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SUBJECT: Requests relief from certain requirements of ASME Section XI associated w/partial exams conducted during 1995 plant refueling outage ISI.

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VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

April 28, 1995

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Serial No. 95-176  
NO/ETS  
Docket Nos. 50-281  
License Nos. DPR-37

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNIT 2**  
**INSERVICE INSPECTION PROGRAM RELIEF REQUESTS**

During the recent refueling outage, Surry Unit 2 completed its second ten-year interval inservice inspections. Examinations during this interval were conducted to the requirements of the 1980 Edition and Winter 1980 Addenda of ASME Section XI.

Pursuant to 10 CFR 50.55a (g) 5, relief is requested from certain requirements of ASME Section XI associated with partial examinations conducted during the 1995 Surry Unit 2 refueling outage. Relief requests, SR-22 through SR-26, are attached and provide the basis of this request.

These relief requests have been reviewed and approved by the Station Nuclear Safety and Operating Committee.

Should you have any additional questions or require additional information, please contact us.

Very truly yours,

*RT Saunders for.*

James P. O'Hanlon  
Senior Vice President - Nuclear

Attachment

cc: U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N. W.  
Suite 2900  
Atlanta, Georgia 30323

Mr. M. W. Branch  
NRC Senior Resident Inspector  
Surry Power Station

9505050201 950428  
PDR ADDCK 05000281  
Q PDR

*ADH*

**Attachment 1**  
**Surry Power Station Unit 2**  
**ISI Examination Relief**

RELIEF REQUEST SR-22

I. IDENTIFICATION OF COMPONENT

<u>Mark/Weld#</u>	<u>Line#</u>	<u>Drawing#</u>	<u>Class</u>
H-006	12"-SI-247-1502	11548-WMKS-122A1	1
H-007	12"-SI-245-1502	11548-WMKS-122L1	1

II. IMPRACTICABLE CODE REQUIREMENTS

The 1980 edition, Winter 1980 Addenda (inclusive) of ASME Section XI Table IWB-2500-1, examination category B-K-1, item number B10.10 does not allow any limitations to the required volumetric or surface examinations. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage, if it is less than 10%.

III. BASIS FOR RELIEF

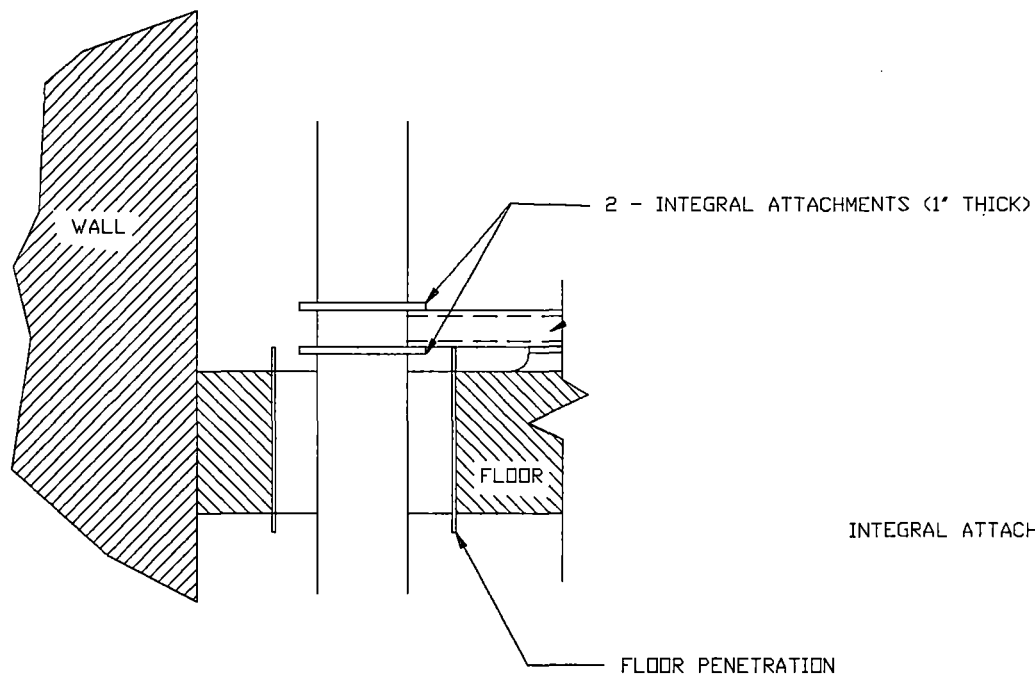
The components listed above has been examined to the extent practical as required by the Code. Due to interferences from pipe support structures and the location of the supports at the point where the pipe passes through the floor, a reduction in coverage of the surface examinations of 50% was necessary. Figure SR-22-1 is provided detailing the limitations experienced. The figure is similar for both support structures. Alternative components could not be substituted for examination due to the mandatory selection requirements of the Code.

IV. ALTERNATE PROVISIONS

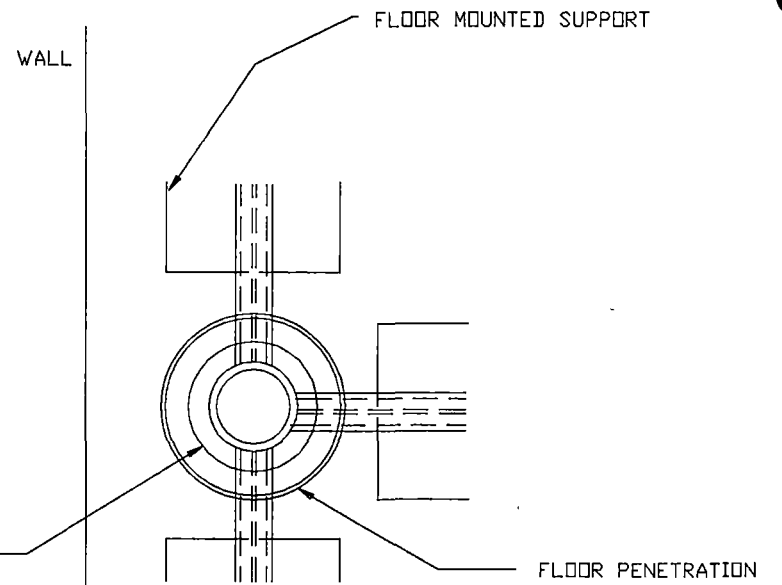
It is proposed that the examination already completed at the reduced coverage be counted as meeting the Code requirements.

