VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

January 26, 1993

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

Serial No. 93-002
SPS/ETS
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
SECOND TEN YEAR INSERVICE INSPECTION INTERVAL
RELIEF REQUESTS

Surry Power Station Units 1 and 2 are currently in the third periods of their second ten year intervals. The test and inspection intervals are scheduled to end in October 1993 and May 1994 for Surry Units 1 and 2, respectively. The Code of reference for both units is the 1980 Edition, Winter 1980 Addendum of ASME Section XI. Several Code requirements have been identified as impractical and need to be addressed to close out the second interval test and inspection requirements. Thus, pursuant to 10 CFR 50.55a(g)(5), we are requesting relief from specific Code requirements for Surry Units 1 and 2. The basis for each relief request is provided in Attachment 1 of this letter.

As permitted by Paragraph IWA-2400(c) of the Code, Units 1 and 2 will be extending their inspection intervals by one year to complete remaining examinations. The required examinations will be completed in the 1994 refueling outage for both Units 1 and 2. The Unit 1 refueling outage is currently scheduled to begin in February 1994. Therefore, your review is requested by November 1, 1993 to allow scheduling of the appropriate inspection requirements for Unit 1.

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

If you have questions regarding this information, please contact us.

Very truly yours,

W. L. Stewart
Senior Vice President - Nuclear

Attachment
1. Unit 1 and 2 Relief Requests

A047

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

Attachment 1

Surry Units 1 and 2
ISI Relief Requests

Surry Unit 1

Relief Request SR-015

I. Identification of Components
System: Reactor Coolant System
Components: Reactor Coolant Pump Casing internal surfaces

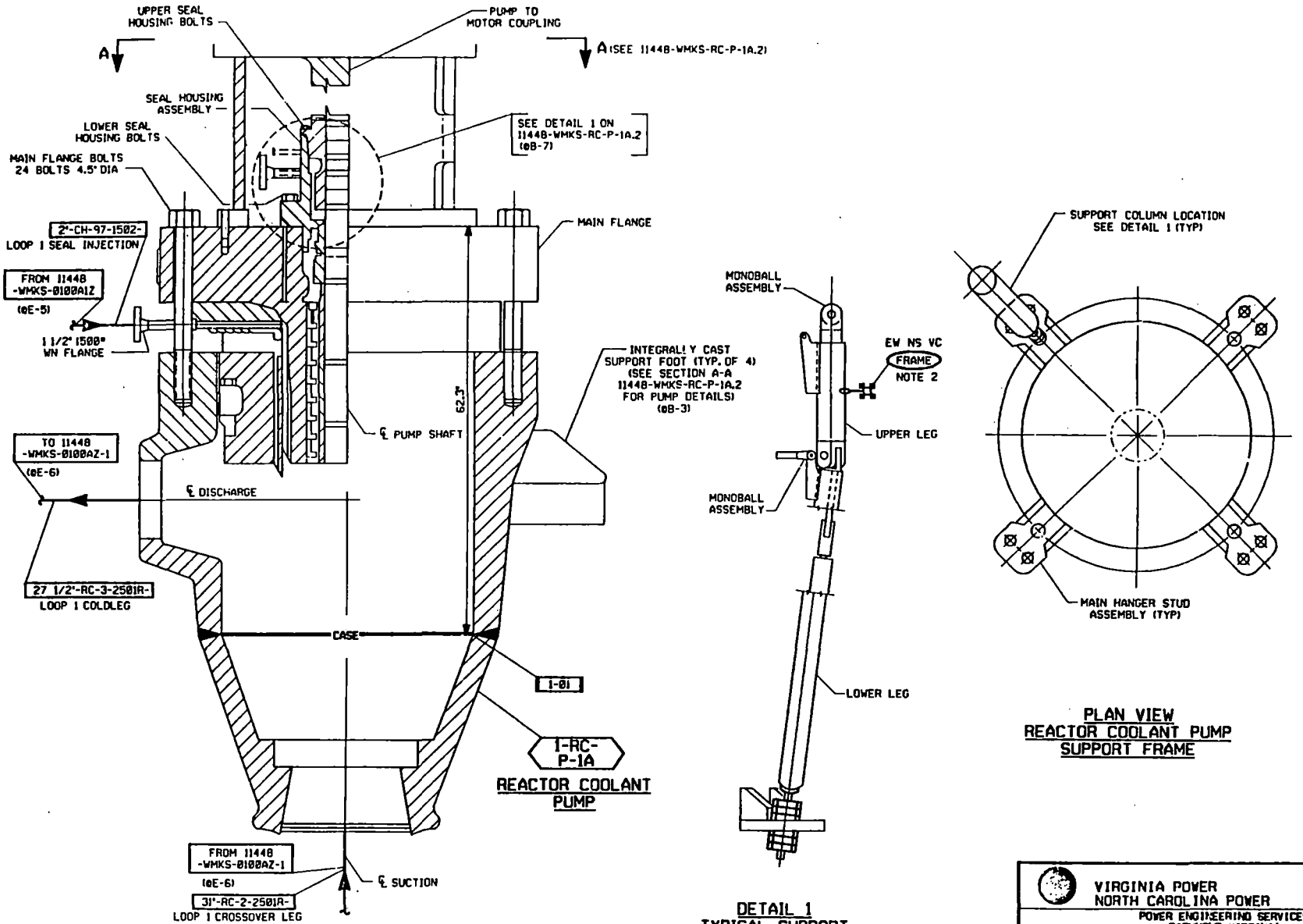
Component	Item	Class
1-RC-P-1A	Casing	1
1-RC-P-1B	Casing	1
1-RC-P-1C	Casing	1

(Drawings attached)

II. Impractical Code Requirements
Category B-L-2, Pump Casings, Item number B12.20 requires a visual, VT-3, examination be conducted on the pump casing internal surfaces of one pump performing similar functions.

III. Basis For Relief
Performance of the Code required visual examination requires that the pump be disassembled to allow access to the pumps internal surfaces. Previously this examination was scheduled in conjunction with the Code required volumetric examination on the pump casing weld, which also required pump disassembly. Code Case N-481, Alternate Examination Requirements for Cast Austenitic Pump Casings Section XI, Division 1, will be used in lieu of the volumetric examination required by Table IWB 2500-1, Category B-L-1, Item B12.10. Requiring pump disassembly for the Code visual examination is impractical considering the cost and dose required to perform this action.

IV. Alternate requirements
A technical evaluation addressing the safety and serviceability of the pump casing has been performed and separately submitted to the NRC on October 26, 1992 (Serial# 92-671) as required by Code Case N-481. The alternate inspection requirements will be implemented, which includes the performance of a VT-3 visual examination of the internal surfaces, whenever the pump is disassembled for maintenance. This requirement is similar to the provisions of the 1989 Edition of ASME Section XI in Table IWB-2500-1, Category B-L-2.



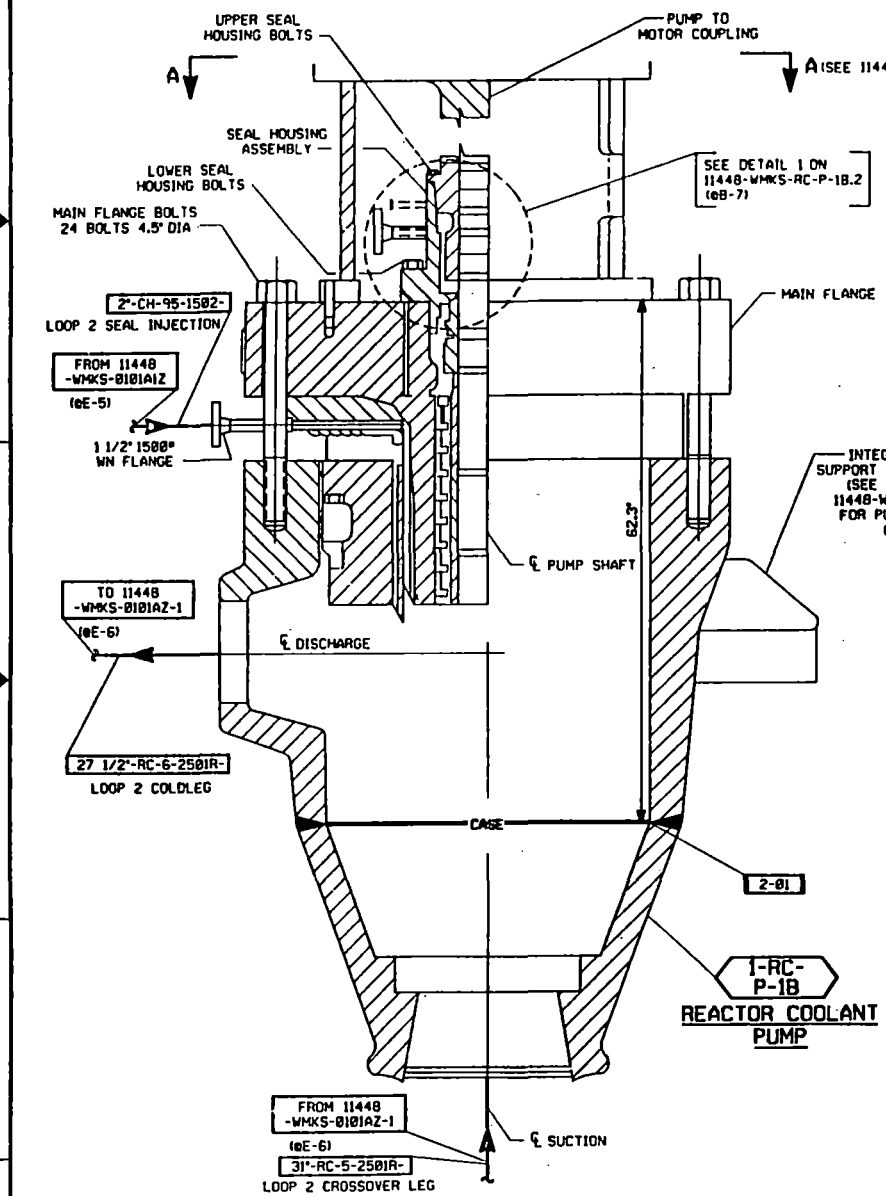
REV.	DESCRIPTION
0	INITIAL ISSUE

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

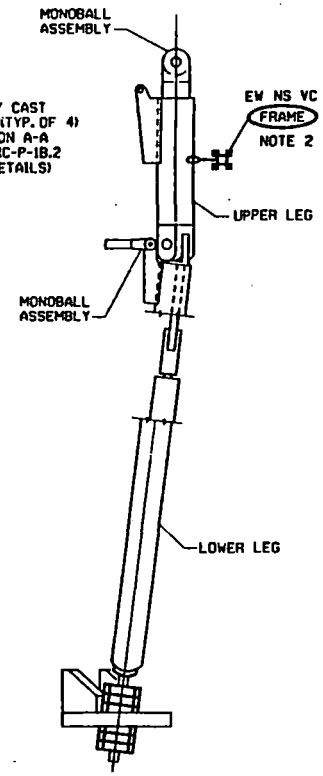
INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:1-RC-P-1A SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN	DSGN SUPV	CAD NO.	RCP0001A1
DRWN MES/CLW	DISPL ENGR	DRAWING NO.	11448-WMKS-RC-P-1A.1 REV. 0
CHKD	LEAD ENGR		
DATE 11-30-89	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 2

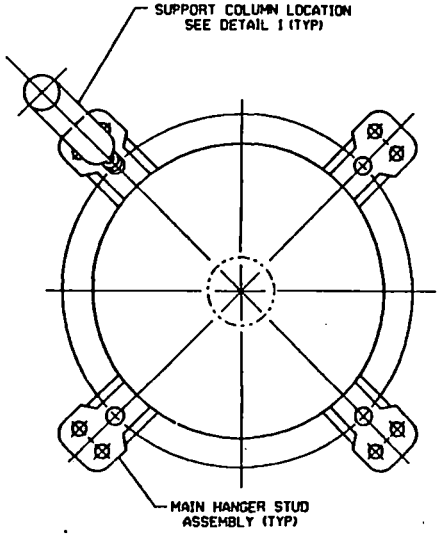
12-JAN-1990 09:15



CROSSECTIONAL VIEW
REACTOR COOLANT PUMP



DETAIL 1
TYPICAL SUPPORT
COLUMN



PLAN VIEW
REACTOR COOLANT PUMP
SUPPORT FRAME

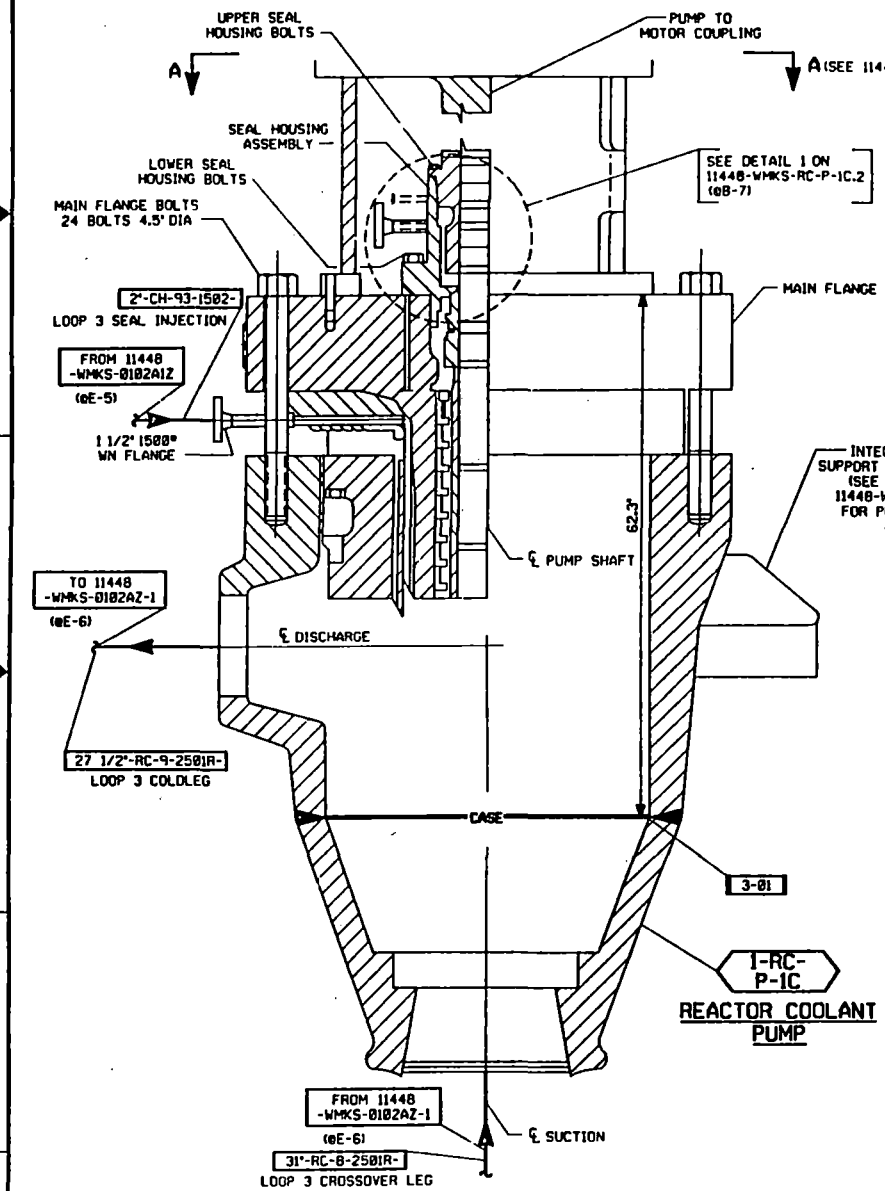
0	INITIAL ISSUE		

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

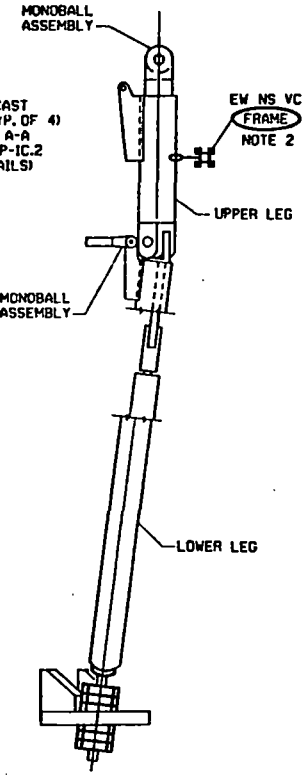
INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:1-RC-P-1B SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN ——	DSGN SUPV	CAD NO. RCP000181	
DRWN MES/CLW	DISPL ENGR	DRAWING NO. 11448-WMKS-RC-P-1B.1	REV. 0
CHKD	LEAD ENGR		
DATE 11-30-89	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 2

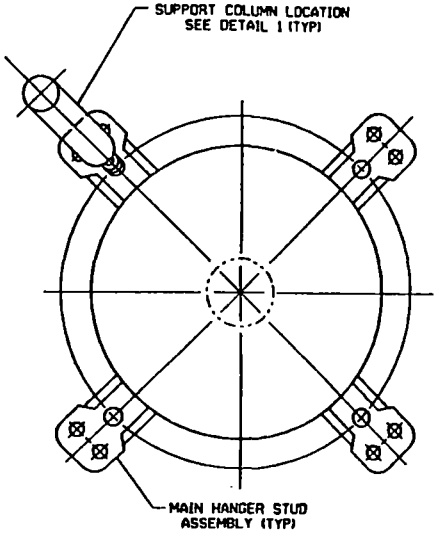
12-JAN-1990 08:55
QSA3:[355,001]RCP000181.DGN



CROSSECTIONAL VIEW
REACTOR COOLANT PUMP



DETAIL 1
TYPICAL SUPPORT COLUMN



PLAN VIEW
REACTOR COOLANT PUMP
SUPPORT FRAME

REV	DESCRIPTION	DATE	APPROVED
0	INITIAL ISSUE		

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:1-RC-P-1C SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN ——	DSGN SUPV	CAD NO. RCP0001C1	
DRWN MES/CLW	DISPL ENGR	DRAWING NO. 11448-WMKS-RC-P-1C.1	REV. 0
CHKD	LEAD ENGR		
DATE 11-30-89	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 2

12-JAN-1990 09:07
QSA3:[355.001]RCP0001C1.DGN

Relief Request SR-016

I. Identification of Components
System: Reactor Coolant, Safety Injection, and Residual Heat Removal
Component: Class 1 valves greater than 4 inches in diameter (4 NPS)

II. Impractical Code Requirements
Table IWB-2500, Category B-M-2, item B12.40 requires that a visual, VT-3 examination be performed on the valves internal surfaces. As an alternative to this Code requirement we proposed, by previous relief request SR-001, that valves not disassembled for maintenance during the interval would have a ultrasonic (UT) wall thickness measurement performed in lieu of the visual examination and valve disassembly. This relief request was approved by letter, serial# 91-189, dated March 14, 1991.

III. Basis for Relief
The provision to perform an ultrasonic thickness examination on valves not disassembled for maintenance, in lieu of the required visual examination, was suggested by the NRC during initial discussions held concerning relief request SR-001. The extent and acceptance criteria of these alternative examinations were not discussed. Valves typically have an irregular interior and exterior surface by design. Correlating measurements with manufacturers drawings and then determining the acceptability of the measurement could only be described as "best effort." The meaningfulness of the examinations and the resultant exposure has called into question the practicality of performing these ultrasonic thickness examinations. The 1989 Edition of ASME Section XI has eliminated the requirement to disassemble valves for examination only. As such under the provisions of 10 CFR 50.55a(g)4(iv), we request the use of the 1989 Edition of ASME Section XI for examinations identified in Category B-M-2, item B12.50, for valve bodies exceeding NPS 4, and withdraw our previous relief request SR-001.

IV. Alternate Requirements
The 1989 Edition of ASME Section XI Category B-M-2, item B12.50 and corresponding notes 2 and 3 within the Category shall be followed. This will allow the visual examinations to coincide with valve disassembly required by maintenance, repair, or other required valve openings.

Relief Request SR-017

I. Identification of Components
Systems: Outside Recirculation Spray and Safety Injection
Components: Pump casing welds identified below

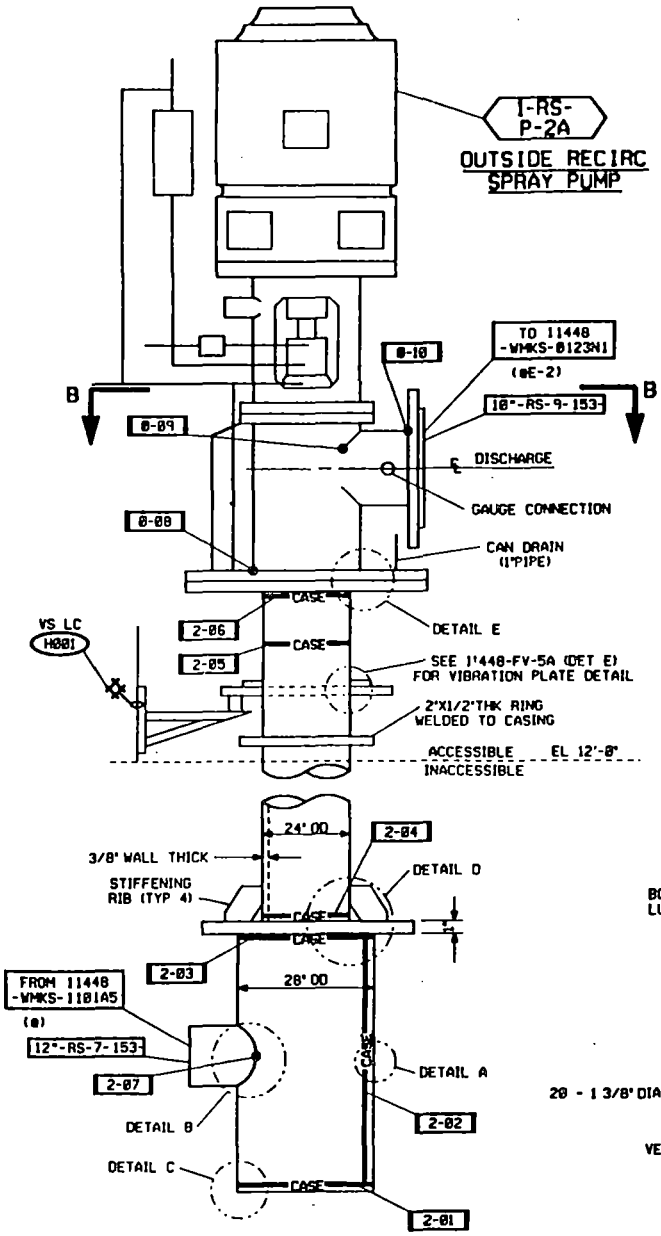
Component	Weld	Class
1-RS-P-2A	2-01	2
1-RS-P-2A	2-02	2
1-RS-P-2A	2-03	2
1-RS-P-2A	2-04	2
1-RS-P-2B	2-01	2
1-RS-P-2B	2-02	2
1-RS-P-2B	2-03	2
1-RS-P-2B	2-04	2
1-SI-P-1A	2-01	2
1-SI-P-1A	2-02	2
1-SI-P-1A	2-03	2
1-SI-P-1A	2-04	2
1-SI-P-1B	2-01	2
1-SI-P-1B	2-02	2
1-SI-P-1B	2-03	2
1-SI-P-1B	2-04	2

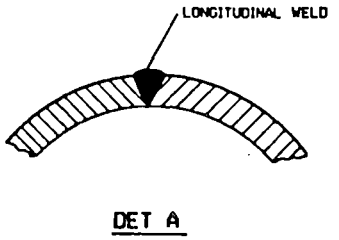
(Drawings attached)

II. Impractical Code Requirements
Category C-G, Item C6.10, Pump Casing Welds, requires that a surface examination be performed on 100% of the welds each interval. The examination can be limited to one pump in the case of multiple pumps of similar design, size, function, and service in a system.

