA-10 / 1515	Lisega 3062 / 99614213-23	1999	P99041
DLA-002-SS-008 / FWC-K017	1109070	45.01	PSA-3 / 612	Lisega 3052 / 97614263-01	1997	P99042
DLA-002-SS-009 / FWC-K014	1109071	45.01	PSA-3 / 26373	Lisega 3052 / 97614263-14	1997	P99043
DLA-003-SS-001 / PSA-K021A	1109072	52.00	PSA-1 / 1159	Lisega 3038 / 99614403-35	1999	P99044
DLA-003-SS-002 / PSA-K015	1109073	52.00	PSA-10 / 1516	Lisega 3052 / 99614613-74	1999	P99045
DLA-003-SS-003 (Note #1) / PSA-K009A	1109074	52.00	PSA-3 / 26375	Lisega 3052 / 97614263-05	1997	P99046
DLA-004-SS-014 / RHH-K015AA	1109077	49.00	PSA-35 / 430	Lisega 3062 / 99614523-36	1999	P99047
DLA-004-SS-015 / RHB-K015AB	1109078	49.00	PSA-10 / 1513	Lisega 3062 / 99614213-48	1999	P99048
DLA-005-SS-010 / RHC-K016A	1109979	49.00	PSA-10 / 14665	Lisega 3062 / 99614213-16	1999	P99049
DLA-005-SS-011 / RHC-K008A	1109080	49.00	PSA-35 / 411	Lisega 3072 / 98614153-48	1998	P99050
DLA-006-SS-012 / RHD-K015A	1109081	49.00	PSA-10 / 1511	Lisega 3062 / 99614213-43	1999	P99051

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
DLA-006-SS-013 / RHD-K007A	1109082	49.00	PSA-35 / 412	Lisega 3072 / 98614153-47	1998	P99052
EBA-X7A-SS-0A1 (Note #2) / MSA-K011A	1109083	83.01	PSA-35 / 9547	Lisega 3072 / 98614153-41	1998	P99053
EBA-X7A-SS-0A2 (Note #2) / MSA-K011B	1109084	83.01	PSA-35 / 9550	Lisega 3072 / 98614153-40	1998	P99054
EBA-X7B-SS-0B1 (Note #1) / MSB-K012A	1109085	83.01	PSA-35 / 413	Lisega 3072 / 98614153-67	1998	P99055
EBA-X7B-SS-0B2 / MSB-K012B	1109086	83.01	PSA-35 / 433	Lisega 3072 / 98614153-39	1998	P99056
EBA-X7C-SS-0C1 / MSC-K011A	1109087	83.01	PSA-35 / 415	Lisega 3072 / 98614153-65	1998	P99057
EBA-X7C-SS-0C2 / MSC-K011B	1109088	83.01	PSA-35 / 416	Lisega 3072 / 98614153-43	1998	P99058
EBA-X7D-SS-0D1 / MSD-K010A	1109089	83.01	PSA-35 / 9553	Lisega 3072 / 98614153-63	1998	P99059
EBA-X7D-SS-0D2 / MSD-K010B	1109090	83.01	PSA-35 / 7763	Lisega 3072 / 98614153-59	1998	P99060
GBB-013-SS-016 / CSB-CE048	1109091	51.00	PSA-1 / 1286	Lisega 3038 / 99614403-1	1999	P99061
GBC-006-SS-017 / N/A	1109092	83.04	PSA-3 / 1891	Lisega 3052 / 97614263-04	1997	P99062
GBC-006-SS-250 (Note #1) / N/A	1109093	83.04	PSA-10 / 9745	Lisega 3062 / 99614213-29	1999	P99063
GBC-006-SS-251 / N/A	1109094	83.04	PSA-10 / 9725	Lisega 3062 / 99614213-07	1999	P99064
GBC-006-SS-252 / N/A	1109095	83.04	PSA-10 / 9725	Lisega 3062 / 99614213-44	1999	P99065
GBC-006-SS-253 / N/A	1109096	83.04	PSA-10 / 9724	Lisega 3062 / 99614213-20	1999	P99066
GBC-006-SS-254 / N/A	1109097	83.04	PSA-10 / 9734	Lisega 3062 / 99614213-21	1999	P99067



COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
GBC-007-SS-263 / N/A	1109098	83.04	PSA-10 / 9739	Lisega 3062 / 99614213-49	1999	P99068
GBC-007-SS-264 / N/A	1109099	83.04	PSA-10 / 9728	Lisega 3062 / 99614213-11	1999	P99069
GBC-007-SS-265 / N/A	1109100	83.04	PSA-35 / 9546	Lisega 3072 / 98614153-49	1998	P99070
GBC-007-SS-266A / N/A	1109101	83.04	PSA-10 / 9230	Lisega 3062 / 99614213-12	1999	P99071
GBC-007-SS-266B / N/A	1109102	83.04	PSA-10 / 14667	Lisega 3062 / 99614213-13	1999	P99072
GBC-007-SS-267 / N/A	1109103	83.04	PSA-10 / 9736	Lisega 3062 / 99614213-26	1999	P99073
GBC-007-SS-268 / N/A	1109104	83.04	PSA-10 / 9742	Lisega 3062 / 99614213-36	1999	P99074
GBC-008-SS-021 (Note #1) / N/A	1109105	83.04	PSA-10 / 1517	Lisega 3062 / 99614213-25	1999	P99075
GBC-008-SS-045 (Note #1) / N/A	1109106	83.04	PSA-10 / 1531	Lisega 3062 / 99614213-40	1999	P99076
GBC-008-SS-259 / N/A	1109107	83.04	PSA-10 / 9719	Lisega 3062 / 99614213-35	1999	P99077
GBC-008-SS-260A / N/A	1109108	83.04	PSA-10 / 14666	Lisega 3062 / 99614213-27	1999	P99078
GBC-008-SS-260B / N/A	1109109	83.04	PSA-10 / 9731	Lisega 3062 / 99614213-32	1999	P99079
GBC-008-SS-261 / N/A	1109110	83.04	PSA-10 / 9726	Lisega 3062 / 99614213-34	1999	P99080
GBC-008-SS-262 (Note #1) / N/A	1109111	83.04	PSA-35 / 9548	Lisega 3072 / 98614153-62	1998	P99081
GBC-008-SS-277 / N/A	1109112	83.04	PSA-10 / 9737	Lisega 3062 / 99614213-38	1999	P99082
GBC-009-SS-023 (Note #3&7) / N/A	1109113	83.04	PSA-10 / 1518	Lisega 3052 / 99614613-70	1999	P99083

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
GBC-009-SS-041 / N/A	1109114	83.04	PSA-10 / 1519	Lisega 3062 / 99614213-30	1999	P99084
GBC-009-SS-271 / N/A	1109115	83.04	PSA-10 / 1520	Lisega 3062 / 99614213-24	1999	P99085
GBC-009-SS-272 / N/A	1109116	83.04	PSA-10 / 9732	Lisega 3052 / 99614613-69	1999	P99086
GBC-009-SS-273A / N/A	1109117	83.04	PSA-10 / 9735	Lisega 3062 / 99614213-47	1999	P99087
GBC-009-SS-273B / N/A	1109118	83.04	PSA-10 / 9740	Lisega 3062 / 99614213-22	1999	P99088
GBC-009-SS-274 / N/A	1109119	83.04	PSA-35 / 7764	Lisega 3072 / 98614153-58	1998	P99089
GBC-009-SS-275 (Note #1) / N/A	1109120	83.04	PSA-35 / 7827	Lisega 3072 / 98614153-56	1998	P99090
GBC-009-SS-278 / N/A	1109121	83.04	PSA-10 / 9738	Lisega 3062 / 99614213-28	1999	P99091
GBC-010-SS-024 / N/A	1109122	83.04	PSA-10 / 1521	Lisega 3062 / 99614213-45	1999	P99092
GBC-010-SS-025 (Note #1) / N/A	1109123	83.04	PSA-10 / 1522	Lisega 3062 / 99614213-15	1999	P99093
GBC-010-SS-269 (Note #5) / N/A	1109124	83.04	PSA-10 / 9741	Lisega 3062 / 99614213-33	1999	P99094
GBC-010-SS-270A / N/A	1109125	83.04	PSA-10 / 14663	Lisega 3062 / 99614213-10	1999	P99095
GBC-010-SS-270B / N/A	1109126	83.04	PSA-10 / 17426	Lisega 3062 / 99614213-42	1999	P99096
GBC-010-SS-276 (Note #5) / N/A	1109127	83.04	PSA-10 / 1527	Lisega 3062 / 99614213-41	1999	P99097
GBC-011-SS-026 (Note #1) / N/A	1109128	83.04	PSA-10 / 1523	Lisega 3062 / 99614213-14	1999	P99098
GBC-011-SS-027 / N/A	1109129	83.04	PSA-10 / 1524	Lisega 3062 / 99614213-37	1999	P99099

COMPONENT ID / ISI DESIGNATION	MWO #	SUS#	Replaced Model / Serial #	Replacement Model / Serial #	Replacement Year Built	VT-3 Presevice Report #
GBC-011-SS-032 / N/A	1109130	83.04	PSA-10 / 1525	Lisega 3062 / 99614213-18	1999	P99100
GBC-011-SS-255 / N/A	1109131	83.04	PSA-10 / 1526	Lisega 3062 / 99614213-19	1999	P99101
GBC-011-SS-256 / N/A	1109132	83.04	PSA-10 / 9721	Lisega 3062 / 99614213-17	1999	P99102
GBC-011-SS-257 / N/A	1109133	83.04	PSA-35 / 7762	Lisega 3072 / 98614153-53	1998	P99103
GBC-011-SS-258A / N/A	1109134	83.04	PSA-10 / 9733	Lisega 3062 / 99614213-39	1999	P99104
GBC-011-SS-258B (Note #1) / N/A	1109135	83.04	PSA-10 / 9729	Lisega 3062 / 99614213-31	1999	P99105

**NOTES:**

1. Shroud was removed to increase radial clearance. The shroud is not a load-bearing component and its removal does not affect the snubber's function.
2. Snubber was installed backwards as compared to original design, i.e., the extension piece is on the opposite end. This change was needed for radial clearance. Drawing has been revised accordingly.
3. Reworked end attachment by welding (FCN-2). Addition load bearing material (SA-479, Heat # 8650577, manufactured by LTV in 1986, & purchased on P.O. S26026) was used on end attachment and welded with P8/P1-AT-Ag rev. 8.
4. Structural steel end attachment was trimmed to allow adequate swing clearance (FCN-2 & FCN-3).
5. Replaced one wire lock end attachment bolt (1/2" X 1 1/2", part # 1801603-01, purchased from PSA in 1985 on P.O. 21525).
6. Replaced load-bearing bolt (this bolt is used as a load pin). Bolt is a 1/2" X 3", A-193 B7, Heat #C66935, manufactured 1992 and purchased from Cardinal on P.O. S68216.
7. Replaced snubber load pin. New 1" load pin was manufactured by ARMCO in 1986, heat #656177 and was purchased on P.O. S37978. Also replaced threaded bushing manufactured by Lisega in 1999, heat code Z598, purchased on P.O. T42043.
8. Adapter & end paddle was replaced prior to installation (snubber was supplied with wrong size adapter & end paddle). Both the adapter & end paddle was purchased 1999 from Lisega on P.O. T44503. End paddle heat code is A86 and adapter heat code is Z589.
9. Moved structural steel end attachment to provide additional clearance for new snubber. Weld procedure P1-AT-Lh rev. 8 was used to weld end attachment to new location.

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

1. Owners IES Industries Date 11/30/99  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address  
P. P. WWO 1111414  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Main Steam - Class 1  
5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1982-A92 1/24/00

6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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)
Main Valve Body	Target Rock	S/N 176	N/A	PSV 4402	1976	Replacement	YES

7. Description of Work: Main Valve Body S/N 201 was replaced with S/N 176.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Main Valve Body S/N 201 was examined and found to have a ding on the gasket area. S/N 201 was replaced  
Applicable Manufacturer's Data Reports to be attached  
with S/N 176 which was repaired and documented on NIS-2 16-98-01. A VT-2 (System Leakage Test) (I99107) was  
completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Presler GL Equipment Monitoring Date Dec. 1 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 11-8-99 to 12-2-99, 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.

Inspector's Signature [Signature] Commissions NB 11872 A, N, E 1422 I, A  
National Board, State, Province, and Endorsements

Date 12-2-, 19 99

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

1. Owners IES Industries Date 12/03/1999  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 PWO 1110278  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Control Rod Drive - Class 1

5. (a) Applicable Construction Code ASME III 19 68 Edition W68 Addenda \_\_\_\_\_ Code Case \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92

6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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)
Capscrews (8ea)	General Electric	Pt. # 137C9293P001	N/A	1R215 (26-15)	1986	Replacement	No
CRD	General Electric	S/N 4337	N/A	1R215 (26-15)	1972	Replacement	YES

7. Description of Work: 8ea. Socket Head Capscrews and the Control Rod Drive were replaced.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1023 psi Test Temp 246 ° F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Under GE Sil 483 Rev. 1 (ref NG-92-0281) IES Utilities commitment was to replace all capscrews with the new Applicable Manufacturer's Data Reports to be attached  
design Part # 137C9293P001. Location 1R215 (26-15) had not had the capscrews replaced, therefore it was necessary to  
replace all eight capscrews. A preservice VT-1 (P99134) was completed and accepted. In addition, the Control Rod Drive  
was replaced (S/N 4337). S/N 4337 had been previously installed at core location 30-31 and removed in 1995 under Work  
Order 1080438 with no Section XI repair/replacement being completed. A VT-2 (199107) was completed and accepted.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Ruben GL Equipment Monitoring Date Jan 13, 2000  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 8-11-99 to 12-15-99, 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.

ASL Commissions NB 11872 AVE 1426A  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 1-17-00 2000



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

1. Owners IES Industries Date 12/03/1999  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
CWO A44840 Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: Control Rod Drive Accumulator - Class 2
5. (a) Applicable Construction Code ASME VIII 19 68 Edition \_\_\_\_\_ Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1968-A92
6. Identification of Components Repaired or Replaced and Replacement Components 2/24/20

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)
CRD Accumulator	General Electric	S/N C0092	N/A	IS220 (30-31)	1978	Replacement	YES

7. Description of Work: CRD Accumulator was replaced.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1440 psi Test Temp 74 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Inspection of the accumulator revealed some deterioration of internal plating on the end caps. The accumulator  
Applicable Manufacturer's Data Reports to be attached  
was replaced. A VT-2 (ref P00141) was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] Equipment Monitoring Date 12-20 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 11-20-99 to 1-3-2000, 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.

[Signature] Commissions NB 11822 A, N.E., 1422 TA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 1-3- 2000

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

1. Owners IES Industries Date 12/03/1999  
Name \_\_\_\_\_
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_
- 3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_
- CWO A44687  
Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: Control Rod Drive Accumulator - Class 2
5. (a) Applicable Construction Code ASME VIII 19 68 Edition \_\_\_\_\_ Addenda \_\_\_\_\_ Code Case \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92
6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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)
CRD Accumulator	General Electric	S/N C0034	N/A	IS220 (38-15)	1978	Replacement	YES

7. Description of Work: CRD Accumulator was replaced.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1440 psi Test Temp 74 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Inspection of the accumulator revealed some deterioration of internal plating on the end caps. The accumulator  
Applicable Manufacturer's Data Reports to be attached  
was replaced. A VT-2 (ref P99142) was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed *Scott Paulsen* GL Equipment Monitoring Date 12-20, 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 11-20-99 to 1-3-2000, 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.

*[Signature]* Commissions NR 11872 A.N.F. 1422 IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 1-3, ~~20~~ 2000

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

1. Owners IES Industries Date 01/13/00  
Name
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address
2. Plant Duane Arnold Energy Center Unit 1  
Name
- 3277 DAEC Road, Palo, IA 52324 CMAR A48209  
Address Repair Organization to P. O. No., Job No., etc.
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: High Pressure Coolant Injection (HPCI) -- Class 2
5. (a) Applicable Construction Code ASME P&V Draft 19 68 Edition          Addenda          Code Case.           
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A89
6. Identification of Components Repaired or Replaced and Replacement Components

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)
Bonnet	Anchor Valve Co	0435-12B-2-2	N/A	MO2202	1971	Repaired	YES

7. Description of Work: MO2202 was disassembled and repaired.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: MO2202 was disassembled to repair for seat leakage. During re-assembly the bonnet was skim-cut to remove  
Applicable Manufacturer's Data Reports to be attached

hammer marks and to provide clearance for the bonnet ring. The skim cut was made on the vertical surface of the bonnet. An  
MT of the final machined surface was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair  
(repair or replacement)

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott W. Pester for GL Equipment Monitoring Date Jan. 13, 2000  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report  
during the period 1-17-00 to 1-17-00, 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.

[Signature] Commissions NB 11872 AVE, 1422EM  
Inspector's Signature National Board, State, Province, and Endorsements

Date 1-17- 2000

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

1. Owners IES Industries Date 12/03/1999  
Name

P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name

3277 DAEC Road, Palo, IA 52324 Address CMAR A39181  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Residual Heat Removal - Class 1  
5. (a) Applicable Construction Code ASME VIII 19 68 Edition Addenda None Code Case.

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92  
6. Identification of Components Repaired or Replaced and Replacement Components 1/24/07

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)
Bonnet	Anchor Valve Co	HT 525 SK4	N/A	MO1909	1972	Repaired	YES
Guide Slot	Anchor Valve Co	HT 542 SK1	N/A	MO1909	1972	Repaired	YES

7. Description of Work: MO1909 was disassembled and repaired.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: MO1909 was disassembled to repair for leak through. During disassembly it was necessary to break the bonnet  
Applicable Manufacturer's Data Reports to be attached

loose which create a section of rolled metal on the bonnet. The rolled metal was removed. In addition a section of the guide slot was machined. A VT-3 Inservice (199158) was completed per IWB-2500-1, Category B-M-2, Item No. B12.50 was completed and accepted. An MT was performed on the repaired area of the bonnet and guide slot and accepted. A VT-2 was not required because both repairs were not through pressure boundary.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair  
(repair or replacement)  
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott A. Presler for GL Equipment Monitoring Date Dec 20 1999  
Owner or 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 Hartford Steam Boiler I & I Co.  
of Hartford, Conn. have inspected the components described in this Owner's Report during the period 11-8-99 to 12-20-99, 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.

[Signature]  
Inspector's Signature

Commissions NB 11872 A, NIE 1422 EA  
National Board, State, Province, and Endorsements

Date 12-20-, 19 99



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

1. Owners IES Industries Date 12/03/1999  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 MWO 1110663  
Address Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Main Steam to Bypass Control Valve - Class 2  
5. (a) Applicable Construction Code ANSI B31.1 19 67 Edition Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92  
6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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)
3x3x1/4" angle	Energy & Process Corp.	HT # V8-2992	N/A	EBD-008-SG-156	1998	Repair	NO
1/2" Plate	Dubose National Energy	HT# R150	N/A	EBD-008-SG-156	1997	Repair	NO
Line Blinds	Abrasive Jet Tech	HT# 813J62170	N/A	SF 1054 & SF 1055	1999	Replacement	NO
6" RF Flg. WN (4ea.)	Energy & Process Corp.	HT# NGS5	N/A	SF 1054 & SF 1055	1999	Replacement	NO
1" Dia Bolting (24ea.)	Daniel Bolt	HT ID 212	N/A	SF 1054 & SF 1055	1973	Replacement	NO
1" Nuts (48ea.)	Cardinal	HT # KB5607	N/A	SF 1054 & SF 1055	1986	Replacement	NO
10" Piping	Dubose National Energy	HT# N69530	N/A	SF 1054 & SF 1055	1999	Replacement	NO
10" Cap (2ea.)	Energy Process Corp.	HT#s 1458B/1473B	N/A	SF 1054 & SF 1055	1999	Replacement	NO
10 X 6 Cross	Energy Process Corp.	HT # 1459B	N/A	SF 1054 & SF 1055	1999	Replacement	NO

7. Description of Work: 2<sup>nd</sup> Stage Reheat Isolation

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 970 psi Test Temp 545 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: ECP 1621 modified the 2<sup>nd</sup> Stage Reheat to isolate the system. In order to isolate the system, the installation  
Applicable Manufacturer's Data Reports to be attached  
of two line blinds (spectacle flanges) and the replacement of the existing 10x10x6 reducing tee with a 10x6 cross. In addition,  
a support guide was required to be modified. The welds completed within the ASME Section XI boundaries were welds W9-  
C, W11, W12, W13-C, W14, W15, and W16. All welds were radiographed and accepted. An inservice leak test was  
performed in accordance with Code Case N-416-1 and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair/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 N/A

Signed Scott Prester for Date Dec. 14 1999  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 10-18-99 to 12-15-99, 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.

[Signature] Commissions NB 11872 ANF 1422IA  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 12-15, 19 99

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

1. Owners IES Industries Date 12/03/1999  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address MWO 1111411  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name  
3277 DAEC Road, Palo, IA 52324 Authorization No. None  
Expiration Date None

4. Identification of System: MSL Drains - Class 2  
5. (a) Applicable Construction Code ANSI B31.1 19 67 Edition Addenda None Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 GP

6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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" Piping	Energy & Process Corporation	HT # 442617	N/A	FO 1064A/B/C/D/E	1999	Replacement	NO
" Couplings	Energy & Process Corporation	HT # 526953	N/A	FO 1064A/B/C/D/E	1999	Replacement	NO
2" x 1" Reducing Insert	Energy & Process Corporation	HT # 717734	N/A	FO 1064A/B/C/D/E	1999	Replacement	NO
2" EBD-GT	Velan Valve	Heat Code N-C	N/A	FO 1064E (V03-0322)	1992	Replacement	NO
2" Elbow	Capitol/Chicago Tube	Heat Code M974	N/A	FO 1064E	1973	Replacement	NO
2" Tee	HUB Inc.	Heat Code S388	N/A	FO 1064E	1981	Replacement	NO
2" Coupling	Capitol/Chicago Tube	Heat # 8889625	N/A	FO 1064E	1983	Replacement	NO
2" Piping	Dubose National Energy Services	Heat # 403552	N/A	FO 1064E	1993	Replacement	NO
Plate 3/8" (A36)	HUB Inc.	Heat # B8124	N/A	FO 1064A/B/C/D/E	1990	Replacement	NO
3" x 3" x 1/4" angle (A36)	Energy & Process Corporation	Heat # V8-2992	N/A	FO 1064A/B/C/D/E	1998	Replacement	NO
Plate 3/16" (A36)	Energy & Process Corporation	Heat # R2529	N/A	FO 1064A/B/C/D/E	1996	Replacement	NO
Hilti Kwik Bolts	Hilti Corp.	P/N 000453738	N/A	FO 1064A/B/C/D/E	1992	Replacement	NO

7. Description of Work: Relocation of Main Steam Lines Low Point Drains Flow Orifices

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 970 psi Test Temp 545 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: ECP 1625 modified the location of the Main Steam Line Low Point Drain Flow Orifices. This included the Applicable Manufacturer's Data Reports to be attached  
addition of piping components and modification of piping supports. All pressure boundary welds were Liquid Penetrant examined using Code Case N-416-1 and accepted. A VT-2 System Leakage Test in accordance with Code Case N-416-1 was completed and accepted.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this  
conforms to the rules of the ASME Code, Section XI.

replacement  
(repair or replacement)

Type Code Symbol Stamp None

Certificate of Authorization No. None Expiration Date N/A

Signed Scott Fowler for Date Dec 15, 1999  
Owner or Owner's Designee, Title GL Equipment Monitoring

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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 10-28-99 to 12-15-99, 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.

[Signature]  
Inspector's Signature

Commissions NR 11872 ANE 1422 IA  
National Board, State, Province, and Endorsements

Date 12-15-99, 19 99

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

1. Owners IES Industries Date 12/07/1999  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 Address \_\_\_\_\_  
CWO A48551 Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Turbine Main Stop Valves before seat drain - Class 2

5. (a) Applicable Construction Code \*ASME III 19 71 Edition S71 Addenda \_\_\_\_\_ Code Case. 92  
\*BECH-MRS-M141

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 1/24/00

6. Identification of Components Repaired or Replaced and Replacement Components

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)
EBD-GB valve	FlowServe Corp.	S/N E736A-1-1	N/A	MO 1098	1999	Replacement	NO

7. Description of Work: MO 1098 was replaced

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 970 psi Test Temp 545 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: MO 1098 was leaking by requiring replacement.  
Applicable Manufacturer's Data Reports to be attached

All pressure boundary welds were Liquid Penetrant examined using Code Case N-416-1 and accepted. A VT-2 (199104)  
System Leakage Test in accordance with Code Case N-416-1 was completed and accepted.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed *Scott Presler* BL Equipment Monitoring Date Dec. 15, 1999  
Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 12-15-99 to 12-15-99, 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.

*[Signature]* Commissions NB 11872 AN I, 11/22 IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 12-15-99, 19 99

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

1. Owners IES Industries Date 12/27/1999  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Address  
Sheet 1 of 2

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address CWO A42356  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: "B" Recirc Motor Snubber (DCA-004-SSB-004)  
5. (a) Applicable Construction Code ASME III 19 74 Edition W76 Addenda Code Case.  
\*BECH-MRS-M141  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92 <sup>92</sup> <sub>1/24/00</sub>

6. Identification of Components Repaired or Replaced and Replacement Components

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)
DCA-004-SSB-004 (snubber)	Lisega	99614473/19	N/A	Lisega Model # 308256RF3	1999	Replacement	NO
* DCA-004-SSB-004 (adapter)	Lisega	Heat Code # Z589	N/A	N/A	1999	Replacement	NO
* DCA-004-SSB-004 (end cap)	Lisega	Heat Code # Z294	N/A	N/A	1999	Replacement	NO


7. Description of Work: Replaced Lisega size #8 snubber with an identical Lisega size #8 snubber. \* These parts were replaced prior to initial installation of snubber (end cap was damaged & adapter was the wrong size).

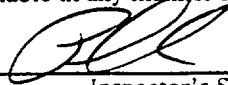
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Lisega snubber ( S/N 9761381/18) installed at location DCA-004-SSB-004 contained AK350 snubber fluid.  
Applicable Manufacturer's Data Reports to be attached
- AK350 fluid was not rated for RAD exposure expected 30 days following a DBA. This snubber was replaced with a new  
Lisega snubber (S/N 99614473/19) filled with AP280 fluid which has a higher resistance to RAD exposure. Preservice  
examination P99122 was performed following installation.

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.		<u>(repair or replacement)</u>	
Type Code Symbol Stamp	<u>None</u>		
Certificate of Authorization No.	<u>None</u>	Expiration Date	<u>N/A</u>
Signed	<u></u>	Date	<u>1/4 / 2000</u>
	<u>GL Equipment Monitoring</u>		
	<u>Owner or Owner's Designee, Title</u>		

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> and employed by <u>Hartford Steam Boiler I &amp; I Co.</u>			
of <u>Hartford, Conn.</u> have inspected the components described in this Owner's Report during the period <u>11-23-99</u> to <u>1-5-2000</u> , 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.			
<u></u>	Commissions	<u>NB 11872 A.N.I 1422FA</u>	
Inspector's Signature	National Board, State, Province, and Endorsements		
Date	<u>1-5-2000</u>		



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

1. Owners IES Industries Date 12/27/1999  
Name \_\_\_\_\_  
P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_  
3277 DAEC Road, Palo, IA 52324 PWO 1109004  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: RWCU Return Line Snubber (DCA-014-SS-073)
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 70 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
\*BECH-MRS-M141
6. Identification of Components Repaired or Replaced and Replacement Components 92  
1989-A92 1/24/00

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)
DCA-014-SS-073 Pipe Clamp Bolt	Cardinal	Heat # D66732	N/A	P.O. # S72018	1992	Replacement	NO
DCA-014-SS-073 Pipe Clamp Nut	Cardinal	Heat # Y592608	N/A	P.O. #S26813	1986	Replacement	NO

7. Description of Work: Replaced pipe clamp bolt & nut.
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Snubber (DCA-014-SS-073) & pipe clamp was removed to perform an ISI exam on a weld under the pipe clamp.  
Applicable Manufacturer's Data Reports to be attached

Bolting was damaged during removal. Replaced one 5/8" bolt & nut on pipe clamp. Preservice examination (P99124) was performed following installation.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] GL Equipment Monitoring Date 1/3/2000 ~~1999~~  
Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 11-3-99 to 1-3-00, 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.

[Signature] Commissions NB 11872 ANF, 1422 IA  
Inspector's Signature National Board, State, Province, and Endorsements

Date 1-3- 19 2000

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

1. Owners IES Industries Date 01/04/00  
Name  
P. O. Box 351, Cedar Rapids, IA 52406 Address Sheet 1 of 2

2. Plant Duane Arnold Energy Center Unit 1  
Name  
3277 DAEC Road, Palo, IA 52324 Address CWO A48375  
Repair Organization to P. O. No., Job No., etc.

3. Work Performed by IES Utilities, Inc. Type Code Symbol Stamp None  
Name Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None

4. Identification of System: Control Rod Drive Accumulator - Class 2  
5. (a) Applicable Construction Code ASME VIII 19 68 Edition Addenda Code Case.  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989-A92

6. Identification of Components Repaired or Replaced and Replacement Components 1/24/00

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)
CRD Accumulator	General Electric	S/N H1758	N/A	1S220 (14-31)	1978	Replacement	YES
CRD	General Electric	S/N A5685	N/A	1R215 (14-31)	1990	Replacement	YES

7. Description of Work: CRD Accumulator and Mechanism were replaced.

8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1440 / 1023 psi Test Temp 74 / 246 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Inspection of the accumulator revealed some deterioration of internal plating on the end caps. The accumulator  
Applicable Manufacturer's Data Reports to be attached  
was replaced. A VT-2 (ref P99140) was completed and accepted. In addition, the Control Rod Drive was replaced. The  
installed drive (S/N A5685 had previously been installed at core location 34-31 and was removed in 1995). S/N A5685 had  
been rebuilt under Work Order 1085041 with no Section XI repair/replacement being completed. The installed drive was  
pressure tested (ref. VT-2 report # 199107) and found acceptable.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed *Scott A. Peckler* GI Equipment Monitoring Date Jan, 13 2000  
 Owner or 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 Hartford Steam Boiler I & I Co.  
 of Hartford, Conn. have inspected the components described in this Owner's Report  
 during the period 11-23-99 to 1-17-00, 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.

*[Signature]* Commissions NB 11872 AWE, 1422 EW  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 1/17/ 2000

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

1. Owners Alliant Energy (IES Utilities) Date 01/12/2000  
Name \_\_\_\_\_
- P. O. Box 351, Cedar Rapids, IA 52406 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Duane Arnold Energy Center Unit 1  
Name \_\_\_\_\_
- 3277 DAEC Road, Palo, IA 52324 CWO A49892  
Address \_\_\_\_\_ Repair Organization to P. O. No., Job No., etc. \_\_\_\_\_
3. Work Performed by Alliant Energy (IES Utilities) Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3277 DAEC Road, Palo, IA 52324 Expiration Date None
4. Identification of System: RWCU Return Line Snubber
5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition 71 Addenda \_\_\_\_\_ Code Case. \_\_\_\_\_  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992-A92
6. Identification of Components Repaired or Replaced and Replacement Components

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)
DCA-014-SS-074 HSSA-3 Snubber	Bergen Paterson	None	None	DA-252	Rebuilt 1999	Replacement	No

7. Description of Work: Replaced snubber at DCA-014-SS-074 location with rebuilt spare S/N DA-252
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure \_\_\_\_\_ psi Test Temp \_\_\_\_\_ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 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) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017.

FORM NIS-2 (Back)

9. Remarks: Removed S/N DA-047 from Location DCA-014-SS-074 and replaced it with a spare S/N DA-252. A pre-service, Applicable Manufacturer's Data Reports to be attached
- VT-3 examination (P99132) was performed following installation. DA-252 was rebuilt & tested under PWO 1108667, 5/12/1999. No load bearing parts were installed replaced during the rebuild of DA-252 (only seal kit was installed). DA-252 was previously installed at location HBB-021-SS-218B prior to rebuild. This NIS-2 merely records currently installed location.

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 None

Certificate of Authorization No. None Expiration Date N/A

Signed [Signature] TL Equipment Monitoring Date 1/12/ 2000  
 Owner or 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 Hartford Steam Boiler I & I Co. of Hartford, Conn. have inspected the components described in this Owner's Report during the period 11-1-99 to 1-12-00, 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.

[Signature] Commissions NB 11872 ANE 1422 EA  
 Inspector's Signature National Board, State, Province, and Endorsements

Date 1-12- 2000

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part H, page 1 of 1

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  |   | 3) Plant Unit: #1                           |
| 4) Owners Certificate of Authorization (if required): N/A                                    |   | 5) Commercial Service Date: 02/01/75        |
| 6) National Board Number of Unit: N/A  |   | Gross Generating Capacity: 565 MWE          |

**ABSTRACT OF CONDITIONS NOTED AND CORRECTIVE MEASURES TAKEN:**

The corrective measures are addressed in this report and were performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1989, with 1989 Addenda (Ref. Relief Request NDE-RO15), 1992 with the 1992 Addenda (Ref. Relief Request NDE-R015 Rev. 1), and the Duane Arnold Energy Center Updated Final Safety Analysis Report. The corrective measures performed as Repairs or Replacements are listed in Part F 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, 1989, 1989 Addenda or 1992, 1992 Addenda. Specific details and associated records of additional corrective measures are on file at IES Utilities Inc. The corrective measures addressed were performed during the period of May 23, 1998 through December 01, 1999.

