

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

April 6, 1994

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

Serial No. 94-086  
NL&P/EJW  
Docket No. 50-339  
License No. NPF-7

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA POWER STATION UNIT 2**  
**INSERVICE INSPECTION PROGRAM**  
**RELIEF REQUEST**

North Anna Power Station Unit 2 is presently in the first period of the second ten-year interval. North Anna Unit 2 examinations have been conducted to the requirements of the 1986 Edition 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 for North Anna Unit 2. Relief Request NDE-20 (attached) describes the basis for this relief.

If you have any questions concerning these requests, please contact us.

Very truly yours,



W. L. Stewart  
Senior Vice President - Nuclear

Enclosures

cc: United States Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N.W.  
Suite 2900  
Atlanta, GA 30323

Mr. R. D. McWhorter  
NRC Senior Resident Inspector  
North Anna Power Station

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PDR ADOCK 05000339  
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ENCLOSURE 1  
RELIEF REQUEST NDE-20

## RELIEF REQUEST NDE-20

### I. IDENTIFICATION OF COMPONENTS

<u>Weld #</u>	<u>Line #</u>	<u>Drawing #</u>	<u>Class</u>	<u>Sketch</u>
1	CH-E-2	12050-WMKS-CH-E-2	2	1
2	CH-E-2	12050-WMKS-CH-E-2	2	1
14	CH-E-2	12050-WMKS-CH-E-2	1	2
WS-2	RH-E-1B	12050-WMKS-RH-E-1B	2	3
SW-11	14"-RH-401-1502-Q1	12050-WMKS-109E-2	1	4
SW-12	6"-RC-416-1502-Q1	12050-WMKS-109E-2	1	4
SW-41	6"-RC-422-1502-Q1	12050-WMKS-109E-2	1	4
SW-43	6"-RC-417-1502-Q1	12050-WMKS-109E-2	1	4
SW-42	6"-RC-414-1502-Q1	12050-WMKS-109E-2	1	5

### II. IMPRACTICABLE CODE REQUIREMENTS

The 1986 Edition of ASME Section XI in Tables IWB-2500-1 and IWC-2500-1 does not allow any limitations to the required volumetric and 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 have been examined to the extent practical as required by the Code. Due to interferences of other components or weld joint geometry the reduction in coverage for the listed components was greater than 10%. Tables NDE-20-1, 2, 3, and 4 are provided detailing the limitations experienced. Amplifying sketches are also provided. Alternative components could not be substituted for examination due to the mandatory selection requirements of the Code.

### IV. ALTERNATIVE EXAMINATION

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

Table NDE-20-1  
 North Anna Unit 2  
 Examination Coverage Estimates (Class 1 Vessels)  
 Category B-D, Item B3.110

<u>Weld #</u>	<u>Beam Angle</u>	<u>Exam Area</u>	<u>Scan Direction</u>	<u>% Exam.</u>	<u>Reason For Partial</u>	<u>Sketch #</u>
14	0	Weld & Base	-	60	Nozzle Geometry and Cladding Prevents Extended V-Path	2
	45	Weld	2	80		
	45	Weld	5	5		
	45	Weld	7	74		
	45	Weld	8	74		
	60	Weld	2	95		
	60	Weld	5	2		
	60	Weld	7	74		
	60	Weld	8	74		
	45 & 60	Weld	2	88		
	45 & 60	Weld	5	11		
	45 & 60	Weld	7	50		
	45 & 60	Weld	8	50		

UT Scan Direction Definitions

- 2 - Axial scan, head side of weld.
- 5 - Axial scan, nozzle side of weld.
- 7 - Circumferential scan, clockwise (looking down on head).
- 8 - Circumferential scan, counterclockwise (looking down on head).