V. STATUS

Pending

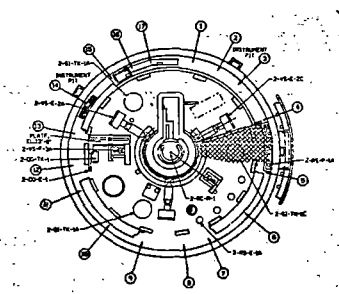
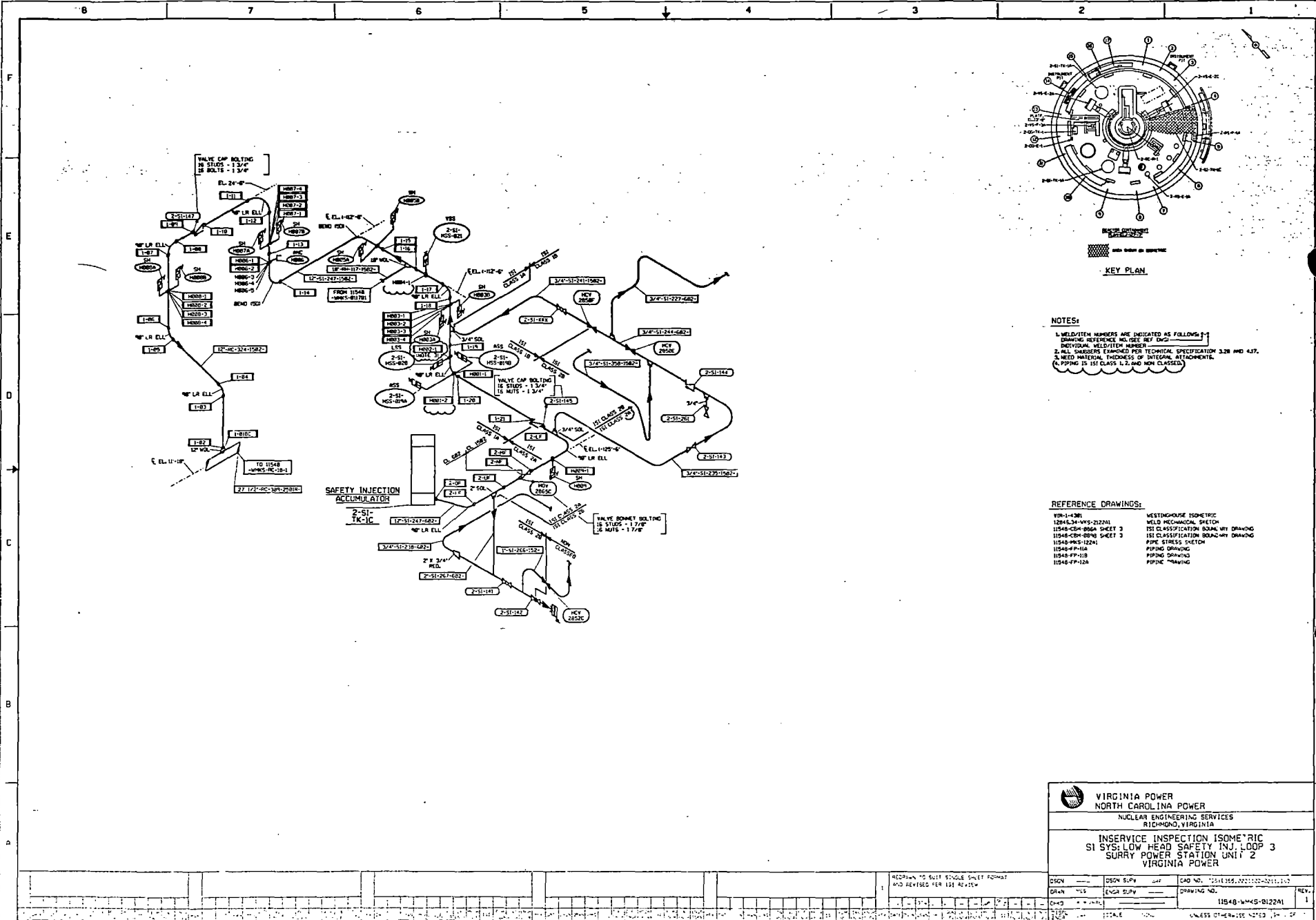


SIDE VIEW



TOP VIEW

Figure SR-22-1



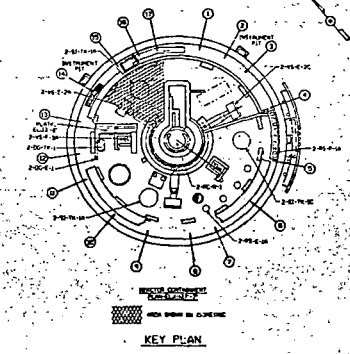
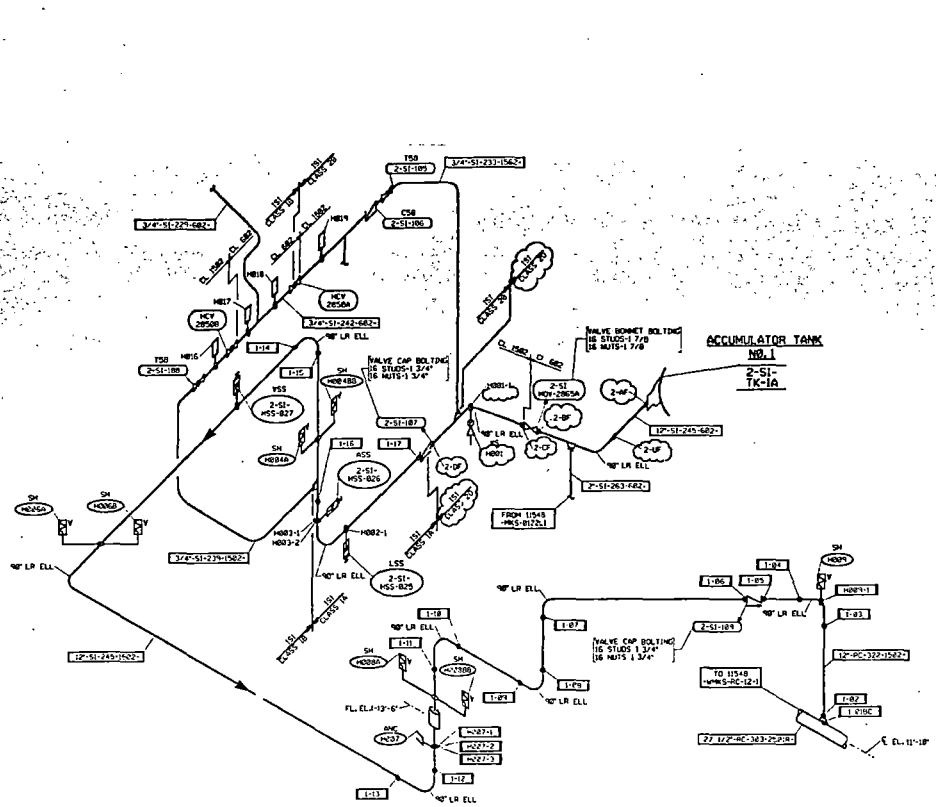
KEY PLAN

- NOTES:
1. WELD ITEM NUMBERS ARE INDICATED AS FOLLOWS:
    - DRAWING REFERENCE NO. SEE REF. DWG.
    - INDIVIDUAL WELD ITEM NUMBER
  2. ALL WAGGERS EXCEPT FOR TECHNICAL SPECIFICATION 3.28 AND 4.37.
  3. WELD MATERIAL THICKNESS OF INTEGRAL ATTACHMENTS.
  4. PIPING IS 1ST CLASS, L.2, AND NON CLASSIFIED.

- REFERENCE DRAWINGS:
- |                        |                                     |
|------------------------|-------------------------------------|
| 104-1-1-281            | WESTINGHOUSE ISOMETRIC              |
| 12844.34-WYS-212201    | WELD MECHANICAL SKETCH              |
| 11548-CBM-086A-SHEET 3 | ISI CLASSIFICATION BOUNDARY DRAWING |
| 11548-CBM-086B-SHEET 3 | ISI CLASSIFICATION BOUNDARY DRAWING |
| 11548-WYS-12201        | PIPE STRESS SKETCH                  |
| 11548-PP-110A          | PIPING DRAWING                      |
| 11548-PP-110B          | PIPING DRAWING                      |
| 11548-PP-12A           | PIPING DRAWING                      |

<b>VIRGINIA POWER</b> <b>NORTH CAROLINA POWER</b> NUCLEAR ENGINEERING SERVICES RICHMOND, VIRGINIA			
<b>INSERVICE INSPECTION ISOMETRIC</b> <b>SI SYS: LOW HEAD SAFETY INJ. LOOP 3</b> <b>SURRY POWER STATION UNIT 2</b> <b>VIRGINIA POWER</b>			
DSGN	ENGR SUPV	CAO NO.	11548-PP-110A-001-001-001
DRWN	ENGR SUPV	DRAWING NO.	
CHKD			11548-WYS-012201
TRNG			
			UNLESS OTHERWISE NOTED, IN. = 1" = 25.4

