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WOODY, C. O. Florida Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
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SUBJECT: Requests relief from visual exam requirements for repaired control rod drive housing during inservice insp progam, second interval. Approval requested by 880212 in order to support startup of plant following repairs.

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FPL

FEBRUARY 3 1988

L-88-53

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
Inservice Inspection Program
Second 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 housing D-8.

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. 17. A similar request for relief was approved by the NRC Staff by letter dated June 25, 1987.

Your approval is requested by February 12, 1988 in order to support the startup of Turkey Point Unit 3 following repairs, currently scheduled for that date.

In accordance with 10 CFR 170.12(c), an application fee (FPL Check No. 7154) for $150.00 is attached.

IF there are any questions, please contact us.

Very truly yours,

J. K. Hays
for C. O. Woody
Executive Vice President

COW/TCG/gp
Attachment

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

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1/1

TCG/003.III

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

RELIEF REQUEST NO. 17

A. COMPONENT IDENTIFICATION

- CLASS 1
- REACTOR PRESSURE VESSEL
- CONTROL ROD DRIVE LOWER CANOPY SEAL WELD NO. D-8
- EXAMINATION CATEGORY: B-O
- EXAMINATION ITEM NUMBER: B14.10
- EXAMINATION DESCRIPTION: PRESSURE RETAINING WELDS IN CONTROL ROD DRIVE HOUSINGS

B. EXAMINATION REQUIREMENTS

- IWB-2500-1, Perform volumetric or surface examination of 10% of the peripheral control rod drive housings during the inspection interval. Drawing number MCI-CRD-004 provides the examination requirements for a typical CRDM housing weld.

- IWA-7530 and IWA-4500, requires 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 pressure test shall be performed.

- IWA-5246, The visual (VT-2) examination following a repair or replacement of a component, the examination 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 D-8.

D. BASIS FOR RELIEF

1. LOCATION

The location of the CRDM two (2) piece split canopy seal is located in the third (3) row from the outer peripheral of the Reactor Pressure Vessel closure head. Drawing number MCI-CRD-003 , color coded in red, provides the location of the repaired housing weld number D-8.

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

RELIEF REQUEST NO. 17

2. INITIAL PREPARATION FOR EXAMINATION

In order to perform the initial visual examinations, the following preparations had to be performed:

a. The visual inspection/examination ports in the shroud were removed. See drawing number MCI-CRD-009 for detail of ports, and drawing number MCI-CRD-003 for location in shroud of all three (3) ports.

b. Radiation surveys were conducted prior to performance of examinations, See attached survey for radiation doses.

c. Remote visual examination equipment were lowered down in the cavity in order to video tape results.

3. INITIAL EXAMINATIONS

The identification of the leaking CRDM was identified by an inspection through the recently installed inspection/examination ports.
Visual (VT-1) examinations using the remote visual equipment confirmed the location of the leak and identified the indication at 180 degrees (backside) of the CRDM housing.
In addition to the confirmation of the leaking CRDM an additional sample of eight (8) CRDM were also examined, in order to bound in the area.
The Remote Visual examinations identified above resulted in a exposure of 3950 mr to the examiners.

4. REPAIR

The repair of the leaking CRDM Lower canopy seal weld will consist of encapsulating the entire weld with a two (2) piece split ring. See drawing number MCI-CRD-002 for original detail. This two (2) piece split ring will be welded to the CRDM housing and the instrument port by a fillet weld running 360 degrees around the top and bottom of the ring. See drawing number MCI-CRD-007 for detail. The second piece will be welded by two (2) long welds (open butt). These welds will be facing the outer peripheral of the closure head such that a partial examination can be performed through the inspection ports during the pressure test.

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

RELIEF REQUEST NO. 17

The examinations performed during the repair activity will consist of in process visuals and visuals and surface examination of the completed welds and a Remote visual examination of the repair area taped to establish a baseline. The surface examination performed after the repair will satisfy both the construction and section XI ASME Codes.

5. ACCESSIBILITY DURING SYSTEM PRESSURE TESTS

The following restrictions prohibit 100% direct or remote visual (VT-2) examination of the entire repair weld during the pressure test:

a. The installation of the CRDM Coil stacks and the RPI cables prohibit entry from the top of the head.

b. Access to the CRDM is limited by the CRDM ports being eight and one half inches (8 1/2") away from each other.

c. The test temperature and test pressure 2350 psi, 547 degrees prohibit direct examination of the repair area.

d. The radiation doses. See radiation survey

6. ADDITIONAL COMMENTS

In addition to the above obstructions, the amount of associated effort and supporting work to comply with the ASME code requirements is not justified for the following reasons:

a. The design configuration of the encapsulating canopy ring will provide assurance of an acceptable level of Quality and Safety. Drawing no. MCI-CRD-007.

b. FPL feels that with the design of the split ring and the examinations performed coupled with the VT-2 examination through the inspection/examination ports that an acceptable level of Quality and Safety will be assured.

c. FPL feels that with the addition of the three (3) inspection ports, early identification of leaks from the CRDM ports will assure a continued acceptable level of quality and significantly reduse the radiation exposure to personnel.