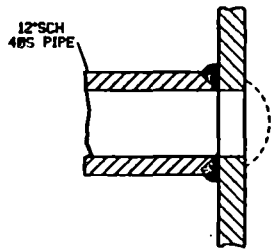
III. Basis For Relief
These pumps are vertical, two-stage, centrifugal pumps, with an extended shaft and casing to allow suction from the containment sump. The motor and mechanical seals of the pumps are located at about the 12 foot elevation and the bottom of the casing at about the -30 foot elevation. The welds identified are at the bottom of the pump casing, and are embedded within the concrete building structure. This makes the welds inaccessible from the outside. The small diameter of the casing (24 inch. O.D.) and the pump shaft prevent examination from the inside diameter.

IV. Alternate Requirements
A remote visual examination (VT-1) of the accessible portions of the I.D. of the pump casing welds will be performed only if the pump is disassembled and the pump shaft removed for maintenance.

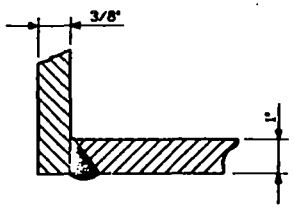




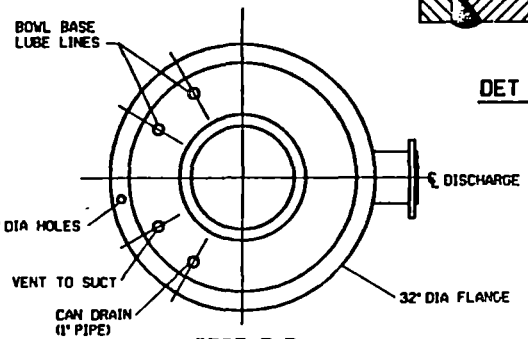
DET A



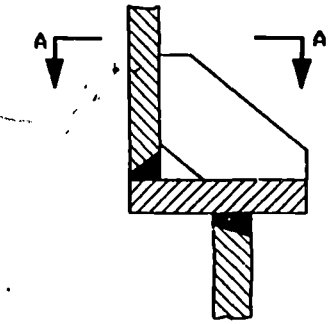
DET B



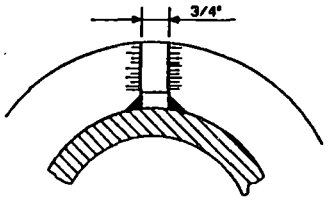
DET C



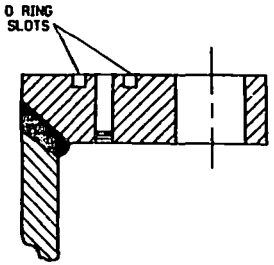
SECT B-B



DET D



SECT A-A



DET E

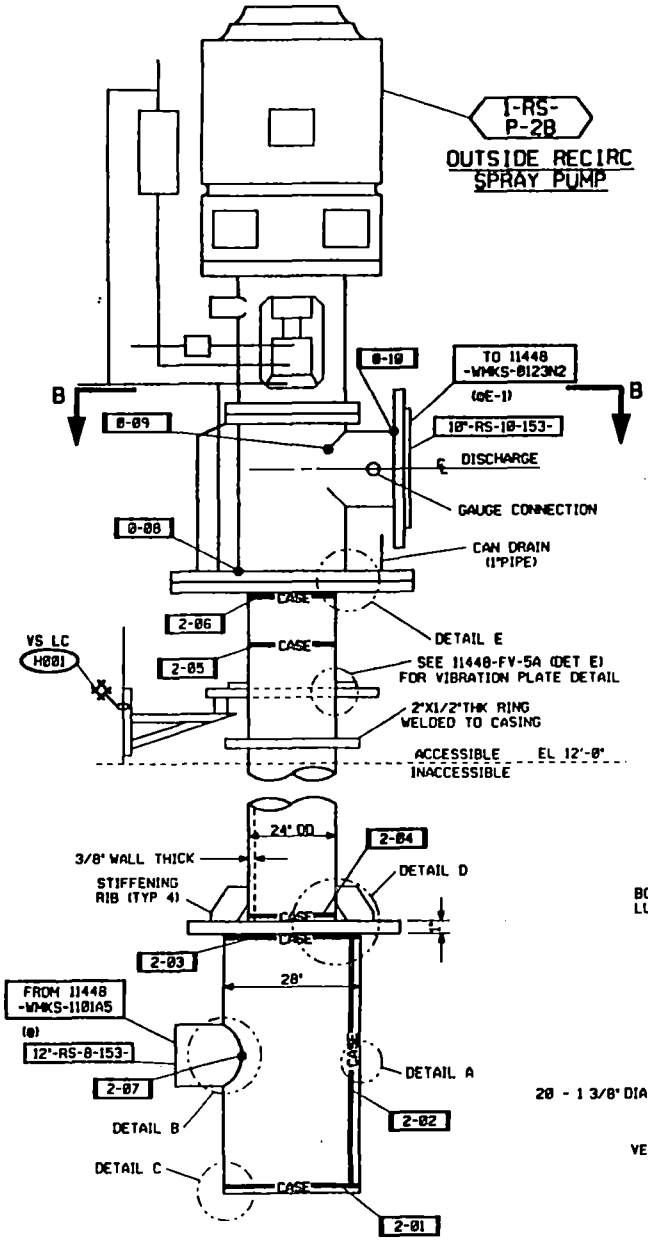
VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

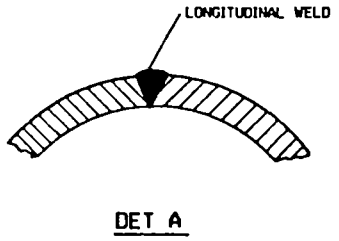
INSERVICE INSPECTION DETAIL DRAWING OUTSIDE RECIRC SPRAY PUMP:1-RS-P-2A SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN		DSGN SUPV	CAD NO. RSP0002A1
DRWN	CLW	DSGN ENGR	DRAWING NO. 11448-WMKS-RS-P-2A REV. 0
CHKD		LEAD ENGR	
DATE	12-12-89	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

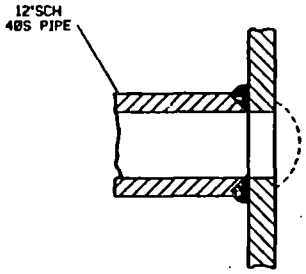
REV	DESCRIPTION	DATE	APPROVED
0	INITIAL ISSUE		

31-JAN-1990 09:51

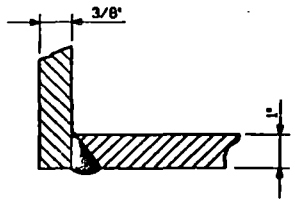




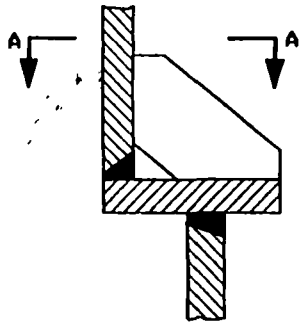
DET A



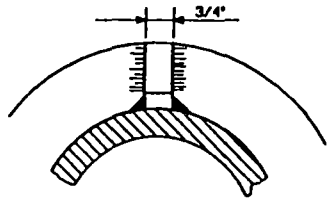
DET B



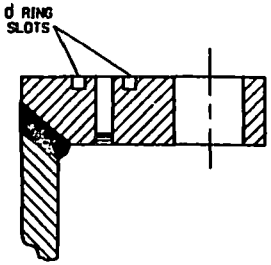
DET C



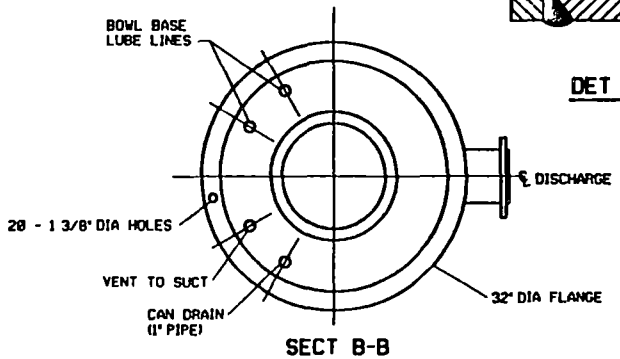
DET D



SECT A-A



DET E



SECT B-B

REV	DESCRIPTION	ORIG	CHKD	DATE
0	INITIAL ISSUE	CLW		1-2-90

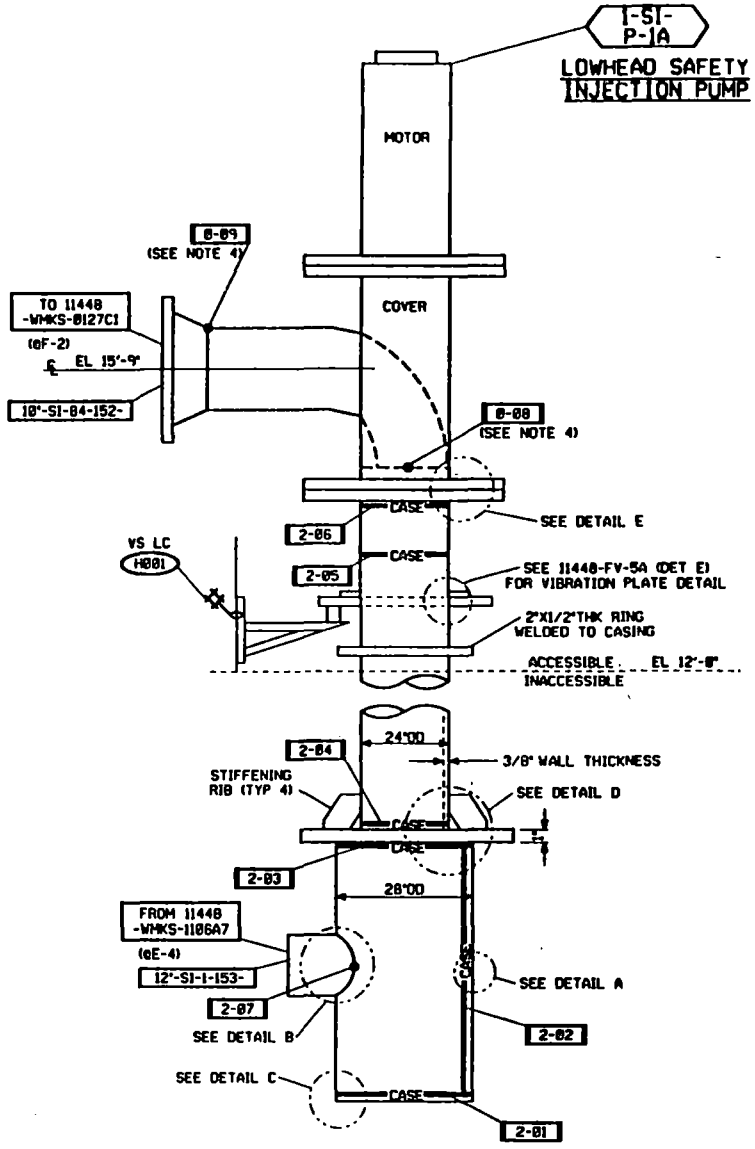
VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

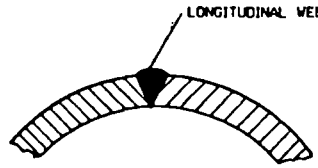
INSERVICE INSPECTION DETAIL DRAWING OUTSIDE RECIRC SPRAY PUMP:1-RS-P-2B SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN		DSGN SUPV	AQF
DRWN	CLW	DSGN ENGR	
CHKD		LEAD ENGR	—
DATE	1-2-90	SCALE	NONE

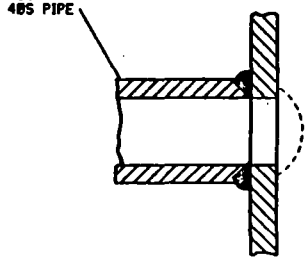
CAD NO. RSP0002B1
DRAWING NO. 11448-WMKS-RS-P-2B
REV. 0
UNLESS OTHERWISE NOTED
SH 1 OF 2

31-JAN-1990 10:09

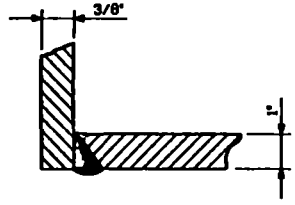




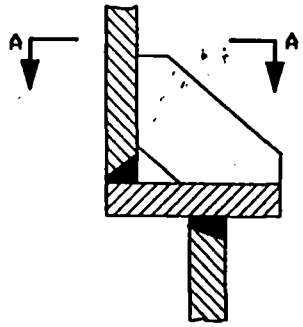
DET A



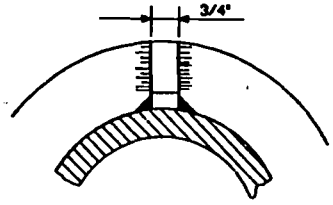
DET B



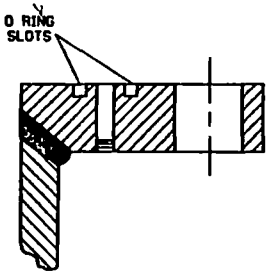
DET C



DET D



SECT A-A



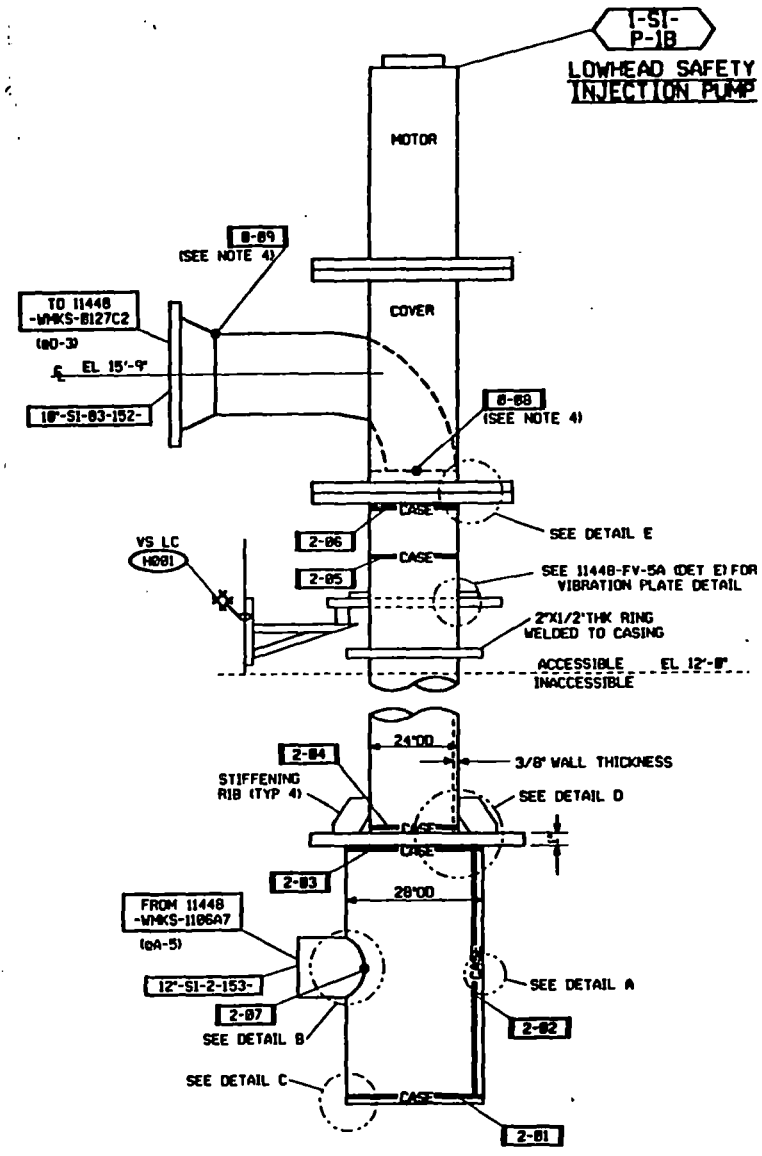
DET E

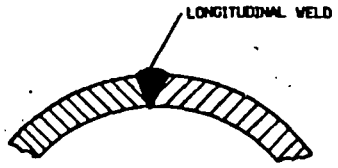
		0	INITIAL ISSUE

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

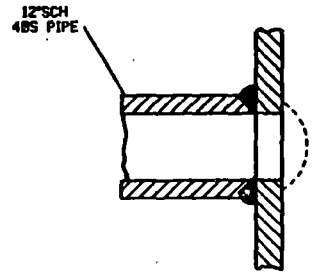
INSERVICE INSPECTION DETAIL DRAWING SAFETY INJECTION PUMP:1-SI-P-1A SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN	——	DSGN SUPV AEF	CAD NO. SIP8801A1
DRWN	CLW	DISPL ENGR CW2	DRAWING NO. 11448-WMKS-SI-P-1A REV. 0
CHKD	MJC	LEAD ENGR —	
DATE	1-2-90	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

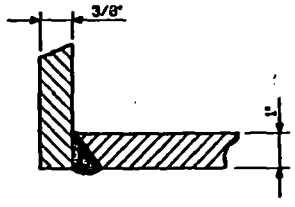




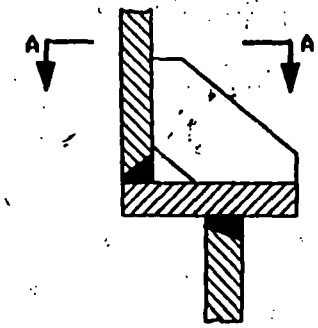
DET A



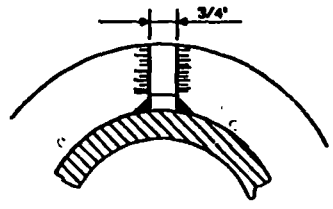
DET B



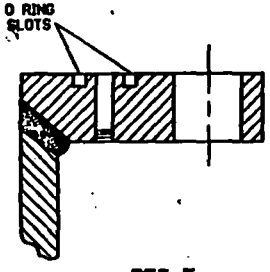
DET C



DET D



SECT A-A



DET E

0	INITIAL ISSUE		

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING SAFETY INJECTION PUMP:1-SI-P-1B SURRY POWER STATION UNIT 1 VIRGINIA POWER

DSGN	——	DSGN SUPV [illegible]	CAD NO. SIPB8818I	
DRWN	CLW	DISPL ENGR [illegible]	DRAWING NO. 11448-WMKS-SI-P-1B	REV. 0
CHKD	[illegible]	LEAD ENGR —		
DATE	1-2-90	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 2

Relief Request 24

I. Identification of Components
System: Auxiliary Feedwater (AFW)
Component: Piping and components between the following valves:

Valves	Line	Valves	Class
1-FW-145	1-WAPD-15-601	1-FW-149	3
		1-FW-146	3
		1-FW-609	3
1-FW-160	1-WAPD-17-601	1-FW-164	3
		1-FW-161	3
		1-FW-608	3
1-FW-175	1-WAPD-20-601	1-FW-179	3
		1-FW-176	3
		1-FW-607	3

(Drawing Attached)

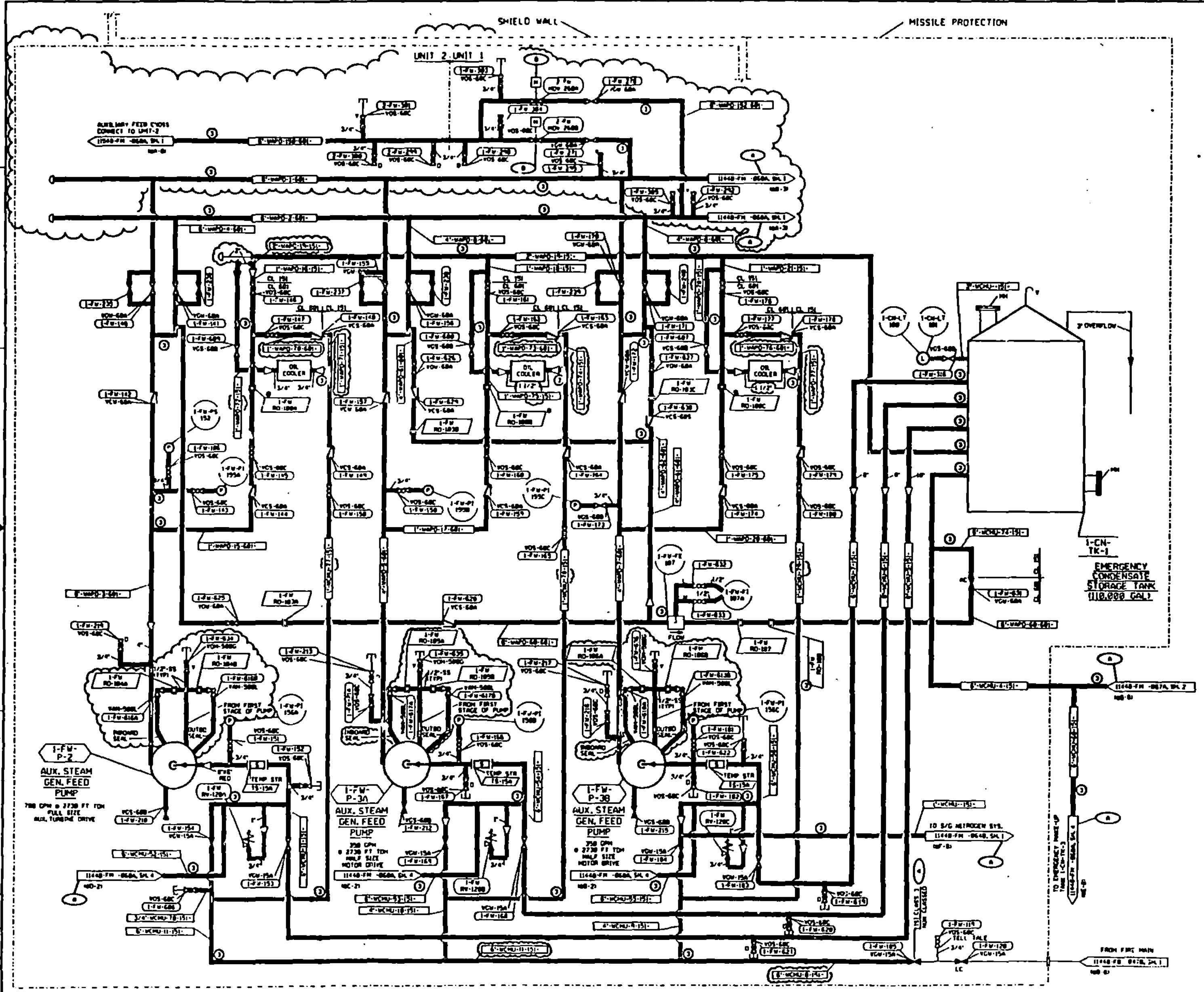
II. Impractical Code Requirements
ISI Class 3 System Hydrostatic Test required in IWD-5223 of ASME Section XI, where design pressure is 1432 psig and the resultant test pressure is 1576 psig.