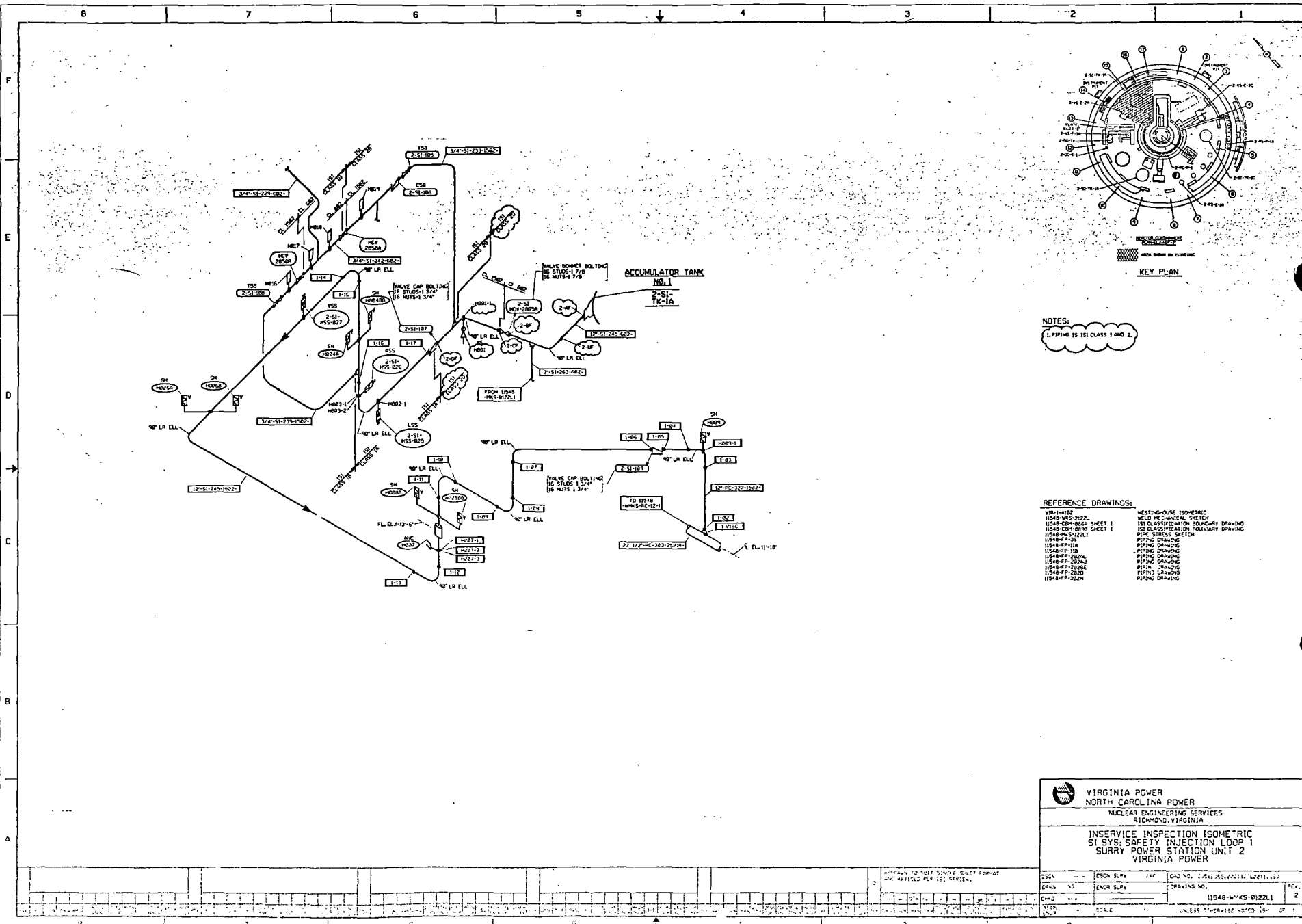
REWORK TO SUIT SINGLE SHEET FORMAT AND REVISED PER ISI REVIEW



NOTES:  
 1. PIPING IS ISI CLASS 1 AND 2.

- REFERENCE DRAWINGS:
- 11548-PP-2022L WESTINGHOUSE ISOMETRIC
  - 11548-PP-2022L WELD MECHANICAL DETAILED
  - 11548-PP-2022L SHEET 1 ISI CLASSIFICATION BOUNDARY DRAWING
  - 11548-PP-2022L SHEET 1 ISI CLASSIFICATION BOUNDARY DRAWING
  - 11548-PP-2022L PIPE STRESS SKETCH
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING
  - 11548-PP-2022L PIPING DRAWING

<b>VIRGINIA POWER</b> NORTH CAROLINA POWER NUCLEAR ENGINEERING SERVICES RICHMOND, VIRGINIA			
<b>INSERVICE INSPECTION ISOMETRIC</b> <b>SI SYS: SAFETY INJECTION LOOP 1</b> <b>SURRY POWER STATION UNIT 2</b> <b>VIRGINIA POWER</b>			
DESIGNER ENR SUPV CHECKER DATE	DATE DRAWING NO. <b>11548-WKS-0122L</b>	CAD NO. 11548-PP-2022L-001	REV. <b>2</b>
APPROVAL TO NOT SCALE SHEET FORMED AND REVISED PER ISI SERVICE.		SCALE	UNLESS OTHERWISE NOTED 10" = 1'



RELIEF REQUEST SR-23

I. IDENTIFICATION OF COMPONENT

<u>Mark/Weld#</u>	<u>Drawing#</u>	<u>Class</u>
1-11	11548-WMKS-CH-E-3	1

II. IMPRACTICABLE CODE REQUIREMENTS

The 1980 edition, Winter 1980 Addenda (inclusive) of ASME Section XI Table IWB-2500-1, examination category B-D, item number B3.150 does not allow any limitations to the required volumetric or surface examinations. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage, if it is less than 10%.

III. BASIS FOR RELIEF

The component listed above has been examined to the extent practical as required by relief request SR-018 of the Inservice Inspection Program for Unit 2 Second Interval. Due to interferences from a support clamp the reduction in coverage of the surface examination was 14.6%. Figure SR-23-1 is provided detailing the limitations experienced. Alternative components could not be substituted for examination due to the mandatory selection requirements of the Code.

IV. ALTERNATE PROVISIONS

It is proposed that the examination already completed at the reduced coverage be counted as meeting the Code requirements.

