

REVISION	DATE	BY	APP'D
1	10/10/79	C. GARCIA	
2	11/15/79	C. GARCIA	
3	12/10/79	C. GARCIA	

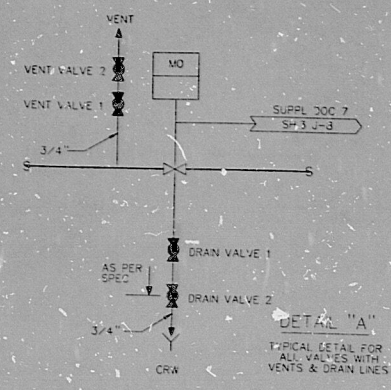


TABLE 1

REMOTE OPERATED VALVES	VENT VALVES		DRAIN VALVES	
	1	2	1	2
F023A	F025A	F026A	F027A	F028A
F067A	F068A	F069A	F070A	F071A

FLOW CONTROL VALVE F030A

LINE & VALVES NOT RECD

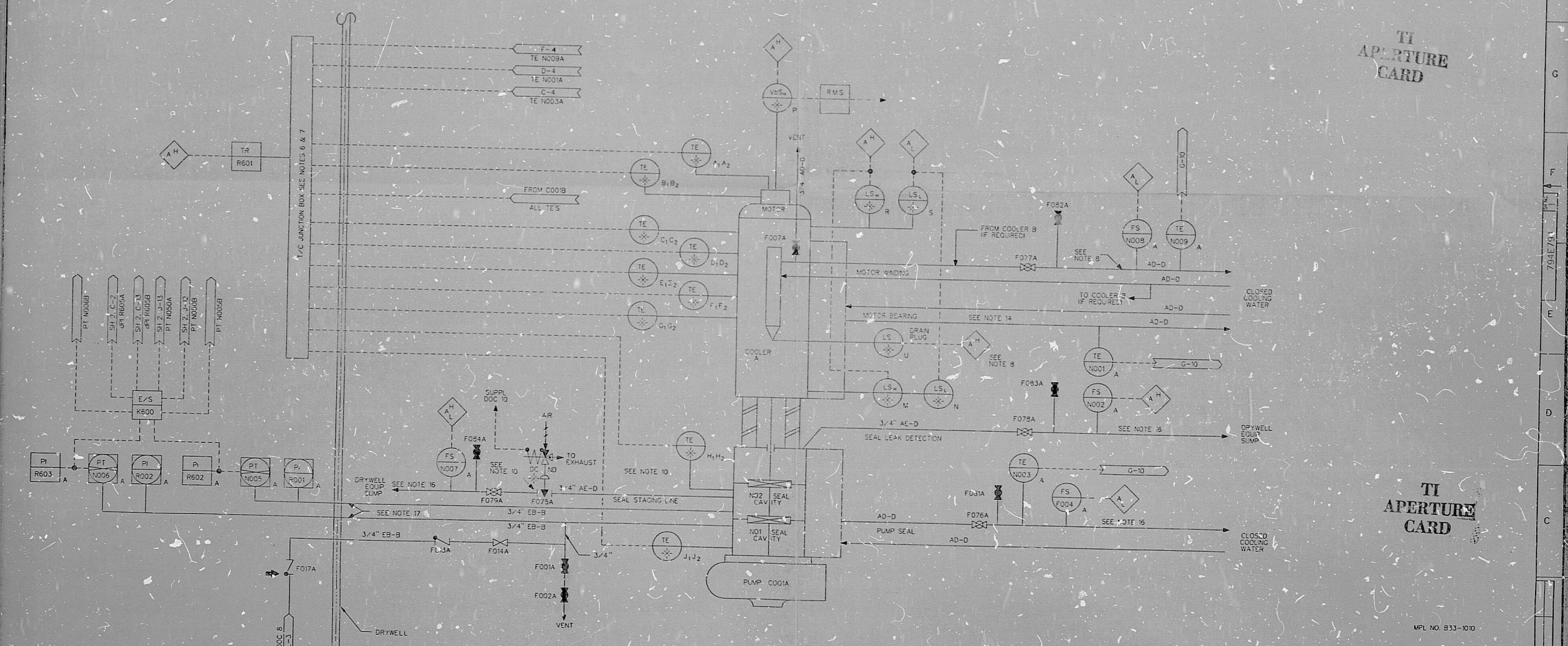
F065A F066A

- NOTES
- PIPE SIZES SHOWN ON THIS DRAWING ARE APPROXIMATE EXCEPT AT POINTS OF CONNECTION WITH SUPPLIED EQUIPMENT OR PIPING. THE PIPING DESIGNER SHALL CHECK AND ADJUST PIPE SIZE IN ACCORDANCE WITH HIS PIPING LAYOUT FOR CONFORMANCE WITH THE SYSTEM DESIGN SPEC.
 - FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE INSTRUMENT DATA SHEET LISTED IN MP.
 - COOLING WATER WILL BE REQUIRED FOR THE RECIRC PUMP DURING ALL PERIODS OF NORMAL OPERATIONAL INCLUDING STARTUP AND HOT STANDBY. COOLING WATER WILL NOT BE REQUIRED FOLLOWING A LOCA.
 - THE SAMPLE PROBE SHALL BE LOCATED ON A VERTICAL SECTION OF THE RETURN LEG.
 - DECONTAMINATION CONNECTIONS TO BE READILY ACCESSIBLE FOR CONVENIENT AND RAPID CONNECTION OF TEMPORARY PIPING.