Table NDE-20-2  
 North Anna Unit 2  
 Examination Coverage Estimates (Class 1 Piping)  
 Category B-J, Item B9.31

<u>Drawing</u>	<u>Weld #</u>	<u>Category</u>	<u>Item #</u>	<u>UT Scan Coverage %</u>				<u>Surface Coverage %</u>	<u>Reason For Partial</u>	<u>Sketch #</u>
				<u>2</u>	<u>5</u>	<u>7</u>	<u>8</u>			
109E-2	SW-11	B-J	B9.31	0	90	27	27	100	Branch Connection	4
109E-2	SW-12	B-J	B9.31	90	0	27	27	100	Branch Connection	5
109E-2	SW-41	B-J	B9.31	90	0	27	27	100	Branch Connection	5
109E-2	SW-42	B-J	B9.31	53	27	50	50	100	Branch Connection	6
109E-2	SW-43	B-J	B9.31	90	0	27	27	100	Branch Connection	5

**UT Scan Direction Definitions**

- 2 - Axial scan, 180 degrees from isometric flow direction (weld count).
- 5 - Axial scan, the same direction as the isometric flow (weld count).
- 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.

**Table NDE-20-3**  
**North Anna Unit 2**  
**Examination Coverage Estimates (Class 2 Vessels)**  
**Category C-A, Item C1.20**

<u>Drawing</u>	<u>Weld #</u>	<u>Category</u>	<u>Item #</u>	<u>UT Scan Coverage %</u>				<u>Reason For Partial</u>	<u>Sketch #</u>
				<u>2</u>	<u>5</u>	<u>7</u>	<u>8</u>		
CH-E-2	1	C-A	C1.20	100	100	76	76	Support Lugs	1
CH-E-2	2 (45° Scan)	C-A	C1.20	87	76	91	91	Support Lugs	1
	2 (60° Scan)			87	86				

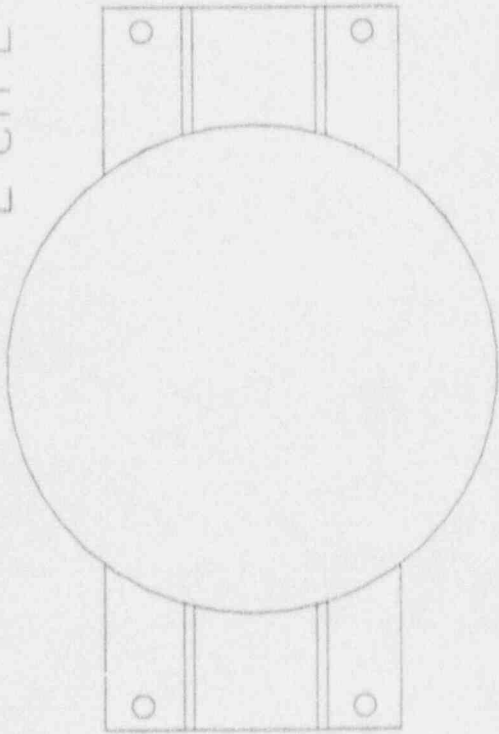
**UT Scan Direction Definitions**

- 2 - Axial scan, head side of weld.
- 5 - Axial scan, flange side of weld.
- 7 - Circumferential scan, clockwise (looking down on head).
- 8 - Circumferential scan, counterclockwise (looking down on head).

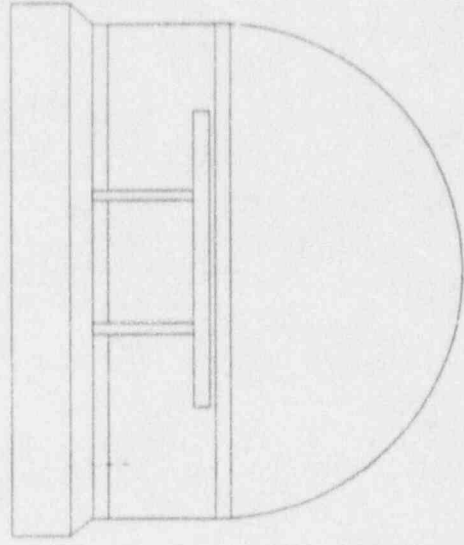
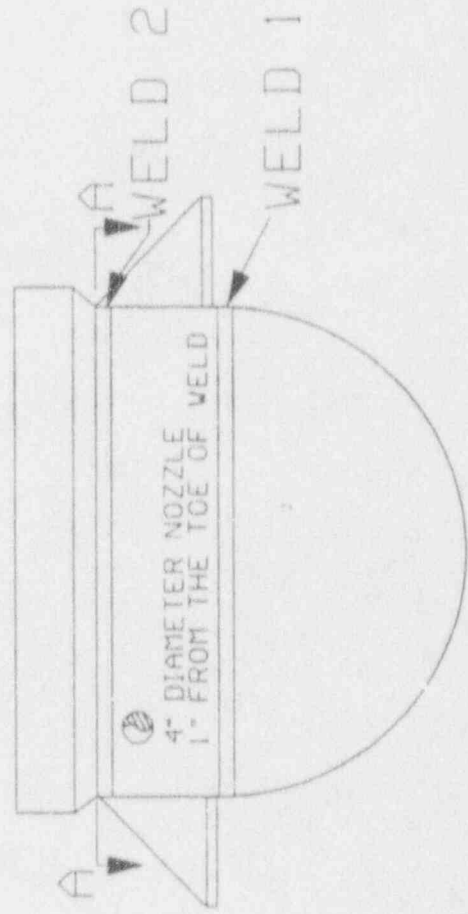
Table NDE-20-4  
North Anna Unit 2  
Examination Coverage Estimates (Integral Attachments)  
Category C-C, Item C3.20