V. STATUS

Pending



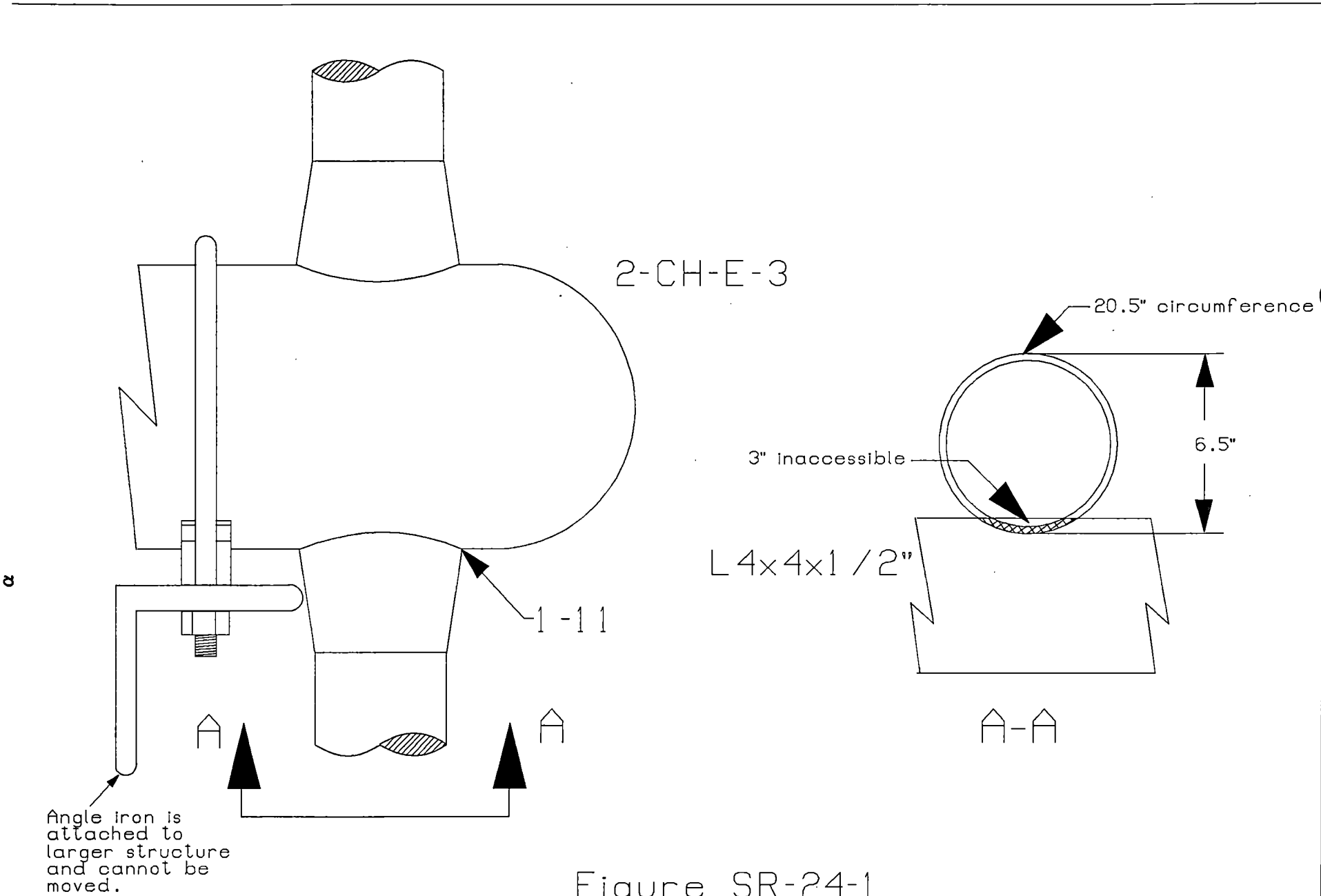
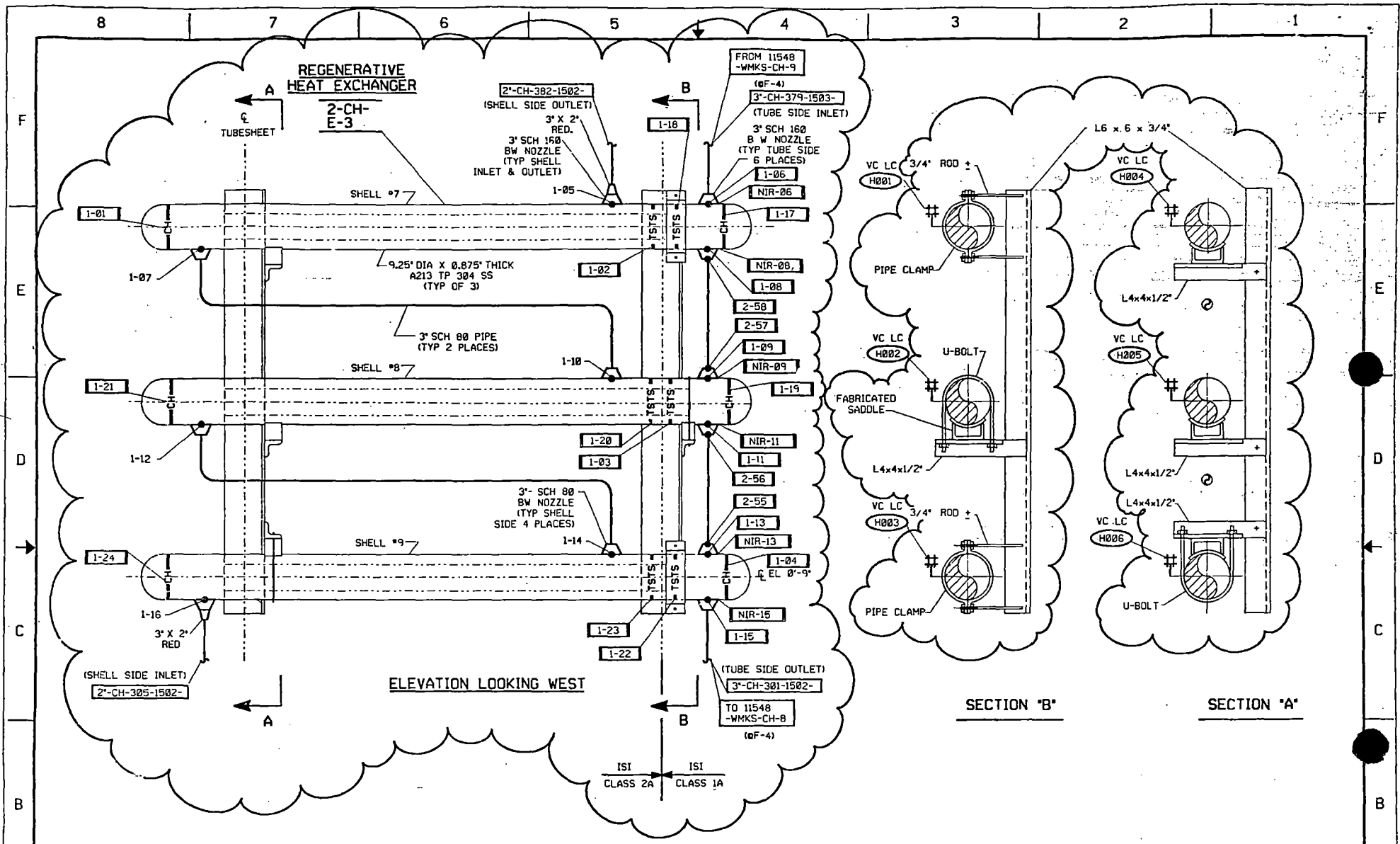


Figure SR-24-1



ELEVATION LOOKING WEST

SECTION 'B'

SECTION 'A'

VIRGINIA POWER  
NORTH CAROLINA POWER  
NUCLEAR ENGINEERING SERVICES  
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING  
REGENERATIVE HEAT EXCHANGER: 2-CH-E-3  
SURRY POWER STATION UNIT 2  
VIRGINIA POWER

DSGN	DSGN SUPY	ARF	CAD NO.	CHE000003
DRWN	DISPL ENGR	WFM	DRAWING NO.	11548-WMKS-CH-E-3
CHKD	LEAD ENGR		REV.	1
DATE 3/27/90			SCALE NONE	UNLESS OTHERWISE NOTED

REVISED PER WALKDOWN AND ISI REVIEW

INITIAL ISSUE

REV	DATE	BY	CHKD	APPV	REASON	REV	DATE	BY	CHKD	APPV	REASON	REV	DATE	BY	CHKD	APPV	REASON	REV	DATE	BY	CHKD	APPV	REASON	
1						1						1												

RELIEF REQUEST SR-24

I. IDENTIFICATION OF COMPONENT

<u>Mark/Weld#</u>	<u>Drawing#</u>	<u>Class</u>
1-01	11548-WMKS-CH-FL-4A/B	2

II. IMPRACTICABLE CODE REQUIREMENTS

The 1980 edition, Winter 1980 Addenda (inclusive) of ASME Section XI Table IWC-2500-1, examination category C-A, item number C1.20 does not allow any limitations to the required volumetric or surface examinations. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage, if it is less than 10%.

III. BASIS FOR RELIEF

The component listed above has been examined to the extent practical as required by the Code. Due to interferences from three permanent support legs the reduction in coverage of the ultrasonic examination was 35% (12" out of 34"). Figure SR-24-1 is provided detailing the limitations experienced. Alternative components could not be substituted for examination due to the mandatory selection requirements of the Code.

IV. ALTERNATE PROVISIONS

It is proposed that the examination already completed at the reduced coverage be counted as meeting the Code requirements.

