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SUBJECT: Requests relief from visual (VT-2) exam required by IWA-5246, "Repaired or Replaced Components & Alteration of Sys," required by ASME Boiler & Pressure Vessel Code Section XI. Basis for request encl. Fee paid.

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FLORIDA POWER & LIGHT COMPANY

JUNE 02 1987

L-87-230

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Unit 3
Docket No. 50-250
Request for Relief for the
Second Inservice Inspection Interval

Pursuant to 10 CFR 50.55a(g)(5)(iii), Florida Power & Light Company (FPL) has determined that conformance with certain code requirements is impractical following repairs to Turkey Point Unit 3 control rod drive housings G7 and G9.

Accordingly, FPL requests relief from the visual (VT-2) examination required by IWA-5246, "Repaired or Replaced Components and Alteration of a System", of Section XI of the ASME Boiler and Pressure Vessel Code - Rules for Inservice Inspection of Nuclear Power Plant Components. The basis for relief is provided in the attached Relief Request No. 15.

In accordance with 10 CFR 170.12(c), an application fee (FPL Check No. 4795) for $150.00 is attached.

If there are any questions, please call us.

Very truly yours,

C. O. Woody
Group Vice President
Nuclear Energy

COW/TCG/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC
Mr. D. R. Brewer, USNRC Senior Resident Inspector, Turkey Point Plant

A001
1/1

Rec'd w/check #150.00

TURKEY POINT PLANT UNIT NO. 3
SECOND INSPECTION INTERVAL
INSERVICE INSPECTION

RELIEF REQUEST NO. 15

A. COMPONENT IDENTIFICATION

- CLASS 1
- REACTOR PRESSURE VESSEL
- CONTROL ROD DRIVE DUMMIES G7 AND G9
- EXAMINATION CATEGORY: B-O AND B-P
- EXAMINATION ITEM NUMBER: B14.10 AND B15.11
- EXAMINATION DESCRIPTION: PRESSURE RETAINING WELDS IN CONTROL ROD DRIVE HOUSINGS

B. EXAMINATION REQUIREMENTS

- IWB-2500-1, PERFORM VOLUMETRIC OR SURFACE EXAMINATIONS OF 10% OF THE PERIPHERAL CONTROL ROD DRIVE HOUSINGS DURING THE INSPECTION INTERVAL. DRAWING NO. CIS-V-02B PROVIDES THE EXAMINATION REQUIREMENTS FOR A TYPICAL CRDM HOUSING WELD.

- IWA-7530 AND IWA-4500, PRIOR TO RETURN OF THE PLANT TO SERVICE, AND FOLLOWING A REPAIR OR REPLACEMENT, A PRESERVICE INSPECTION SHALL BE PERFORMED.

- IWA-5000, AFTER REPAIRS BY WELDING ON THE PRESSURE RETAINING BOUNDARY, A SYSTEM HYDROSTATIC TEST SHALL BE PERFORMED.

- IWA-5246, THE VISUAL (VT-2) EXAMINATION FOLLOWING A REPAIR OR REPLACEMENT OF A COMPONENT; MAY BE LIMITED TO THE REPAIRED OR REPLACED COMPONENT, BUT SHALL INCLUDE ANY CONNECTION MADE TO THE EXISTING SYSTEM.

C. RELIEF REQUESTED

- FPL REQUESTS RELIEF FROM THE VISUAL (VT-2) EXAMINATION REQUIREMENTS OF THE REPAIRED CONTROL ROD DRIVE HOUSING NUMBER G7 AND G9.

D. BASIS FOR RELIEF

1. LOCATION

THE (2) TWO REPAIRED CONTROL ROD DRIVE HOUSINGS (BOTH DUMMIES) ARE LOCATED IN THE CENTER OF THE REACTOR PRESSURE VESSEL HEAD. DRAWING NUMBER CIS-V-02A, COLOR CODED IN RED, PROVIDES THE LOCATION OF THE (2) TWO REPAIRED HOUSINGS WELDS NUMBERS G7 AND G9.

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2. INITIAL PREPARATION FOR EXAMINATIONS

IN ORDER TO PERFORM THE INITIAL VISUAL AND LIQUID PENETRANT EXAMINATIONS THE FOLLOWING PREPARATIONS HAD TO BE PERFORMED.

a. THE RPI CABLES HAD TO BE REMOVED FROM THE SURRONDING CRD HOUSINGS.

b. THE SURRONDING CRDM COIL STACKS HAD TO BE REMOVED.

c. RADIATION SURVEYS WERE TAKEN ON THE HEAD. THE OUTSIDE DIAMETER OF THE CLOSURE HEAD AREA RANGED FROM 2 TO 3 R DEPENDING ON WHERE YOU WERE LOCATED.

d. ACCESS REQUIREMENTS WERE LOOKED AT. THE CLEARANCE BETWEEN THE CRDM HOUSINGS WERE RECORDED AS 8.1/2" BETWEEN EACH HOUSING.