<u>Drawing</u>	<u>Weld #</u>	<u>Category</u>	<u>Item #</u>	<u>Surface Coverage %</u>	<u>Reason For Partial</u>	<u>Sketch #</u>
RH-E-1B	WS-2	C-C	C3.20	76	Concrete Support limits access	3

2-CH-E-2

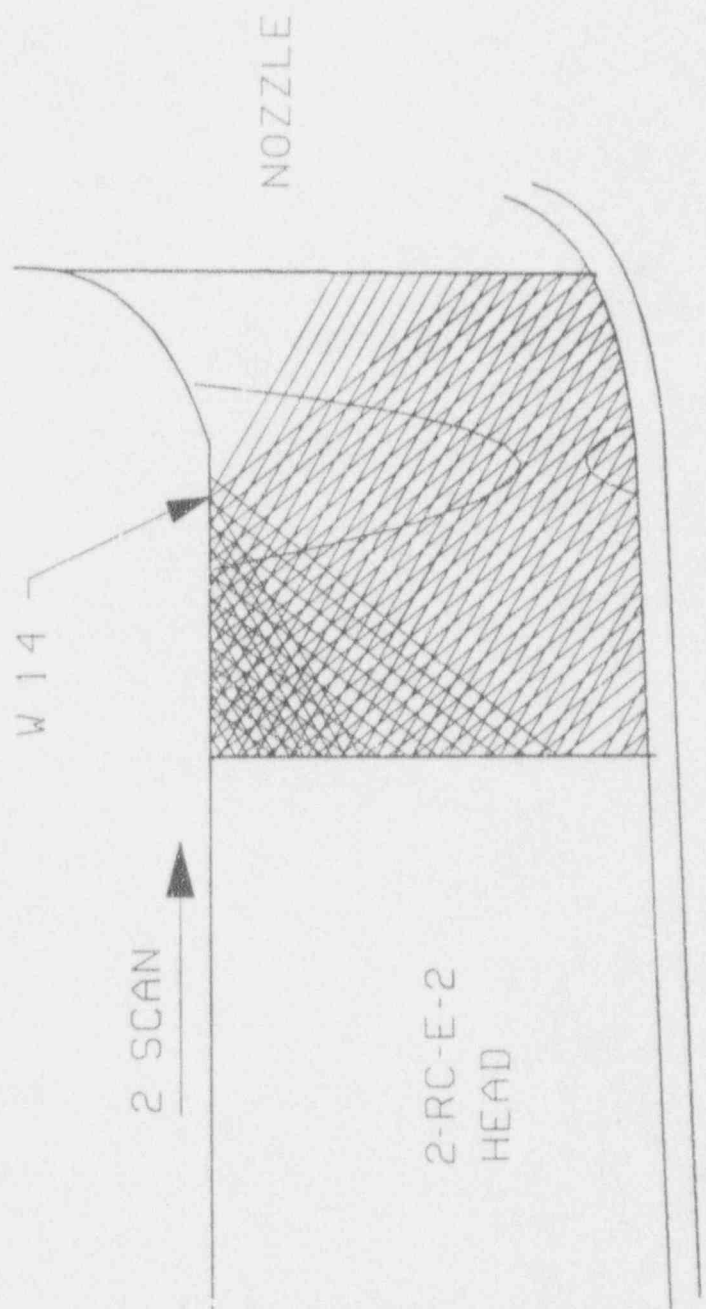


A-A

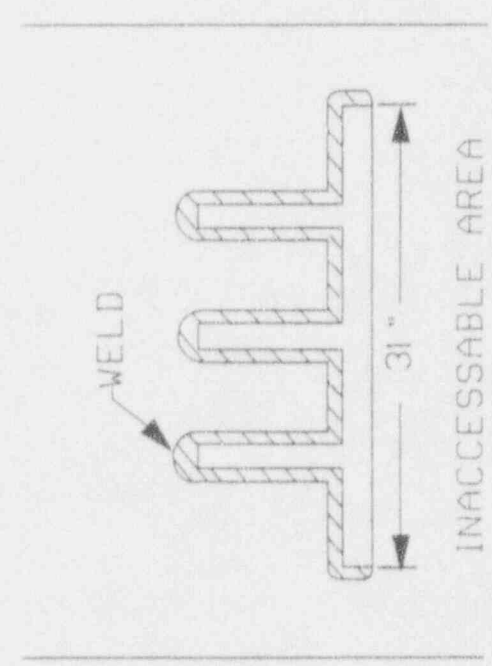
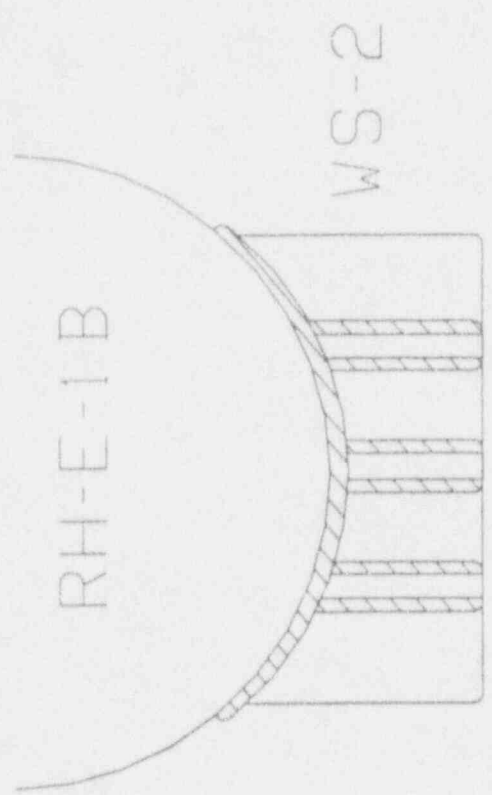


SKETCH 1





SKETCH 2

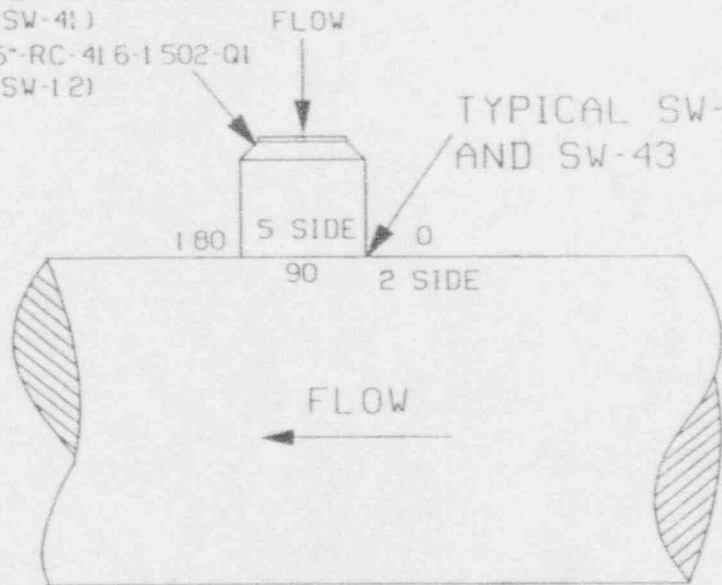


SKETCH 3

6"-RC-417-1502-Q1  
(SW-43)