V. STATUS

Pending

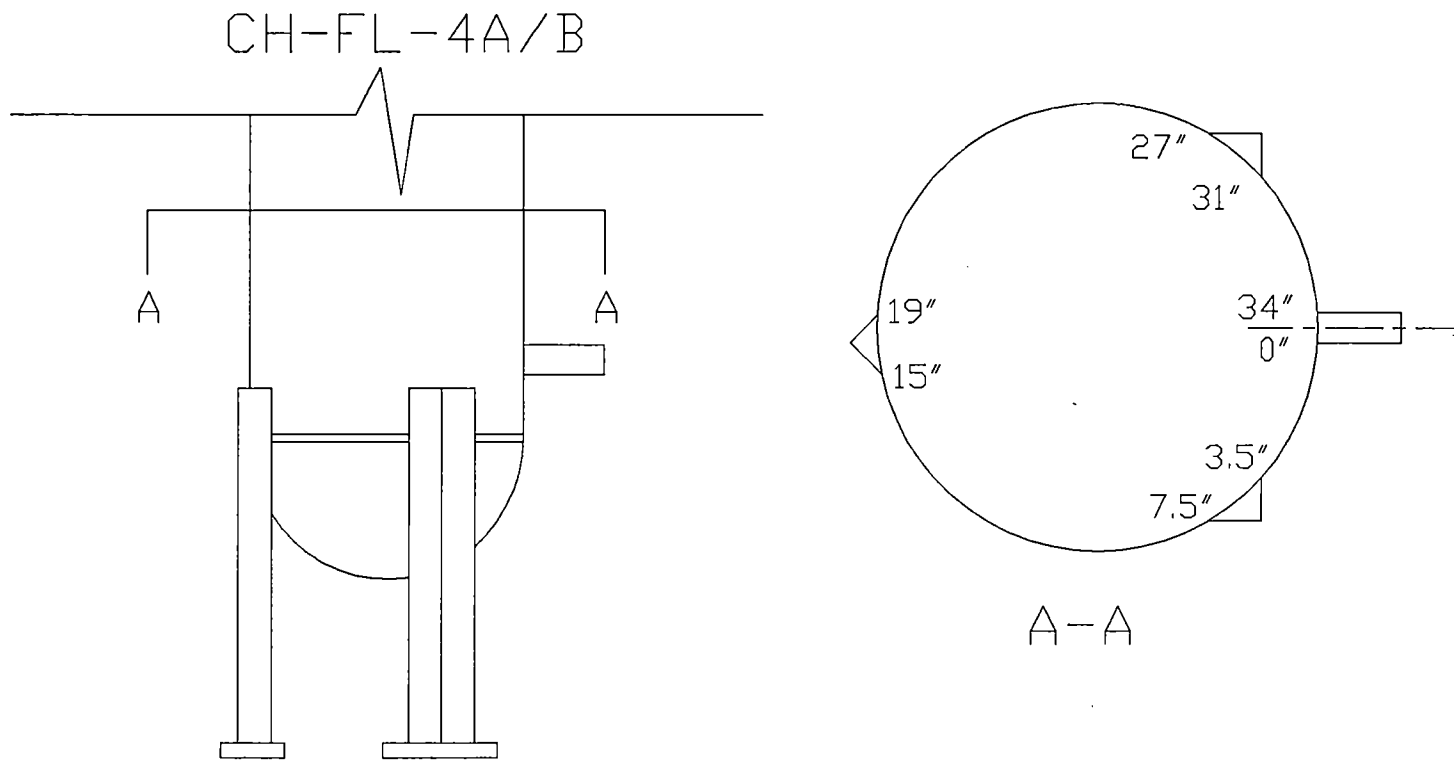
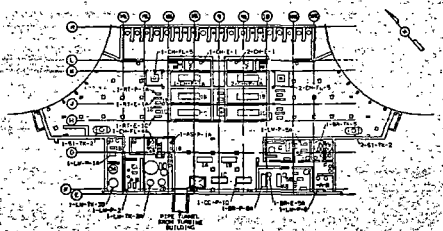
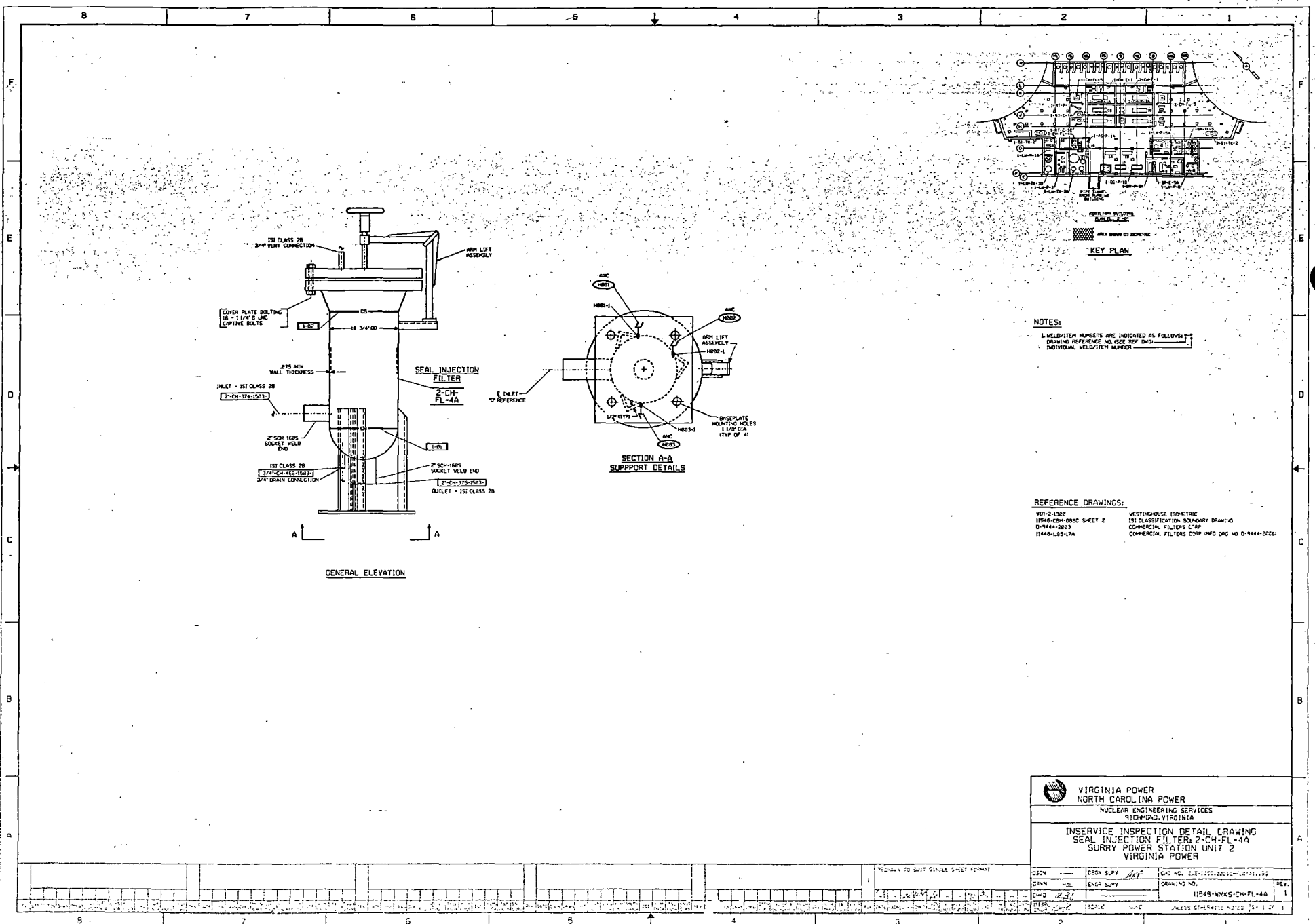


Figure SR-24-1

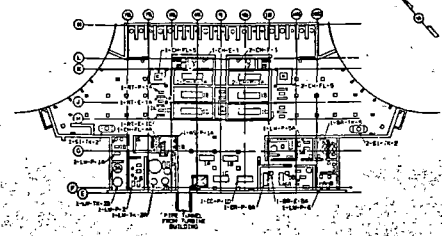


KEY PLAN

**NOTES:**  
 1. WELD/ITEM NUMBERS ARE INDICATED AS FOLLOWS:  
 DRAWING REFERENCE NO. (SEE REF. DWG.)  
 INDIVIDUAL WELD/ITEM NUMBER

**REFERENCE DRAWINGS:**  
 WIP-2-1328 WESTINGHOUSE ISOMETRIC  
 11545-CH-0800C SHEET 2 1st CLASSIFICATION - BINARY DRAWING  
 D-1444-2803 COMMERCIAL FILTERS L'5P  
 11545-L55-17A COMMERCIAL FILTERS COMP. W/NG DRG NO. D-1444-2026

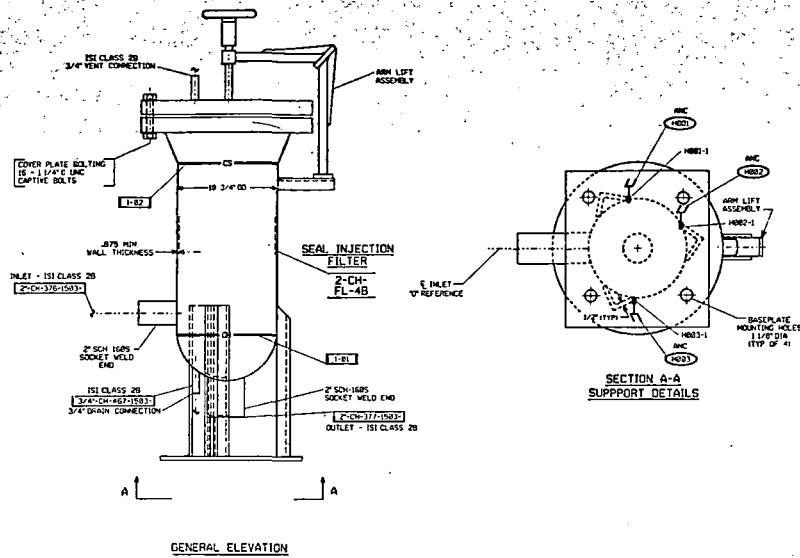
<b>VIRGINIA POWER</b> NORTH CAROLINA POWER NUCLEAR ENGINEERING SERVICES 9100 MCQ, VIRGINIA			
<b>INSERVICE INSPECTION DETAIL DRAWING</b> SEAL INJECTION FILTER, 2-CH-FL-4A SURRY POWER STATION UNIT 2 VIRGINIA POWER			
DESIGNED BY DRAWN BY CHECKED BY DATE	DESIGNER ENGR. SUPV. DATE	CAD NO. 201-100-22150-0101-01 DRAWING NO. 11545-NMKS-CH-FL-4A	REV. 1
UNLESS OTHERWISE NOTED, 1/4" = 1'-0"			