III. Basis For Relief
Three pressure reducing orifices 1-FW-RO-100A, 1-FW-RO-100B, and 1-FW-RO-100C provide during normal operation a pressure drop from approximately 1200 psig to 110 psig. The system design takes advantage of this pressure drop by incorporating lower pressure rated piping downstream of the orifices. However the higher pressure rated piping continues beyond the orifices for some distance. The actual pipe design pressure class change occurs at downstream check valves 1-FW-148, 1-FW-163, and 1-FW-178 and manual valves, 1-FW-146, 1-FW-161, and 1-FW-176. The check valve operation, however, does not allow separation of the lower pressure class system, when testing the higher class piping in accordance with IWD-5223. IWD-5223 would require a test pressure of 1576 psig on the higher pressure class components in question. The downstream connecting piping has a design pressure of 150 psig and a corresponding test pressure of only 165 psig. As such, the connecting components would be overpressurized during the required Section XI test. The test boundary could be backed up to manual isolation valves 1-FW-147, 1-FW-162, and 1-FW-177, however hydrostatically testing this test boundary would also pressurize the auxiliary feedwater pumps and their suction connection. These pumps have welded discharge connections and cannot be isolated from the test boundary due to the absence of a drain or vent valve in the area

identified above. There is a flange connection on the suction side of each pump, however using this flange for isolation purposes is considered difficult due to the piping arrangement, and susceptibility to cold spring misalignment problems. Typically centrifugal pumps are hydrostatically tested at a pressure based on the suction side of the pump as described in IWA-5224(d) of the Code, which prevents any potential overpressurization concerns, or the need to use pump flanges as isolation points. The basis for relief then is two-fold. The first impracticality is the overpressurization of piping and components downstream of the pressure reducing orifice and the design pressure class rating change. The second impracticality is the incorporation of the auxiliary feedwater pumps into the test boundary due to the lack of vent, drain, and manual isolation valves.

IV. Alternate Testing

The identified components will be tested in accordance with IWD-5222, Functional test requirements, in conjunction with the associated auxiliary feedwater pump at normal operating pressure.



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
01. FOR ADDITIONAL REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.	
02. 11448-FM-067A	FLOW/VCN DIAGRAM/CONDENSATE SYSTEM
03. 11448-FM-064B	FLOW/VCN DIAGRAM/STEAM GENERATOR NITROGEN CONN
04. 11448-FB-047B	FLOW/VCN DIAGRAM/FIRE PROTECTION SYSTEM
05. 11548-FM-068A	FLOW/VCN DIAGRAM/FEEDWATER SYSTEM

BYPRODUCT DRAWINGS

1. 11448-CBM-068A, SH.3 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-SPM-068A, SH.3 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) PORTIONS OF THE AUXILIARY STEAM GENERATOR FEED SYSTEM AND ASSOCIATED PIPING HAVE BEEN CLASSIFIED ISI CLASS 3 IN ACCORDANCE WITH REGULATORY GUIDE 1.26, ARTICLE C.2.a.

(B) THE UNIT 1/UNIT 2 BOUNDARY FOR INSERVICE INSPECTION IS BEING TAKEN AT VALVES 1-FW-MOV-260A, 1-FW-MOV-260B

(C) THE DESIGN BASIS AND DESCRIPTION OF THE AUXILIARY FEEDWATER SYSTEM ARE PROVIDED IN UFSAR SECTIONS 10.3.5.1 AND 10.3.5.2, RESPECTIVELY

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448 CBM L&S.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

REVISED PER REVISIONS 38 THRU 38 OF 11448-FM-068A SH-3. THIS DRAWING SUPERSEDES REV 7 ORIGINAL

REVISED PER REVISION 34 OF 11448-FM-068A SH-3. THIS DRAWING SUPERSEDES REV 6 ORIGINAL

REVISED PER REVISION 29, 30, 31, 32 & 33 OF 11448-FM-068A SH-3. THIS DRAWING SUPERSEDES REV 8 ORIGINAL

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VCN DIAGRAM

FLOW/VCN DRAWING NO.	REV.
11448-FM-068A	3A

SH 3 OF 4

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
FEEDWATER SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DSGN ———	DSGN SUPV JHB	CAD NO.
DRWN CGL/HEL	DISPL ENGR ———	DRAWING NO. 11448-CBM-068A REV A
CHKD	LEAD ENGR	
DATE 1 23 87	SCALE NONE	UNLESS OTHERWISE NOTED SH 3 OF 4

Relief Request 25

I. Identification of Components
System: Circulating and Service Water
Component: Piping and components between the following valves:

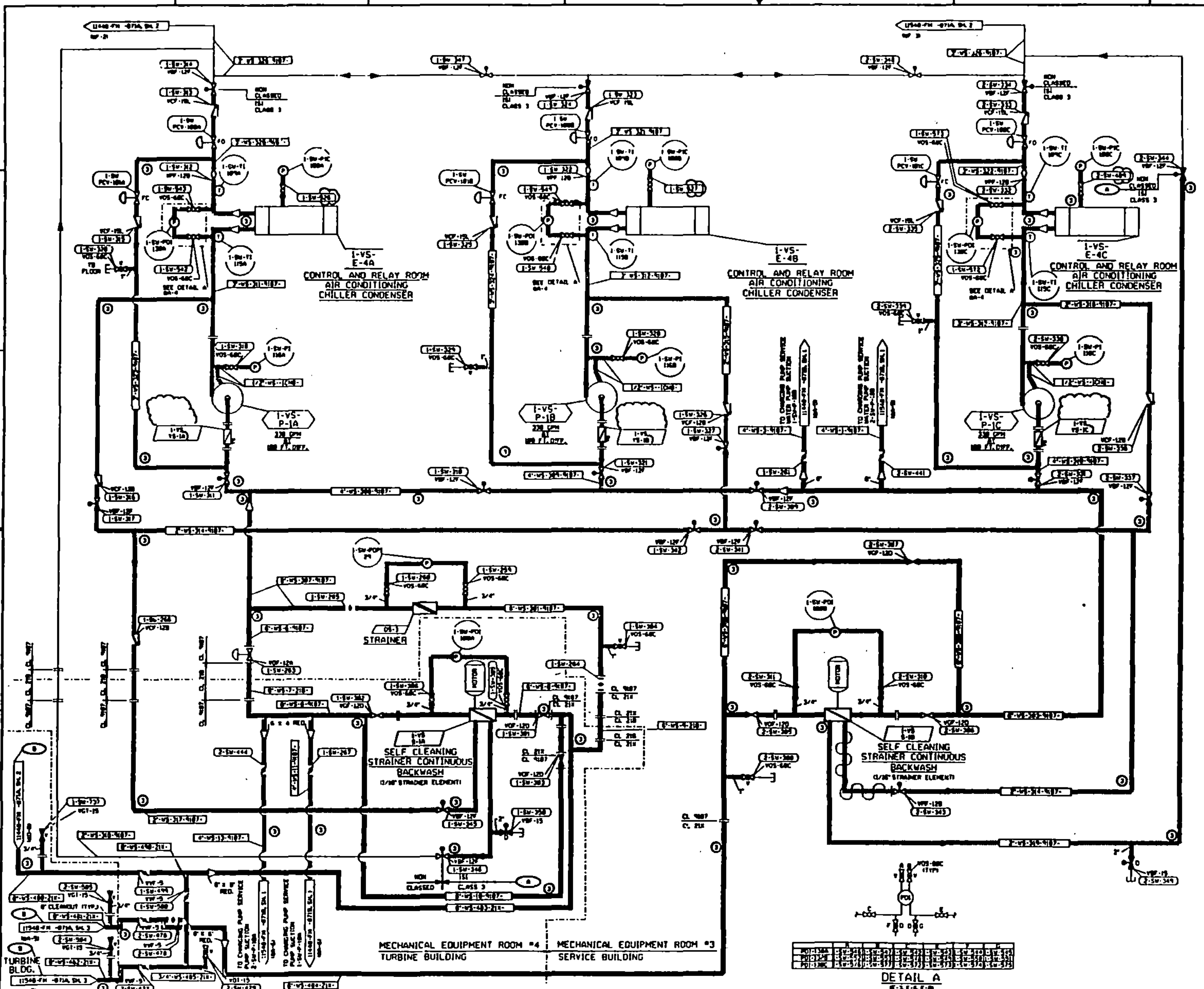
Valves	Line#/Component	Valves	Class
1-SW-499 and 2-SW-476	8"-WS-480-21X/ 6"-WS-483-21X/ 6"-WS-484-21X	1-SW-311/ 1-SW-321/ 2-SW-331	3 3 3
1-SW-317/ 1-SW-327/ 2-SW-337	1-VS-S-1A and 1-VS-S-1B	1-SW-346 and 2-SW-344	3 3

(Drawing Attached)

II. Impractical Code Requirements
ISI Class 3 System Hydrostatic test required by IWD-5223 of ASME Section XI, where the design pressure is listed as 50 psig and test pressure is 55 psig.

III. Basis For Relief
Technical Specifications 3.14C requires, "There shall be an operating service water flow path to and from one operating main control and emergency switchgear rooms air conditioning condenser and at least one operable service water flow path to and from at least one operable main control and emergency switchgear rooms air conditioning condenser whenever fuel is loaded in reactor core." By design there are only two supply headers and strainers associated with this common unit air conditioning system. This Specification requires that the components identified always be operating or operable, while either of our two units have fuel in the reactor core. A technical Specification change was submitted September 4, 1992 (Serial No. 92-579), to provide a 24 hour action statement for the service water headers. If this is approved, routine maintenance could be performed within the action statement guidelines. However, challenging the proposed action statement with a hydrostatic test (ten-year or post maintenance) is seen as excessive, potentially forcing a dual unit outage should problems occur, and impractical when compared to the proposed alternative in this low pressure system.

IV. Alternate Testing
The lines and components in question are gravity fed from the in-take canal from lines providing water to both units main condensers. In lieu of the Code required hydrostatic test it is requested that a system inservice test, IWD-5221 be performed in conjunction with a visual (VT-2) examination of the accessible areas.



NOTES

1. TYPE 316 SS TUBING IS RECOMMENDED FOR CLASS DESIGNATION [illegible] SPECIFIED ON THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
01. 11448-FM-071A	FLOW/VOM DIAGRAM-CIRCULATING & SERVICE WATER SYSTEM
02. 11448-FM-071B	FLOW/VOM DIAGRAM-CIRCULATING & SERVICE WATER SYSTEM
03. 11448-FB-45A/47A	FLOW & VOM DIAGRAM-FIRE PROTECTION & DOMESTIC WATER
04. 11548-FM-071A	FLOW/VOM DIAGRAM-CIRCULATING & SERVICE WATER
05. 11548-FM-071B	FLOW/VOM DIAGRAM-CIRCULATING & SERVICE WATER

BYPRODUCT DRAWINGS

1. 11448-CBM-071D, SH.1 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-SPM-071D, SH.1 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) THE BOUNDARY CHANGE(S) AT THE SUBJECT NORMALLY OPEN MANUALLY OPERATED VALVE(S) WERE REVIEWED AND APPROVED BY THE NRC DURING NRC/VIRGINIA POWER MEETINGS AT SURRY ON APRIL 15, 16, AND 17, 1986 AND AT BETHESDA ON SEPTEMBER 24 AND 25 1986. THE NRC HAS NOT WRITTEN A SAFETY EVALUATION REPORT TO DOCUMENT THEIR REVIEW AND APPROVAL.

(B) PORTIONS OF THIS SYSTEM HAVE BEEN CLASSIFIED ISI CLASS 3 IN ACCORDANCE WITH REGULATORY GUIDE 1.26 ARTICLE C.2.A.

(C) THE "DESIGN BASIS" AND "DESCRIPTION" FOR THE SERVICE WATER SYSTEM ARE PROVIDED IN UFSAR SECTIONS 9.9.1 AND 9.9.2, RESPECTIVELY.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CBM-LGS.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS, THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VOM DIAGRAM
FLOW/VOM DRAWING NO. 11448-FM-071D — REV. 24 — SH 1 OF 1

REVISED PER REVISIONS 23 AND 24 OF 11448-FM-071D SH-1. THIS DRAWING SUPERSEDES REV 6 ORIGINAL.

REVISED PER REVISION 22 OF 11448-FM-071D SH-1. THIS DRAWING SUPERSEDES REV 5 ORIGINAL.

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
CIRCULATING & SERVICE WATER SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DSGN —	DSGN SUPV JWB	CAD NO. [illegible]
DRWN DAC	DISPL ENGR —	DRAWING NO. 11448-CBM-071D — REV. 7
CHKD JES/MBL	LEAD ENGR PWT	
DATE 9/17/87	SCALE NONE	UNLESS OTHERWISE NOTED — SH 1 OF 1

Relief Request 26

I. Identification of Components
System: Circulating and Service Water
Component: Piping and components between the following valves:

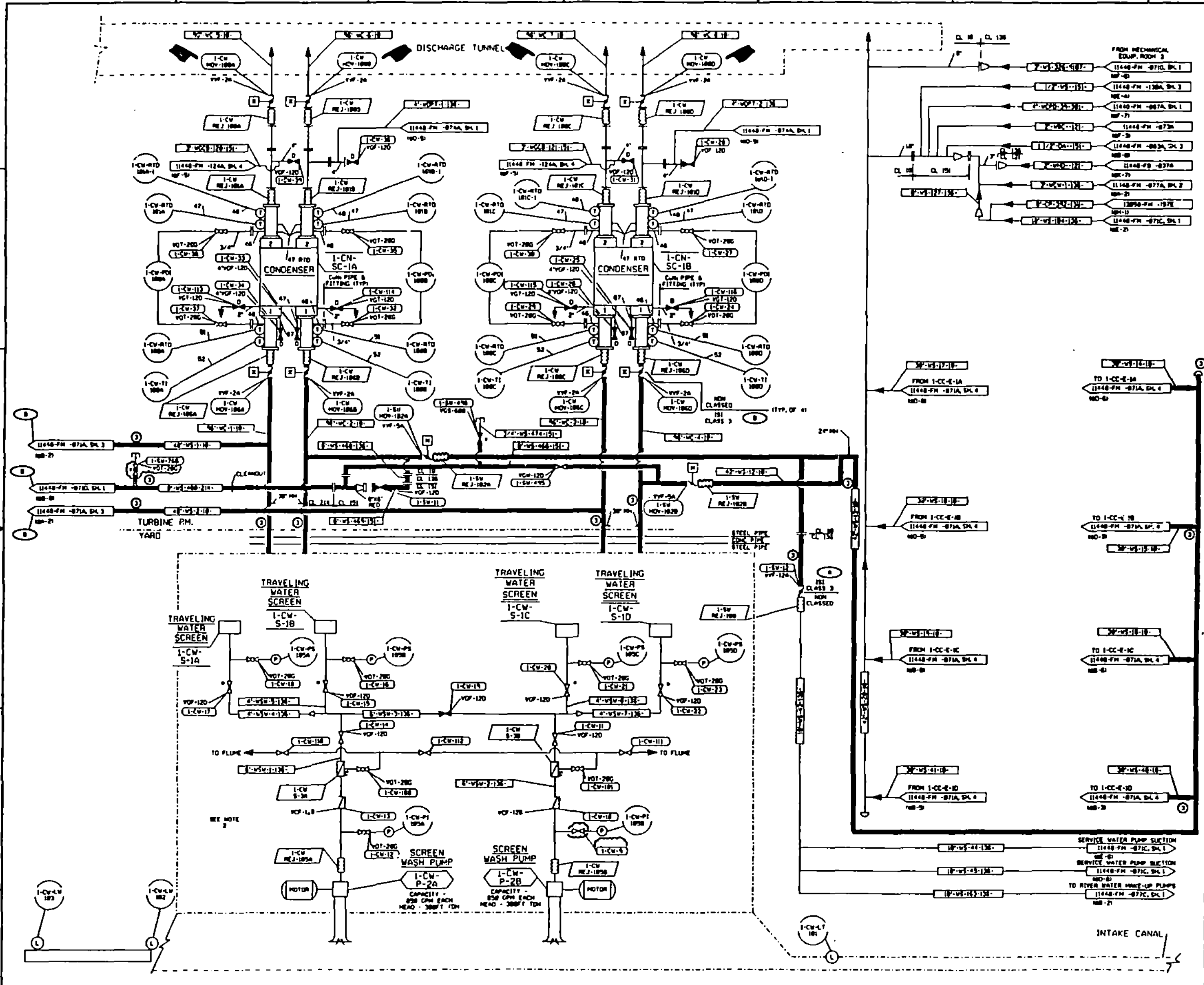
Valves	Lines	Valves	Class
1-SW-MOV-102A	42"-WS-13-10	1-SW-37	3
and	and	1-SW-33	3
1-SW-MOV-102B	42"-WS-12-10	1-SW-29	3
		1-SW-25	3

(Drawing Attached)

II. Impractical Code Requirements
ISI Class 3 System Hydrostatic Test as required by IWD-5223 of ASME Section XI, where the design pressure is 25 psig and the corresponding test pressure is 28 psig.

III. Basis For Relief
Technical Specification 3.14 requires service water flow to and from the component cooling water heat exchangers. One unit operation requires two component cooling water heat exchangers, while two unit operation requires three component cooling water heat exchangers. Additionally Technical Specifications 3.5 and 3.10 provide requirements associated with component cooling operability for core residual heat removal in both unit operation and refueling modes. The identified supply header to the component cooling water heat exchangers is the only source of cooling water to these components. Conducting the Code required hydrostatic test would require isolation of all four component cooling water heat exchangers, placing the unit(s) in conflict with Technical Specifications as previously discussed.

IV. Alternate Testing
The lines and components identified are gravity fed from the in-take canal from lines providing water to the main condensers. As an alternative, a system inservice test to the requirements of IWD-5221 and the corresponding visual (VT-2) examination of the accessible areas will be conducted in lieu of the Code hydrostatic test.



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.
2. 1-CW-LE-182 & 1-CW-LE-183 LOCATED IN SCREEN BAYS B & D RESPECTIVELY, BETWEEN SCREENS AND TRASH BAR RACK.

