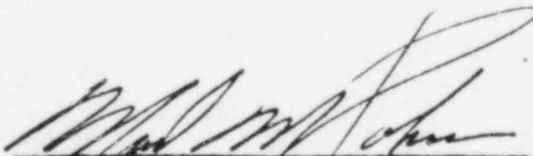


THE
FEBRUARY 12, 1983 TO OCTOBER 24, 1983
INSERVICE INSPECTION PROGRAM
FINAL REPORT
FOR THE
PEACH BOTTOM ATOMIC POWER STATION
UNIT 3
1983 REFUEL OUTAGE

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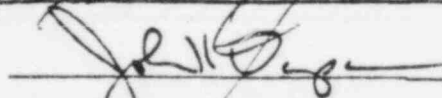
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PECo Senior Engineer-Nuclear Branch



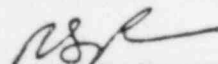
1-16-84
Date

PECo Plant Engineer-Maintenance



1-13-84
Date

PORC REVIEW:



1/12/84
Date

FORM NIS-1

INSERVICE INSPECTION REPORT

PHILADELPHIA ELECTRIC COMPANY
2301 Market Street
Philadelphia, Pennsylvania 19101

Peach Bottom Station - Unit 3
R.D. No. 1
Delta, Pennsylvania 17314

Date: January 9, 1984

Inspection Date: February 12, 1983
to
October 24, 1983

Commercial Service Date: December 23, 1984

Gross Generating Capability: 1098 MWe

Pennsylvania State Identification Number: ST 433411

National Board Number Assigned by Reactor Manufacturer: NB 3904

Component Identification: See Attachment 1 - Summary of Examinations

Abstract of Inspections Performed, Conditions Observed, Corrective
Measures Recommended and Taken See:

Attachment 1 - Summary of Examinations,
Tables One, Two, Three, and Four

Attachment 2 - Summary of Indications

Name of Inspector: James J. Fuhrman

Name and Mailing Address of Inspector's Employer:

The Hartford Steam Boiler Inspection & Insurance Company
Building 9, Suite 444
580 East Swedesford Road
Wayne, PA 19087

I 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, with the exception of clad overlay repairs which were designed, installed, and examined in accordance with repair concerns plan and specifications.

Signature of PECO Senior Engineer-Nuclear Branch


Date 1-16-84

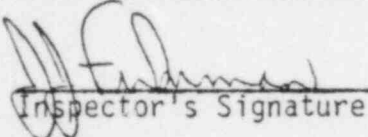
FORM NIS-1
INSERVICE INSPECTION REPORT
PAGE 2

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 Pennsylvania and employed by Hartford Steam Boiler Inspection & Insurance Company of Hartford, Connecticut have inspected the components described in this Owners' Data Report during the period 2/12/83 to 10/24/83 and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owners' Data Report in accordance with the requirements of the ASME Code, Section XI, with the exception of clad overlay repairs which were designed, installed, and examined in accordance with repair concerns plan and specifications.

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 loss of any kind arising from or connected with this inspection.

Date: 1-13-84


Inspector's Signature

Commissions NB-7592 PA-2163
National Board, State, Province & No.

ATTACHMENT ONE
SUMMARY OF EXAMINATIONS

SUMMARY OF EXAMINATIONS

During the period from February 14, 1983 to October 24, 1983, an Inservice Inspection was performed at the Peach Bottom Atomic Power Station Unit No. 3. Examinations were performed by qualified personnel of Southwest Research Institute, General Electric Company, Lambert-MacGill-Thomas, Inc., and the Philadelphia Electric Company.

The following is a summary of the examinations performed employing: PT-Dye Penetrant, MT-Magnetic Particle, RT-Radiographic, UT-Ultrasonic, and VT-Visual Examination techniques.

I. AREAS EXAMINED BY SOUTHWEST RESEARCH INSTITUTE

A. Class I Pipe Welds and Components (Quantity)

- Main Steam Loop A (17)
- Main Steam Loop B (7)
- Main Steam Loop C (9)
- Main Steam Loop D (13)
- Main Recirculation Loop A (6)
- Main Recirculation Loop B (5)
- Feedwater Loop A (4)
- Feedwater Loop B (5)
- Residual Heat Removal - Head Spray (13)
(10 baseline examinations)
- Residual Heat Removal - Injection to Recirc Loop A (4)
- Residual Heat Removal - Injection to Recirc Loop B (2)
- Residual Heat Removal - OUT - (Shutdown Cooling Suction) (1)
- Reactor Core Isolation Cooling (IN) (1)
- High Pressure Coolant Injection (OUT) (2)
- Jet Spray Instrumentation - Loop B (2)

B. Class II Pipe Welds and Components (Quantity)

- Residual Heat Removal Head Spray (1)
- Residual Heat Removal Containment Spray - IN - Loop A (1)
- Residual Heat Removal Containment Spray - IN - Loop B (2)
- Residual Heat Removal Fuel Pool Coolant - Loop A (1)
- Residual Heat Removal Fuel Pool Coolant - Loop B (1)
- Residual Heat Removal Suppression Chamber - IN - Loop A (1)
- Residual Heat Removal Shutdown Cooling Suction - Pump C (1)
- Residual Heat Removal Discharge - Pump A (1)
- Residual Heat Removal Discharge - Pump D (1)
- Residual Heat Removal Heat Exchanger C - OUT (1)
- Residual Heat Removal IN - Loop B (1)
- Residual Heat Removal Suction - Pump A (1)
- Residual Heat Removal Shutdown Cooling Suction (1)

II. AREAS EXAMINED BY THE GENERAL ELECTRIC COMPANY:

NOTE: Ultrasonic examinations were subcontracted to Sonic Systems International and Radiographic examinations were subcontracted to J. A. Jones Applied Research Company.

A. Class I Pipe Welds (Quantity)

Main Recirculation - Loop A (23)
 Main Recirculation - Loop B (17)
 Residual Heat Removal - Injection Loop A (8)
 Residual Heat Removal - Injection Loop B (4)
 Residual Heat Removal - Shutdown Cooling Suction (4)
 Core Spray - Loop B (1)

III. AREAS EXAMINED BY LAMBERT-MACGILL-THOMAS, INC.

A. Class I Pipe Welds (Quantity)

Residual Heat Removal - Shutdown Cooling Suction (3)

IV. AREAS EXAMINED BY THE PHILADELPHIA ELECTRIC COMPANY

A. Class I Pipe Welds and Components (Quantity)

Main Steam - Loop A (1)
 Main Steam - Loop C (2)
 Main Recirculation - Loop B Discharge (1)
 Residual Heat Removal - Head Spray (1)
 Residual Heat Removal - IN - Loop A (2)
 Residual Heat Removal - IN - Loop B (1)
 Residual Heat Removal - OUT (1)
 Core Spray - Loop B (1)
 Jet Spray Instrumentation - Loop B (1)

B. Class II Pipe Welds and Components (Quantity)

Residual Heat Removal Containment Spray - IN - Loop B (1)
 Residual Heat Removal Discharge - Pump C (1)
 Residual Heat Removal Shutdown Cooling Suction (1)
 Residual Heat Removal Pumps (2)

C. Class I Valve Bodies (Quantity)

Main Steam (1)
 Feedwater (1)
 Residual Heat Removal (1)

D. Class I Pressure Retaining Bolting (Quantity)

1. Valves

Main Steam (1)
 Residual Heat Removal (1)

2. Flanges

Main Steam - Loop B (2)
 Main Steam - Loop C (2)
 Main Steam - Loop D (7)

E. Class I Support Components (Quantity)

Main Steam - Loop A (4)
 Main Steam - Loop B (3)
 Main Steam - Loop C (3)
 Main Steam - Loop D (2)
 Main Recirculation - Loop B (1)
 Feedwater (3)
 High Pressure Coolant Injection (1)

F. Class II Support Components (Quantity)

Residual Heat Removal (42)

G. Class III Support Components (Quantity)

High Pressure Service Water (2)

H. System Leakage Pressure Tests (Quantity)

Class I Pressure Retaining Components (100%)

I. System Hydrostatic Pressure Tests

Class I

Main Recirculation, 22" Manifolds, Loops A and B
 Main Recirculation, 12" RPV Inlet Risers
 Residual Heat Removal, 6" RPV Head Spray
 Residual Heat Removal, 20" Shutdown Cooling Suction

Class II

Residual Heat Removal, Suction and Discharge Piping,
 Loops A through D
 Control Rod Drive Scram Discharge Volume Drain Line

Class III

Fuel Pool Cooling/RHR Piping
 High Pressure Service Water/Residual Heat Removal "B" Heat Exchanger

J. Reactor Pressure Vessel Internal Components (Quantity)

Core Spray Spargers (100%)
 Core Spray Supply Headers (100%)
 Core Spray Downcomer Supply Piping (100%)
 Core Spray Header Brackets and Welds (100%)

ATTACHMENT TWO
SUMMARY OF INDICATIONS

SUMMARY OF INDICATIONS

As a result of the examinations performed by Southwest Research Institute, General Electric Company, Lambert-MacGill-Thomas Inc., and the Philadelphia Electric Company during the February 14, 1983 to October 24, 1983 Inservice Inspection of Peach Bottom Atomic Power Station, Unit Three, the following indications were observed:

I. Indications Observed by Southwest Research Institute:

The manual UT examination of Class I and Class II components revealed numerous insignificant and geometric indications. Three reportable indications were observed on Class I Main Steam examination areas. Minor slag inclusions were noted on hanger lug weld numbers 1-A-5HL1 and 1-A-5HL2. The indication on lug weld 1-A-5HL1 was recorded during the Pre-operational Baseline Examination. An engineering analysis performed by the General Electric Company concluded the stress in the "as is" condition to be significantly below ANSI B31.1 Code allowable. Hanger lug weld 1-A-5HL2 contained a similar inclusion but of lesser amplitude. No repairs were required. In the third area, weld 1-C-6, a laminar indication was noted. This indication was previously recorded and sized during the preoperational baseline examination and has shown no significant change since then. No repair was required.

II. Indications Observed by General Electric Company

The UT and RT examination of Class I Main Recirculation and Residual Heat Removal system pipe welds revealed 15 welds with reportable indications. Main Recirculation Riser welds 2-AHF-2, 2-AHG-2, 2-AHH-2, 2-AHJ-2, 2-AHK-2, 2-BHA-2, 2-BHB-2, 2-BHC-2, 2-BHD-2, 2-BHE-2, and Residual Heat Removal Shutdown Cooling Suction welds 10-0-5, 10-0-6, 10-0-7, 10-0-10, and 10-0-15 contained intergranular stress corrosion cracking indications. Subsequent to temporary repair by weld clad overlay, all repairs were satisfactorily re-examined.

Also, original weld defects were observed on Main Recirculation Riser welds 2-AHH-1 and 2-AHK-2. These defects were detected during radiographic examination (MINAC) and dispositioned as acceptable under the existing fracture mechanics.

III. Indications Observed by Lambert-MacGill-Thomas Inc.

No reportable indications were revealed.

IV. Indications Observed by Philadelphia Electric Company

The visual examination of Class I components revealed a reportable indication in one area. An improper retaining pin was noted on High Pressure Coolant Injection pipe support 3-23DBN-H64. Following replacement, a satisfactory inspection was performed.

As a result of the visual examinations performed on Class II components, reportable indications were observed in twelve Residual Heat Removal support components. The setting in spring hangers 3-10GB-H70, 3-10GB-H56, 3-10GB-H57, 3-10GB-H87, 3-10GB-H131, and 3-10HB-H18 were found to be out of range. Subsequent to being reset, all hangers were satisfactorily re-examined. Bent hanger rods were noted on supports 3-10GB-H132, 3-10GB-H133 and 3-10GB-S46. Following replacement, all hangers were found to be acceptable. Linear indications were noted on the concrete RHR "A" Pump base (Pump-A-SC). Subsequent to repair by grouting, no reportable indications were noted. The visual and magnetic particle examination of hangers 3-10HB-H37 and 3-10HB-H38 revealed linear indications on the saddle-to-pipe attachment welds. After repair by welding, no reportable indications were observed.

TABLE ONE

DETAIL OF EXAMINATIONS PERFORMED BY
SOUTHWEST RESEARCH INSTITUTE

TABLE ONEDETAIL OF EXAMINATIONS PERFORMED BY
SOUTHWEST RESEARCH INSTITUTE

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
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Class 1 Pipe Welds and ComponentsMain Steam Loop A

(See Appendix A, Figures A-3 and A-4)

B4.9	B-K-1	1-A-5HL-1 thru 4 Hanger Lugs	UT
B4.9	B-K-1	1-A-7PS-2-2 Pipe Support	UT
B4.5	B-J	1-A-10LUI Longitudinal	UT
B4.5	B-J	1-A-10LUO Longitudinal	UT
B4.5	B-J	1-A-10 Elbow to Pipe	UT
B4.5	B-J	1-A-10LD Longitudinal	UT
B4.5	B-J	1-A-10ALU Longitudinal	UT
B4.5	B-J	1-A-10A Pipe to Pipe	UT
B4.5	B-J	1-A-10ALD Longitudinal	UT
B4.5	B-K-1	1-A-11HL 1 thru 4 Hanger Lugs	UT
B4.5	B-J	1-ASB-1 Branch Connection to Pipe	UT

Main Steam Loop B

(See Appendix A, Figures A-5 and A-6)

B4.5	B-J	1-B-7 Tee to Pipe	UT
B4.5	B-J	1-B-7LD Longitudinal	UT
B4.9	B-K-1	1-B-7PS-2-1 Pipe Support	UT
B4.9	B-K-1	1-B-9RL-2-1 Restraint Lug	UT
B4.5	B-J	1-B-15LU Longitudinal	UT
B4.5	B-J	1-B-15 Pipe to Valve	UT
B4.5	B-J	1-BSD-2 Pipe to Flange	UT

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method</u>
<u>Main Steam Loop C</u>			
(See Appendix A, Figures A-7 and A-8)			
B4.5	B-J	1-C-6LU Longitudinal	UT
B4.5	B-J	1-C-6 Pipe to Tee	UT
B4.5	B-J	1-C-9 Tee to Pipe	UT
B4.5	B-J	1-C-9LD Longitudinal	UT
B4.9	B-K-1	1-C-9RL-1-1 Restraint Lug	UT
B4.9	B-K-1	1-C-9PS-1-2 Pipe Support	UT
B4.5	B-J	1-C-12LU Longitudinal	UT
B4.5	B-J	1-C-12 Pipe to Elbow	UT
B4.5	B-J	1-C-12LD Longitudinal	UT
<u>Main Steam Loop D</u>			
(See Appendix A, Figures A-9 and A-10)			
B4.5	B-J	1-D-3LU Longitudinal	UT
B4.5	B-J	1-D-3 Pipe to Elbow	UT
B4.5	B-J	1-D-3LDI Longitudinal	UT
B4.5	B-J	1-D-3LDO Longitudinal	UT
B4.9	B-K-1	1-D-7PS-2-1 Pipe Support	UT
B4.9	B-K-1	1-D-7RL-2-2 Restraint Lug	UT
B4.5	B-J	1-D-9LU Longitudinal	UT
B4.5	B-J	1-D-9 Pipe to Elbow	UT
B4.5	B-J	1-D-9LDI Longitudinal	UT
B4.5	B-J	1-D-9LDO Longitudinal	UT
B4.5	B-J	1-D-12LU Longitudinal	UT
B4.5	B-J	1-D-12 Pipe to Valve	UT
B4.5	B-J	1-DSA-1 Branch Connection to Pipe	UT

TABLE ONE
Continued

ASME Section XI Item No.	ASME Section XI Category	Examination Area Identification	Examination Method
<u>Main Recirculation Loop A</u>			
<u>28" Discharge</u> (See Appendix A, Figure A-12)			
B4.5	B-J	2-AD-17 Tee to Cross	UT
<u>22" Manifold</u> (See Appendix A, Figure A-13)			
B4.6	B-J	2-AM-1/AHJ 12" Branch Connection	UT
B4.5	B-J	2-AM-4 Cross to Pipe	UT
B4.5	B-J	2-AM-4LD Longitudinal	UT
B4.6	B-J	2-AM-4/AHG 12" Branch Connection	UT
B4.6	B-J	2-AM-4/AHF 12" Branch Connection	UT
<u>Main Recirculation Loop B</u>			
<u>28" Suction</u> (See Appendix A, Figure A-15)			
B4.9	B-K-1	2-BS-6HL Hanger Lug	UT
<u>28" Discharge</u> (See Appendix A, Figure A-16)			
B4.5	B-J	2-BD-15LU Longitudinal	UT
B4.5	B-J	2-BD-15 Pipe to Tee	UT
<u>22" Manifold</u> (See Appendix A, Figure A-17)			
B4.9	B-K-1	2-BM-4RL Restraint Lug	UT
B4.6	B-J	2-BM-4/BHE 12" Branch Connection	UT
<u>Feedwater Loop A</u>			
<u>24" Mainline</u> (See Appendix A, Figure A-20)			
B4.5	B-J	6-A-2 Pipe to Elbow	UT
<u>20" Manifold</u> (See Appendix A, Figure A-21)			
B4.5	B-J	6-AM-2 Pipe to Tee	UT

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method</u>
<u>12" Riser-Leg A</u> (See Appendix A, Figure A-21)			
B4.5	B-J	6-AA-8 Elbow to Pipe	UT
<u>12" Riser-Leg C</u> (See Appendix A, Figure A-21)			
B4.5	B-J	6-AC-3 Pipe to Elbow	UT
<u>Feedwater Loop B</u> <u>20" Manifold</u> (See Appendix A, Figure A-24)			
B4.5	B-J	6-BM-1 Reducer to Pipe	UT
B4.9	B-K-1	6- 4-1PS Pipe Support	UT
<u>12" Riser-Leg D</u> (See Appendix A, Figure A-24)			
B4.5	B-J	6-BD-4A Pipe to Pipe	UT
<u>12" Riser-Leg E</u> (See Appendix A, Figure A-24)			
B4.5	B-J	6-BE-1 Tee to Pipe	UT
B4.5	B-J	6-BE-3 Pipe to Elbow	UT
<u>Residual Heat Removal Head Spray (10-HS)</u> (See Appendix A, Figure A-26)			
B4.1	B-F	10-HS-3 Pipe to Pipe	UT
B4.5	B-J	10-HS-14 Elbow to Pipe	UT
B4.9	B-K-1	10-HS-16PS-3 Pipe Support	UT
B4.5	B-J	10-HS-18R Pipe to Flange*	UT
B4.5	B-J	10-HS-28 Flange to Pipe*	UT
B4.5	B-J	10-HS-29 Pipe to Elbow*	UT
B4.5	B-J	10-HS-30 Elbow to Pipe*	UT
B4.5	B-J	10-HS-31 Pipe to Elbow*	UT
B4.5	B-J	10-HS-32 Elbow to Pipe*	UT
B4.5	B-J	10-HS-33 Pipe to Elbow*	UT
B4.5	B-J	10-HS-34 Elbow to Pipe*	UT
B4.5	B-J	10-HS-35 Pipe to Elbow*	UT
B4.5	B-J	10-HS-36 Elbow to Flange*	UT

*baseline examinations

TABLE ONE
Continued

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method</u>
<u>Residual Heat Removal - IN - Loop A</u> (See Appendix A, Figure A-27)			
B4.9	B-K-1	10-IA-7PS Pipe Support	UT
B4.1	B-F	10-IA-11 Elbow to Pipe	UT
B4.5	B-J	10-IA-12 Pipe to Valve	UT
B4.1	B-F	10-IA-14 Pipe to Tee	UT
<u>Residual Heat Removal - IN - Loop B</u> (See Appendix A, Figure A-28)			
B4.5	B-J	10-IB-13 Valve to Pipe	UT
B4.1	B-F	10-IB-14 Pipe to Tee	UT
<u>Residual Heat Removal (OUT)</u> (See Appendix A, Figure A-29)			
B4.1	B-F	10-0-17 Pipe to Pipe	UT
<u>Reactor Core Isolation Cooling (IN)</u> (See Appendix A, Figure A-32)			
B4.5	B-J	13-I-6 Pipe to Tee	UT
<u>High Pressure Coolant Injection (OUT)</u> (See Appendix A, Figure A-36)			
B4.5	B-J	23-0-9 Elbow to Pipe	UT
B4.5	B-J	23-0-19 Pipe to Elbow	UT
<u>Jet Spray Instrumentation - Loop B</u> (See Appendix A, Figure A-37)			
B1.6	B-F	JP-B-1 Nozzle to Safe-End	UT
B4.5	B-J	JP-B-3 Reducer to Reducer	UT

TABLE ONE
Continued

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method</u>
<u>Class II Pipe Welds and Components</u>			
<u>RHR Head Spray</u> (See Appendix A, Figure B-2)			
C2.1	C-F(A)	10-2HS6-3 Pipe to Elbow	UT
<u>RHR Containment Spray - IN - Loop B</u> (See Appendix A, Figures B-3, B-4, B-24 and B-28)			
C2.1	C-F(A)	10-2CS1B12-16 Pipe to Tee	UT
C2.1	C-F(A)	10-2CS1B24-2 Tee to Pipe	UT
<u>RHR Fuel Pool Coolant - Loop A</u> (See Appendix A, Figures B-5 and B-6)			
C2.1	C-F(A)	10-2FPCA16-13 Elbow to Pipe	UT
<u>RHR Fuel Pool Coolant - Loop B</u> (See Appendix A, Figure B-31)			
C2.1	C-F(A)	10-2FPCB16-2 Valve to Pipe	UT
<u>RHR Suppression Chamber - IN - Loop A</u> (See Appendix A, Figure B-7)			
C2.1	C-F(A)	10-2SCIA18-7 Elbow to Tee	UT
<u>RHR Shutdown Cooling Suction - Pump C</u> (See Appendix A, Figures B-11 and B-13)			
C2.1	C-F(A)	10-2SCSC20-3 Elbow to Pipe	UT
<u>RHR Discharge - Pump A</u> (See Appendix A, Figure B-16)			
C2.1	C-F(A)	10-2DA20-1 Pipe to Reducer	UT
<u>RHR Discharge - Pump D</u> (See Appendix A, Figure B-19)			
C2.1	C-F(A)	10-2DD20-3 Pipe to Elbow	UT