**AR 18128**

Per 10CFR50.55a(b)(2)(ix)(D) (ref. TAP-E004) the following items are required to be documented on the Summary Report:

- 1) a description of each flaw or area, including the extent of degradation, and the conditions that led to the degradation. The flaw is a 1" X 2" area where the coating had failed on the topside of the torus exterior. There was an approximate area of 6" X 8" area around the 1" X 2" area which was blistered, but no base metal was exposed.
- 2) the acceptability of each flaw or area, and the need for additional examination to verify that similar degradation does not exist in similar components. The measured wall thickness of the exposed area was 0.546". A review of existing evaluations determined that the area of degradation has no effect on the structural integrity of the containment (ref. C003-2968 and 25.2631.0110)
- 3) description of necessary corrective actions. The area will be re-coated under Work Order A50471 and included in Category E-C with re-examinations being performed during the next three periods.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part I, page 1 of 45

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

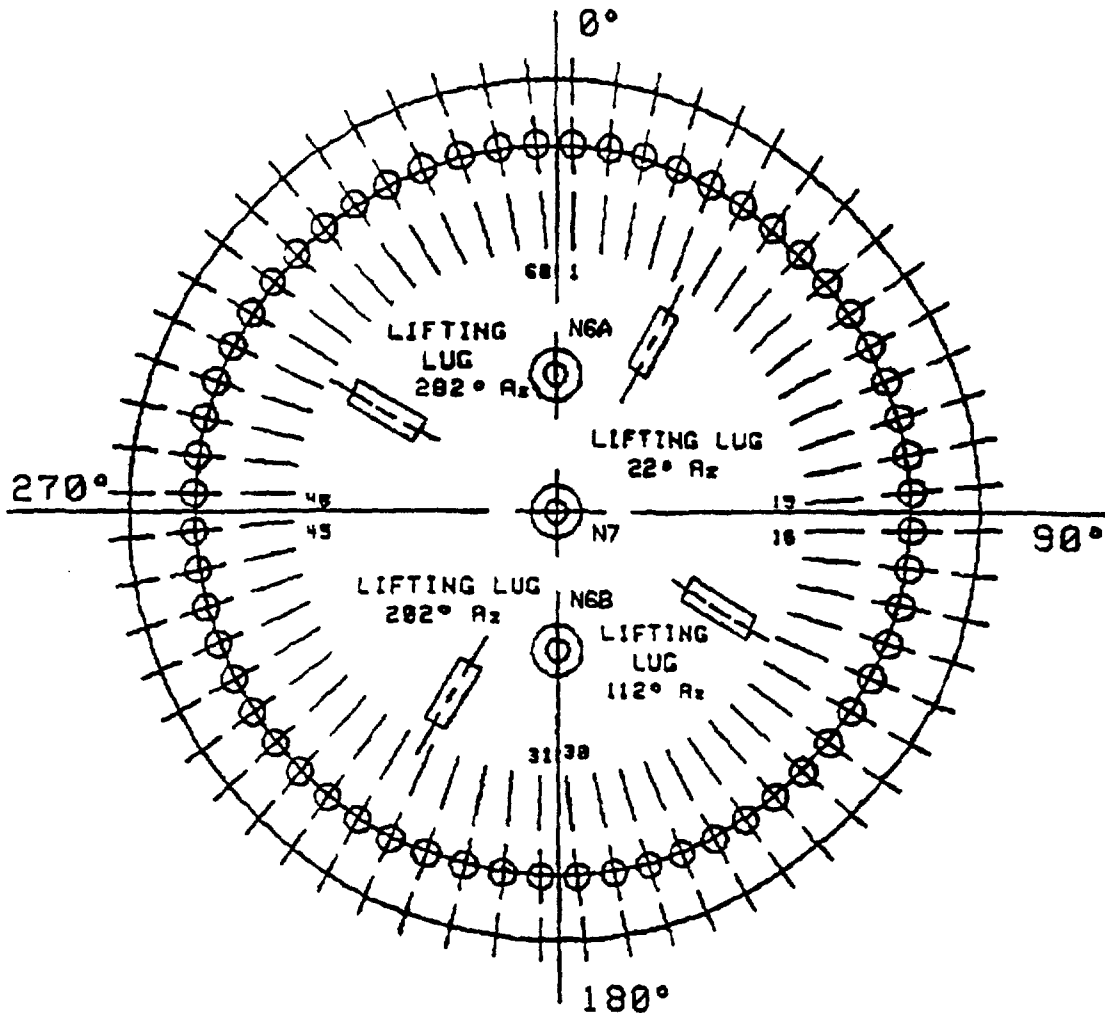
**ISI FIGURES AND ISOMETRICS**

**PLEASE NOTE:** ISI Figures and Isometrics are listed in Part B and Part E of this report

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part I, page 2 of 45

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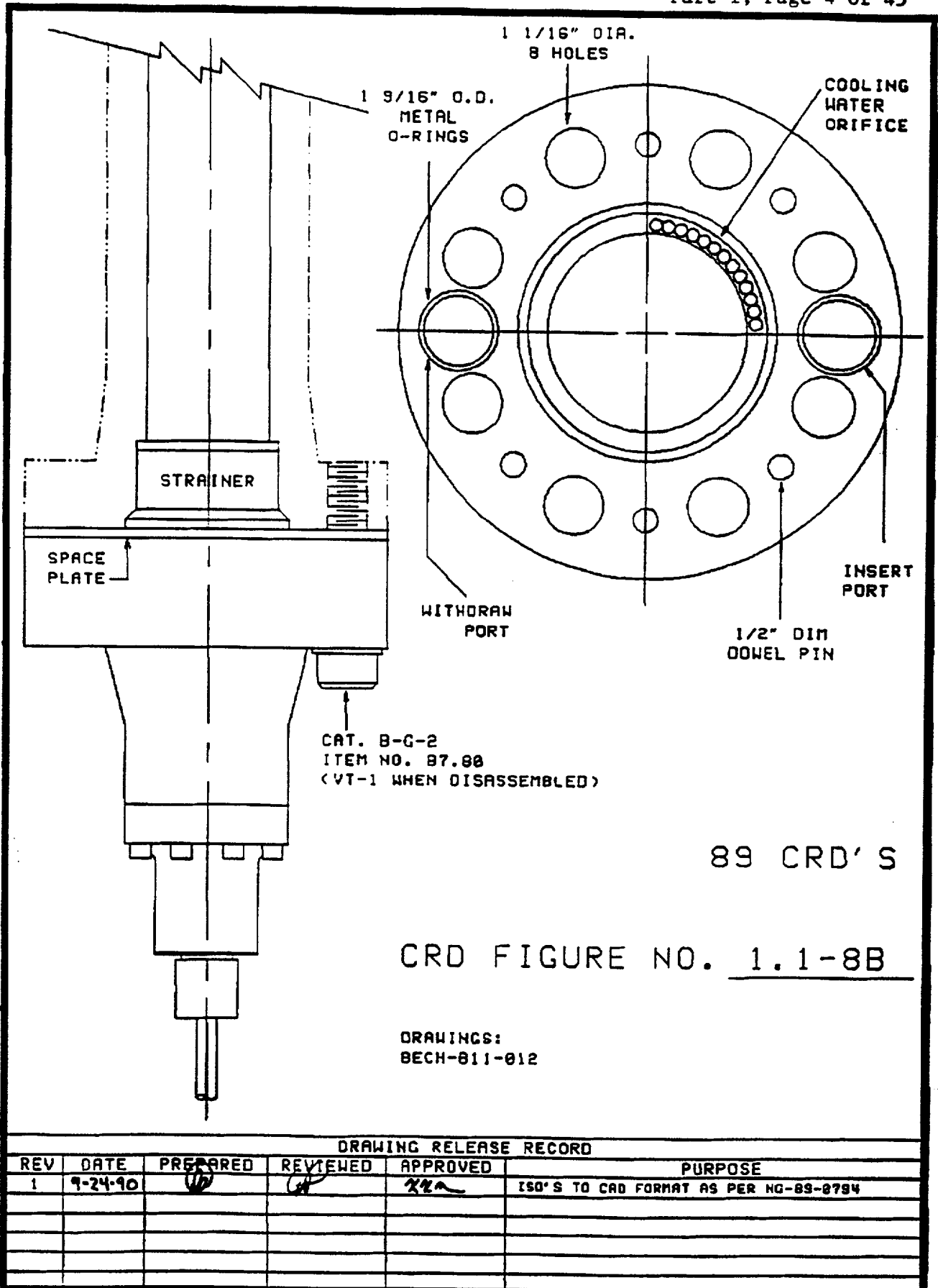
VESSEL STUD AND LIGAMENT LOCATION

Figure No. 1.1-05

PR - Pressure Retaining  
 F - Flanges  
 B - Bolts  
 W - Washers  
 L - Ligaments

**DRAWING RELEASE RECORD**

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	4-9-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	GP	KKM	ISO'S TO CAD FORMAT AS PER NG-83-0704
3	5-13-91	DA	GP	KKA	PCN "B" CORRECTLY IDENTIFIED LIFTING LUGS
4	7-22-94	DA	FED	GP	REVISED PER ISI INSPECTION WALKDOWN
5	7-16-95	DA	JDF	GP	DELETED DWG PER DURF-013
6	3/11/96	JAH	TAK	GP	RE-ISSUED PER DURF-0025



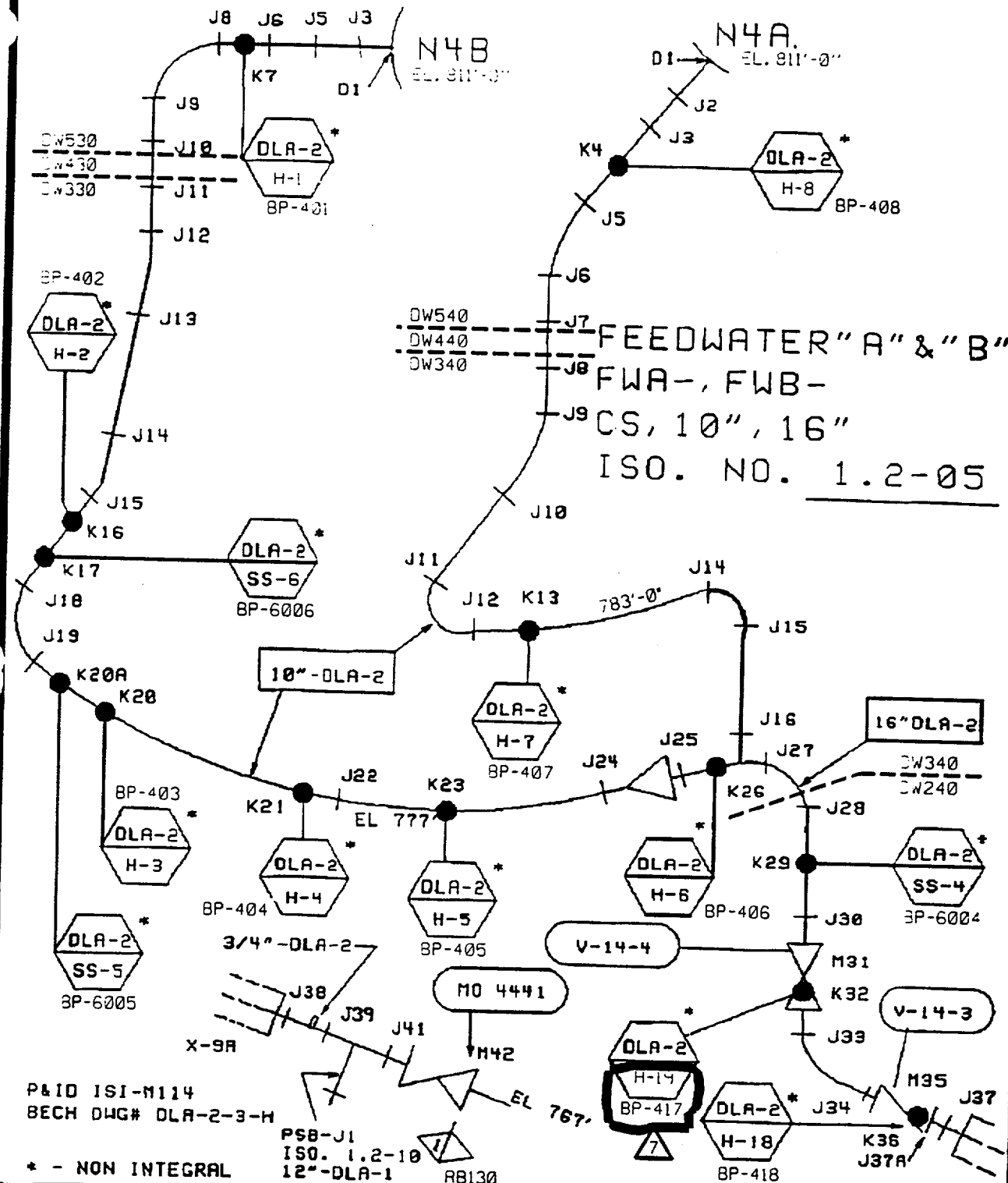
89 CRD' S

CRD FIGURE NO. 1.1-8B

DRAWINGS:  
BECH-811-012

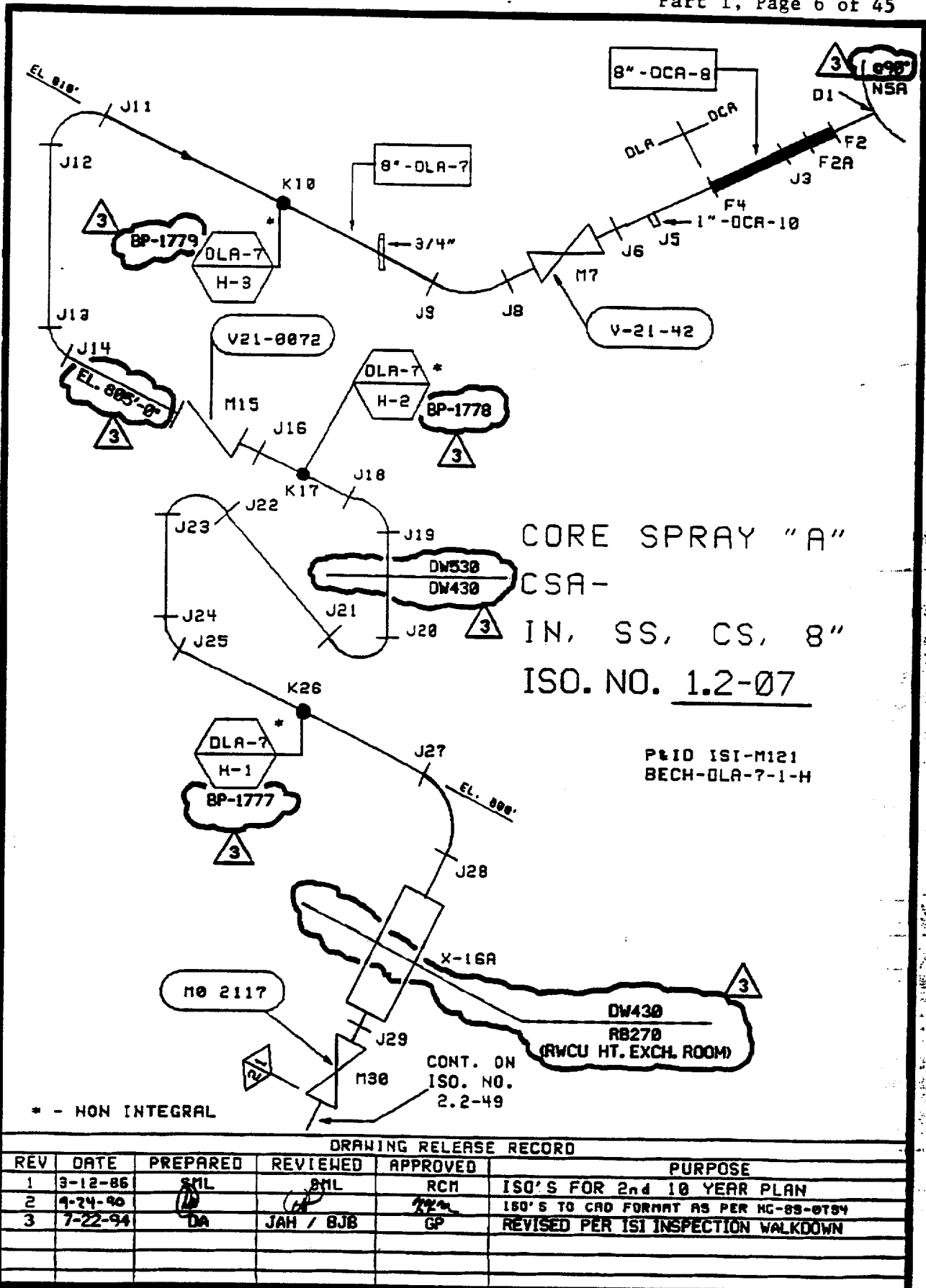
DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	9-24-90	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	ISO'S TO CAD FORMAT AS PER NG-89-8794



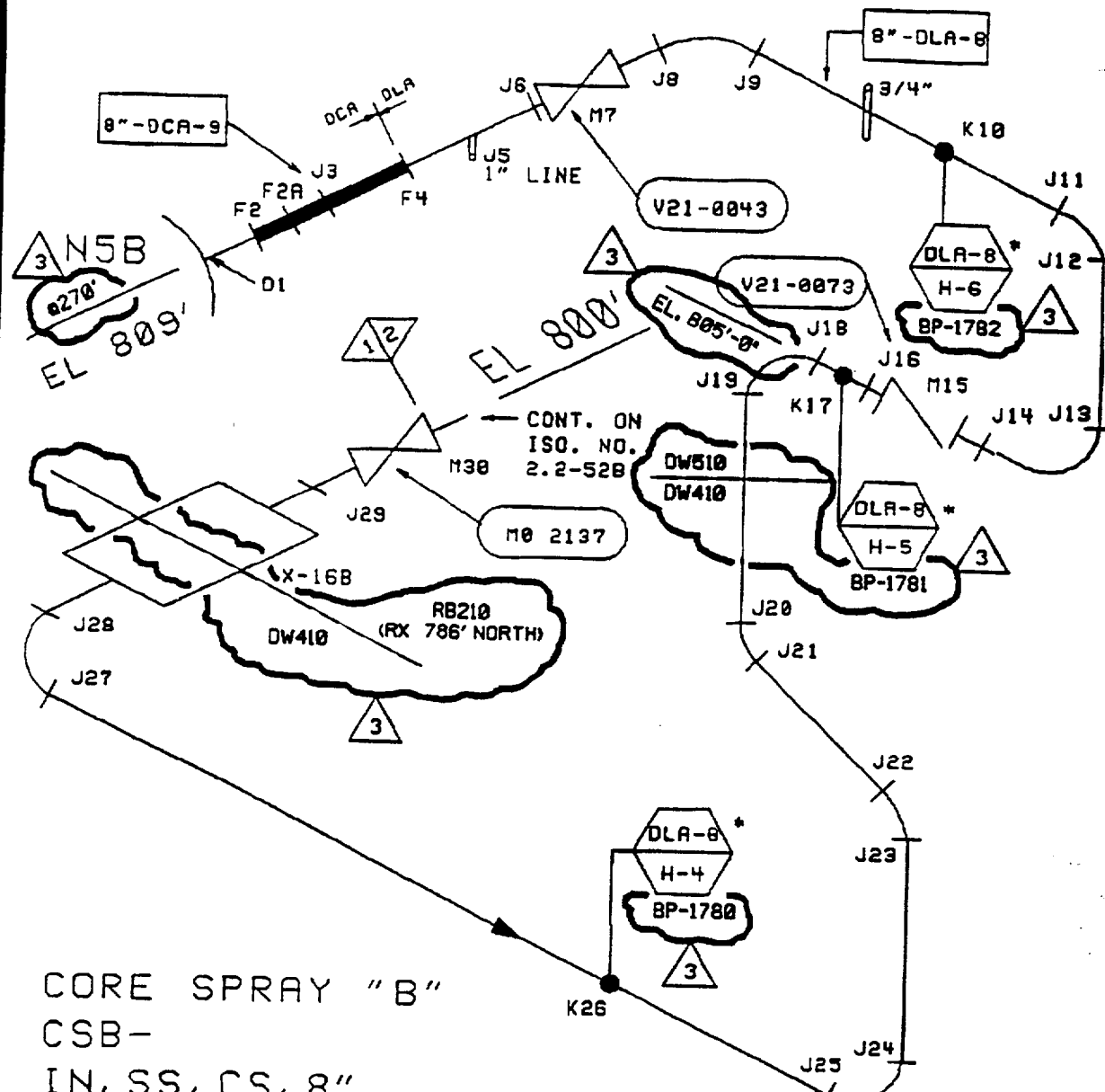
**DRAWING RELEASE RECORD**

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
7	5/4/99	DA	GP	FED	REVISED PER DUFF-U0111
2	3-24-98	DA	GP	KKM	SO'S TO CAD FORMAT AS PER NC-89-0794
3	11-18-92	DA	GP	KKM	REVISED PER DDC-2841
4	7-22-94	JA	FED	GP	REVISED PER ISI INSPECTION WALKDOWN
5	3-21-96	JAH	DA	GP	REVISED PER DUFF-U0027
6	3-26/99	DA	AK	GP	REVISED PER DUFF-U0046



DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-12-86	BML	BML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	DA	GP	ISO'S TO CAD FORMAT AS PER NG-89-0704
3	7-22-94	DA	JAH / BJB	GP	REVISED PER ISI INSPECTION WALKDOWN



CORE SPRAY "B"  
 CSB-  
 IN, SS, CS, 8"  
 ISO. NO. 1.2-08

P&ID ISI-M121  
 BECH DWG# DLA-8-1-H

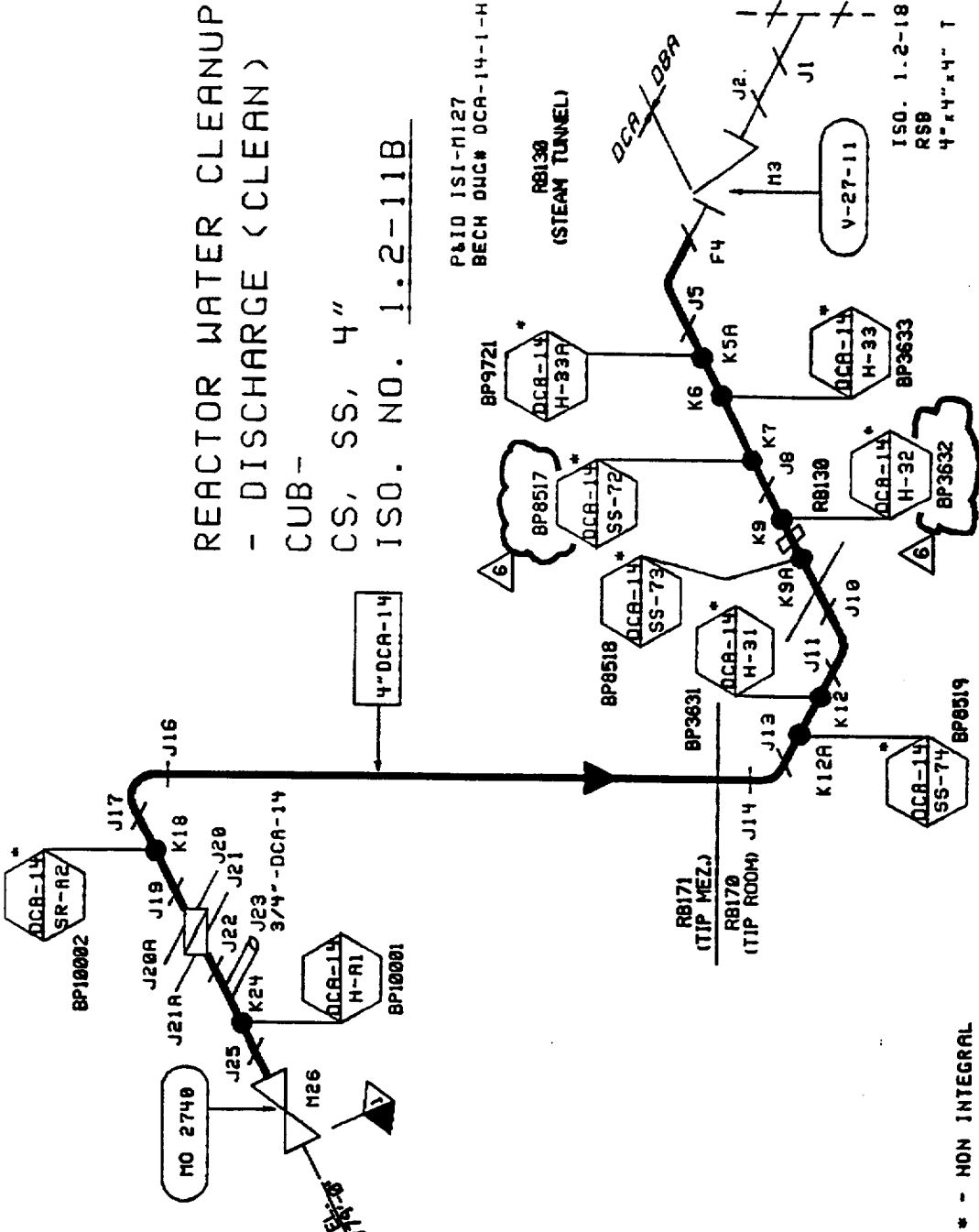
\* - NON INTEGRAL

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-12-86	SNL	SNL	RCH	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	JAH / BJB	GP	ISO'S TO CAD FORMAT AS PER NG-89-8734
3	7-22-94	DA	JAH / BJB	GP	REVISED PER ISI INSPECTION WALKDOWN

REACTOR WATER CLEANUP  
 - DISCHARGE (CLEAN)  
 CUB-  
 CS, SS, 4"  
 ISO. NO. 1.2-11B

P&ID ISI-M127  
 BECH DUC# DCA-14-1-H



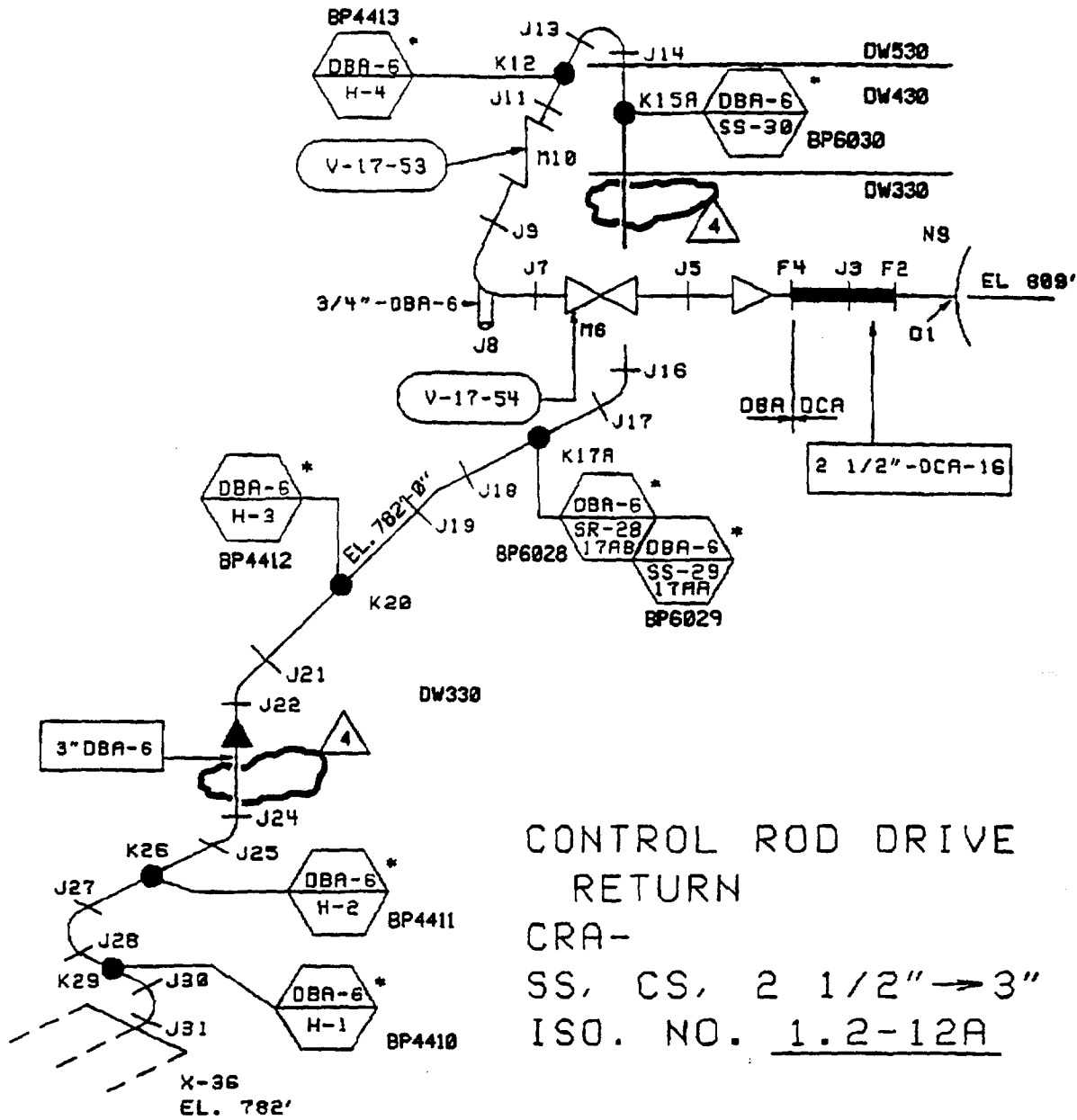
\* - NON INTEGRAL

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-13-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	GP	KKM	ISO'S TO CAD FORMAT AS PER HG-89-8784
3	9-24-90	DA	GP	KKM	DCP 1464, RMCU NONCLASS REPLACEMENT
4	4-2-93	DA	GP	GP	ADDED PENETRATION
5	7-22-94	DA	JAM / BJB	GP	REVISED PER ISI INSPECTION WALKDOWN
6	7-6-95	DA	JDF	GP	REVISED PER DURE-0013

DUC IN SERVICE INSPECTION ASME SECTION XI ISOMETRIC





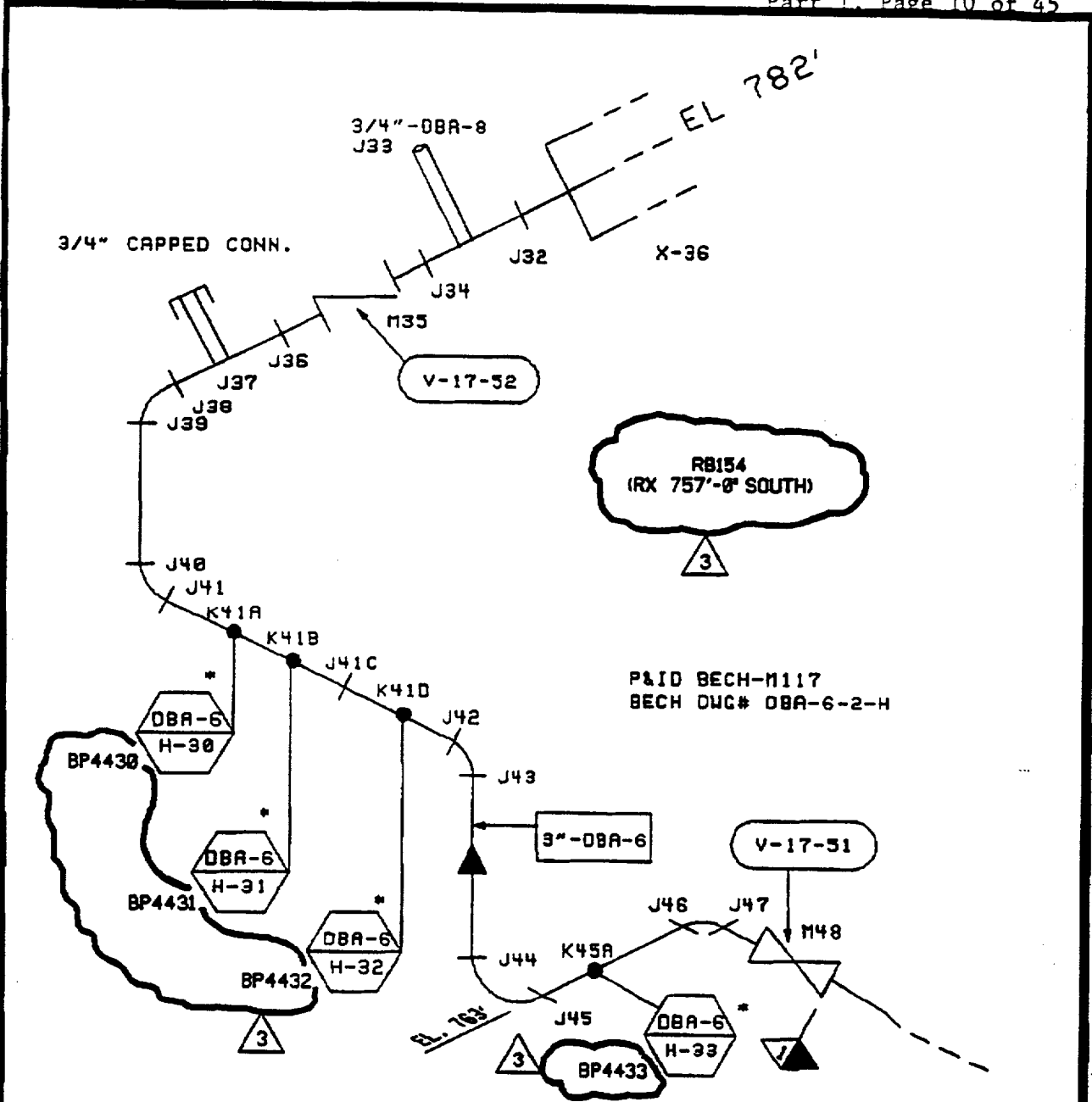
CONTROL ROD DRIVE  
 RETURN  
 CRA-  
 SS, CS, 2 1/2" → 3"  
 ISO. NO. 1.2-12A

CONT. ON  
 ISO. NO. 1.2-12B

P&IS ISI-M117  
 BECH. DWG# DBA-6-1-H

DRAWING RELEASE RECORD

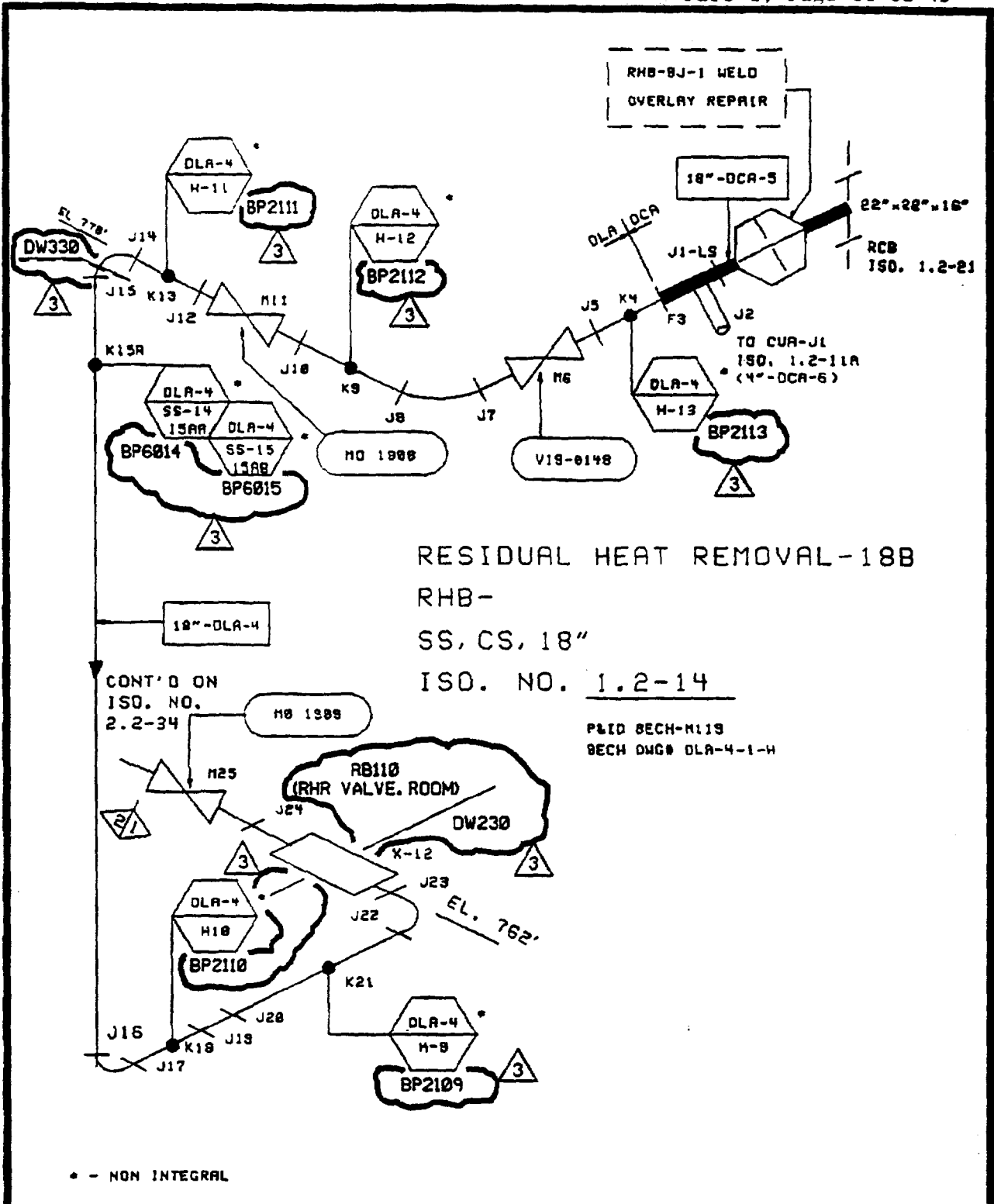
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-13-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	1-24-90	(S)	(S)	RZM	ISO'S TO CAD FORMAT AS PER NG-89-8704
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	7-6-95	DA	JDF	GP	REVISED PER DURF-0013



CONTROL ROD DRIVE RETURN  
 CRA-  
 CS, 3"  
 ISO. NO. 1.2-12B

\* - NON INTEGRAL

DRAWING RELEASE RECORD					
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-13-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	DA	GP	ISO'S TO CAD FORMAT AS PER NG-88-0794
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN



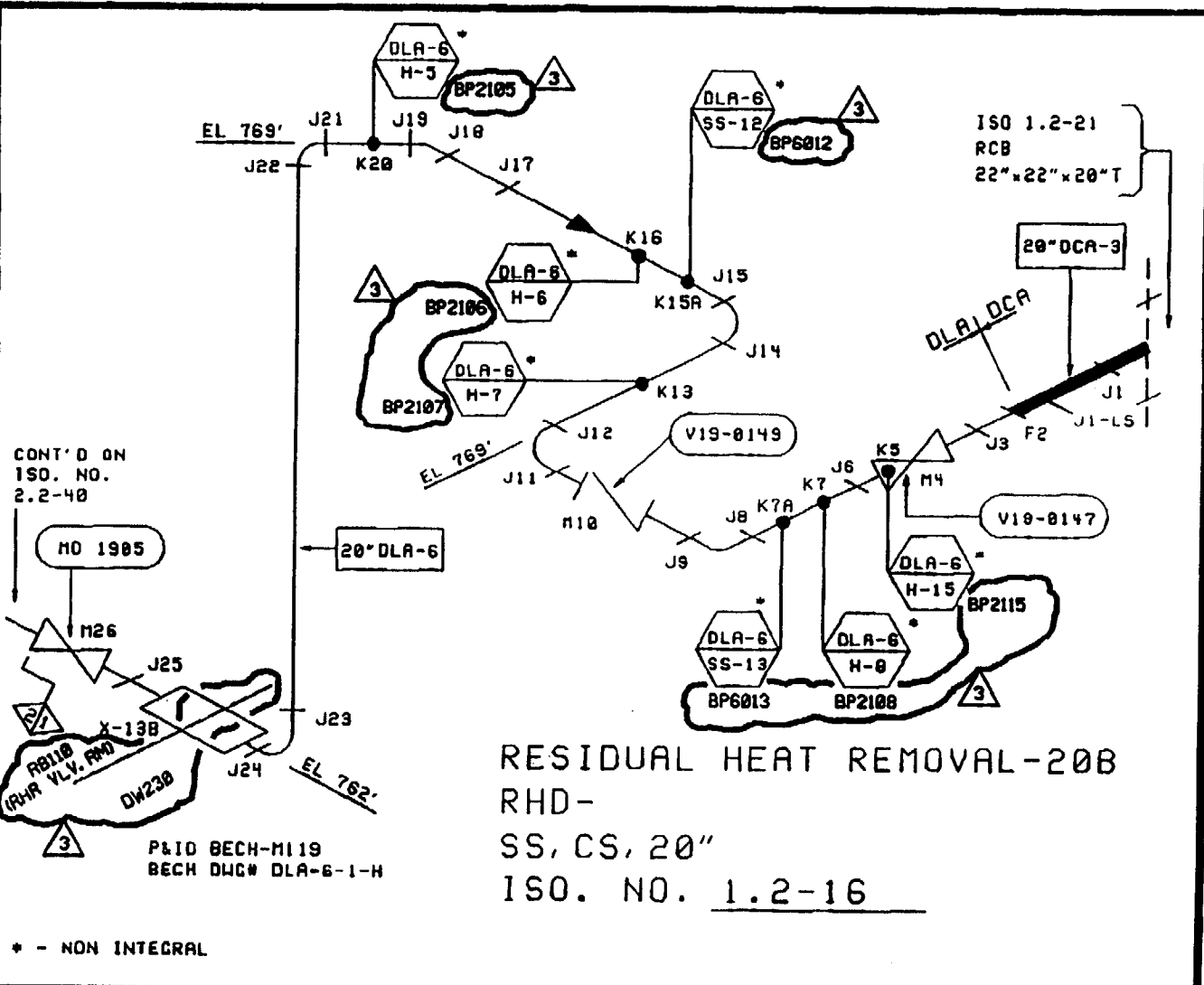
RESIDUAL HEAT REMOVAL-18B  
 RHB-  
 SS, CS, 18"  
 ISO. NO. 1.2-14

P&ID BECH-M119  
 BECH DWG# DLA-4-1-H

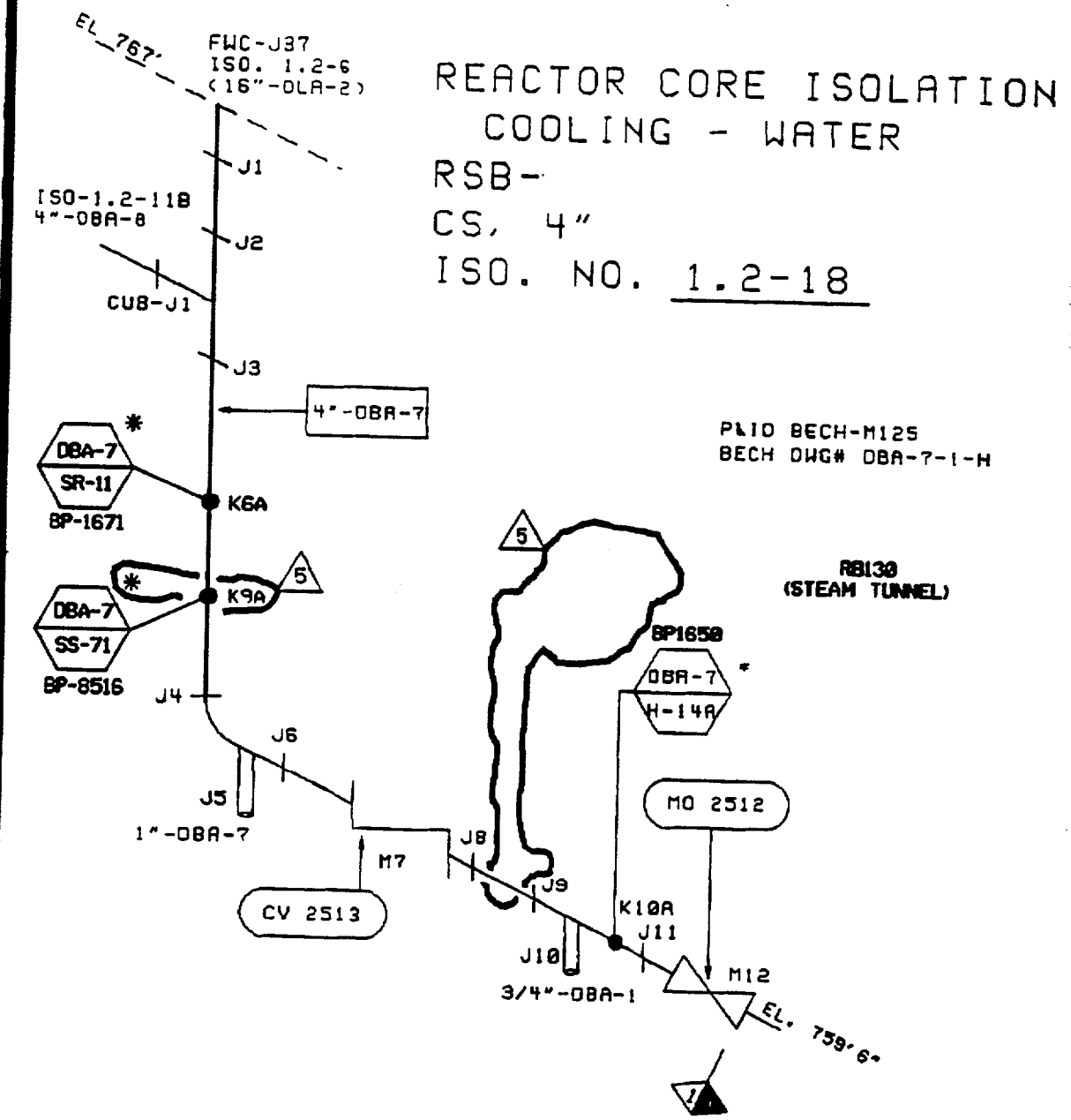
\* - NON INTEGRAL

DRAWING RELEASE RECORD					
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-17-86	SNL	SNL	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	JAH / FED	GP	ISO'S TO CAD FORMAT AS PER NG-83-0784
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-18-86	SRL	SRL	RCH	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	DA	RCH	ISO'S TO CND FORMAT AS PER HC-89-8734
3	7-22-94	DA	JAM / FED	GP	REVISED PER ISI INSPECTION WALKDOWN



DNIC INSERVICE INSPECTION RME SECTION XI ISOMETRIC



REACTOR CORE ISOLATION  
 COOLING - WATER  
 RSB-  
 CS, 4"  
 ISO. NO. 1.2-18

PL10 BECH-M125  
 BECH DWG# DBA-7-1-H

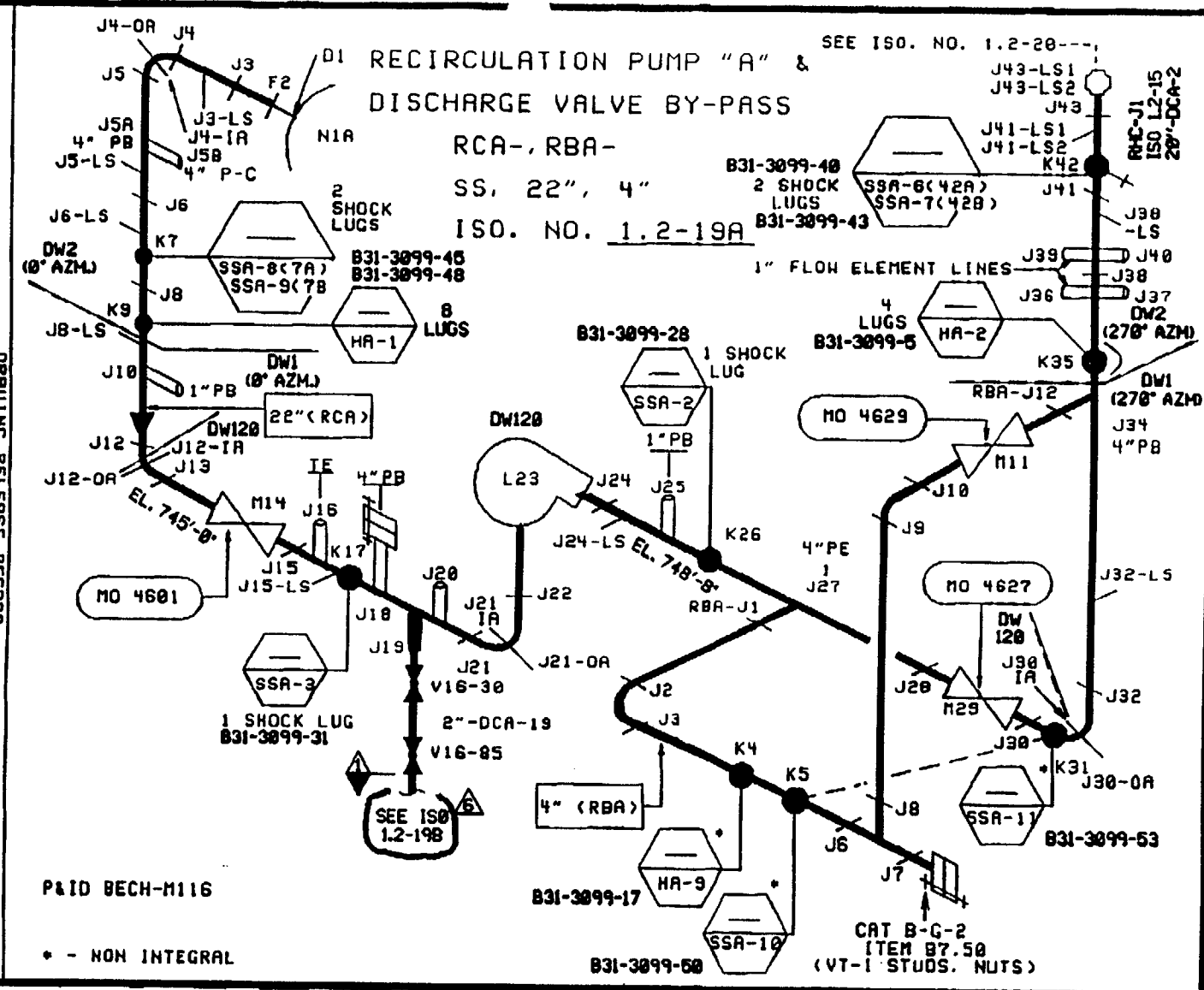
RBI30  
 (STEAM TUNNEL)

\* - NON INTEGRAL

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-19-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	4-24-90	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	ISO'S TO CAD FORMAT AS PER NG-88-8794
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	2-9-95	DA	JW	GP	REVISED PER DURF. NO. U0004
5	1-18-96	TAK	JW	GP	REV. PER DURF-0018

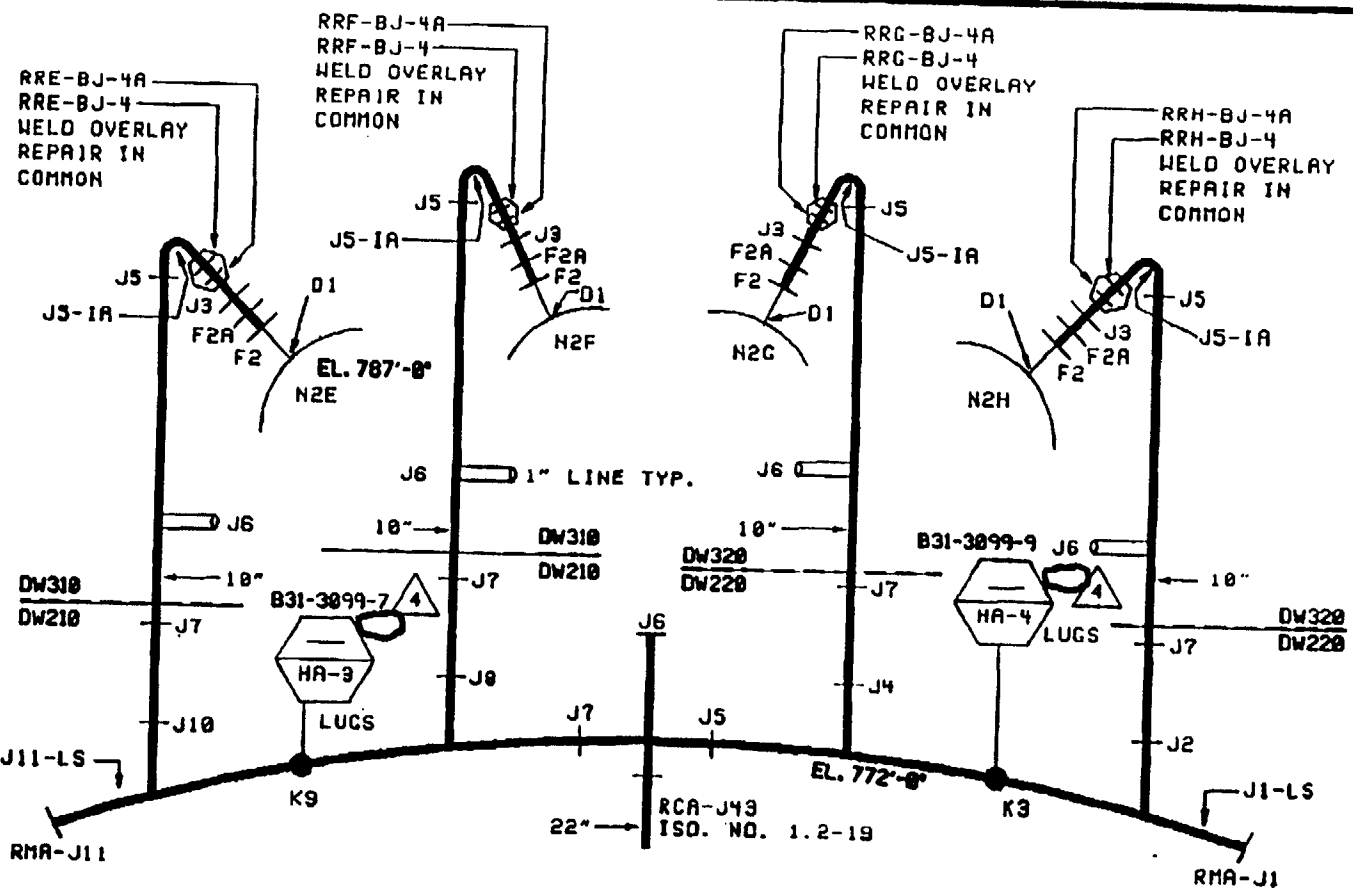
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-19-86	SNL	RCH		ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DR	KKH		ISO'S TO CND FORMAT AS PER NC-89-8784
3	4-2-93	DA			RODED FLANGE
4	7-22-94	DA			REVISED PER ISI INSPECTION WALKDOWN
5	7-6-95	DA	JDF		REVISED PER DWF-0013
6	1-18-98	TAK	JV		REV. PER DWF-0018



DNCC INSERVICE INSPECTION NAME SECTION XI ISOMETRIC

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-28-86	NIL	STL	RCH	ISO'S FOR 2ND 10 YEAR PLAN
2	4-24-86	DA	DA	CP	ISO'S TO CMB FORMAT AS PER NC-89-8794
3	7-22-94	DA	DA	CP	REVISED PER IST INSPECTION WALKDOWN
4	1-18-96	TAK	JW	CP	REV. PER DURF-0018

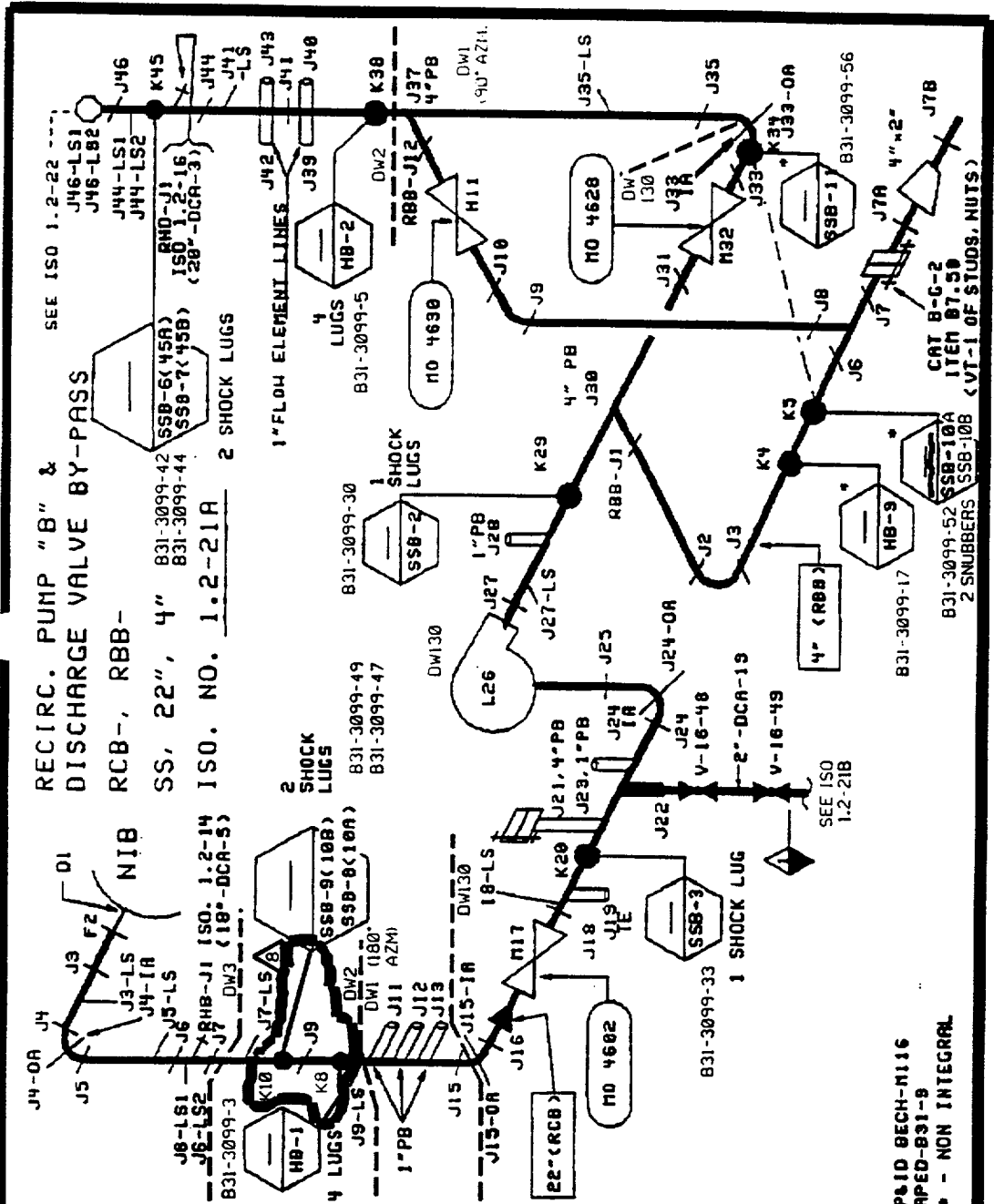
DRAWING RELEASE RECORD



RECIRCULATION MANIFOLD "A" & RISERS E, F, G, H  
 RMA-, RRE-, RRF-, RRG-, RRH-  
 SS, 16", 10"  
 ISO. NO. 1.2-20

4 P&ID BECH-1116  
 APED-831-9

ONDC INSERVICE INSPECTION RSHC SECTION XI (ISOMETRIC)

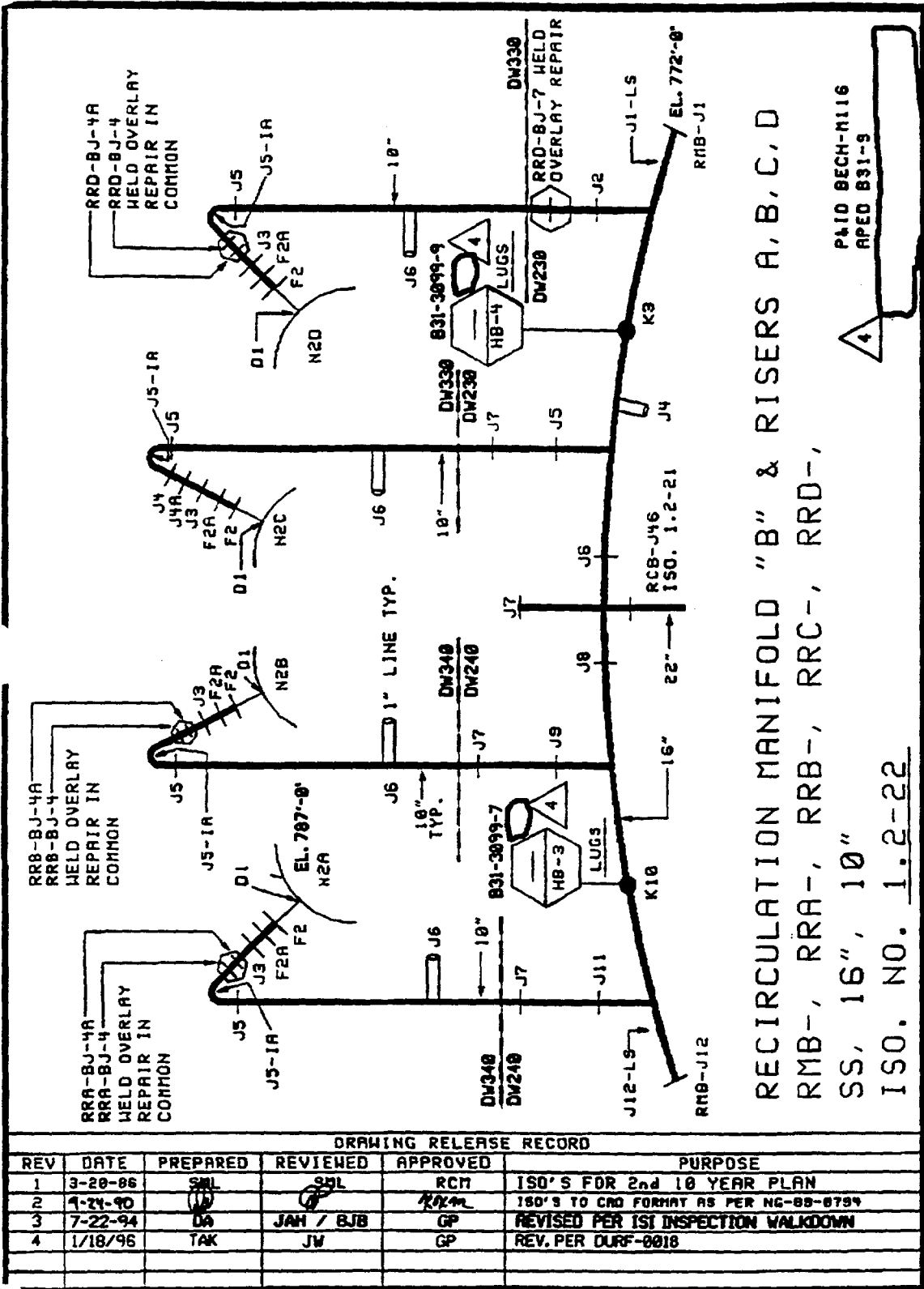


**DRAWING RELEASE RECORD**

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
7	2-6-96	TAK	JW	GP	REV. PER DURF-0018
6	6/4/99	DA	GP	FED	REVISED PER DURF-U0111
3	9-24-98	OR	GP	KKH	ISO'S TO CAD FORMAT AS PER HG-89-8734
4	10-3-91	DA	GP	KKH	ADDING MISSING IDENTIFICATION
5	4-2-93	DA	GP	KKH	RODED FLANGE
1	1-2-94	DA	JAH / RTR	GP	REVISED PER ISI INSPECTION W/ KNOWN

DREC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC





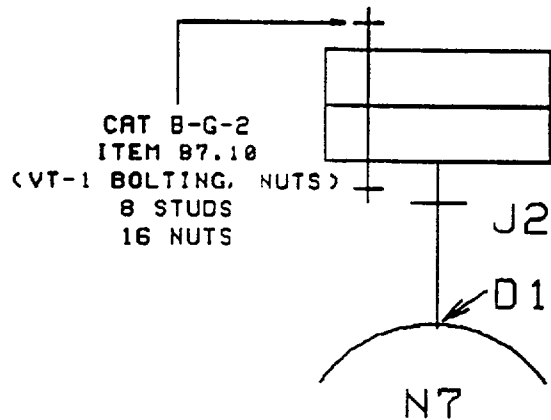
RECIRCULATION MANIFOLD "B" & RISERS A, B, C, D  
 RMB-, RRA-, RRB-, RRC-, RRD-,  
 SS, 16", 10"  
 ISO. NO. 1.2-22

PL10 BECH-M116  
 APED B31-9



DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-20-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	4-24-90	SML	SML	RCM	ISO'S TO CAD FORMAT AS PER NG-88-8794
3	7-22-94	DA	JAH / BJB	GP	REVISED PER 1ST INSPECTION WALKDOWN
4	1/18/96	TAK	JV	GP	REV. PER DUF-8018



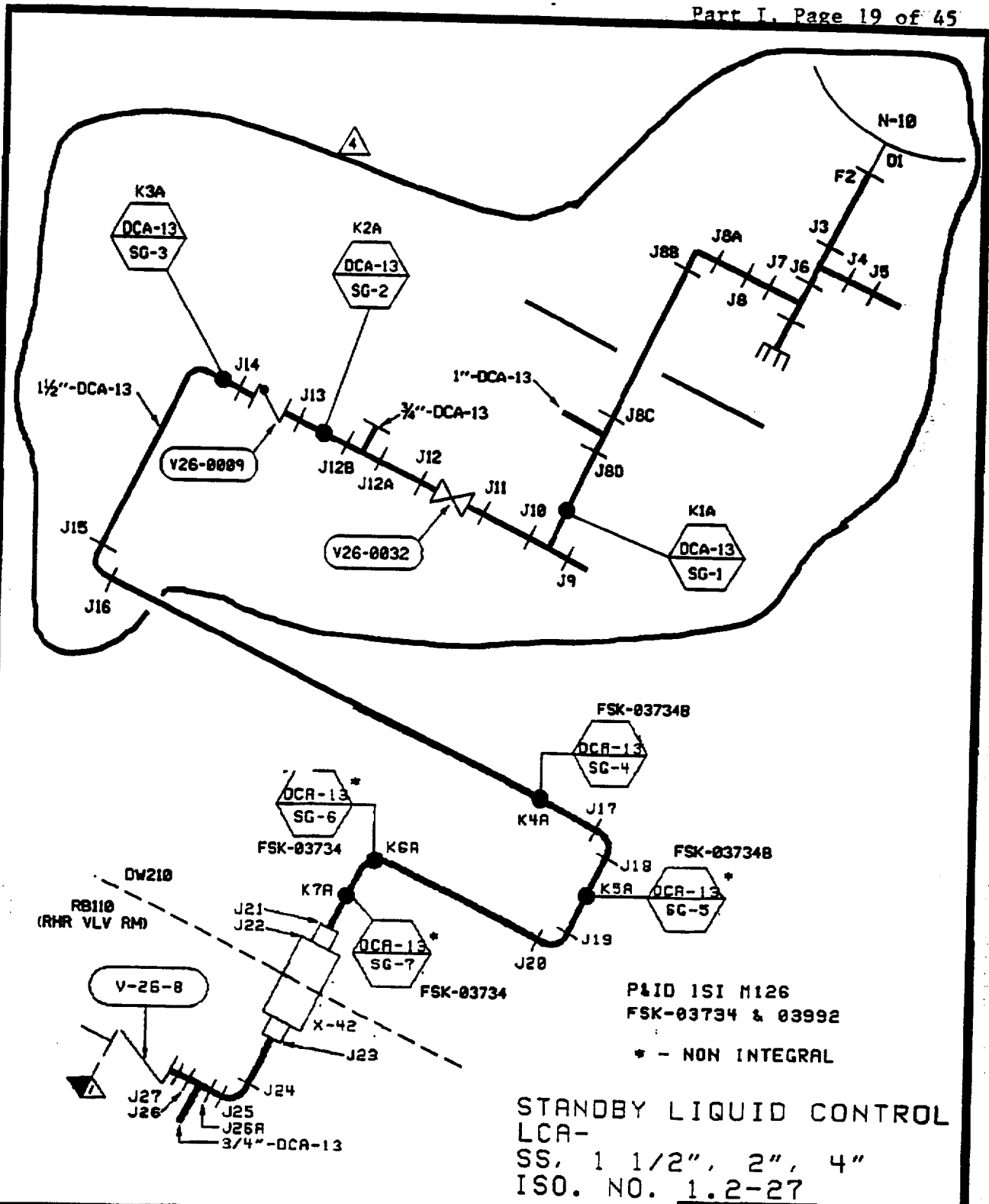
DW7  
(EXAMS PERFORMED  
ON REFUEL FLOOR)

3

HEAD VENT  
HVA-  
CS, 4"  
ISO. NO. 1.2-24

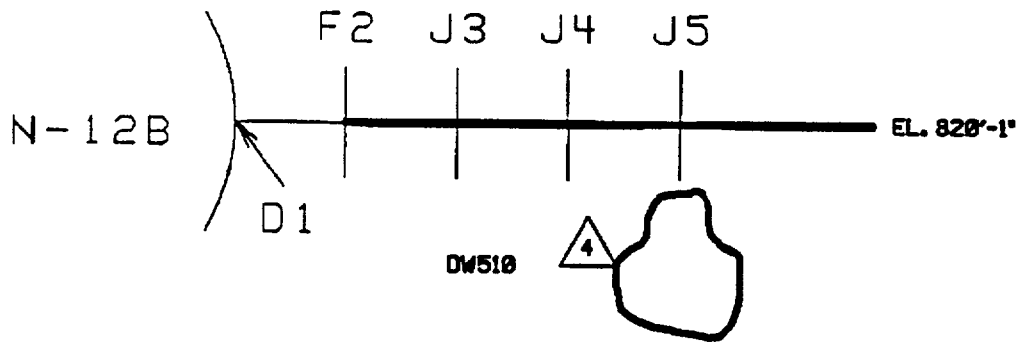
P&ID BECH-M114  
APED-B11-2655-104-3

DRAWING RELEASE RECORD					
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-26-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	4-24-90	DA	JAH	GP	ISO'S TO CAD FORMAT AS PER NG-89-0794
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN



DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-26-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	(Signature)	(Signature)	(Signature)	ISO'S TO CAD FORMAT AS PER NG-03-8784
3	9-8-94	DA	JAH / BJB	GP	REVISED PER ISI INSPECTION WALKDOWN
4	3/4/97	JAH	TAK /	GP	REVISED PER DURF-0036



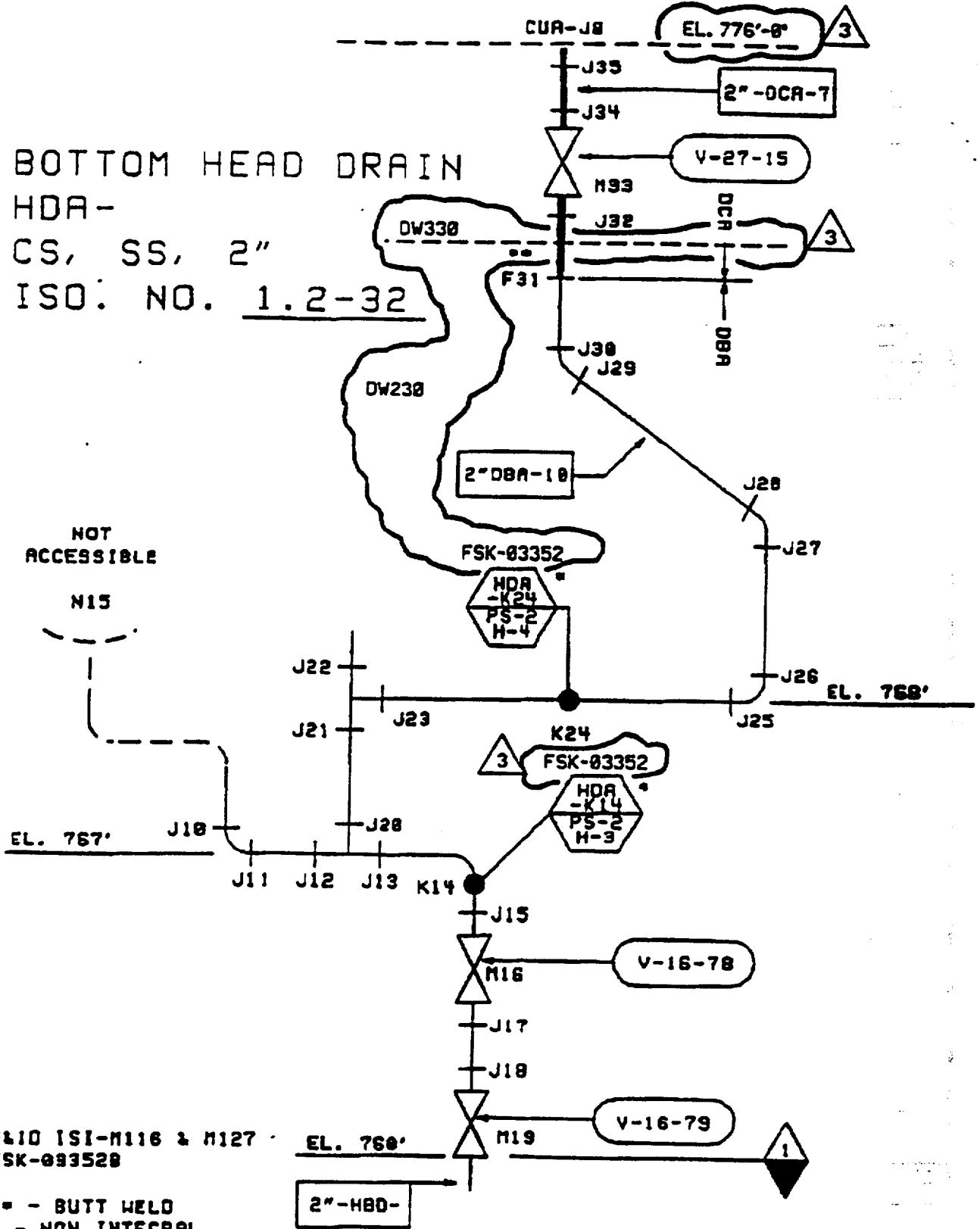
VESSEL INSTRUMENTATION N-12B  
 VID-  
 SS, 2", 2 1/2"  
 ISO. NO. 1.2-31

P&ID BECH-M115

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-27-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	(Signature)	(Signature)	RAM	ISO'S TO CAD FORMAT AS PER HG-89-0784
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	1/18/96	TAK	JW	GP	REV. PER DURF-0018

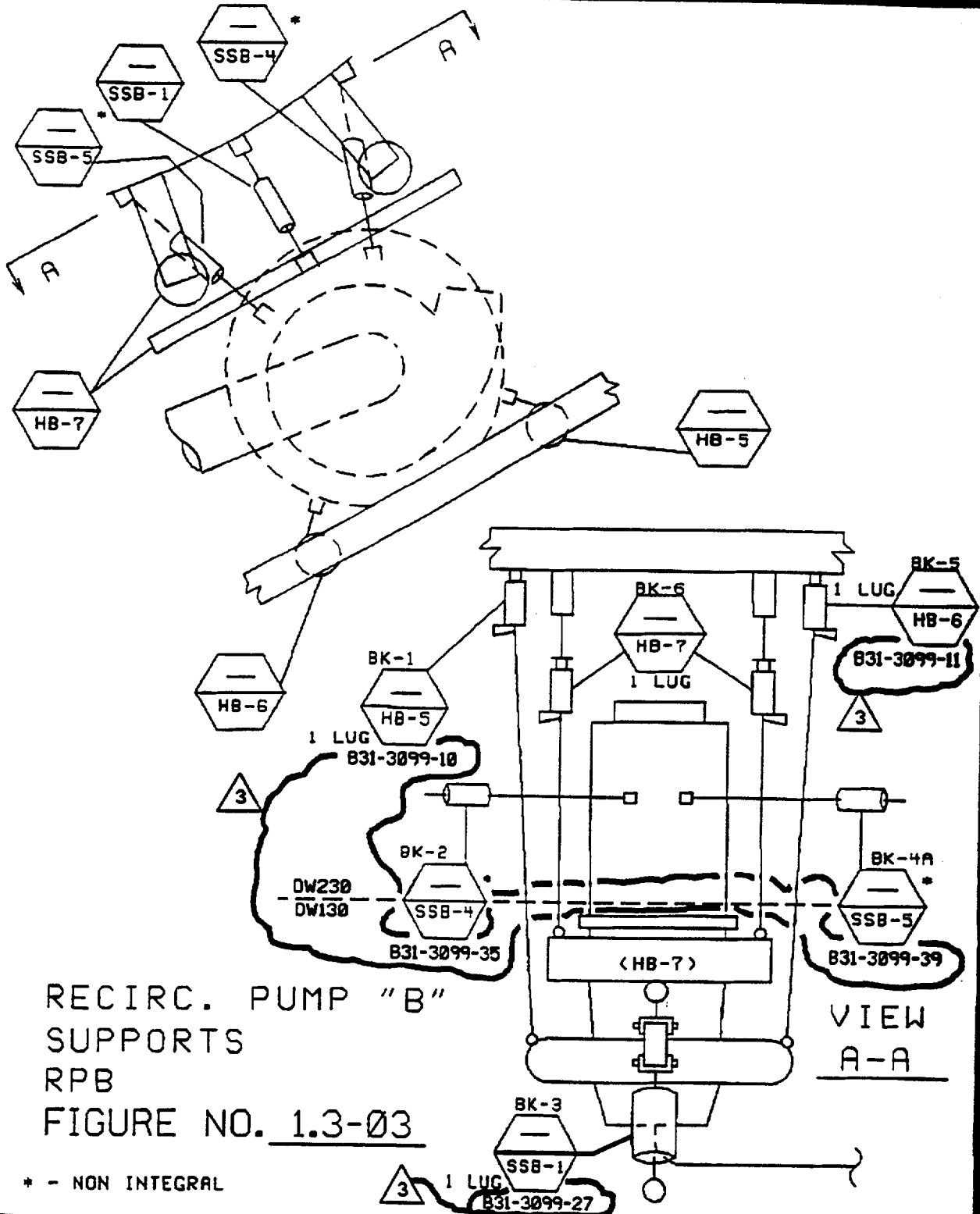
BOTTOM HEAD DRAIN  
HDA-  
CS, SS, 2"  
ISO: NO. 1.2-32



PLID ISI-M116 & M127  
FSK-033528

DRAWING RELEASE RECORD

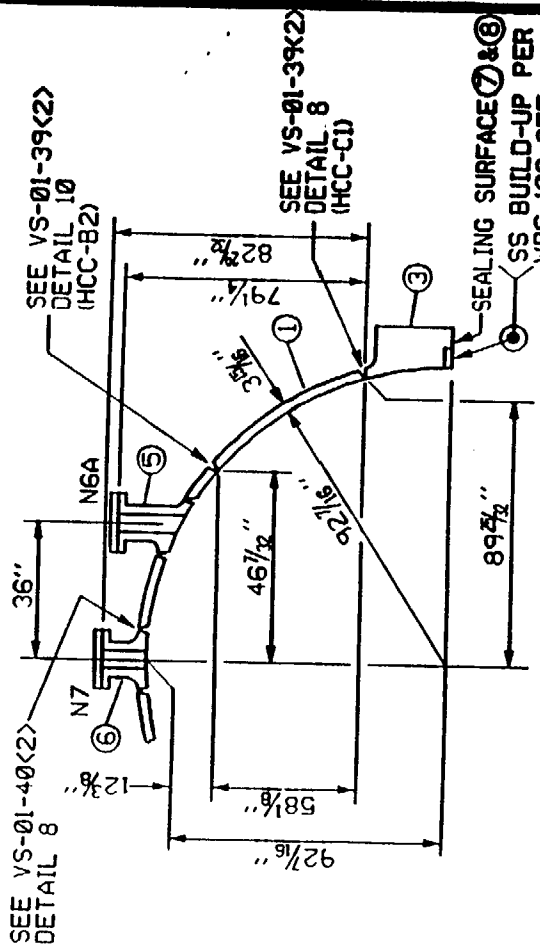
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-27-86	SAL	SAL	RCN	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	JAH	RCN	ISO'S TO CAD FORMAT AS PER NG-03-0784
3	7/22/14	DA	JAH	RCN	REVISED PER ISI INSPECTION WALKDOWN



