



**NOTES**

- ANALOG GATE CONSISTS OF 2 SOLENOID VENT VALVES IN SERIES TO REDUNDANTLY INTERLOCK THE AIR LINE BETWEEN EACH VALVE DIAPHRAM AND ITS ASSOCIATED POSITIONER. THE SOLENOID VALVES ARE DE-ENERGIZED TO VENT, CAUSING THE MAIN FEEDWATER VALVE TO CLOSE IN 3 SECONDS.
- ALL CIRCUITS IN THIS SHEET ARE NOT REDUNDANT EXCEPT WHERE INDICATED "REDUNDANT".
- OPEN/SHUT INDICATION FOR EACH FEEDWATER CONTROL VALVE IN CONTROL ROOM.
- SHEET NUMBERS REFER TO THE REFERENCE NUMBERS BELOW.  
CHANNEL, ISOLATION MUST BE PROVIDED.
- THIS DRAWING ILLUSTRATES THE FUNCTIONAL REQUIREMENTS OF THE REACTOR CONTROL AND PROTECTION SYSTEM. THIS DRAWING DOES NOT REPRESENT ACTUAL HARDWARE IMPLEMENTATION. FOR HARDWARE IMPLEMENTATION, REFER TO THE APPLICABLE SCHEMATIC.

**REFERENCES (NOTE 4)**

WE DWG	PG&E DWG
1. FUNCTIONAL LOGIC DIAGRAM INDEX AND SYMBOLS	5653074-1 495841
2. FUNCTIONAL LOGIC DIAGRAM REACTOR TRIP SIGNALS	5653074-2 495842
3. FUNCTIONAL LOGIC DIAGRAM NUCLEAR INSTR AND MANUAL TRIP SIGNALS	5653074-3 495843
4. FUNCTIONAL LOGIC DIAGRAM NUCLEAR INSTR PERMISSIVES AND BLOCKS	5653074-4 495844
5. FUNCTIONAL LOGIC DIAGRAM PRIMARY COOLANT SYSTEM TRIP SIGNALS	5653074-5 495845
6. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER TRIP SIGNALS	5653074-6 495846
7. FUNCTIONAL LOGIC DIAGRAM STEAM GENERATOR TRIP SIGNALS	5653074-7 495847
8. FUNCTIONAL LOGIC DIAGRAM SAFEGUARDS ACTUATION SIGNALS	5653074-8 495848
9. FUNCTIONAL LOGIC DIAGRAM ROD CONTROLS AND ROD BLOCKS	5653074-9 495849
10. FUNCTIONAL LOGIC DIAGRAM STEAM DUMP CONTROL	5653074-10 495850
11. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER PRESSURE AND LEVEL CONTROL	5653074-11 495851
12. FUNCTIONAL LOGIC DIAGRAM PRESSURIZER HEATER CONTROL	5653074-12 495852
13. FUNCTIONAL LOGIC DIAGRAM FEEDWATER CONTROL AND ISOLATION	5653074-13 495853
14. FUNCTIONAL LOGIC DIAGRAM FEEDWATER CONTROL AND ISOLATION	5653074-14 495854
15. FUNCTIONAL LOGIC DIAGRAM AUXILIARY FEEDWATER PUMPS STARTUP	5653074-15 495855
16. FUNCTIONAL LOGIC DIAGRAM TURBINE TRIPS, RUNBACKS & SIGNALS	5653074-16 495856
17. FUNCTIONAL LOGIC DIAGRAM AMSAC SIGNALS	5653074-17 495857
18. FUNCTIONAL LOGIC DIAGRAM SEISMIC TRIP	8759D77 495858
19. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS INPUT SIGNAL VALIDATION	5653074-18 495859
20. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS FW FLOW CONTROLLER & C <sub>0</sub> DEMAND	5653074-19 495860
21. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS CONT VCV SEQ & TRACKING LOGIC	5653074-20 495861
22. FUNCTIONAL LOGIC DIAGRAM DIGITAL FW CONT SYS SIGNAL SELECTOR LOGIC	5653074-21 495862
23. DRAWING INDEX SOLID STATE PROTECTION SYS INTERCONNECTION & SCHEM. DIAGRAM	108D442-1 458826

DWG NO. 495854  
 SUBJECT: FEEDWATER CONTROL & ISOLATION  
 DRAWING TITLE: FEEDWATER CONTROL & ISOLATION  
 UNIT No. 1  
 PROJECT LOCATION: [ ] DIVISION: [ ]  
 INSTALLATION: [ ] DIVISION: [ ]  
 MAN. HOURS: [ ] CADD: [ ]  
 SOURCE: [ ]

2 JOHN W. HEFLER  
 REGISTERED ENGINEER SIGNATURE CA REG. NO. E-9995 EXP. DATE 9-30-95

**NUCLEAR SAFETY RELATED**

KEY DWG--SECTION 3 UNIT 1  
 APPROVED BY: SUPV L. HOLLOWAY  
 DESIGNED BY: DSON WESTINGHOUSE  
 DRAWN BY: W. ALBOVIAZ  
 CHECKED BY: A. LITM  
 DATE: 5-23-91  
 SCALES: NONE

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
2	12/27/93	CHG. 0.5 TO 7 SECONDS IN NOTE 1 PER PCT. 1617T																					
1	5-23-91	SUPERSEDED DWG 663195-14 REV 50006, NOTES 3 & 4; ADDED NOTES 5 & 6 (DCI-EE-412501)																					

RM INDEXED REV 2
COAST VALLEYS DIVISION
MICROFILM
BILL OF MATL
DWG LIST
SUPDS 663195-14
SUPSD BY
SHEET NO. 495854
SHEETS 2