TABLE ONE
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
<u>Class II Pipe Welds and Components</u> <u>Continued</u>			
<u>RHR Heat Exchanger C - OUT</u> (See Appendix A, Figure B-22)			
C2.1	C-F(A)	10-2XC020-2 Elbow to Pipe	UT
<u>RHR Containment Spray - IN - Loop A</u> (See Appendix A, Figures B-24, B-25, B-26 and B-27)			
C2.1	C-F(A)	10-2CSIA24-4 Elbow to Pipe	UT
<u>RHR - IN - Loop B</u> (See Appendix A, Figure B-30)			
C2.1	C-F(A)	10-2IB24-4 Pipe to Elbow	UT
<u>RHR Suction - Pump A</u> (See Appendix A, Figure B-10)			
C2.1	C-F(A)	10-2SA24-3 Elbow to Pipe	UT
<u>RHR Shutdown Cooling Suction</u> (See Appendix A, Figure B-31)			
C2.1	C-F(A)	10-2SCS24-1 Tee to Reducer	UT

TABLE TWO

DETAIL OF EXAMINATIONS PERFORMED BY
GENERAL ELECTRIC

TABLE TWO

DETAIL OF EXAMINATIONS PERFORMED BY
GENERAL ELECTRIC

ASME Section XI Item No.	ASME Section XI Category	Examination Area Identification	Examination Method
<u>Class 1 Pipe Welds and Components</u>			
<u>Main Recirculation - Loop A</u>			
<u>28" Suction</u>			
(See Appendix A, Figure A-11)			
B4.5	B-J	2-AS-2 Safe End to Pipe	UT
B4.5	B-J	2-AS-3 Pipe to Elbow	UT
B4.5	B-J	2-AS-4 Elbow to Pipe	UT
B4.5	B-J	2-AS-5LU Longitudinal	UT
B4.5	B-J	2-AS-5* Pipe to Tee	UT
B4.5	B-J	2-AS-10 Pipe to Elbow	UT
B4.5	B-J	2-AS-11* Elbow to Pump	UT
<u>28" Discharge</u>			
(See Appendix A, Figures A-12 and A-13)			
B4.5	B-J	2-AD-14* Valve to Elbow	UT
B4.5	B-J	2-AD-15LUI Longitudinal	UT
B4.5	B-J	2-AD-15LUO Longitudinal	UT
B4.5	B-J	2-AD-15 Elbow to Pipe	UT
B4.5	B-J	2-AD-15LD Longitudinal	UT
<u>22" Manifold</u>			
(See Appendix A, Figure A-13)			
B4.5	B-J	2-AM-5 Pipe to Cap	UT
<u>12" Headers</u>			
(See Appendix A, Figure A-14)			
B4.5	B-J	2-AHF-1 Branch Connection to Pipe	RT/UT
B4.5	B-J	2-AHG-1 Branch Connection to Pipe	RT/UT
B4.5	B-J	2-AHG-2 Pipe to Elbow	RT/UT
B4.5	B-J	2-AHJ-1 Branch Connection to Pipe	RT/UT
B4.5	B-J	2-AHJ-2 Pipe to Elbow	RT/UT
B4.5	B-J	2-AHJ-3 Elbow to Pipe	UT

ASME Section XI Item No.	ASME Section XI Category	TABLE TWO Continued		Examination Method
		Examination Area Identification		
		12" Headers Continued		
B4.5	B-J	2-AHJ-4	Pipe to Safe-End	UT
B4.5	B-J	2-AHK-2	Pipe to Elbow	RT/UT
B4.5	B-J	2-AHK-4	Pipe to Safe-End	UT
B4.5	B-J	2-AHK-4LU	Longitudinal	UT
Main Recirculation - Loop B				
28" Suction (See Appendix A, Figure A-15)				
B4.5	B-J	2-BS-2	Safe-End to Pipe	UT
B4.5	B-J	2-BS-3LU	Longitudinal	UT
B4.5	B-J	2-BS-3	Pipe to Elbow	UT
B4.5	B-J	2-BS-3LDI	Longitudinal	UT
B4.5	B-J	2-BS-3LDO	Longitudinal	UT
B4.5	B-J	2-BS-4	Elbow to Pipe	UT
B4.5	B-J	2-BS-6	Pipe to Elbow	UT
B4.5	B-J	2-BS-9	Pipe to Elbow	UT
B4.5	B-J	2-BS-10	Elbow to Pipe	UT
28" Discharge (See Appendix A, Figures A-16 and A-17)				
B4.5	B-J	2-BD-13*	Valve to Elbow	UT
B4.5	B-J	2-BD-14	Elbow to Pipe	UT
22" Manifold (See Appendix A, Figure A-17)				
B4.5	B-J	2-BM-4*	Cross to Pipe	UT
B4.5	B-J	2-BM-4LD	Longitudinal	UT
12" Headers (See Appendix A, Figure A-18)				
B4.5	B-J	2-BHA-2	Pipe to Elbow	RT/UT
B4.5	B-J	2-BHA-3	Elbow to Pipe	UT
B4.5	B-J	2-BHA-4	Pipe to Safe-End	UT
B4.5	B-J	2-BHC-2	Pipe to Elbow	RT/UT
B4.5	B-J	2-BHE-1	Branch Connection to Pipe	UT
B4.5	B-J	2-BHE-2	Pipe to Elbow	RT/UT

TABLE TWO
Continued

ASME Section XI Item No.	ASME Section XI Category	Examination Area Identification	Examination Method
<u>Residual Heat Removal - IN - Loop A</u> (See Appendix A, Figure A-27)			
B4.5	B-J	10-IA-4 Elbow to Pipe	UT
B4.5	B-J	10-IA-5 Pipe to Valve	UT
B4.5	B-J	10-IA-6 Valve to Pipe	UT
B4.5	D-J	10-IA-8LUO Longitudinal	UT
B4.5	B-J	10-IA-8 Elbow to Pipe	UT
B4.5	B-J	10-IA-8LD Longitudinal	UT
B4.5	B-J	10-IA-9 Pipe to Elbow	UT
B4.5	B-J	10-IA-10 Elbow to Elbow	UT
<u>Residual Heat Removal - IN - Loop B</u> (See Appendix A, Figure A-28)			
B4.5	B-J	10-IB-4 Elbow to Pipe	UT
B4.5	B-J	10-IB-5 Pipe to Valve	UT
B4.5	B-J	10-IB-6 Valve to Pipe	UT
B4.5	B-J	10-IB-7 Pipe to Elbow	UT
<u>Residual Heat Removal (OUT)</u> (See Appendix A, Figure A-29)			
B4.5	B-J	10-0-4 Pipe to Elbow	UT
B4.5	B-J	10-0-5 Elbow to Pipe	UT
B4.1	B-F	10-0-10 Pipe to Elbow	PT/UT
B4.1	B-F	10-0-15 Pipe to Elbow	PT/UT
<u>Core Spray - Loop B</u> (See Appendix A, Figure A-34)			
B4.1	B-F	14-B-11 Pipe to Pipe	UT

*Indicates partial UT examination performed.
0° weld scan required next outage.

TABLE THREE

DETAIL OF EXAMINATIONS PERFORMED BY
LAMBERT-MACGILL-THOMAS

TABLE THREE

DETAIL OF EXAMINATIONS PERFORMED BY
LAMBERT-MACGILL-THOMAS

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method.</u>
<u>Class I Pipe Welds</u> (See Appendix A, Figure A-29)			
<u>Residual Heat Removal</u>			
B4.5	B-J	10-0-5 Elbow to Pipe	UT*
B4.1	B-F	10-0-10 Pipe to Elbow	UT*
B4.1	B-F	10-0-15 Pipe to Elbow	UT*

*Post weld clad overlay repair examinations.

TABLE FOUR

DETAIL OF EXAMINATIONS PERFORMED BY
PHILADELPHIA ELECTRIC COMPANY

TABLE FOUR

DETAIL OF EXAMINATIONS PERFORMED BY
PHILADELPHIA ELECTRIC COMPANY

ASME Section XI Item No.	ASME Section XI Category	Examination Area Identification		Examination Method
<u>Class I Pipe Welds and Components</u>				
<u>Main Steam - Loop A</u> (See Appendix A, Figure A-3 and A-4)				
B4.7	B-J	1-A-7/ASB	Branch Connection	MT
<u>Main Steam - Loop B</u> (See Appendix A, Figure A-5 and A-6)				
B4.12	B-G-2	1-BSE-2FB	Flange Bolting	VT
B4.12	B-G-2	1-BSF-2FB	Flange Bolting	VT
<u>Main Steam - Loop C</u> (See Appendix A, Figure A-7 and A-8)				
B4.12	B-J	1-C-7/CSA	Branch Connection	MT
B4.12	B-J	1-C-9/CSE	Branch Connection	MT
B4.12	B-G-2	1-CSD-2FB	Flange Bolting	VT
B4.12	B-G-2	1-CSE-2FB	Flange Bolting	VT
<u>Main Steam - Loop D</u> (See Appendix D, Figure A-9)				
B4.12	B-G-2	1-DSA-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSB-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSC-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSD-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSE-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSF-2FB	Flange Bolting	VT
B4.12	B-G-2	1-DSG-2FB	Flange Bolting	VT
<u>Main Recirculation Loop B - Discharge</u> (See Appendix A, Figures A-16 and A-17)				
B4.7	B-J	2-BD-14/BPB	Branch Connection	PT

TABLE FOUR
Continued

ASME Section XI Item No.	ASME Section XI Category	Examination Area Identification		Examination Method
<u>Class I Pipe Welds and Components</u> (Continued)				
<u>Residual Heat Removal Head Spray</u> (See Appendix A, Figure A-26)				
B4.1	B-F	10-HS-3	Pipe to Pipe	PT
<u>Residual Heat Removal - IN - Loop A</u> (See Appendix A, Figure A-27)				
B4.1	B-F	10-IA-11	Elbow to Pipe	PT
B4.1	B-F	10-IA-14	Pipe to Tee	PT
<u>Residual Heat Removal - IN - Loop B</u> (See Appendix A, Figure A-28)				
B4.1	B-F	10-IB-14	Pipe to Tee	PT
<u>Residual Heat Removal (OUT)</u> (See Appendix A, Figure A-29)				
B4.1	B-F	10-O-17	Pipe to Pipe	PT
<u>Core Spray - Loop B</u> (See Appendix A, Figure A-34)				
B4.1	B-F	14-B-11	Pipe to Pipe	PT
<u>Jet Spray Instrumentation - Loop B</u> (See Appendix A, Figure A-37)				
B1.6	B-F	JP-B-1	Nozzle to Safe-End	PT

TABLE FOUR
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
<u>Class II Pipe Welds and Components</u>			
<u>Residual Heat Removal Containment Spray - IN - Loop B</u> (See Appendix B, Figures B-3 and B-4)			
C2.5	C-E-1	10-2CSIB12-4PS Pipe Support	MT
<u>Residual Heat Removal Discharge - Pump C</u> (See Appendix B, Figure B-18)			
C2.5	C-E-1	10-2DC20-5PS Pipe Support	MT
<u>Residual Heat Removal Shutdown Cooling Suction</u> (See Appendix B, Figure B-31)			
C2.5	C-E-1	10-2SCS24-12PS Pipe Support	MT
<u>Residual Heat Removal Pumps</u> (See Appendix B, Figure B-32)			
C3.3	C-E-1	Pump-A-IWS Integrally Welded Support	MT
C3.4	C-E-2	Pump-A-SC Support Components	VT
<u>Class I Valve Bodies</u>			
<u>Main Steam</u>			
B6.7	B-M-2	AO-86B	VT
<u>Feedwater</u>			
B6.7	B-M-2	6-96B	VT
<u>Residual Heat Removal</u>			
B6.7	B-M-2	AO10-46B	VT
<u>Class I Pressure Retaining Bolting Valves</u>			
<u>Main Steam</u>			
B6.3	B-G-2	AO-86B	VT

TABLE FOUR
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
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Class I Pressure Retaining Bolting Valves
Continued

Residual Heat Removal

B6.3	B-G-2	AO-46B	VT
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Class I Support Components

Main Steam - Loop A

B4.10	B-K-2	GA-1	VT
B4.10	B-K-2	HA-4-1	VT
B4.10	B-K-2	HA-4-2	VT
B4.10	B-K-2	HA-3-1, 2	VT

Main Steam - Loop B

B4.10	B-K-2	1-HB-2-1, 2	VT
B4.10	B-K-2	1-HB-1-1, 2	VT
B4.10	B-K-2	1-HB-4-1, 2	VT

Main Steam - Loop C

B4.10	B-K-2	1-HC-2-1, 2	VT
B4.10	B-K-2	1-HC-4-1	VT
B4.10	B-K-2	1-HC-4-2	VT

Main Steam - Loop D

B4.10	B-K-2	GD-1	VT
B4.10	B-K-2	HD-3-1, 2	VT

Main Recirculation - Loop B

B6.4	B-K-2	2-HB-1, 2	VT
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TABLE FOUR
Continued

<u>ASME Section XI Item No.</u>	<u>ASME Section XI Category</u>	<u>Examination Area Identification</u>	<u>Examination Method</u>
<u>Class I Support Components</u>			
<u>Continued</u>			
<u>Feedwater</u>			
B6.4	B-K-2	3-6DD-H61	VT
B6.4	B-K-2	3-6DD-H62	VT
B4.10	B-K-2	3-6DDNL-H40	VT
<u>High Pressure Coolant Injection</u>			
B6.4	B-K-2	3-23DBN-H64	VT
<u>Class II Support Components</u>			
<u>Residual Heat Removal</u>			
C2.6	C-E-2	3-10DDN-H66	VT
C2.6	C-E-2	3-10DDN-H66A	VT
C2.6	C-E-2	3-10GB-H53	VT
C2.6	C-E-2	3-10GB-H54	VT
C2.6	C-E-2	3-10GB-H56	VT
C2.6	C-E-2	3-10GB-H57	VT
C2.6	C-E-2	3-10GB-H68	VT
C2.6	C-E-2	3-10GB-H69	VT
C2.6	C-E-2	3-10GB-H70	VT
C2.6	C-E-2	3-10GB-H75	VT/MT
C2.6	C-E-2	3-10GB-H82	VT
C2.6	C-E-2	3-10GB-H84	VT
C2.6	C-E-2	3-10GB-H87	VT
C2.6	C-E-2	3-10GB-H88	VT
C2.6	C-E-2	3-10GB-H131	VT
C2.6	C-E-2	3-10GB-H132	VT
C2.6	C-E-2	3-10GB-H133	VT

TABLE FOUR
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
<u>Class II Support Components</u> <u>Continued</u>			
<u>Residual Heat Removal</u> <u>Continued</u>			
C2.6	C-E-2	3-10GB-H134	VT
C2.6	C-E-2	3-10GB-H157A	VT
C2.6	C-E-2	3-10GB-H85	VT
C2.6	C-E-2	3-10GB-S45	VT
C2.6	C-E-2	3-10GB-S46	VT
C2.6	C-E-2	3-10GB-S56	VT
C2.6	C-E-2	3-10GB-S69	VT
C2.6	C-E-2	3-10GB-S72	VT
C2.6	C-E-2	3-10HB-H14	VT
C2.6	C-E-2	3-10HB-H18	VT
C2.6	C-E-2	3-10HB-H27	VT
C2.6	C-E-2	3-10HB-H28, 1, 2	VT
C2.6	C-E-2	3-10HB-H31	VT
C2.6	C-E-2	3-10HB-H33	VT
C2.6	C-E-2	3-10HB-H34	VT
C2.6	C-E-2	3-10HB-H36	VT
C2.6	C-E-2	3-10HB-H37	VT/MT
C2.6	C-E-2	3-10HB-H38	VT/MT
C2.6	C-E-2	3-10HB-H39	VT
C2.6	C-E-2	3-10HB-S3	VT
C2.6	C-E-2	3-10HB-S6	VT
C2.6	C-E-2	3-10HB-S9	VT
C4.4	C-E-2	3-10MO-H96	VT
C4.4	C-E-2	3-10MO-H102	VT
C4.4	C-E-2	3-10MO-H161	VT

TABLE FOUR
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
<u>Class III Support Components</u>			
<u>High Pressure Service Water</u>			
IWD-2600C		3-32GB-S63	VT
IWD-2600C		3-32MO-H57	VT
<u>System Leakage Pressure Test</u>			
<u>Class I Pressure Retaining Components</u>			
IWB-5210	100%		VT
<u>System Hydrostatic Pressure Tests</u>			
<u>Class I Pressure Retaining Components</u>			
<u>Main Recirculation, Loops A and B</u>			
IWA-4210	22"	Pump Discharge Manifolds, Saddle Circumferential and Cap Welds	VT
IWA-4210	12"	RPV Inlet Headers from Pump Discharge Manifolds to RPV Nozzles	VT
<u>Residual Heat Removal</u>			
IWA-4210	6"	RPV Head Spray from El. + 211' Flange Connection to RPV Head	VT
IWA-4210	20"	Shutdown Cooling Suction from 28" Main Recirculation Loop A Suction to Containment Penetration	VT
<u>Class II Pressure Retaining Components</u>			
IWA-4210		Class II Residual Heat Removal Suction and Discharge Piping From Valve MO-17, up to Valves MO-13, MO-33, MO-26, MO-25, MO-38, MO-34, (all loops)	VT
IWA-4210		1" CRD Scram Discharge Volume Drain Line from SDV Instrument Volume to SDV Headers (including level switches)	VT

TABLE FOUR
Continued

<u>ASME</u> <u>Section XI</u> <u>Item No.</u>	<u>ASME</u> <u>Section XI</u> <u>Category</u>	<u>Examination Area Identification</u>	<u>Examination</u> <u>Method</u>
<u>System Hydrostatic Pressure Tests</u> <u>Continued</u>			
<u>Class III Pressure Retaining Components</u>			
IWD-2410		Fuel Pool Coolant/Residual Heat Removal Piping	VT
IWA-4210		"B" High Pressure Service Water/Residual Heat Removal Heat Exchanger	VT
<u>Reactor Pressure Vessel (RPV) Internal Components</u> (See Appendix C, Figure C-1)			
Bl.15	B-N-1	<u>Core Spray Spargers (CSS)</u>	
		"A" Sparger, 276°-84° Azimuth, 100%	VT
		"B" Sparger, 276°-84° Azimuth, 100%	VT
		"C" Sparger, 96°-264° Azimuth, 100%	VT
		"D" Sparger, 96°-264° Azimuth, 100%	VT
Bl.15	B-N-1	<u>Core Spray Supply Headers</u>	
		"A" & "C" Supply Header, 187.5°-352° Az	VT
		"B" & "D" Supply Header, 7.5°-172.5° Az	VT
Bl.15	B-N-1	<u>Core Spray, Downcomer Supply Piping</u>	
		"A" Downcomer, 352.5° Az.	VT
		"B" Downcomer, 7.5° Az.	VT
		"C" Downcomer, 187.5° Az.	VT
		"D" Downcomer, 172.5° Az.	VT
<u>Core Spray Header Brackets and Welds</u>			
Bl.15	B-N-1	100%	VT

APPENDIX A

CLASS 1 WELD IDENTIFICATION FIGURES

APPENDIX A

CLASS 1 WELD IDENTIFICATION FIGURES

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EXAMINATION AREA IDENTIFICATION SYSTEM

Each component to be examined (weld, vessel, ligaments, etc.) is identified by a unique coded character. For vessel components, the identifying character is essentially an abbreviation of the component name sequentially numbered where more than one of each type of component exists. Designations for components located on the closure head begin with the letters "CH", while the remainder of the vessel component designations, with the exception of those for the nozzle-to-shell welds, begin with the letters "RPV"; vessel nozzle-to-shell weld designations begin with the letter "N". The remainder of each component designation consists of letter/number combinations identifying the nature of the individual components. For example, CH-MA identifies closure head (CH) meridional (M) weld A, RPV-MA identifies vessel lower head (RPV) meridional (M) weld A, RPV-CS identifies vessel (RPV) circumferential (C) weld S, and NJA identifies Main Steam (NJ) nozzle-to-shell weld.

For piping components, the designation system is, of necessity, more complex due to the number of components involved and often consists of a number of parts.

- (1) The first character set in each code consists of a number which designates the piping system under consideration. Below is a table showing the number or letters with their respective systems:

- 1 - Main Steam Piping System
- 2 - Main Recirculation Piping System
- 3 - Control Rod Drive Hydraulic Return Piping System
- 6 - Feedwater Piping System
- 10 - Residual Heat Removal Piping System
- 12 - Reactor Water Clean-Up Piping System
- 13 - Reactor Core Isolation Cooling Piping System
- 14 - Core Spray Piping System
- 23 - High Pressure Coolant Injection Piping System
- JP - Jet Pump Instrumentation Piping System

- (2) The second character set includes alphabetic codes which indicate loop, function, and/or status. Because of the variety in some systems, examples are given below:

A, B, C, D--A, B, C, and D Loops, respectively

ASB, ASC, ASD, ASE--A Loop, Safety and Relief Risers B, C, D, and E respectively, in System 1

AM, BM, CM, DM—A, B, C, and D Loop Manifolds

AHF, BHC, CHH, DHJ—A, B, C, and D Loop Holders, Legs F, G, H, and J, respectively

AS, BS—A or B Loop Suction in System 2

AD, BD—A or B Loop Discharge in System 2

BPA, BPS—Bypass Loops A and B, respectively

I, O—Flow In, Flow Out, respectively

ASU, BSU—A and B Loops, Start-Up Riser in System 6

AA, AB, AC—A, B, and C Legs, A Loop in System 6

BD, BE, BF—D, E, and F Legs, B Loop in System 6

HS—Head Spray in System 10

IA, IB—In Flow A and B Loops, respectively

- (3) The third character set represents the weld number respective to the direction of flow or direction of the longitudinal weld from the circumferential welds:

1, 2, 3, 4, 5—Circumferential weld number in direction of flow

4LU—Longitudinal weld upstream from circumferential weld 4

6LD—Longitudinal weld downstream from circumferential weld 6

3BC—Branch Connection (4-in. nominal and smaller) downstream from circumferential weld 3

7RL—Restraint Lug downstream from circumferential weld 7

5HL—Hanger Lug downstream from circumferential weld 5

3PS—Pipe Support downstream from circumferential weld 3

- (4) If there is a fourth character set, it describes the successive welds of the third character set:

Letters refer to sequential branch connections. Numbers refer to hanger lugs, pipe supports, and restraint lugs. If there are multiple lugs at a particular position on a pipe, they are numbered clockwise with respect to direction of flow. If there are successive multiple lugs at a particular position on a pipe, a fifth character set will be numbered clockwise with respect to direction of flow.