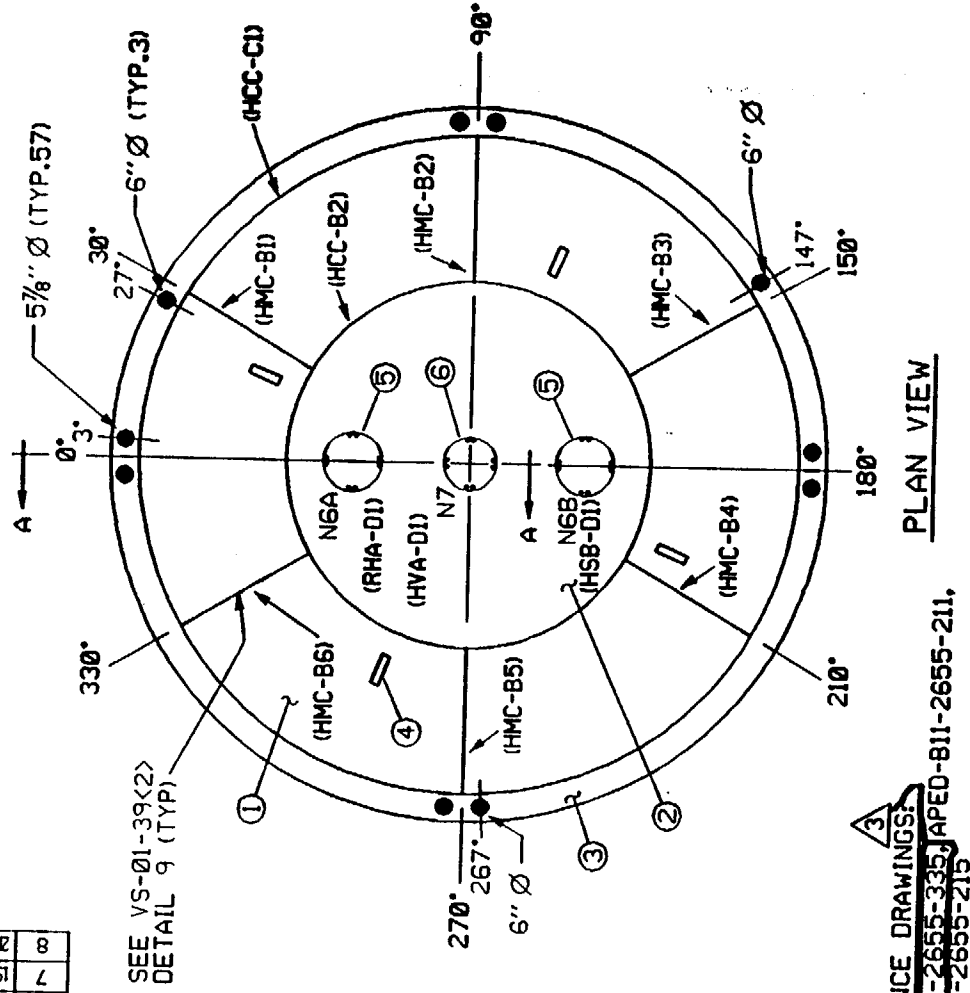
DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	10-26-87	JEM	RCM	REL	ISO'S FOR 2nd 10 YEAR PLAN
2	9-14-90	DA	FED	CP	ISO'S TO CAD FORMAT AS PER NG-89-0754
3	7-22-94	DA	FED	CP	REVISED PER ISI INSPECTION WALKDOWN

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	SIDE PLATE	SAS33 CLASS 1 GR.B	
2	DOLLAR PLATE	SAS33 CLASS 1 GR.B	
3	HEAD FLANGE	A-508 CLASS 2	
4	LIFTING LUG	(SEE VS-01-37)	
5	HEAD SPRAY & INSTR. NOZZ.	(SEE VS-01-15)	
6	VENT NOZZ.	(SEE VS-01-16)	
7	1ST LAYER SEAL SURFACE CLADDING	309L	
8	2ND & 3RD LAYER SEAL SURFACE CLADDING	308L	



SECTION A-A



PLAN VIEW

REFERENCE DRAWINGS:  
 APED-B11-2655-335, APED-B11-2655-211,  
 APED-B11-2655-215

JW TAK	GP	FED
DA GD	SS	SS
MS DF	GP	SS
DR TR	CHKD	ENCR.
VER.		

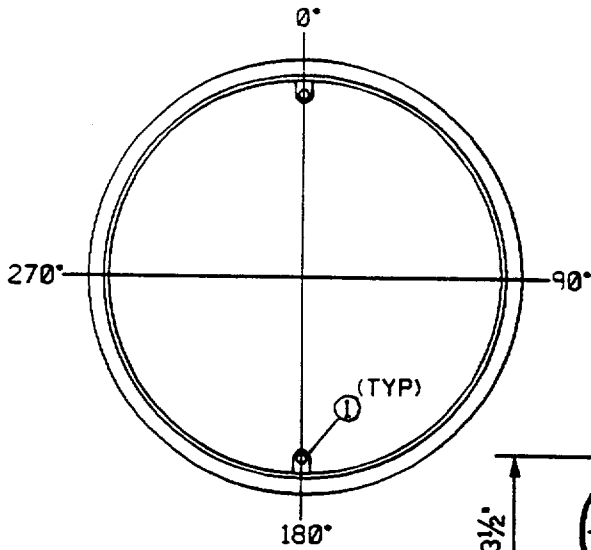
NO.	DATE	REVISION
3	12/16/97	REVISED PER DURE-0044
2	8/8/95	REVISED PER DURE-0011
1	12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM

**IES:**  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

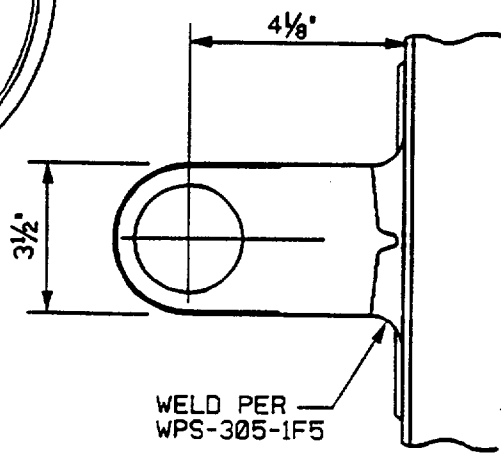
DWG. NO.	VS-01-06
REV.	3

TOP HEAD  
 ASSEMBLY

NO.	DESCRIPTION	BILL OF MATL.	PROCD.
1	GUIDE ROD BRACKET	304L SA240	

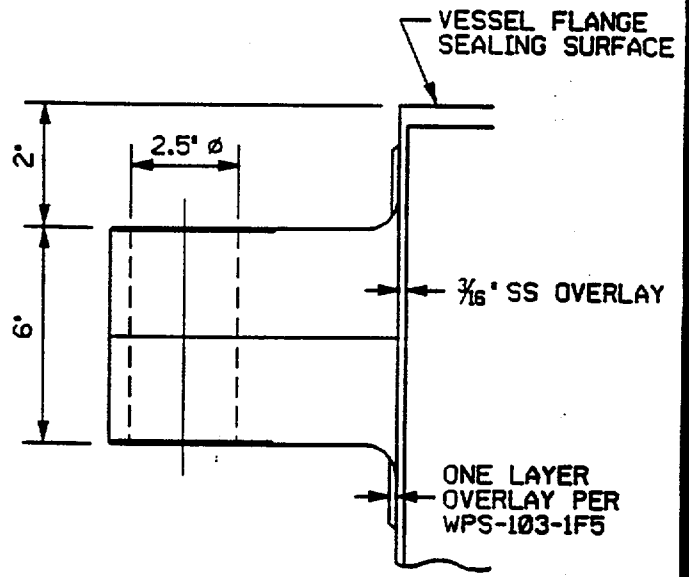


PLAN VIEW



WELD PER  
WPS-305-1F5

PLAN VIEW



ELEVATION

REFERENCE DRAWINGS:  
APED-B11-001<4>, APED-B11-2655-171

NO.	DATE	REVISION	MS	DF	CP	SS
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM				
			DR	TR	CHKD.	ENGR.
						VER.

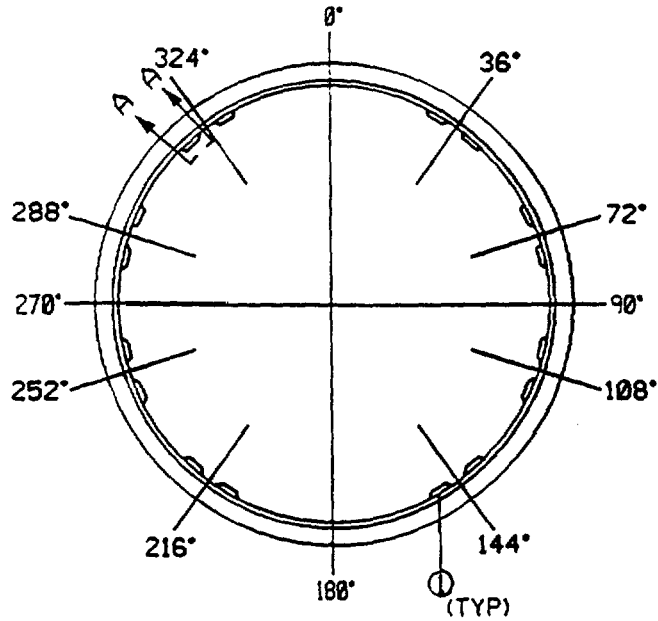
**IES:**  
Inservice Inspection Program  
Reactor Pressure Vessel Sketch

GUIDE ROD BRACKET

DWG. NO.	VS-01-28	REV.	1
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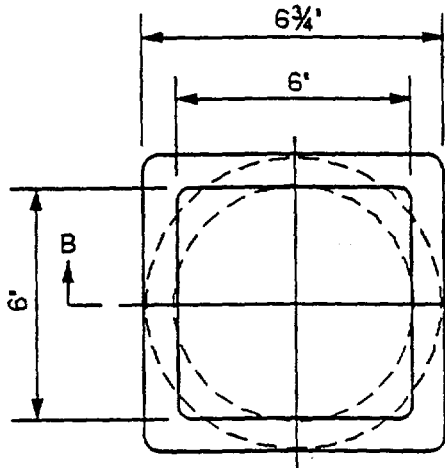


NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	SUPPORT PAD	309 or 308L	



PLAN VIEW

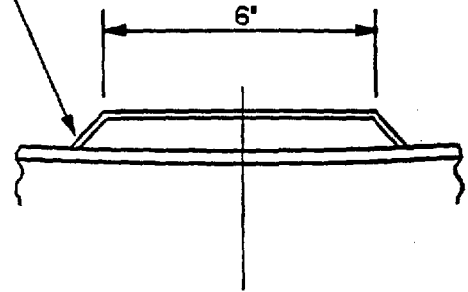
NO.	DATE	DESCRIPTION	MS OF	GP	SS
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM REVISION	DRG TR	CHKD	ENGR. VER.



VIEW A-A

ELEV. 284 1/4"  
FROM VESSEL Ø

BUILD-UP PER  
WPS-103-1F5 or  
WPS-143-1F5F7



SECTION B-B

REFERENCE DRAWINGS:  
APED-B11-001<4>, APED-B11-2655-167

**IES:**  
Inservice Inspection Program  
Reactor Pressure Vessel Sketch

JET PUMP RISER  
SUPPORT PAD

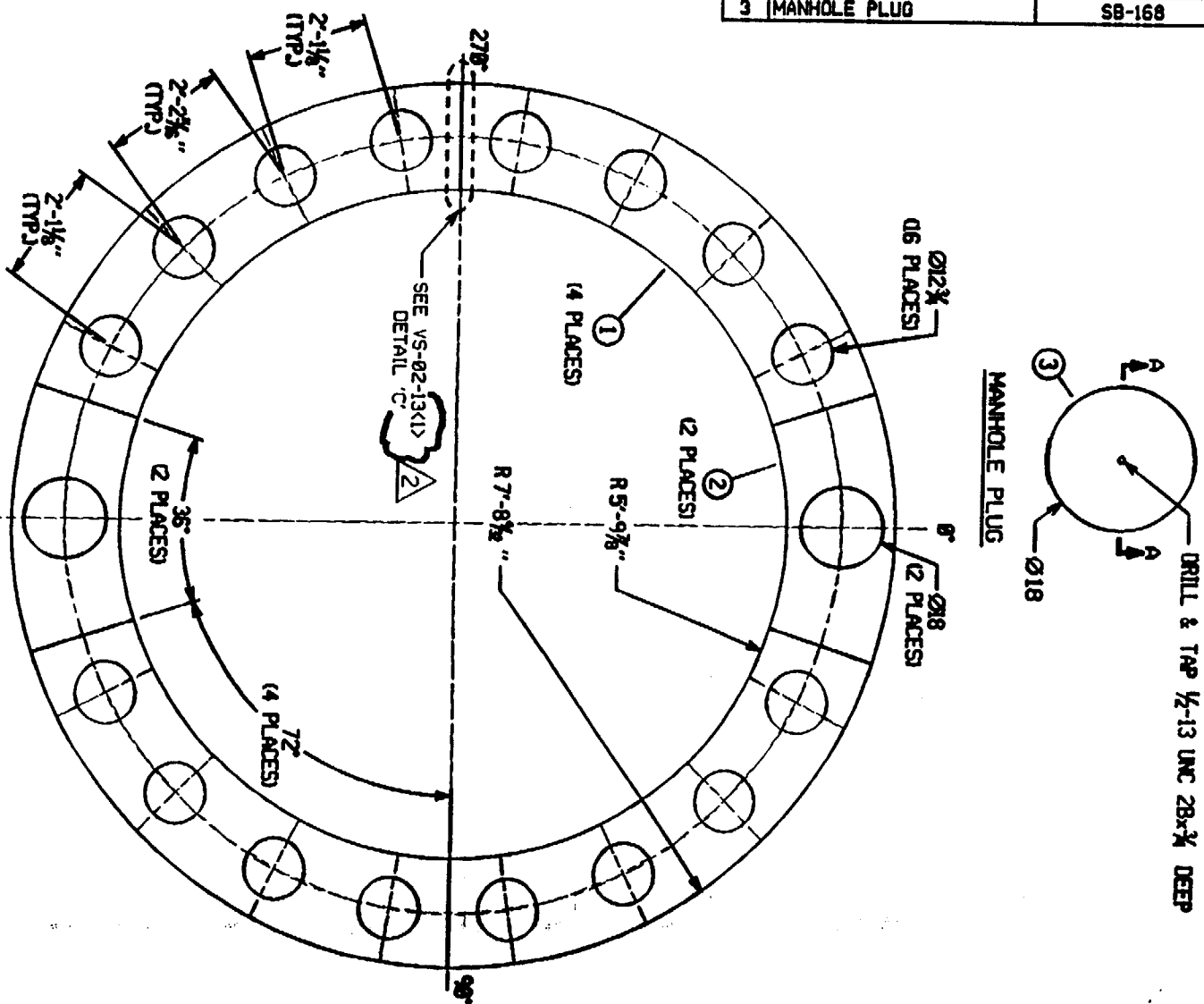
DWG. NO.

VS-01-34

REV.

1

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	JET PUMP HOLE PLATE	SB-168	
2	MANHOLE SEGMENT PLATE	SB-168	
3	MANHOLE PLUG	SB-168	



REFERENCE DRAWINGS:  
 APED-811-2655-283, APED-811-2655-285,  
 APED-811-2655-286

NO.	DATE	REVISION	DRFTR.	CHK'D.	ENGR.	VER.
2	8/8/95	REVISED PER DURF-0011	DA	GD	SS	SS
1	11-23-94	DRAFTED FOR VESSEL INSPECTION PROGRAM	MS	DF	GP	SS

**IES:**  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

DWG. NO. VS-02-11  
 LEDGE SEGMENT PLATES  
 REV. 2

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	CORE PLATE	304L A240	
2	ALIGNER BLOCKS	(SEE VS-03-06)	

MS	DF	OP	SS
DATE	CHKD.	ENGR.	VER.

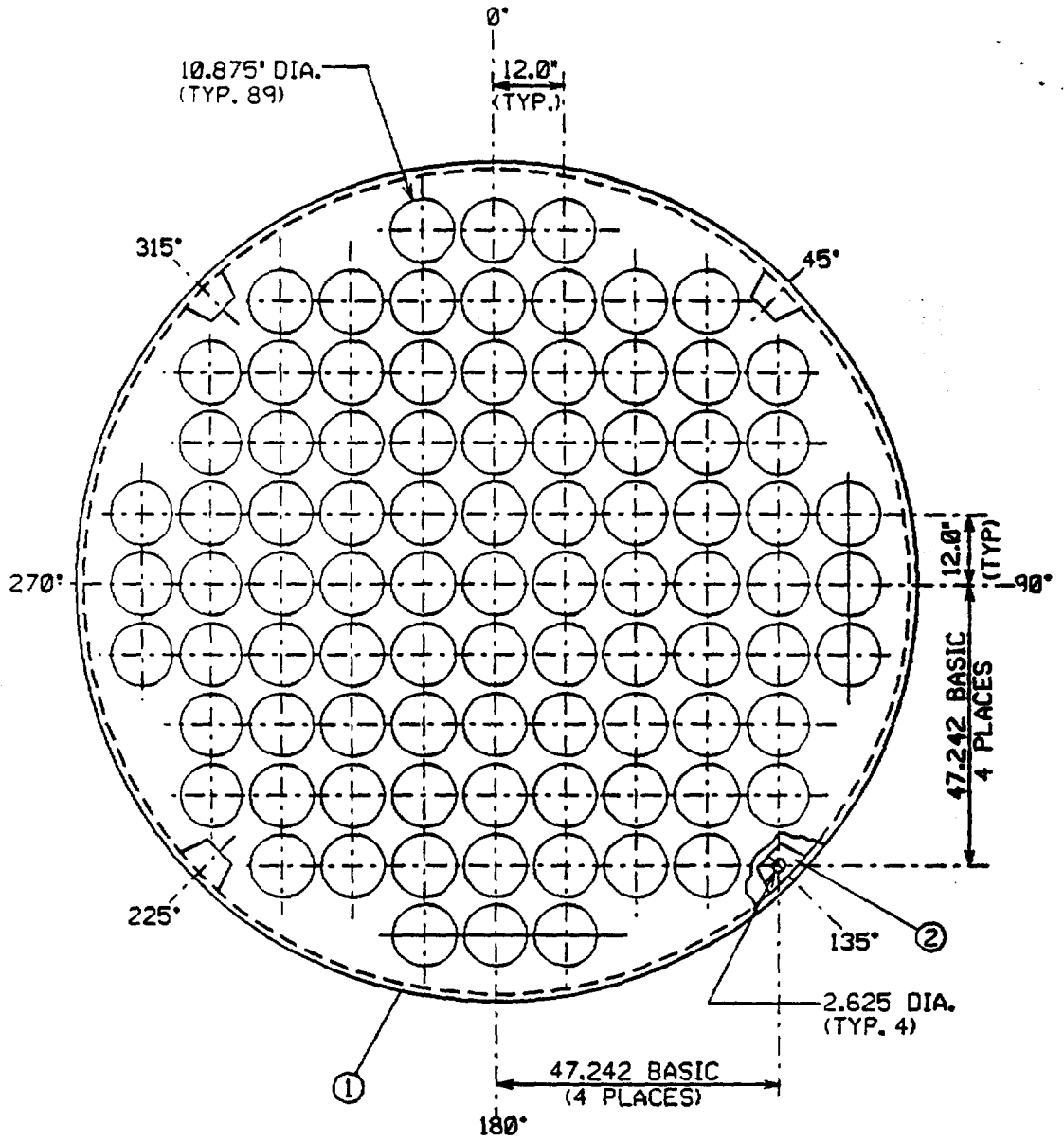
DRAFTED FOR VESSEL INSPECTION PROGRAM  
 REVISION

NO.	DATE
1	12-09-94

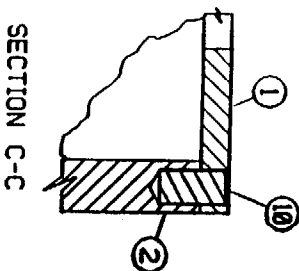
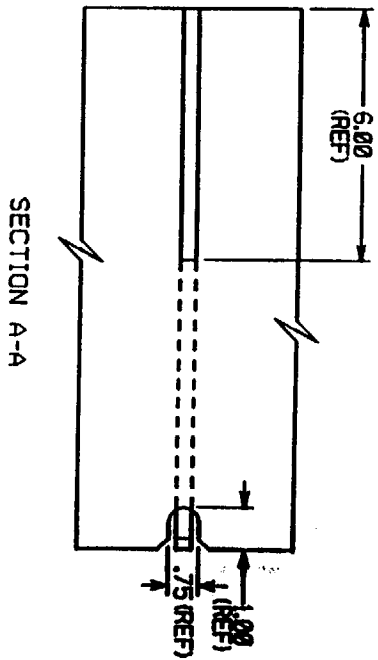
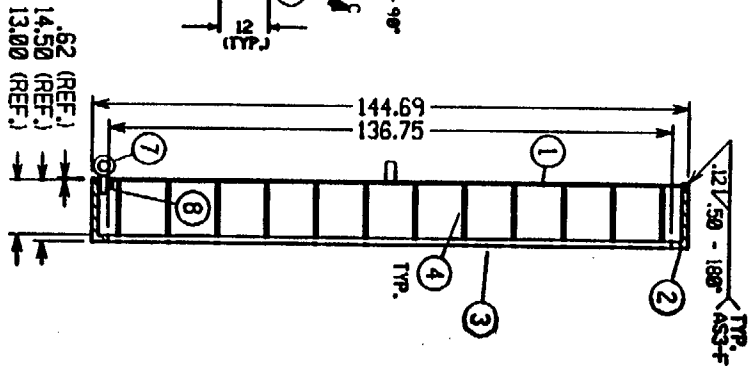
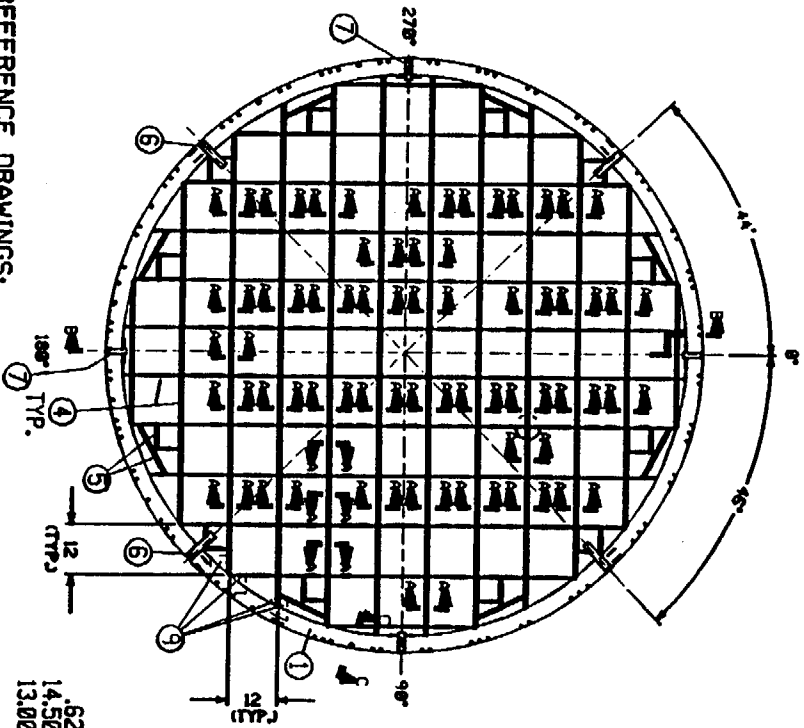
REFERENCE DRAWING:  
 APED-B11-3084-008.  
 APED-B11-3084-009

**IES:**  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

DWG. NO.	VS-03-02<1>	REV.	1
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NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	TOP PLATE	(SEE VS-04-02)	
2	SIDE RING PLATE	(SEE VS-04-02)	
3	BOTTOM PLATE	(SEE VS-04-03)	
4	CROSS BEAMS	(SEE VS-04-04)	
5	SUPPORT PLATES	(SEE VS-04-05)	
6	LATCH	(SEE VS-04-06)	
7	EYEBOLT	(SEE VS-04-07)	
8	EYEBOLT BLOCK	(SEE VS-04-08)	
9	PIN BARS	(SEE VS-04-09)	
10	PIN (0.875" D(A.)	304 A276	



REFERENCE DRAWINGS:  
 APED-811-3084-001.  
 APED-811-3084-108

IES:  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

NO.	DATE	REVISION	MS	DF	GP	SS
			DRETR.	CHKD.	ENGR.	VER.
1	12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM				

TOP GUIDE

VS-04-01

REV. 1

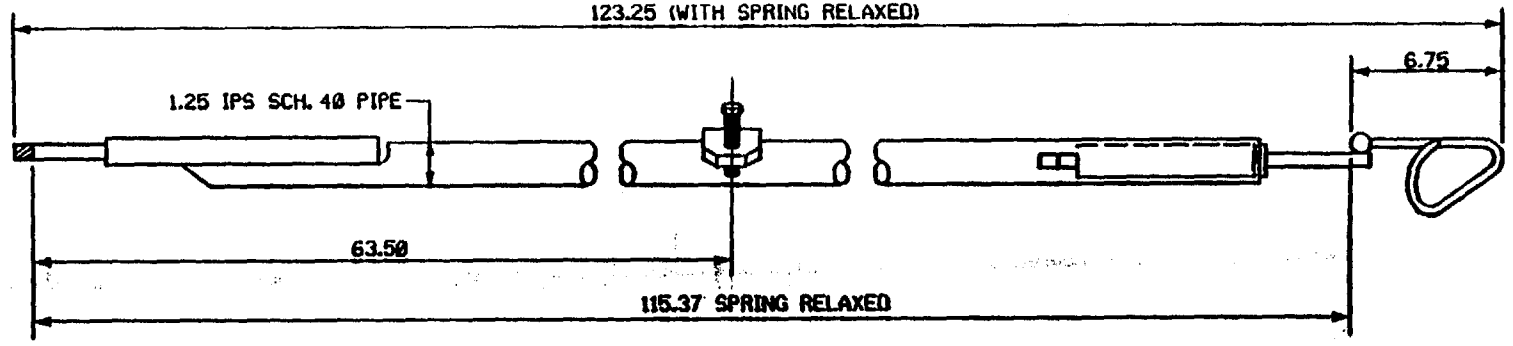
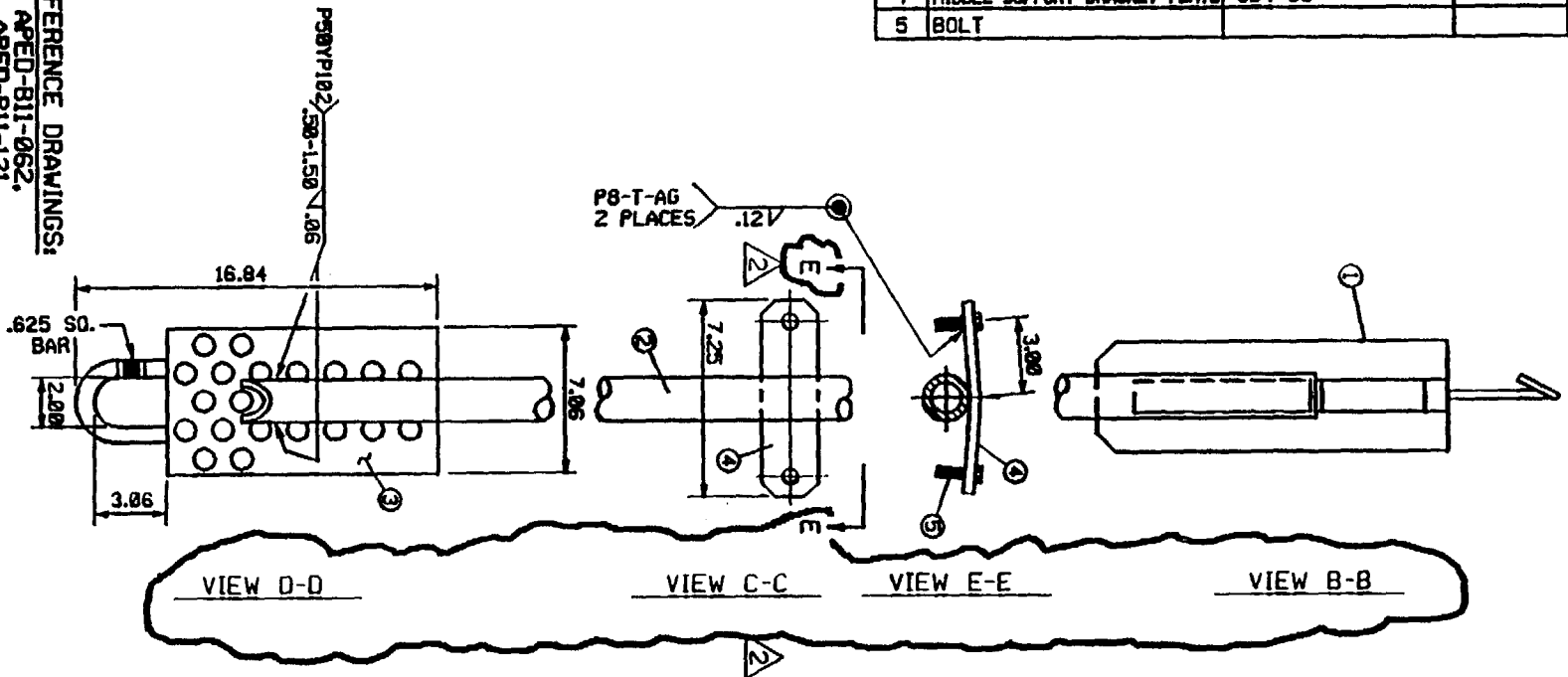
DWG. NO.

2	8/8/95	REVISED PER DURF-0011	DA	GD	SS	SS
1	12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM	MS	DF	GP	SS
NO.	DATE	REVISION	DRFTR	CHKD	ENGR	VER.

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	HANDLE		
2	PIPE		
3	CAPSULE BASKET		
4	MIDDLE SUPPORT BRACKET PLATE	304 SS	
5	BOLT		

REFERENCE DRAWINGS:  
 APED-811-062,  
 APED-811-121

IES:  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch



DWG. NO.

VS-10-02

SAMPLE HOLDER

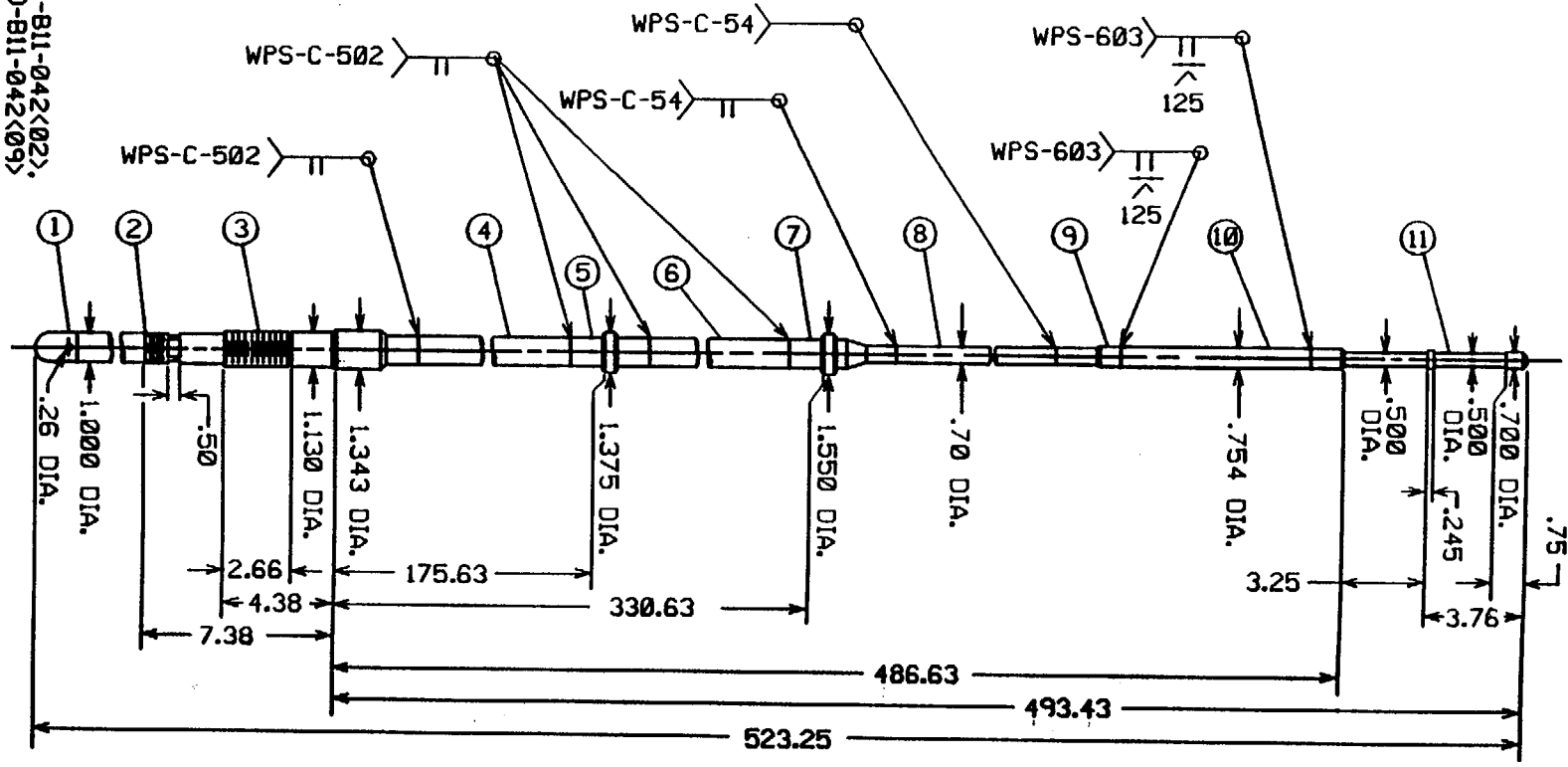
REV.  
2

1	12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM	MS	DF	GP	SS
NO.	DATE	REVISION	DWFTR	CHK'D	ENGR.	VER.