REFERENCE DRAWINGS

NUMBER	TITLE
01. FOR ADDITIONAL REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.	
02. 11448-FM-067A	FLOW/VOM DIAGRAM, CONDENSATE SYSTEM
03. 11448-FM-71C	FLOW/VOM DIAGRAM, CIRCULATING & SERVICE WATER SYSTEM
04. 11448-FM-071D	FLOW/VOM DIAGRAM, CIRCULATING & SERVICE WATER SYSTEM
05. 11448-FM-23A/73A	FLOW & VOM DIAGRAMS, BEARING COOLING WATER SYSTEM
06. 11448-FM-074A	FLOW/VOM DIAGRAM, VACUUM PRIMING SYSTEM
07. 11448-FM-77A	FLOW/VOM DIAGRAM, FLASH EVAPORATOR SYSTEM
08. 11448-FM-077C	FLOW/VOM DIAGRAM, RIVER WATER FILTRATION SYSTEM
09. 11448-FB-31A/37A	FLOW & VOM DIAGRAMS, HEATING STEAM & CONDENSATE
10. 13058-FM-57E/157E	FLOW & VOM DIAGRAMS, CONDENSATE POLISHING SYSTEM
11. 11448-FM-83A	FLOW/VOM DIAGRAM, VENT & DRAIN SYSTEM
12. 11448-FM-124A	FLOW/VOM DIAGRAM, STEAM GENERATOR BLOWDOWN SYS
13. 11448-FM-130A	FLOW/VOM DIAGRAM, RADIATION MONITOR SYSTEM

BYPRODUCT DRAWINGS

1. 11448-CBM-071A, SH. 2	ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-HPM-071A, SH. 2	ISI HYDROSTATIC/PNEUMATIC PRESSURE TESTING DRAWING
3. 11448-SPM-071A, SH. 2	ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) THE BOUNDARY CHANGE(S) AT THE SUBJECT NORMALLY OPEN, MANUALLY OPERATED VALVE(S) WERE REVIEWED AND APPROVED BY THE NRC DURING NRC/VIRGINIA POWER MEETINGS AT SURRY ON APRIL 15, 16, AND 17, 1986 AND AT BETHESDA ON SEPTEMBER 24 AND 25, 1984. THE NRC HAS NOT WRITTEN A SAFETY EVALUATION REPORT TO DOCUMENT THEIR REVIEW AND APPROVAL.

(B) PORTIONS OF THIS SYSTEM HAVE BEEN CLASSIFIED ISI CLASS 3 IN ACCORDANCE WITH REGULATORY GUIDE 1.26, ARTICLE C.2.a.

(C) 11448-CBM-077C IS NOT IN PRESENT SCOPE OF WORK.

(D) THE "DESIGN BASIS" AND "DESCRIPTION" FOR THE CIRCULATING WATER SYSTEM ARE PROVIDED IN UFSAR SECTIONS 10.3.4.1 AND 10.3.4.2, RESPECTIVELY.

(E) THE "DESIGN BASIS" AND "DESCRIPTION" FOR THE SERVICE WATER SYSTEM ARE PROVIDED IN UFSAR SECTIONS 9.9.1 AND 9.9.2, RESPECTIVELY.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CBM-LAS.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VOM DIAGRAM

FLOW/VOM DRAWING NO.	REV.
11448-FM-071A	50
	SH 2 OF 4

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
CIRCULATING AND SERVICE WATER SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DSGN. —	DSGN SUPV JWB	CAD NO. S1B71A2FM.BYI	
DRWN DMG	DISPL ENGR —	DRAWING NO. 11448-CBM-071A	REV. 18
CHKD RCB/MBL	LEAD ENGR PWT		
DATE 7-2-86	SCALE NONE	UNLESS OTHERWISE NOTED	SH 2 OF 4

REVISED PER REVISION 50 OF 11448-FM-071A SH-2 THIS DRAWING SUPERSEDES REV 9 ORIGINAL

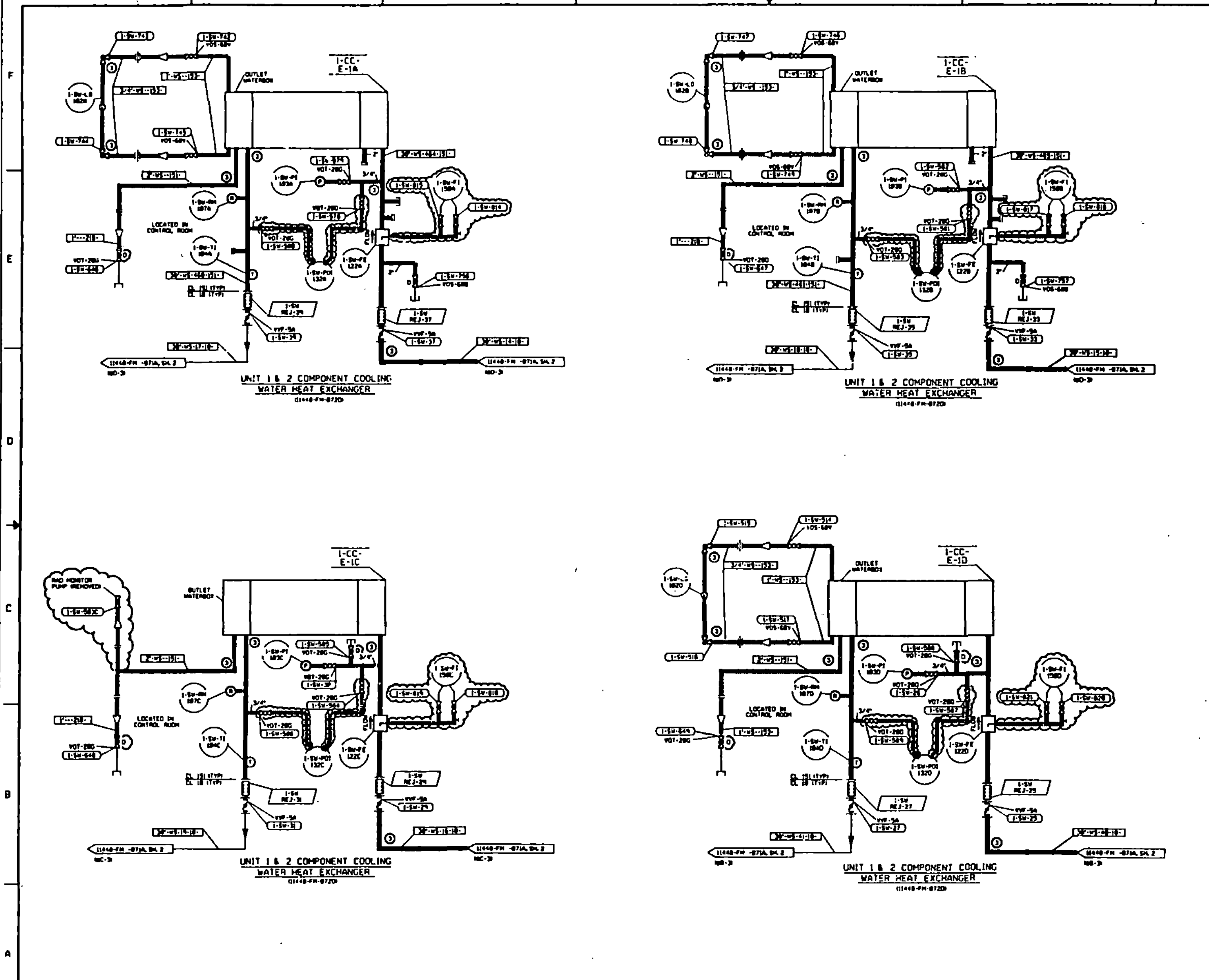
REVISED PER REVISION 49 OF 11448-FM-071A SH-2 THIS DRAWING SUPERSEDES REV 8 ORIGINAL

REVISED PER REVISION 48 OF 11448-FM-071A SH-2 THIS DRAWING SUPERSEDES REV 7 ORIGINAL

REVISED PER REVISION 47 OF 11448-FM-071A SH-2 THIS DRAWING SUPERSEDES REV 6 ORIGINAL

REVISED PER REVISION 46 OF 11448-FM-071A SH-2 THIS DRAWING SUPERSEDES REV 5 ORIGINAL

30-APR-1992 14:09



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
01.	FOR REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.

BYPRODUCT DRAWINGS

1. 11448-CBM-071A, SH. 4 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-SPM-071A, SH. 4 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VON DIAGRAM

FLOW/VON DRAWING NO.	REV.
11448-FM -071A	05
SH 4 OF 4	

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
CIRCULATING AND SERVICE WATER SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DRWN APG	DISPL ENGR	CAD NO.
CHKD	LEAD ENGR	DRAWING NO. 11448-CBM-071A — REV. 1
DATE 12/27/91	SCALE NONE	UNLESS OTHERWISE NOTED — SH 4 OF 4

1 — REVISED PER REVISIONS 1 THRU 5 OF 11448-FM-071A SH-4. THIS DRAWING SUPERSEDES REV 0 ORIGINAL.

0 — ORIGINAL ISSUE PER REVISION 0 OF 11448-FM-071A SH-4

11448-CBM-071A

16-JUN-1992 08:16

Relief Request 27

I. Identification of Components
System: Main Steam, Auxiliary Feedwater, and Feedwater
Components: Piping and valves listed:

Component	Mark#	Line#	S/G	Class
Valve	1-MS-86	4"-SHP-37-601	A	2
Valve	1-MS-119	4"-SHP-38-601	B	2
Valve	1-MS-117	6"-SHP-46-601	B	2
Valve	1-MS-157	4"-SHP-39-601	C	2
Pipe	-	14"-WFPD-9-601	C	2
Valve	1-FW-92	3"-WAPD-13-601	C	2

(Drawings attached)

II. Impractical Code Requirements
Surry Unit 1 utilized Code Case N-416, Alternate Rules for Hydrostatic Testing of Repair or Replacement of Class 2 Piping Section XI, Division 1, on the components identified above. This Code Case defers the hydrostatic test required by IWA-4400 of ASME Section XI until the next regularly scheduled system hydrostatic test (IWC-5000) for that system.

III. Basis of Relief
The identified components were replaced under the rules of ASME Section XI. IWA-4400 of the Code requires that a hydrostatic test be conducted on certain welded repairs or replacements. These replacements cannot be hydrostatically tested without also hydrostatically testing the connecting steam generator, as no intermediate isolation exists. Valve 1-MS-117 appears to have intermediate isolation, however the main steam trip valve, 1-MS-TV-101B, acts like a check valve, and would open during pressurization to the steam generator.

Prior to NRC and Code approval of Code Case N-416, relief requests were routinely written and approved for these type situations. The relief requests were based upon the difficulties associated with steam generator hydrostatic testing. The test cannot be conducted at ambient conditions due to fracture prevention concerns associated with the Surry steam generators. The Surry steam generators are required to be a minimum of 150 degrees F. on the secondary side and a minimum of 180 degrees F. on the primary side, which results in difficult monitoring and controlling requirements. Additionally normal problems, such as test boundary isolation, internal boundary leakage, placing spring hanger stops for dead weight loading concerns, and test pump size requirements further increase the difficulties associated with this particular test. The test

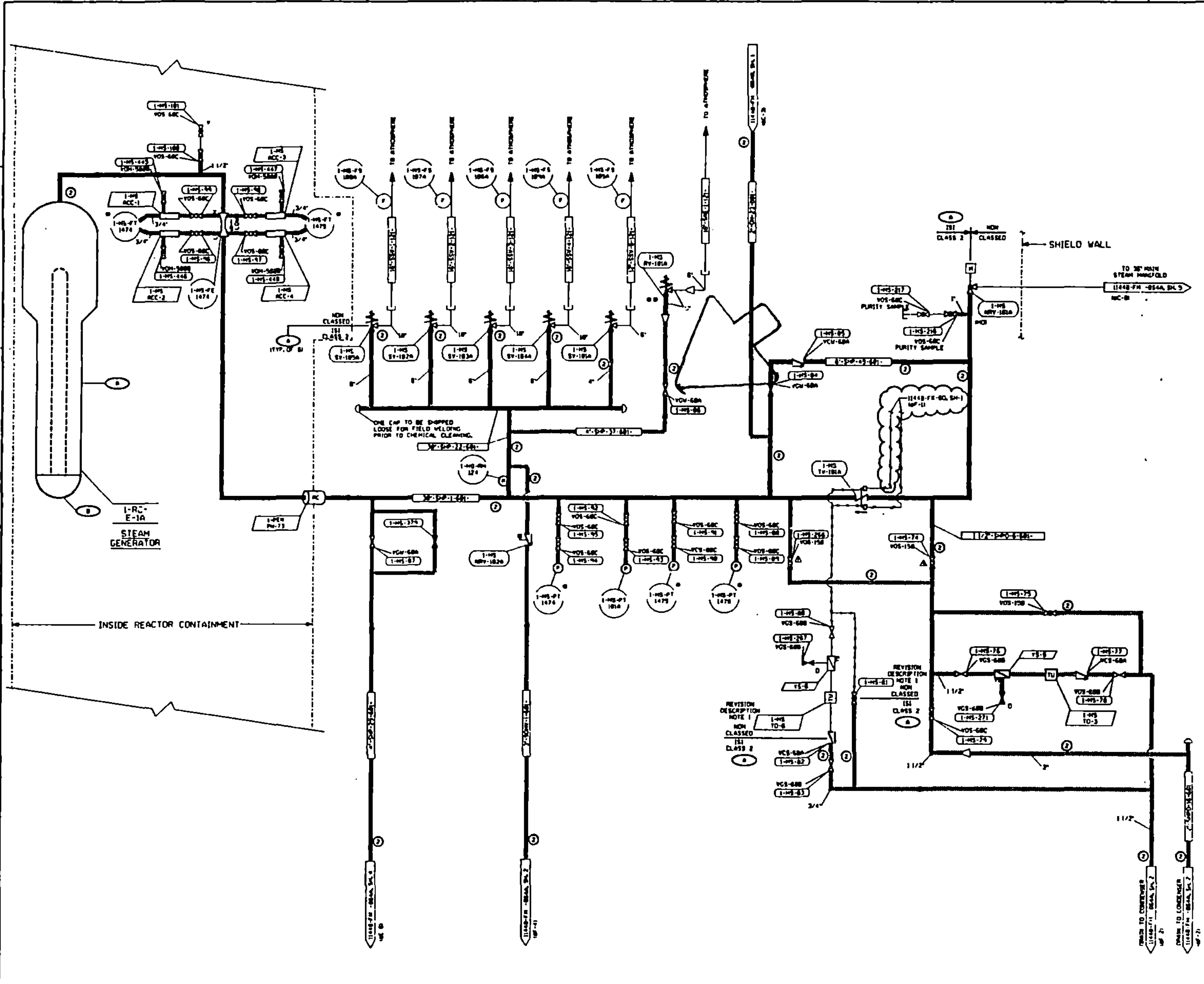
pressure of 1356 psig also requires gaging or removal of the Main Steam Safety valves, which initially lift at 1085 psig. Some examples of previous correspondence requesting relief and approval follow:

VEPCO Letter/ Date	NRC Letter/ Date
Serial# 90-504/ 9/10/90	Serial# 92-474/7/14/92
Serial# 88-725/ 1/9/89	Serial# 89-278/4/7/89
Serial# 87-630/ 10/6/87	Serial# 88-473/7/8/88

When Code Case N-416 was incorporated into Regulatory guide 1.147, "Inservice Inspection Code Case Acceptability-ASME Section XI Division 1, relief requests were no longer needed, since the hydrostatic test was deferred to the end of the interval hydrostatic test described in table IWC-2500-1. This appeared to be the minimum hydrostatic testing that could be achieved for the steam generators. Recently in Revision 9 of Regulatory Guide 1.147, you approved Code Case N-498, Alternative Rules for 10-Year Hydrostatic Pressure Testing for Class 1 and 2 Systems Section XI, Division 1. This Code Case allows testing of the class 2 steam generators at nominal operating pressure. As a result, no hydrostatic test is now required by ASME Section XI on these components under normal circumstances, when incorporating Code Case N-498. The hydrostatic test of Code Case N-416 is still required to be performed, however. As described before, the components identified above can only be hydrostatically tested by additionally testing the connecting steam generator. Requiring a full steam generator test only for these replacement activities is considered impractical, due to the difficulties of the test described previously.

IV. Alternate testing

The alternative requirements described in Code Case N-416, a volumetric examination of the full penetration welds and a visual examination (VT-2) at nominal operating pressure was previously performed and deemed acceptable.



NOTES

1. FLOW DIAGRAM SYMBOLS: STANDARD NM-180 TO NM-188 INCLUSIVE, AND SK-18-752, REVISION 9.8L
2. ALL PRESSURE CONNECTIONS TO BE 3/4".
3. ALL TEMPERATURE CONNECTIONS TO BE 1 1/2" REAMED HOLE, EXCEPT AS NOTED.
4. ● INDICATES FURNISHED BY EQUIPMENT MANUFACTURER.
5. 1, ETC... SHOWN AT EQUIPMENT CONNECTIONS INDICATES MANUFACTURER'S CONNECTION NUMBER.
   - CONDENSER DRAWING NM-2250-4REBT-9BUI
   - TURBINE DRAWING 6881287
   - REACTOR CONTAINMENT PENETRATIONS DRAWING 11448-FV-1A.
6. INDICATES POWER RELIEF VALVE - MODULATING TYPE.
7. ▲ INDICATES COMPUTER POINT.
8. SEE ADMINISTRATIVE PROCEDUTE 95.
9. INDICATES RADIATION MONITOR.
10. GENERATOR STATOR COOLING GAS TEMP TO COMPUTER RTD OE 1884 SHOWN ON DWG. 687J81L

REFERENCE DRAWINGS

NUMBER	TITLE
01. 11448-FM-064B	FLOW/VON DIAGRAM, STEAM GENERATOR NITROGEN CONN
02. 11448-FM-19A/85A	FLOW & VON DIAGRAMS, EXTRACTION STEAM SYSTEM
03. 11448-FM-088\	FLOW/VON DIAGRAM, AUX STEAM & AIR REMOVAL SYSTEM
04. 11448-FM-25D/75D	FLOW & VON DIAGRAMS, COMPRESSED AIR SYSTEM
05. 11448-FM-20A/78A	FLOW & VON DIAGRAMS, MISC DRAINS-SECONDARY PLANT
06. 11448-FM-082A	FLOW/VON DIAGRAM, SAMPLING SYSTEM
07. 11448-FM-082B	FLOW/VON DIAGRAM, SAMPLING SYSTEM
08. 11448-FM-084A	FLOW/VON DIAGRAM, CONTAINMENT SPRAY SYSTEM
09. 11448-FM-115A/117A	FLOW & VON DIAGRAMS, TURBINE GLAND STEAM SYSTEM
10. 11448-FM-124A	FLOW/VON DIAGRAM, STEAM GENERATOR BLOWDOWN SYS
11. 11448-FK-6G	INSTRUMENT TRANSMITTER RACKS

BYPRODUCT DRAWINGS

1. 11448-CBM-064A, SH. 1 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-SPM-064A, SH. 1 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) PORTIONS OF THE MAIN STEAM SYSTEM AND ASSOCIATED PIPING HAVE BEEN CLASSIFIED ISI CLASS 2, IN ACCORDANCE WITH REGULATORY GUIDE 1.26, ARTICLE C.1.d.

(B) THE TUBE (PRIMARY) SIDE OF EACH STEAM GENERATOR IS PART OF THE RCPB. SEE 11448-CBM-088A.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CBM-LBS.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION
1. THE LEAKOFF LINE FOR VALVE 1-MS-TV-101A IS NOT CONSIDERED A PRESSURE RETAINING BOUNDARY AND HAS NOT BEEN ISI CLASSIFIED TO VALVES 1-MS-81 AND 1-MS-82.

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VON DIAGRAM

FLOW/VON DRAWING NO.	REV.
11448-FM-064A	35
	SH 1 OF 6

VIRGINIA POWER
NORTH CAROLINA POWER

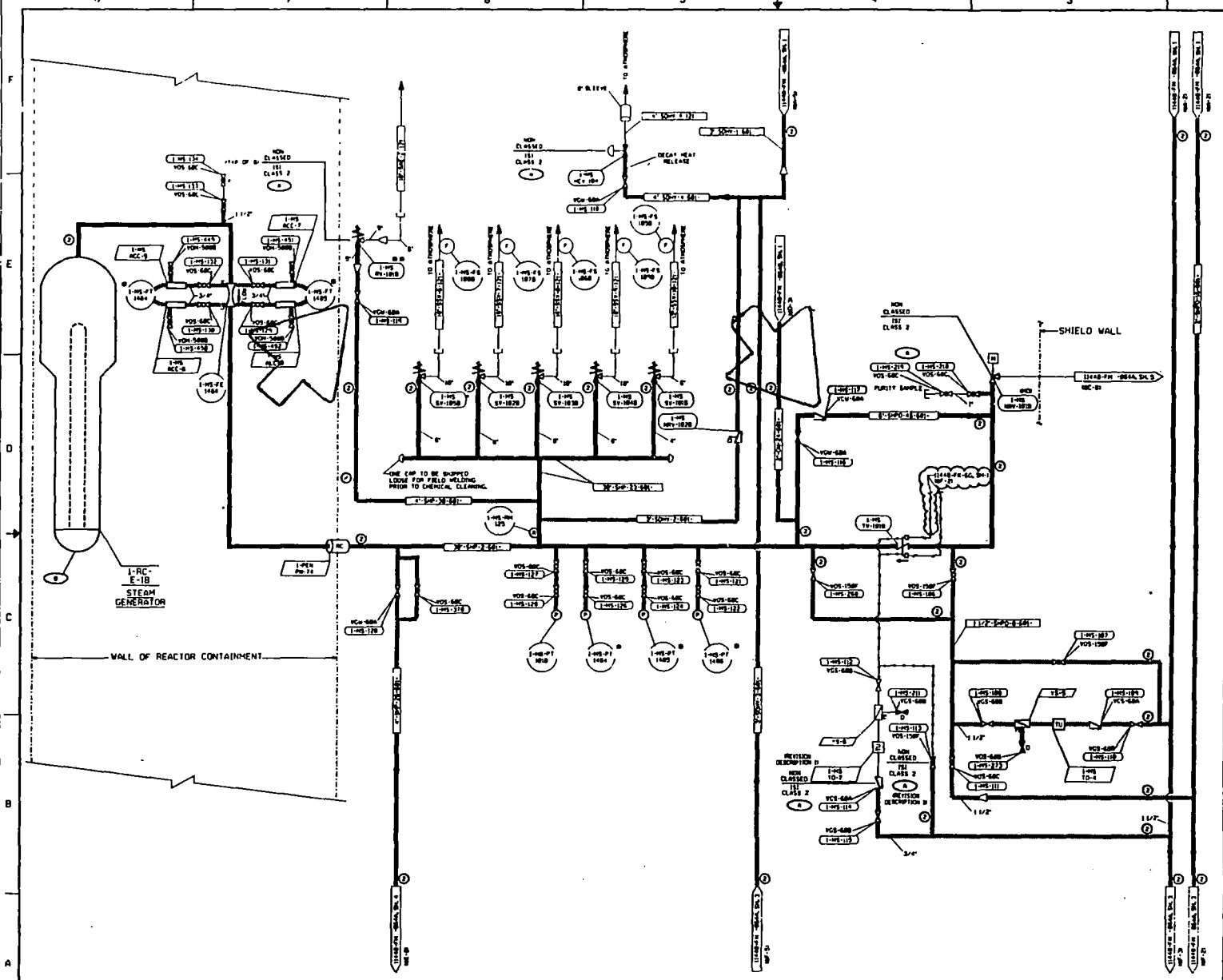
NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
MAIN STEAM SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

REVISED PER REVISION 34 & 35 OF 11448-FM-64A SH-1
THIS DRAWING SUPERSEDES REV 5 ORIGINAL

DSGN —	DSGN SUPV JWB	CAD NO. S1864A1FM.DY1
DRWN DHC/MSR	DISPL ENGR —	DRAWING NO. 11448-CBM-064A REV 6
CHKD SPB/MBL	LEAD ENGR PWT	
DATE 5-5-87	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 6

16-JUN-1992 08:01



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
RL FOR ADDITIONAL REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.	
R2 11448-FM-864B	FLOW/VOM DIAGRAM/STEAM GENERATOR NITROGEN CONN

BYPRODUCT DRAWINGS

1. 11448-CBM-864A, SH.2	ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-BPM-864A, SH.2	ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) PORTIONS OF THE MAIN STEAM SYSTEM AND ASSOCIATED PIPING HAVE BEEN CLASSIFIED ISI CLASS 2 IN ACCORDANCE WITH REGULATORY GUIDE 1.26, ARTICLE C.2.a.