- (5) For branch connections larger than 4 inches, the following three-part notation is used:

(X) / (Y)

(X) Contains the system, loop, and weld number of the main run of pipe.

/ Indicates the branch connection is larger than 4 inches.

(Y) Contains the branch line identifier.

An example for such a branch connection is:

1-A-7/ASE System 1 (Main Steam System), Loop A, Branch Connection larger than 4 inches, Safety and Relief Riser E.

- (6) Representative examples of the weld numbers and their explanation include:

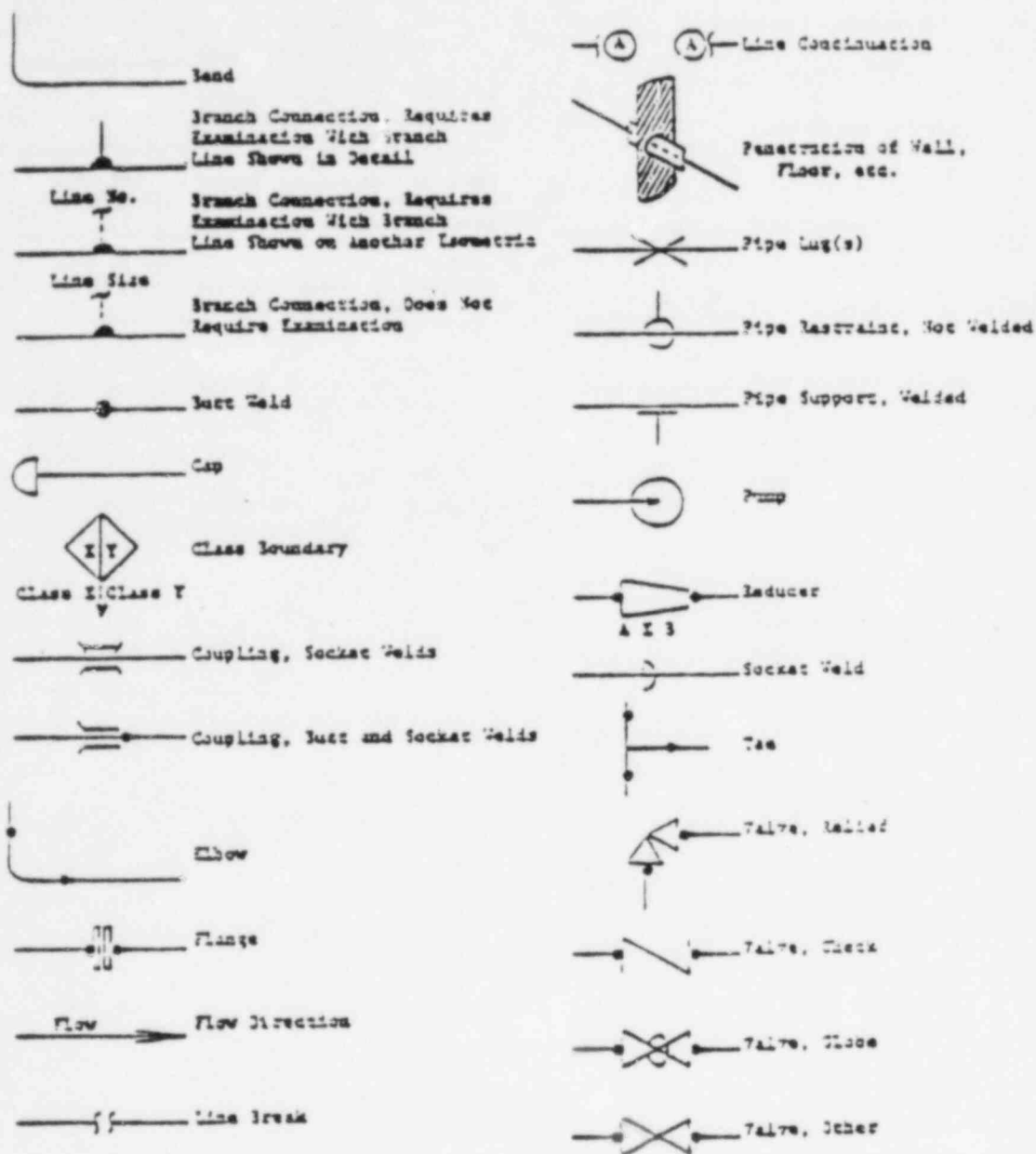
1-ASE-2 System 1 (Main Steam System), Safety and Relief Riser E, circumferential weld 2.

2-AS-7LU System 2 (Main Recirculation System) A Loop Suction Side of Pump, longitudinal weld upstream from circumferential weld 7.

2-AS-6HL-1
through 4 System 2 (Main Recirculation System)
A Loop Suction Side of Pump, Hanger Lug downstream from circumferential weld 6, 4 lugs, numbered clockwise with respect to direction of flow.

2-BM-3HL-2-1 System 2 (Main Recirculation System) B Loop Manifold, Hanger Lug downstream from Hanger Lug 2-BM-3HL-1, first lug clockwise with respect to direction of flow.

Again in this column and immediately under the weld designation, there are further descriptions of each respective weld. These descriptions, such as "pipe-to-elbow" and reducer-to-tee," are listed in the direction of flow.



SYMBOLS FOR WELD IDENTIFICATION

MAIN STEAM LOOP "A"

MATERIAL-CARBON STEEL
PPE DATA-MAIN LINE (1-A)

NOM OD-28"

NOM WT-1.08"

MIN WT-0.950"

CAL. SLK. 18"CS-X-1.26"28"RES

PPE DATA-SAFETY & RELIEF RISERS (AS)

NOM OD-4.625"

NOM WT-0.718" (SCH. 160)

NOM ORC-21"

CAL. SLK. 8"CS-160-718"SA-PES

DO OF WELD MACHINED-CAN NOT

BE SEEN-SEE 3 & 4 QWG

NO. 129381 FOR DETAILS

NOTE: 28" PIPE IS SEAM WELDED

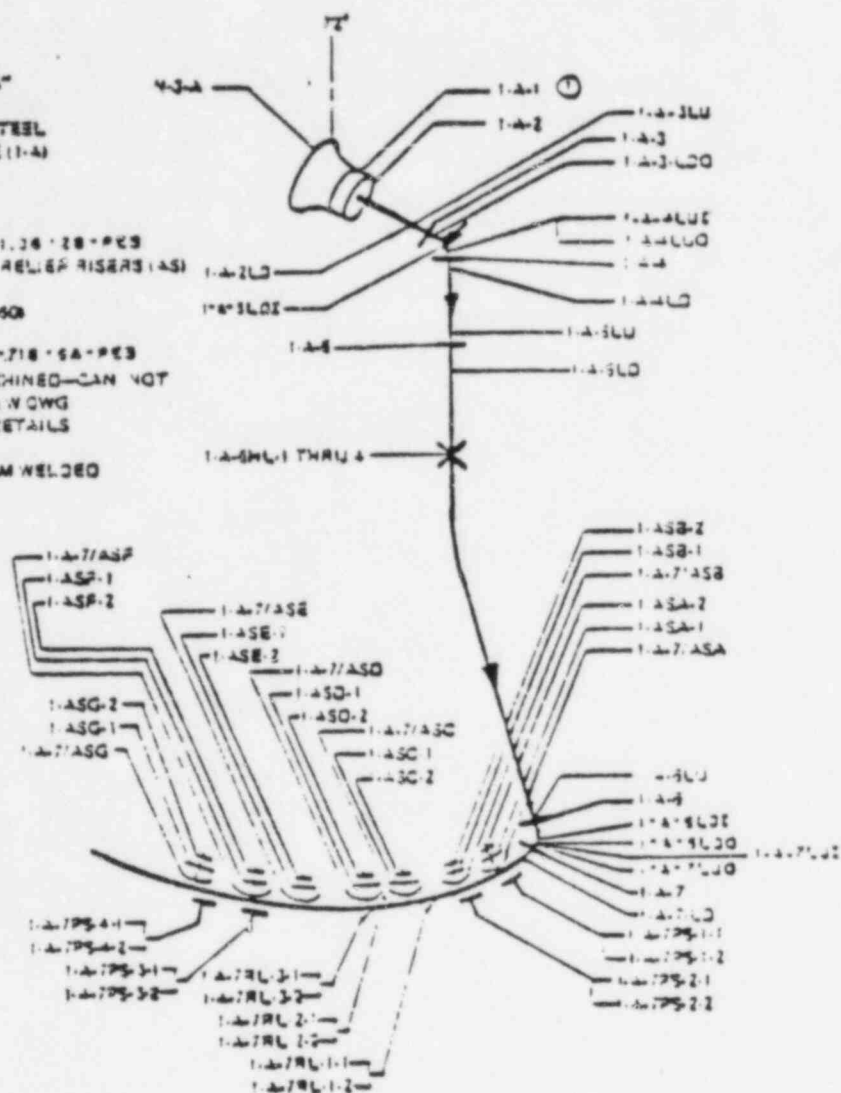
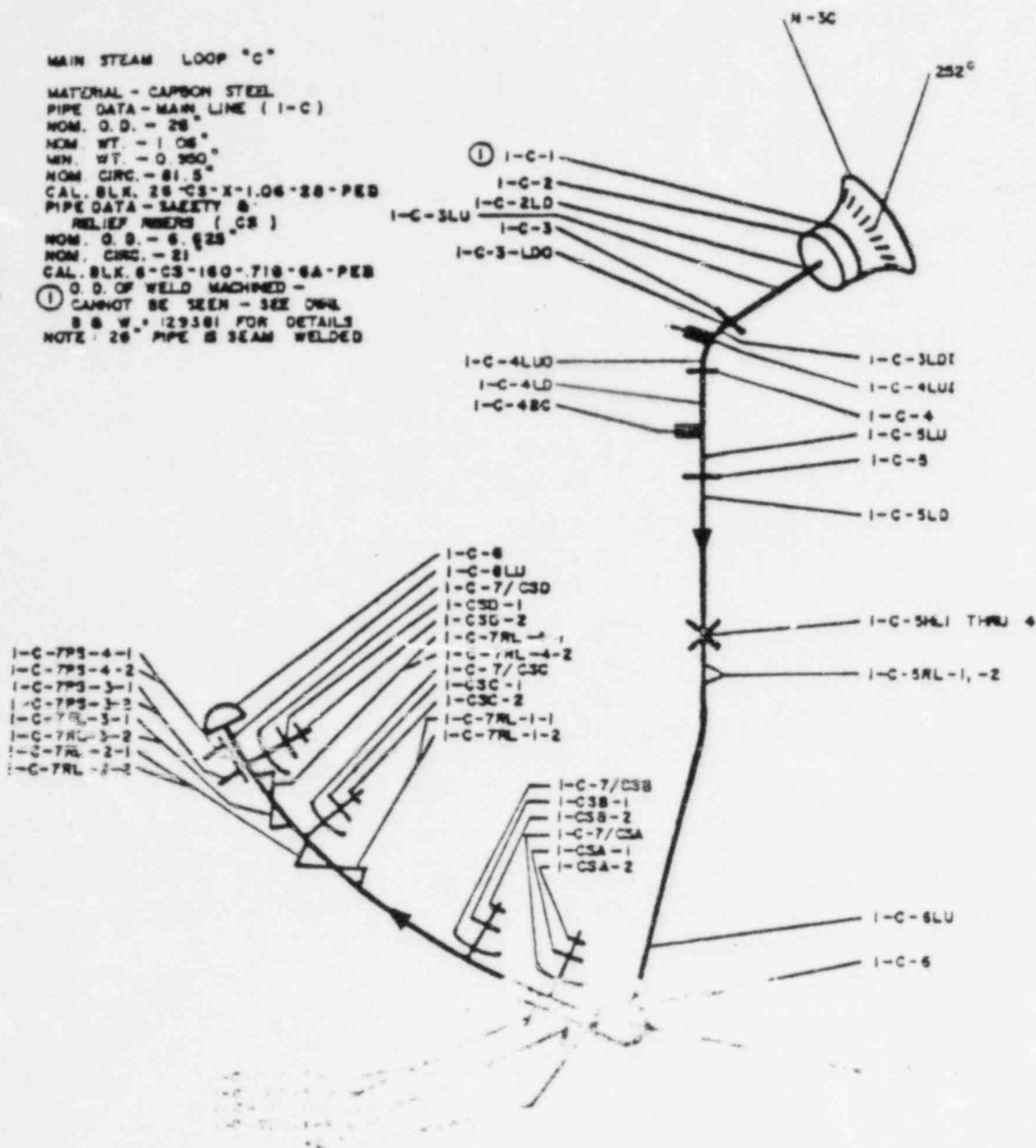


FIGURE A-3



MAIN STEAM LOOP "C"

MATERIAL - CARBON STEEL
 PIPE DATA - MAIN LINE (I-C)
 NOM. O.D. - 28"
 NOM. WT. - 106"
 MIN. WT. - 90.5"
 NOM. CIRC. - 81.5"
 CAL. BLK. 28"CS-X-1.06-28-PED
 PIPE DATA - SAFETY &
 RELIEF VALVES (CS)
 NOM. O.D. - 6.625"
 NOM. CIRC. - 21"
 CAL. BLK. 6"CS-160-710-6A-PED
 O.D. OF WELD MACHINED -
 ① CANNOT BE SEEN - SEE DRG.
 S & W. 129361 FOR DETAILS
 NOTE: 28" PIPE IS SEAM WELDED



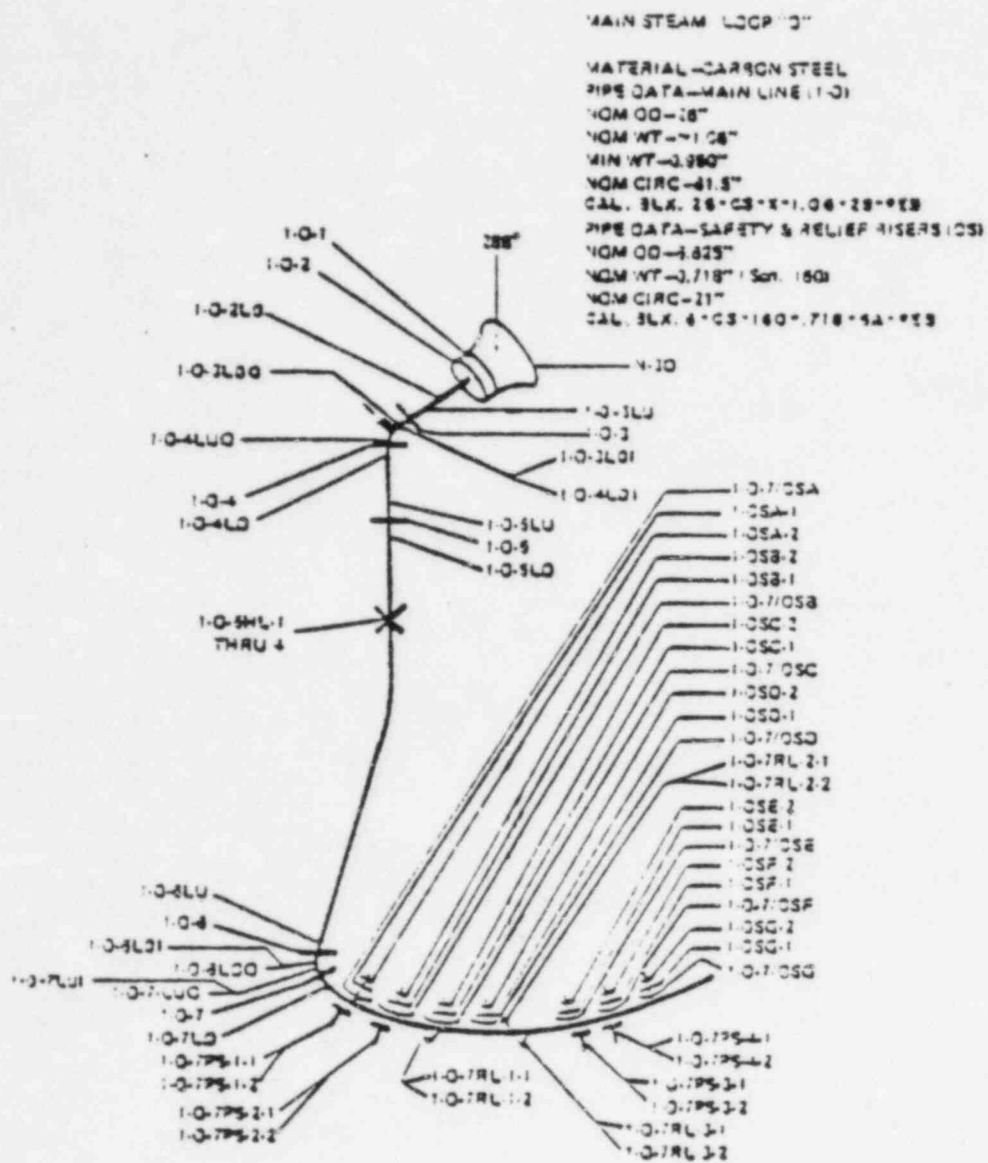
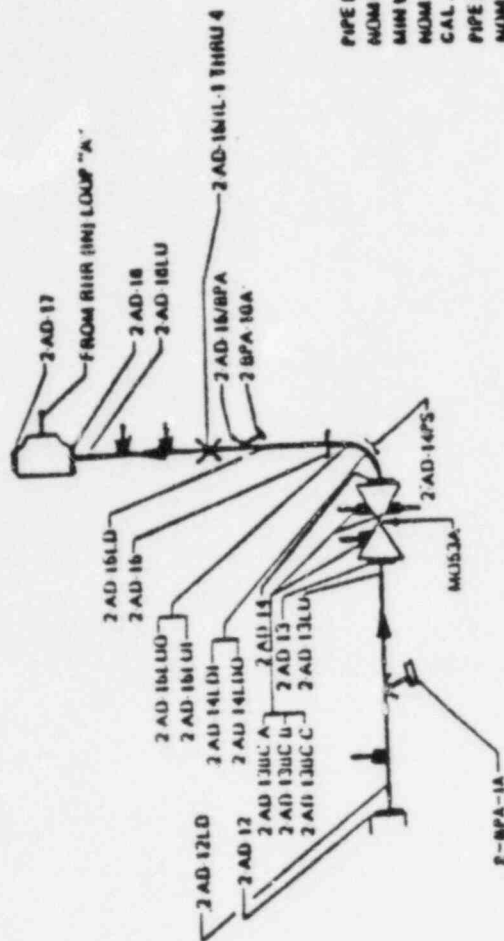


FIGURE A-3

[illegible]

FIGURE A-11



PIPE DATA - DISCHARGE (AD)
 NOM QD - 26"
 MIN WT - 1.272"
 NOM CIRC - 86"
 CAL. BLK. 20 - 88 - X - 1.322 - 8A - P-8
 PIPE DATA - BYPASS (BPA)
 NOM QD - 40"
 NOM WT - 0.337 (Sch. 80)
 NOM CIRC - 14"
 CAL. BLK. 20 - 88 - 40 - 337 - 10A - P-8
 BYPASS LINE REMOVED AND CAPPED
 DURING TIME 1981 181.