3. INITIAL EXAMINATIONS

a. VISUAL EXAMINATION WAS PERFORMED IN ORDER TO IDENTIFY AND LOCATE THE LEAKING CRDMS.

b. THE LIQUID PENETRANT EXAMINATION METHOD WAS USED TO CONFIRM THE SUSPECT AREAS. IN ORDER TO PERFORM THE LIQUID PENETRANT EXAMINATION, A EXAMINER HAD TO BE LOWERED DOWN ON TO THE HEAD FROM ABOVE.

c. FOLLOWING THE ABOVE EXAMINATIONS, A REMOTE VISUAL EXAMINATION WAS CONDUCTED AND RECORDED ON VIDEO TAPE. THE CRDM HOUSINGS EXAMINED ARE IDENTIFIED ON DRAWING NO. CIS-V-02A. THESE EXAMINATIONS INCLUDED THE TWO LEAKING DUMMIES (RED), THE FOUR ADJACENT CRDM WHICH HAD EVIDENCE OF RECIEVING THE MOST SPRAY (BLUE), THE SURRONDING CRDMS IN WHICH TO BOUND IN THE LEAKERS (GREEN),THE ADDITIONAL THREE DUMMIES (TURQUOISE), AND THE TWO ADDITIONAL CRDMS CODED IN (PURPLE) RECIEVED A VISUAL AND LIQUID PENETRANT EXAMINATION IN ORDER TO SATISFY THE TEN-YEAR INSPECTION REQUIREMENTS.

d. THE TOTAL RADIATION EXPOSURE FOR CONDUCT OF THESE EXAMINATIONS WERE IN EXCESS OF 5.5 REM.

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4. REPAIR

THE REPAIR OF THE LEAKING CRDM DUMMIES CONSISTED OF REMOVING THE EXISTING WELD AND REPLACING IT WITH A STAINLESS STEEL CAP WELDED BY A FULL PENETRATION BUTT WELD. DRAWING NUMBER CIS-V-02C PROVIDES A DETAIL OF THE REPAIR WELD AND CAP CONFIGURATION.

EXAMINATIONS PERFORMED DURING THE REPAIR ACTIVITY CONSISTED OF THE VISUAL, LIQUID PENETRANT AND RADIOGRAPHIC EXAMINATION METHODS. FOLLOWING THE REPAIR A FINAL VISUAL, LIQUID PENETRANT AND RADIOGRAPHIC EXAMINATION WAS PERFORMED THAT INCLUDED BOTH THE CONSTRUCTION AND SECTION XI EXAMINATION REQUIREMENTS.

5. DESIGN AND CONFIGURATION RESTRICTIONS

THE CURRENT DESIGN CONFIGURATION OF THE REPAIR DUMMIES REQUIRE THE CRDM TO BE INSULATED WITH A SOCK. THE INSULATION SOCK AS IDENTIFIED IN ATTACHED DRAWING NO. CIS-V-02D RESTRICTS BOTH THE DIRECT OR REMOTE VISUAL EXAMINATION BY COMPLETELY COVERING THE ENTIRE CRDM HOUSING, THEREFORE OBSTRUCTING THE DIRECT OR REMOTE VISUAL EXAMINATION OF THE NEW WELD.

6. ACCESSIBILITY DURING SYSTEM PRESSURE TESTS

FOLLOWING THE REPAIR AND AFTER THE CLOSURE HEAD IS BACK ON THE VESSEL, THE FOLLOWING RESTRICTIONS PROHIBIT THE VT-2 EXAMINATION DURING THE RCS OVER PRESSURE TEST: SEE DRAWING NO. CIS-V-02F FOR GENERAL ARRANGEMENT DETAIL.

a. THE RPV HEAD SHROUD OBSTRUCTS THE ENTIRE LENGTH OF THE CRDM HOUSINGS. SEE DRAWING NO. CIS-V-02B FOR AREA OF OBSTRUCTION.

b. THE CRDM COIL STACKS AND RFI CABLES ARE INSTALLED ON THE INSTRUMENT PORTS.

c. THE INSULATION SOCK IS INSTALLED ON THE REPAIRED DUMMIES. SEE DRAWING NO. CIS-V-02D FOR DETAILS.

d. A BLANK COIL STACK IS INSTALLED OVER THE INSULATED SOCK, AND IS ATTACHED BY A CLAMP TO THE ADJACENT CRDM HOUSING. SEE DRAWING NO. CIS-V02G FOR DETAILS.

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e. THE TEST TEMPERATURE AND PRESSURE 2350 PSI AND 547 DEGREES F, PROHIBIT ACESS TO THE EXAMINATION AREAS.

f. THE INSTALLATION OF THE MISSILE SHIELDS.

7. IN ADDITION TO THE ABOVE OBSTRUCTIONS THE AMOUNT OF ASSOCIATED EFFORT AND SUPPORTING WORK TO COMPLY WITH THE CODE REQUIREMENTS IS NOT JUSTIFIED FOR THE FOLLOWING REASONS:

a. FPL FEELS THAT BECAUSE OF THE DESIGN CHANGE FROM A FULL PENETRATION SEAL WELD TO A FULL PENETRATION BUTT WELD AND COUPLED WITH THE VISUAL, LIQUID PENETRANT AND RADIOGRAPHIC EXAMINATIONS PERFORMED ON THE REPAIR WELD, WILL PROVIDE AN ASSURANCE OF AN ACCEPTABLE LEVEL OF QUALITY AND SAFETY.

b. FPL FEELS THAT WITH THE ADDITION OF THE THREE INSPECTION PORTS THAT EARLY IDENTIFICATION OF LEAKS FROM THE CRDM PORTS WILL ASSURE A CONTINUED ACCEPTABLE LEVEL OF QUALITY AND REDUCE THE RADIATION EXPOSURE TO THE EXAMINERS.

c. FPL FEELS THAT THE REMOVAL OF THE ABOVE IDENTIFIED OBSTRUCTIONS SOLELY FOR THE PURPOSE OF VIEWING THE REPLACEMENT WELDS BY THE VISUAL EXAMINATION METHOD COUPLED WITH THE LARGE EXPENDITURES OF MANHOURS AND MAN-REM THAT WILL BE REQUIRED WITH ESSENTIALLY NO COMPENSATING INCREASE IN PLANT SAFETY.