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d. FPL feels that the removal of the above obstructions solely for the purpose of viewing the repair 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. ALTERNATE EXAMINATIONS

1. Perform the Visual (VT-2) examinations during the Reactor Coolant System overpressure test to the extent practical.

2. Perform these examinations through the visual inspection/examination ports and with the use of a high intensity light, these viewing ports will provide the inspector/examiner with a means of locating and identifying leaks that may be present during the overpressure test.

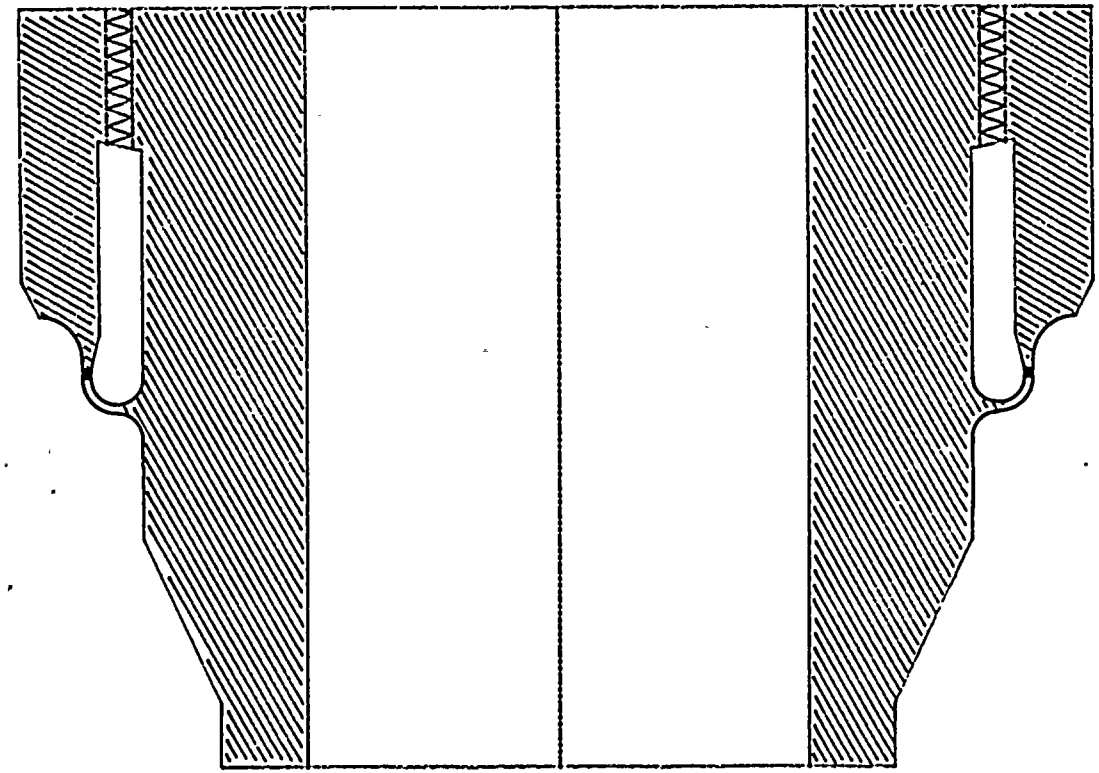
F. IMPLEMENTATION SCHEDULE

- The third refueling outage of the second inspection period, of the second ten-year inservice inspection interval.