NOTE: 20", 22", & 12" PIPE IS SEAM WELDED

FIGURE A-12

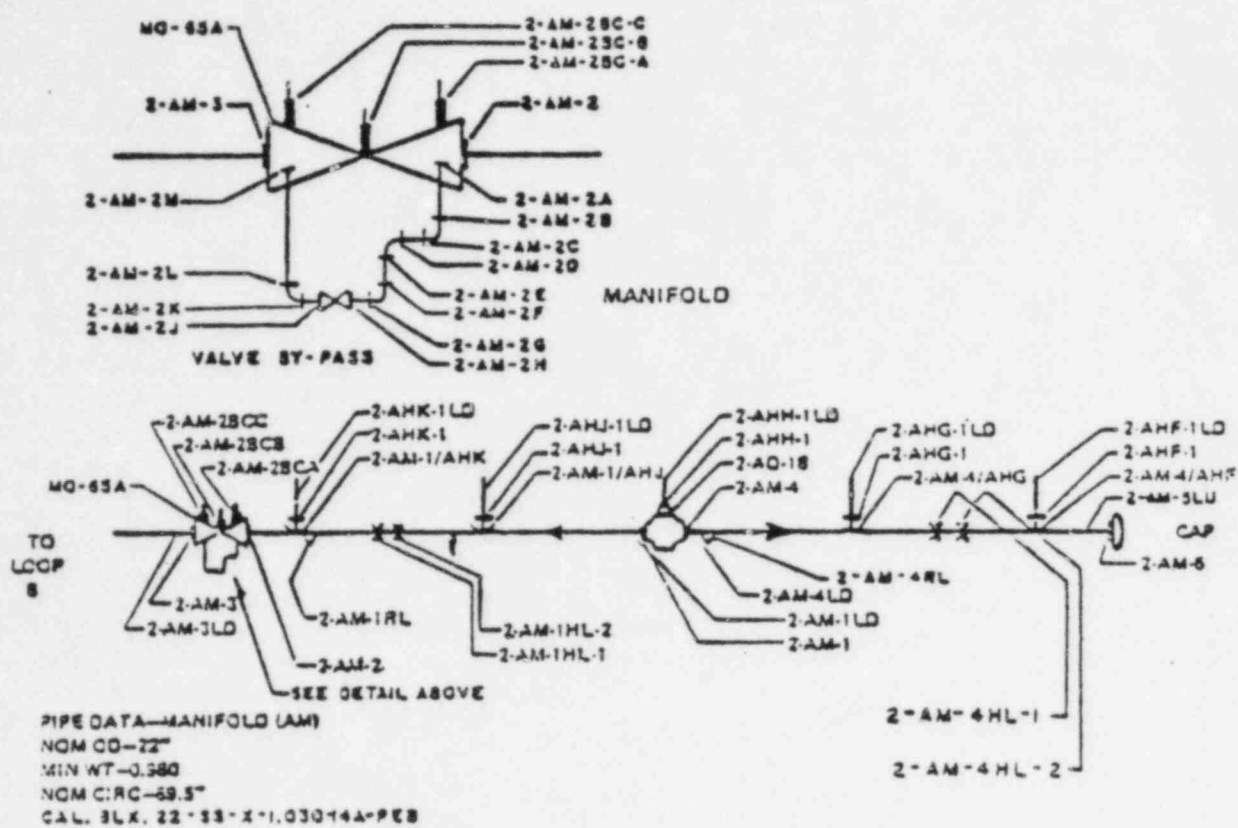
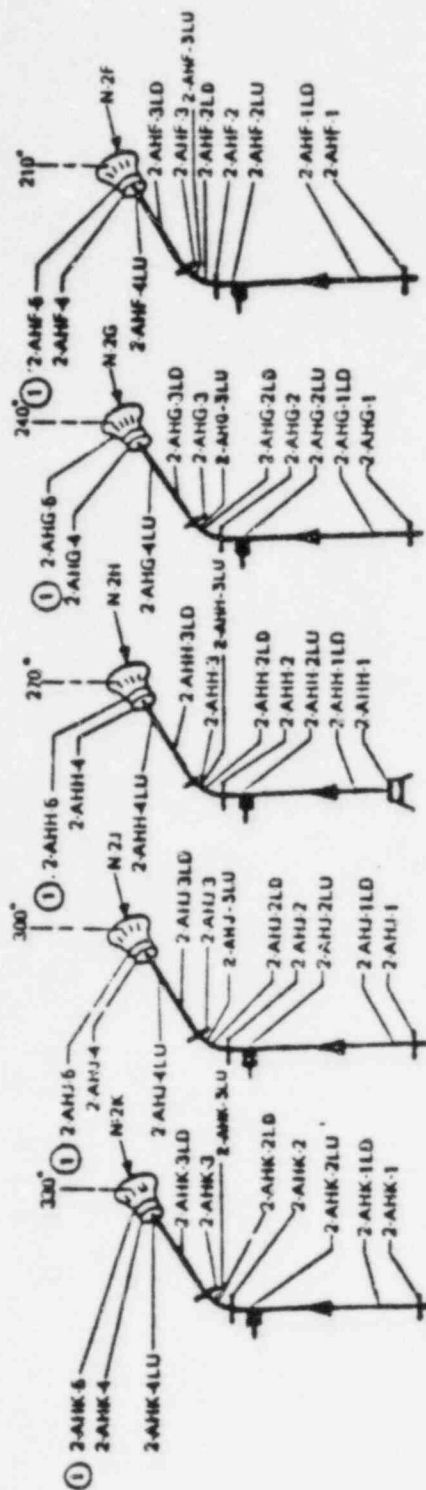


FIGURE A-13

HEADERS



PIPE DATA-HEADERS (AH)

NOM OD-12.75

MIN WT-0.600 (VERT)

0.780 (HORIZ)

NOM CIRC-40.5"

CAL. BLK. 12'-9.8'-N'-.625'-HA-P-EB

① NOTE: 2-AHK-6, 2-AHJ-6, 2-AHH-6, 2-AHF-6,

2-AHK-5, AND 2-AHF-5 ARE

DISSIMILAR METALS

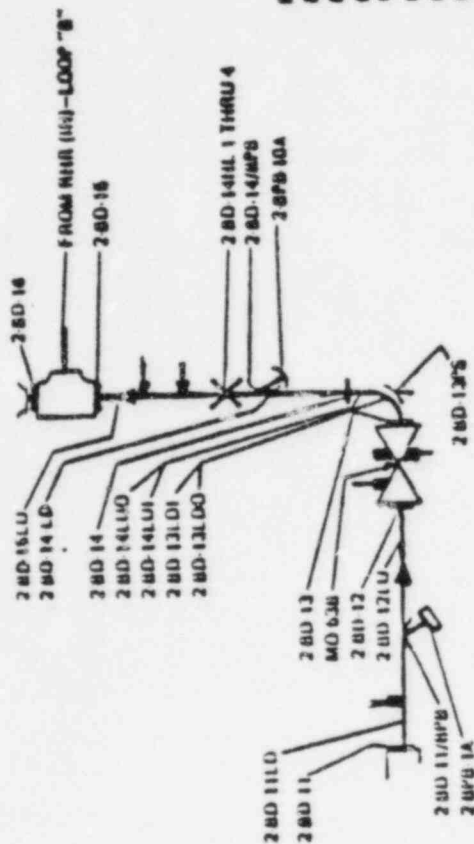
FIGURE A-14

MAIN RECIRC-LOOP "B"
MATERIAL-STAINLESS STEEL
PIPE DATA-SUCTION (BS)
NOM OD-28"
MIN WT-1.068"
NOM CIRC-89"
CAL. BLK. 20-88-X-1.322-

① NOTE: DISSIMILAR METAL WELDS

FIGURE A-15

DISCHARGE AND BYPASS



PIPE DATA - DISCHARGE (BD)
 NOM OD - 28"
 MIN WT - 1.272"
 NOM OD - 89"
 CAL. BLK. 88-89-X-1.322-9A-PEB
 PIPE DATA - BYPASS (WV)
 NOM OD - 4.5"
 NOM WT - 0.337 (Sch. 40)
 NOM CIRC - 14"
 CAL. BLK. 4-88-80-83-10A-PEB
 BYPASS LINE REMOVED AND
 CAPPED DURING THE 1981 TEST.

FIGURE A-16

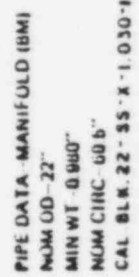
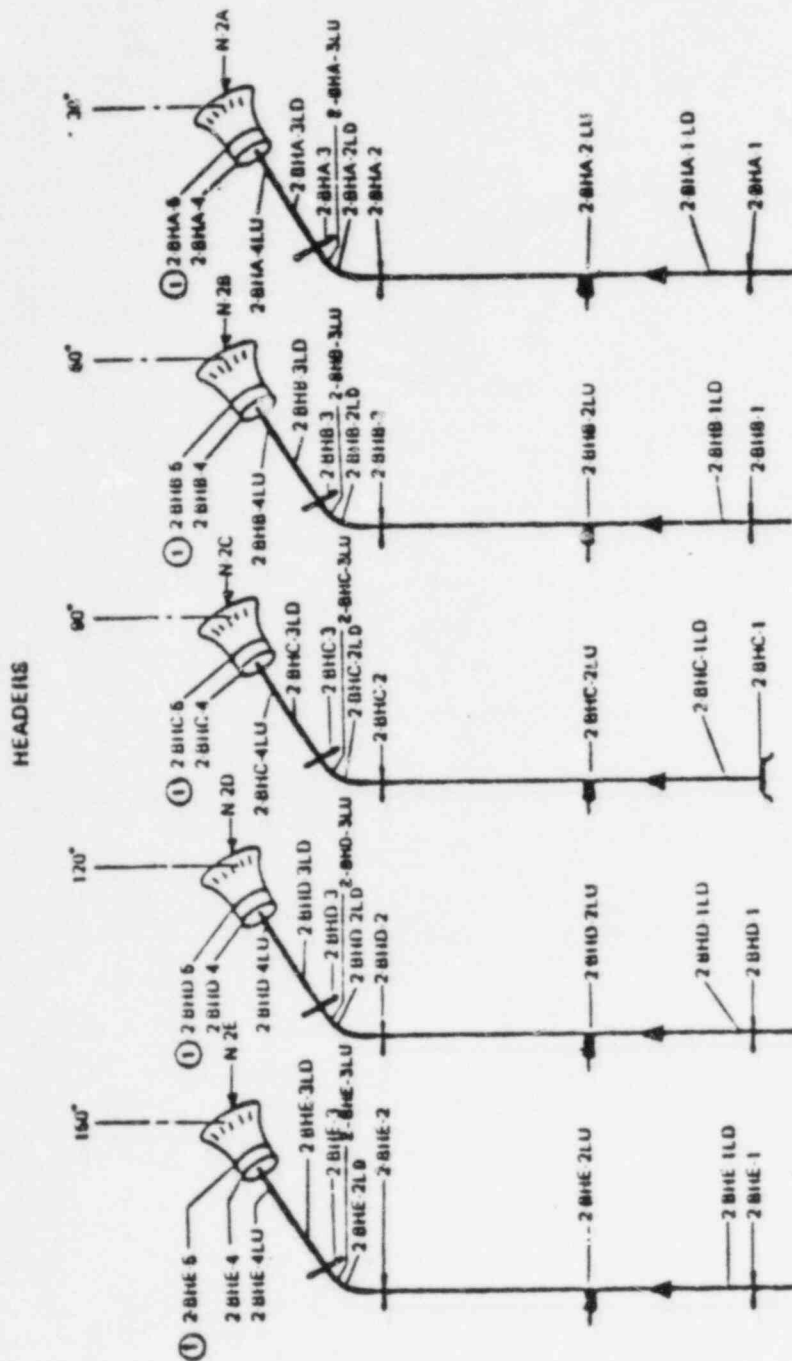


FIGURE A-17



PIPE DATA-HEADERS (BH)
 NOM OD - 12.75"
 MIN WT - 0.569" (VERT)
 0.789" (HORIZ)
 NOM CHRC - 40 S
 CAL. BLK. 12-93-X-026-11A-PFB

FIGURE A-18



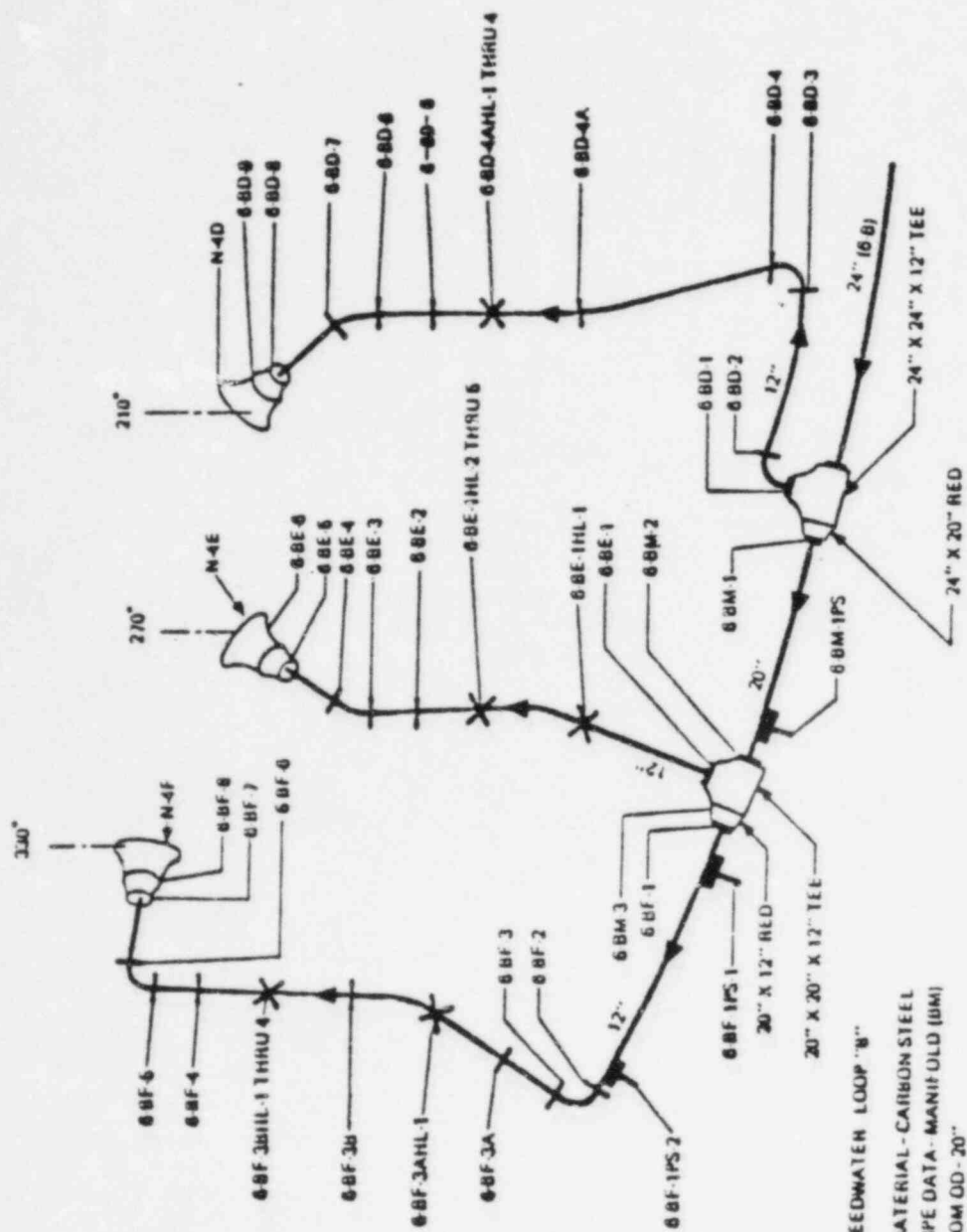


FIGURE A-24

FEEDWATER LOOP "B"

MATERIAL - CARBON STEEL

PIPE DATA - MANIFOLD (BM)

NOM OD - 20"

NOM WT - 1.281" (S.A. 100)

NOM CIRC - 63"

CAL. BLK. 20" CS - 100" - 1.231" - 13C - PEB

PIPE DATA - RISERS (BD, BE, BF)

NOM OD - 12"

NOM WT - 0.843" (S.A. 100)

NOM CIRC - 40.6"

CAL. BLK. 12" CS - 100" - 0.843" - 3 - PEB

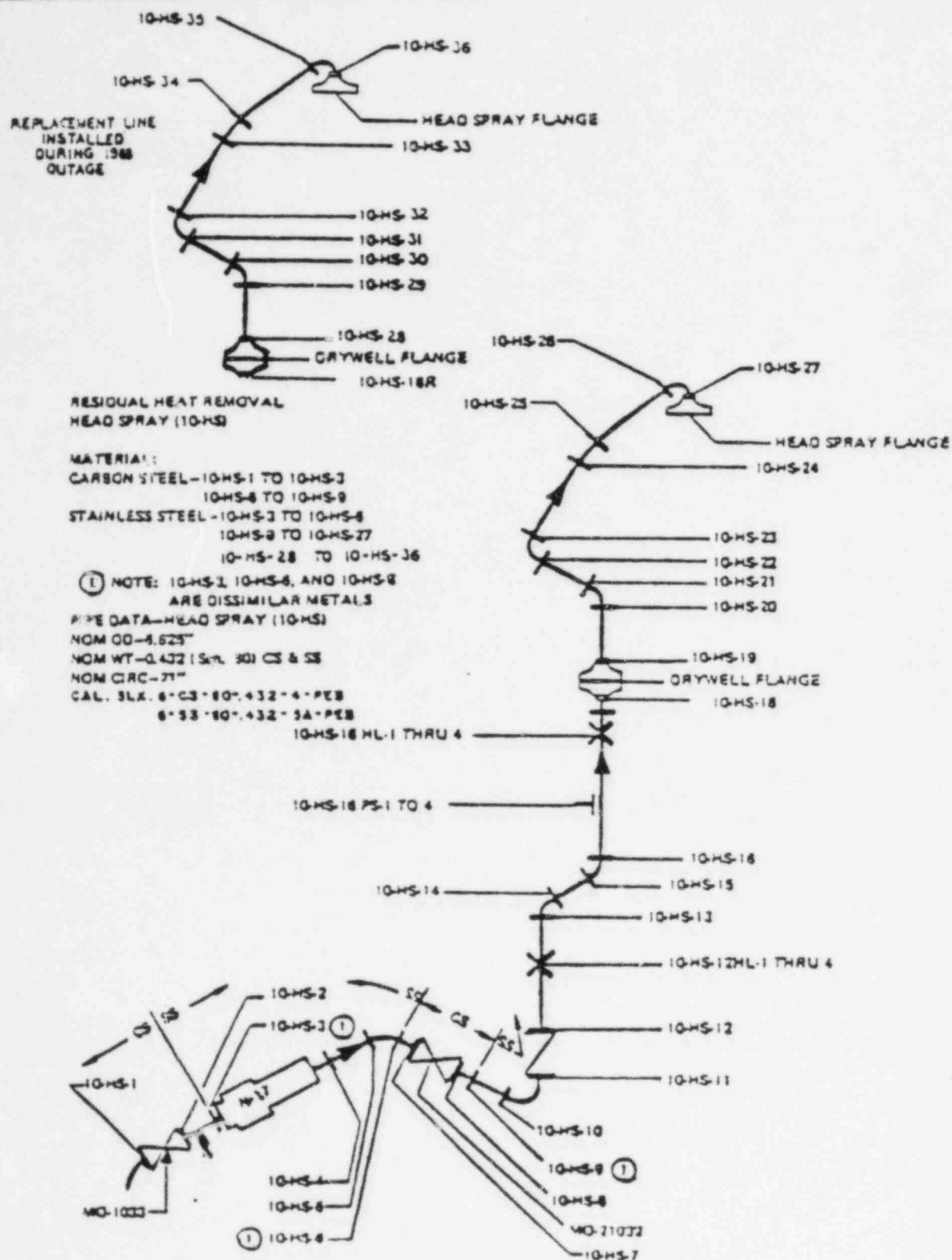


FIGURE A-26

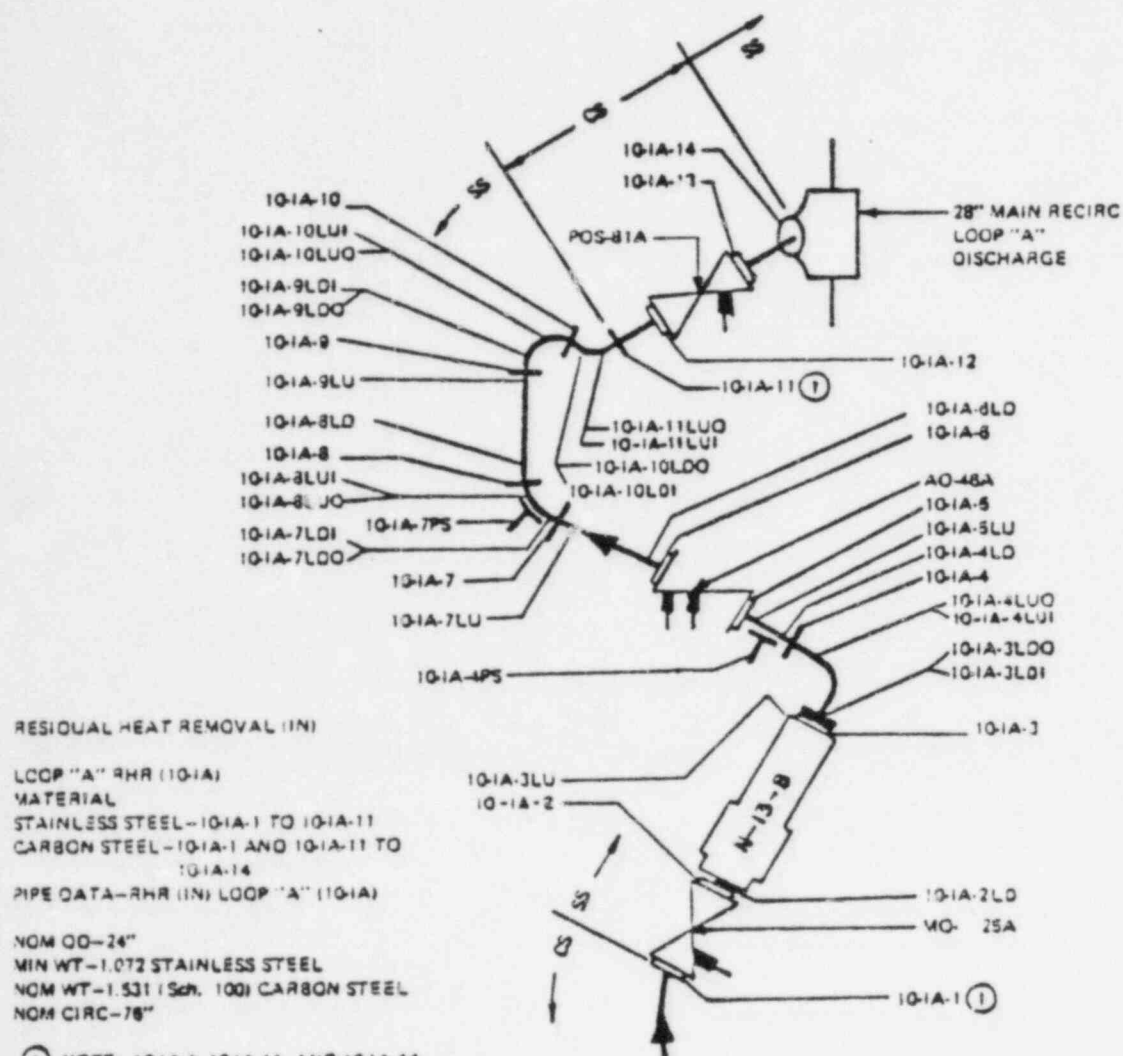


FIGURE A-27

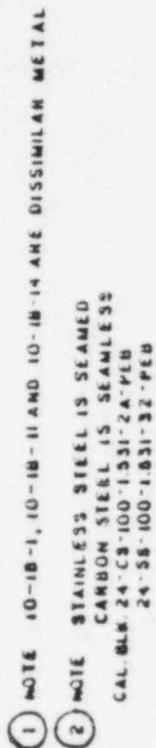
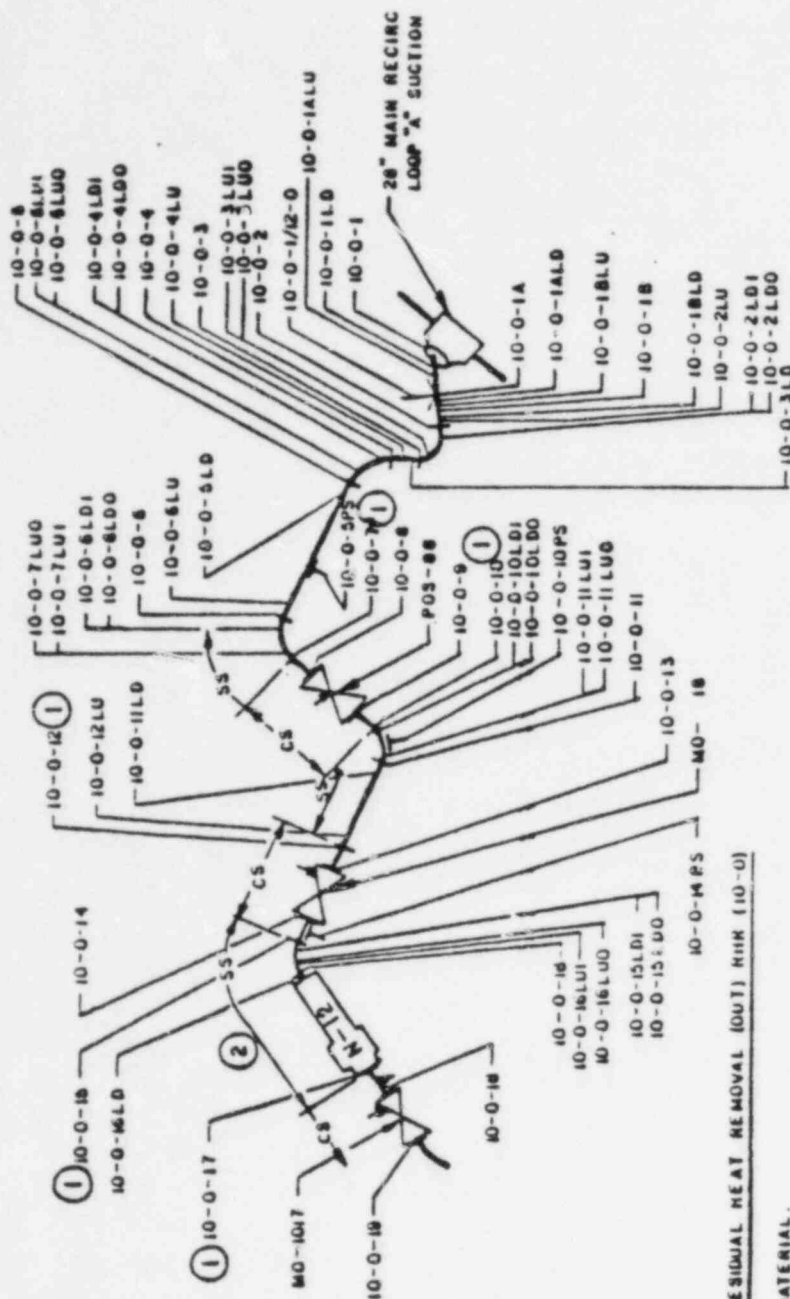