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	SHIELD TUBE		
2	O-RING		
3	GLAND	304 SS	
4	PIPE, SEAL END (3/4" SCH.40)	316 SS	
5	COUPLING	304 SS	
6	PIPE, TRANSITION END (3/4" SCH.40)	316 SS	
7	GUIDE RING	304 SS	
8	TUBE	304 SS	
9	END PLUG	304L SS	
10	PLUNGER HOUSING		
11	PLUNGER		

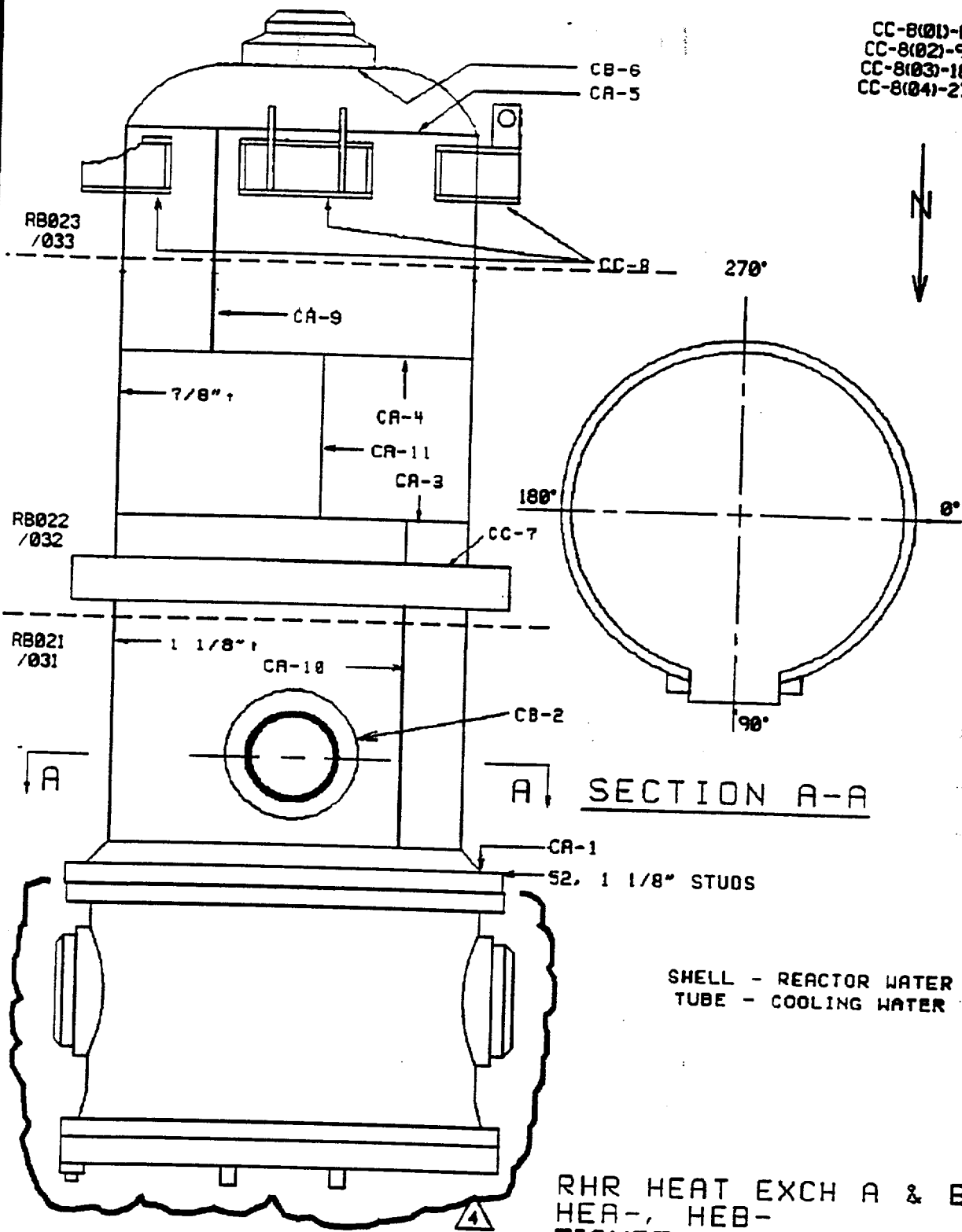
REFERENCE DRAWINGS:  
 APED-811-042<01>, APED-811-042<02>,  
 APED-811-042<08>, APED-811-042<09>

LES:  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch



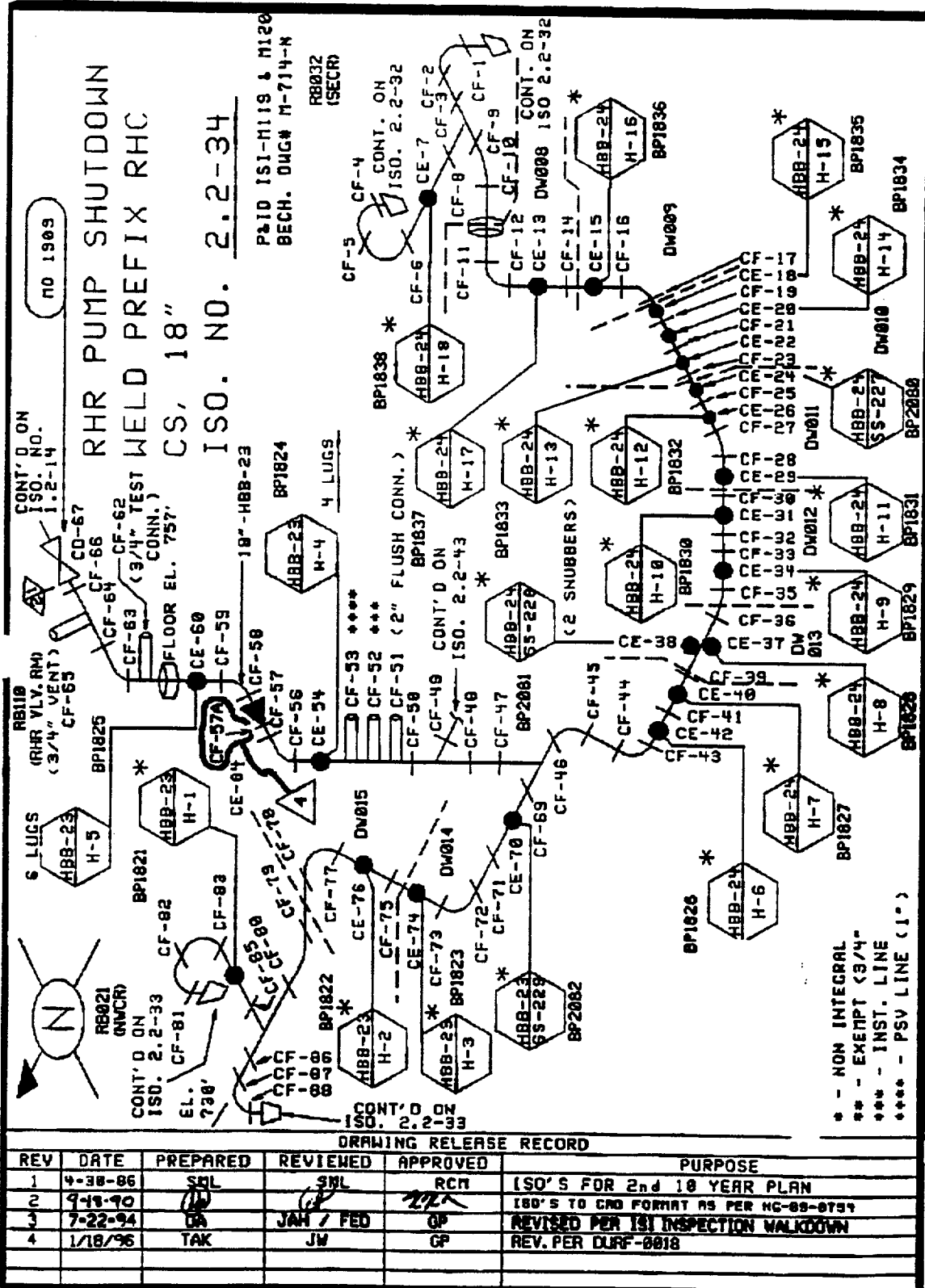
DWG. NO. VS-13-02  
 DRY TUBE  
 REV. 1

CC-8(01)-0°  
 CC-8(02)-90°  
 CC-8(03)-180°  
 CC-8(04)-270°



DRAWING RELEASE RECORD

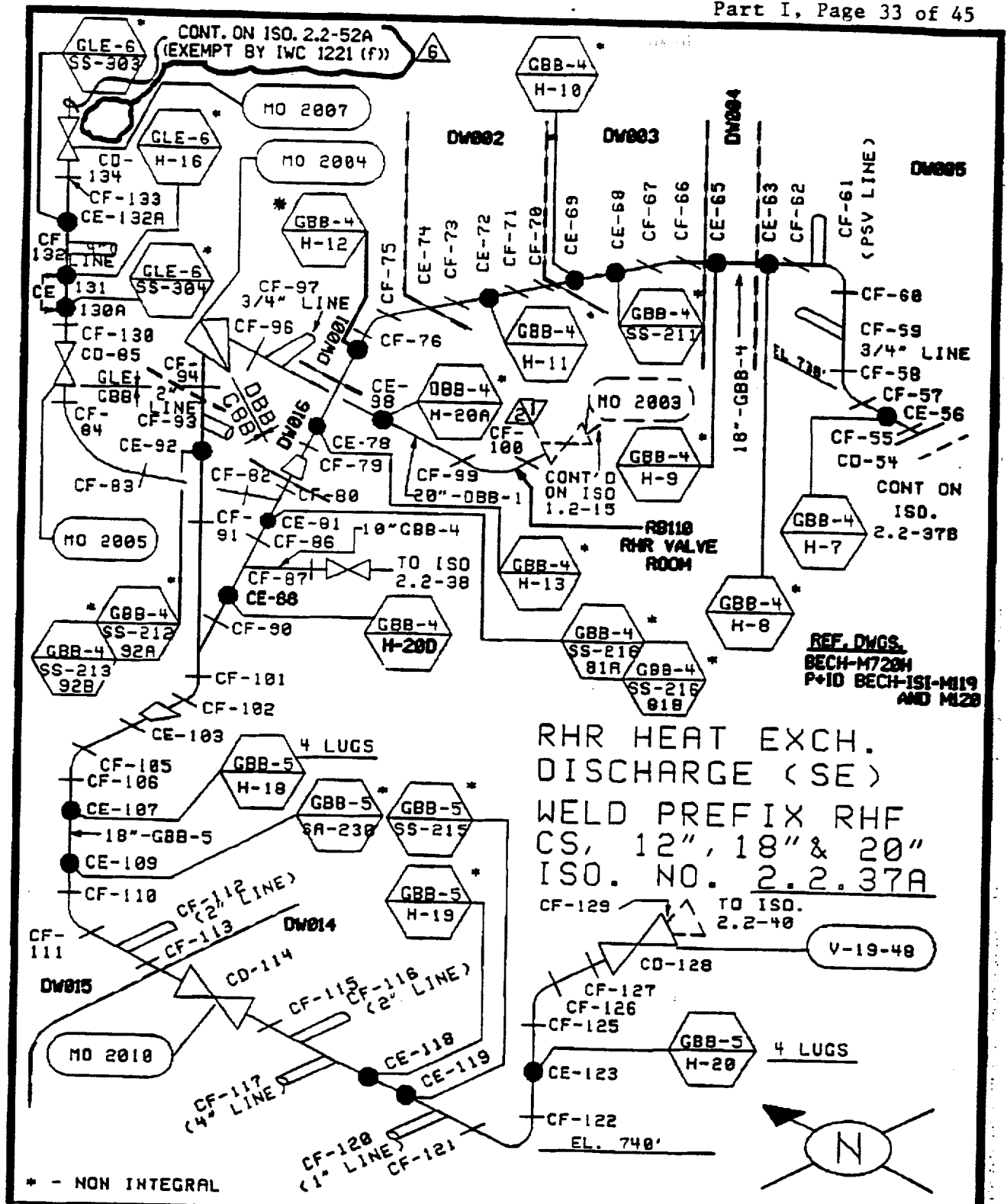
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	4-26-86	SMH	SMH	RCH	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	ISO'S TO CAD FORMAT AS PER HG-89-8754
3	8-23-94	DA	FED	GP	REVISED PER 1ST INSPECTION WALKDOWN
4	3/4/97	JAH	TAK /	GP	REVISED PER DURF-0036



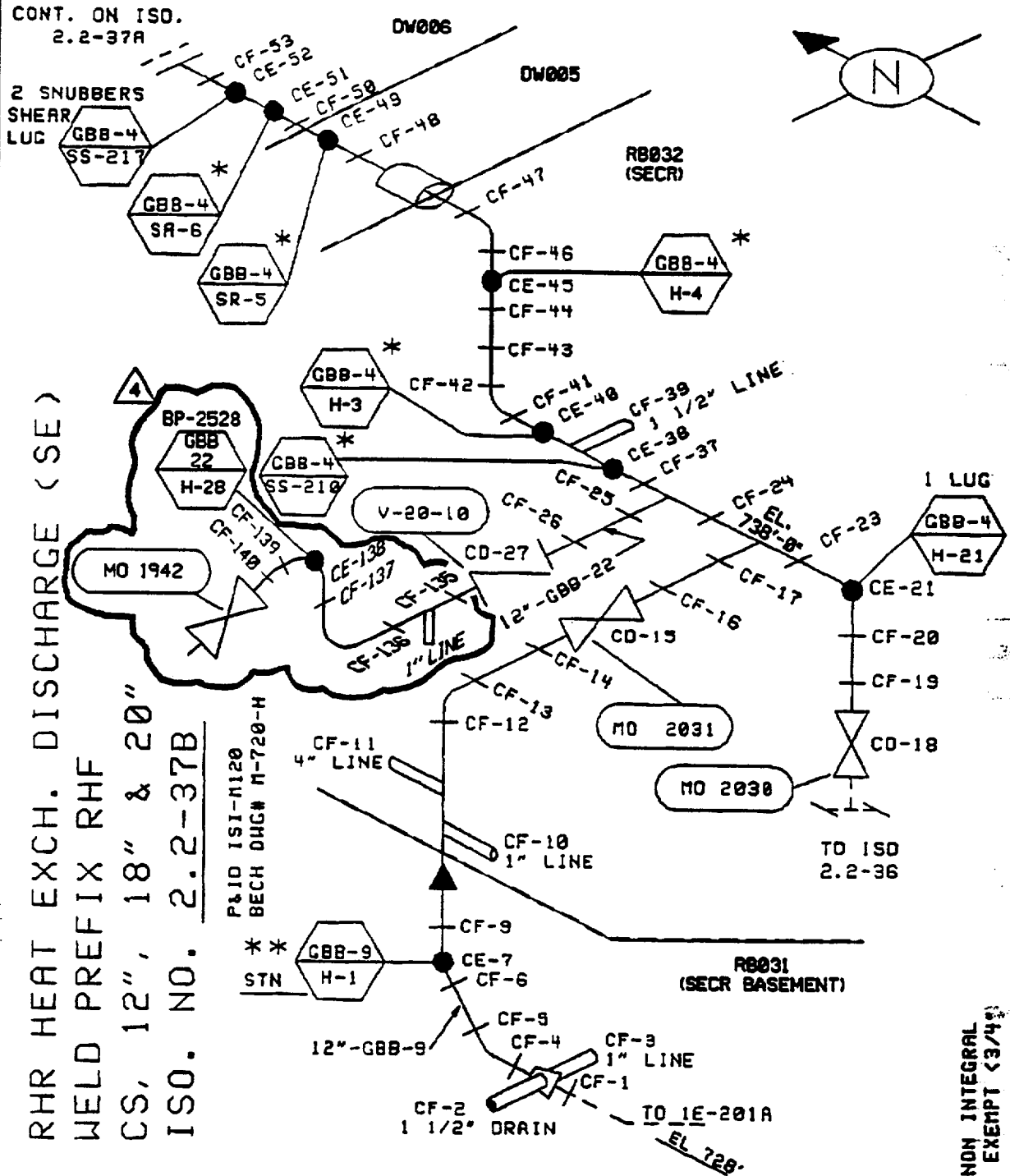
DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	4-30-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	[Signature]	[Signature]	[Signature]	ISO'S TO CAD FORMAT AS PER NC-89-8757
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	1/18/96	TAK	JW	GP	REV. PER DUFF-8818



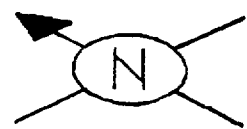


DRAWING RELEASE RECORD					
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	6-17-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	1-18-90	DA	DA	GP	ISO'S TO CAD FORMAT AS PER NG-89-8794
3	7-22-94	DA	FED	GP	REVISED PER 1ST INSPECTION WALKDOWN
4	1/24/98	TAK	DA	GP	REV. PER DURF-0018
5	3-21-96	JAH	DA	GP	REV. PER DURF-U0027
6	3/26/98	DA	TAK	GP	REVISED PER DURF-U0046



RHR HEAT EXCH. DISCHARGE (SE)  
 WELD PREFIX RHF  
 CS, 12", 18" & 20"  
 ISO. NO. 2.2-37B

P&ID ISI-1120  
 BECH DUG# N-720-H



NON INTEGRAL  
 EXEMPT (3/4)

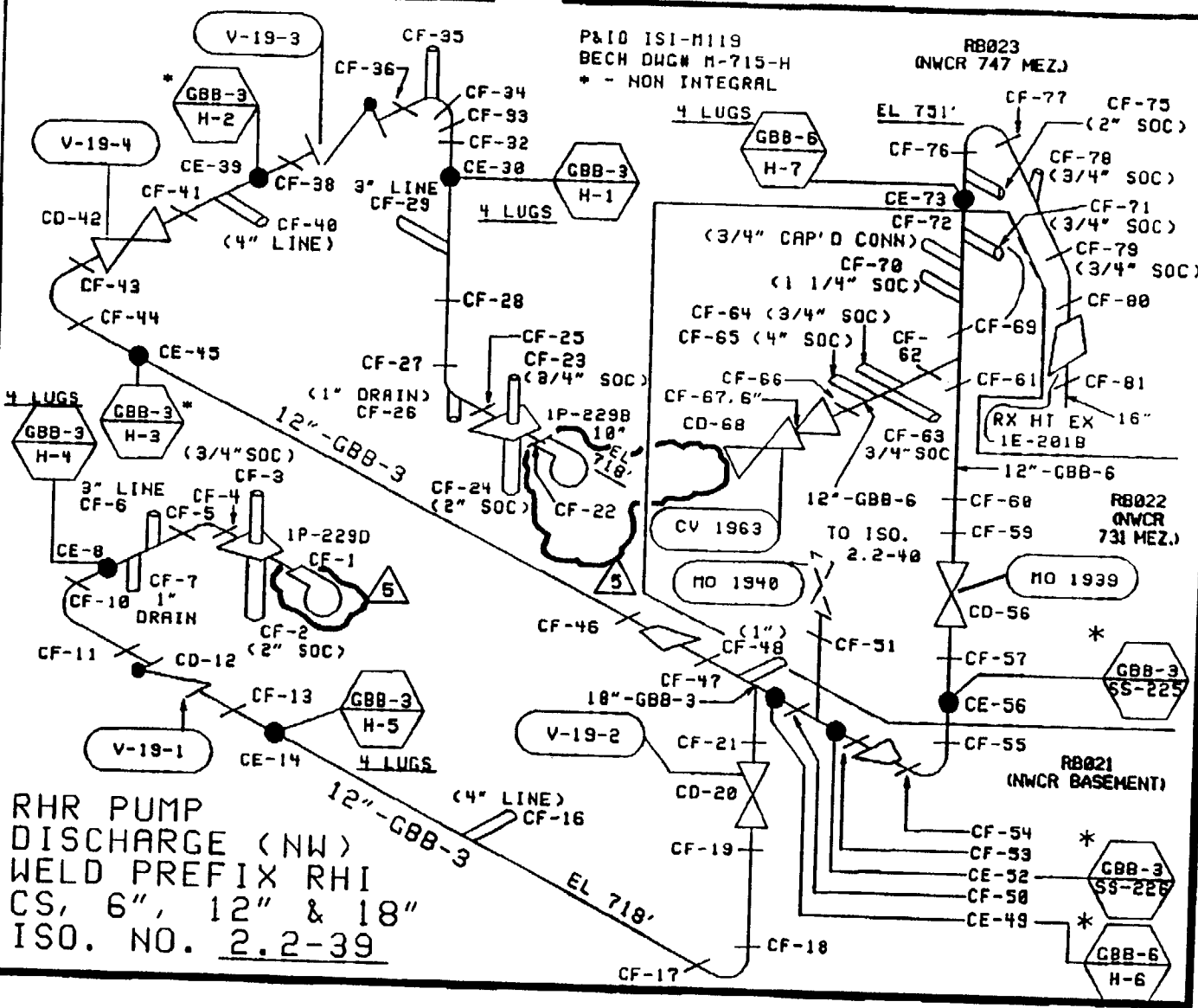
DRAWING RELEASE RECORD

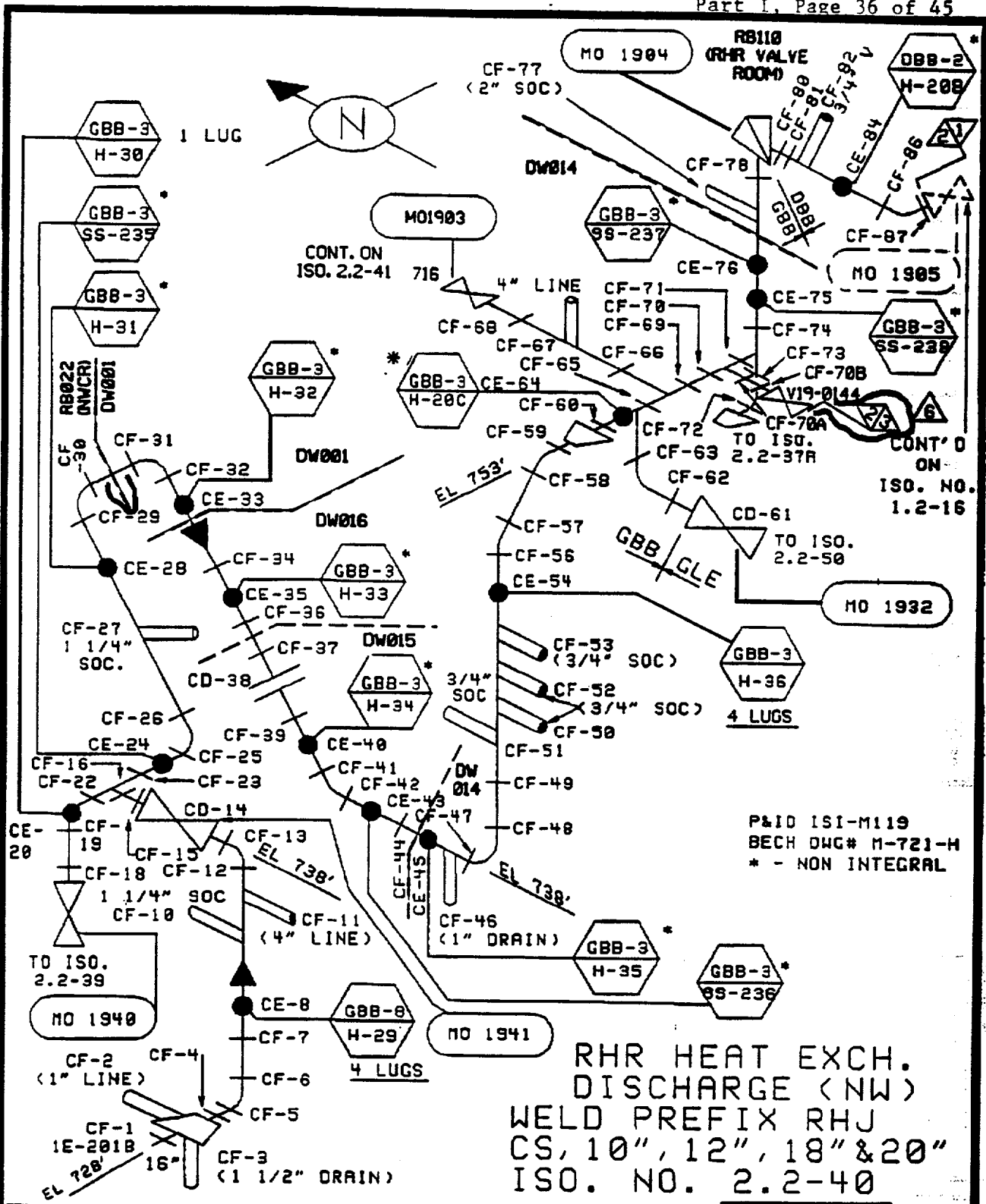
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	6-17-86	SML	SML	RCH	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	DA	FED	GP	ISO'S TO CAD FORMAT AS PER NG-89-8784
3	7-22-94	DA	TAK	GP	REVISED PER ISI INSPECTION WALKDOWN
4	3/26/98	DA	TAK	GP	REVISED PER DURF-U0046

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	6-18-86	SHL			ISO'S FOR 2nd 18 YEAR PLRN
2	9-18-90	SHL			ISO'S TO CMO FORMIT AS PER MC-89-8794
3	10-1-91	DA			REVISION PER DDC 798
4	7-22-94	DA			REVISED PER ISI INSPECTION WALKDOWN
5	7-6-95	DA			REVISED PER DURF-0013

DRAWING RELEASE RECORD

DNCC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC

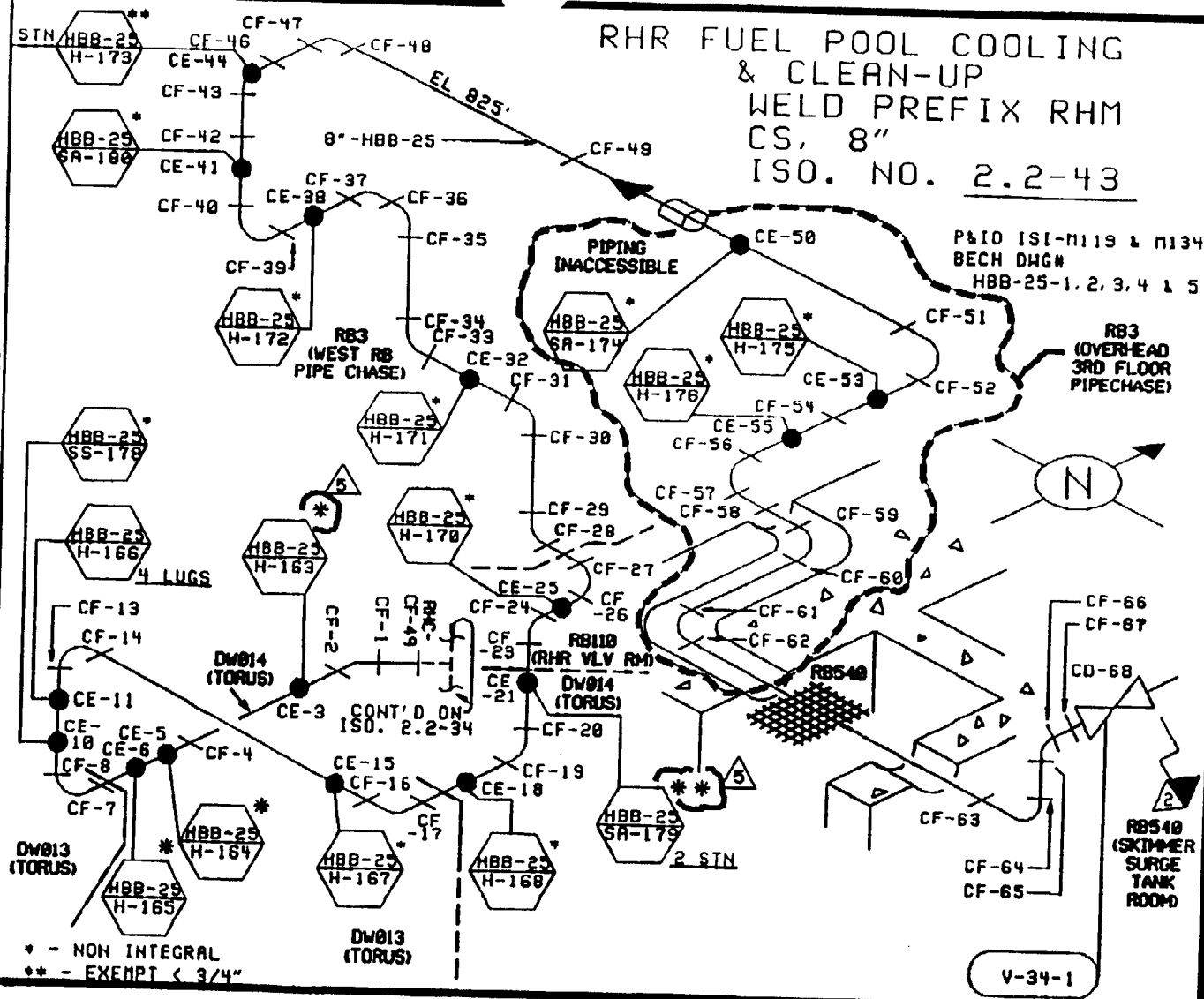




DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	6-28-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	DA	GR	KKM	ISO'S TO CAD FORMAT AS PER NG-89-8794
3	4-2-93	DA	BJB	GP	REVISED NUMBER
4	7-22-94	DA	BJB	GP	REVISED PER ISI INSPECTION WALKDOWN
5	1/19/96	TAK	DA	GP	REV. PER DURF-0018
6	3-21-96	JAH	DA	GP	REV. PER DURF-U0027

# RHR FUEL POOL COOLING & CLEAN-UP WELD PREFIX RHM CS, 8" ISO. NO. 2.2-43

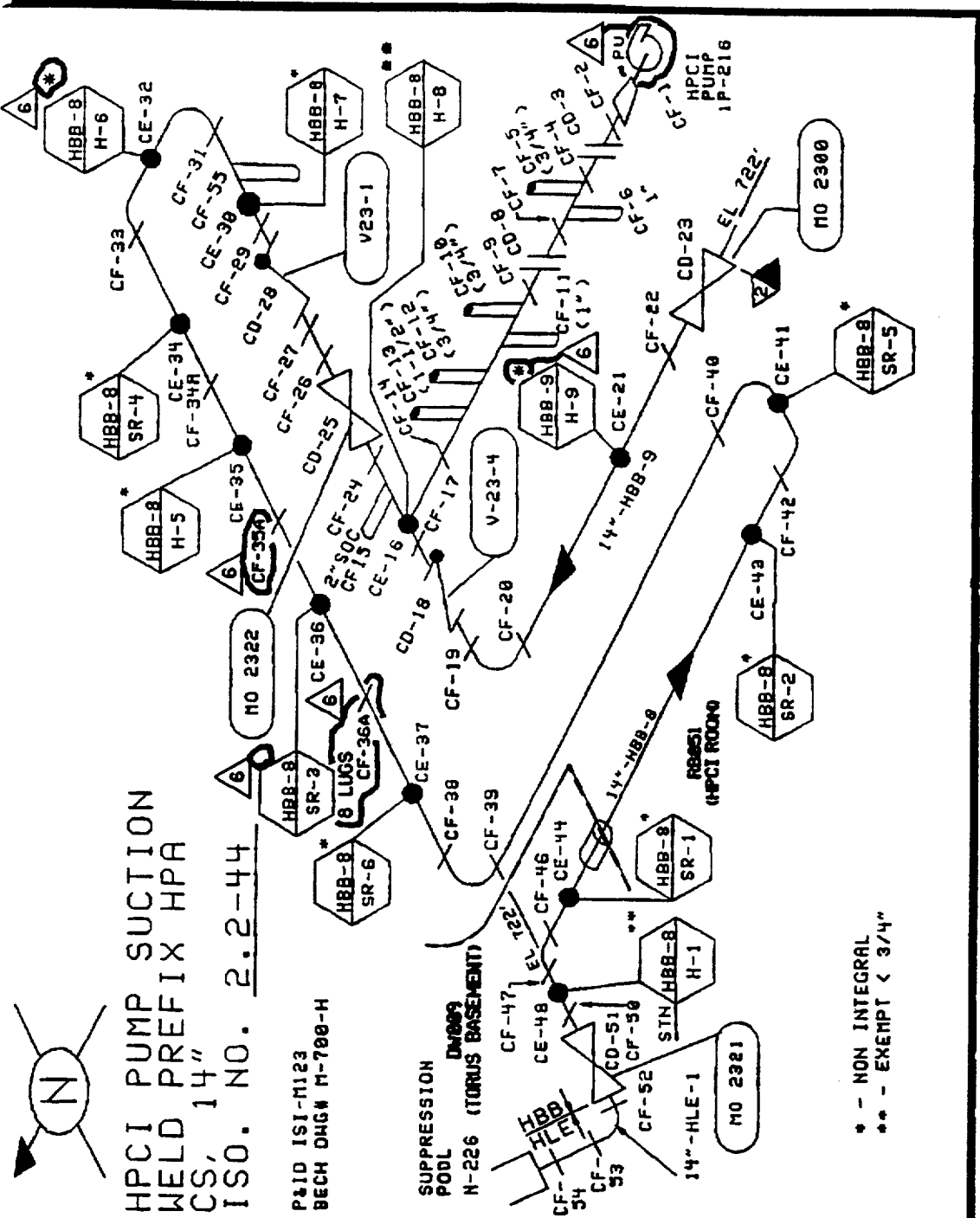


REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	6-23-86	SM	SM	SM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	DA	DA	DA	180° S TO CAD FORMAT AS PER NG-88-8794
3	7-22-94	DA	DA	DA	REVISED PER ISI INSPECTION WALKDOWN
4	1/24/96	TAK	DA	DA	REV. PER OIRF-0018
5	3-21-96	JAM	DA	GP	REV. PER OIRF-100227

DRAWING RELEASE RECORD

DNAC INSERVICE INSPECTION RSHM SECTION XI ISOMETRIC

\* - NON INTEGRAL  
\*\* - EXEMPT < 3/4"



HPCI PUMP SUCTION  
WELD PREFIX HPA  
CS, 14"  
ISO. NO. 2.2-44

P&ID IST-M123  
BECH DGN# M-700-H

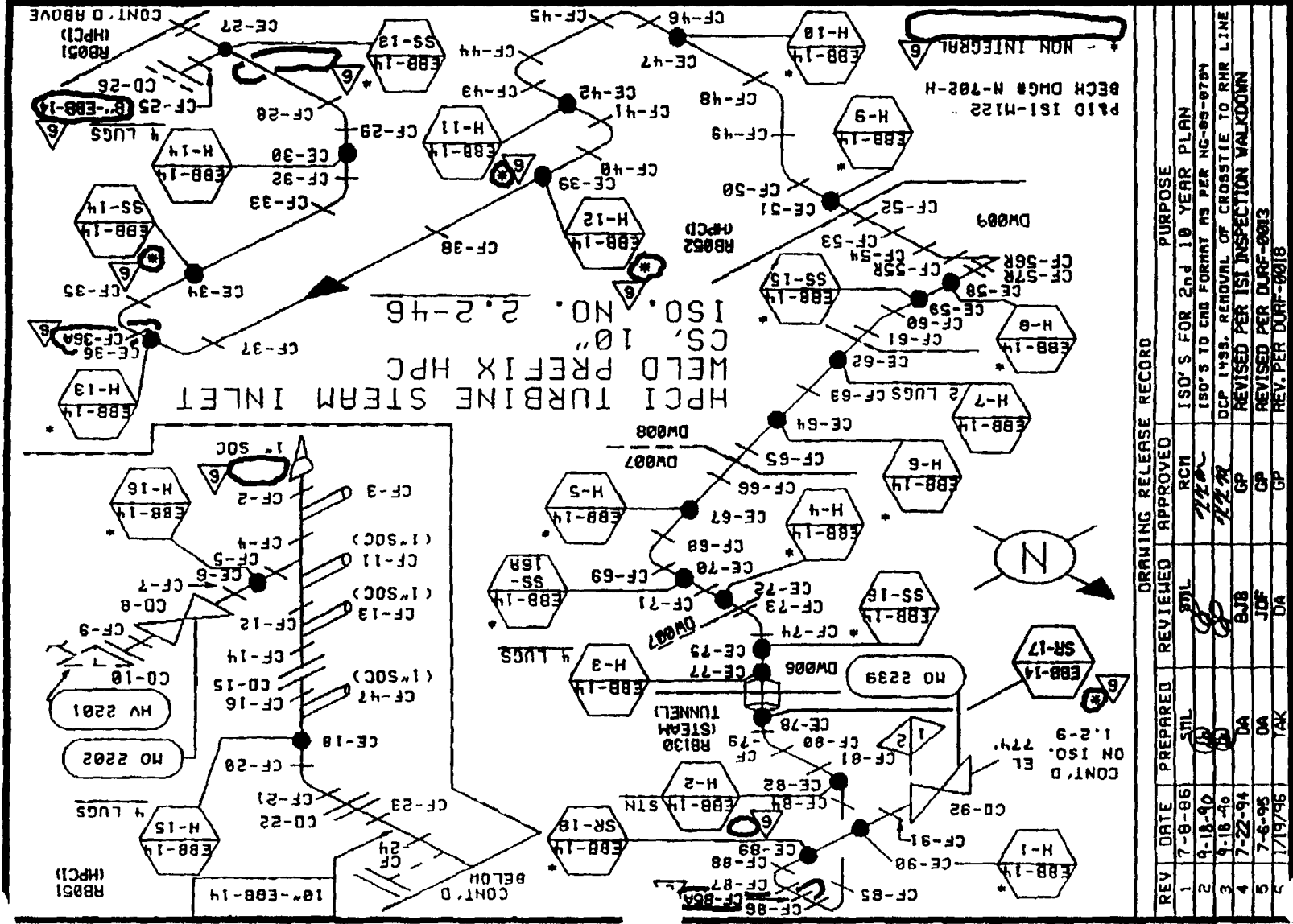
SUPPRESSION  
POOL  
N-226 (TORUS BASEMENT)

\* - NON INTEGRAL  
\*\* - EXEMPT < 3/4"

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	7-3-86	SML	SML	RCH	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	DA	CR	KKM	ISO'S TO CAD FORMAT AS PER HG-85-8734
3	4-2-93	DA	FED	GP	REVISED NUMBER
4	7-22-94	DA	FED	GP	REVISED PER IST INSPECTION WALKDOWN
5	7-6-95	DA	JDF	GP	REVISED PER DWF-8013
6	1/19/96	TAK	DA	GP	REV. PER DWF-8018