KEY PLAN

NOTES:  
 1. WELD/ITEM NUMBERS ARE INDICATED AS FOLLOWS:  
 DRAWING REFERENCE NO. (SEE REF. DWD)  
 INDIVIDUAL WELD/ITEM NUMBER

REFERENCE DRAWINGS:  
 VSR-2-1308 WESTINGHOUSE ISOMETRIC  
 1548-COM-230C SHEET 2 ISI CLASSIFICATION BOUNDARY DRAWING  
 0-9444-2083 COMMERCIAL FILTERS CORP.  
 1645-125-17A COMMERCIAL FILTERS CORP. INC. DRG. NO. 0-9444-2020



GENERAL ELEVATION

SECTION A-A  
 SUPPORT DETAILS

<b>VIRGINIA POWER</b> NORTH CAROLINA POWER NUCLEAR ENGINEERING SERVICES RICHMOND, VIRGINIA	
<b>INSERVICE INSPECTION DETAIL DRAWING</b> SEAL INJECTION FILTER: 2-CH-FL-4B SURRY POWER STATION UNIT 2 VIRGINIA POWER	
DESN: _____ DWG: _____ DATE: _____	DESN SUPP: _____ ENGN SUPP: _____ SCALE: _____
CAD NO. 22612355, 10710-1450, 1170 DRAWING NO. _____ 1548-WMS-CH-FL-4B 1 OF 1	REVISION TO SUIT SINGLE SHEET FORMAT 1

RELIEF REQUEST SR-25

I. IDENTIFICATION OF COMPONENT

<u>Mark/Weld#</u>	<u>Line#</u>	<u>Drawing#</u>	<u>Class</u>
1-09	31"-RC-308-2501R	11548-WMKS-RC-10-1	1

II. IMPRACTICABLE CODE REQUIREMENTS

The 1980 edition, Winter 1980 Addenda (inclusive) of ASME Section XI Table IWB-2500-1, examination category B-J, item number B9.11 does not allow any limitations to the required volumetric or surface examinations. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage, if it is less than 10%.

III. BASIS FOR RELIEF

The component listed above has been examined to the extent practical as required by the Code. Due to the geometry of the weld crown the reduction in coverage of the volumetric examinations are detailed in Table SR-25-1. Figure SR-25-1 is provided detailing the limitations experienced. Substituting with another weld of the same size would not necessarily improve the examination coverage since similar geometric conditions are expected.

IV. ALTERNATE PROVISIONS

It is proposed that the examination already completed at the reduced coverage be counted as meeting the Code requirements.

V. STATUS

Pending

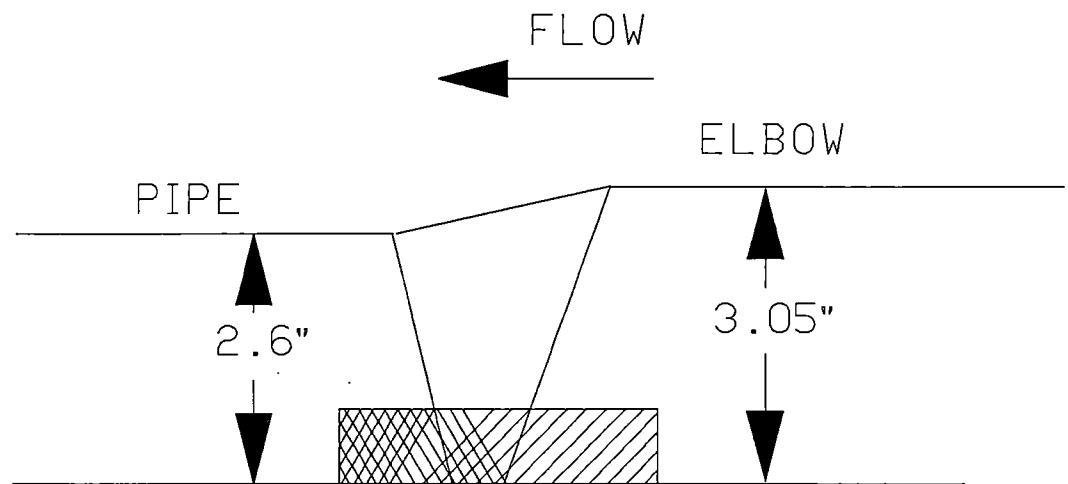
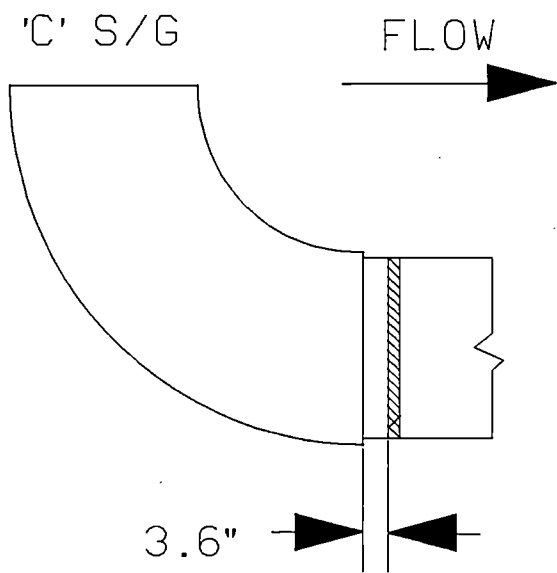
**Table SR-25-1**  
**Surry Unit 2**  
**Examination Coverage Estimates**  
**11548-WMKS-RC-10-1**  
**Category B-J, Item B9.11**

<u>Mark/Weld#</u>	<u>UT Scan Coverage %</u>				<u>Surface Examination Coverage %</u>	<u>Reason For Partial</u>
	<u>2</u>	<u>5</u>	<u>7</u>	<u>8</u>		
1-09	50	83	72	72	100	The geometry of the weld crown limits the coverage in the area of pipe to weld and weld to elbow. Material type, ASTM A-351 austentic steel casting, limits the use of an extended V-path examination.