FIGURE A-28



RESIDUAL HEAT REMOVAL (OUT) NHH (10-0)

MATERIAL

STAINLESS STEEL - 10-0-1 TO 10-0-7
 10-0-10 TO 10-0-12
 10-0-16 TO 10-0-17
 CARBON STEEL - 10-0-7 TO 10-0-10
 10-0-12 TO 10-0-15
 10-0-17 TO 10-0-19

- ① NOTE: 10-0-7, 10-0-10, 10-0-12, 10-0-15 AND 10-0-17 ARE DISSIMILAR METAL
- ② NOTE: STAINLESS STEEL IS SEAMED
 CARBON STEEL IS SEAMLESS

PIPE DATA - NHH (OUT) (10-0)

NOM OD - 20"
 MM WT - 0.774 STAINLESS STEEL
 NOM WT - 1.031 (SCH 80) CARBON STEEL
 NOM CIRC - 63"
 CAL. BLK. 20-CS-100-1 201-13C-PER
 20-SS-60-812-33-PER
 20-CS-80-1031-37-PER

FIGURE A-29

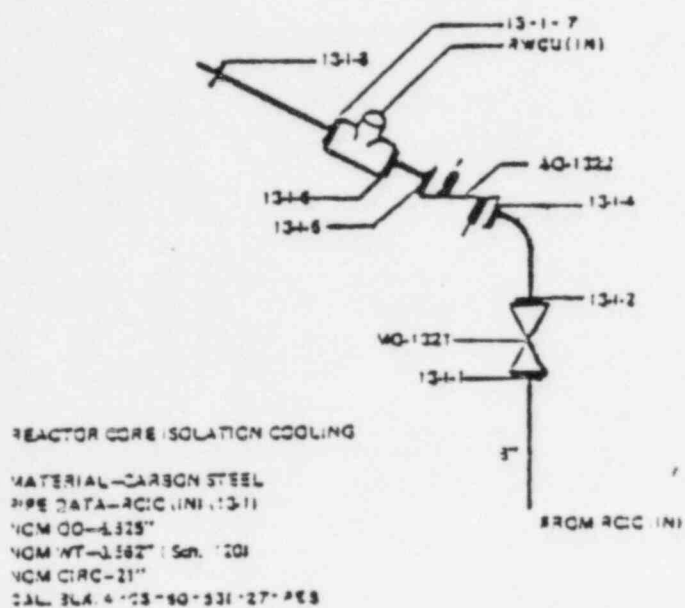


FIGURE 1-32

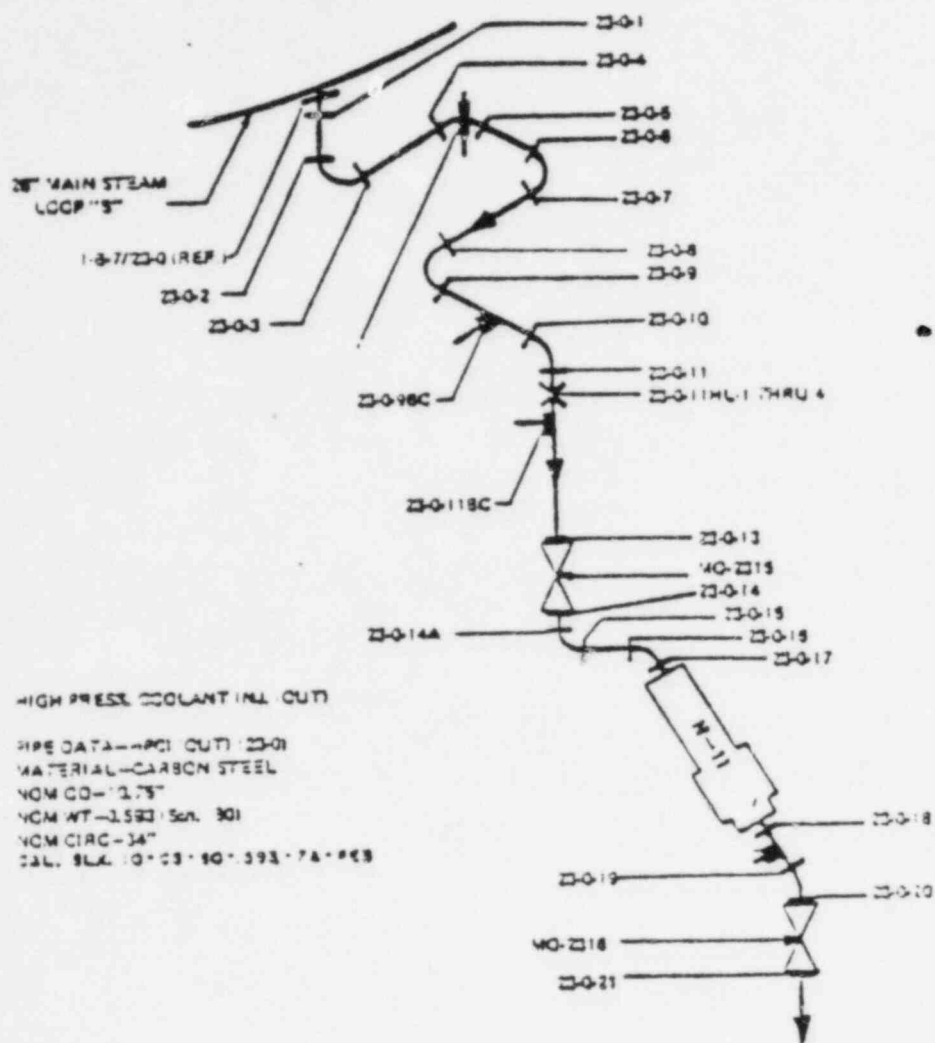
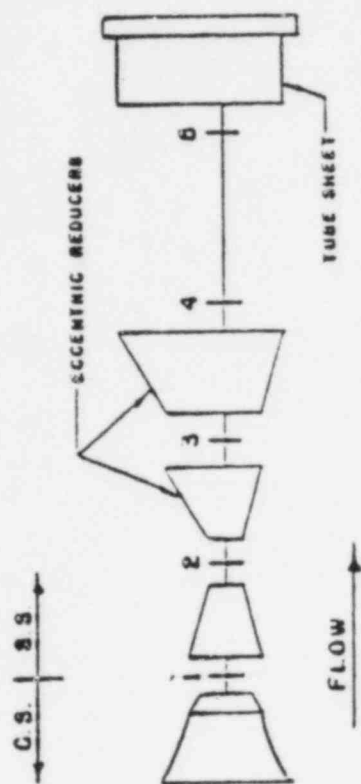


FIGURE A-36

JET PUMP INSTRUMENTATION (BOTH A & B LOOP)



WELD DESIGNATION EXAMPLES:

- A LOOP: JP-A-2
- B LOOP: JP-B-2

WELD No.	DIAM Inches	THICKNESS Inches	STANDARD
1	6.4	.8	Safety & Relief Riser (UpStream) RWCU (DownStream)
2	4.3	.33	RWCU
3	6.7	.66	RHR Head Spray
4	12.8	.7	MR Header
5	12.8	.7	MR Header

FIGURE A-37

APPENDIX B

CLASS 2 WELD IDENTIFICATION FIGURES

APPENDIX B

CLASS 2 WELD IDENTIFICATION FIGURES

Table of Contents

<u>Figure No.</u>	<u>Pipe Size</u>	<u>Title</u>	<u>Page</u>
		Isometric Cross-Reference	B-ii
		Examination Area Identification System	B-iii
		Symbols for Weld Identification	B-iv
B-2	6"	RHR-Head Spray	B-1
B-3	12"	RHR-Containment Spray-In-Loop B	B-2
B-4	12"	RHR-Containment Spray-In-Loop B	B-3
B-5	16"	RHR-Fuel Pool Coolant-Loop A	B-4
B-6	16"	RHR-Fuel Pool Coolant-Loop A	B-5
	12"	RHR-Containment Spray-In-Loop A	
B-7	18"	RHR-Suppression Chamber-In-Loop A	B-6
B-10	20"	RHR-Shutdown Cooling Suction-Pump A	B-7
	24"	RHR-Suction-Pump A	
B-11	20"	RHR-Shutdown Cooling Suction-Pump C	B-8
	20"	RHR-Shutdown Cooling Suction-Pump B	
	24"	RHR-Suction-Pump B	
B-13	20"	RHR-Shutdown Cooling Suction-Pump C	B-9
	24"	RHR-Suction-Pump C	
	24"	RHR-Suction-Pump D	
B-16	20"	RHR-Discharge-Pump A	B-10
B-19	20"	RHR-Discharge-Pump D	B-11
B-22	20"	RHR-Heat Exchanger C-Out	B-12
B-24	24"	RHR-Containment Spray-In-Loop A	B-13
	24"	RHR-Containment Spray-In-Loop B	
B-25	24"	RHR-Containment Spray-In-Loop A	B-14
B-26	24"	RHR-Containment Spray-In-Loop A	B-15
B-27	24"	RHR-Containment Spray-In-Loop A	B-16
B-28	24"	RHR-Containment Spray-In-Loop B	B-17
B-30	24"	RHR-In-Loop B	B-18
B-31	16"	RHR-Fuel Pool Coolant-Loop B	B-19
	24"	RHR-Shutdown Cooling Suction	

Isometric Cross Reference

Class 2

<u>Figure</u>	<u>Bechtel ISO No.</u>
B-2	M-ISI-45
B-3	M-ISI-27
B-4	M-ISI-40
B-5	M-ISI-37
B-6	M-ISI-26
B-7	M-ISI-29
B-8	M-ISI-17
B-9	M-ISI-19
B-10	M-ISI-20
B-11	M-ISI-67
B-12	M-ISI-8
B-13	M-ISI-13
B-14	M-ISI-66
B-15	M-ISI-15
B-16	M-ISI-33
B-17	M-ISI-23
B-18	M-ISI-14
B-19	M-ISI-30
B-20	M-ISI-31
B-21	M-ISI-39
B-22	M-ISI-34
B-23	M-ISI-32
B-24	M-ISI-38
B-25	M-ISI-9
B-26	M-ISI-10
B-27	M-ISI-11
B-28	M-ISI-12
B-29	M-ISI-18

EXAMINATION AREA IDENTIFICATION SYSTEM

Each component (weld, vessel, etc.) to be examined is identified by a unique coded character. For vessel components, the identifying character is essentially an abbreviation of the component name, sequentially numbered where more than one of each type of component exists. For piping such as the Fuel Pool Coolant--Loop A System (FPCA), Shutdown Cooling Suction--Pump A (SCSA), Containment Spray-In Loop A (CSLA), etc., the designated system consists of several parts:

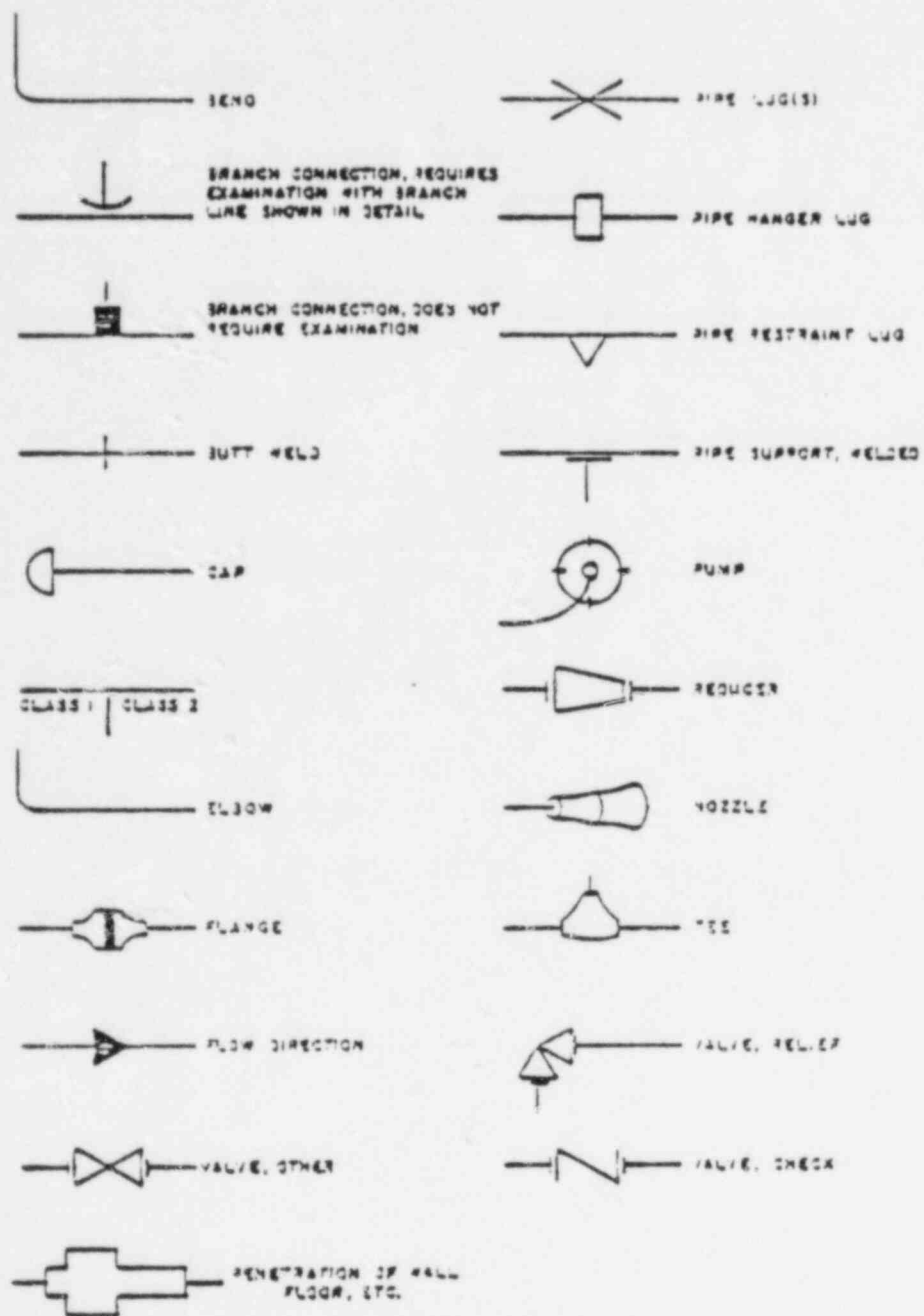
- (1) The first character set is 10, representing the Residual Heat Removal system.
- (2) The second character set consists of a unique line identification. The first digit is a "2," signifying Class 2. The line designation follows, including the nominal pipe size (for example, 2FPCA16 and 2CSLA124, respectively).
- (3) The third character set is usually a 1- or 2-digit number identifying a specific circumferential weld. Items such as pipe supports, pipe restraints, etc., are identified by adding initials to the number of the circumferential weld directly upstream. For example, -5PS is a pipe support downstream from circumferential weld No. 5. If there are successive components between circumferential welds, a 1-digit number is assigned.

For example, two pipe supports following circumferential weld No. 5 would be designated as -5PS1 and -5PS2 in the direction of flow.

- (4) Representative examples are as follows (see Appendix B, Figure B-2):

10-2HS6-6	Sixth circumferential weld in sequence on the Residual Heat Removal (10)--Class 2 Head Spray 6-in. nominal pipe size.
10-2HS6-6PS	Pipe support directly downstream from weld No. 6 referred to in (a). If two pipe supports exist between weld Nos. 6 and 7, their weld numbers would be -6PS1 and -6PS2, respectively.

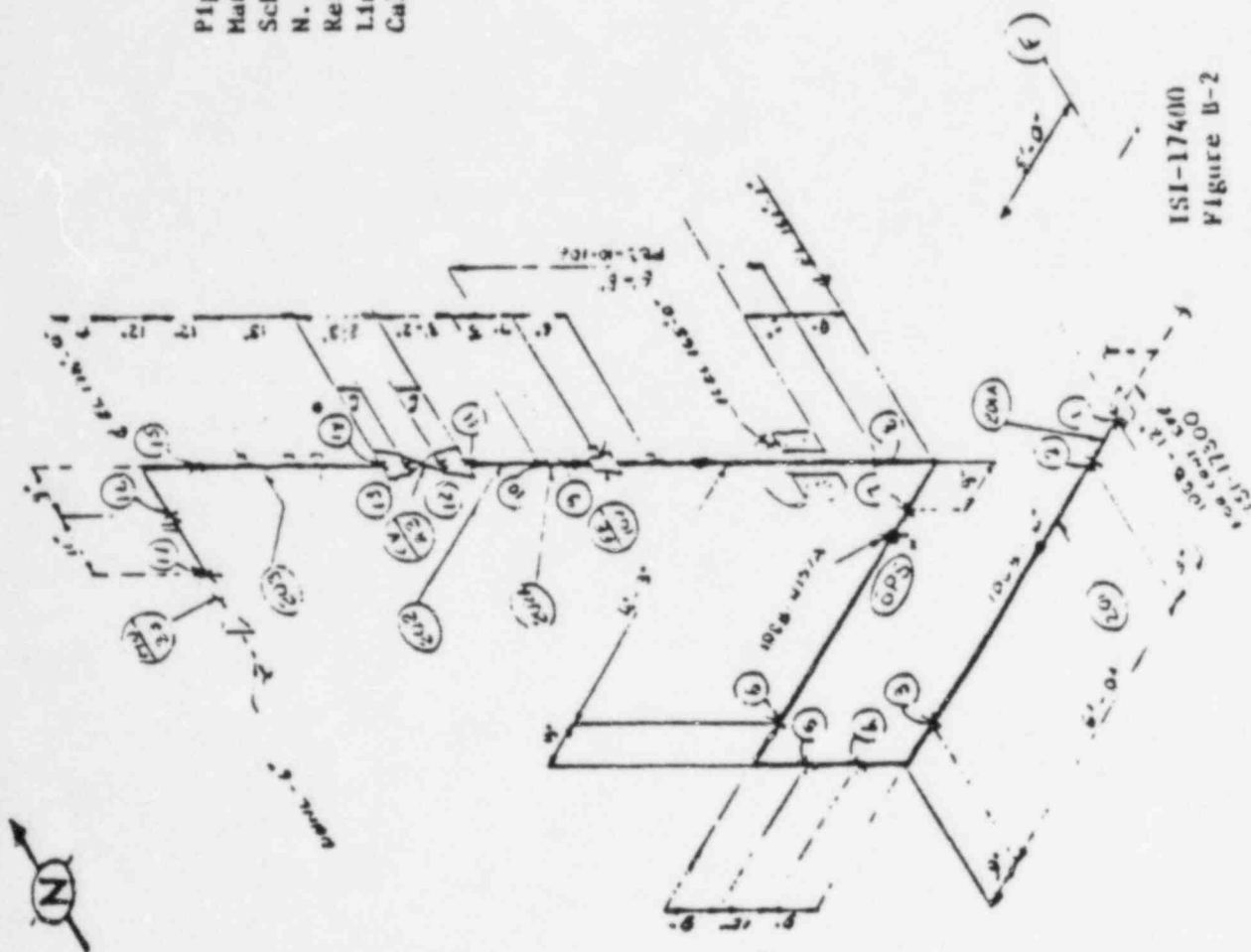
Again in this column and immediately under the weld designation, there are further descriptions of each respective weld. These descriptions, such as "pipe-to-elbow" and "reducer-to-tee," are listed in the direction of flow.