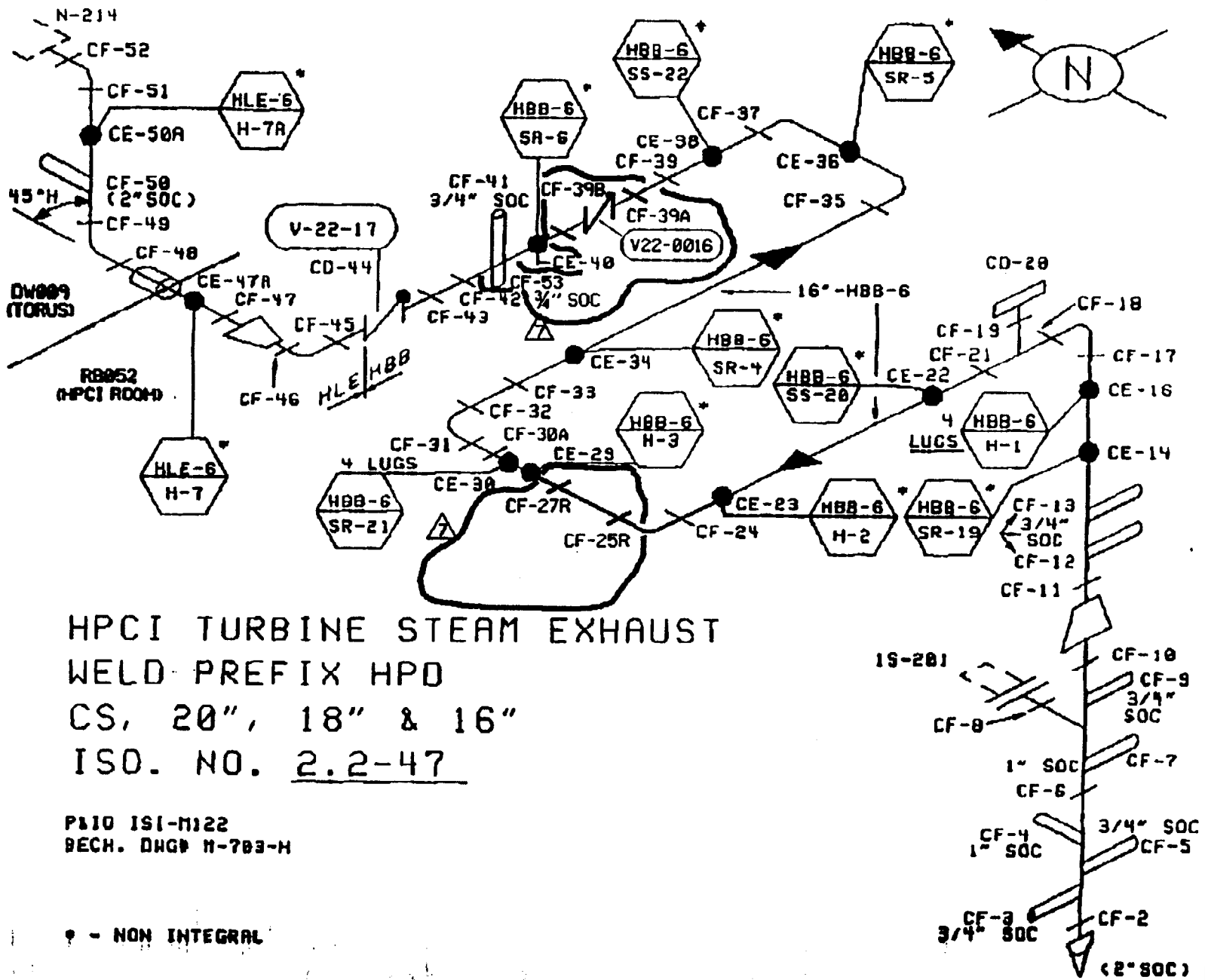
ORIG INSERVICE INSPECTION ASME SECTION XI ISOMETRIC



REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	7-8-86	STL	RCM		ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	STL			ISO'S TO CMB FORMAT AS PER NG-88-8784
3	9-18-90	STL			DCP 1433. REMOVAL OF CROSS TIE TO RHR LINE
4	7-22-94	DA	BJB	CP	REVISED PER ISI INSPECTION WALKDOWN
5	7-6-95	DA	JOF	CP	REVISED PER DURF-0003
6	1/19/96	TAK	DA	CP	REV. PER DURF-0018

ORING RELEASE RECORD

DMC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC



HPCI TURBINE STEAM EXHAUST  
 WELD PREFIX HPD  
 CS, 20", 18" & 16"  
 ISO. NO. 2.2-47

P&ID ISI-M122  
 BECH. DNGR H-703-M

\* - NON INTEGRAL

DRAWING RELEASE RECORD

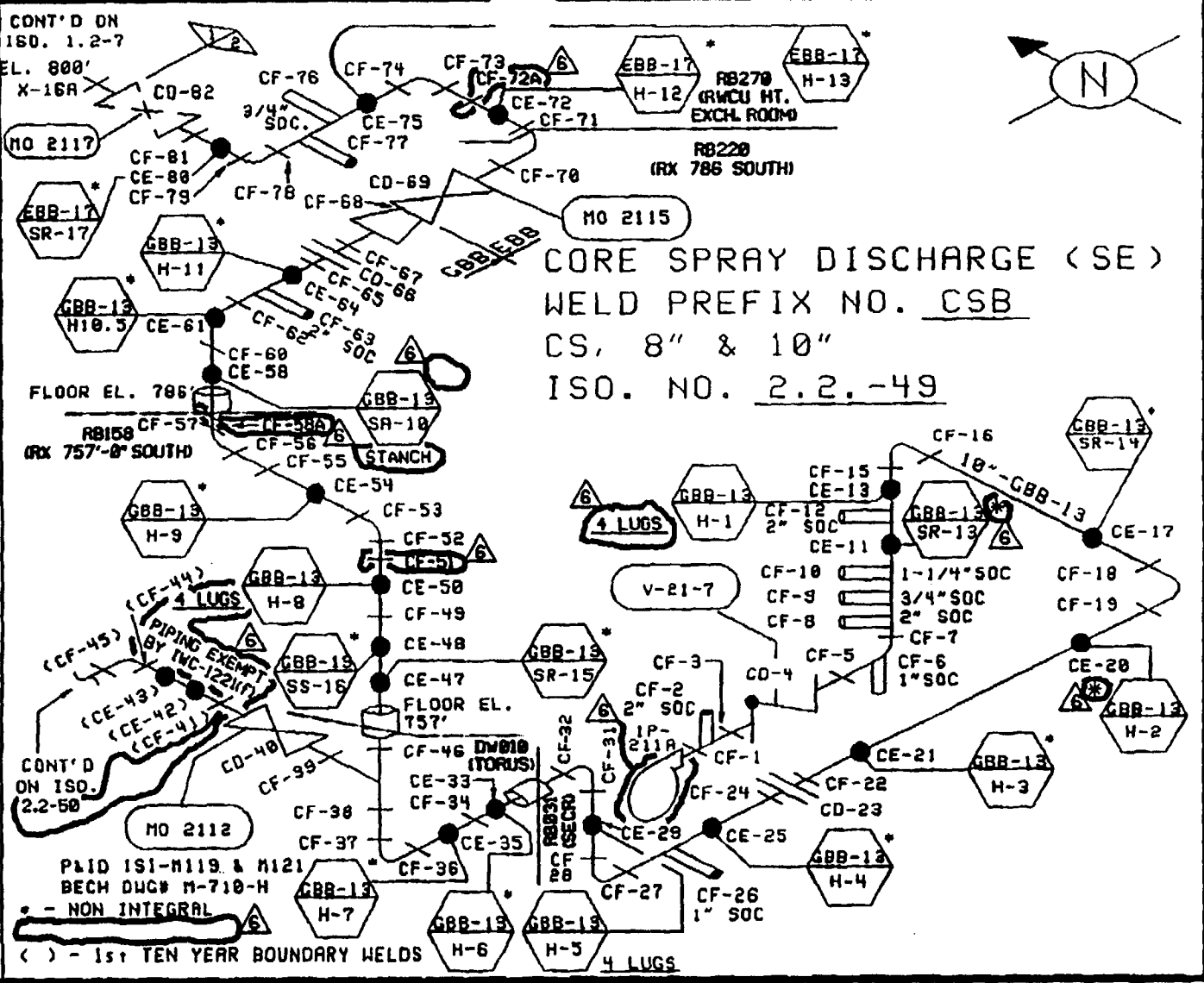
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
7	3/4/97	JAH	TAK	GP	REVISED PER DURE-0036
2	4-18-96	DA	DA	GP	ISO 5 TO CND FORMAT AS PER Nc-98-6788
3	7-22-94	DA	FED	GP	REVISED PER ISI INSPECTION V&A ROOM
4	7-6-95	DA	JOF	GP	REVISED PER DURE-0013
5	1/19/96	TAK	DA	GP	REV PER DURE-0018
6	4/11/96	MS	TAK	GP	REV PER DURE-0028

ONEC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC

Part 1 Page 40 of 45



REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	7-11-88	SML			ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-98	DA			ISO'S TO CMO FORMAT AS PER NG-99-979*
3	4-2-93	DA			REVISED NUMBER
4	7-22-94	DA			REVISED PER ISI INSPECTION WALKDOWN
5	7-6-95	DA			REVISED PER DURF-8813
	7/24/95	TAK			REV. PER DURF-0018



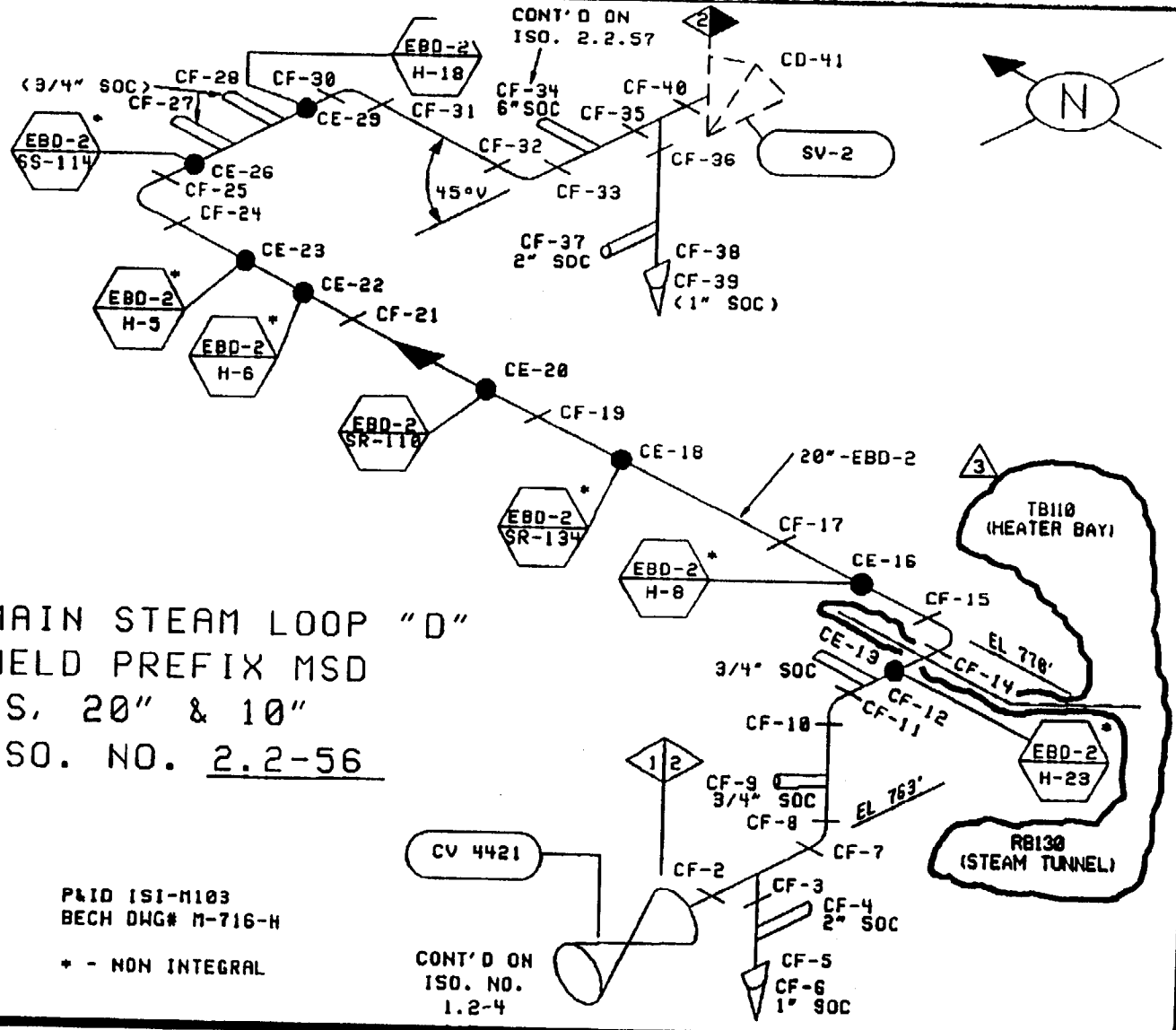
DNCC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC



REV	DATE	PREPARED	REVIEWED	APPROVED	DRAWING RELEASE RECORD	PURPOSE
1	7-16-86	SAL	SAL	RCH		ISO'S FOR 2nd 18 YEAR PLAN
2	1-18-90	DA	DA	CP		ISO'S TO CND FORMAT AS PER MC-89-8734
3	7-22-94	DA	JAH / BJB	CP		REVISED PER ISI INSPECTION WALKDOWN

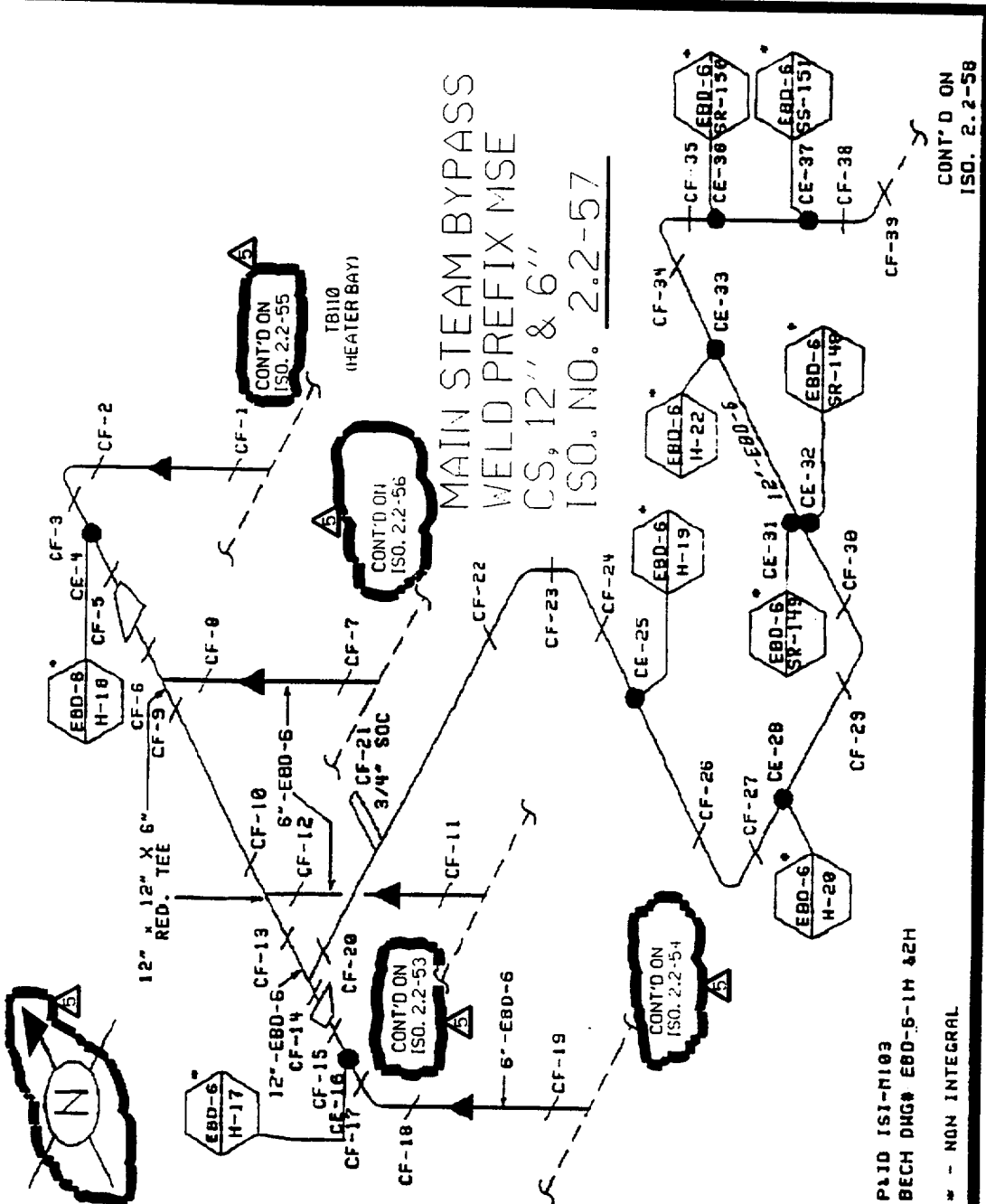
ONEC INSERVICE INSPECTION ASME SECTION XI ISOMETRIC

MAIN STEAM LOOP "D"  
 WELD PREFIX MSD  
 CS, 20" & 10"  
 ISO. NO. 2.2-56



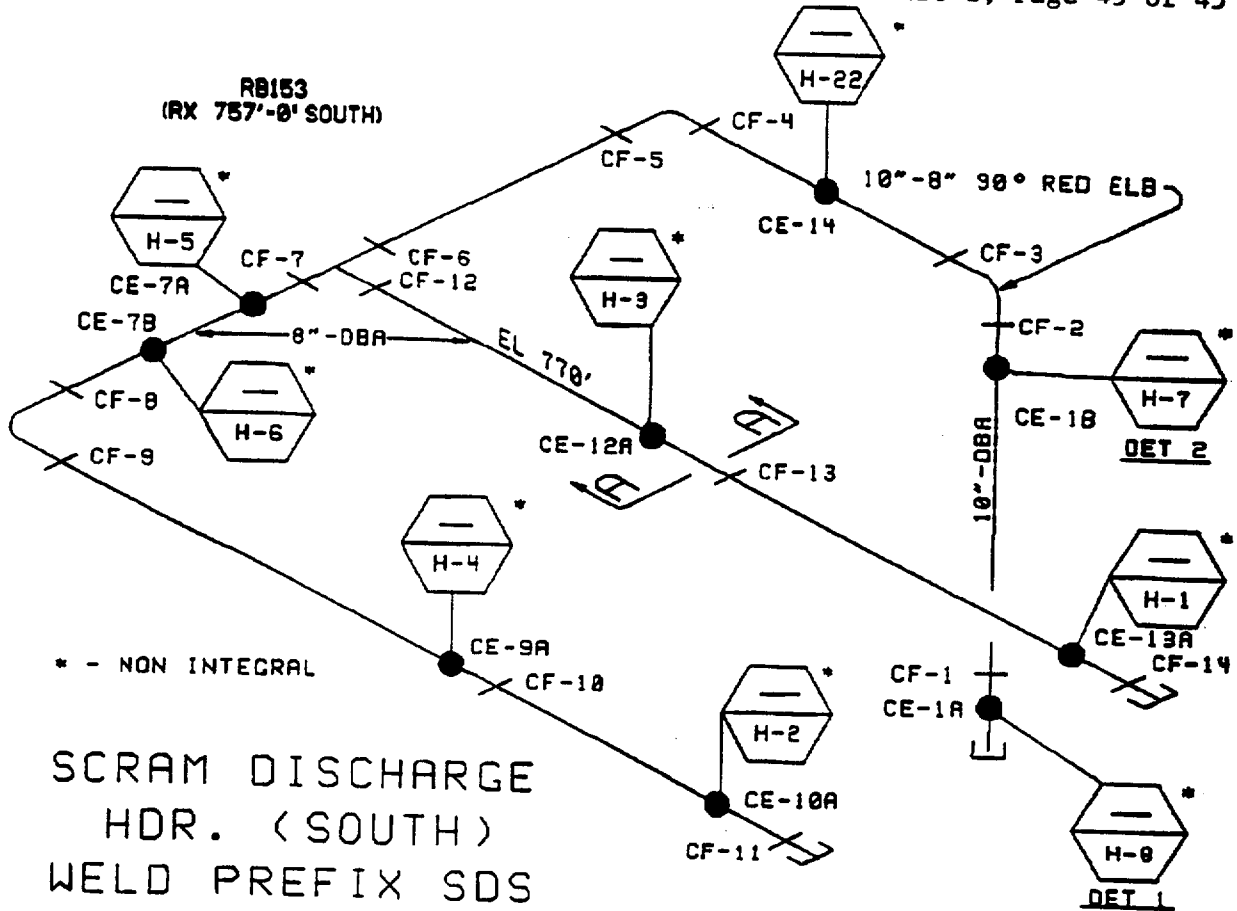
P&ID ISI-M103  
 BECH DWG# M-716-H  
 \* - NON INTEGRAL

CONT'D ON  
 ISO. NO.  
 1.2-4



PL10 ISI-M103  
 BECH DNG# EBD-5-1H & 2H  
 \* - NON INTEGRAL

DRAWING RELEASE RECORD					
REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	7-16-86	SAL	SAL	RCM	ISO'S FOR 2nd 18 YEAR PLAN
2	9-18-90	GP	JAH / BJB	GP	ISO'S TO CAD FORMAT AS PER NG-89-8784
3	7-22-94	CA	JDF	GP	REVISED PER ISI INSPECTION WALKDOWN
4	7-6-95	CA	GP	FED	REVISED PER DURF-2213
5	6/4/99	CA	GP	FED	REVISED PER DURF-2211

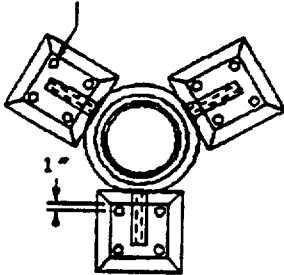


\* - NON INTEGRAL

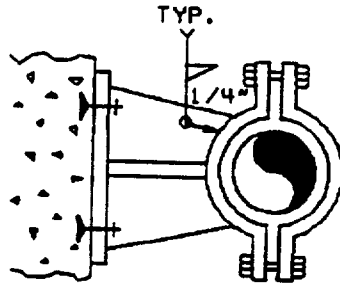
SCRAM DISCHARGE  
HDR. (SOUTH)  
WELD PREFIX SDS  
CS, 10" & 8"  
ISO. NO. 2.2-60

P+10: BECH-ISI-M118

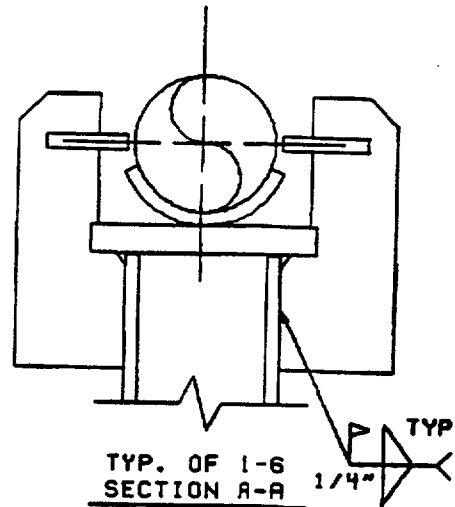
3/4" BOLTS  
TYP OF 4



DETAIL 1



DETAIL 2



TYP. OF 1-6  
SECTION A-A

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	7-16-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	10-26-87	JPM	RCM	REL	MODIFICATION OF SUPPORTS, FCN 1323) SEQ 5
3	9-18-90	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	ISO'S TO CAD FORMAT AS PER HG-02-0794
4	7-22-94	DA	JAH / BJB	GP	REVISED PER ISI INSPECTION WALKDOWN
5	1/19/96	TAK	DA	GP	REV. PER DURF-0018

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT  
May 23, 1998 through December 01, 1999**

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part J, page 1 of 4

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required) : N/A                                   | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

(Those percentages shown are actual, where the percentages exceed the allowable only the maximum (34% for period one and 67% for period two) will be taken credit for).

CLASS 1					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
B1.11	4	0%	0%	0%	
B1.12	8	0%	0%	0%	
B1.21	2	25%	0%	0%	
B1.22	15	0%	0%	0%	
B1.30	1	50%	0%	0%	See Note 7
B1.40	1	33%	0%	0%	
B1.51	1	0%	0%	0%	
B3.90	33	48%	0%	0%	See Note 1,8
B3.100	33	48%	0%	0%	See Note 1,8
B4.11	2	0%	0%	0%	See Note 2
B4.12	89	0%	0%	0%	See Note 2
B4.13	30	0%	0%	0%	See Note 2
B5.10	14	50%	0%	0%	See Note 8
B5.20	8	38%	0%	0%	
B5.130	8	38%	0%	0%	
B5.140	2	0%	0%	0%	
B6.10	60	33%	0%	0%	
B6.20	56	29%	0%	0%	
B6.30	4	100%	0%	0%	
B6.40	60	33%	0%	0%	
B6.50	60	33%	0%	0%	
B6.180	2	0%	0%	0%	See Note 3
B6.190	2	0%	0%	0%	See Note 3
B6.200	2	0%	0%	0%	See Note 3
B7.10	3	33%	0%	0%	
B7.50	5	40%	0%	0%	See Note 3
B7.60	2	0%	0%	0%	See Note 3
B7.70	47	4%	0%	0%	See Note 3
B7.80	89	15%	0%	0%	See Note 3
B9.11	94	22%	0%	0%	
B9.12	0	0%	0%	0%	See Note 6
B9.21	9	22%	0%	0%	
B9.31	6	17%	0%	0%	
B9.32	1	0%	0%	0%	
B9.40	23	22%	0%	0%	
B10.10	1	0%	0%	0%	See Note 4
B10.20	3	33%	0%	0%	See Note 4

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part J, page 2 of 4

- 1) Owners: IES Utilities Inc., an Alliant company  
P.O. Box 351  
Cedar Rapids, IA. 52406
- Central Iowa Power Cooperative  
Marion, IA.
- Corn Belt Power Cooperative  
Humbolt, IA.
- 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324
- 3) Plant Unit: #1
- 4) Owners Certificate of Authorization (if required): N/A
- 5) Commercial Service Date: 02/01/75
- 6) National Board Number of Unit: N/A
- Gross Generating Capacity: 565 MWE

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

CLASS 1					
B10.30	1	0%	0%	0%	See Note 4
B12.20	2	0%	0%	0%	
B12.50	45	6%	0%	0%	See Note 3
B13.10	36	37%	0%	0%	
B13.20	11	36%	0%	0%	
B13.30	27	4%	0%	0%	
B13.40	5	20%	0%	0%	
B14.10	3	0%	0%	0%	
B15.10	1	N/A	N/A	N/A	Once per refueling outage
B15.11	1	N/A	N/A	N/A	Once per interval

CLASS 2					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
C1.10	2	50%	0%	0%	
C1.20	1	0%	0%	0%	
C2.21	2	0%	0%	0%	
C2.22	2	0%	0%	0%	
C3.10	1	0%	0%	0%	See Note 4
C3.20	7	29%	0%	0%	See Note 4
C5.51	69	17%	0%	0%	
C5.81	1	100%	0%	0%	
C7.10	5	N/A	N/A	N/A	Once per period
C7.20	5	N/A	N/A	N/A	Once per interval

CLASS I SUPPORTS					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
F1.10	42	33%	0%	0%	See Note 5
F1.20	52	27%	0%	0%	See Note 5
F1.40	20	40%	0%	0%	See Note 5



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part J, page 3 of 4

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR (IWE) FIRST TEN YEAR INTERVAL**

CLASS MC					
E1.11	3	33%	0%	0%	
E1.12	31	19%	0%	0%	
E1.20	8	38%	0%	0%	
E4.11	1	0%	0%	0%	See Note 9
E5.30	4	25%	0%	0%	
E8.10	14	31%	0%	0%	
E9.20	*	N/A	N/A	N/A	See Note 10

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part J, page 4 of 4

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

- NOTE 1 - Item Numbers B3.90, B3.100  
There are a total of 34 nozzles, however 1 of the nozzles are exempt by IWB-1220(c) and not included in the percentages.
- NOTE 2 - Item Numbers B4.11, B4.12, B4.13  
These items are required to be examined during conduct of the system hydrostatic test, IES Utilities has implemented Code Case N-498-1 (TAP-P011)
- NOTE 3 - Item Numbers B6.180, B6.190, B6.200, B7.50, B7.60, B7.70, B7.80  
These examinations are performed when the component is disassembled for other reasons. Therefore IWX-2412-1 does not apply.
- NOTE 4 - Item Numbers B10.10, B10.20, B10.30, C3.10, C3.20  
These item numbers are from Code Case N509 (TAP-I007)
- NOTE 5 - Item Number F1.10, F1.20, F1.40  
These item numbers are from Code Case N491 (TAP-I008)
- NOTE 6 - Item Number B9.12  
There are no welds counted for this item number because of the use of Code Case N-524 (NDE-R012)
- NOTE 7 - Item Number B1.30  
50% of the shell-to-flange weld may be performed during the first and third inspection periods as allowed by Note 4 of Table IWB-2500-1.
- NOTE 8 - Item Number B3.90, B3.100, B5.10  
Relief Request NDE-R035 allows alternative percentages (ref. Code Case N-598).
- NOTE 9 - Item Number E4.11  
The DAEC has evaluated the need for augmented examination per this item number and has determined that the Torus should be examined twice per interval. Details are specified in Technical Approach and Position TAP-E002.
- NOTE 10 - Item Number E9.20  
There are no components identified under this item number because the DAEC has been approved to use Option B of Appendix J. The "Performance Based Containment Testing Program" contains the requirements.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

Part K, page 1 of 1

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**RELIEF REQUESTS**

The following are the relief requests that were used during the period of this Summary Report.

<u>RELIEF REQUESTS</u>	<u>DESCRIPTION</u>
NDE-R004	Repair of "D" outboard MSIV, relief from IWA/IWB-4000 requirements
NDE-R008	Limited examination of Reactor Water Cleanup Weld CUB-F004
NDE-R013	Expansion criteria for welds governed by Generic Letter 88-01 & NUREG 0313, Rev. 2
NDE-R014	Exemption from Appendix III calibration block notch dimensions
NDE-R015	Use of the 1989 Addenda of Section XI to govern repair procedures (IWX-4000) replacements (IWX-7000)
NDE-R015 Rev. 1	Use of the 1992 Addenda of Section XI to govern repair/replacement procedures (IWA-4000)
NDE-R027	Limited Examination of Closure Head Threads in Vessel Flange
NDE-R028	Limited Examination of Nozzle-to-Vessel Welds
<u>ALTERNATIVE TESTING</u>	<u>DESCRIPTION</u>
NDE-R012	Alternative Examination of Class 1 and 2 piping longitudinal seam welds
NDE-R017	Use of the examination requirements, examination method, and acceptance standard of the 1989 Addenda of ASME Section XI for reactor vessel closure head nuts
NDE-R018	Alternative Rules for the selection and examination of Class 1, 2, and 3 integrally welded attachments
NDE-R023	Inaccessible welds located in Containment Penetrations
PR-002	Alternative Testing for Class 2 Pressure Retaining Containment Penetrations connected to nonsafety related piping systems
PR-004	Alternative testing for ISI Class 1, 2 and 3 repaired/replaced components. Code Case N-416-1
TAP-I005	Selection of B-J welds for examination criteria
TAP-I006	Selection of C-F pressure retaining welds for examination
MC-R001	Qualification of Nondestructive Examination Personnel
MC-R002	Alternative to VT-3 for Seals and Gaskets
MC-R003	Alternative to Torque Test of Bolting
<u>CODE CASE #</u>	<u>DESCRIPTION</u>
N-416-1 (PR-004)	Alternative pressure testing requirements for welded repairs or installation or replacement items by welding, Class 1, 2, and 3.
N-491 (TAP-I008)	Alternative rules for examination of Class 1, 2, 3 and MC component supports
N-509 (TAP-I007)	Alternative rules for selection and examination of Class 1, 2, 3 and integrally welded attachments
N-508-1 (NDE-R033)	Rotation of serviced snubbers and pressure relief valves for the purpose of testing
N-546 (PR-008)	Alternative requirements for Qualification of VT-2 Examination Personnel
N-598 (NDE-R035)	Alternative Requirements to Required Percentages of Examinations
N-601 (MC-R007)	Extent and Frequency of VT-3 Visual Examination for Inservice Inspection of Metal Containments

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
May 23, 1998 through December 01, 1999

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25 Years of



Rock Solid Performance

***ASME Section XI Summary Report***

***Duane Arnold Energy Center***

***Refueling Outage 16***

***(Period 2)***

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

DUANE ARNOLD ENERGY CENTER

UNIT #1 PALO, IOWA

Commercial Service Date: February 1, 1975

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION SUMMARY REPORT**

November 1, 1999 through December 1, 1999

Dated: December 1, 1999

OWNER:

IES UTILITIES INC., AN ALLIANT COMPANY

P.O. Box 351

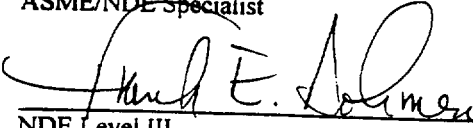
Cedar Rapids, Iowa 52406

Prepared by:

  
ASME/NDE Specialist

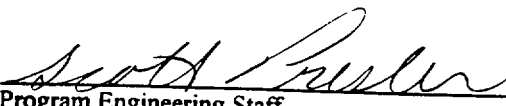
Date: 1/18/2000

Reviewed by:

  
NDE Level III

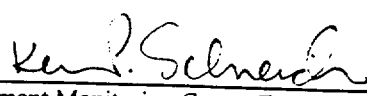
Date: 1-24-00

Reviewed by:

  
Program Engineering Staff

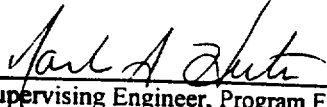
Date: 1-24-00

Reviewed by:

  
Equipment Monitoring Group, Team Leader

Date: 1-26-00

Concurred by:

  
Supervising Engineer, Program Engineering

Date: 1-31-00

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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C	Abstract	page 1
D	Table of Component and Weld Examination Identification Records	pages 1-2
E	Table of Additional and Successive Examinations Identification Records	page 1
F	Abstract of ASME Section XI Repairs and Replacements	page 1
G	Form NIS-2's	page 1
H	Abstract of Conditions Noted and Corrective Measures Taken	page 1
I	ISI Figures and Isometrics	pages 1-14
J	Status of Work for Second Ten Year Interval	pages 1-4
K	Listing of Relief Requests and Code Cases Utilized	page 1



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part A, Page 2 of 2

**FORM NIS-1 (back)**

8. Examination Dates 11/01/99 to 12/01/99 9. Inspection Interval from 11/01/96 to 12/01/05

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

Refer to Part C, Part D. and Part J.

11. Abstract of Conditions Noted

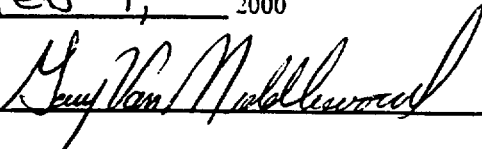
Refer to Part H.

12. Abstract of Corrective Measures Recommended and Taken

Refer to Part H.

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Date Feb 7, 2000

Signed  By Gary Van Middlesworth, Site General Mgr

Certificate of Authorization No. (if applicable) \_\_\_\_\_ Expiration Date \_\_\_\_\_

**CERTIFICATE OF INSERVICE INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Iowa and employed by Hartford Boiler Co. of Hartford CT have inspected the components described in this Owner's Data Report during the period 11/01/99 to 12/01/99, 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 Data 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 Data 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.

Date 2/18/ 2000.

  
Inspector's Signature

Commissions 11872 ANI, 1422IA  
National Board, State, Province and No.

Note 1: As per letter NG-89-3390, the ASME Section XI "Vessels," RHR Heat Exchangers 1E-201A and 1E-201B and the Reactor Vessel are excluded from the Summary Report to the State.