(B) THE TUBE SIDE(HOT) SIDE OF THE STEAM GENERATOR IS PART OF THE RCPB. SEE 11448-FM-864A, SH.2.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CBM-1.0S.

CONFIRMATION DRAWING NUMBERS REFER TO FM OR FS DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBS) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBS FOR FM OR FS.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VOM DRAWING FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

1. THE LEAKOFF LINES TO VALVES 1-MS-113,114 DO NOT HAVE A SAFETY FUNCTION AND HAVE NOT BEEN CLASSIFIED FOR ISI.

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VOM DRAWING

FLOW/VOM DRAWING NO.	REV.
11448-FM -864A	35

SH 2 OF 4

VIRGINIA POWER
NORTH CAROLINA POWER
NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
MAIN STEAM SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DSGN	DSGN SUPV JVB	CAD NO. 11864M-01	
DRWN RSR	DSPL ENGR	DRAWING NO. 11448-CBM-864A	REV. 8
CHKD MCB/HBL	LEAD ENGR PHT		
DATE 8/29/86	SCALE NONE	UNLESS OTHERWISE NOTED	SH 2 OF 8

REVISED PER REVISION 34 & 38 OF 11448-FM-864A SH-2 THIS DRAWING SUPERSEDES REV 4 ORIGINAL

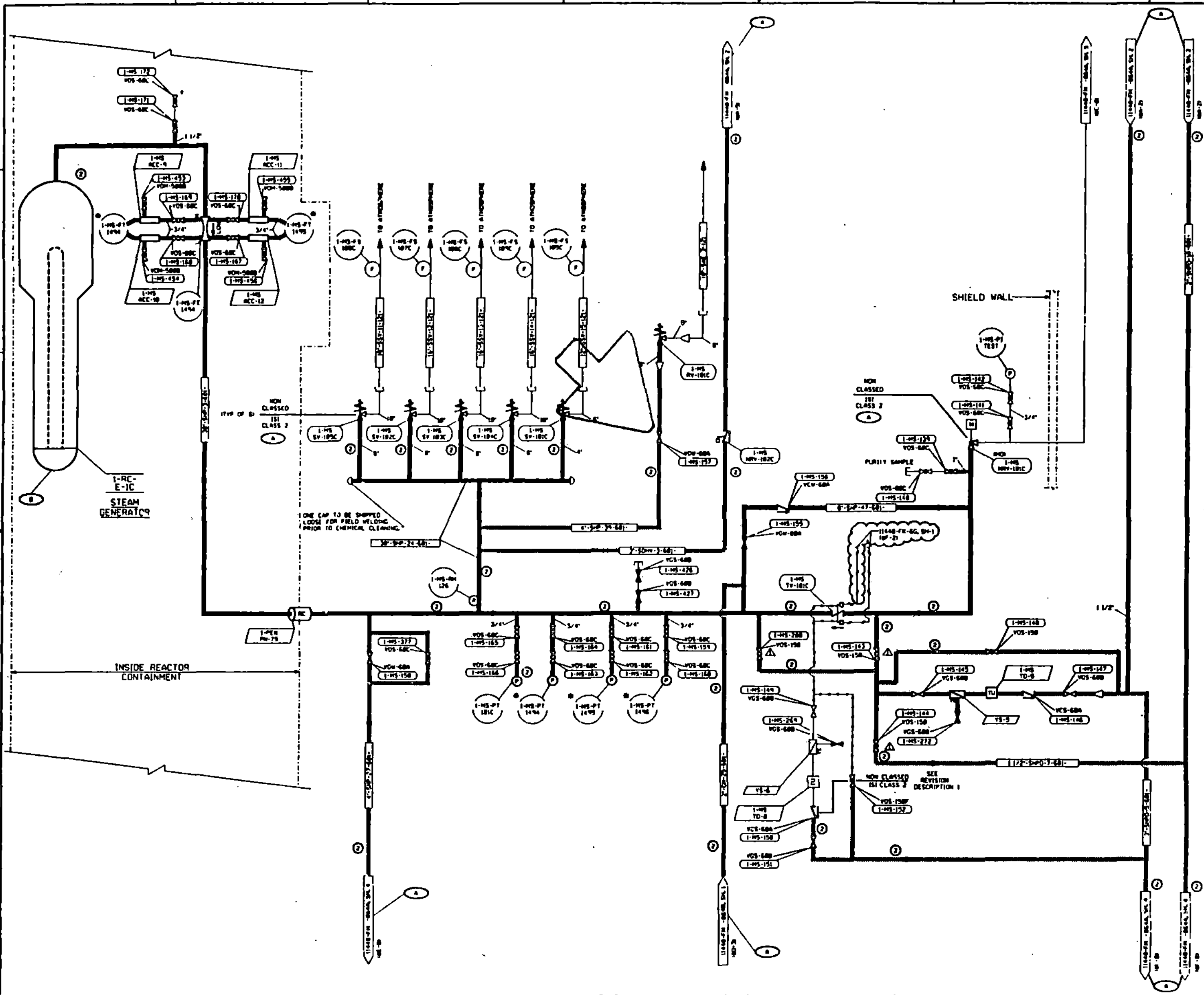
REVISED PER ISI REVIEW. THIS DRAWING SUPERSEDES REV 3 ORIGINAL

REVISED PER REVISION 32 & 33 OF 11448-FM-864A SH-2 THIS DRAWING SUPERSEDES REV 2 ORIGINAL

REVISED PER REVISION 26 OF 11448-FM-864A SH-2 THIS DRAWING SUPERSEDES REV 1 ORIGINAL

REVISED PER REVISION 24 & 30 OF 11448-FM-864A THIS DRAWING SUPERSEDES REV 0 ORIGINAL

INITIAL ISSUE PER REVISION 20 OF 11448-FM-864A



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
01. FOR ADDITIONAL REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.	
02. 11448-FM-064B	FLOW/VON DIAGRAM-STEAM GENERATOR NITROGEN CONN

BYPRODUCT DRAWINGS

1. 11448-CBM-064A, SH. 3 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11448-SPM-064A, SH. 3 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) PORTIONS OF THE MAIN STEAM SYSTEM AND ASSOCIATED PIPING HAVE BEEN CLASSIFIED ISI CLASS 2, IN ACCORDANCE WITH REGULATORY 1.26, ARTICLE C.1.d.

(B) THE TUBE (PRIMARY) SIDE OF EACH STEAM GENERATOR IS PART OF THE RCPB. SEE 11448-FM-068A, SHEET 3.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CBM-LGS.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

1. THE PACKING LEAK-OFF LINES FROM 1-MS-TV-101C (4C-41) ARE NO LONGER ISI CLASS 2 SINCE THEY CAN BE ISOLATED AT 1-MS-150 AND 1-MS-152.

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VON DIAGRAM

FLOW/VON DRAWING NO.	REV.
11448-FM-064A	37

SH 1 OF 6

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

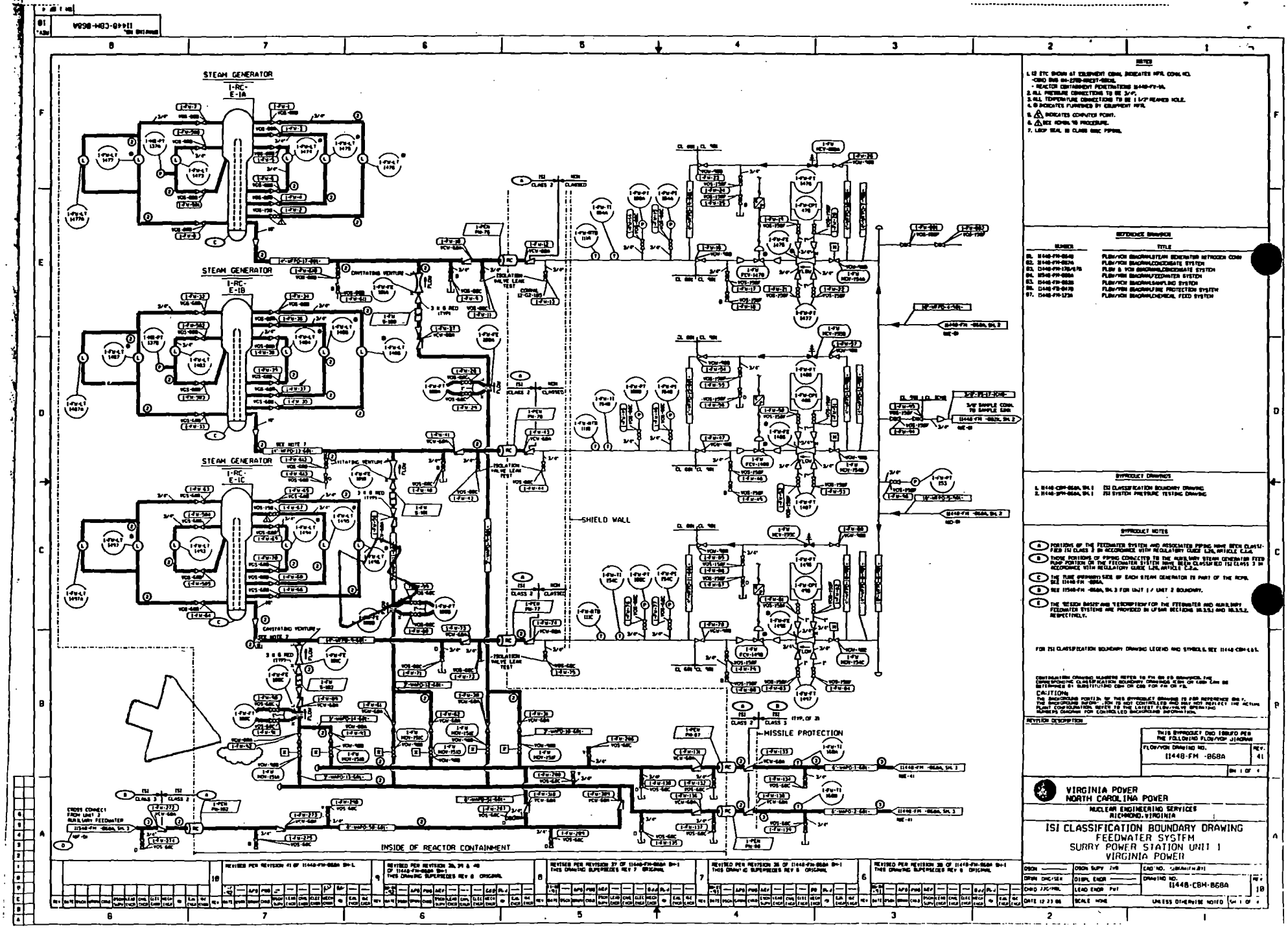
ISI CLASSIFICATION BOUNDARY DRAWING
MAIN STEAM SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER

DSGN ——	DSGN SUPV JWB	CAD NO. 1186443YM.BYI
DRWN CGL/DJM	DISPL ENGR ——	DRAWING NO. 11448-CBM-064A — REV. 6
CHKD JJG/MBL	LEAD ENGR PWT	
DATE 01/21/87	SCALE NONE	UNLESS OTHERWISE NOTED — SH 1 OF 6

6 — REVISED PER REVISION 36 & 37 OF 11448-FM-064A SH-1. THIS DRAWING SUPERSEDES REV 0 ORIGINAL

11448-CBM-064A — REV. 6

15-JUN-1992 08:07


STEAM GENERATOR
1-RC-E-1A
STEAM GENERATOR
1-RC-E-1B
STEAM GENERATOR
1-RC-E-1C
SHIELD WALL
MISSILE PROTECTION
INSIDE OF REACTOR CONTAINMENT
CROSS CONNECT FROM UNIT 2 AUXILIARY FEEDWATER
CAVITATING VENTURI
ISOLATION VALVE LEAK TEST
NOTES
REFERENCE DRAWINGS
BYPRODUCT DRAWINGS
BYPRODUCT NOTES
REVISION DESCRIPTION
VIRGINIA POWER
NORTH CAROLINA POWER
NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA
ISI CLASSIFICATION BOUNDARY DRAWING
FEEDWATER SYSTEM
SURRY POWER STATION UNIT 1
VIRGINIA POWER
11448-CBH-868A

Surry Unit 2

Relief Request SR-016

I. Identification of Components
System: Reactor Coolant System
Components: Reactor Coolant Pump Casing internal surfaces

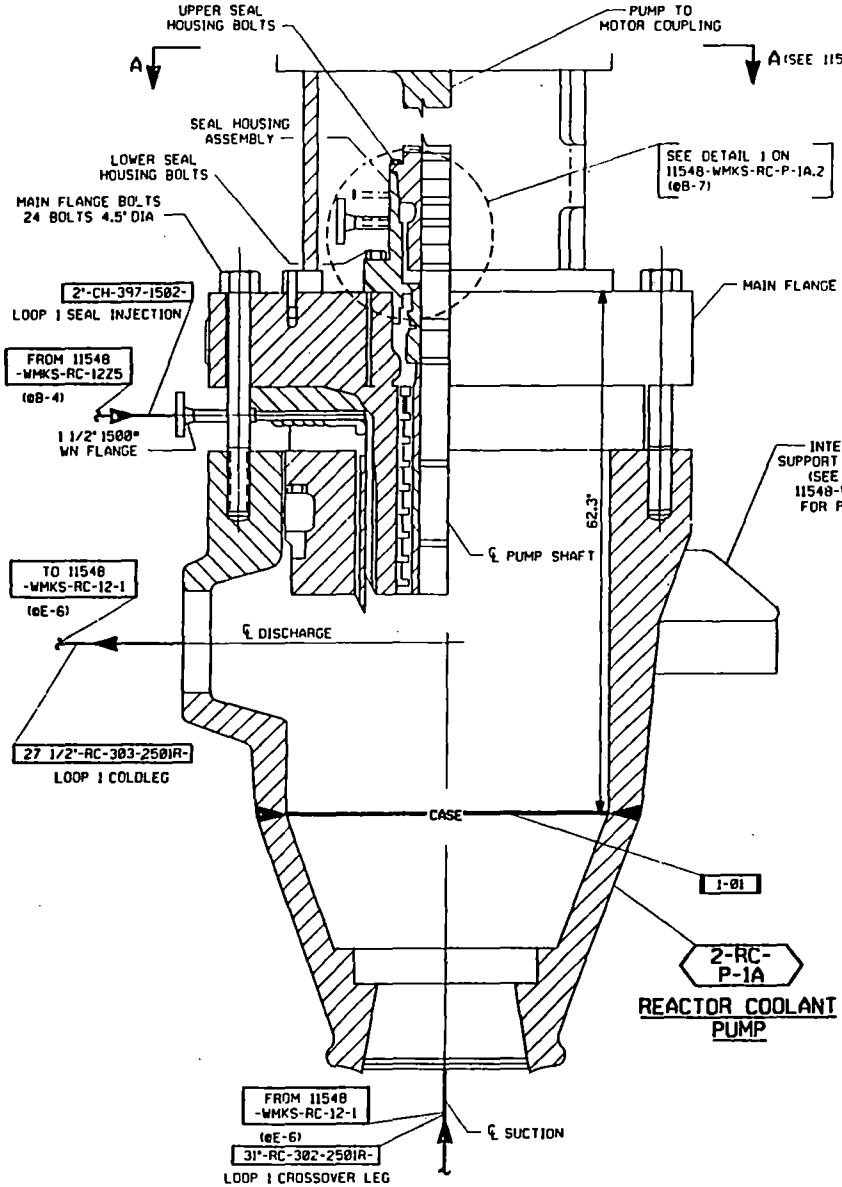
Component	Item	Class
2-RC-P-1A	Casing	1
2-RC-P-1B	Casing	1
2-RC-P-1C	Casing	1

(Drawings attached)

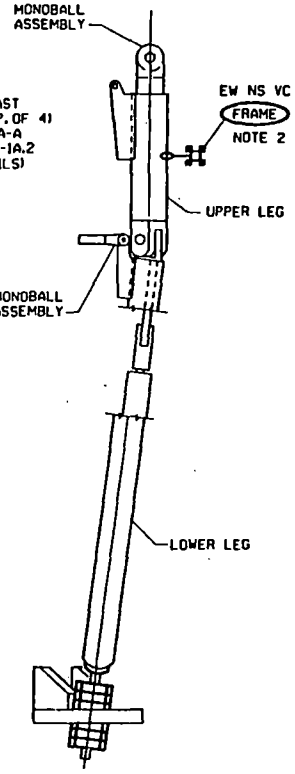
II. Impractical Code Requirements
Category B-L-2, Pump Casings, Item number B12.20 requires a visual, VT-3, examination be conducted on the pump casing internal surfaces of one pump performing similar functions.

III. Basis For Relief
Performance of the Code required visual examination requires that the pump be disassembled to allow access to the pumps internal surfaces. Previously this examination was scheduled in conjunction with the Code required volumetric examination on the pump casing weld, which also required pump disassembly. Code Case N-481, Alternate Examination Requirements for Cast Austenitic Pump Casings Section XI, Division 1, will be used in lieu of the volumetric examination required by Table IWB 2500-1, Category B-L-1, Item B12.10. Requiring pump disassembly for the Code visual examination is impractical considering the cost and dose required to perform this action.

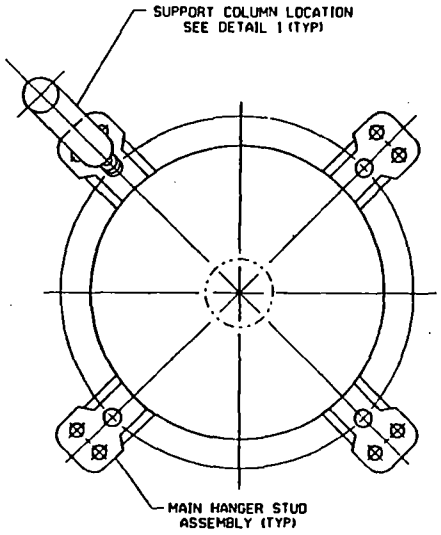
IV. Alternate requirements
A technical evaluation addressing the safety and serviceability of the pump casing has been performed and separately submitted to the NRC on October 26, 1992 (Serial# 92-671) as required by Code Case N-481. The alternate inspection requirements will be implemented, which includes the performance of a VT-3 visual examination of the internal surfaces, whenever the pump is disassembled for maintenance. This inspection is similar to the provisions of the 1989 Edition of ASME Section XI in Table IWB-2500-1, Category B-L-2.



