



**NOTES:**

1. TRAIN A CONTROLS MAPP 24 BREAKER TRAIN B CONTROLS MAPP 24 BREAKER
2. LOCAL CONTROL OVERRIDES ALL OTHER SIGNALS.
3. LOCAL OVERRIDE ACTUATES ALARM IN CONTROL ROOM.
4. OPEN/SHUT INDICATION IN CONTROL ROOM.
5. MOTOR OPERATING LIGHTS IN CONTROL ROOM.
6. INDIVIDUAL FOR EACH VALVE.
7. INDIVIDUAL FOR EACH PUMP.
8. THE TURBINE SPEED CONTROL IS TYPICAL. ACTUAL IMPLEMENTATION MAY NOT INCLUDE SPEED CONTROL.
9. THE AMSAC SIGNAL IS NOT REDUNDANT FOR THE TURBINE DRIVEN AFW PUMP (AMSAC OUTPUT 'A' AND 'B' RELAYS ARE WIRED IN PARALLEL). AMSAC OUTPUT 'A' STARTS MOTOR DRIVEN PUMP 3, AMSAC OUTPUT 'B' STARTS MOTOR DRIVEN PUMP 2. ISOLATION DEVICES ARE REQUIRED BETWEEN THE NON-IE AMSAC CIRCUITS AND THE IE AUXILIARY FEEDWATER START CIRCUITS.
10. INPUT TO THE AUXILIARY FEEDWATER ACTUATION DEVICE FOR EACH AUXILIARY FEEDWATER TRAIN.
11. SHEET NUMBERS REFER TO THE REFERENCE NUMBERS BELOW.
12. WHENEVER A PROCESS SIGNAL IS USED FOR CONTROL AND IS DERIVED FROM A PROTECTION CHANNEL, ISOLATION MUST BE PROVIDED.
13. THIS DRAWING ILLUSTRATES THE FUNCTIONAL REQUIREMENTS OF THE REACTOR CONTROL IMPLEMENTATION. FOR HARDWARE IMPLEMENTATION, REFER TO THE APPLICABLE SCHEMATIC DIAGRAM(S).

**REFERENCES (NOTE 11)**

	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	8759077	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>v</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. ATWS MITIGATION SYSTEM ACTUATION CIRCUITRY (AMSAC)		6008434
24. SCHEMATIC DIAGRAM AUXILIARY FEEDWATER PUMPS		437583
25. SCHEMATIC DIAGRAM AUXILIARY FEEDWATER PUMPS TURBINE CONTROL		455060

**NUCLEAR SAFETY RELATED**

**KEY DWG. SECTION 3**

DATE	02-23-2015
D.D.	ZHS4
R.E.	KJD3
I.V.	N/A
P.E.	N/A

REVISION DESCRIPTION	REVISD PER DFT-7*2909
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UNIT 1
I & C
FUNCTIONAL LOGIC DIAGRAM
AUXILIARY FEEDWATER PUMPS STARTUP

DWG SCALES	BILL OF MAT'L	SUPSD# 663195-15	
DRAWING	SHEET	PAGE	REV
495855	1	0	5

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 02-23-2015  
 11-03-93 EWP  
 60.13014958550.E62

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