SYMBOLS FOR WELD IDENTIFICATION

RHR-Head Spray

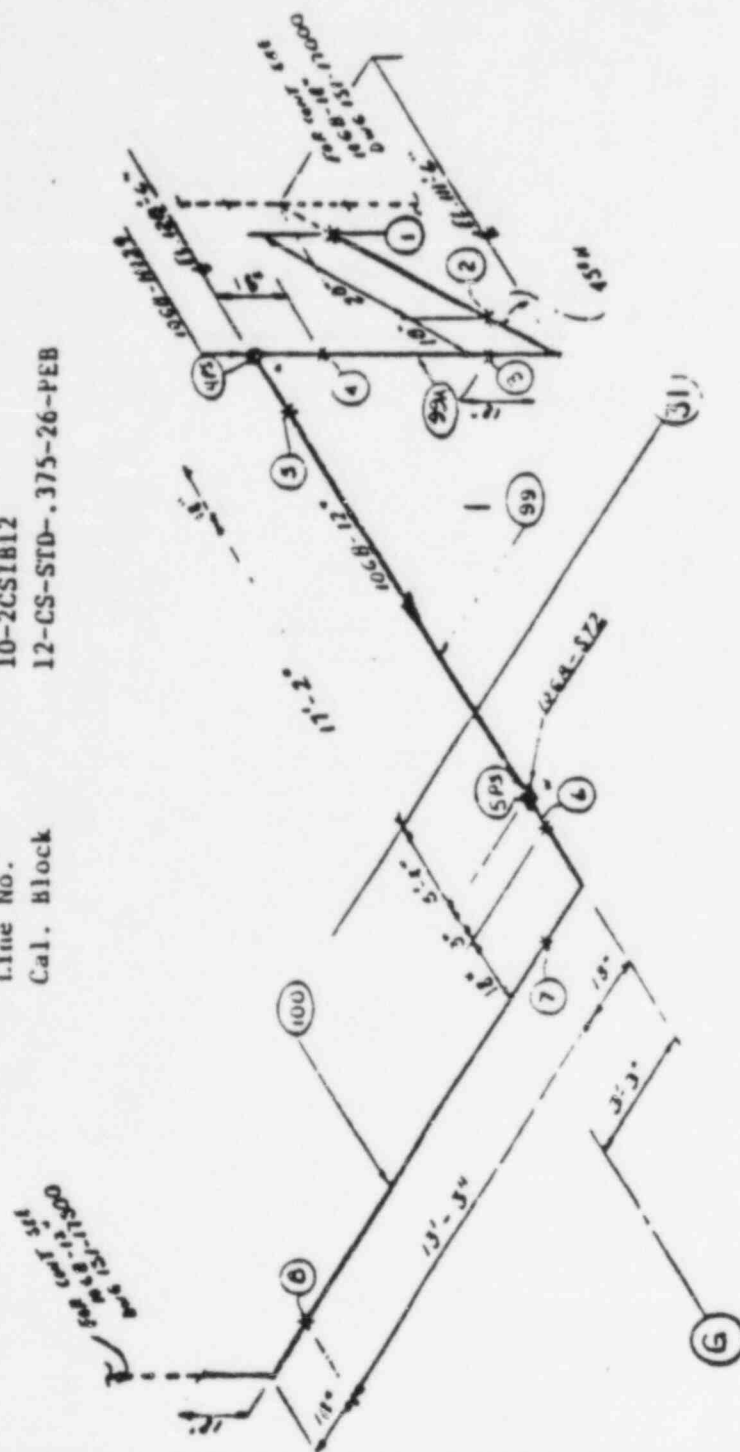
Pipe Size	6"
Material	CS
Schedule	40
N. Wall	.280
Ref. Line No.	10CB-6
Line No.	10-2HS6
Cal. Block	6-CS-40-.280-25- PEB



ISI-17400
Figure B-2

Pipe Size	Material	Schedule	N. Wall	Ref. Line No.	Line No.	Cal. Block
12"	Steel	40	0.375	100	101	102
10"	Steel	40	0.312	103	104	105
8"	Steel	40	0.250	106	107	108
6"	Steel	40	0.187	109	110	111
4"	Steel	40	0.125	112	113	114
3"	Steel	40	0.093	115	116	117
2"	Steel	40	0.062	118	119	120
1 1/2"	Steel	40	0.047	121	122	123
1"	Steel	40	0.031	124	125	126
3/4"	Steel	40	0.025	127	128	129
1/2"	Steel	40	0.015	130	131	132
3/8"	Steel	40	0.010	133	134	135
1/4"	Steel	40	0.008	136	137	138
1/8"	Steel	40	0.004	139	140	141

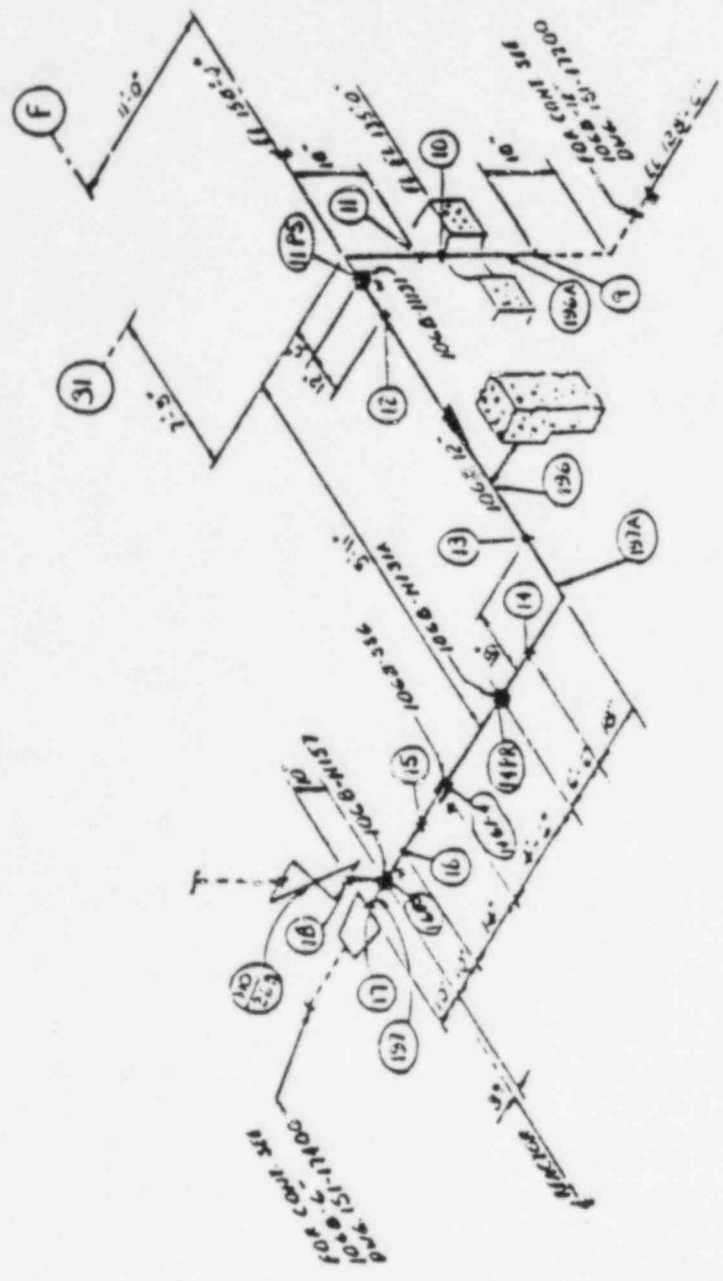
12th
CS
STD
.375
10GB-
10-20
12-CS

ISI-17200
Figure B-3

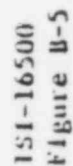


RIIR-Containment Spray-In-Loop B

Pipe Size	12"
Material	CS
Schedule	STD
N. Wall	.375
Ref. Line No.	10CB-12
I. line No.	10-2CSIB12
Cal. Block	12-CS-STD- 375-26-PFB



ISI-17300
Figure B-4



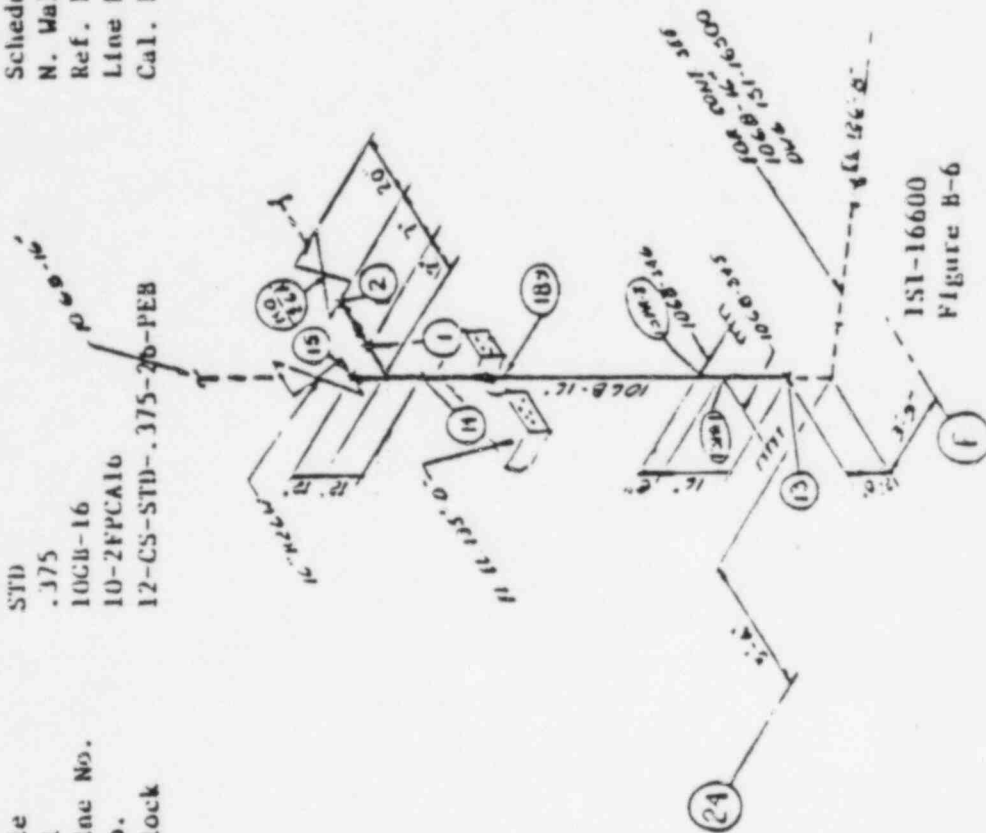


RIIR-Fuel Pool Coolant - Loop A

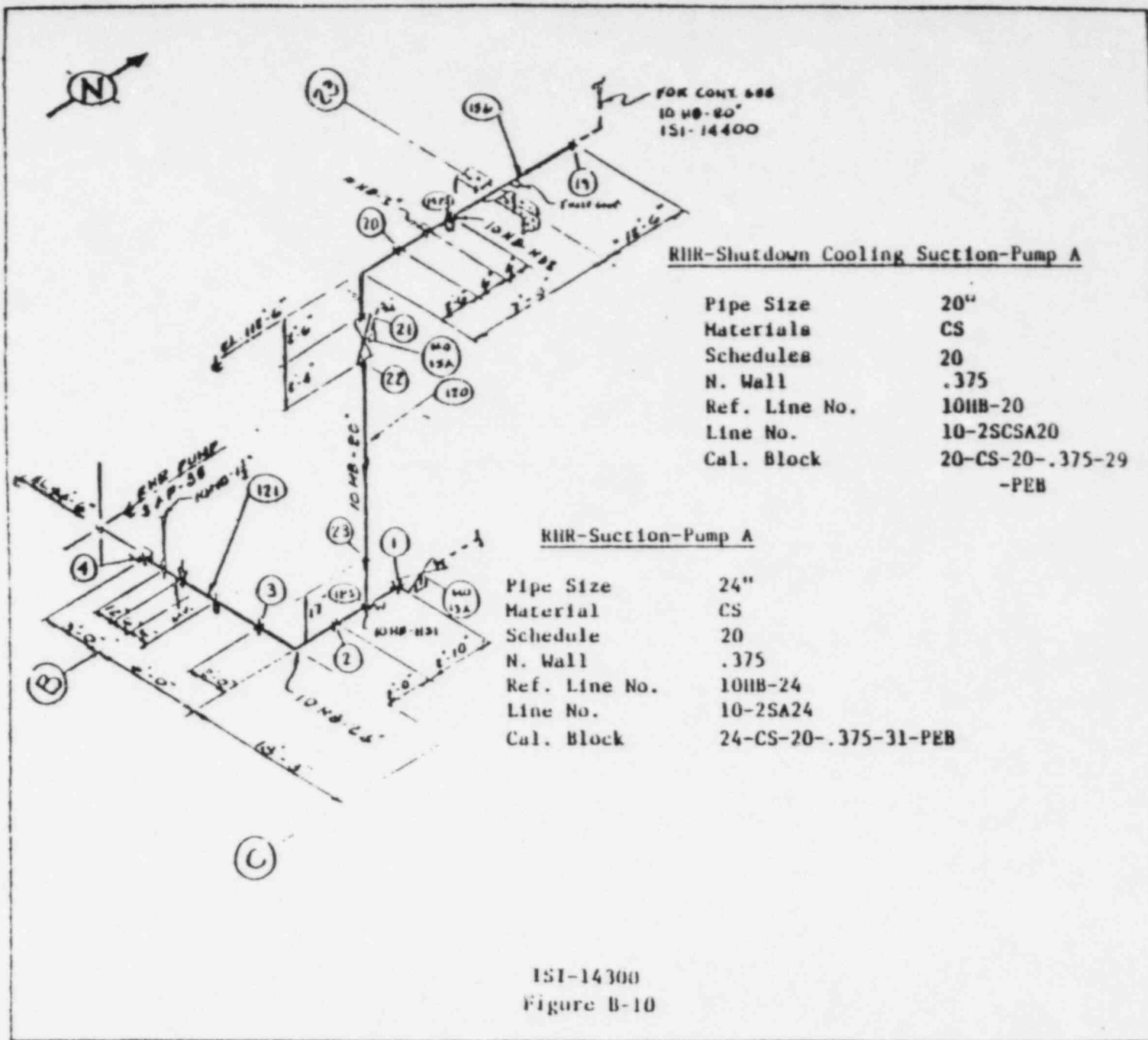
Pipe Size 16"
 Material CS
 Schedule STD
 N. Wall .375
 Ref. Line No. 10GB-16
 Line No. 10-2FPCAL6
 Cal. Block 12-CS-STD-.375-26-PEB

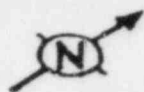
RIIR-Containment Spray-In-Loop A

Pipe Size 12"
 Material CS
 Schedule STD
 N. Wall .375
 Ref. Line No. 10GB-12
 Line No. 10-2CSIA12
 Cal. Block 12-CS-STD-.375-26-PEB



ISI-16600
 Figure B-6

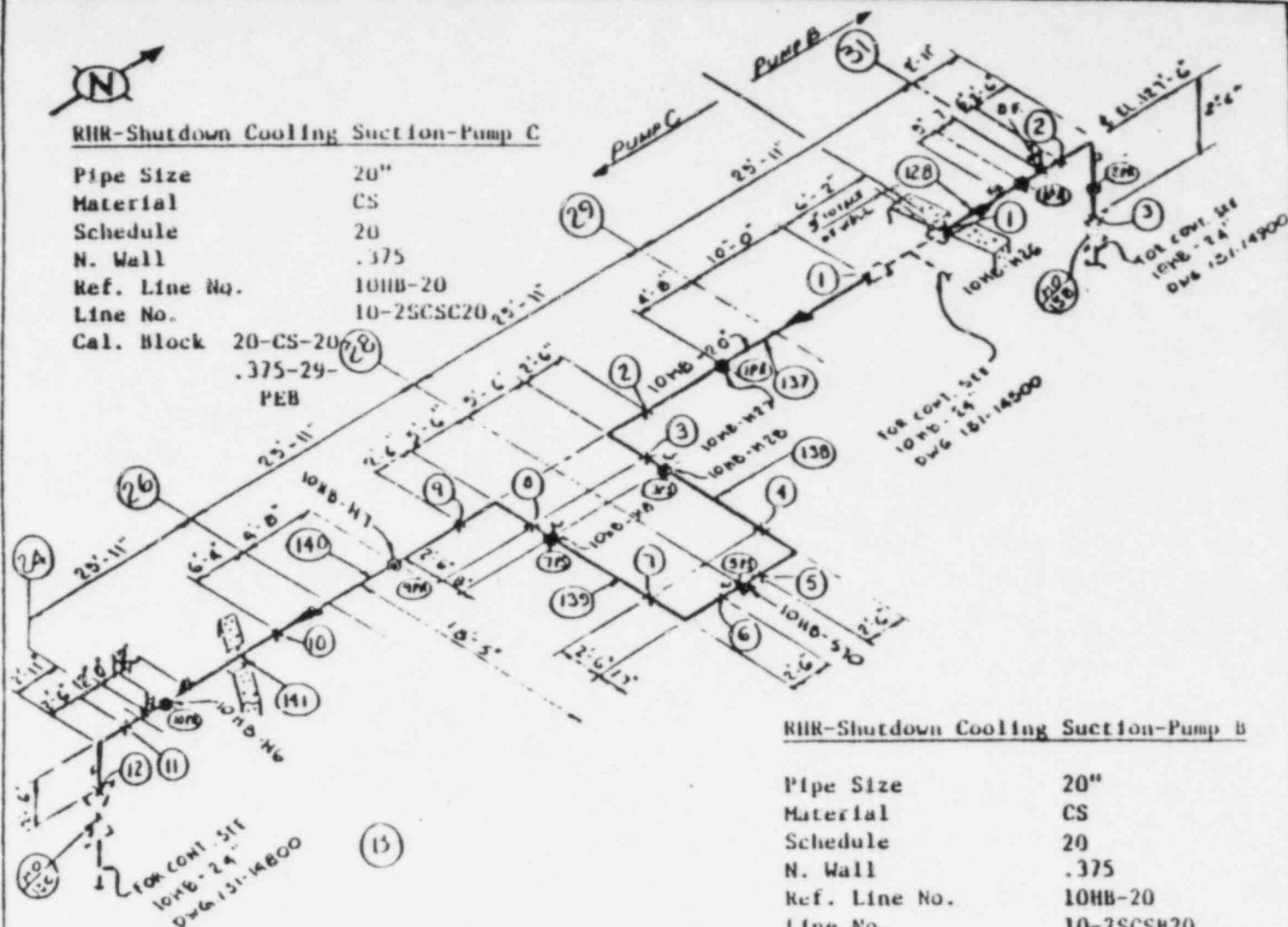




RIIR-Shutdown Cooling Suction-Pump C

Pipe Size 20"
 Material CS
 Schedule 20
 N. Wall .375
 Ref. Line No. 10HB-20
 Line No. 10-2SCSC20