E. ALTERNATIVE EXAMINATIONS

1. PERFORM THE VISUAL (VT-2) EXAMINATION DURING THE REACTOR COOLANT SYSTEM OVERPRESSURE TEST TO THE EXTENT PRACTICAL WITHOUT THE REMOVAL OF THE INSULATION BY EXAMINING THE ACCESSIBLE PORTIONS AND EXPOSED SURFACES AND THE SURRONDING AREAS LOCATED AROUND THE CLOSURE HEAD FLANGE SURFACE FOR EVIDENCE OF LEAKAGE.

2. FPL HAS INSTALLED WITHIN THE SHROUD, THREE (3) REMOVABLE INSPECTION/EXAMINATION PORTS AND WITH THE POSITION OF THE PORTS AND THE USE OF A HIGH INTENSITY LIGHT THESE VIEWING PORTS WILL PROVIDE THE EXAMINER WITH A MEANS OF LOCATING AND IDENTIFYING LEAKS THAT MAY BE PRESENT DURING THE OVERPRESSURE TEST.

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F. IMPLEMENTATION SCHEDULE

- THE SECOND REFUELING OUTAGE OF THE SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL

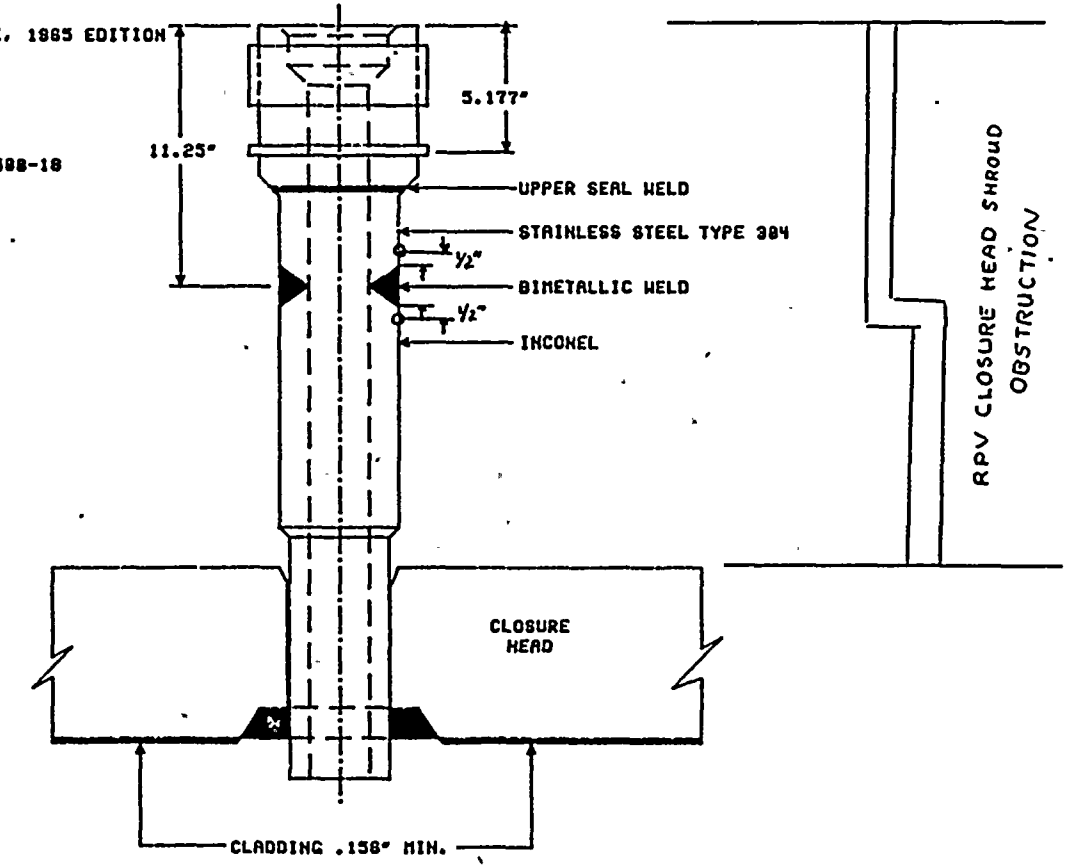
G. ATTACHMENTS

DRAWING NUMBER	DESCRIPTION
CIS-V-02A	RPV CLOSURE HEAD LOCATION AND EXAMINATION DETAIL
CIS-V-02B	CLOSURE HEAD HOUSING DETAIL
CIS-V-02C	CLOSURE HEAD DUMMY MODIFICATION
CIS-V-02D	INSULATION SOCK DETAIL FOR REPAIRED CRDMS
CIS-V-02E	VISUAL EXAMINATION PORTS
CIS-V-02F	GENERAL ARRANGEMENT DRAWING
CIS-V-02G	DUMMY COIL STACK ARRANGEMENT

