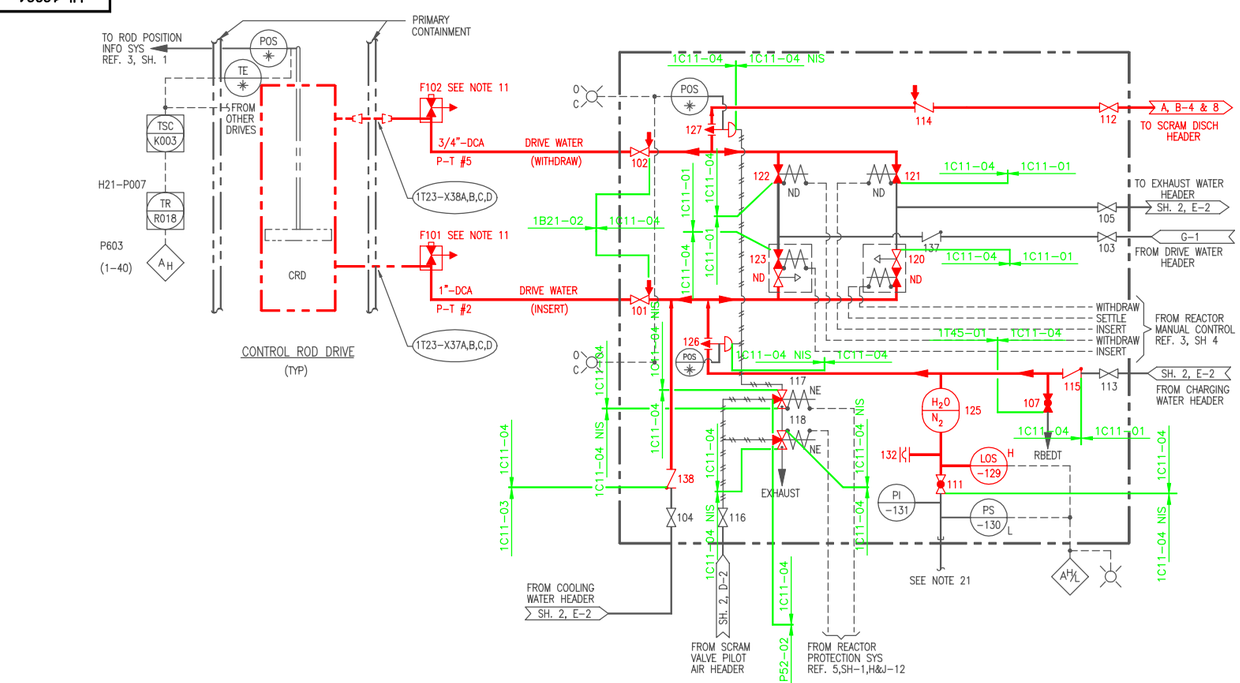
HL-16064



HYDRAULIC CONTROL UNIT – TYPICAL – MPL No. D001
(HCU PART NUMBERS FOR INFORMATION ONLY)

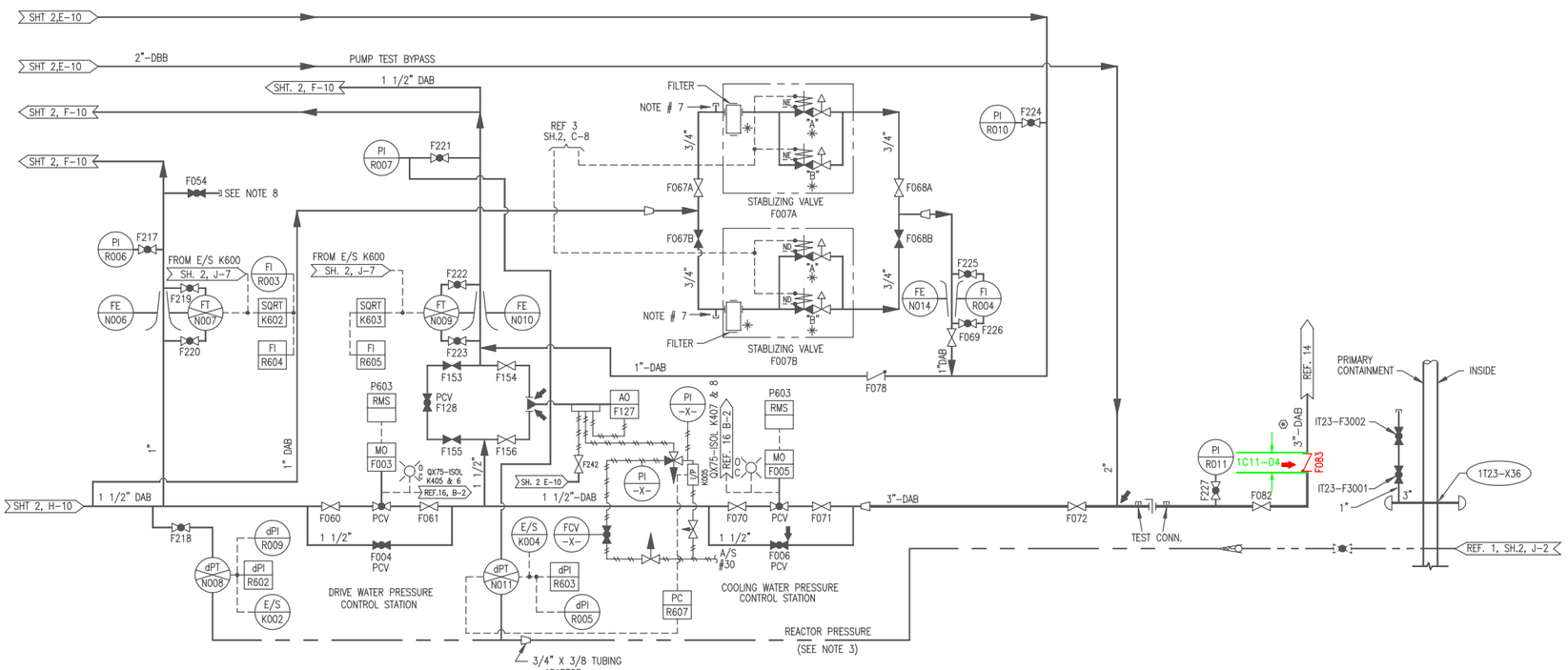
PRESSURE – TEMPERATURE INDEX REF 8 & 10					
P – T INDEX	DESIGN PSIG	DESIGN °F	PEAK PSIG	PEAK °F	MIN °F
1	230	150	275	125	–
2	1750	150	1863	150	–
3	1135	560	1361	560	50
4	1146	280	1375	280	–
5	1750	150	2100	535	–