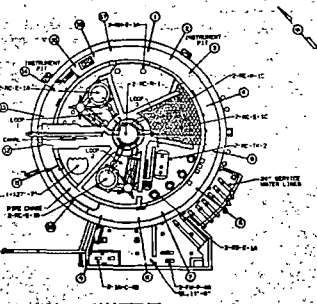
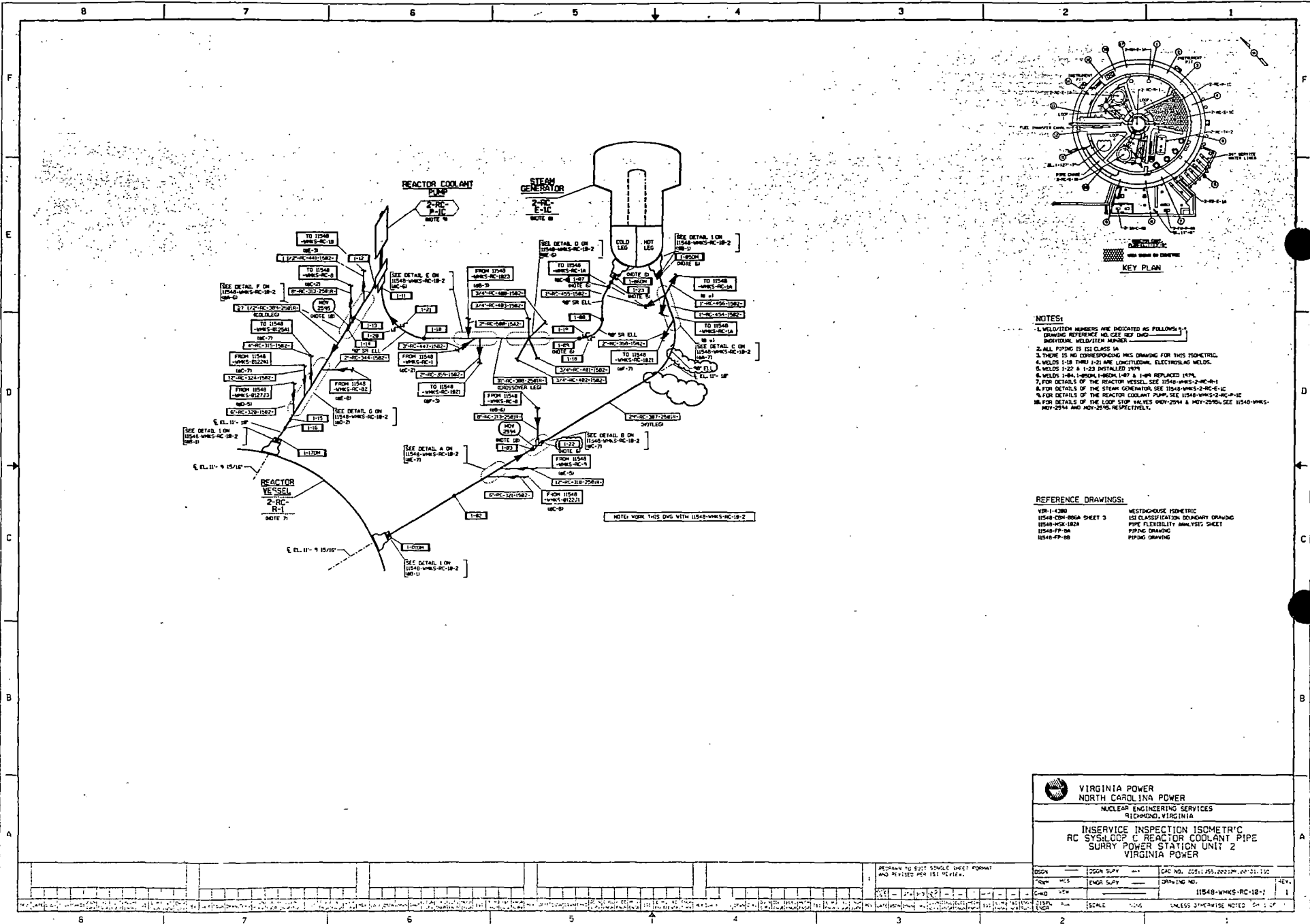
UT Scan Direction Definitions

- 2 - Axial scan, 180 degrees from isometric flow direction.
- 5 - Axial scan, the same direction as the isometric flow.
- 7 - Circumferential scan, clockwise rotation when viewing in the direction of isometric flow.
- 8 - Circumferential scan, counterclockwise rotation when viewing in the direction of isometric flow.





31"-RC-308-2501 R WELD 1-09  
FIGURE SR-25-1



- NOTES:**
1. WELD/JETM NUMBERS ARE INDICATED AS FOLLOWS: DRAWING REFERENCE NO. SEE KEY Dwg. INDIVIDUAL WELD/JETM NUMBER.
  2. ALL PIPING IS IS1 CLASS 1A.
  3. THERE IS NO CORRESPONDING P&ID DRAWING FOR THIS ISOMETRIC.
  4. WELDS 1-18 THRU 1-23 ARE LONGITUDINAL. ELECTRODE ARG WELDS.
  5. WELDS 1-22 & 1-23 INSTALLED 1975.
  6. WELDS 1-24-1-25 (FROM 1-27 & 1-28) REPLACED 1976.
  7. FOR DETAILS OF THE REACTOR VESSEL, SEE 11548-WMS-2-RC-R-1.
  8. FOR DETAILS OF THE STEAM GENERATOR, SEE 11548-WMS-2-RC-E-1C.
  9. FOR DETAILS OF THE REACTOR COOLANT PUMP, SEE 11548-WMS-2-RC-P-1C.
  10. FOR DETAILS OF THE LOOP STOP VALVES DRY-2294 & MOY-2594, SEE 11548-WMS-MOY-2594 AND MOY-2594, RESPECTIVELY.

- REFERENCE DRAWINGS:**
- |                         |                                     |
|-------------------------|-------------------------------------|
| VPR-1-438B              | WESTINGHOUSE ISOMETRIC              |
| 11548-CRM-0000A SHEET 3 | IS1 CLASSIFICATION DOCUMENT DRAWING |
| 11548-MCR-100A          | PIPE FLEXIBILITY ANALYSIS SHEET     |
| 11548-PP-0A             | PIPING DRAWING                      |
| 11548-PP-0B             | PIPING DRAWING                      |

NOTE: WORK THIS Dwg WITH 11548-WMS-RC-10-2

**VIRGINIA POWER**  
**NORTH CAROLINA POWER**  
 NUCLEAR ENGINEERING SERVICES  
 RICHMOND, VIRGINIA

**INSERVICE INSPECTION ISOMETRIC**  
 RC SYS LOOP C REACTOR COOLANT PIPE  
 SURRY POWER STATION UNIT 2  
 VIRGINIA POWER

DESIGN	CONTR. SUPV.	DATE	NO. 02511 953.00017M.00 21.110
FORM	ENGR. SUPV.	DRAWING NO.	
SCALE		11548-WMS-RC-10-2	REV. 1
CHECKED	SCALE		

6  
5  
4  
3  
2  
1

RELIEF REQUEST SR-26

I. IDENTIFICATION OF COMPONENT

<u>Mark/Weld#</u>	<u>Drawing#</u>	<u>Class</u>
2-05	11548-WMKS-RS-P-2A	2

II. IMPRACTICABLE CODE REQUIREMENTS

The 1980 edition, Winter 1980 Addenda (inclusive) of ASME Section XI Table IWC-2500-1, examination category C-G, item number C6.10 does not allow any limitations to the required volumetric or surface examinations. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage, if it is less than 10%.

III. BASIS FOR RELIEF

The component listed above has been examined to the extent practical as required by the Code. Due to interferences from a pump casing support the reduction in coverage of the surface examination was 25%. Figure SR-26-1 is provided detailing the limitations experienced. No other alternative is available for substitution since the "B" pump has the same limitation.

IV. ALTERNATE PROVISIONS

It is proposed that the examination already completed at the reduced coverage be counted as meeting the Code requirements.