RELIEF REQUEST NO. 15

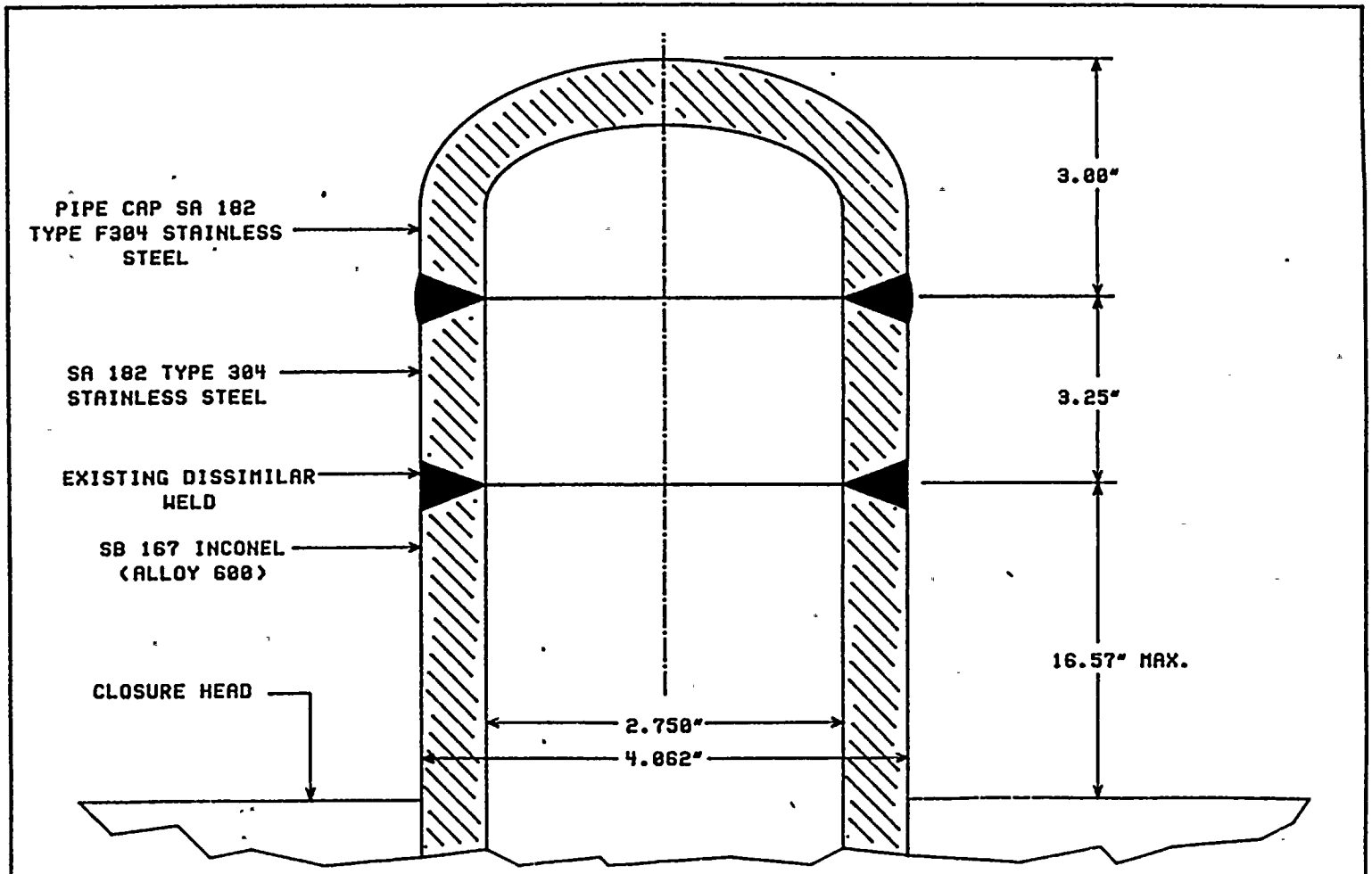
NOTE:

1) ASME B&PV CODE SECTION III, 1965 EDITION
   CODE CASE - 1935
   CODE CASE - 1332-2
2) CODE CATEGORY: B-O
3) CODE ITEM NUMBER: B14.10
4) EXAM REQUIREMENTS: IWB-2500-10