 - WHERE THERMOCOUPLES ARE DESIGNED AS A₁, A₂, ETC. A₂ IS A SHARED ELEMENT.
 - LIST OF PUMP & MOTOR AUXILIARY INSTRUMENTATION (AS SUPPLIED BY COOIB):
 - TE/A1A2 - THRUST BEARING UPPER FACE
 - TE/B1B2 - THRUST BEARING LOWER FACE
 - TE/C1C2 - UPPER GLIDE BEARING
 - TE/D1D2 - MOTOR WINDING A
 - TE/E1E2 - MOTOR WINDING B
 - TE/F1F2 - MOTOR WINDING C
 - TE/G1G2 - LOWER GLIDE BEARING
 - TE/H1H2 - NO. 2 SEAL CAVITY
 - TE/I1I2 - NO. 1 SEAL CAVITY
 - TE/J1J2 - MOTOR WINDING COOLING WATER DISCHARGE
 - TE/K1K2 - MOTOR BEARING OIL COOLING WATER DISCHARGE
 - TE/L1L1 - MOTOR LOWER BEARING OIL DISCHARGE
 - TE/M1M1 - MOTOR LOWER BEARING OIL HIGH LEVEL SWITCH
 - TE/N1N1 - MOTOR VIBRATION SWITCH
 - TE/O1O1 - MOTOR UPPER BEARING OIL HIGH LEVEL SWITCH
 - TE/P1P1 - MOTOR UPPER BEARING OIL LOW LEVEL SWITCH
 - TE/Q1Q1 - MOTOR WINDING LOW FLOW SWITCH
 - TE/R1R1 - MOTOR COOLING COILS DRAIN HIGH LEVEL SWITCH
 - TE/S1S1 - PLUMP SEAL COOLING WATER LOW FLOW SWITCH
 - TE/T1T1 - PLUMP SEAL STAGING LINE HIGH & LOW FLOW SWITCH
 - TE/U1U1 - PLUMP SEAL LEAKAGE HIGH FLOW SWITCH
 ALL THERMOCOUPLES ARE TO BE WIRED OUT THROUGH DRYWELL TO T-4 JUNCTION BOX.