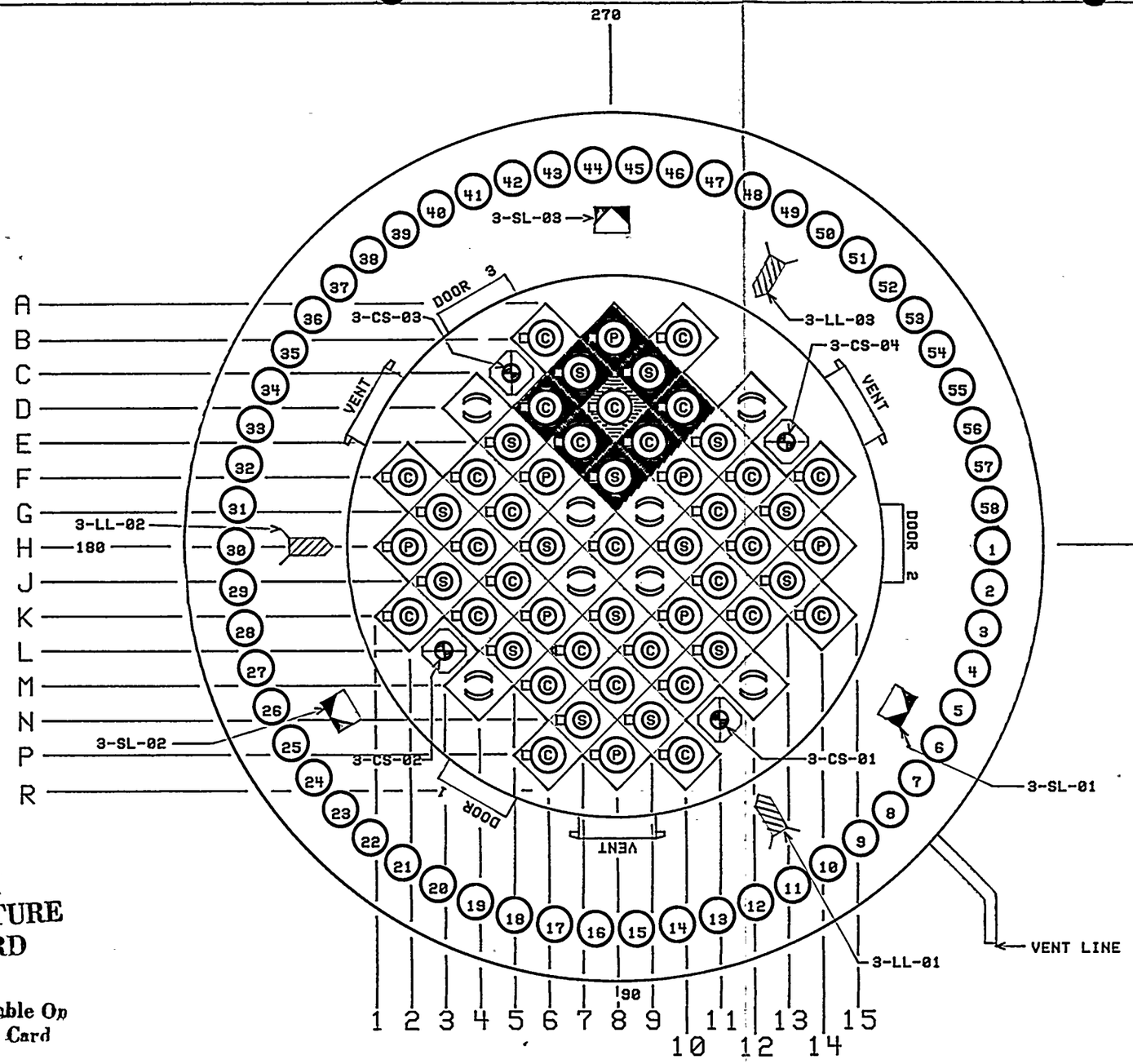
G. ATTACHMENTS

DRAWING NUMBER	DESCRIPTION
MCI-CRD-002	CRDM LOWER CANOPY SEAL WELD ORIGINAL DESIGN
MCI-CRD-003	ISI CONFIRMED LEAKER & INITIAL SAMPLE
MCI-CRD-004	CLOSURE HEAD HOUSING DETAIL TYPICAL
MCI-CRD-007	SPLIT TWO PIECE CANOPY RING
MCI-CRD-009	VISUAL OBSERVATION/EXAMINATION PORTS

RADIATION SURVEYS OF TURKEY POINT PLANT REACTOR PRESSURE VESSEL CLOSURE HEAD.



REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS SIZE SCH TYPE	TURKEY POINT UNIT 3
	DESIGN PSIG: TEMP(F): OPERATING PSIG: TEMP(F): HYDROSTATIC PSIG: TEMP(F):	UT CALIBRATION BLOCK:	TITLE: CONTROL ROD DRIVE LOWER CANOPY SEAL WELD SECTION VIEW ORIGINAL DESIGN DATE: 2-1-1988 ZONE: 2 REV. 0 / APPROVED BY: E. L. ANDERSON / DRAWING NUMBER: MCI-CRD-882



LEGEND

- QC IDENTIFIED LEAKER
- INSERVICE EXAMINATIONS 17 JANUARY 1988
  - LEAK CONFIRMED D-8
  - INITIAL SAMPLE

CONOSEALS (4)