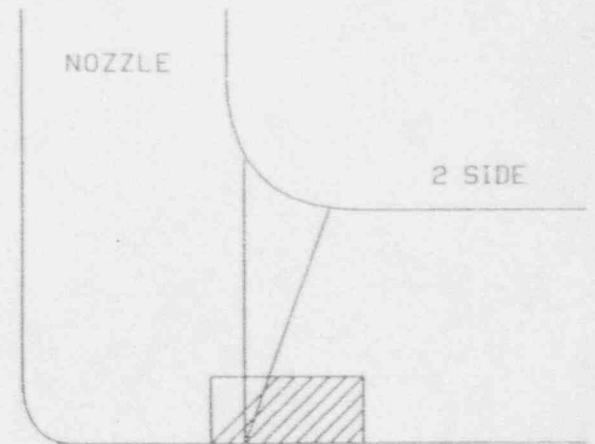
12"-RC-422-1502-Q1  
(SW-41)

6"-RC-416-1502-Q1  
(SW-12)

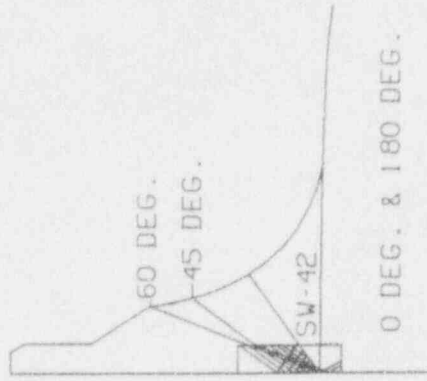
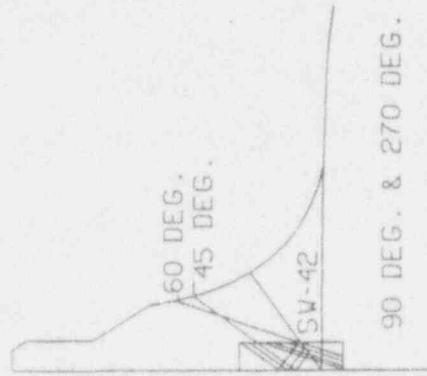
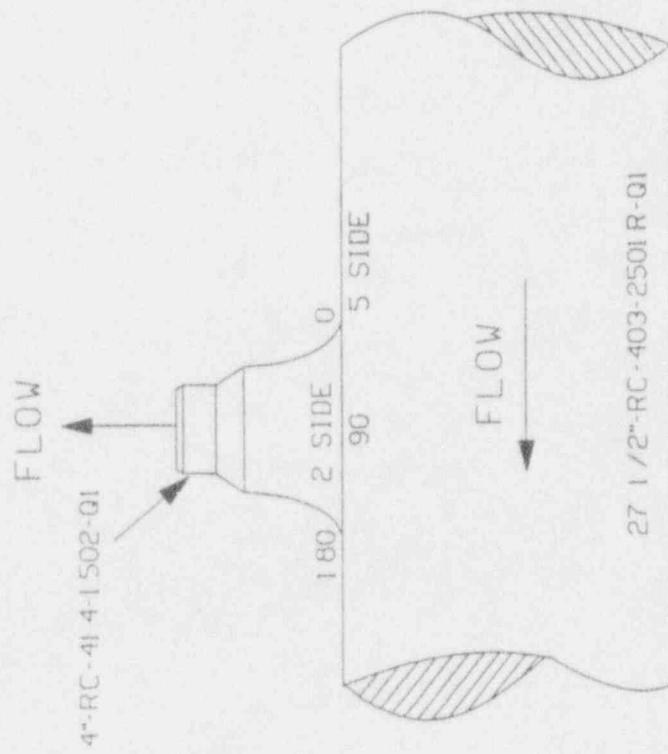


27 1/2"-RC-403-2501 R-Q1  
(SW-41 & SW-43)