- A LEVEL SWITCH IS SUPPLIED WITH EACH COOLER TO DETECT COOLING WATER LEAKAGE OR CONDENSATE BUILDUP IN THE COOLER HOUSING.
- CLASS OF PIPING TO THE VENTS & DRAINS TO CRK & DRW BEYOND THE FINAL VALVE IS TO BE SELECTED BY THE PIPING DESIGNER.
- THIS VALVE IS SUPPLIED BY THE PUMP VENDOR AND MUST BE EB-B, OTHERWISE, AE-D IS ACCEPTABLE.
- ALL MOTOR OPERATED & AIR OPERATED PNEUMATIC VALVES ARE EB-B UNLESS OTHERWISE NOTED.
- FOR NUMBER OF RISERS, JET PUMP INSTRUMENTATION AND NUMBER & SIZE OF BOTTOM HEAD DRAIN LINES SEE REACTOR RECIRC SYS PA&D DATA.
- THE DESIGN PRESSURE & TEMPERATURE RATINGS FOR THE RECIRC PIPING AND EQUIPMENT ARE SHOWN IN THE SYSTEM DESIGN SPEC.
- CLOSED COOLING WATER TO THE MOTOR BEARING IS TO SERVE BOTH THE UPPER BEARING & THE LOWER MOTOR BEARING. THE RETURN FLOW IS TO BE POINTED UPSTREAM OF THE TEMPERATURE ELEMENT.
- THE SAMPLE PIPING TO THE SECOND ISOLATION VALVE SHALL BE 3/4" HIGH QUALITY EXTRA STRONG WITH NOMINAL PIPE DIAMETER OF 0.375" TO MAINTAIN TURBULENT FLOW FROM THE SECOND ISOLATION VALVE TO THE SAMPLE STATION 3/8" NCH O.D. X 0.035" NCH WALL SEAMLESS STAINLESS STEEL TUBING SHALL BE USED. SEE REF 9.
- PIPING DESIGNER SHALL ADD UNION ENDS TO THE PIPING BEFORE & AFTER THE SWITCH TO PROVIDE MEANS OF CALIBRATING THE FLOW SWITCH AND ALSO FLUSHING THE LINE.
- A 30" O.D. RESTRICTING ORIFICE COUPLING WITH A BORE DIAMETER OF 1/4" NCH SHALL BE SOCKET WELDED INTO THE DRYWELL SIDE OF THE LINE TO LIMIT MASS RELEASE FOLLOWING A LINE BREAK.
- FOBO FLOW CONTROL VALVE ONLY HAS TWO SEAL LEAKOFF DRAINS WHICH ARE CONNECTED TOGETHER EXTERNALLY.

SUPPLEMENTAL DOCUMENTS UNDER THE FOLLOWING DESIGNATIONS ARE TO BE USED IN CONJUNCTION WITH THIS DRAWING:

REFERENCE DESIGNATION	DESCRIPTION
1	NUCLEAR BOILER SYS PA&D 821-1010
2	NUCLEAR BOILER SYS FCD 821-1030
3	RESIDUAL HEAT REMOVAL SYS PA&D 812-1010
4	RESIDUAL HEAT REMOVAL SYS FCD 812-1030
5	NEUTRON MONITORING SYS ED 831-1010
6	REACTOR WATER CLEANUP SYS PA&D 833-1010
7	LEAK DETECTION SYS ED 831-1010
8	CONTROL ROD DRIVE HYDRAULIC S'S PA&D 811-1010
9	WATER SAMPLING REQUIREMENT 862-4240
10	REACTOR RECIRC SYS ELEM DIAG 833-1030
11	PWS L/O LIST 831-4030
12	REACTOR RECIRC SYS ED 833-1010
13	PPING & INSTRUMENT SYMBOLS 842-1010
14	PRESSURE INTEGRITY OF NUCLEAR COMPONENTS 862-4030
15	INSTRUMENTATION, JET PUMP 813-0025
16	PROCESS INSTRUMENTATION SPEC 862-4070



TYPICAL FOR PUMP C001B

TI APERTURE CARD

TI APERTURE CARD

MPL NO. 833-1010

EQUIPMENT CLASS CODE		SAFETY RELATED		IEEE CLASS 1E	
DESCRIPTION	CLASS	YES	NO	YES	NO
GENERAL ELECTRIC					
REACTOR RECIRCULATION SYSTEM					

UNLESS OTHERWISE SPECIFIED

TOLERANCES ON: 1 2 PLACE DECIMALS 3 PLACE DECIMALS

FRACCTIONS: 1/2 1/4 3/8 1/8 5/16 3/16 1/16

DATE: 794E794

SCALE: 1" = 2'-0"

PROJECT: IGS P-942-CA 2 R

REV: 2

DATE: 7/25/79

BY: [Signature]

APP'D: [Signature]

PDR RIDS

841220004