CRDM PARTIAL LENGTH (8)

OPERATING CRDM CONTROL RODS (29)

OPERATING CRDM SHUTDOWN RODS (16)

DUMMY CRDM (8)

TI APERTURE CARD

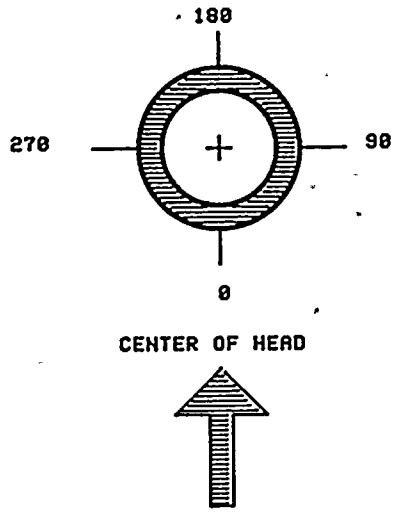
Also Available On Aperture Card

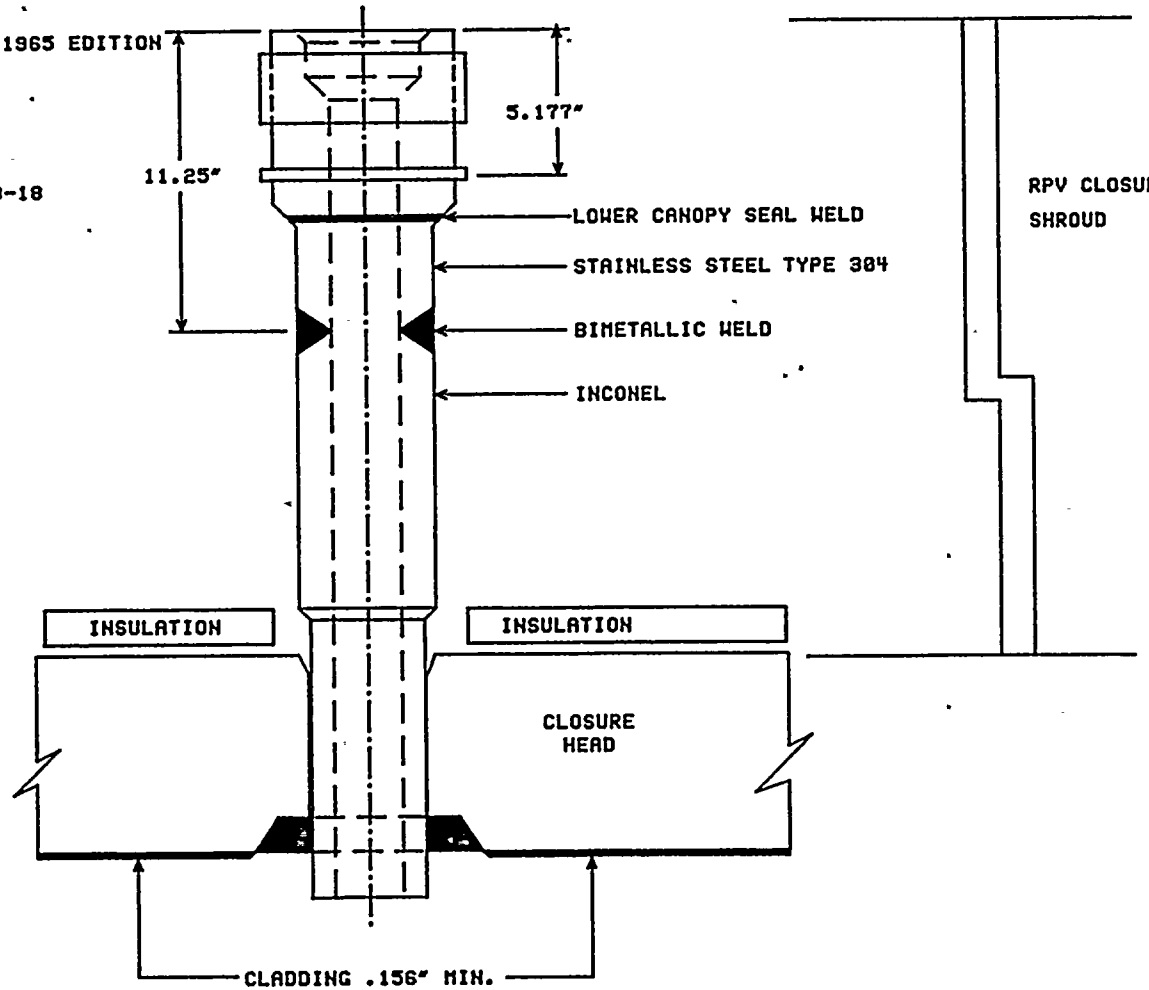
REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS SIZE SCH TYPE	TURKEY POINT NUCLEAR STATION
	DESIGN PSIG: TEMP(F):		TITLE: ISI CONFIRMED LEAKER AND INITIAL SAMPLE
	OPERATING PSIG: TEMP(F):		DATE: 2-2-88 ZONE: 02
	HYDROSTATIC PSIG: TEMP(F):	UT CALIBRATION BLOCK:	REV. 0 / APPROVED BY: EL ANDERSON / DRAWING NUMBER: MCI-CRD-008