Note 2: Other owners are Central Iowa Power Cooperative and Corn Belt Power Cooperative.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part B, page 1 of 2

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 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

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part B, page 2 of 2

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo. IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**CERTIFICATE OF INSERVICE INSPECTION**

**COMPONENTS EXAMINED:**

<b>CLASS 1</b>
----------------

Component	Iso No
VESEL STUD AND LIGAMENT	1.1-05
Main Steam	1.2-02
CRD Return	1.2-12A
RCIC-Water	1.2-18
Recirculation Pump 'A' and Discharge Valve By-Pass	1.2-19A
Recirculation Manifold 'B' and Risers A,B,C,D	1.2-22
Reactor Vessel Instrumentation N-12B	1.2-31
Recirculation Pump 'B'	1.3-03

<b>IVVI</b>
-------------

Component	Iso No
Top Head Assembly	VS-01-06
Guide Rod Bracket	VS-01-28
Ledge Segment Plates	VS-02-11
Sample Holder	VS-10-02

<b>CLASS 2</b>
----------------

Component	Iso No
RHR Heat Exchanger	2.1-01

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part C, page 1 of 1

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**CERTIFICATE OF INSERVICE INSPECTION**

**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 1989 Edition, No 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 November 1, 1999 through December 1, 1999. The specific details and associated records of the examinations are on file at IES Utilities Inc.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part D, page 1 of 2

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS 1						
Component	Description	ISI Report	ISI Examination	ISI Iso	ASME XI Category	Results
RPV Stud/Nut and Ligaments	CLSR HD-LGMNTS (21-40)	199001	UT	1.1-05	B-G-1	Accepted
	CLSR HD-NUTS (21-40)	199002	VT-1	1.1-05	B-G-1	Accepted
	CLSR HD-STUDS (21-40)	199003	UT	1.1-05	B-G-1	Accepted
	CLSR HD-WSHRS (21-40)	199004	VT-1	1.1-05	B-G-1	Accepted
Main Steam	MSB-D001	199112	UT0 UT45 UT60	1.2-02	B-D	Accepted
	MSB-D001-INNER RAD	199113	UT70	1.2-02	B-D	Accepted
Control Rod Drive Return	CRA-F004	199030	PT	1.2-12A	B-F	Accepted
Reactor Core Isolation Cooling	RSB-J001	199033	MT UT45	1.2-18	B-J	Accepted
	RSB-J011	199034	MT UT45	1.2-18	B-J	Accepted
Recirculation Pump Suction	RCA-D001	199114	UT0 UT45 UT60	1.2-19A	B-D	Accepted
	RCA-D001-INNER RAD	199115	UT70	1.2-19A	B-D	Accepted
	RCA-F002	199139	PT UT45RL UT60RL	1.2-19A	B-F	Accepted
Recirculation System Riser	RRC-F002	199116	PT UT45RL UT60RL UT70RL	1.2-22	B-F	Accepted
	RRC-J004	199044	PT UT45	1.2-22	B-J	Accepted
	RRC-J005	199045	PT UT45	1.2-22	B-J	Accepted



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part D Page 2 of 2

- 1) Owners: IES Utilities Inc., an Alliant company  
P.O. Box 351  
Cedar Rapids, IA. 52406  
Central Iowa Power Cooperative  
Marion, IA.  
Corn Belt Power Cooperative  
Humbolt, IA.
- 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  
3) Plant Unit: #1
- 4) Owners Certificate of Authorization (if required): N/A  
5) Commercial Service Date: 02/01/75
- 6) National Board Number of Unit: N/A  
Gross Generating Capacity: 565 MWE

**COMPONENT AND WELD EXAMINATION IDENTIFICATION RECORDS**

CLASS 1 con't						
Component	Description	ISI Report	ISI Examination	ISI Iso	ASME XI Category	Results
Reactor Vessel Instrumentation	VID-D001	199117	UT0 UT45 UT60	1.2-31	B-D	Accepted
	VID-D001-INNER RAD	199118	UT70	1.2-31	B-D	Accepted
Recirculation Pump	RPB-K004A	199062	VT-3	1.3-03	F-A	Accepted
	RPB-K005	199063	VT-3	1.3-03	F-A	Accepted
Reactor Pressure Vessel Internals	Vessel Head	199123	VT-3	VS-01-06	B-N-1	Accepted
	GUIDE ROD BRT (180)	199111	VT-3	VS-01-28	B-N-1	Accepted
	SHROUD LEDGE 180-360	199111	VT-3	VS-02-11	B-N-1	Accepted
	SAMPLE HOLDER-288 DEG	199111	VT-3	VS-10-02	B-N-1	Accepted

CLASS 2						
Component	Description	ISI Report	ISI Examination	ISI Iso	ASME XI Category	Results
RHR Heat Exchanger	HEA-CC-8(01)	199066	VT-3	2.1-01	F-A	Accepted

CLASS 2 PRESSURE TESTS						
CRD (HCU) Inservice Pressure Test	STP NS550001	199119	VT-2	ISONO-P	C-H	Accepted
Core Spray Functional Pressure Test	STP NS510002	199120	VT-2	ISONO-P	C-H	Accepted

IWE COMPONENTS						
DryWell	Head Bolts	199138	VT-1	N/A	E-G	Accepted

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part E, page 1 of 1

- 1) Owners: IES Utilities Inc., an Alliant company  
P.O. Box 351  
Cedar Rapids, IA. 52406
- Central Iowa Power Cooperative  
Marion, IA.
- Corn Belt Power Cooperative  
Humbolt, IA.
- 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324
- 3) Plant Unit: #1
- 4) Owners Certificate of Authorization (if required): N/A
- 5) Commercial Service Date: 02/01/75
- 6) National Board Number of Unit: N/A
- Gross Generating Capacity: 565 MWE

**ADDITIONAL EXAMINATION IDENTIFICATION RECORDS**

Class 1					
Original Component Examined	Expanded Component	ISI Report Number	Examination	ASME XI Category	Results

THERE WERE NO ADDITIONAL EXAMINATION PERFORMED DURING THE SECOND PERIOD

**SUCCESSIVE EXAMINATION IDENTIFICATION RECORDS**

Class 1					
Component Examined	Previous ISI Report Number	ISI Report Number	Examination	ASME XI Category	Results

THERE WERE NO SUCCESSIVE EXAMINATIONS PERFORMED DURING THE SECOND PERIOD

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part F, page 1 of 1

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA 52324   | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**ABSTRACT OF ASME SECTION XI REPAIRS AND REPLACEMENTS**

The repairs and replacements addressed in this report were performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1989 Edition, 1989 Addenda (Ref. Relief Request NDE-R015), 1992 with the 1992 Addenda (Ref. Relief Request NDE-R015 Rev. 1).

**THERE WERE NO ASME SECTION XI REPAIRS OR REPLACEMENTS COMPLETED UNDER THE SECOND PERIOD. ALL REPAIRS AND REPLACEMENTS WERE COMPLETED AND SUBMITTED UNDER THE FIRST PERIOD OF THE THIRD TEN YEAR INTERVAL SUMMARY REPORT.**

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**

November 01, 1999 through December 01, 1999

Part G, page 1 of 1

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**Form NIS-2's**

**THERE ARE NO NIS-2's INCLUDED IN THIS SUMMARY REPORT.  
THEY ARE INCLUDED IN THE FIRST PERIOD SUMMARY REPORT**

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part H, page 1 of 1

- |   |   |   |
|---|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324                                       | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                   | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A   | Gross Generating Capacity: 565 MWE            |   |

**ABSTRACT OF CONDITIONS NOTED AND CORRECTIVE MEASURES TAKEN:**

The corrective measures are addressed in this report and were performed in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1989, with 1989 Addenda (Ref. Relief Request NDE-R015), 1992 with the 1992 Addenda (Ref. Relief Request NDE-R015 Rev. 1), and the Duane Arnold Energy Center Updated Final Safety Analysis Report. The corrective measures performed as Repairs or Replacements are listed in Part F 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, 1989, 1989 Addenda or 1992, 1992 Addenda. Specific details and associated records of additional corrective measures are on file at IES Utilities Inc. The corrective measures addressed were performed during the period of November 01, 1999 through December 01, 1999.



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part I, page 1 of 14

- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required) : N/A                                   | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

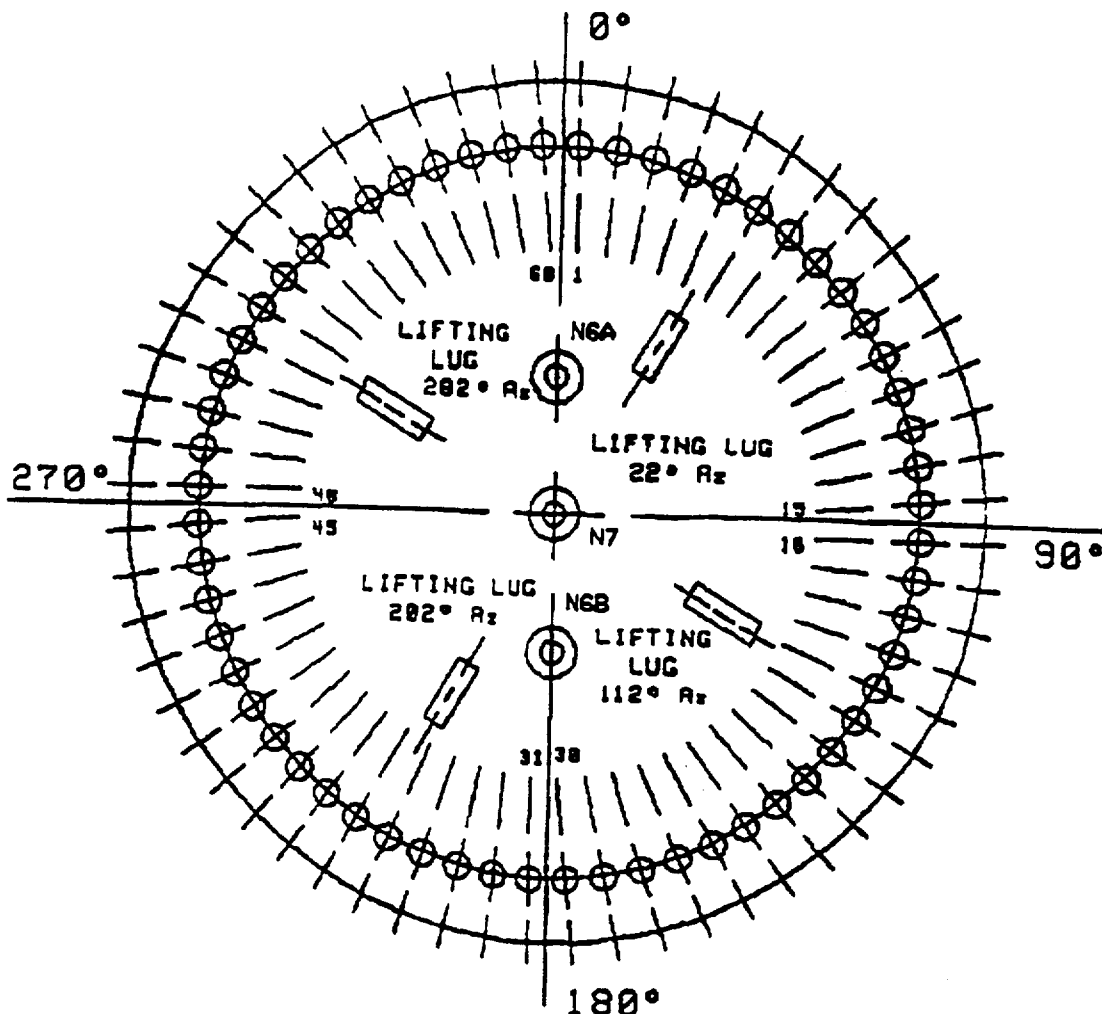
**ISI FIGURES AND ISOMETRICS**

**PLEASE NOTE:** ISI Figures and Isometrics are listed in Part B and Part E of this report

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part I, page 2 of 14

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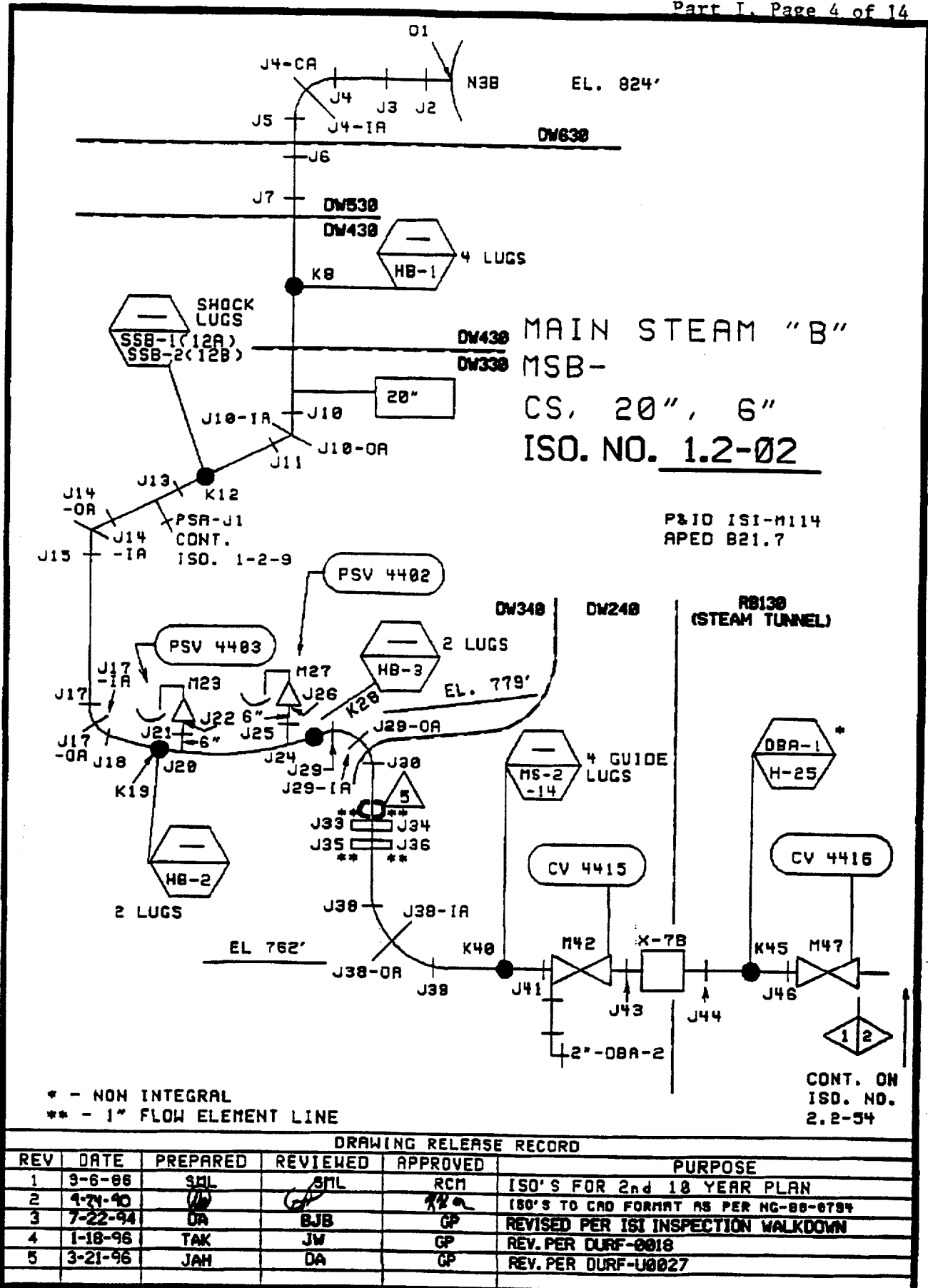
VESSEL STUD AND LIGAMENT LOCATION

Figure No. 1.1-05

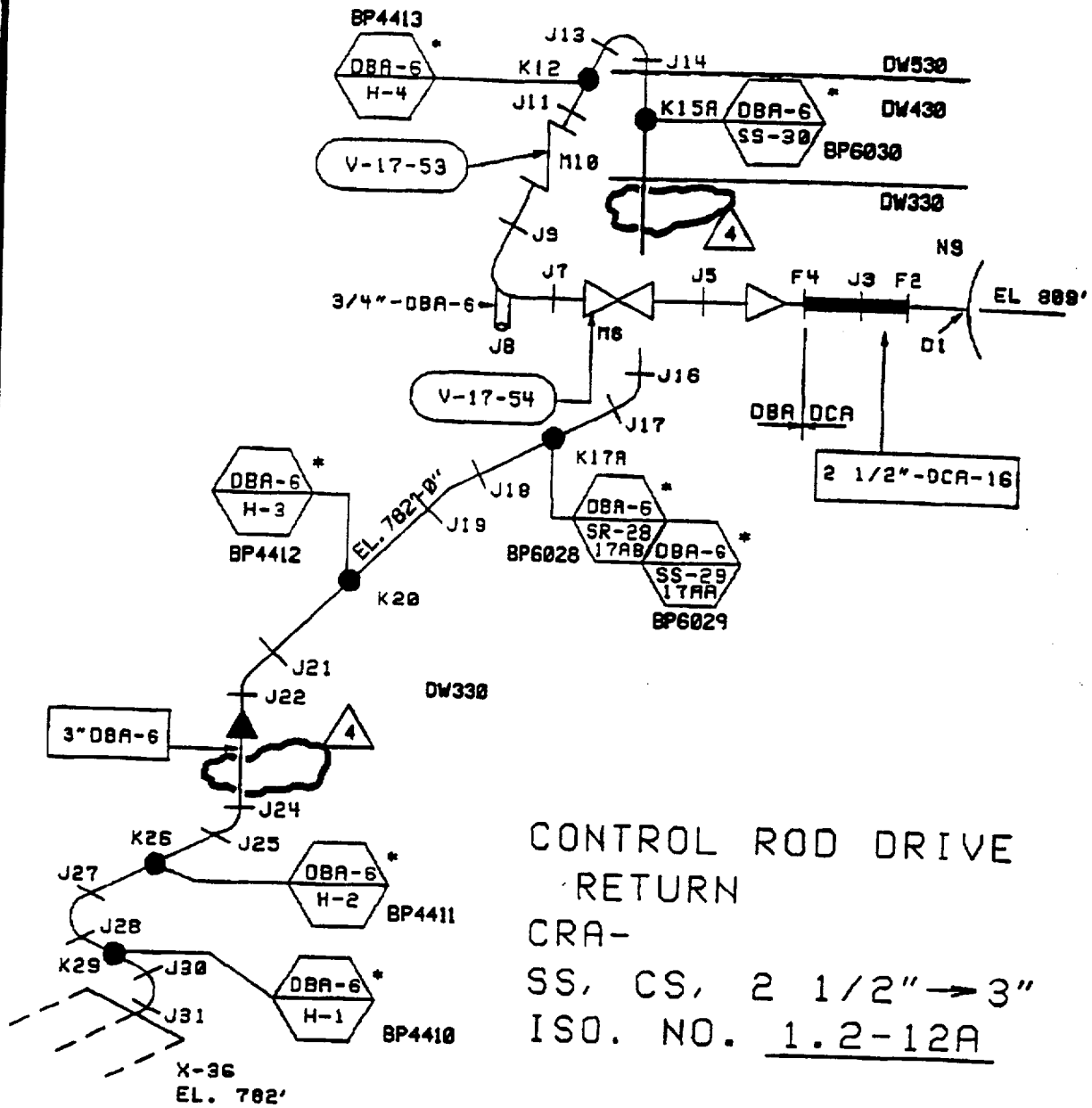
PR - Pressure Retaining  
 - Studs  
 - Nuts  
 - Washers  
 - Ligaments

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	4-9-88	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	GP	KKM	ISO'S TO CAD FORMAT AS PER HG-89-0704
3	5-13-91	DA	GP	KKA	PCN "B" CORRECTLY IDENTIFIED LIFTING LUGS
4	7-22-94	DA	FED	GP	REVISED PER ISI INSPECTION WALKDOWN
5	7-16-95	DA	DF	GP	DELETED DWG PER DURF-013
6	3/11/96	JAH	TAK	GP	RE-ISSUED PER DURF-0025



DRAWING RELEASE RECORD					PURPOSE
REV	DATE	PREPARED	REVIEWED	APPROVED	
1	9-6-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	4-24-90	DA	GP	GP	ISO'S TO CAD FORMAT AS PER NG-80-0794
3	7-22-94	DA	BJB	GP	REVISED PER ISI INSPECTION WALKDOWN
4	1-18-96	TAK	JW	GP	REV. PER DURF-0018
5	3-21-96	JAH	DA	GP	REV. PER DURF-U0027



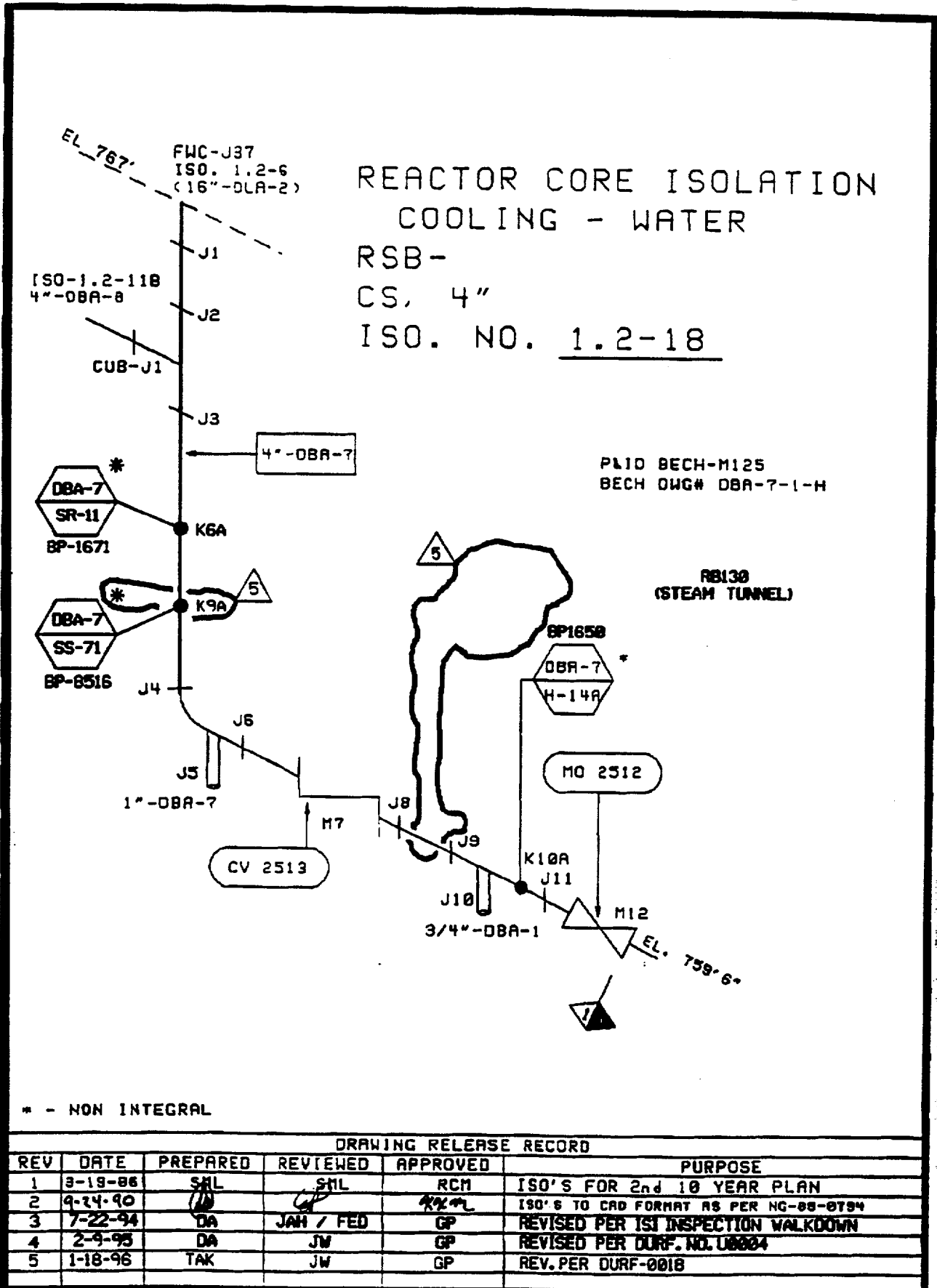
CONTROL ROD DRIVE  
 RETURN  
 CRA-  
 SS, CS, 2 1/2" → 3"  
 ISO. NO. 1.2-12A

CONT. ON  
 ISO. NO. 1.2-12B

P&IS ISI-M117  
 BECH. DWG# DBA-6-1-H

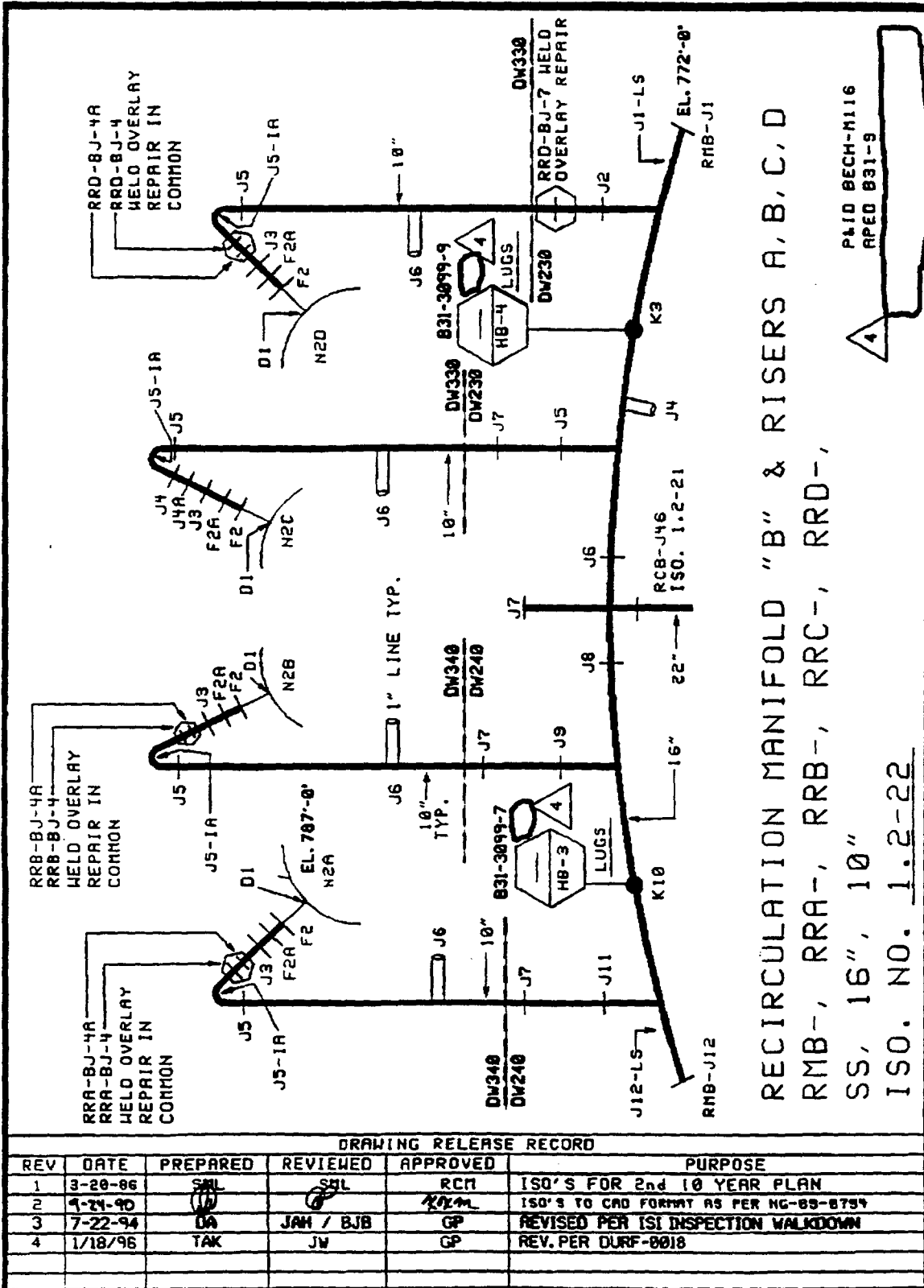
DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-13-86	SNL	SNL	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	1-24-90	DA	JAH / FED	GP	ISO'S TO CAD FORMAT AS PER NG-89-0704
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	7-6-95	DA	JDF	GP	REVISED PER DURF-0013



**DRAWING RELEASE RECORD**

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-19-86	SNL	SNL	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	DA	GP	RCM	ISO'S TO CAD FORMAT AS PER NG-89-0794
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	2-9-95	DA	JW	GP	REVISED PER DURF. NO. U8004
5	1-18-96	TAK	JW	GP	REV. PER DURF-0018



RECIRCULATION MANIFOLD "B" & RISERS A, B, C, D  
 RMB-, RRA-, RRB-, RRC-, RRD-,  
 SS, 16", 10"  
 ISO. NO. 1.2-22

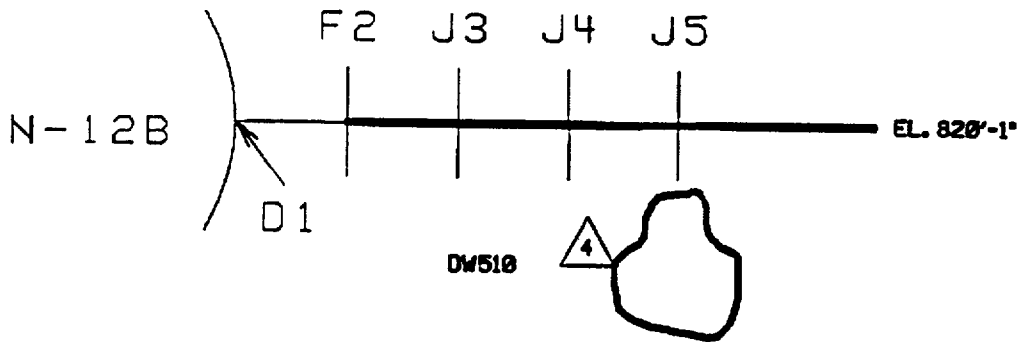
PL10 BECH-M116  
 APED B31-9



DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-29-86	SAL	SAL	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	4-24-90	DA	JAH / BJB	GP	ISO'S TO CAD FORMAT AS PER NG-89-8754
3	7-22-94	TAK	JW	GP	REVISED PER ISI INSPECTION WALKDOWN
4	1/18/96				REV. PER DURF-8018



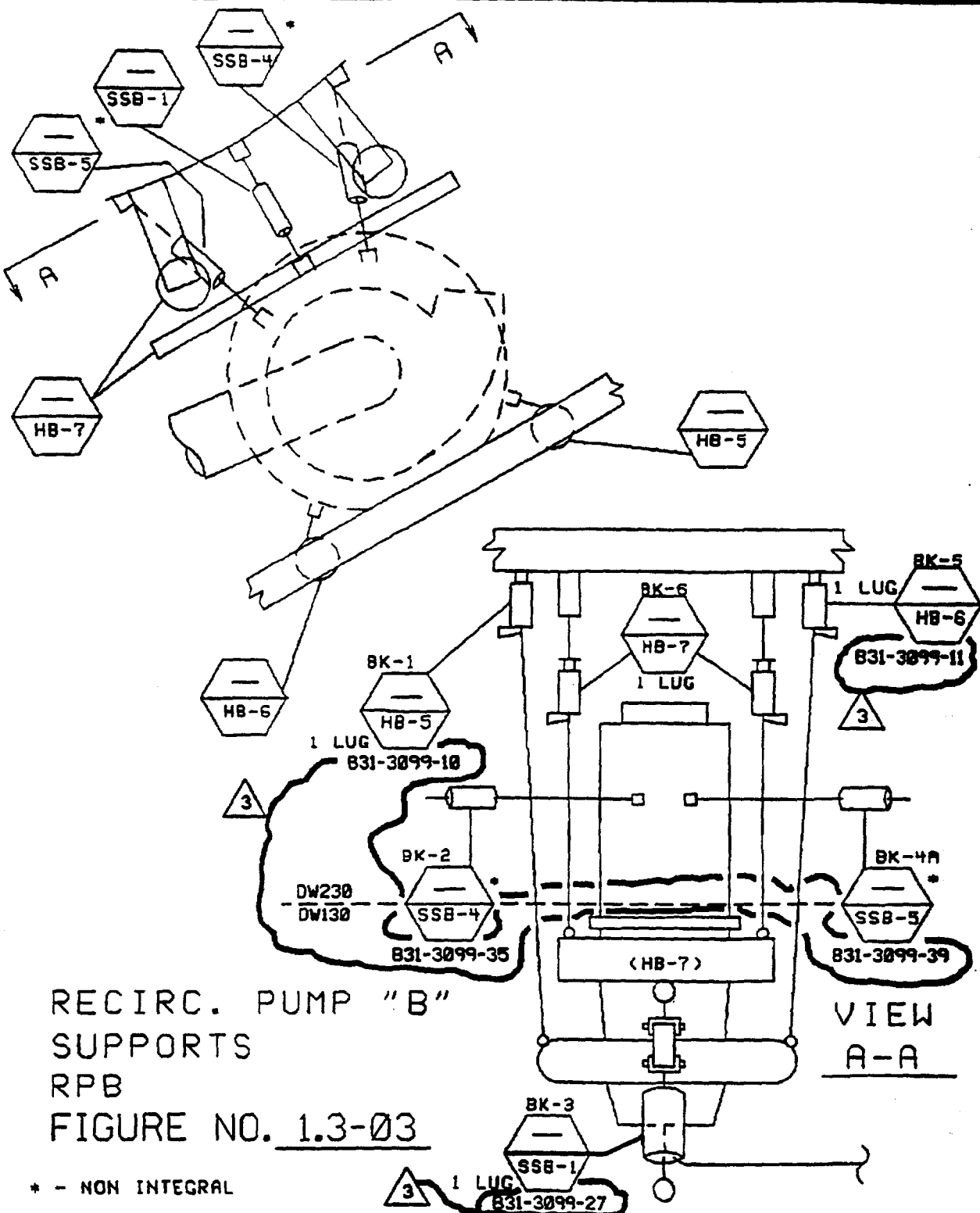


VESSEL INSTRUMENTATION N-12B  
 VID-  
 SS, 2", 2 1/2"  
 ISO. NO. 1.2-31

P&ID BECH-M115

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	3-27-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-24-90	<i>(Signature)</i>	<i>(Signature)</i>	<i>(Signature)</i>	ISO'S TO CAD FORMAT AS PER NG-89-8794
3	7-22-94	DA	JAH / FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	1/18/96	TAK	JW	GP	REV. PER DURF-0018



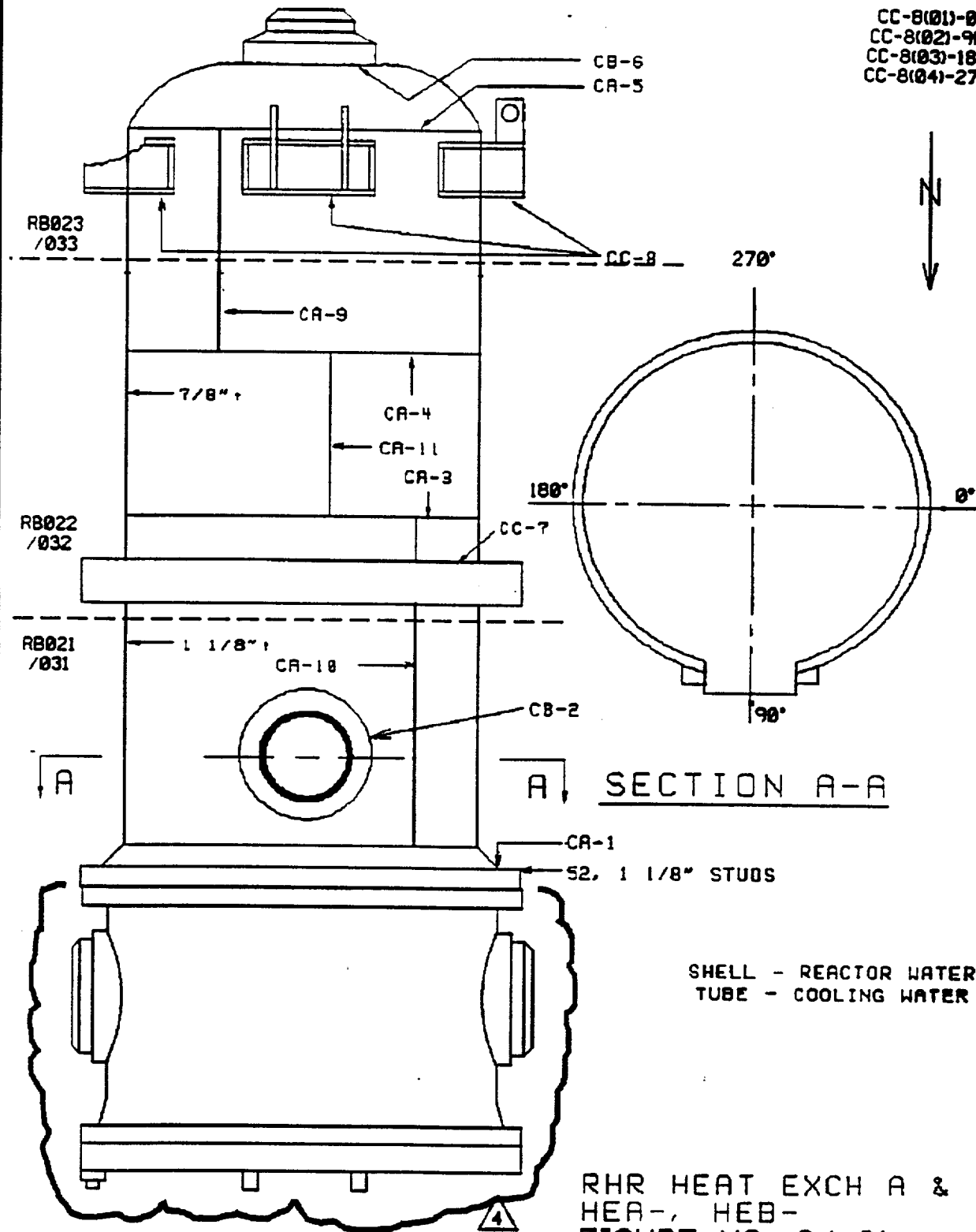
RECIRC. PUMP "B"  
SUPPORTS  
RPB  
FIGURE NO. 1.3-03

\* - NON INTEGRAL

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	10-26-87	JRM	RCM	REL	ISO'S FOR 2nd 10 YEAR PLAN
2	9-11-90	DA	FED	GP	ISO'S TO CAD FORMAT AS PER NG-89-8794
3	7-22-94	DA	FED	GP	REVISED PER ISI INSPECTION WALKDOWN

