

TRAIN A REACTOR SHUNT TRIP SIGNALS

MANUAL REACTOR TRIP SIGNAL (SHEET 3)
MANUAL SAFETY INJECTION SIGNAL (SHEET 8)

LOGIC TRAIN A REACTOR TRIP SIGNALS

SEISMIC TRIP SIGNAL (SHEET 18)
MANUAL TRIP SIGNAL (SHEET 3)
NEUTRON FLUX TRIP SIGNALS (SHEET 3)
POWER RANGE { HIGH FLUX, LOW SETPOINT (INTERLOCKED BY P-10)
HIGH FLUX, HIGH SETPOINT
HIGH FLUX RATE
OVERTEMPERATURE ΔT
OVERPOWER ΔT
PRIMARY COOLANT SYSTEM TRIP SIGNALS (SHEET 5)
LOW PRIMARY COOLANT FLOW { LOW FLOW IN ANY 1 OF 4 LOOPS (INTERLOCKED BY P-8)
LOW FLOW OR REACTOR COOLANT PUMP BREAKERS OPEN IN ANY 2 OF 4 LOOPS (INTERLOCKED BY P-7)
UNDERVOLTAGE (INTERLOCKED BY P-7)
UNDERFREQUENCY (INTERLOCKED BY P-7)
PRESSURIZER TRIP SIGNALS (SHEET 6)
HIGH PRESSURE
LOW PRESSURE (INTERLOCKED BY P-7)
HIGH LEVEL (INTERLOCKED BY P-7)
STEAM GENERATOR TRIP SIGNAL (SHEET 7)
SAFETY INJECTION SIGNAL (SHEET 8)
TURBINE TRIP SIGNAL (SHEET 16)
LOW-LOW STEAM GENERATOR WATER LEVEL
AUTOMATIC SIGNAL
LOW AUTO STOP OIL PRESSURE OR ALL STOP VALVES CLOSED (INTERLOCKED BY P-9)