8802290520-01

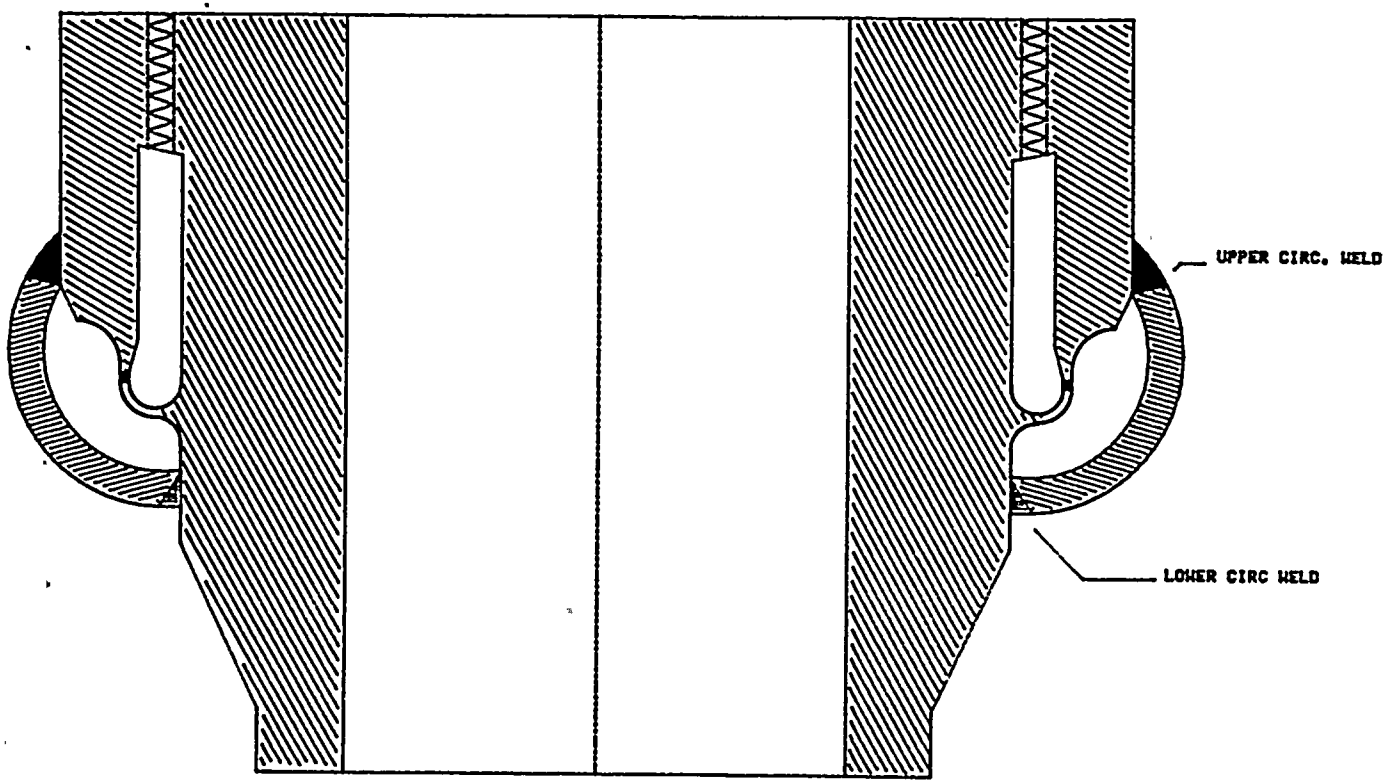
NOTE:

1) ASME B&PV CODE SECTION III, 1965 EDITION
   CODE CASE - 1335
   CODE CASE - 1332-2
2) CODE CATEGORY: B-O
3) CODE ITEM NUMBER: B14.10
4) EXAM REQUIREMENTS: IWB-2500-18