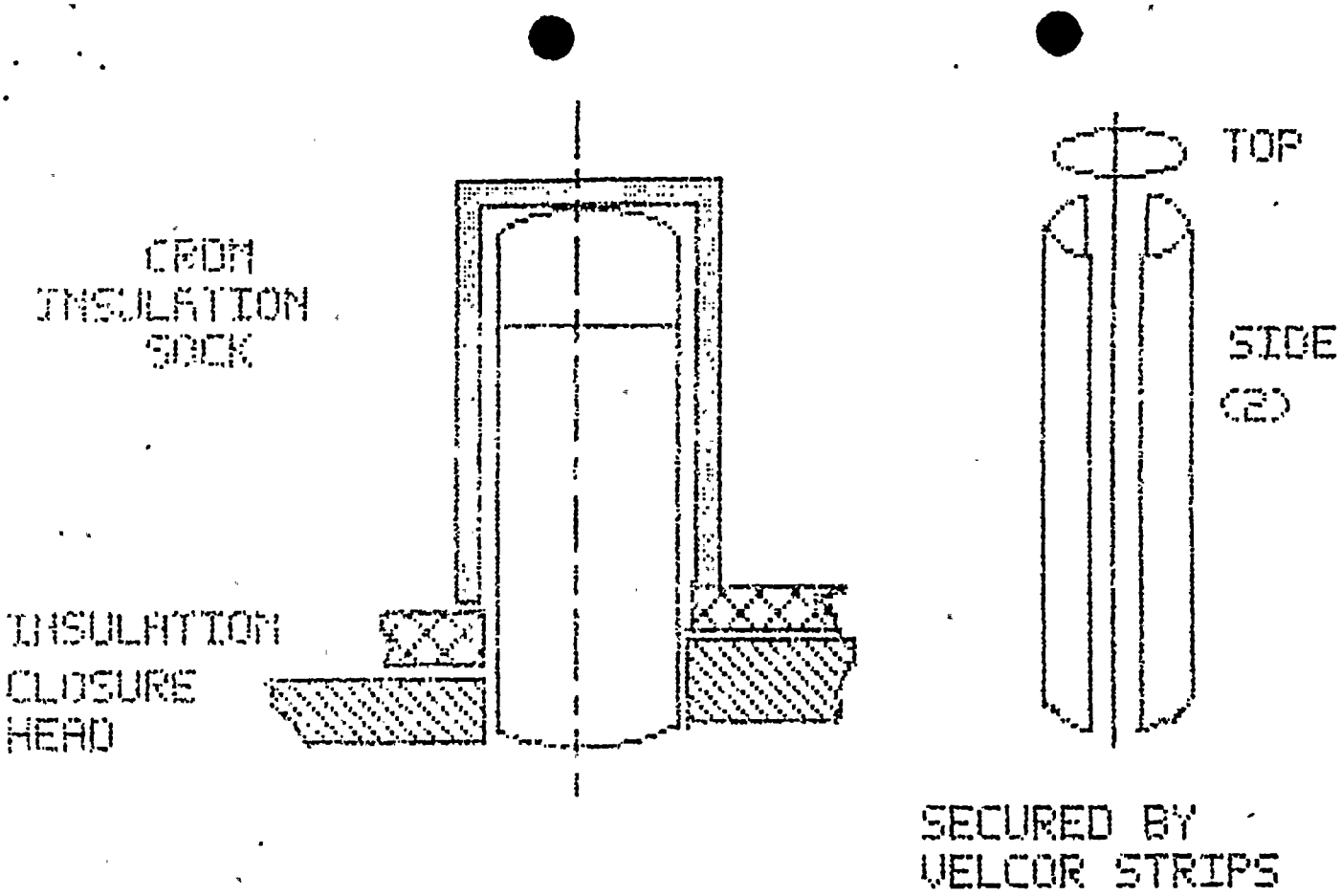


REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS	CODES & PROGRAMS GROUP
153811E R O WESTINGHOUSE	DESIGN PSIG: 2485 TEMP(F): 650 OPERATING PSIG: 2235 TEMP(F): 547 HYDROSTATIC PSIG: 3107 TEMP(F): 547	SIZE SCH T TYPE 4.25" .875" T SB 167 INCONEL ALLOY 600 4.25" .875" T SA 182 TYPE 304 STAINLESS STEEL	TURKEY POINT UNIT 3 TITLE: CLOSURE HEAD HOUSING DETAIL DATE: 5-14-87 ZONE: 2 REV. 1 APPROVED BY: J.E. Anderson DRAWING NUMBER: C18-V-928

RELIEF REQUEST NO. 15



REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS	CODES & PROGRAMS GROUP
	DESIGN PSIG: TEMP(F):	SIZE SCH TYPE	TURKEY POINT UNIT 3
	OPERATING PSIG: TEMP(F):	PIPE CAP SA 182 TP304 SS	TITLE: CLOSURE HEAD DUMMY PENETRATION MODIFICATION (HEAD ADAPTER CAP)
	HYDROSTATIC PSIG: TEMP(F):	STUB SA 182 TP304 SS	DATE: 5-14-87 ZONE: 2
		DUMMY SB 167 INCONEL ALLOY 600	REV. 1 APPROVED BY: DRAWING NUMBER: CIS-V-82C