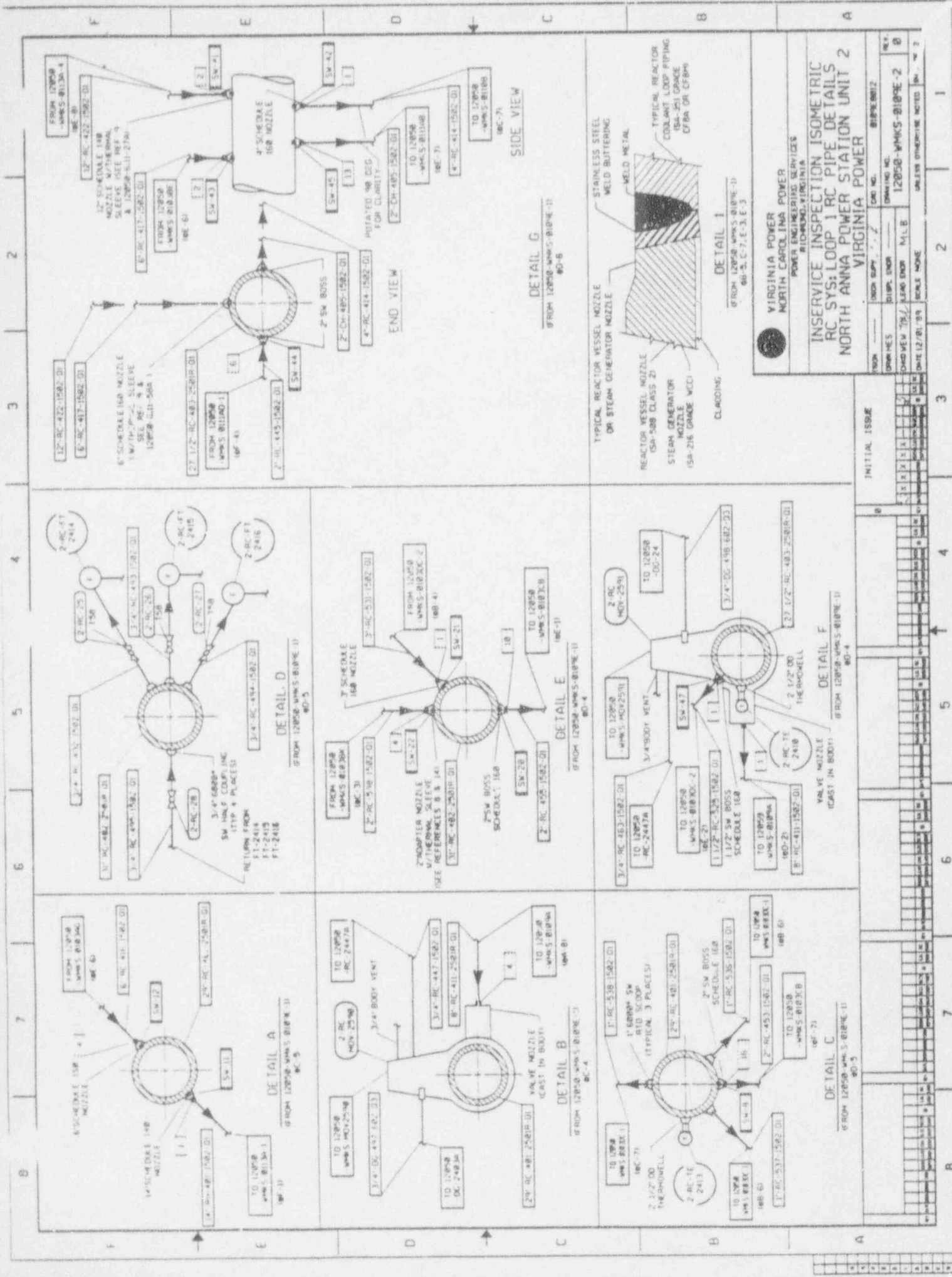
27 1/2"-RC-401-2501 R-Q1  
(SW-12)



SKETCH 4



SKETCH 5



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

**INSERVICE INSPECTION ISOMETRIC**  
**RC SYS: LOOP 1 RC PIPE DETAILS**  
**NORTH ANNA POWER STATION UNIT 2**  
**VIRGINIA POWER**

NO. 1285B-WMS-B103A-1	DATE 12/81/89	SCALE NONE
NO. 1285B-WMS-B103A-2	DATE 12/81/89	SCALE NONE
NO. 1285B-WMS-B103A-3	DATE 12/81/89	SCALE NONE
NO. 1285B-WMS-B103A-4	DATE 12/81/89	SCALE NONE
NO. 1285B-WMS-B103A-5	DATE 12/81/89	SCALE NONE
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