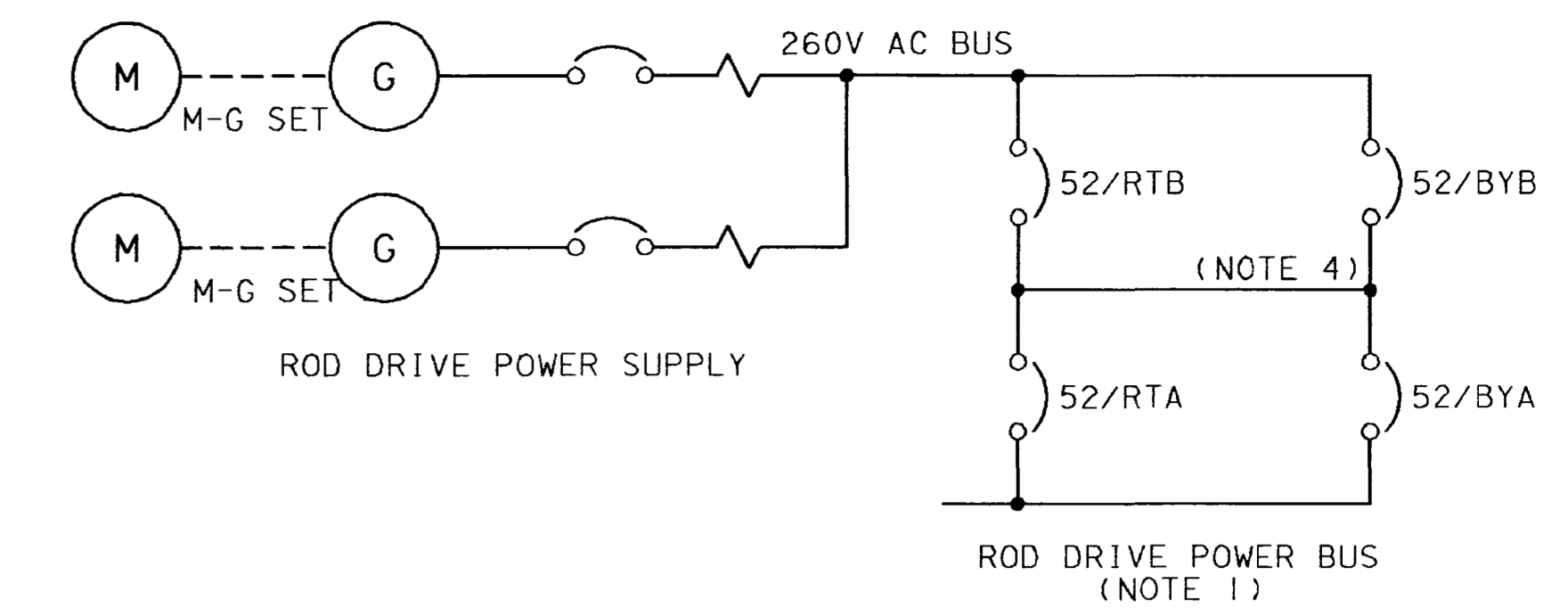
LOGIC TRAIN B REACTOR TRIP SIGNALS

MANUAL TRIP SIGNAL (SHEET 3)
NEUTRON FLUX TRIP SIGNALS (SHEET 3)
POWER RANGE { HIGH FLUX, LOW SETPOINT (INTERLOCKED BY P-10)
HIGH FLUX, HIGH SETPOINT
HIGH FLUX RATE
OVERTEMPERATURE ΔT
OVERPOWER ΔT
PRIMARY COOLANT SYSTEM TRIP SIGNALS (SHEET 5)
LOW PRIMARY COOLANT FLOW { LOW FLOW IN ANY 1 OF 4 LOOPS (INTERLOCKED BY P-8)
LOW FLOW OR REACTOR COOLANT PUMP BREAKERS OPEN IN ANY 2 OF 4 LOOPS (INTERLOCKED BY P-7)
UNDERVOLTAGE (INTERLOCKED BY P-7)
UNDERFREQUENCY (INTERLOCKED BY P-7)
PRESSURIZER TRIP SIGNALS (SHEET 6)
HIGH PRESSURE
LOW PRESSURE (INTERLOCKED BY P-7)
HIGH LEVEL (INTERLOCKED BY P-7)
STEAM GENERATOR TRIP SIGNAL (SHEET 7)
SAFETY INJECTION SIGNAL (SHEET 8)
TURBINE TRIP SIGNAL (SHEET 16)
SEISMIC TRIP SIGNAL (SHEET 18)
LOW-LOW STEAM GENERATOR WATER LEVEL
AUTOMATIC SIGNAL
LOW AUTO STOP OIL PRESSURE OR ALL STOP VALVES CLOSED (INTERLOCKED BY P-9)

TRAIN B REACTOR SHUNT TRIP SIGNALS

MANUAL REACTOR TRIP SIGNAL (SHEET 3)
MANUAL SAFETY INJECTION SIGNAL (SHEET 8)