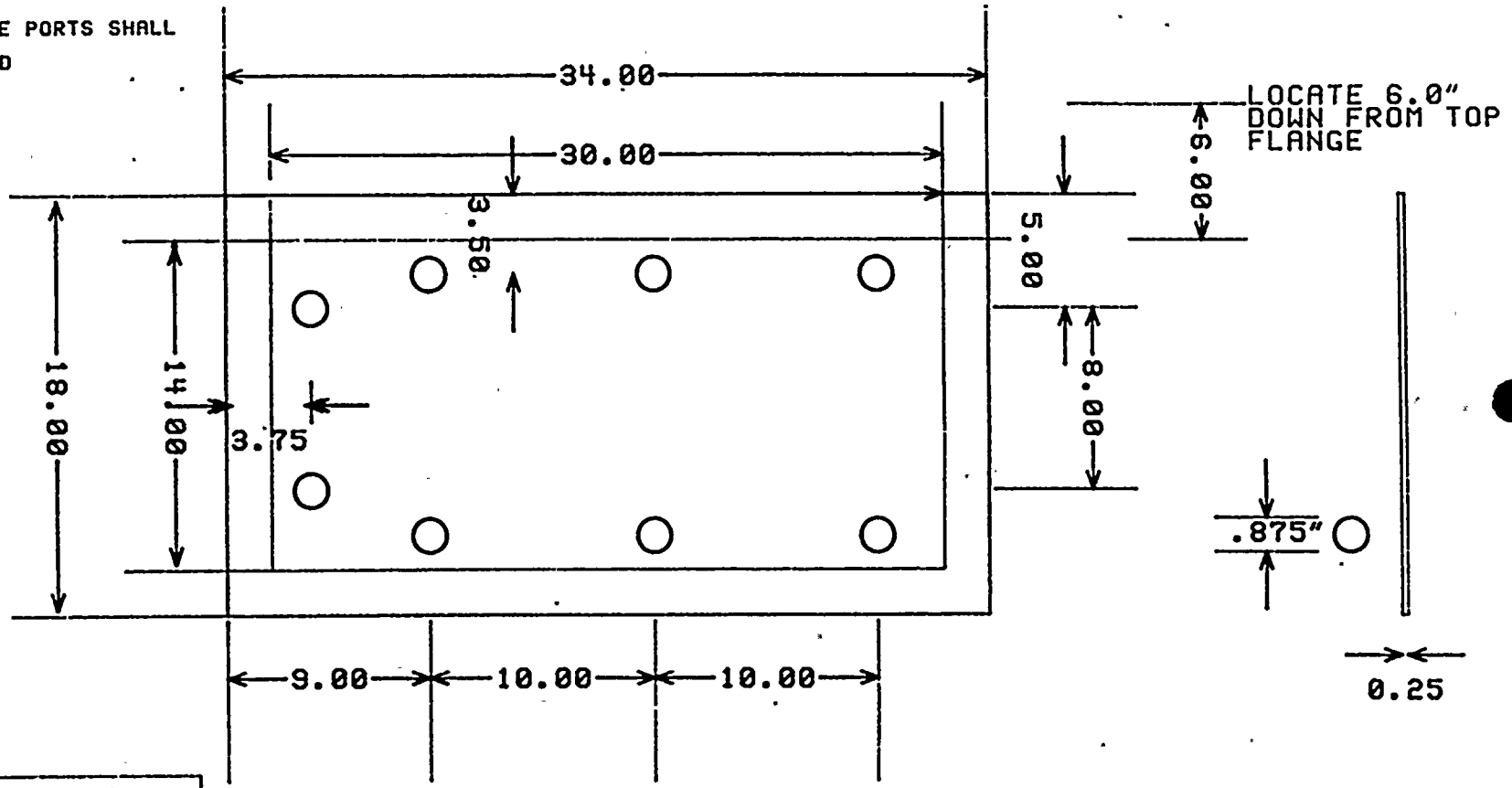


TURKEY POINT UNIT NO. 3
RELIEF REQUEST NO. 15
CIS-V-020
CRDM INSULATION SOCK

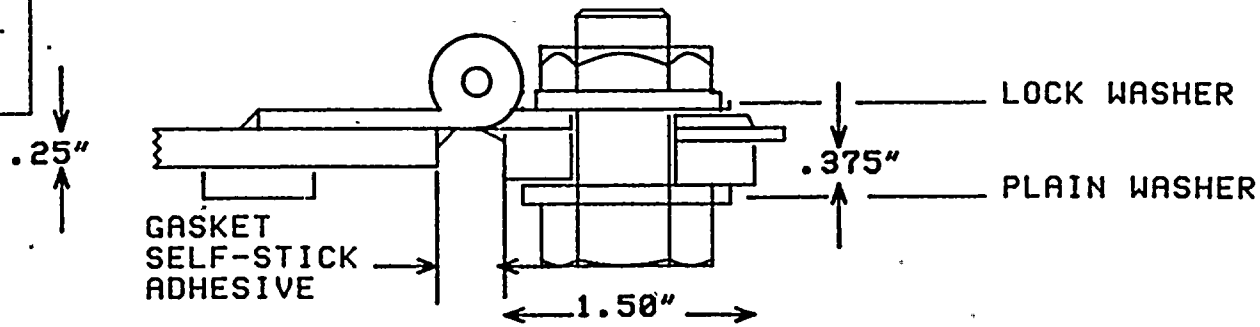
VISUAL EXAMINATION PORTS IN RPV SHROUD

NOTE:

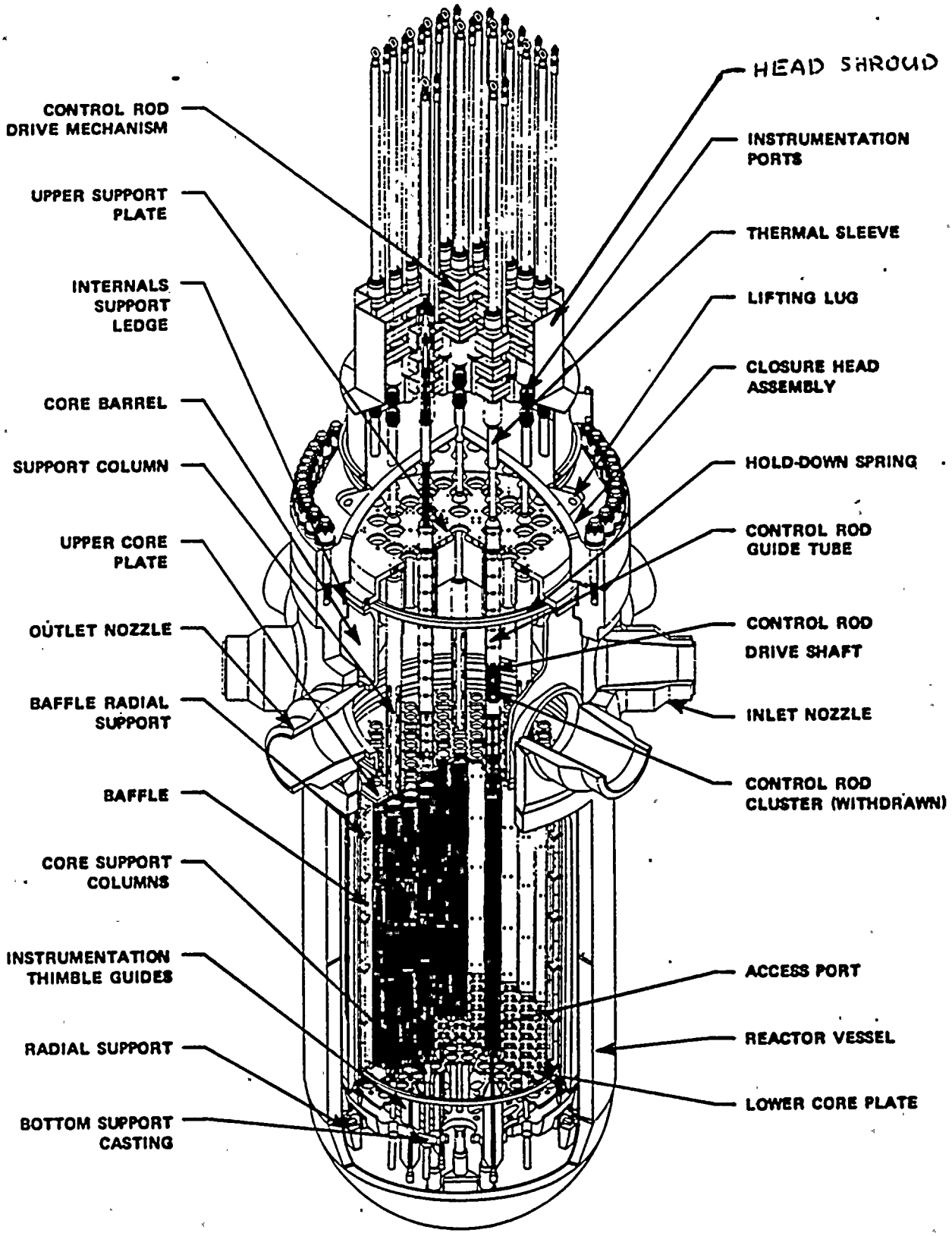
1. (3) SEPERATE PORTS SHALL BE INSTALLED



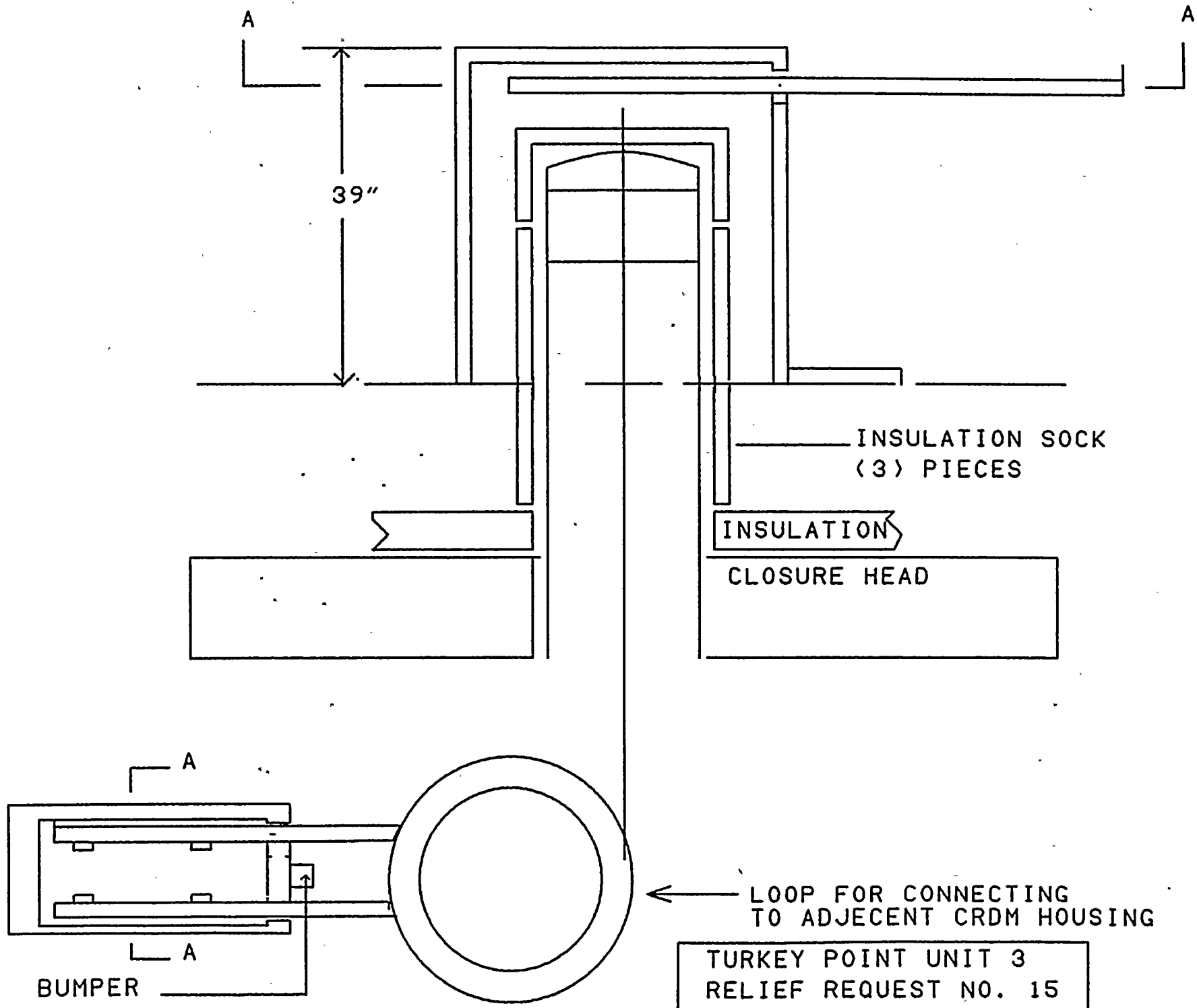
RELIEF REQUEST NO. 15
TURKEY POINT PLANT
UNIT 3 & 4
21 MAY 1987
CIS-V-02E



GENERAL ARRANGEMENT DRAWING

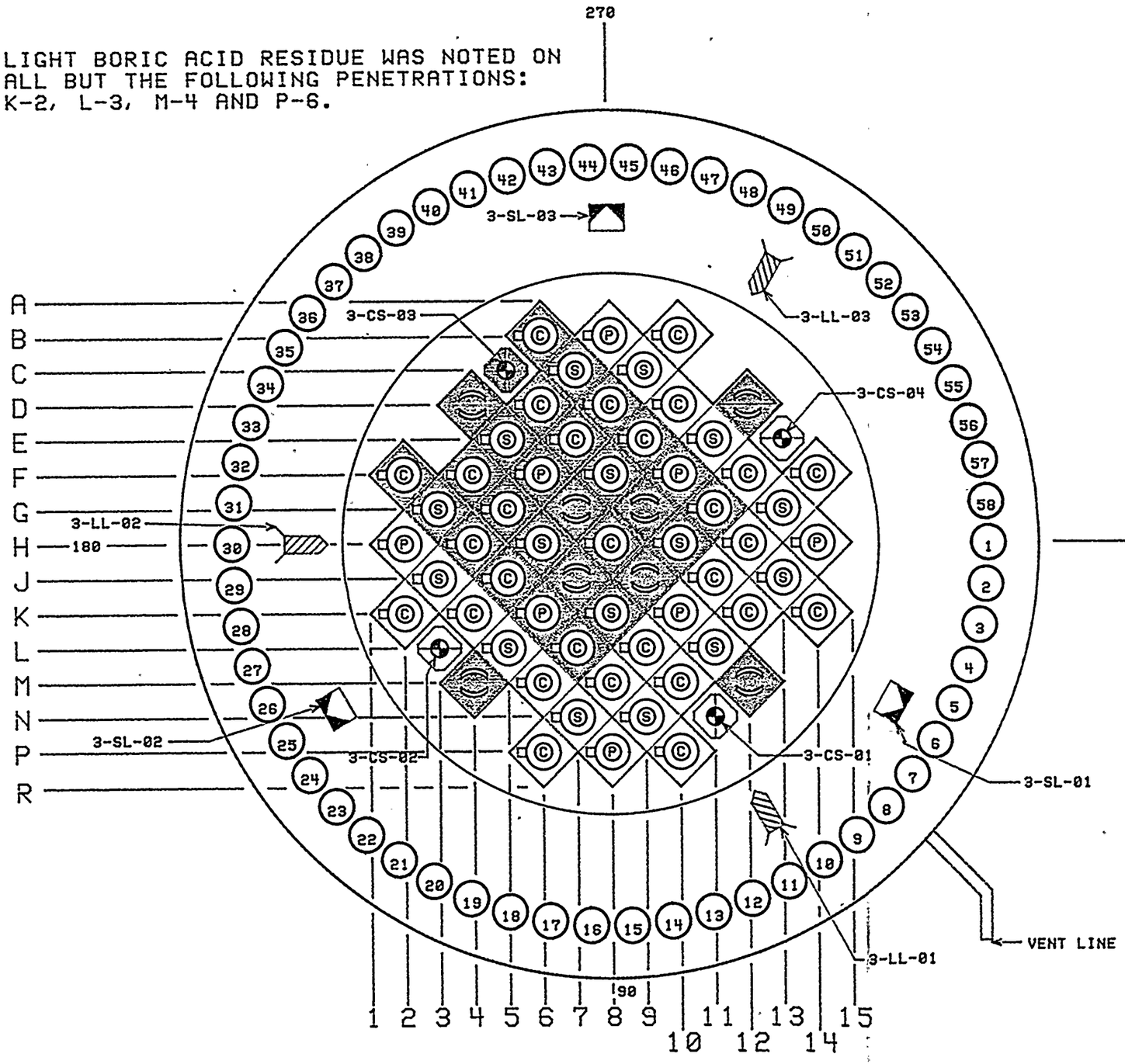


RELIEF REQUEST NO. 15
CIS-V-02F



TURKEY POINT UNIT 3
RELIEF REQUEST NO. 15
CIS-V-02G

NOTE: LIGHT BORIC ACID RESIDUE WAS NOTED ON ALL BUT THE FOLLOWING PENETRATIONS: K-2, L-3, M-4 AND P-6.



TURKEY POINT UNIT 3
RPV CLOSURE HEAD LEAK DETAIL
CIS-V-02A

MAY 13, 1987

RED = LEAKERS G-7 INITIAL LEAKER CONFIRMED PT.
G-9 SUSPECT LEAKER CONFIRMED PT.
H-8 SUSPECT PT NRI. PLANT QC, VT-2 & PT.

BLUE = BORIC ACID ACCUMULATION

GREEN = ISI VT-1 BOUNDARY TO INCLUDE CRDM AND BASEMETAL FOR EVIDENCE OF WASTAGE.

PURPLE = 10 YEAR ISI, PT OF THE DISSIMILAR METALI WELD.

TURQUOISE = ADDITIONAL SAMPLE TO INCLUDE ALL DUMMY PENETRATIONS.

CONOSEALS (4)

CRDM PARTIAL LENGTH (8)

OPERATING CRDM CONTROL RODS (29)

OPERATING CRDM SHUTDOWN RODS (16)

DUMMY CRDM (8)