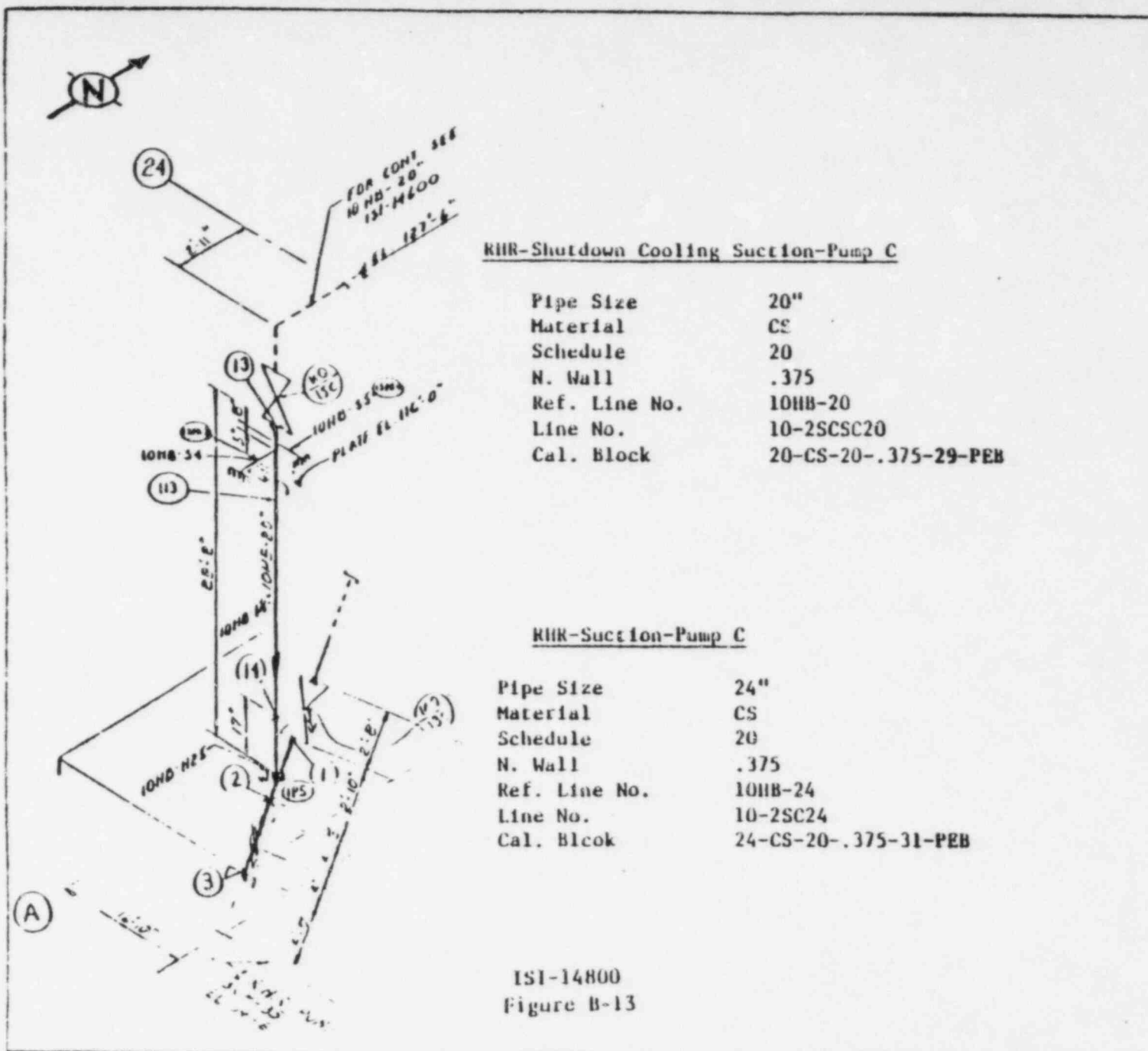
Cal. Block 20-CS-20-
 .375-29-
 PEB

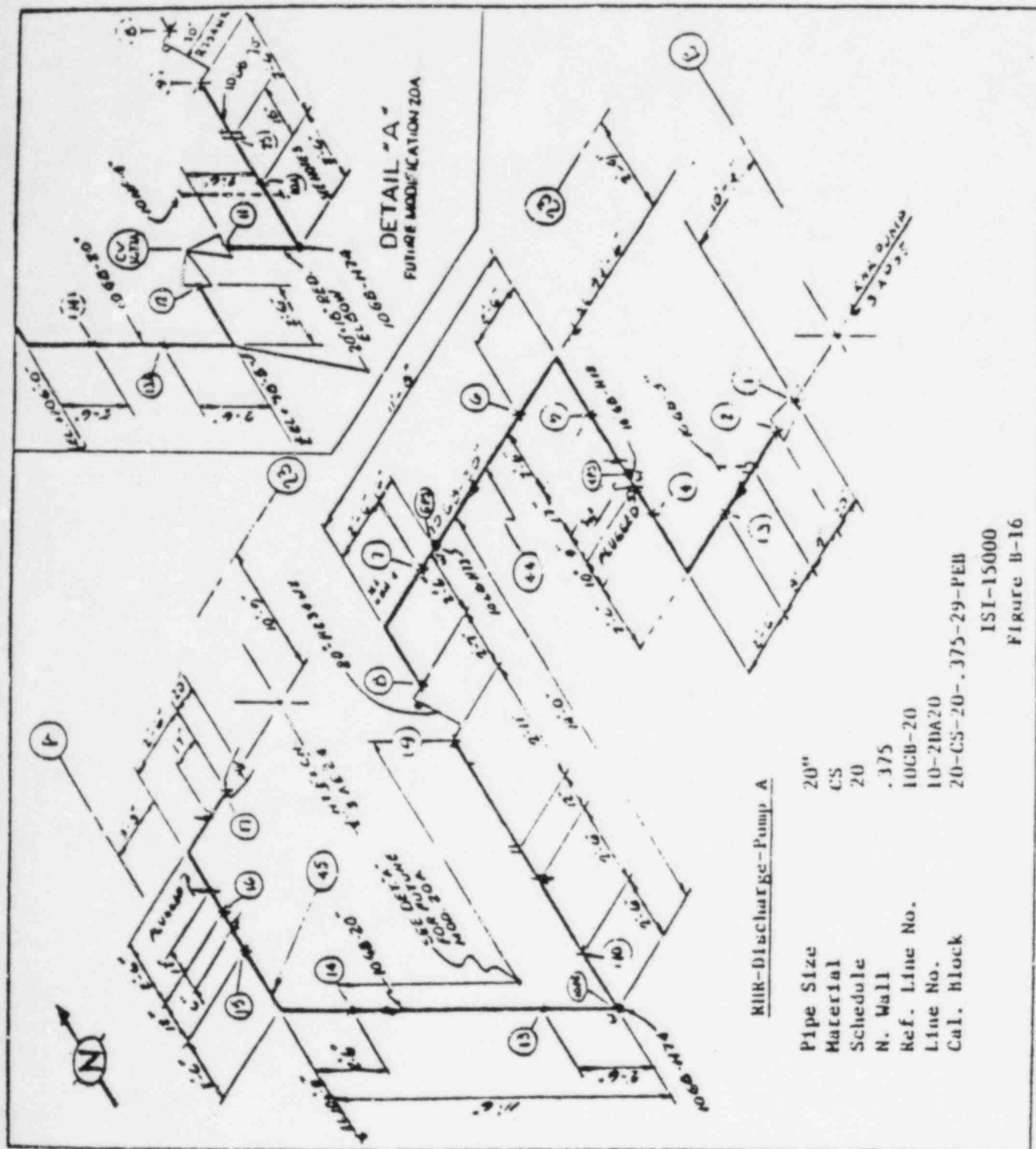


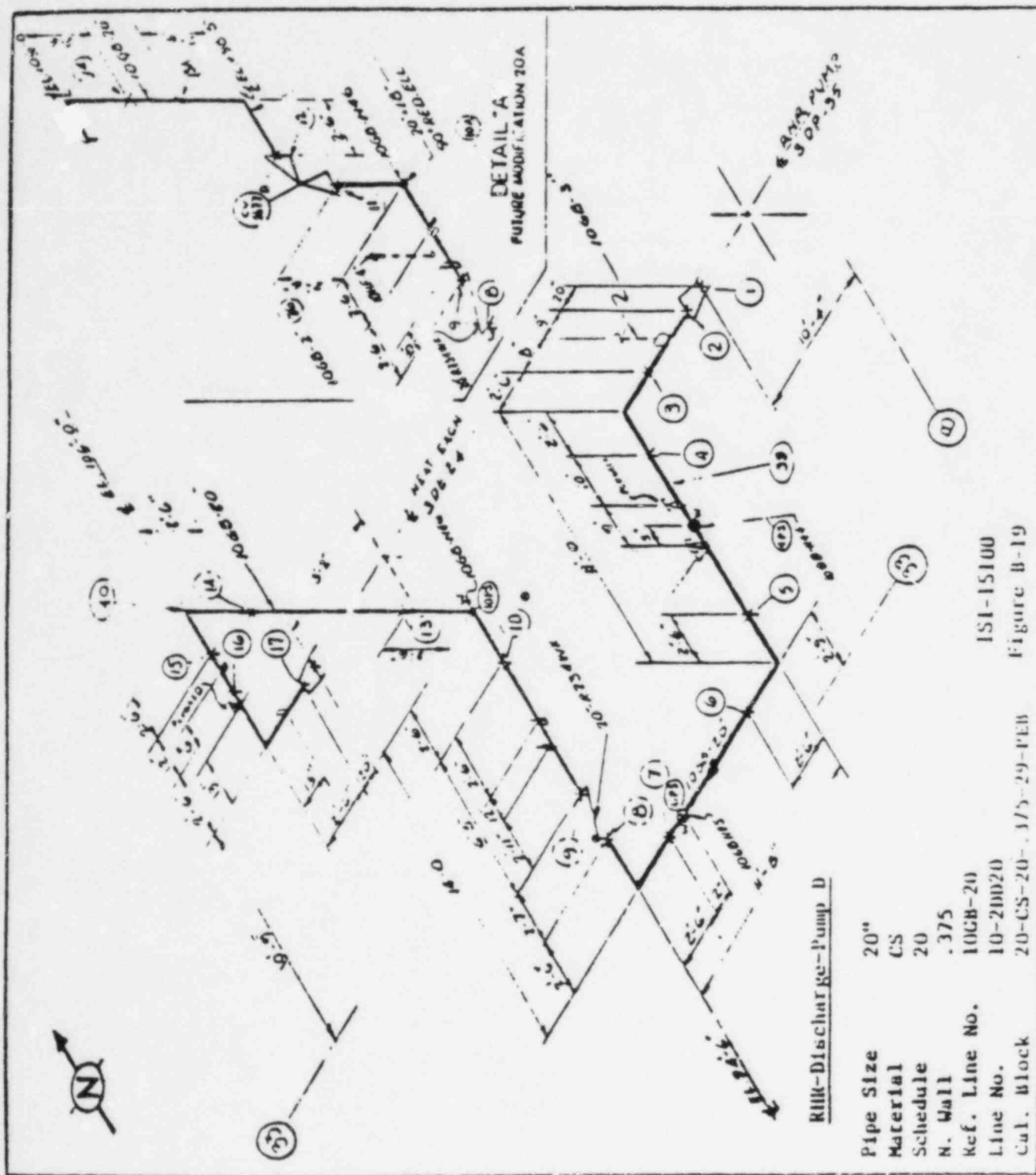
RIIR-Shutdown Cooling Suction-Pump B

Pipe Size 20"
 Material CS
 Schedule 20
 N. Wall .375
 Ref. Line No. 10HB-20
 Line No. 10-2SCSB20
 Cal. Block 20-CS-20-.375-
 29-PEB

ISI-14600
 Figure B-11

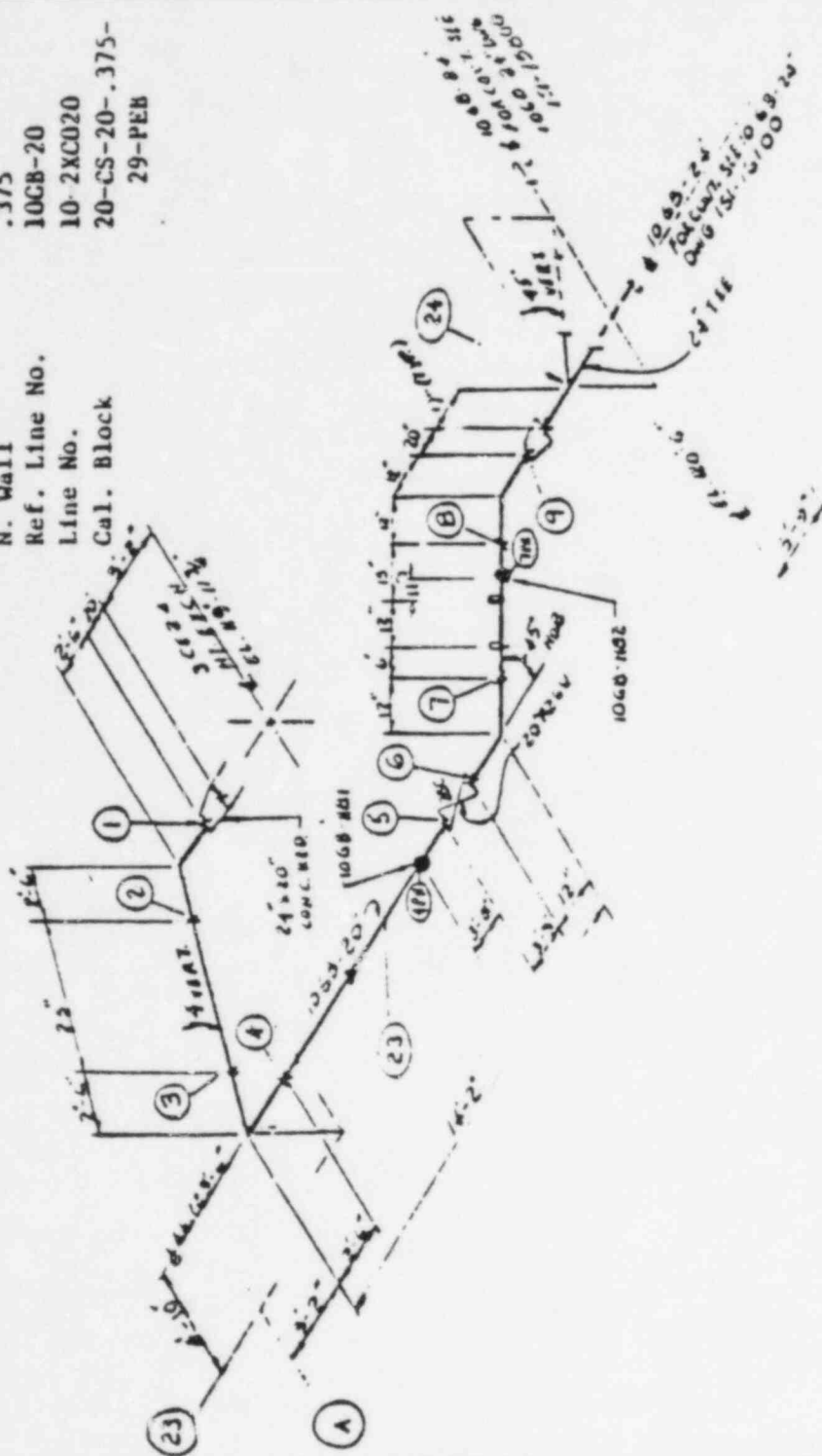


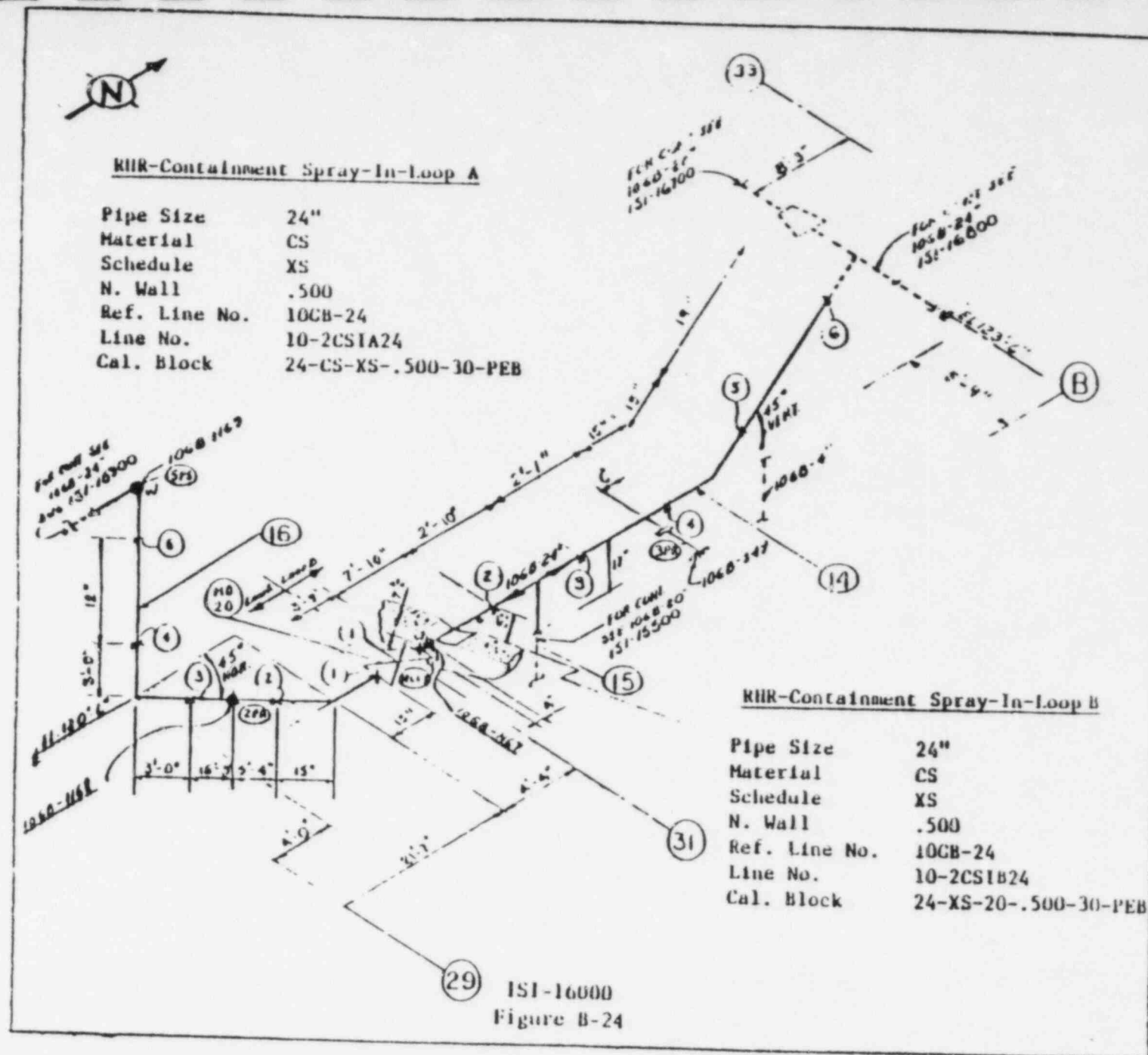




RHR-Heat Exchanger C-001

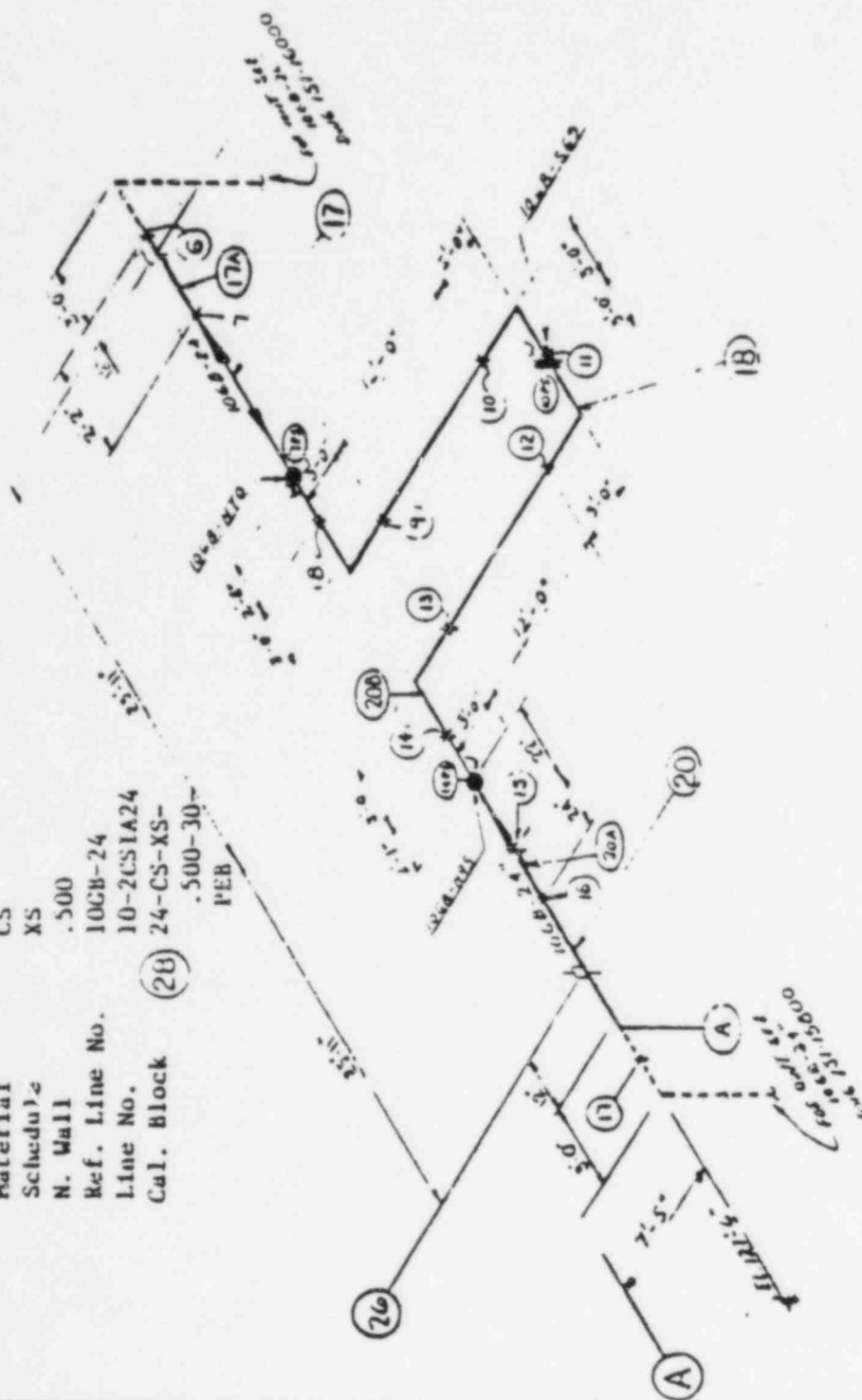
Pipe Size	20"
Material	CS
Schedule	20
N. Wall	.375
Ref. Line No.	10CB-20
Line No.	10-2XC020
Cal. Block	20-CS-20-.375- 29-PER