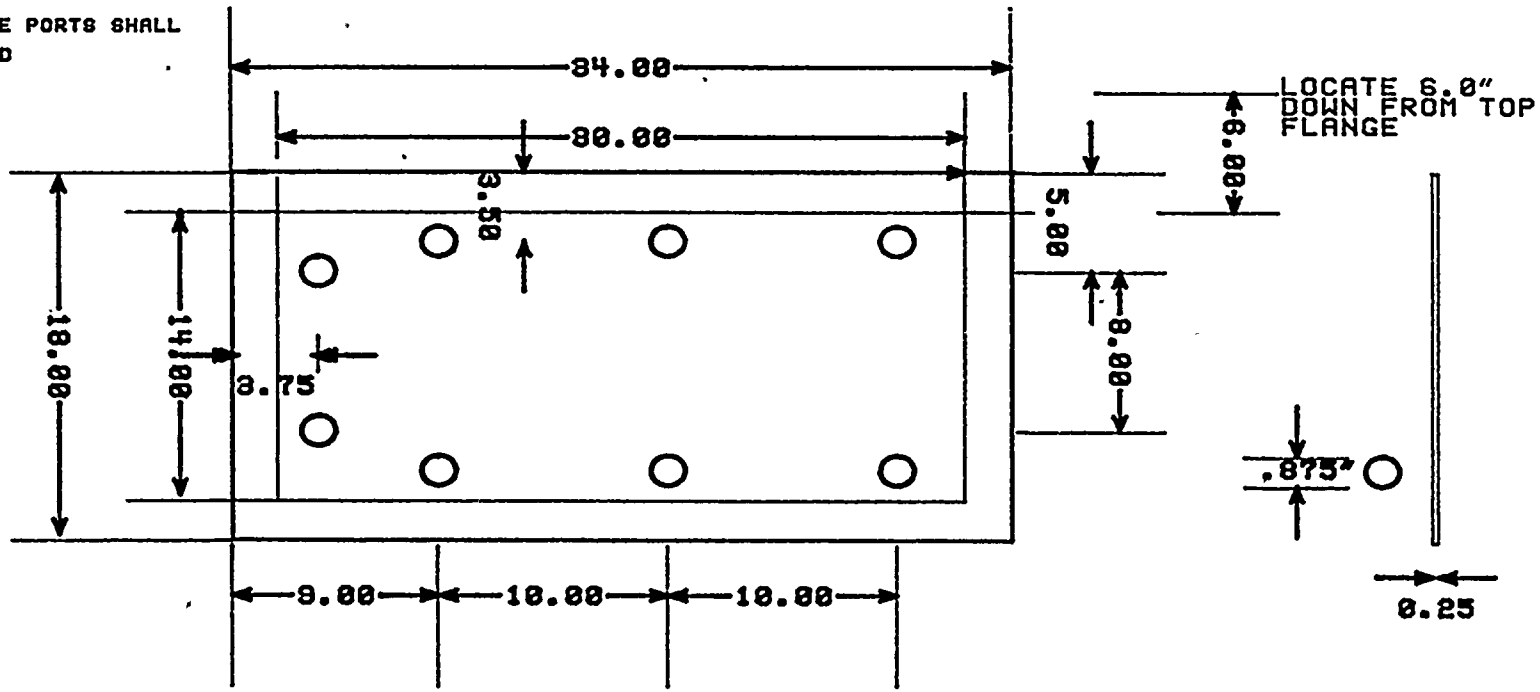
REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS SIZE SCH TYPE	CODES & PROGRAMS GROUP TURKEY POINT UNIT 3
153811E R O WESTINGHOUSE	DESIGN PSIG: 2485 TEMP(F): 680 OPERATING PSIG: 2235 TEMP(F): 547 HYDROSTATIC PSIG: 3107 TEMP(F): 547	4.25" .875" T SB 167 INCONEL ALLOY 600 4.25" .875" T SA 182 TYPE 304 STAINLESS STEEL	TITLE: CLOSURE HEAD HOUSING DETAIL DATE: 1 JAN 1988 ZONE: 2 REV. 0 APPROVED BY: DRAWING NUMBER: MCI-CRD-004