ROD DRIVE SUPPLY ONE LINE DIAGRAM

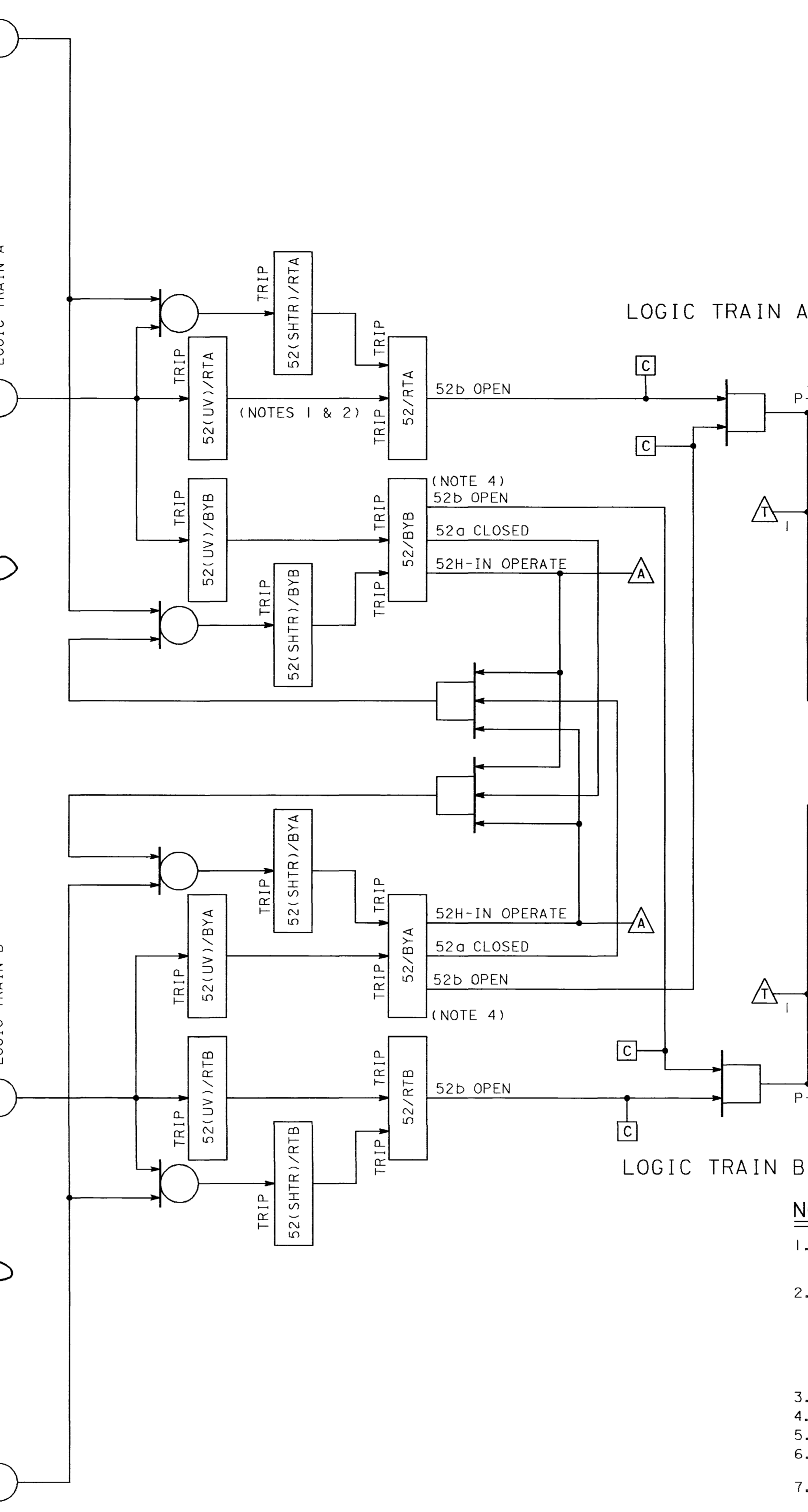


LOGIC TRAIN A

LOGIC TRAIN B

LOGIC TRAIN A

LOGIC TRAIN B



NOTES

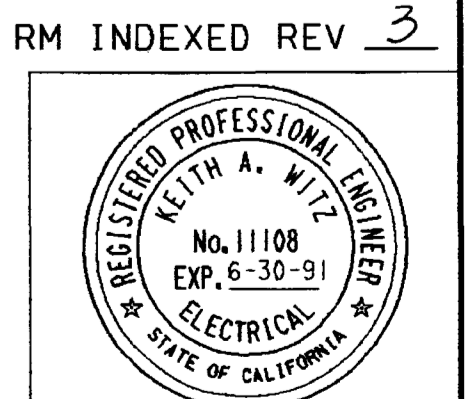
- 1. TRIPPING EITHER REACTOR TRIP BREAKER 52/RTA OR 52/RTB REDUNDANTLY DE-ENERGIZES THE ROD DRIVES. ALL FULL LENGTH CONTROL RODS AND SHUTDOWN RODS ARE THEREBY RELEASED FOR GRAVITY INSERTION INTO THE REACTOR CORE.
2. NORMAL REACTOR OPERATION IS TO BE WITH REACTOR TRIP BREAKERS 52/RTA AND 52/RTB IN SERVICE AND BYPASS BREAKERS 52/BYA AND 52/BYB WITHDRAWN.
3. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT BECAUSE BOTH TRAINS ARE SHOWN.
4. OPEN/CLOSED INDICATION FOR EACH TRIP BREAKER AND EACH BYPASS BREAKER IN CONTROL ROOM.
5. SHEET NUMBERS REFER TO THE REFERENCE NUMBERS BELOW.
6. WHENEVER A PROCESS SIGNAL IS USED FOR CONTROL AND IS DERIVED FROM A PROTECTION CHANNEL, ISOLATION MUST BE PROVIDED.
7. 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 DIAGRAM(S).

REFERENCES

Table with 3 columns: REFERENCE, WE DWG, PG&E DWG. Lists various functional logic diagrams and their corresponding drawing numbers.

NUCLEAR SAFETY RELATED

Project information form including drawing title (REACTOR TRIP SIGNALS), unit number (1), and drawing number (495842).



3 Sironi L. Wong, S. L. Wong, E/3/80, 6/10/93

KEY DWG--SECTION 3 UNIT 1

Revisions table with columns: NO., DATE, DESCRIPTION, GMSPEC, DWN, CHD, SUPV, APVD BY, NO., DATE, DESCRIPTION, GMSPEC, DWN, CHD, SUPV, APVD BY.

FUNCTIONAL LOGIC DIAGRAM

REACTOR TRIP SIGNALS

DIABLO CANYON

PACIFIC GAS AND ELECTRIC COMPANY

Bill of Materials (BOM) table with columns: Dwg List, Supds, Sheet No., Scales.