CROSSECTIONAL VIEW
REACTOR COOLANT PUMP



DETAIL 1
TYPICAL SUPPORT
COLUMN



PLAN VIEW
REACTOR COOLANT PUMP
SUPPORT FRAME

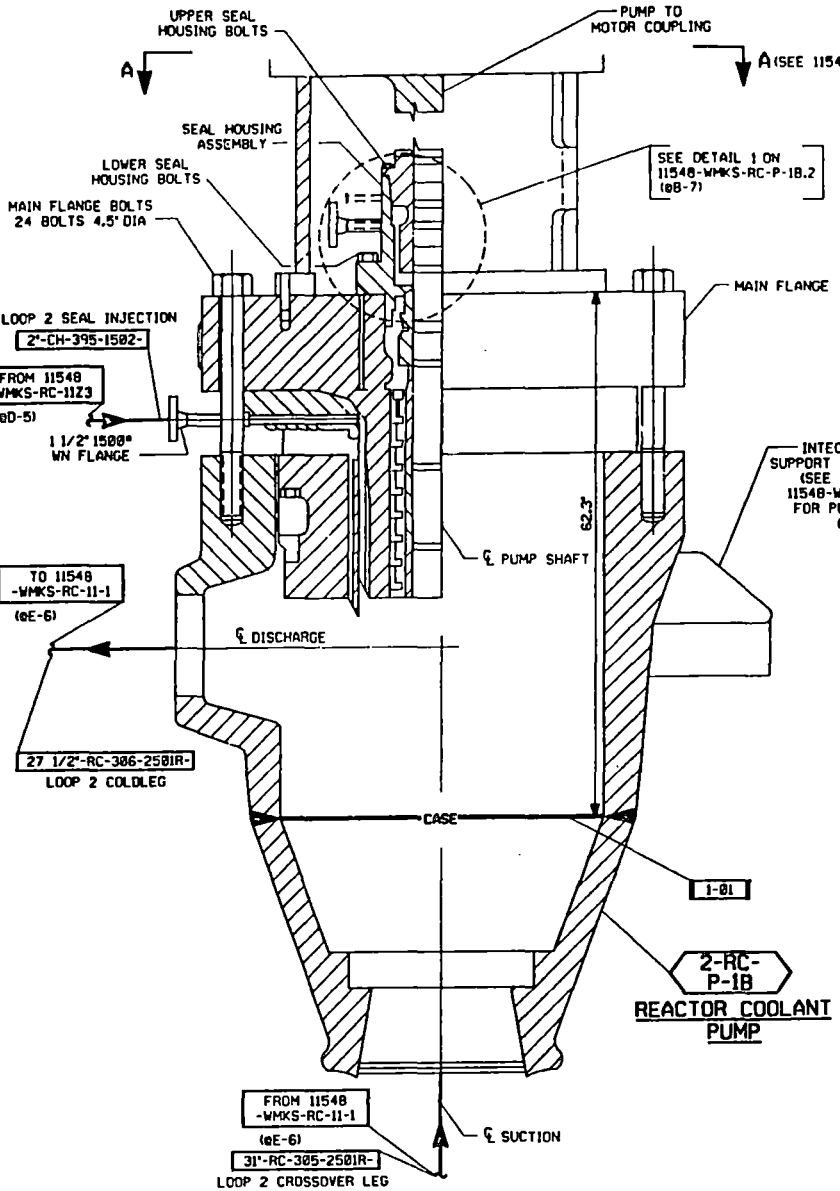
REV	INITIAL ISSUE
0	X X X X X — — — —

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

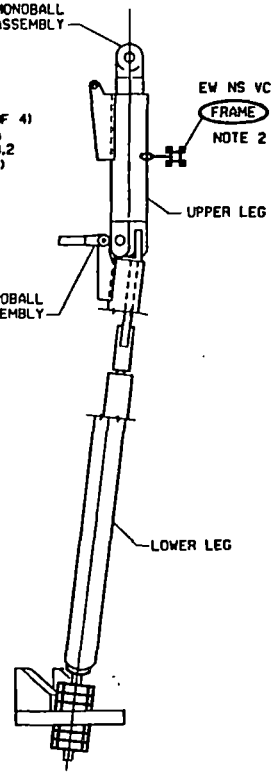
INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:2-RC-P-1A SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN	——	DSGN SUPV AKF	CAD NO. RCP0001A1
DRWN	MBL	DISPL ENGR G.W.	DRAWING NO. 11548-WMKS-RC-P-1A.1 REV. 0
CHKD	MHC	LEAD ENGR — —	
DATE	02/12/90	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

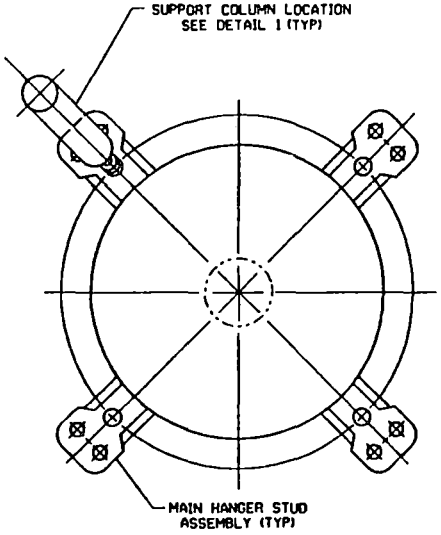
MAR-1990 14:56



CROSSECTIONAL VIEW
REACTOR COOLANT PUMP



DETAIL 1
TYPICAL SUPPORT
COLUMN



PLAN VIEW
REACTOR COOLANT PUMP
SUPPORT FRAME

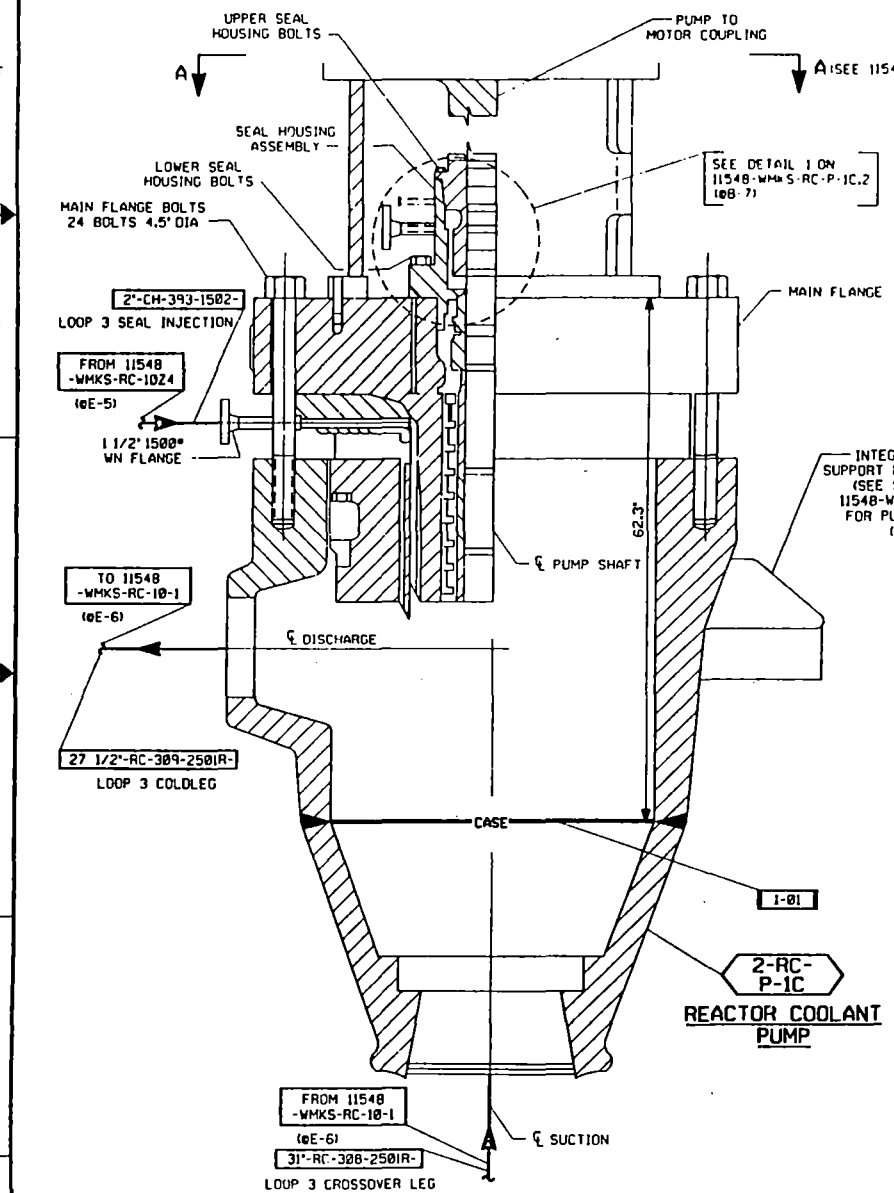
REV.	DESCRIPTION	DATE	APPROVED
0	INITIAL ISSUE	01/25/90	

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

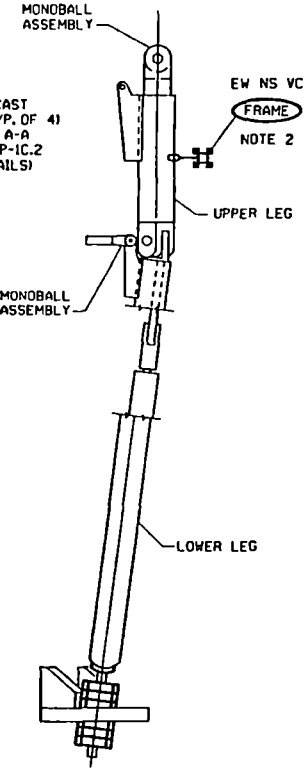
INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:2-RC-P-1B SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN		DSGN SUPV AIF	CAD NO. RCP000181
DRWN	MBL	DISPL ENGR	DRAWING NO. 11548-WMKS-RC-P-1B.1 REV. 0
CHKD		LEAD ENGR	
DATE	01/25/90	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

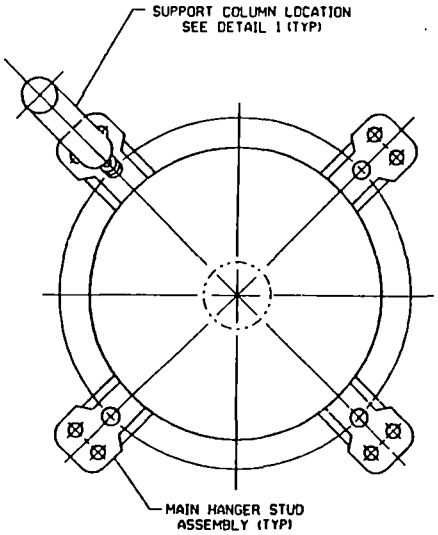
31-JAN-1990 20:18
QSA3:[355,002]RCP000181.DGN



CROSSECTIONAL VIEW
REACTOR COOLANT PUMP



DETAIL 1
TYPICAL SUPPORT
COLUMN



PLAN VIEW
REACTOR COOLANT PUMP
SUPPORT FRAME

REV	DESCRIPTION	DATE	APPROVED
0	INITIAL ISSUE		

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING REACTOR COOLANT PUMP:2-RC-P-1C SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN	DSGN SUPV ARF	CAD NO.	RCP0001C1
DRWN MBL	DISPL ENGR	DRAWING NO.	11548-WMKS-RC-P-1C.1 REV. 0
CHKD	LEAD ENGR		
DATE 02/12/90	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 2

20-MAR-1990 14:49

Relief Request SR-017

I. Identification of Components

System: Reactor Coolant, Safety Injection, and Residual Heat Removal

Component: Class 1 valves greater than 4 inches in diameter (4 NPS)

II. Impractical Code Requirements

Table IWB-2500, Category B-M-2, item B12.40 requires that a visual, VT-3 examination be performed on the valves internal surfaces. As an alternative to this Code requirement we proposed, by previous relief request SR-001, that valves not disassembled for maintenance during the interval would have a ultrasonic (UT) wall thickness measurement performed in lieu of the visual examination and valve disassembly. This relief request was approved by letter, serial# 91-189, dated March 14, 1991.

III. Basis for Relief

The provision to perform an ultrasonic thickness examination on valves not disassembled for maintenance, in lieu of the required visual examination, was suggested by the NRC during initial discussions held concerning relief request SR-001. The extent and acceptance criteria of these alternative examinations were not discussed. Valves typically have an irregular interior and exterior surface by design. Correlating measurements with manufacturers drawings and then determining the acceptability of the measurement could only be described as "best effort." The meaningfulness of the examinations and the resultant exposure has called into question the practicality of performing these ultrasonic thickness examination. The 1989 Edition of ASME Section XI has eliminated the requirement to disassemble valves for examination only. As such under the provisions of 10 CFR 50.55a(g)4(iv), we request the use of the 1989 Edition of ASME Section XI for examinations identified in Category B-M-2, item B12.50, for valve bodies exceeding NPS 4, and withdraw our previous relief request SR-001.

IV. Alternate Requirements

The 1989 Edition of ASME Section XI Category B-M-2, item B12.50 and corresponding notes 2 and 3 within the Category shall be followed. This will allow the visual examinations to coincide with valve disassembly required by maintenance, repair, or other required valve openings.

Relief Request SR-018

I. Identification of Components
System: Chemical and Volume Control (CH)
Component: Regenerative Heat Exchanger (2-CH-E-3)

Welds/Components	Description	Class
1-06	nozzle-to-vessel	1
NIR-06	nozzle inside radius	1
1-08	nozzle-to-vessel	1
NIR-08	nozzle inside radius	1
1-09	nozzle-to-vessel	1
NIR-09	nozzle inside radius	1
1-11	nozzle-to-vessel	1
NIR-11	nozzle inside radius	1
1-13	nozzle-to-vessel	1
NIR-13	nozzle inside radius	1
1-15	nozzle-to-vessel	1
NIR-15	nozzle inside radius	1

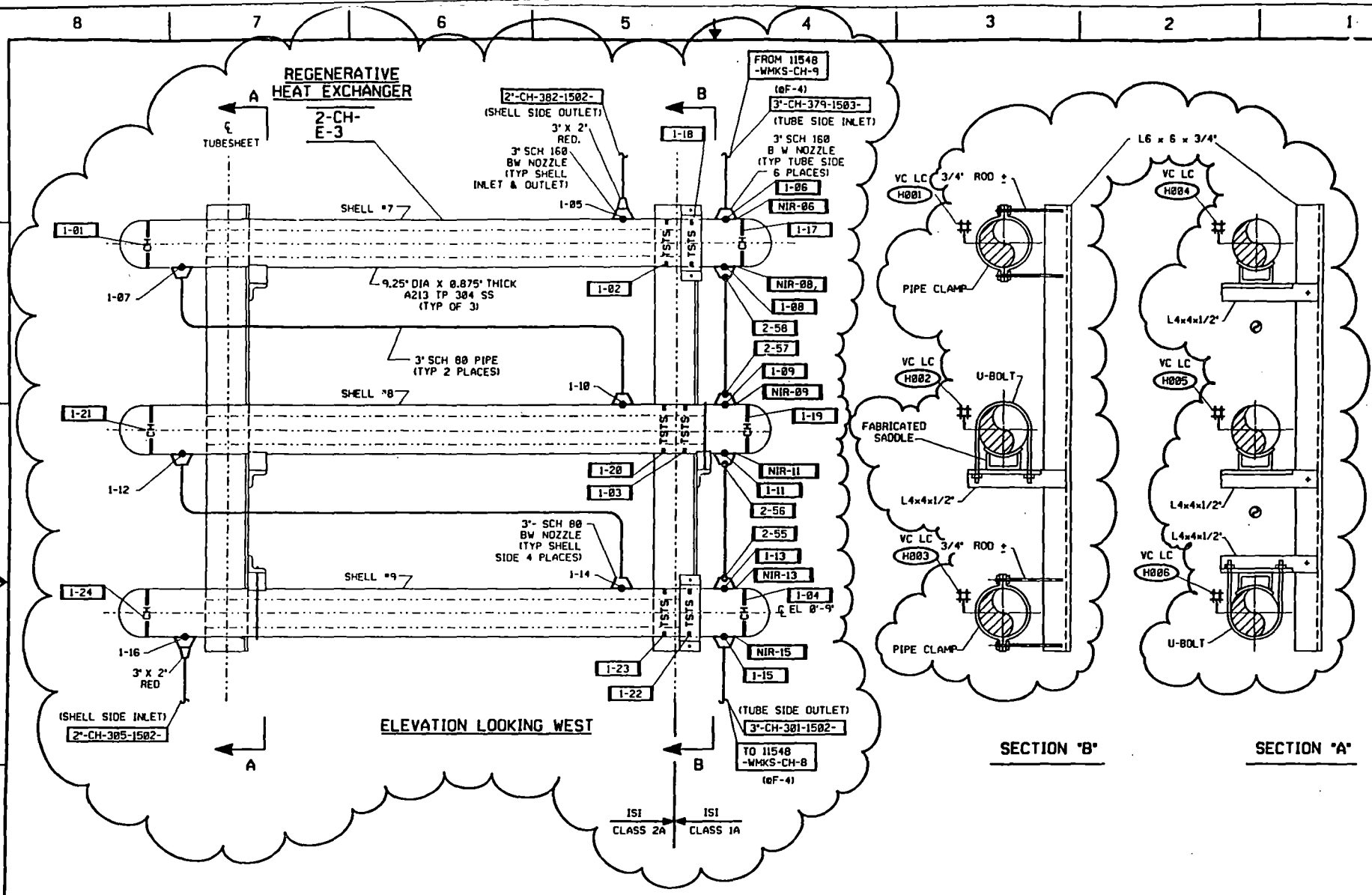
II. Impractical Code Requirements
Examination Category B-D (Inspection Program B) requires in item numbers B3.150 and B3.160 a volumetric examination of the nozzle-to-vessel weld and nozzle inside radius section.

III. Basis For Relief
The joint design of the above nozzle welds specifies a 3" schedule 160 weldolet joined to a 9.25" O.D. X .875" thick vessel. These welds were not designed to be volumetrically examined from the outside diameter. The configuration of the weldolet precludes axial ultrasonic examination from the nozzle side and circumferential examination in either direction. This limits volumetric examination to a single axial scan from the vessel side of the nozzle. It is our opinion that a meaningful ultrasonic examination cannot be performed on the weld or inner radius with a single axial scan from the vessel side. This is due to the small diameter of the vessel and weldolet, the change in dihedral around the joint results in a corresponding change in the ultrasonic beam angle. This makes position measurements unreliable. It would also be necessary to extend the beam path to at least two full Vee paths, which will further complicate this examination. These limitations would substantially limit our ability to discriminate flaw indications from geometry existing around the joint. The configuration also precludes placement of film on the outside diameter for radiography, and the inside surfaces are inaccessible. It is our opinion that the gain in assurance of component integrity from this limited examination is not commensurate with the anticipated dose expenditure. Figures 1,2,3,and 4 are provided to support

this request.

IV. Alternate Requirements

The outside surface of the nozzle-to-vessel welds shall receive a surface (liquid penetrant) examination. In addition a visual (VT-2) examination shall be performed in conjunction with the pressure testing required by IWB-5000.



NO.	REVISION	BY	DATE
1	REVISED PER WALKDOWN AND ISI REVIEW		
0	INITIAL ISSUE		

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

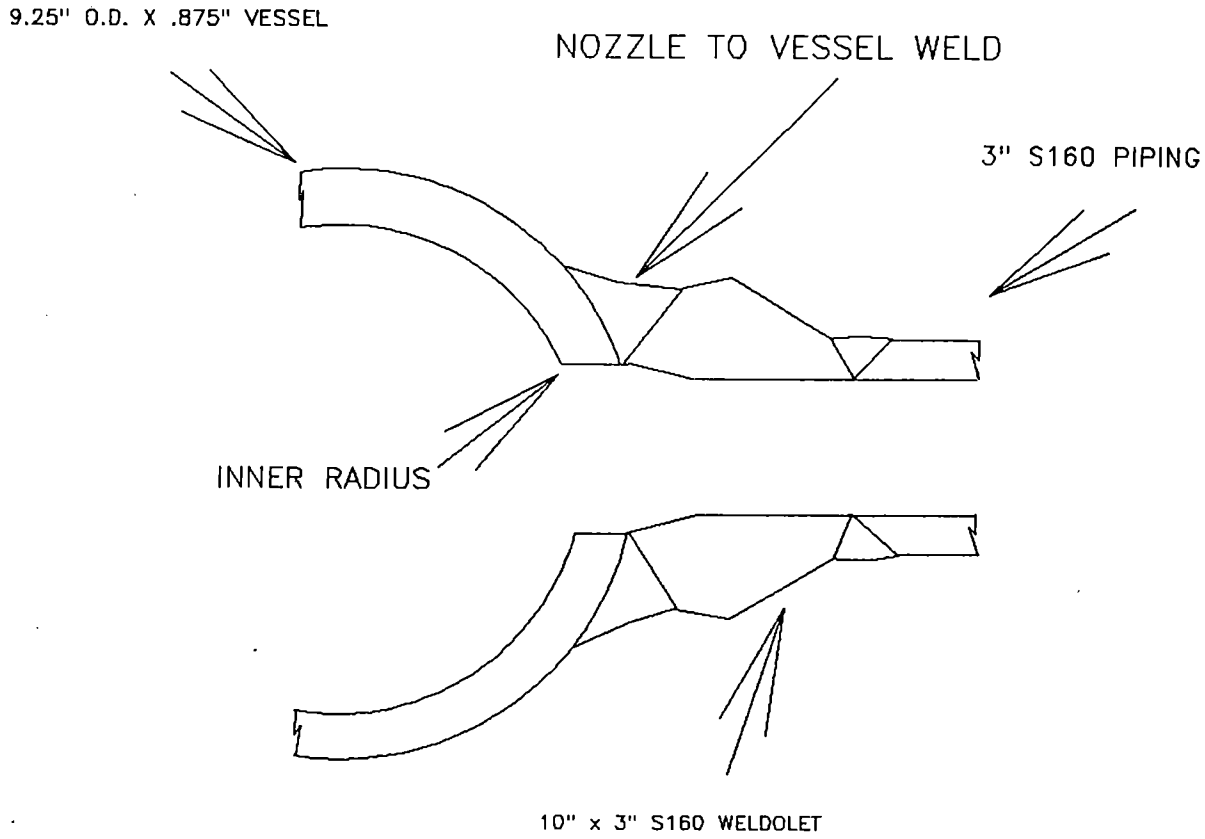
DSGN		DSGN SUPV ARF	CAD NO. CHE000003
DRWN MBL		DISPL ENGR WFM	DRAWING NO. 11548-WMKS-CH-E-3 REV. 1
CHKD MBL		LEAD ENGR	
DATE 3/27/98		SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