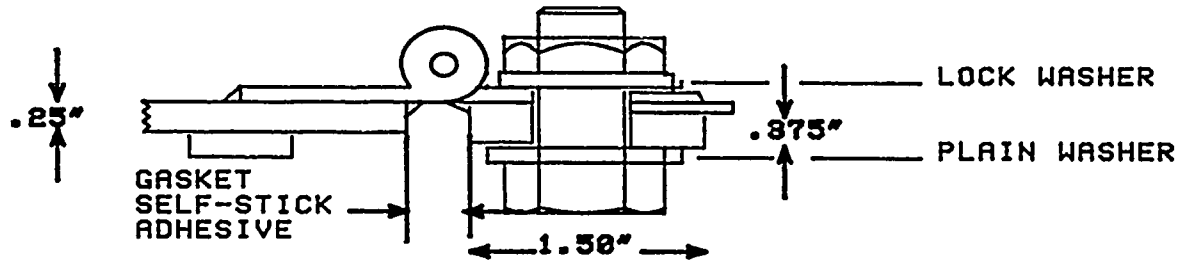


REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS SIZE SCH TYPE	TURKEY POINT UNIT 3
	DESIGN PSIG: TEMP(F): OPERATING PSIG: TEMP(F): HYDROSTATIC PSIG: TEMP(F):	UT CALIBRATION BLOCK:	TITLE: SPLIT TWO PIECE CANOPY RING SECTION VIEW DATE: 01/22/88 ZONE: 2 REV. 0 / APPROVED BY: E. ANDERSON / DRAWING NUMBER: MCI-CRD-087

VISUAL EXAMINATION PORTS IN RPV SHROUD

NOTE:
1. (8) SEPERATE PORTS SHALL BE INSTALLED





CISPORT

REFERENCE DRAWINGS: REV:	PRESSURE & TEMPERATURE STATS	MATERIAL SPECS SIZE SCH TYPE	TURKEY POINT NUCLEAR STATION
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	OPERATING PSIG: TEMP(F):		DATE: 2-2-1988 ZONE: 02
	HYDROSTATIC PSIG: TEMP(F):	UT CALIBRATION BLOCK:	REV. 0 / APPROVED BY: E. ANDERSON / DRAWING NUMBER: MCI-CRD-888