CC-8(01)-0°  
 CC-8(02)-90°  
 CC-8(03)-180°  
 CC-8(04)-270°



SECTION A-A

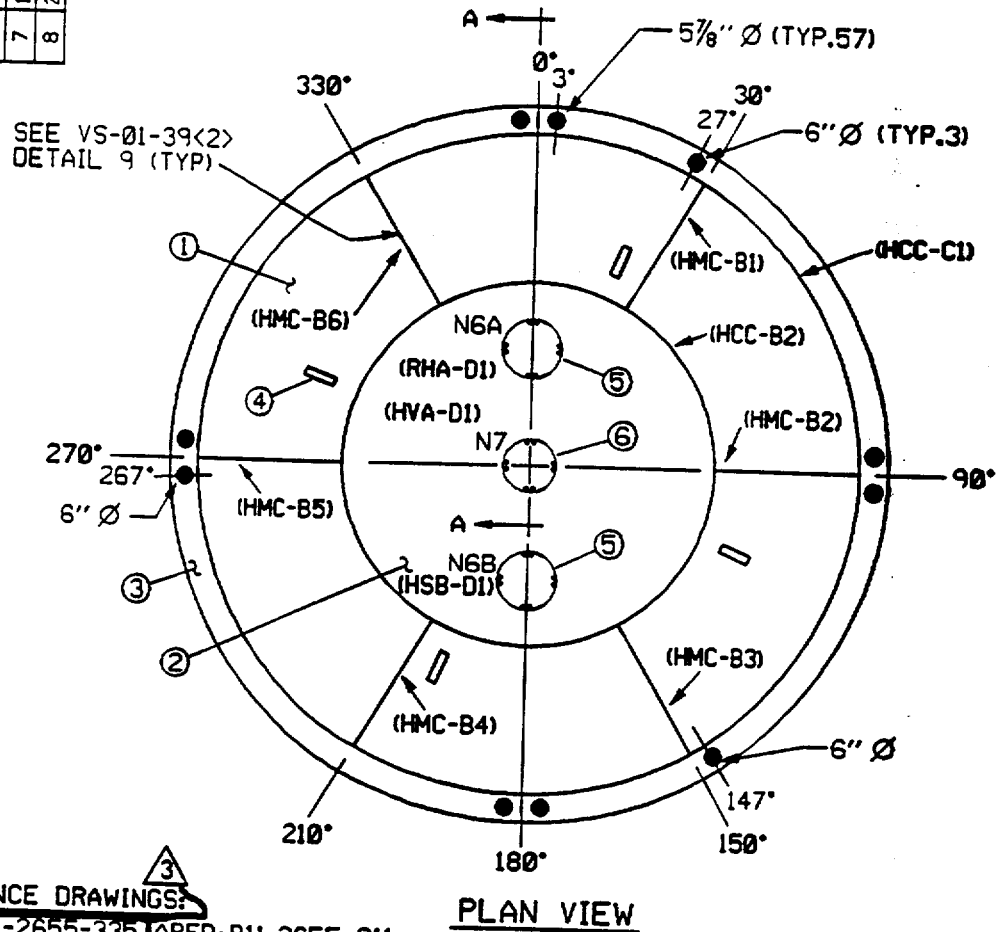
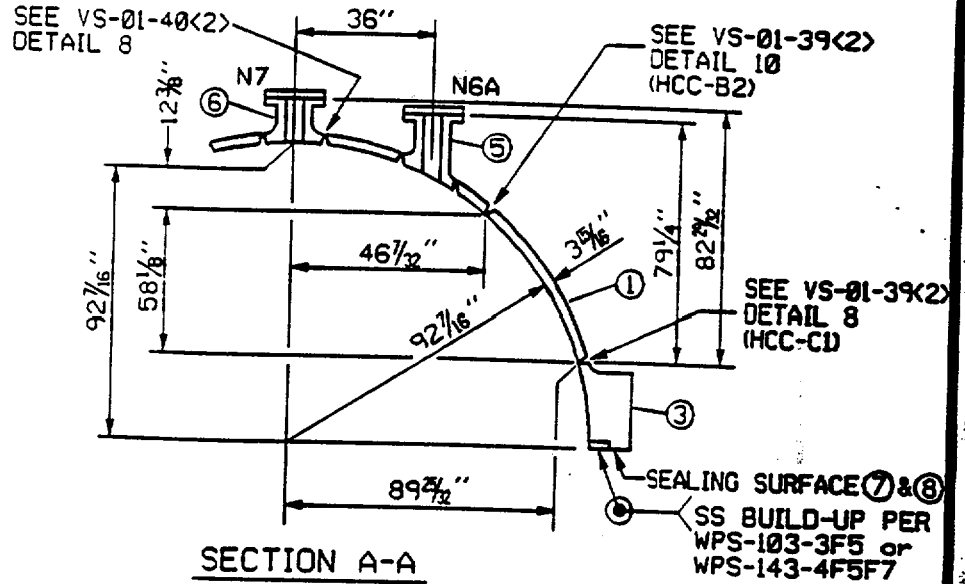
SHELL - REACTOR WATER  
 TUBE - COOLING WATER

RHR HEAT EXCH A & B  
 HEA-, HEB-  
 FIGURE NO. 2.1-01

DRAWING RELEASE RECORD

REV	DATE	PREPARED	REVIEWED	APPROVED	PURPOSE
1	4-26-86	SML	SML	RCM	ISO'S FOR 2nd 10 YEAR PLAN
2	9-18-90	DA	FED	GP	ISO'S TO CAD FORMAT AS PER NG-89-0794
3	8-23-94	DA	FED	GP	REVISED PER ISI INSPECTION WALKDOWN
4	3/4/97	JAH	TAK /	GP	REVISED PER DURF-0036

NO.	DESCRIPTION	BILL OF MATL.	PROCD.
1	SIDE PLATE	SA533 CLASS 1 GR.B	
2	DOLLAR PLATE	SA533 CLASS 1 GR.B	
3	HEAD FLANGE	A-508 CLASS 2	
4	LIFTING LUG	(SEE VS-01-37)	
5	HEAD SPRAY & INSTR. NOZZ.	(SEE VS-01-15)	
6	VENT NOZZ.	(SEE VS-01-16)	
7	1ST LAYER SEAL SURFACE CLADDING	309L	
8	2ND & 3RD LAYER SEAL SURFACE CLADDING	308L	



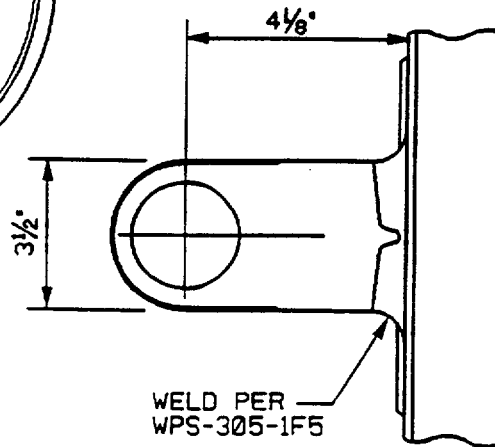
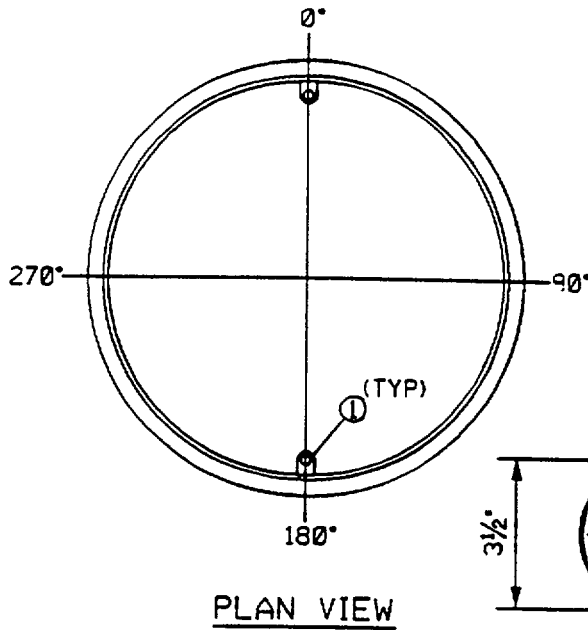
REFERENCE DRAWINGS:  
 APED-B11-2655-335, APED-B11-2655-211,  
 APED-B11-2655-215

NO.	DATE	REVISION	JW	TAK	GP	FED
3	12/16/97	REVISED PER DURF-0044	DA	GD	SS	SS
2	8/8/95	REVISED PER DURF-0011	MS	DF	GP	SS
1	12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM	INSR.	ENR.	VER.	

**IES:**  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

TOP HEAD ASSEMBLY  
 DWG. NO. VS-01-06  
 REV. 3

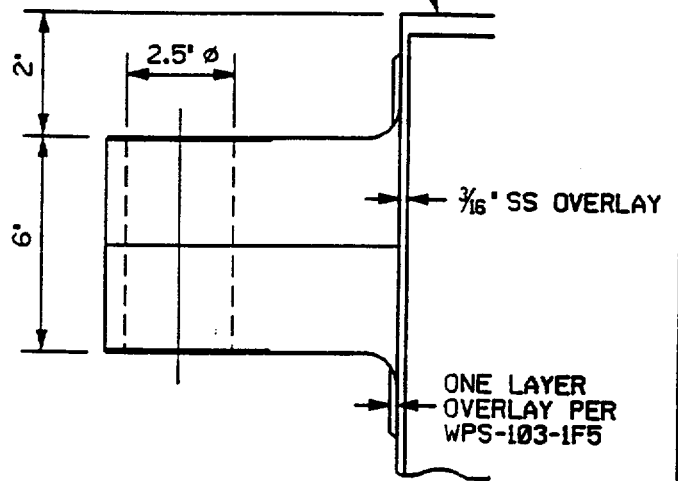
NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	GUIDE ROD BRACKET	304L SA240	



PLAN VIEW

WELD PER  
WPS-305-1F5

VESSEL FLANGE  
SEALING SURFACE



ELEVATION

3/16" SS OVERLAY

ONE LAYER  
OVERLAY PER  
WPS-103-1F5

REFERENCE DRAWINGS:  
APED-B11-001<4>, APED-B11-2655-171

NO.	DATE	DESCRIPTION
1	12-08-94	DRAFTED FOR VESSEL INSPECTION PROGRAM REVISION

**IES:**  
Inservice Inspection Program  
Reactor Pressure Vessel Sketch

GUIDE ROD BRACKET

DWG. NO.

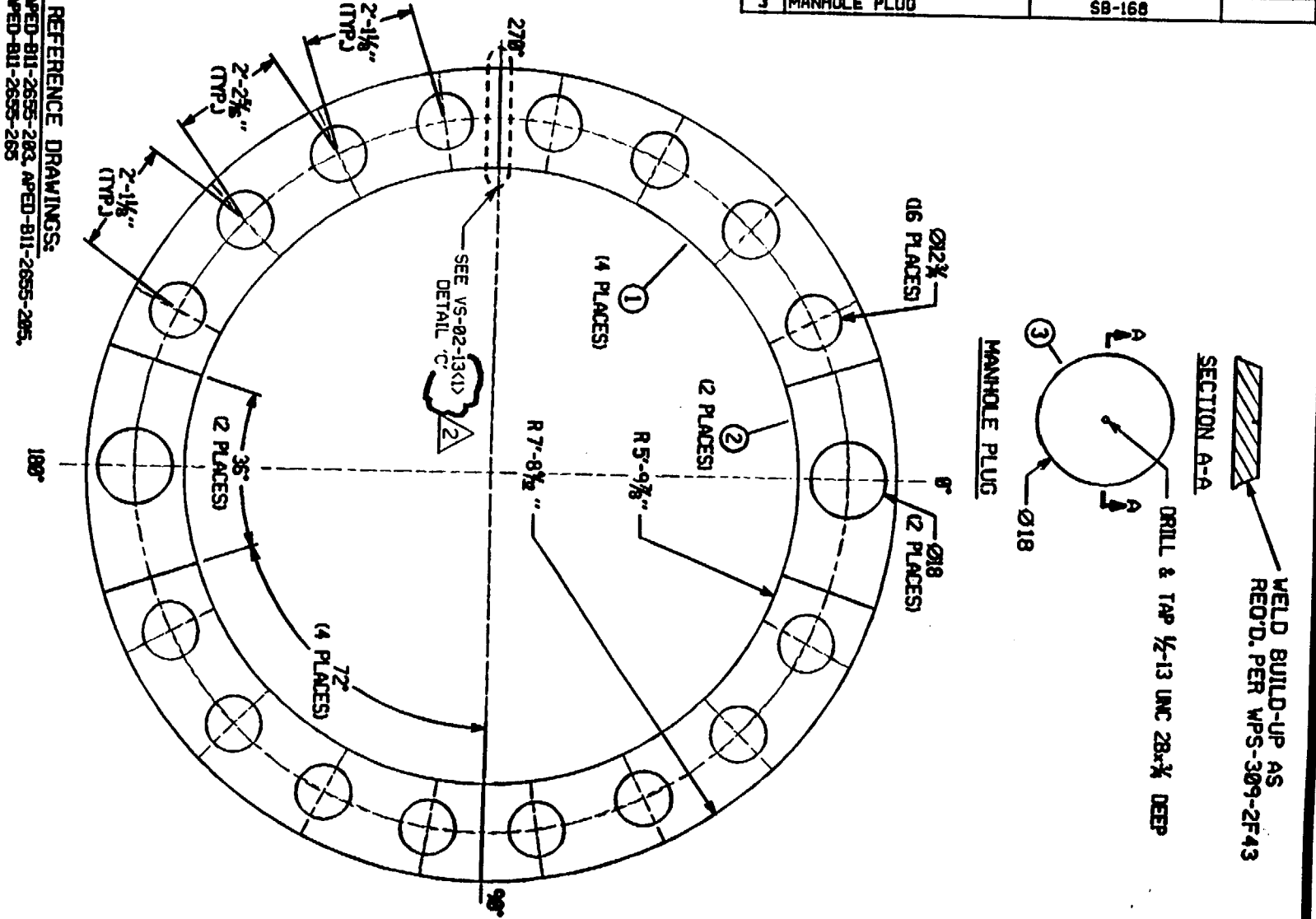
VS-01-28

REV.

1

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	JET PUMP HOLE PLATE	SB-168	
2	MANHOLE SEGMENT PLATE	SB-168	
3	MANHOLE PLUG	SB-168	

NO.	DATE	REVISION	DRFR.	CHK'D.	ENGR.	VER.
2	8/8/95	REVISED PER DURF-0011		DA	GD	SS
1	11-23-94	DRAFTED FOR VESSEL INSPECTION PROGRAM		MS	DF	GP



REFERENCE DRAWINGS:  
 APED-811-2655-283, APED-811-2655-285,  
 APED-811-2655-265

IES:  
 Inservice Inspection Program  
 Reactor Pressure Vessel Sketch

LEDGE SEGMENT  
 PLATES

DWG. NO. VS-02-11

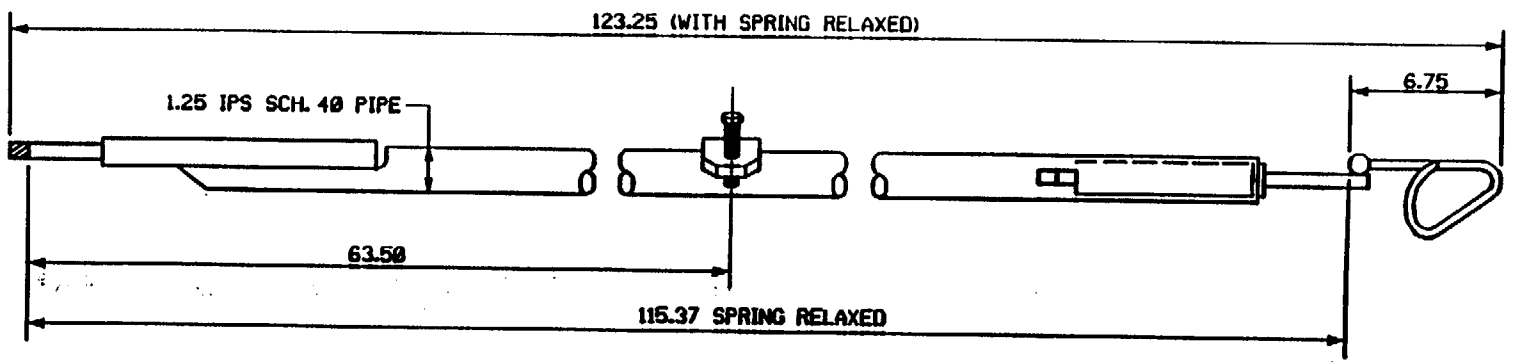
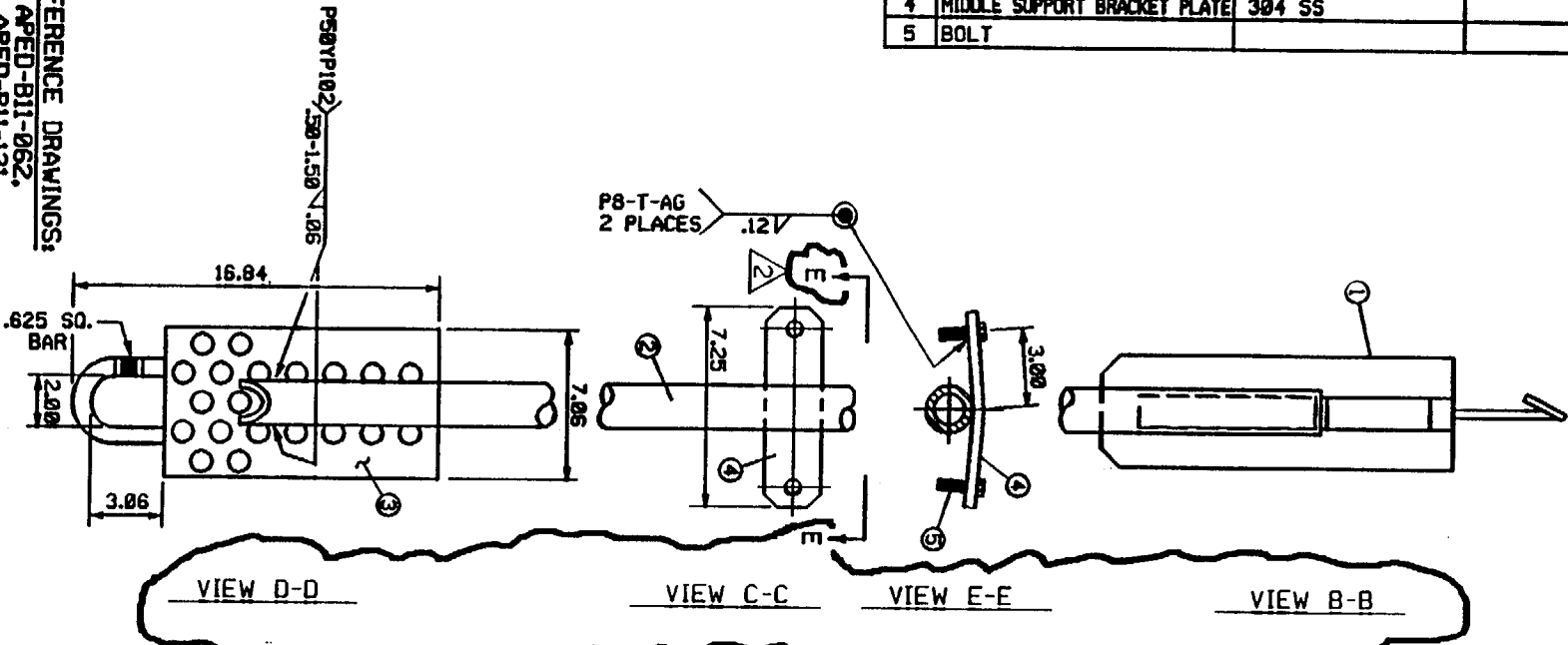
REV. 2

8/8/95	REVISED PER DURF-0011	DA	GD	SS	SS		
12-09-94	DRAFTED FOR VESSEL INSPECTION PROGRAM	MS	DF	GP	SS		
NO.	DATE	REVISION	DWR	TR	CHKD	ENGR	VER

NO.	DESCRIPTION	BILL OF MATL.	PROCED.
1	HANDLE		
2	PIPE		
3	CAPSULE BASKET		
4	MIDDLE SUPPORT BRACKET PLATE	304 SS	
5	BOLT		

IES:  
Inservice Inspection Program  
Reactor Pressure Vessel Sketch

REFERENCE DRAWINGS:  
APED-B11-062  
APED-B11-121



DWG. NO.

VS-10-02

SAMPLE HOLDER

REV. 2

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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- |  |   |   |
|--|---|---|
| 1) Owners: IES Utilities Inc., an Alliant company<br>P.O. Box 351<br>Cedar Rapids, IA. 52406 | Central Iowa Power Cooperative<br>Marion, IA. | Corn Belt Power Cooperative<br>Humbolt, IA. |
| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

(Those percentages shown are actual, where the percentages exceed the allowable only the maximum (34% for period one and 67% for period two) will be taken credit for).

CLASS 1					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
B1.11	4	0%	0%	0%	
B1.12	8	0%	0%	0%	
B1.21	2	25%	25%	0%	
B1.22	15	0%	0%	0%	
B1.30	1	50%	50%	0%	See Note 7
B1.40	1	33%	33%	0%	
B1.51	1	0%	0%	0%	
B3.90	33	48%	58%	0%	See Note 1,8
B3.100	33	48%	58%	0%	See Note 1,8
B4.11	2	0%	0%	0%	See Note 2
B4.12	89	0%	0%	0%	See Note 2
B4.13	30	0%	0%	0%	See Note 2
B5.10	14	50%	64%	0%	See Note 8
B5.20	8	38%	38%	0%	
B5.130	8	38%	38%	0%	
B5.140	2	0%	50%	0%	
B6.10	60	33%	67%	0%	
B6.20	56	29%	64%	0%	
B6.30	4	100%	100%	0%	
B6.40	60	33%	67%	0%	
B6.50	60	33%	67%	0%	
B6.180	2	0%	0%	0%	See Note 3
B6.190	2	0%	0%	0%	See Note 3
B6.200	2	0%	0%	0%	See Note 3
B7.10	3	33%	33%	0%	
B7.50	5	40%	40%	0%	See Note 3
B7.60	2	0%	0%	0%	See Note 3
B7.70	47	4%	4%	0%	See Note 3
B7.80	89	15%	15%	0%	See Note 3
B9.11	94	22%	27%	0%	
B9.12	0	0%	0%	0%	See Note 6
B9.21	9	22%	22%	0%	
B9.31	6	17%	17%	0%	
B9.32	1	0%	0%	0%	
B9.40	23	22%	22%	0%	
B10.10	1	0%	0%	0%	See Note 4
B10.20	3	33%	33%	0%	See Note 4



**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part J, page 2 of 4

- |  |   |   |
|--|---|---|
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| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

CLASS 1					
B10.30	1	0%	0%	0%	See Note 4
B12.20	2	0%	0%	0%	
B12.50	45	6%	6%	0%	See Note 3
B13.10	35	37%	48%	0%	
B13.20	11	36%	36%	0%	
B13.30	27	4%	4%	0%	
B13.40	5	20%	20%	0%	
B14.10	3	0%	0%	0%	
B15.10	1	N/A	N/A	N/A	Once per refueling outage
B15.11	1	N/A	N/A	N/A	Once per interval

CLASS 2					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
C1.10	2	50%	50%	0%	
C1.20	1	0%	0%	0%	
C2.21	2	0%	0%	0%	
C2.22	2	0%	0%	0%	
C3.10	1	0%	0%	0%	See Note 4
C3.20	7	29%	29%	0%	See Note 4
C5.51	69	17%	17%	0%	
C5.81	1	100%	100%	0%	
C7.10	5	N/A	N/A	N/A	Once per period
C7.20	5	N/A	N/A	N/A	Once per interval

CLASS 1 AND 2 SUPPORTS					
<u>ITEM NO.</u>	<u>TOTAL #</u>	<u>PERIOD 1</u>	<u>PERIOD 2</u>	<u>PERIOD 3</u>	<u>REMARKS</u>
F1.10	42	33%	33%	0%	See Note 5
F1.20	52	27%	27%	0%	See Note 5
F1.40	20	40%	45%	0%	See Note 5

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part J, page 3 of 4

- |  |   |   |
|--|---|---|
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| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required) : N/A                                   | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**STATUS OF WORK FOR (IWE) FIRST TEN YEAR INTERVAL**

CLASS MC					
E1.11	3	33%	33%	0%	
E1.12	31	19%	19%	0%	
E1.20	8	38%	38%	0%	
E4.11	1	0%	0%	0%	See Note 9
E5.30	4	25%	25%	0%	
E8.10	14	31%	36%	0%	
E9.20	*	N/A	N/A	N/A	See Note 10

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part J, page 4 of 4

- |  |   |   |
|--|---|---|
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| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  |   | 3) Plant Unit: #1                           |
| 4) Owners Certificate of Authorization (if required): N/A                                    |   | 5) Commercial Service Date: 02/01/75        |
| 6) National Board Number of Unit: N/A  |   | Gross Generating Capacity: 565 MWE          |

**STATUS OF WORK FOR THIRD TEN YEAR INTERVAL**

- NOTE 1 - Item Numbers B3.90, B3.100  
There are a total of 34 nozzles, however 1 of the nozzles are exempt by IWB-1220(c) and not included in the percentages.
- NOTE 2 - Item Numbers B4.11, B4.12, B4.13  
These items are required to be examined during conduct of the system hydrostatic test, IES Utilities has implemented Code Case N-498-1 (TAP-P011)
- NOTE 3 - Item Numbers B6.180, B6.190, B6.200, B7.50, B7.60, B7.70, B7.80  
These examinations are performed when the component is disassembled for other reasons. Therefore IWX-2412-1 does not apply.
- NOTE 4 - Item Numbers B10.10, B10.20, B10.30, C3.10, C3.20  
These item numbers are from Code Case N509 (TAP-I007)
- NOTE 5 - Item Number F1.10, F1.20, F1.40  
These item numbers are from Code Case N491 (TAP-I008)
- NOTE 6 - Item Number B9.12  
There are no welds counted for this item number because of the use of Code Case N-524 (NDE-R012)
- NOTE 7 - Item Number B1.30  
50% of the shell-to-flange weld may be performed during the first and third inspection periods as allowed by Note 4 of Table IWB-2500-1.
- NOTE 8 - Item Numbers B3.90, B3.100, B5.10  
Relief Request NDE-R035 allows alternative percentages (ref. Code Case N-598). 2 of the Nozzle-to-safeend welds (RRB-F002 and RRD-F002) have been repaired by applying a weld overlay. These two welds are now covered by the requirements of Generic Letter 88-01.
- NOTE 9 - Item Number E4.11  
The DAEC has evaluated the need for augmented examination per this item number and has determined that the Torus should be examined twice per interval. Details are specified in Technical Approach and Position TAP-E002.
- NOTE 10 - Item Number E9.20  
There are no components identified under this item number because the DAEC has been approved to use Option B of Appendix J. The "Performance Based Containment Testing Program" contains the requirements.

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

Part K, page 1 of 1

- |  |   |   |
|--|---|---|
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| 2) Plant: Duane Arnold Energy Center, Palo, IA. 52324  | 3) Plant Unit: #1                             |   |
| 4) Owners Certificate of Authorization (if required): N/A                                    | 5) Commercial Service Date: 02/01/75          |   |
| 6) National Board Number of Unit: N/A  | Gross Generating Capacity: 565 MWE            |   |

**RELIEF REQUESTS**

The following are the relief requests that were used during the period of this Summary Report.

<u>RELIEF REQUESTS</u>	<u>DESCRIPTION</u>
NDE-R014	Exemption from Appendix III calibration block notch dimensions
NDE-R027	Limited Examination of Closure Head Threads in Vessel Flange
NDE-R028	Limited Examination of Nozzle-to-Vessel Welds
<u>ALTERNATIVE TESTING</u>	<u>DESCRIPTION</u>
NDE-R012	Alternative Examination of Class 1 and 2 piping longitudinal seam welds
NDE-R017	Use of the examination requirements, examination method, and acceptance standard of the 1989 Addenda of ASME Section XI for reactor vessel closure head nuts
NDE-R018	Alternative Rules for the selection and examination of Class 1, 2, and 3 integrally welded attachments.
NDE-R023	Inaccessible welds located in Containment Penetrations
PR-002	Alternative Testing for Class 2 Pressure Retaining Containment Penetrations connected to nonsafety related piping systems
PR-004	Alternative testing for ISI Class 1, 2 and 3 repaired/replaced components. (Code Case N-416-1)
TAP-I005	Selection of B-J welds for examination criteria
TAP-I006	Selection of C-F pressure retaining welds for examination
MC-R001	Qualification of Nondestructive Examination Personnel
MC-R002	Alternative to VT-3 for Seals and Gaskets
MC-R003	Alternative to Torque Test of Bolting
<u>CODE CASE #</u>	<u>DESCRIPTION</u>
N-416-1 (PR-004)	Alternative pressure testing requirements for welded repairs or installation or replacement items by welding, Class 1, 2, and 3.
N-491 (TAP-I008)	Alternative rules for examination of Class 1, 2, 3 and MC component supports
N-509 (TAP-I007)	Alternative rules for selection and examination of Class 1, 2, 3 and integrally welded attachments
N-546 (PR-008)	Alternative requirements for Qualification of VT-2 Examination Personnel
N-598 (NDE-R035)	Alternative Requirements to Required Percentages of Examinations
N-606 (MC-R007)	Extent and Frequency of VT-3 for Items E1.12 and E1.20

**THIRD TEN YEAR INTERVAL  
INSERVICE INSPECTION REPORT**  
November 01, 1999 through December 01, 1999

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**Attachment 2  
to NG-00-0319  
Augmented Inspection Results RFO 16**

**AUGMENTED INSPECTION RESULTS  
RFO16**

<b>System Description</b>	<b>Weld or Component Description</b>	<b>Report Number</b>	<b>Inspection Requirement</b>	<b>ISI Iso/ Fig Number</b>	<b>Acc</b>	<b>Examination</b>
RCIC	RSB-J001	199033	B	1.2-18	Y	UT45
	RSB-J002	199035	B	1.2-18	Y	UT45
	RSB-J003	199036	B	1.2-18	Y	UT45
	RSB-J011	199034	B	1.2-18	Y	UT45
	RECIRCULATION PUMP SUCTION	RCA-F002	199139	A	1.2-19A	Y
RECIRCULATION SYSTEM RISERS	RRC-F002	199116	A	1.2-22	Y	UT45 UTRL
	RRC-J004	199044	A	1.2-22	Y	UT45 UTRL
	RRC-J005	199045	A	1.2-22	Y	UT45 UTRL
TANKS	1R-003B (MSRV	199122	C	M048-002-1	Y	VT-3
	ACCUMULATOR TANK)					

ACC - ACCEPTED , Y INDICATING ACCEPTED, N INDICATING REJECTED.

- A - NUREG 0313 (GL88-01)
- B - GENERIC LETTER 87-11
- C - OWNER DEFINED

**AUGMENTED INSPECTION RESULTS**  
**RFO16**

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**AUGMENTED INSPECTION RESULTS  
RFO16**

System Description	Weld or Component Description	Report Number	Inspection Requirement	ISI Iso/ Fig Number	Acc	Examination
Reactor Vessel	CORE SPRAY	199111	B	VS-05-01	Y	EVT-1
	CORESPRAY SPARGERS	199111	B	VS-05-02	Y	EVT-1
	JET PUMP #1	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #2	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #3	199111	C	VS-11-01	Y	EVT-1
	JET PUMP#4	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #13	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #14	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #15	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #16	199111	C	VS-11-01	Y	EVT-1
TORUS SUPPORTS	TORUS SUPPORT #13	199142	E	N/A	Y	VT-3
	TORUS SUPPORT #14	199143	E	N/A	Y	VT-3
	EARTHQUAKE TIE #4					
	TORUS SUPPORT #15	199144	E	N/A	Y	VT-3
	TORUS SUPPORT #16	199145	E	N/A	Y	VT-3
TANKS	1R-001A (ACCUMULATOR TANK)	199108	E	N/A	Y	VT-3
	1T-115B (NORMAL START AIR RECEIVER TANK)	199109	E	N/A	Y	VT-3
Core Spray 'A'	CSA-F002	199012	A	1.2-07	Y	UT45 UTRL
	CSA-F002A	199013	A	1.2-07	Y	UT45 UTRL
	CSA-F004	199014	A	1.2-07	Y	UTRL
	CSA-J003	199015	A	1.2-07	Y	UT45
RWCU	CUB-F004	199016	A	1.2-11B	Y	UTRL
	CUB-J001	199027	A	1.2-11B	Y	UT45
	CUB-J002	199028	A	1.2-11B	Y	UT45 UT70
	CUB-J005	199017	A	1.2-11B	Y	UT60
	CUB-J008	199018	A	1.2-11B	Y	UT60
	CUB-J010	199019	A	1.2-11B	Y	UT45
	CUB-J011	199020	A	1.2-11B	Y	UT45
	CUB-J013	199021	A	1.2-11B	Y	UT45
	CUB-J014	199022	A	1.2-11B	Y	UT45
	CUB-J016	199023	A	1.2-11B	Y	UT60
	CUB-J017	199024	A	1.2-11B	Y	UT60
	RHR	RHD-J001	199031	A	1.2-16	Y
RCIC	RSB-J004	199037	D	1.2-18	Y	UT60
	RSB-J006	199038	D	1.2-18	Y	UT45
Recirculation Risers	RRA-F002	199052	A	1.2-22	Y	UT45 UTRL
	RRB-F002	199053	A	1.2-22	Y	UT45 UTRL
Recirculation Pump Suction	RRF-F002	199154	A	1.2-19A	Y	UT45 UTRL
	RCA-J030-OA	199039	E	1.2-19A	Y	PT
	RCA-J038	199040	A	1.2-19A	Y	UT45
	RCA-J041	199041	A	1.2-19A	Y	UT45
Jet Pump	JPA-F002	199055	A	1.2-25	Y	UT45 UTRL
	JPA-J003	199056	A	1.2-25	Y	UT45
	JPB-F002	199057	A	1.2-26	Y	UT45 UTRL
	JPB-J003	199058	A	1.2-26	Y	UT45

ACC - ACCEPTED, Y INDICATING ACCEPTED, N INDICATING REJECTED.

- A - NUREG 0313 (g188-01)
- B - IE-BULLETIN 80-13 (BWRVIP-18)
- C - BWRVIP-41
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**AUGMENTED INSPECTION RESULTS**  
**RFO16**

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**Attachment 2  
to NG-00-0319  
Augmented Inspection Results RFO 16**

**AUGMENTED INSPECTION RESULTS  
RFO16**

System Description	Weld or Component Description	Report Number	Inspection Requirement	ISI Iso/ Fig Number	Acc	Examination
RCIC	RSB-J001	I99033	B	1.2-18	Y	UT45
	RSB-J002	I99035	B	1.2-18	Y	UT45
	RSB-J003	I99036	B	1.2-18	Y	UT45
	RSB-J011	I99034	B	1.2-18	Y	UT45
RECIRCULATION PUMP SUCTION	RCA-F002	I99139	A	1.2-19A	Y	UT45 UTRL
RECIRCULATION SYSTEM RISERS	RRC-F002	I99116	A	1.2-22	Y	UT45 UTRL
	RRC-J004	I99044	A	1.2-22	Y	UT45 UTRL
	RRC-J005	I99045	A	1.2-22	Y	UT45 UTRL
TANKS	1R-003B (MSRV ACCUMULATOR TANK)	I99122	C	M048-002-1	Y	VT-3

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System Description	Weld or Component Description	Report Number	Inspection Requirement	ISI Iso/ Fig Number	Acc	Examination
Reactor Vessel	CORE SPRAY	199111	B	VS-05-01	Y	EVT-1
	CORESPRAY SPARGERS	199111	B	VS-05-02	Y	EVT-1
	JET PUMP #1	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #2	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #3	199111	C	VS-11-01	Y	EVT-1
	JET PUMP#4	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #13	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #14	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #15	199111	C	VS-11-01	Y	EVT-1
	JET PUMP #16	199111	C	VS-11-01	Y	EVT-1
TORUS SUPPORTS	TORUS SUPPORT #13	199142	E	N/A	Y	VT-3
	TORUS SUPPORT #14	199143	E	N/A	Y	VT-3
	EARTHQUAKE TIE #4					
	TORUS SUPPORT #15	199144	E	N/A	Y	VT-3
	TORUS SUPPORT #16	199145	E	N/A	Y	VT-3
TANKS	IR-001A (ACCUMULATOR TANK)	199108	E	N/A	Y	VT-3
	IT-115B (NORMAL START AIR RECEIVER TANK)	199109	E	N/A	Y	VT-3
Core Spray 'A'	CSA-F002	199012	A	1.2-07	Y	UT45 UTRL
	CSA-F002A	199013	A	1.2-07	Y	UT45 UTRL
	CSA-F004	199014	A	1.2-07	Y	UTRL
	CSA-J003	199015	A	1.2-07	Y	UT45
RWCU	CUB-F004	199016	A	1.2-11B	Y	UTRL
	CUB-J001	199027	A	1.2-11B	Y	UT45
	CUB-J002	199028	A	1.2-11B	Y	UT45 UT70
	CUB-J005	199017	A	1.2-11B	Y	UT60
	CUB-J008	199018	A	1.2-11B	Y	UT60
	CUB-J010	199019	A	1.2-11B	Y	UT45
	CUB-J011	199020	A	1.2-11B	Y	UT45
	CUB-J013	199021	A	1.2-11B	Y	UT45
	CUB-J014	199022	A	1.2-11B	Y	UT45
	CUB-J016	199023	A	1.2-11B	Y	UT60
	CUB-J017	199024	A	1.2-11B	Y	UT60
	RHR	RHD-J001	199031	A	1.2-16	Y
RCIC	RSB-J004	199037	D	1.2-18	Y	UT60
	RSB-J006	199038	D	1.2-18	Y	UT45
Recirculation Risers	RRA-F002	199052	A	1.2-22	Y	UT45 UTRL
	RRB-F002	199053	A	1.2-22	Y	UT45 UTRL
Recirculation Pump Suction	RRF-F002	199154	A	1.2-19A	Y	UT45 UTRL
	RCA-J030-OA	199039	E	1.2-19A	Y	PT
	RCA-J038	199040	A	1.2-19A	Y	UT45
	RCA-J041	199041	A	1.2-19A	Y	UT45
Jet Pump	JPA-F002	199055	A	1.2-25	Y	UT45 UTRL
	JPA-J003	199056	A	1.2-25	Y	UT45
	JPB-F002	199057	A	1.2-26	Y	UT45 UTRL
	JPB-J003	199058	A	1.2-26	Y	UT45

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**RFO16**

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