Figure 1

22-JUN-1992 09:56
ZG5:[355.002]CHE000003.DGN

SR-018 FIGURE 2

TYPICAL NOZZLE TO HT. XCHANGER WELD



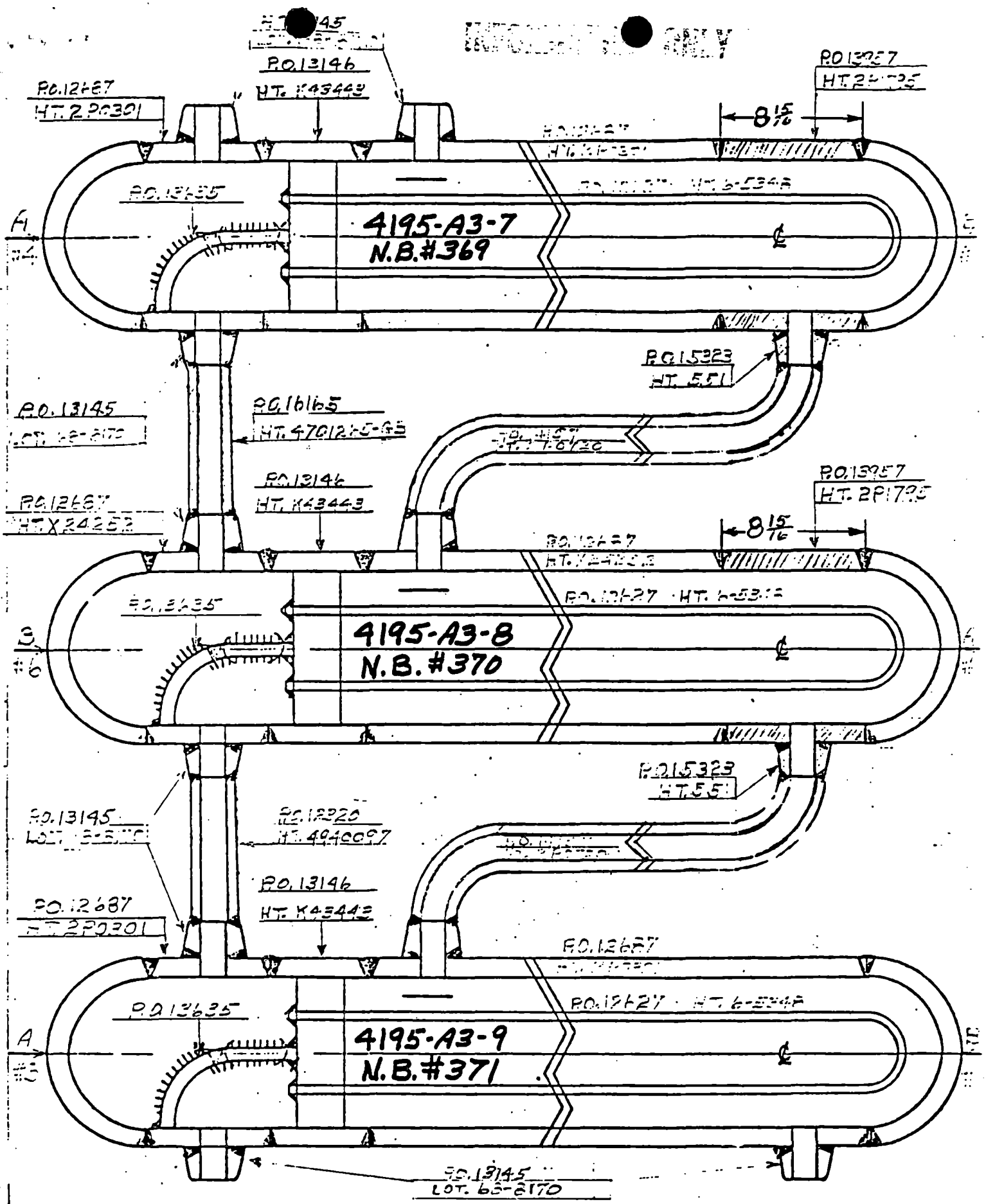

P.O.13146
HT. K43443
P.O.12687
HT. 2P0301
8 15/16
4195-A3-7
N.B.#369
P.O.15323
HT. 551
P.O.13145
P.O.16165
HT. 47012K5-G5
P.O.13957
HT. 2P1795
4195-A3-8
N.B.#370
P.O.12220
HT. 4940097
4195-A3-9
N.B.#371
P.O.13147
HTS. 29216 (A) + 29252 (B)

Figure 3

[illegible]

Handlo-Spence Mfg. Co.

2075 S. Moreland Road

New Berlin, Wisconsin 53151

Same as Above

4 25 62

Harney 2000# Hellolot (for Butt Welding)
10 x 3" for Schedule 160 Pipe SA 182F
304 52.00

(4 copies chemical and physical test reports required)

12 Required 5/6/62 - TAG: A3 #4

12 Required 6/15/62 (not before) TAG: A3 #5

12 Required 7/3/62 (not before) TAG: A4 #2

Confirming phone order to Ray Moser

DO NOT DUPLICATE

TAG: a/c 554 A04195

Figure 4

Relief Request SR-019

I. Identification of Components
Systems: Outside Recirculation Spray and Safety Injection
Components: Pump casing welds identified below

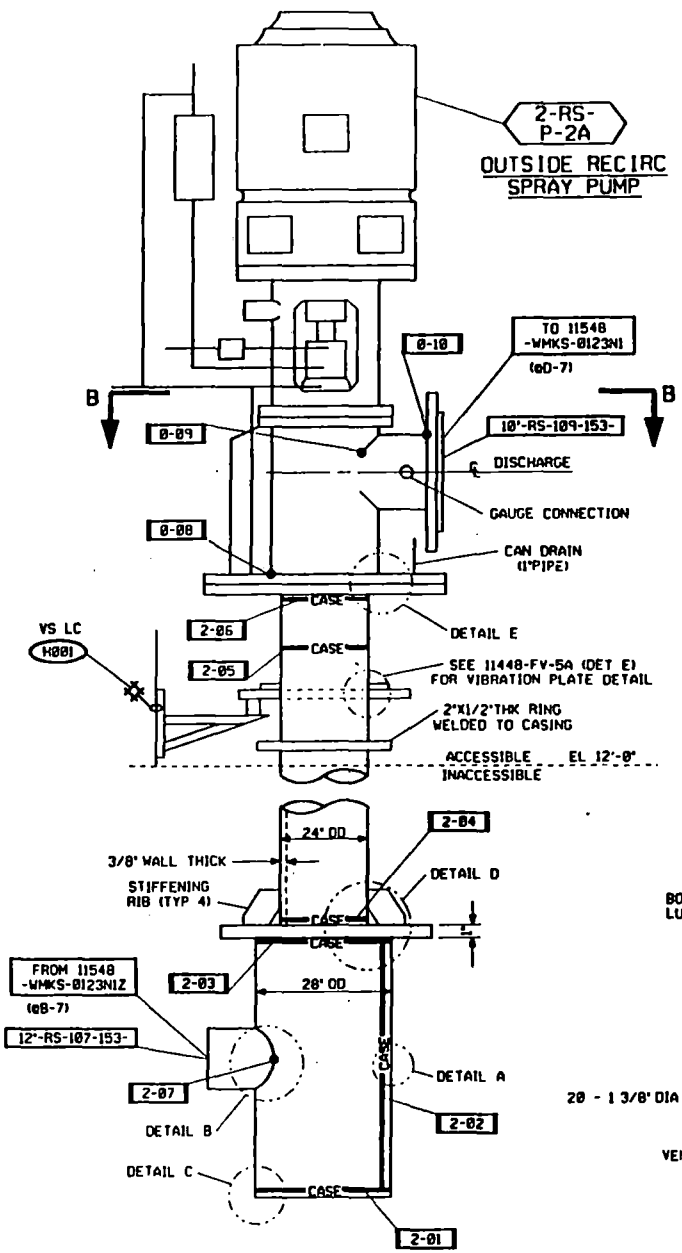
Component	Weld	Class
2-RS-P-2A	2-01	2
2-RS-P-2A	2-02	2
2-RS-P-2A	2-03	2
2-RS-P-2A	2-04	2
2-RS-P-2B	2-01	2
2-RS-P-2B	2-02	2
2-RS-P-2B	2-03	2
2-RS-P-2B	2-04	2
2-SI-P-1A	2-01	2
2-SI-P-1A	2-02	2
2-SI-P-1A	2-03	2
2-SI-P-1A	2-04	2
2-SI-P-1B	2-01	2
2-SI-P-1B	2-02	2
2-SI-P-1B	2-03	2
2-SI-P-1B	2-04	2

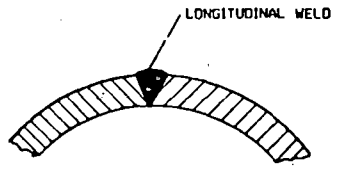
(Drawings attached)

II. Impractical Code Requirements
Category C-G, Item C6.10, Pump Casing Welds, requires that a surface examination be performed on 100% of the welds each interval. The examination can be limited to one pump in the case of multiple pumps of similar design, size, function, and service in a system.

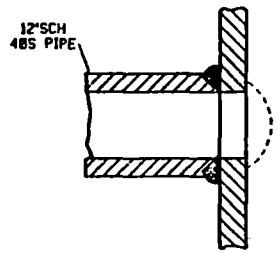
III. Basis For Relief
These pumps are vertical, two-stage, centrifugal pumps, with an extended shaft and casing to allow suction from the containment sump. The motor and mechanical seals of the pumps are located at about the 12 foot elevation and the bottom of the casing at about the -30 foot elevation. The welds identified are at the bottom of the pump casing, and are embedded within the concrete building structure. This makes the welds inaccessible from the outside. The small diameter of the casing (24 inch. O.D.) and the pump shaft prevent examination from the inside diameter.

IV. Alternate Requirements
A remote visual examination (VT-1) of the accessible portions of the I.D. of the pump casing welds will be performed only if the pump is disassembled and the pump shaft removed for maintenance.

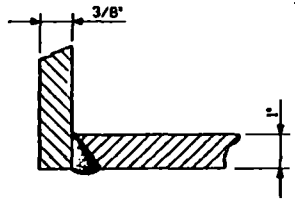




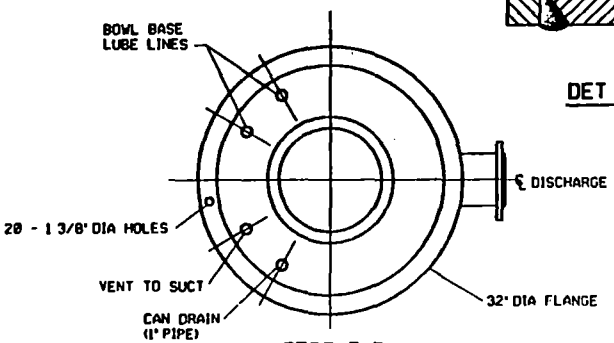
DET A



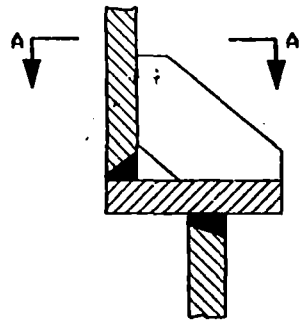
DET B



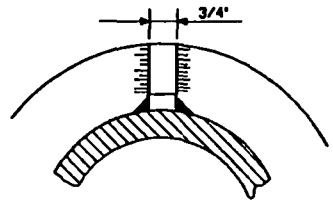
DET C



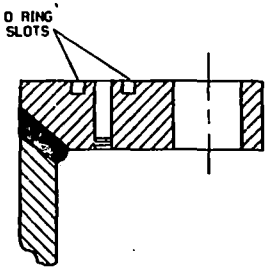
SECT B-B



DET D



SECT A-A



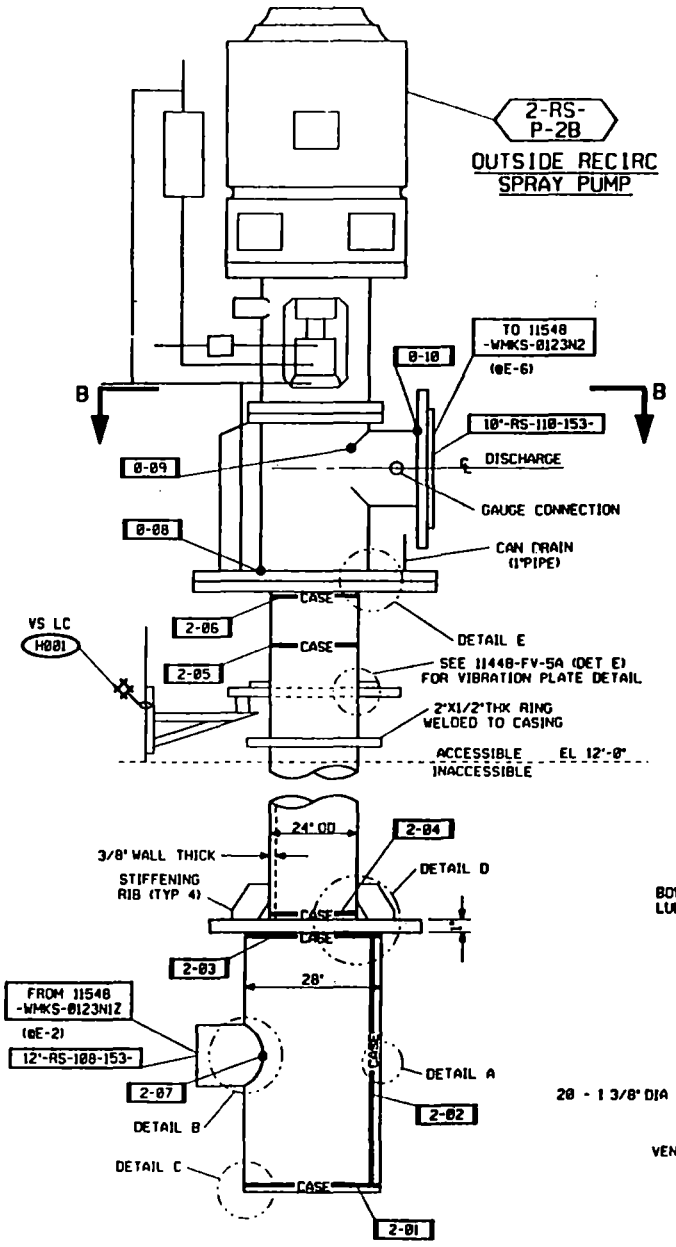
DET E

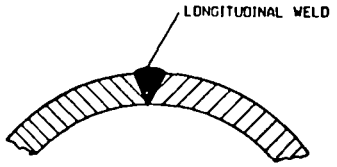
		0	INITIAL ISSUE

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

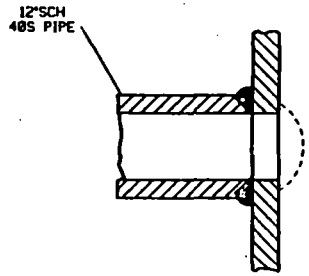
INSERVICE INSPECTION DETAIL DRAWING OUTSIDE RECIRC SPRAY PUMP 2-RS-P-2A SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN		DSGN SUPV	CAD NO. RSP0002A1
DRWN	MBL	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

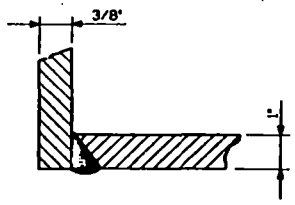




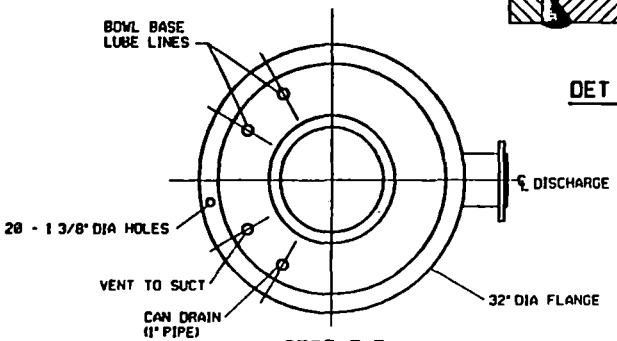
DET A



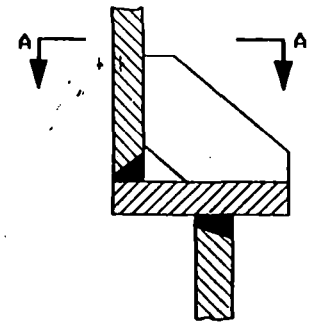
DET B



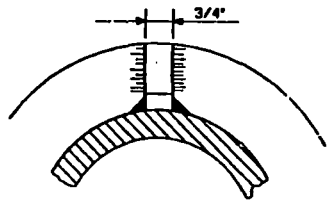
DET C



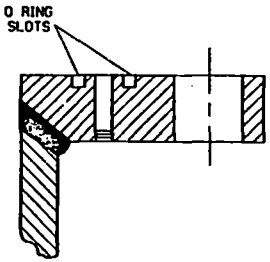
SECT B-B



DET D



SECT A-A



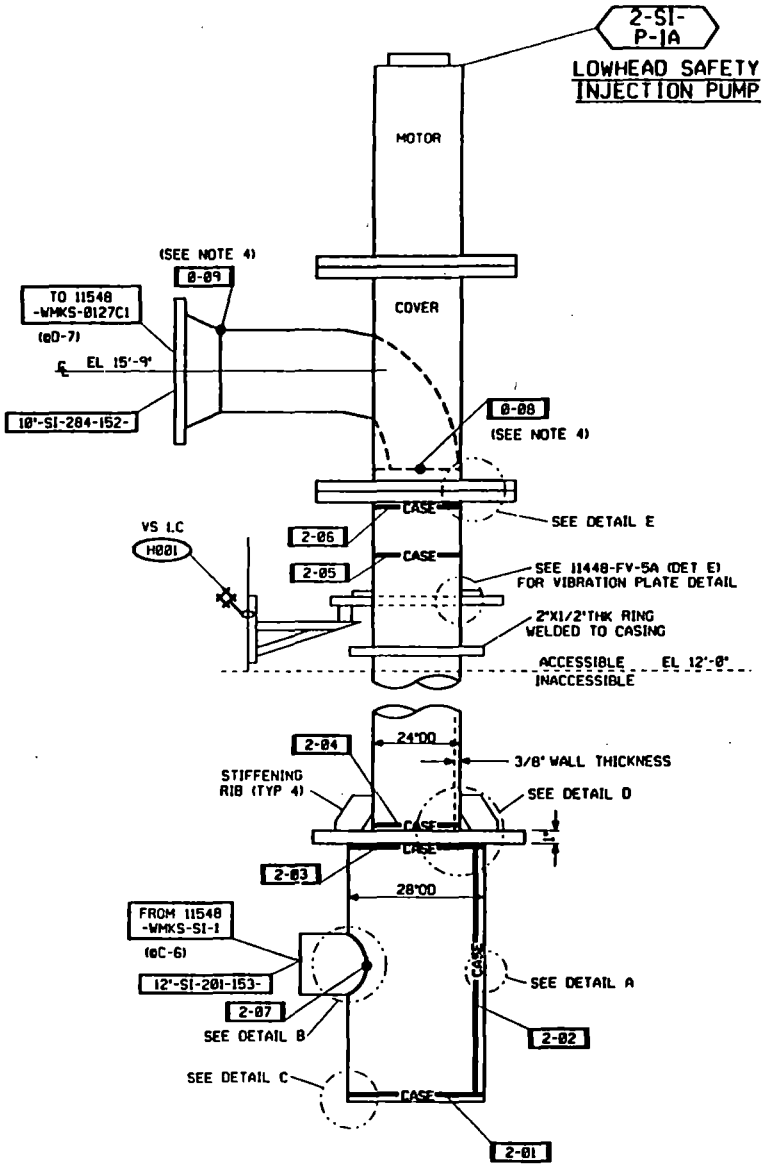
DET E

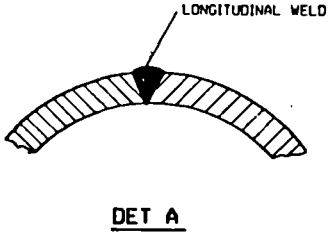
		0	INITIAL ISSUE

VIRGINIA POWER
NORTH CAROLINA POWER
POWER ENGINEERING SERVICES
RICHMOND, VIRGINIA

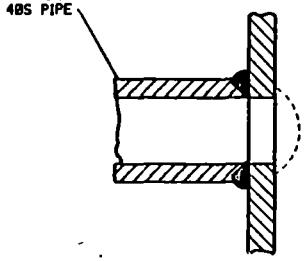
INSERVICE INSPECTION DETAIL DRAWING OUTSIDE RECIRC SPRAY PUMP:2-RS-P-2B SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN		DSGN SUPV	CAD NO. RSP000281
DRWN	MBL	DISPL ENGR	DRAWING NO. 11548-WMKS-RS-P-2B
CHKD		LEAD ENGR	REV. 0
DATE	03-05-90	SCALE NONE	UNLESS OTHERWISE NOTED SH 1 OF 2