LOCATION: Unit #3 Cavity- Reactor Head

DATE: 1-19-88

☐ ROUTINE ☒ RWP NO. 7310 ☒ SPECIAL REMARKS

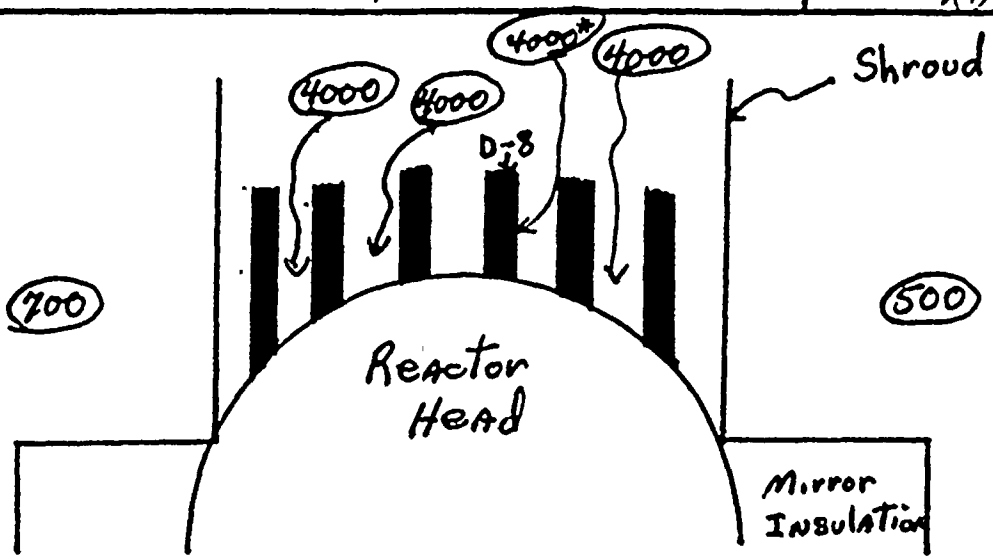
TIME: 0710

INSTRUMENTS & HP NO. Teletector #414

SURVEY BY: (NAME) R. Rodriguez/A. Horvath

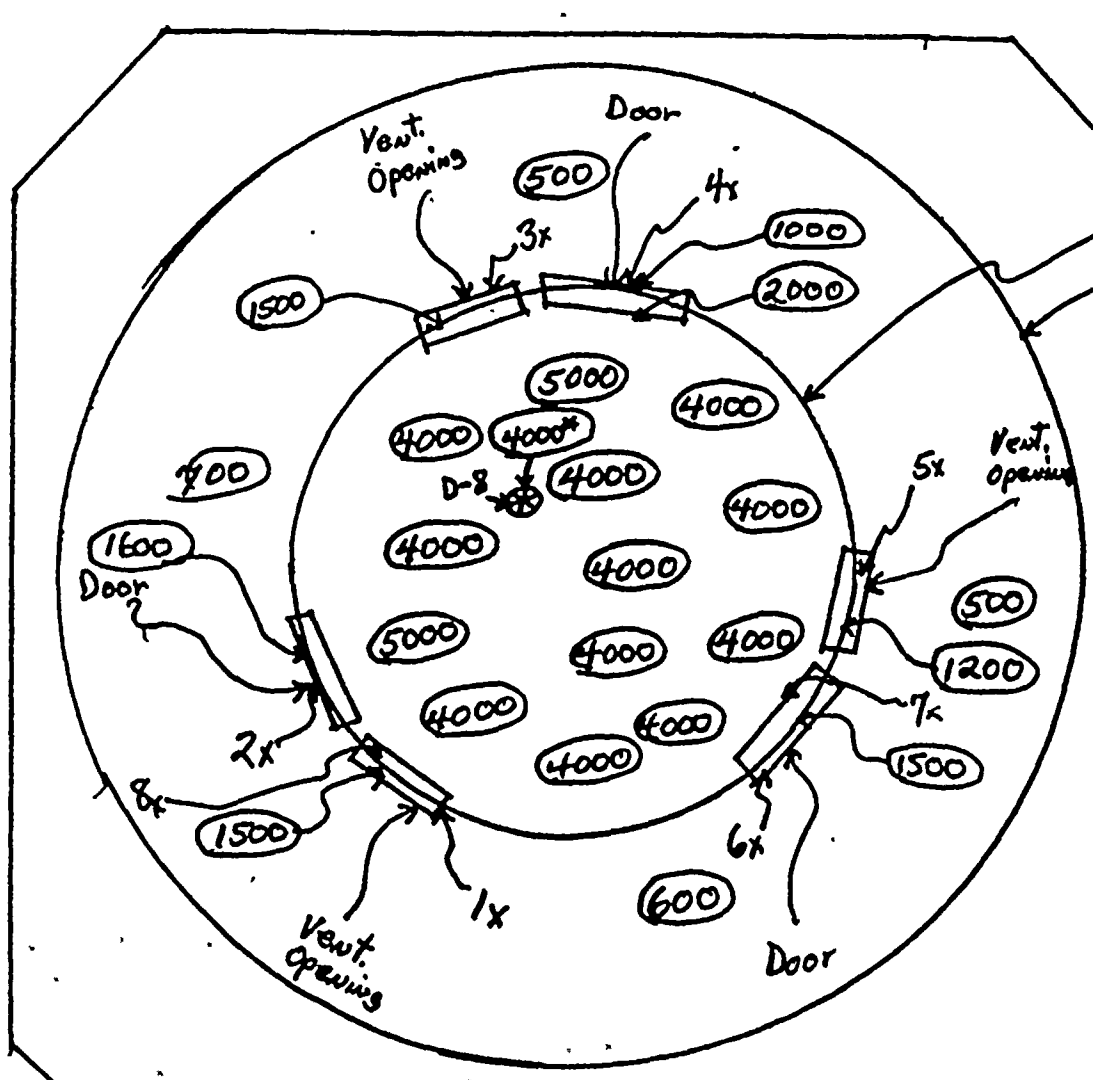
CIRCLED NUMBERS INDICATE RADIATION DOSE RATE IN MREM/HR.
X INDICATES TRANSFERABLE CONTAMINATION IN DPM/100 CM^2
SQUARED NUMBERS INDICATE BETA RADIATION DOSE RATES IN MRAD/HR. (CORRECTION FACTOR APPLIED)

REVIEWED BY: (INITIALS)



COPY

LOCATION: Unit #3 Cavity - Reactor Head	DATE: 1-19-88
☐ ROUTINE ☒ RWP NO. 7310 ☒ SPECIAL REMARKS	TIME: 0710
INSTRUMENTS & HP NO. Teletector #444 / RM-3C-4 #304	SURVEY BY: (NAME) R. Rodriguez / A. Horvath
CIRCLED NUMBERS INDICATE RADIATION DOSE RATE IN MREM/HR. X INDICATES TRANSFERABLE CONTAMINATION IN DPM/100 CM^2 SQUARED NUMBERS INDICATE BETA RADIATION DOSE RATES IN MRAD/HR. (CORRECTION FACTOR APPLIED)	REVIEWED BY: (INITIALS)



Lower Cavity

Smear Results:

K=1000 dpm/100 cm^2

1x - 20K

2x - 5K

3x - 100K

4x - 350K

5x - 450K

6x - 100K

7x - 15K

8x - 250K

SMEAR # 8
MS-2 # 451, BY 5.5E5 DPM
MS-2 # 359, < MDA = 18 DPM
< MDA