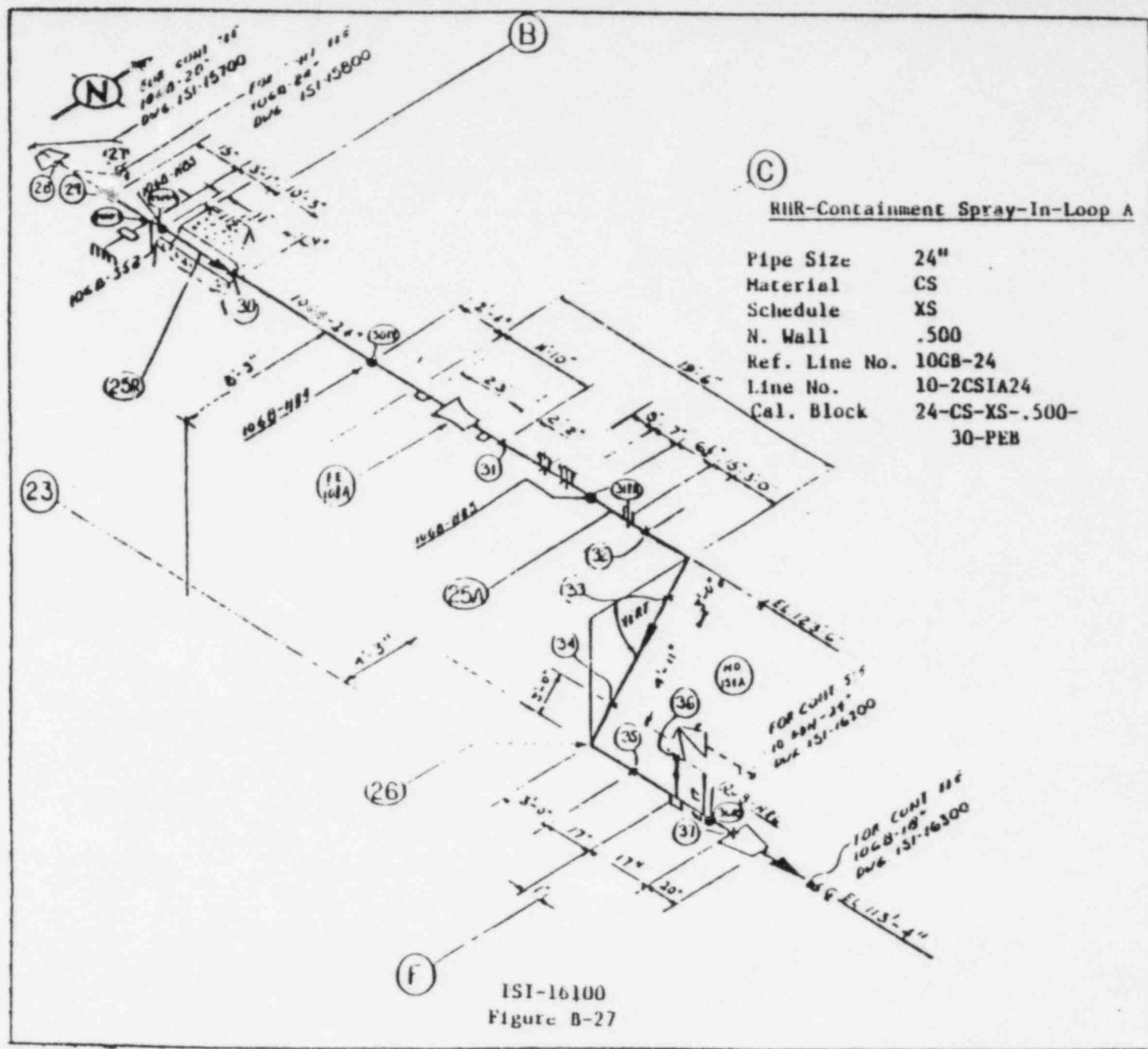


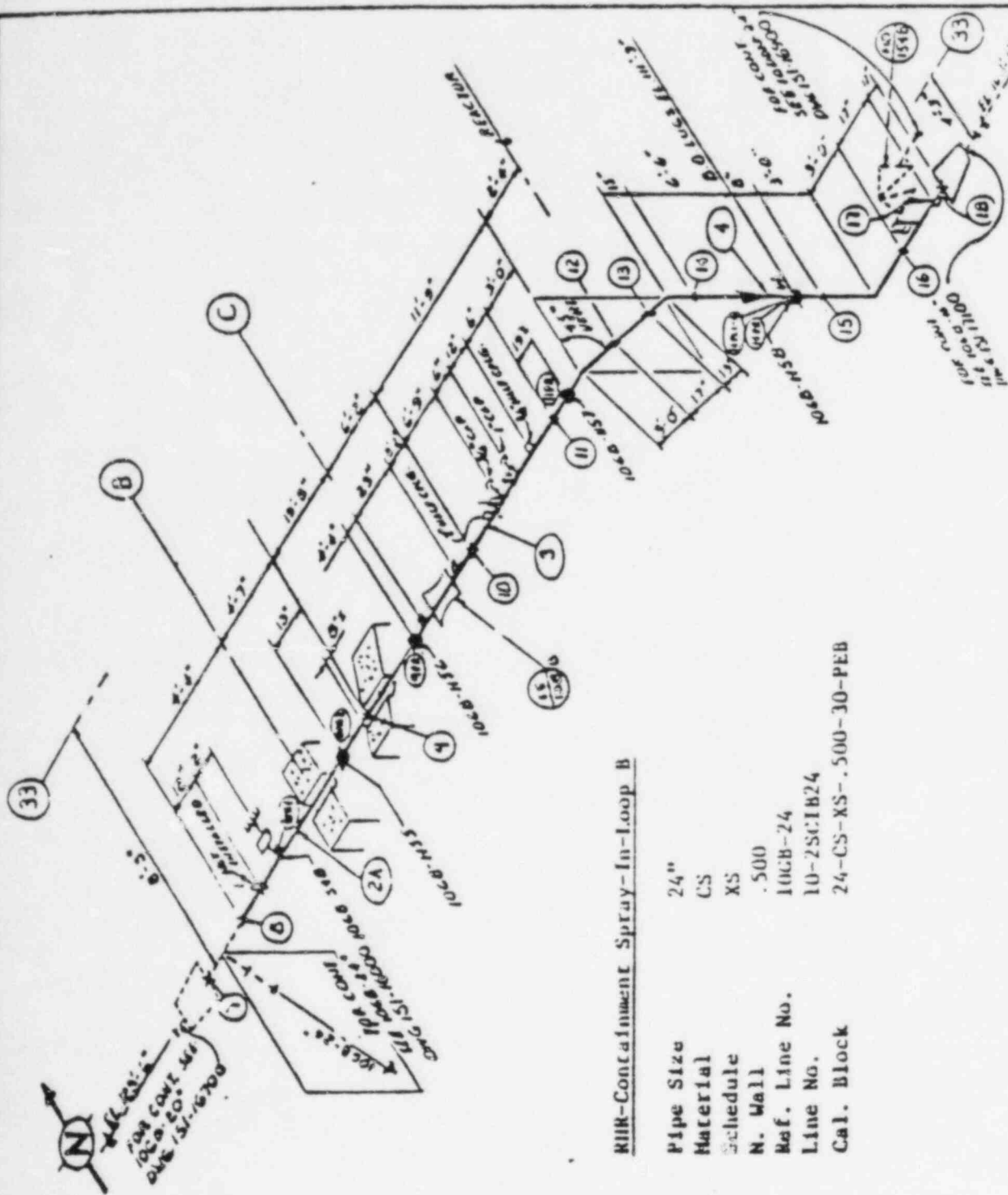
29

Pipe Size	24"
Material	CS
Schedule	XS
N. Wall	.500
Ref. Line No.	10CB-24
Line No.	10-2CS1A24
Cal. Block	24-CS-XS-
	.500-30-
	PER



ISI-15900
Figure B-25





RIIR-Containment Spray-In-Loop B

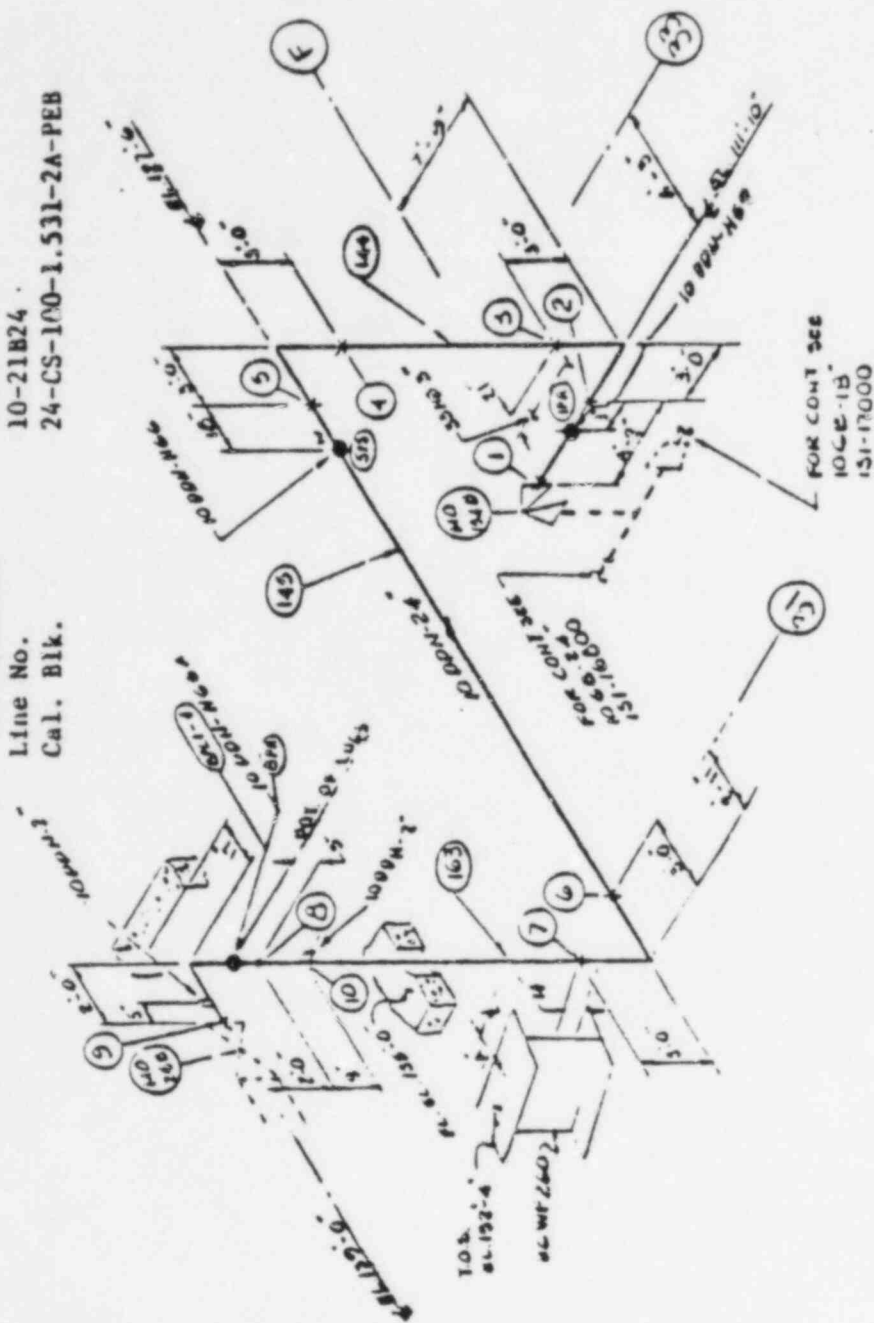
Pipe Size	24"
Material	CS
Schedule	XS
N. Wall	.500
Ref. Line No.	10GB-24
Line No.	10-2SC1B24
Cal. Block	24-CS-XS-.500-30-PEB

ISI-16800

Figure B-2B

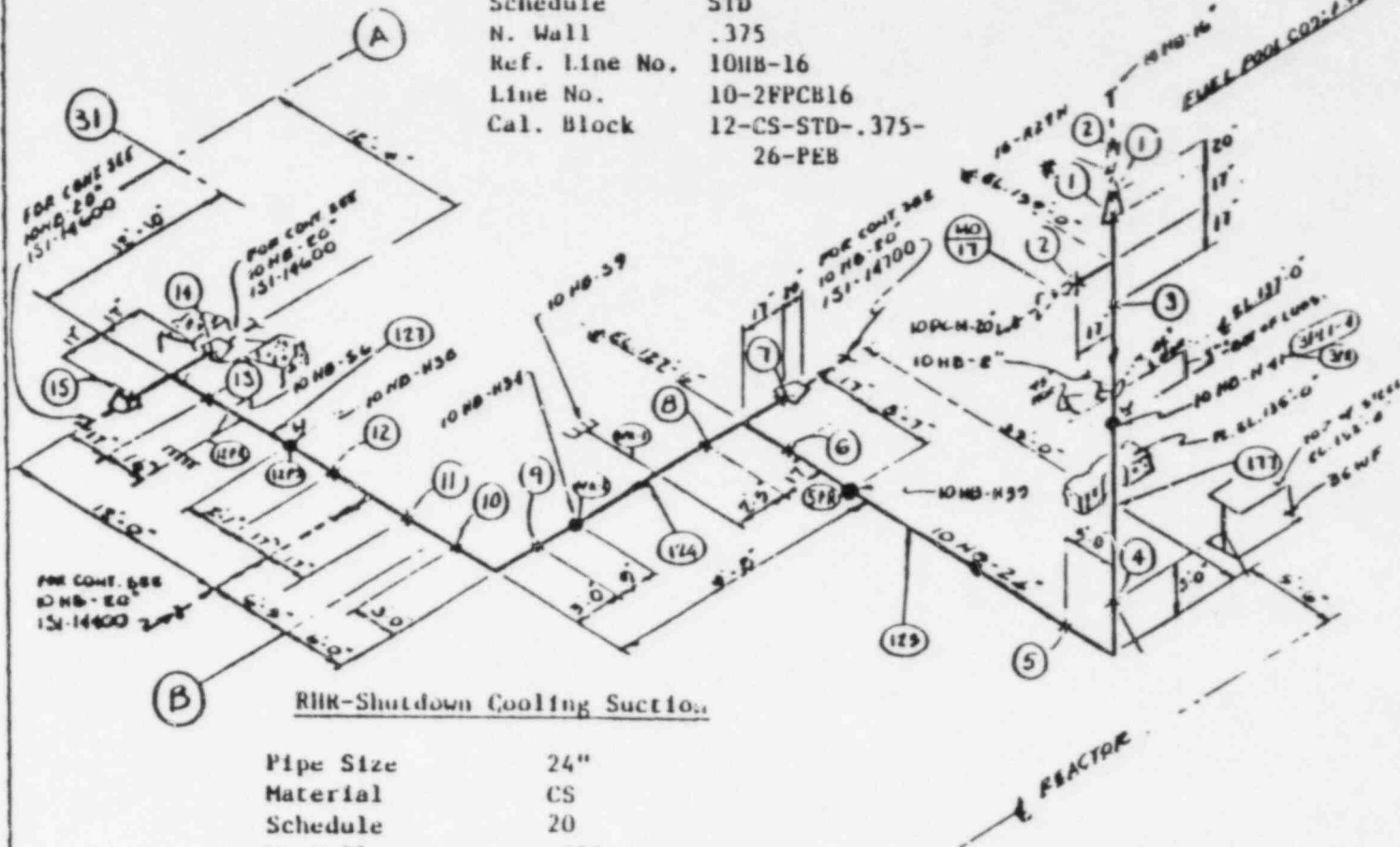
RIIR-In-Loop B

Pipe Size 24"
 Material CS
 Schedule 100
 N. Wall 1.531
 Ref. Line No. 10DNN-24
 Line No. 10-21B24
 Cal. Blk. 24-CS-100-1.531-2A-PEB



ISI-16900
 Figure B-30

Pipe Size	16"
Material	CS
Schedule	STD
N. Wall	.375
Ref. Line No.	1011B-16
Line No.	10-2FPCB16
Cal. Block	12-CS-STD-.375- 26-PEB



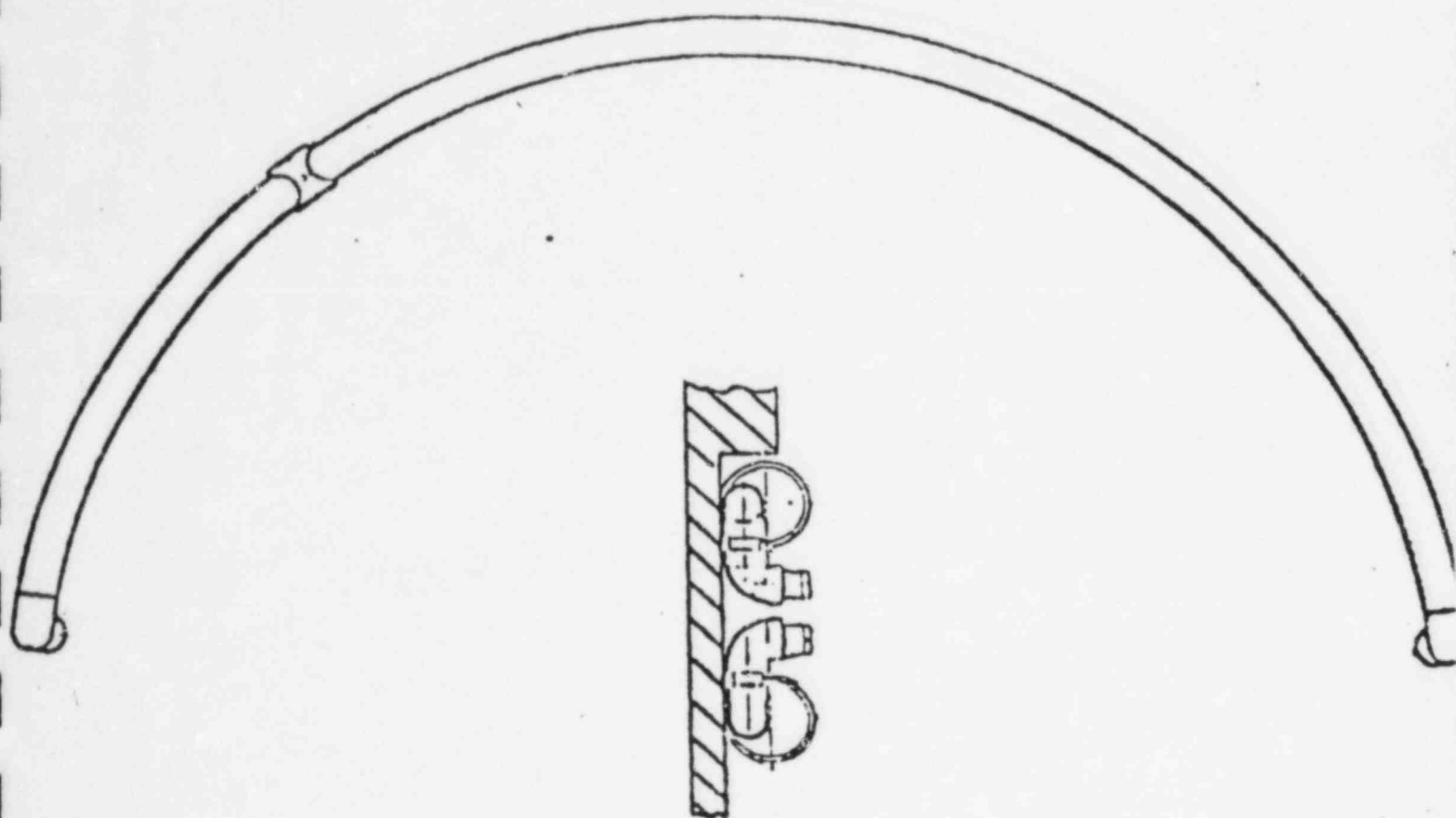
RHR-Shutdown Cooling Suction

Pipe Size	24"
Material	CS
Schedule	20
N. Wall	.375
Ref. Line No.	10HB-24
Line No.	10-2SCS24
Cal. Block	24-CS-20-.375-31-PFB
	* 24-CS-XS-.500-30-PFB

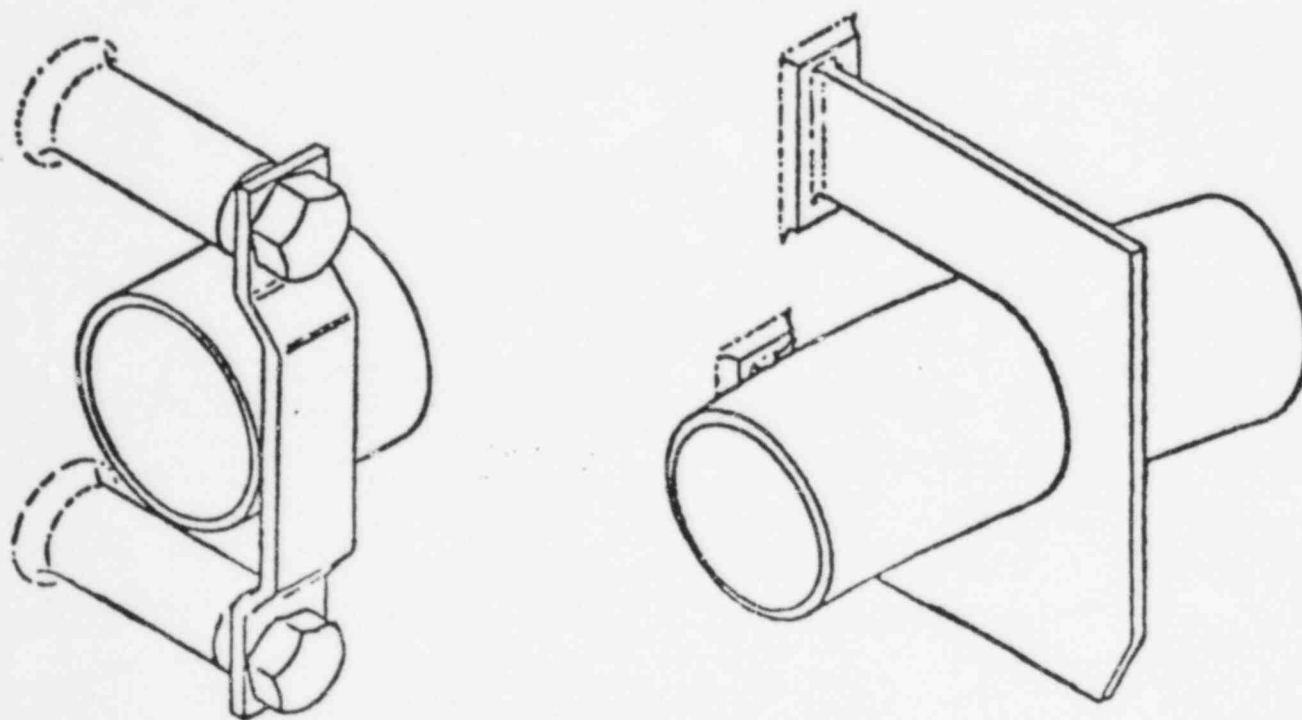
ISI-14500
Figure B-31

Fig. C-1

CORE SPRAY SPARGER & HEADER BRACKETS



CORE SPRAY SPARGER HEADER



HEADER BRACKETS