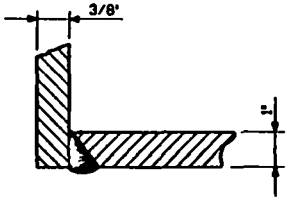




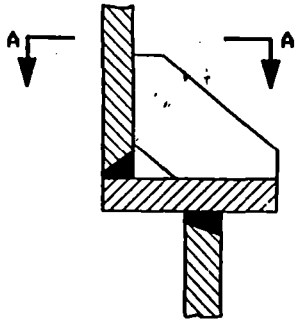
DET A



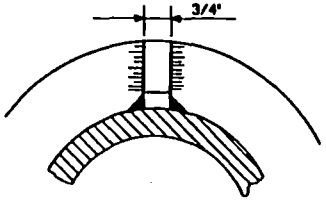
DET B



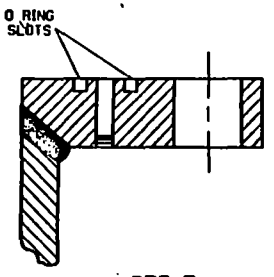
DET C



DET D



SECT A-A



DET E

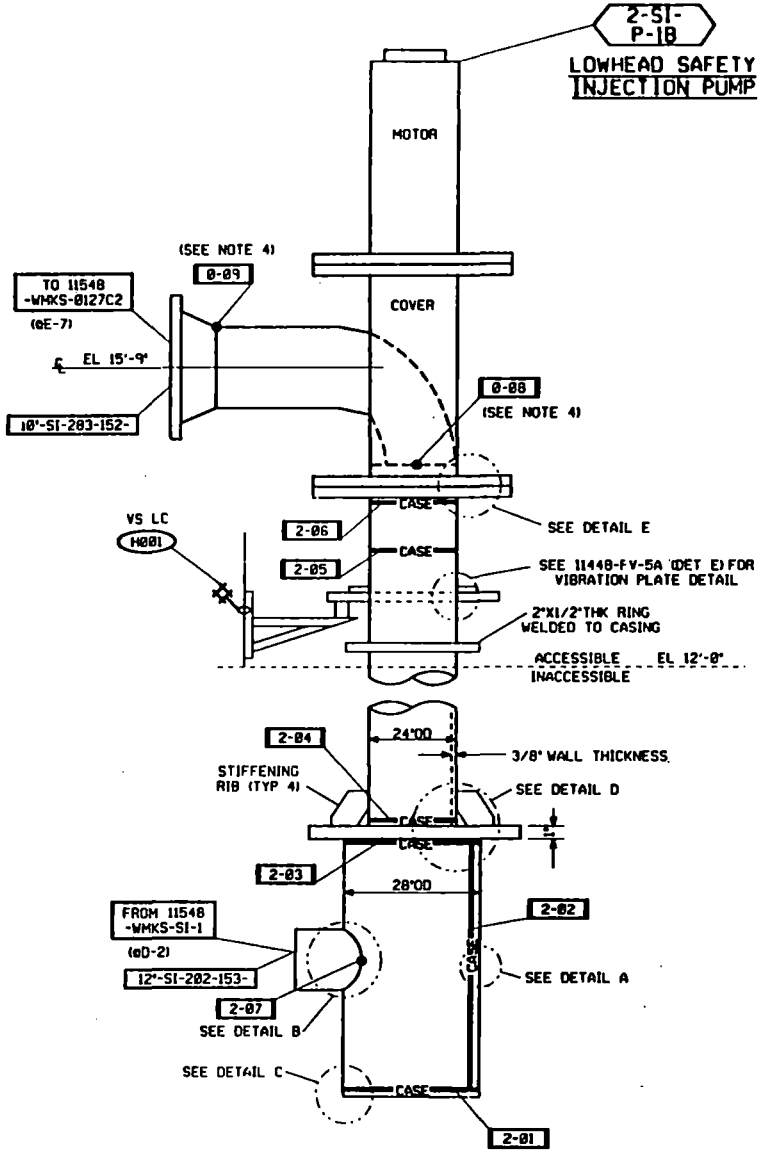
		0	INITIAL ISSUE

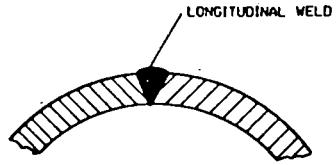
VIRGINIA POWER
NORTH CAROLINA POWER
NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING SAFETY INJECTION PUMP:2-SI-P-1A SURRY POWER STATION UNIT 2 VIRGINIA POWER

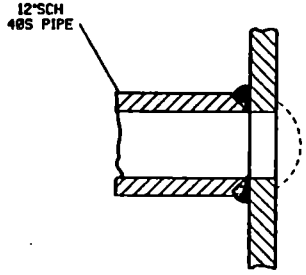
DSGN ——	DSGN SUPV	CAD NO.	SIP08B1A1
DRWN MBL	DISPL ENGR ——	DRAWING NO.	11548-WMKS-SI-P-1A
CHKD	LEAD ENGR		REV. 0
DATE 02/13/90	SCALE NONE	UNLESS OTHERWISE NOTED	SH 1 OF 7

05-FEB-1991 13:16
ZGAS:[355.002]SIP08B1A1.DGN

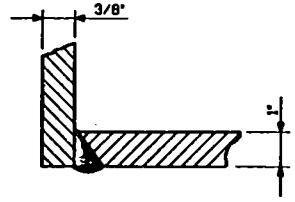




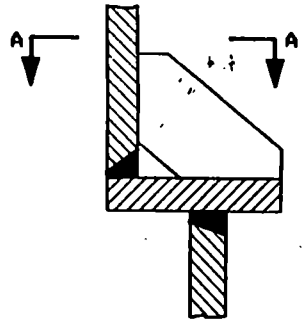
DET A



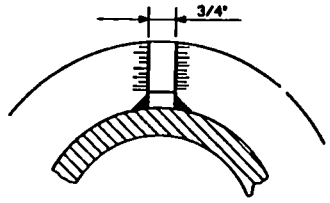
DET B



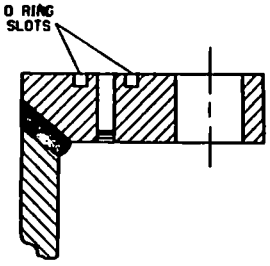
DET C



DET D



SECT A-A



DET E

	INITIAL ISSUE	0	

VIRGINIA POWER
NORTH CAROLINA POWER
NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

INSERVICE INSPECTION DETAIL DRAWING SAFETY INJECTION PUMP:2-SI-P-1B SURRY POWER STATION UNIT 2 VIRGINIA POWER

DSGN		DSGN SUPV	CAD NO. SIP880181
DRWN	MBL	DISPL ENGR	DRAWING NO. 11548-WMKS-SI-P-1B REV. 0
CHKD		LEAD ENGR	
DATE	02/13/90	SCALE	NONE UNLESS OTHERWISE NOTED SH 1 OF 2

Relief Request 23

I. Identification of Components
System: Auxiliary Feedwater (AFW)
Component: Piping and components between the following valves:

Valves	Line	Valves	Class
2-FW-145	1-WAPD-115-601	2-FW-149	3
		2-FW-146	3
		2-FW-629	3
2-FW-160	1-WAPD-117-601	2-FW-164	3
		2-FW-161	3
		2-FW-628	3
2-FW-175	1-WAPD-120-601	2-FW-179	3
		2-FW-176	3
		2-FW-627	3

(Drawing Attached)

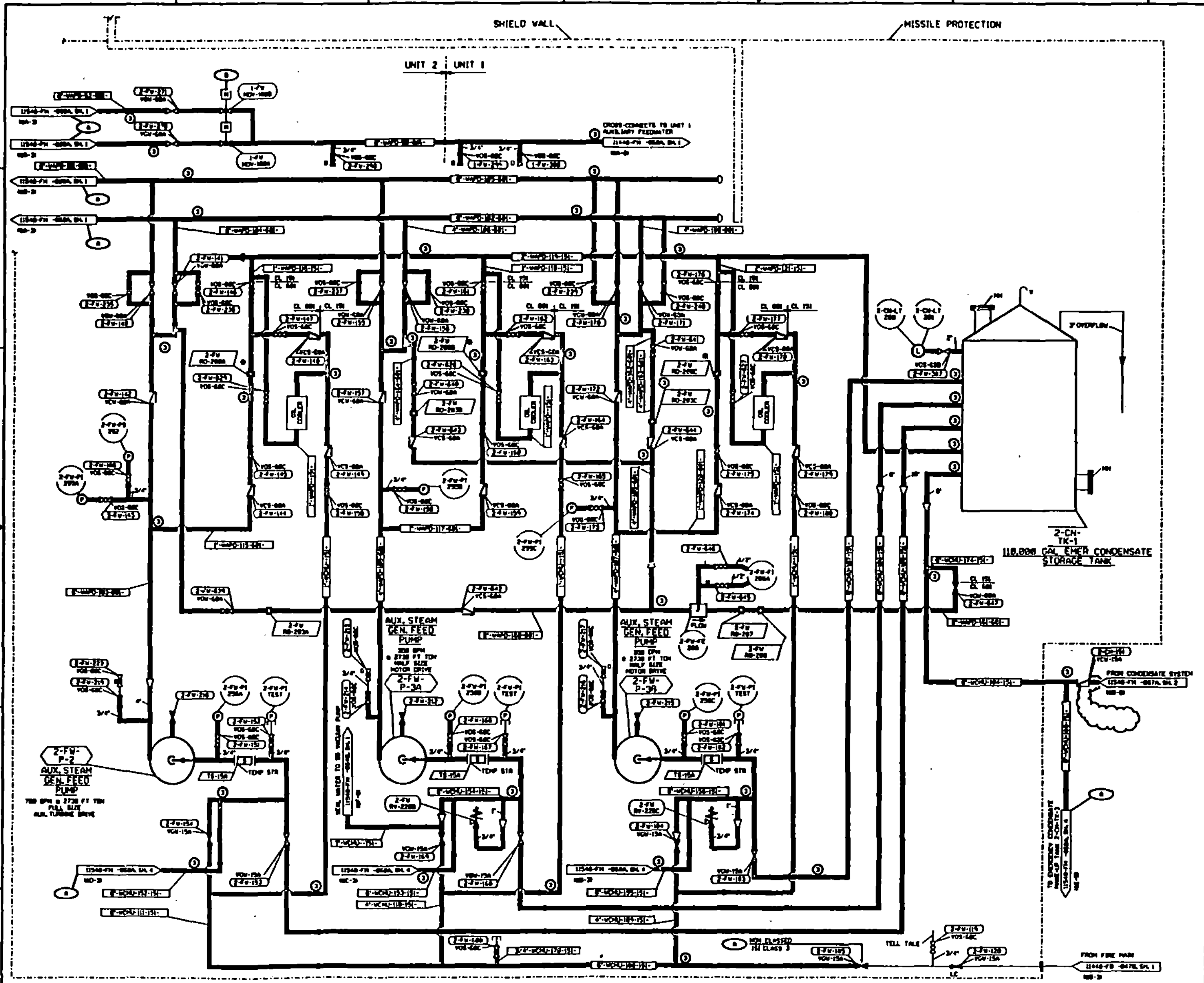
II. Impractical Code Requirements
ISI Class 3 System Hydrostatic Test required in IWD-5223 of ASME Section XI, where design pressure is 1432 psig and the resultant test pressure is 1576 psig.

III. Basis For Relief
Three pressure reducing orifices 2-FW-RO-200A, 2-FW-RO-200B, and 2-FW-RO-200C provide during normal operation a pressure drop from approximately 1200 psig to 110 psig. The system design takes advantage of this pressure drop by incorporating lower pressure rated piping downstream of the orifices. However the higher pressure rated piping continues beyond the orifices for some distance. The actual pipe design pressure class change occurs at downstream check valves 2-FW-148, 2-FW-163, and 2-FW-178 and manual valves, 2-FW-146, 2-FW-161, and 2-FW-176. The check valve operation, however, does not allow separation of the lower pressure class system, when testing the higher class piping in accordance with IWD-5223. IWD-5223 would require a test pressure of 1576 psig on the higher pressure class components in question. The downstream connecting piping has a design pressure of 150 psig and a corresponding test pressure of only 165 psig. As such, the connecting components would be overpressurized during the required Section XI test. The test boundary could be backed up to manual isolation valves 2-FW-147, 2-FW-162, and 2-FW-177, however hydrostatically testing this test boundary would also pressurize the auxiliary feedwater pumps and their suction connection. These pumps have welded discharge connections and cannot be isolated from the test boundary due to the absence of a drain or vent valve in the area

identified above. There is a flange connection on the suction side of each pump, however using this flange for isolation purposes is considered difficult due to the piping arrangement, and susceptibility to cold spring misalignment problems. Typically centrifugal pumps are hydrostatically tested at a pressure based on the suction side of the pump as described in IWA-5224(d) of the Code, which prevents any potential overpressurization concerns, or the need to use pump flanges as isolation points. The basis for relief is then two-fold. The first impracticality is the overpressurization of piping and components downstream of the pressure reducing orifice and the design pressure class rating change. The second impracticality is the incorporation of the auxiliary feedwater pumps into the test boundary due to the lack of vent, drain, and manual isolation valves.

IV. Alternate Testing

The identified components will be tested in accordance with IWD-5222, Functional test requirements, in conjunction with the associated auxiliary feedwater pump at normal operating pressure.



CAUTION:

REVISION DESCRIPTION

THIS BYPRODUCT WAS ISSUED PER THE FOLLOWING FLOW/VON DIAGRAM

FLOW/VON DRAWING NO. 11548-FM -868A REV. 37

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
FEEDWATER SYSTEM
SURRY POWER STATION UNIT 2
VIRGINIA POWER

DRAWING NO. 11548-CBM-868A REV. 3

UNLESS OTHERWISE NOTED

Relief Request 24

I. Identification of Components
System: Main Steam
Components: Valve listed:

Component	Mark#	Line#	S/G	Class
Valve	2-MS-119	4"-SHP-138-601	B	2

(Drawing attached)

II. Impractical Code Requirements
Surry Unit 2 utilized Code Case N-416, Alternate Rules for Hydrostatic Testing of Repair or Replacement of Class 2 Piping Section XI, Division 1, on the components identified above. This Code Case defers the hydrostatic test required by IWA-4400 of ASME Section XI until the next regularly scheduled system hydrostatic test (IWC-5000) for that system.

III. Basis of Relief
The identified component was replaced under the rules of ASME Section XI. IWA-4400 of the Code requires that a hydrostatic test be conducted on certain welded repairs or replacements. This replacement cannot be hydrostatically tested without hydrostatically testing the connecting steam generator, as no intermediate isolation exists.

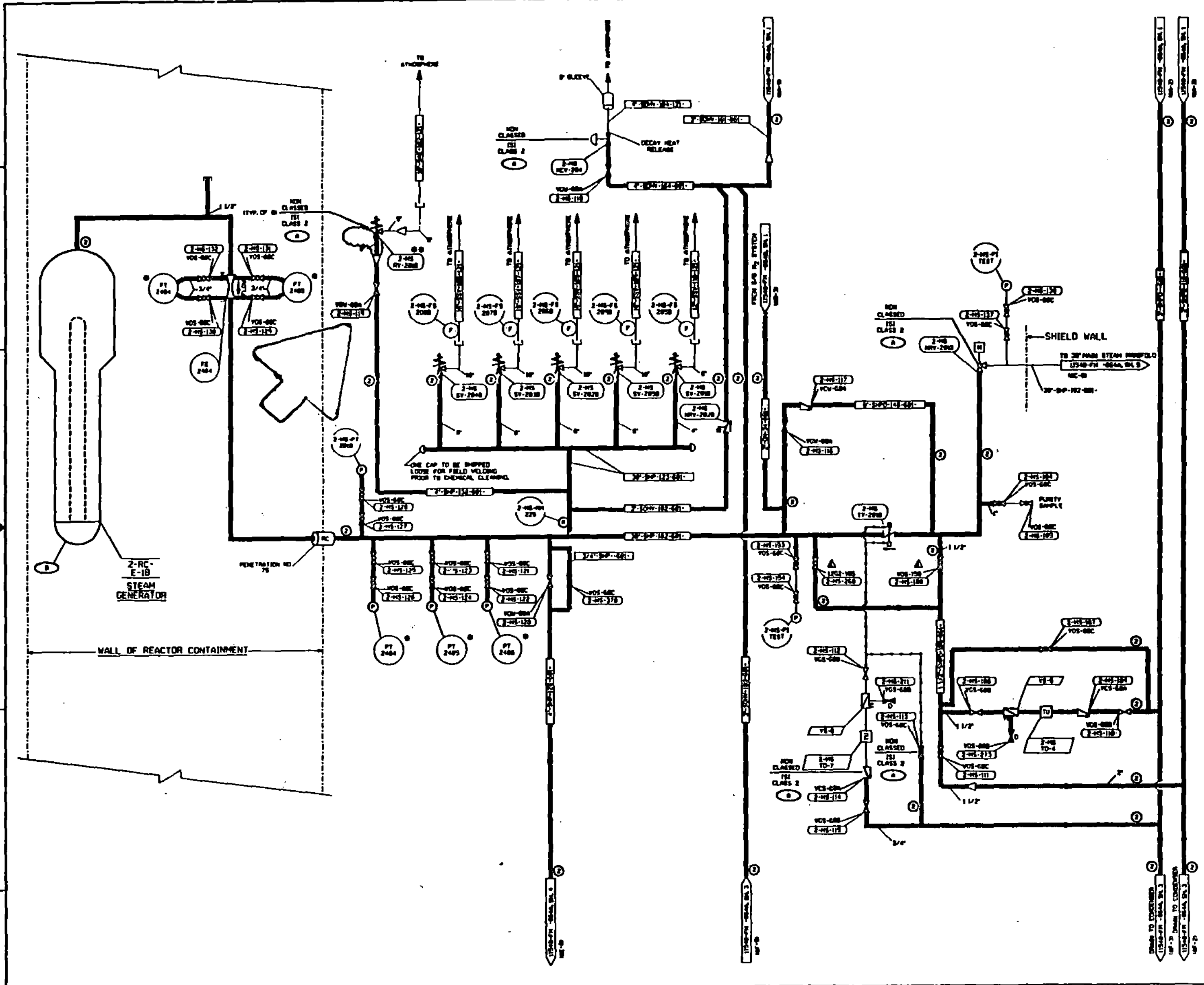
Prior to NRC and Code approval of Code Case N-416, relief requests were routinely written and approved for this type situation. The relief requests were based upon the difficulties associated with steam generator hydrostatic testing. The test cannot be conducted at ambient conditions due to fracture prevention concerns associated with the Surry steam generators, which results in difficult monitoring and controlling requirements. The Surry steam generators are required to be a minimum of 150 degrees F. on the secondary side and a minimum of 180 degrees F. on the primary side. Additionally normal problems, such as test boundary isolation, internal boundary leakage, placing spring hanger stops for dead weight loading concerns, and test pump size requirements further increase the difficulties associated with this particular test. The test pressure of 1356 psig also requires gaging or removal of the Main Steam Safety valves, which initially lift at 1085 psig. Some examples of previous correspondence requesting relief and approval follow:

VEPCO Letter/ Date	NRC Letter/ Date
Serial# 88-725/ 1/9/89	Serial# 89-278/ 4/7/89
Serial# 89-636/ 8/29/89	Serial# 89-734/10/2/89
Serial# 87-056/ 2/13/87	Serial# 88-419/6/17/88

When Code Case N-416 was incorporated into Regulatory guide 1.147, "Inservice Inspection Code Case Acceptability-ASME Section XI Division 1, relief requests were no longer needed, since the hydrostatic test was deferred to the end of the interval hydrostatic test described in table IWC-2500-1. This appeared to be the minimum hydrostatic testing that could be achieved for the steam generators. Recently in Revision 9 of Regulatory Guide 1.147, you approved Code Case N-498, Alternative Rules for 10-Year Hydrostatic Pressure Testing for Class 1 and 2 Systems Section XI, Division 1. This Code Case allows testing of the class 2 steam generators at nominal operating pressure. As a result, no hydrostatic test is now required by ASME Section XI on these components under normal circumstances, when incorporating Code Case N-498. The hydrostatic test of Code Case N-416 is still required to be performed, however. As described before, the component identified above can only be hydrostatically tested by additionally testing the connecting steam generator. Requiring a full steam generator test only for this replacement activity is considered impractical, due to the difficulties of the test described previously.

IV. Alternate testing

The alternative requirements described in Code Case N-416, a volumetric examination of the full penetration welds and a visual examination (VT-2) at nominal operating pressure was previously performed and deemed acceptable.



NOTES

1. FOR NOTES, SEE SHEET 1 OF THIS DRAWING.

REFERENCE DRAWINGS

NUMBER	TITLE
R1. FOR ADDITIONAL REFERENCE DRAWINGS, SEE SHEET 1 OF THIS DRAWING.	
R2. 11548-FM-064B	FLOW/VOV DIAGRAM STEAM GENERATOR NITROGEN CONN SYSTEM

BYPRODUCT DRAWINGS

1. 11548-CBM-064A, SH.2 — ISI CLASSIFICATION BOUNDARY DRAWING
2. 11548-HPM-064A, SH.2 — ISI HYDROSTATIC/PNEUMATIC PRESSURE TESTING DRAWING
3. 11548-SPM-064A, SH.2 — ISI SYSTEM PRESSURE TESTING DRAWING

BYPRODUCT NOTES

(A) PORTIONS OF THE MAIN STEAM SYSTEM AND ASSOCIATED PIPING HAVE BEEN CLASSIFIED ISI CLASS 2 IN ACCORDANCE WITH REGULATORY GUIDE 1.26, ARTICLE C.1.A.

(B) THE TUBE (PRIMARY) SIDE OF THE STEAM GENERATOR IS PART OF THE RCPB. SEE 11548-CBM-089A, SH.2.

FOR ISI CLASSIFICATION BOUNDARY DRAWING LEGEND AND SYMBOLS, SEE 11448-CB-LGS.

CONTINUATION DRAWING NUMBERS REFER TO FM OR FB DRAWINGS. THE CORRESPONDING CLASSIFICATION BOUNDARY DRAWINGS (CBM OR CBB) CAN BE DETERMINED BY SUBSTITUTING CBM OR CBB FOR FM OR FB.

CAUTION:
THE BACKGROUND PORTION OF THIS BYPRODUCT DRAWING IS FOR REFERENCE ONLY. THE BACKGROUND INFORMATION IS NOT CONTROLLED AND MAY NOT REFLECT THE ACTUAL PLANT CONFIGURATION. REFER TO THE LATEST FLOW/VALVE OPERATING NUMBERS DIAGRAM FOR CONTROLLED BACKGROUND INFORMATION.

REVISION DESCRIPTION

REVISED PER ISI REVIEW. THIS DRAWING SUPERSEDES REV 0 ORIGINAL

INITIAL ISSUE PER REVISION 31 OF 11548-FM-064A

THIS BYPRODUCT DWG ISSUED PER THE FOLLOWING FLOW/VOV DIAGRAM	
FLOW/VOV DRAWING NO. 11548-FM-064A	REV. 31
	SH 2 OF 6

VIRGINIA POWER
NORTH CAROLINA POWER

NUCLEAR ENGINEERING SERVICES
RICHMOND, VIRGINIA

ISI CLASSIFICATION BOUNDARY DRAWING
MAIN STEAM SYSTEM
SURRY POWER STATION UNIT 2
VIRGINIA POWER

DSGN —	DSGN SUPV AWF	CAD NO. 52064A2FM.BY1	
DRWN JEF	DISPL ENGR BWF	DRAWING NO. 11548-CBM-064A	REV. 1
CHKD JES/MRL	LEAD ENGR —		
DATE 1/14/88	SCALE NONE	UNLESS OTHERWISE NOTED	SH 2 OF 6

27-FEB-1992 14:12
203:[358.12]52064A2FM.BY1