REFERENCES:

		MPL NO.	SSI NO.
1. NUCLEAR BOILER SYSTEM P&ID	SHT 1	B21-1010	H-16062
	SHT 2		H-16063
2. C.R.D. HYD. SYSTEM P.D.		C11-1020	
3. C.R.D. HYD. SYSTEM FCD		C11-1030	
4. C.R.D. HYD. SYS. DESIGN SPEC.		C11-4010	
5. REACTOR PROTECTION SYSTEM IED		C71-1010	
6. PIPING & INSTRUMENT SYMBOLS		A41-1010	
7. PROCESS INSTRUMENT PIPING AND TUBING SPEC.		A61-4070	
8. PRESSURE INTEGRITY OF PIPING AND EQUIPMENT PRESSURE PARTS		A61-4030	
9. REACTOR RECIRC. SYS. P.&I.D.		B31-1010	H-16066
10. DRYWELL VALVE & EQUIP. DRAINAGE			H-16199
11. REACTOR BLDG. & RADWASTE BLDG. COND. STORAGE & TRANS. SYS.		P11-1010	H-16016
12. HPCI P&ID SHT. 2		E41-1010	H-16332
13. AUX. SYS. SCHEM I.E.D.–TURBINE GEN. CONTROL DIAGRAM – SHT. 2			H-11474
14. REACTOR WATER CLEAN UP SYS P&ID		G31-1010	H-16183
15. DIGITAL INPUT SIGNALS TO THE ERF COMPUTER SYS. I.E.D. SHT. 1 OF 15		X75-1010	H-16403
16. DIGITAL INPUT SIGNALS TO THE ERF COMPUTER SYS. I.E.D. SHT. 2 OF 15.		X75-1010	H-16404

NOTES:

1. ALL EQUIPMENT AND INSTRUMENTS ARE PREFIXED BY SYSTEM NUMBER C11 UNLESS OTHERWISE NOTED.
2. VALVE F007A–A CLOSES ON DRIVE INSERT SIGNAL. VALVE F007A–B CLOSES ON DRIVE WITHDRAW SIGNAL, BUT DOES NOT STAY CLOSED DURING SETTLING (G–17).
3. REACTOR PRESSSURE SENSING LINE SENSES P, (J–2) & (J–3).
4. STAB. VALVE F007B IS AN ALTERNATE FOR STAB. VALVE F007A (H–17).
5. PROVIDE VENT VALVES WITH CAP ON DISCHARGE SIDE ⊣▶◀⊢ AT ALL SYSTEM HIGH POINTS.
6. PROVIDE DRAIN VALVES WITH CAP ON DISCHARGE SIDE ⊣▶◀⊢ AT ALL SYSTEM LOW POINTS.
7. PROVIDED FOR SYSTEM FLUSHING (G & H–17).
8. AVAILABLE FOR TEMPORARY CONNECTION FOR INSTRUMENT FLUSHING NO PERMANENT PIPING CONNECTIONS TO BE MADE TO THIS VALVE (G–13).
9. C R D NITROGEN AND AIR LINES SHALL BE OF A NON–CORRODING MATERIAL.
10. SEE DESIGN SPEC. FOR THE REQ'D VOLUME OF SCRAM DISCHARGE VOLUME.
11. SYSTEM DESIGN IS SHOWN FOR 137 CONTROL ROD DRIVES.
12. EXCEPT AT POINTS OF CONNECTION WITH APED SUPPLIED EQUIPMENT, THE PIPING SUPPLIED BY OTHERS SHALL BE RESIZED BY OTHERS IF NECESSARY, DUE TO THE PIPING ARRANGEMENT BY OTHERS, TO COMPLY WITH THE APED SYSTEM PROCESS DIAGRAM AND SYSTEM DESIGN SPECIFICATION.
13. FOR LOCATION AND IDENTIFICATION OF INSTRUMENTS SEE THE INSTRUMENT DATA SHEETS LISTED IN THE MPL FOR EACH INSTRUMENT.
14. DELETED
15. MULTIPLE ORIFACES CONNECTED IN SERIES; SEE MPL FOR QUANTITY OF ORIFACES REQ'D, VALVE F034, SUPPLEMENTS THE ORIFACES FOR THE REQ'D PRESSURE DROP.
16. INSTALL CHECK VALVE AND FLUSH CONNECTION AS CLOSE TO THE 4" TEE AS POSSIBLE.
17. ADJUST NEEDLE VALVE F081 SO THAT THE OUTBOARD VENT AND DRAIN VALVES (F035A & B, F037) FULLY CLOSE AT LEAST FIVE (5) SECONDS AFTER EACH RESPECTIVE INBOARD VENT AND DRAIN VALVE (F010A & B, F0011) DURING A FULL CORE SCRAM. ALL VALVES MUST BE FULLY CLOSED IN LESS THAN FORTY–FIVE (45) SECONDS.
18. ADJUST NEEDLE VALVE F086 SO THAT THE INBOARD VENT AND DRAIN VALVES (F010 A & B, F011) START TO OPEN AT LEAST FIVE (5) SECONDS AFTER EACH RESPECTIVE OUTBOARD VENT AND DRAIN VALVE (F035 A & B, F037) UPON RESET OF A FULL CORE SCRAM.
19. VALVES F009 AND F040 ARE DUAL COIL SOLENOID OPERATED QUICK EXHAUST VALVES. EACH VALVE CONSISTS OF A DUAL COIL 3–WAY SOLENOID OPERATED VALVE AND A 3–WAY QUICK EXHAUST VALVE. WHEN BOTH COILS FOR A GIVEN SOLENOID VALVE ARE DEENERGIZED AIR IS VENTED FROM THE INLET PORT OF THE QUICK EXHAUST VALVE. THIS CAUSES THE QUICK EXHAUST VALVE TO SHIFT, THEREBY VENTING AIR VIA LARGE PORTS FROM THE ASSOCIATED VENT AND DRAIN VALVES (F010 A & B, F011, F035 A & B, F037). WHEN EITHER COIL IS ENERGIZED AIR IS SUPPLIED TO THE VENT AND DRAIN VALVES VIA THE SOLENOID VALVE AND A BLEED HOLE IN THE QUICK EXHAUST VALVE DIAPHRAM.
20. VALVE C11–F237 IS A GEAR BOX OIL DRAIN VALVE.
21. ACCUMULATORS CHARGED WITH NITROGEN FROM PORTABLE N_2 CHARGING CART.
22. ⊛ DENOTES ALL DOWNGRADED PIPING AND COMPONENTS DOWNSTREAM OF OUTBOARD ISOLATION VALVE 1G31–F004 THROUGH VALVES 1G31–F039, 1G31–F203 AND UP TO VALVE C11–F083, WHICH MAY BE CONSTRUCTED TO ASME SECTION III, CLASS 3 REQUIREMENTS, INSTEAD OF ORIGINAL CONSTRUCTION CODE OF USAS B31.7, CLASS 2.



BOUNDARY DIAGRAM NO.:1B21–B02–15

FUNCTION(S) NO.: 1B21–02

PREPARED BY: WILLIE JENNINGS
DATE: 5/7/98
REVIEWED BY: WILLIAM P EVANS
DATE: 5/13/98

BOUNDARY DIAGRAM NO.:1C11–B01–01

FUNCTION(S) NO.: 1C11–04
1C61–01
PREPARED BY: ALEX MORRISON
DATE: 1/30/98
REVIEWED BY: WILLIE JENNINGS
DATE: 5/28/98

LICENSE RENEWAL DOCUMENT

C11-1010 | ACAD14 | HL16064

SOUTHERN COMPANY

LICENSE RENEWAL SCREENING FOR INFORMATION ONLY

EDWIN I. HATCH NUCLEAR PLANT UNIT No. 1
CONTROL ROD DRIVE SYSTEM
P & ID SHEET 1

Revision: A	Date: 11–18–99
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BY	CHK'D	APPR.'L
TRM	ED	ASK

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DATE	SCALE			
	None			