V. STATUS

Pending

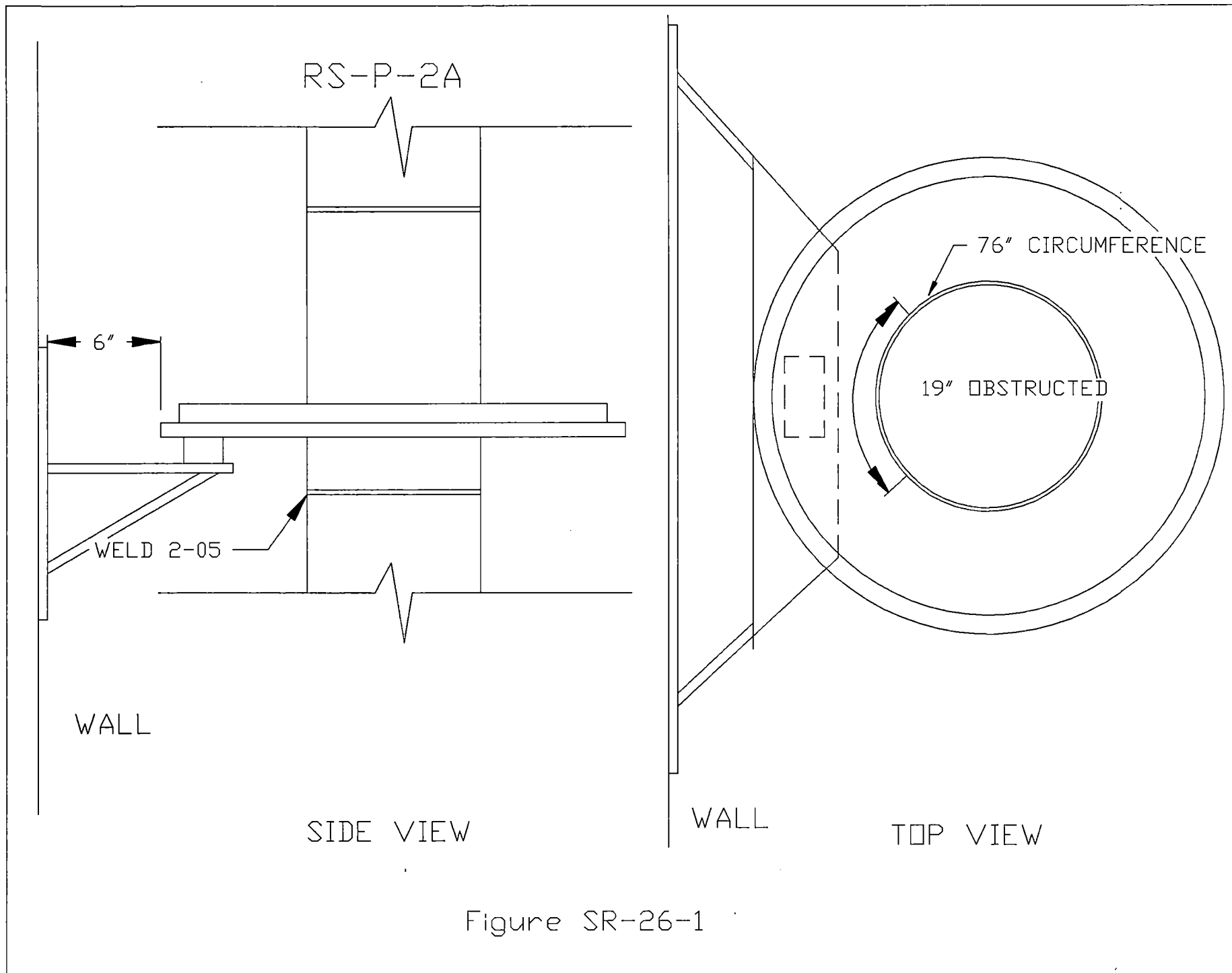
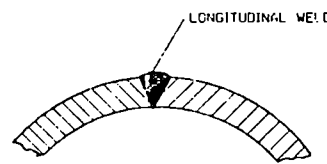
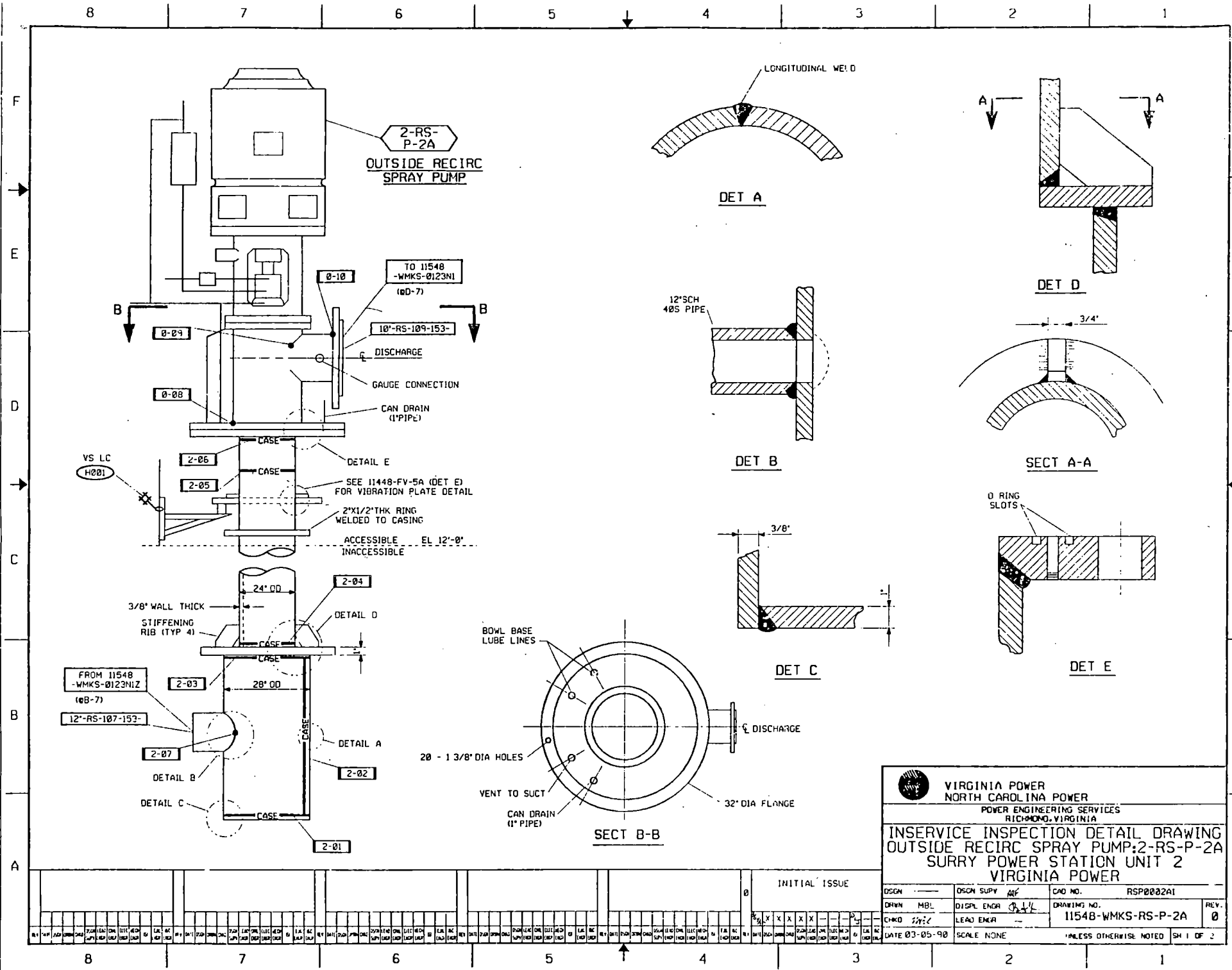
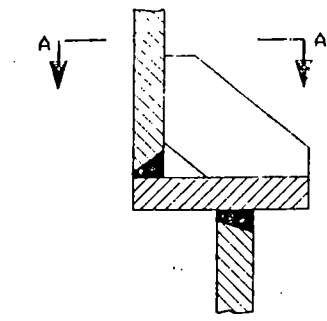


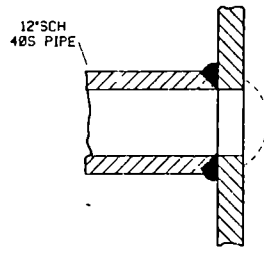
Figure SR-26-1



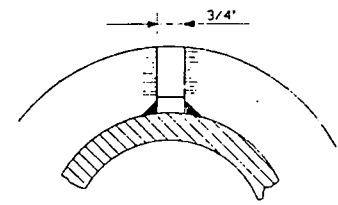
DET A



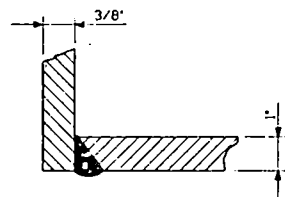
DET D



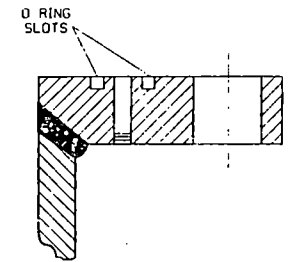
DET B



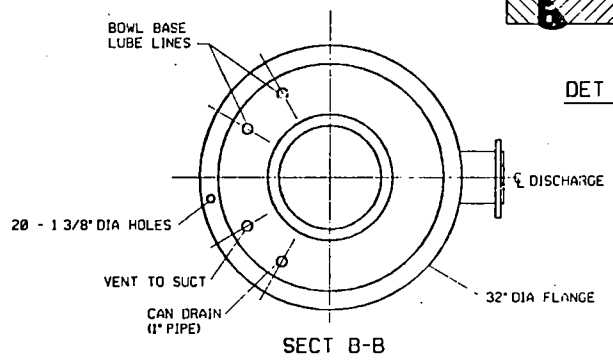
SECT A-A



DET C



DET E



SECT B-B

<b>VIRGINIA POWER</b> NORTH CAROLINA POWER POWER ENGINEERING SERVICES RICHMOND, VIRGINIA			
<b>INSERVICE INSPECTION DETAIL DRAWING</b> <b>OUTSIDE RECIRC SPRAY PUMP: 2-RS-P-2A</b> <b>SURRY POWER STATION UNIT 2</b> <b>VIRGINIA POWER</b>			
DESIGN	DISC. SUPV	CAO NO.	RSP0002A1
DRAWN	DISPL ENGR	DRAWING NO.	11548-WMKS-RS-P-2A
CHKD	LEAD ENGR	REV.	0
DATE 03-05-90		SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2