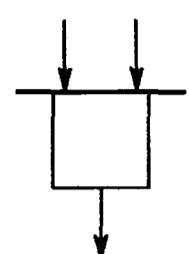
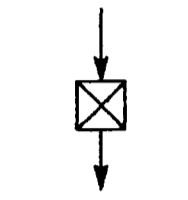


LOGIC SYMBOLS

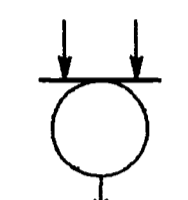
SYMBOL LOGIC FUNCTION



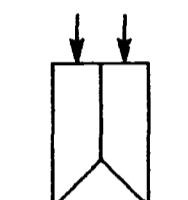
AND A DEVICE WHICH PRODUCES AN OUTPUT ONLY WHEN EVERY INPUT EXISTS.



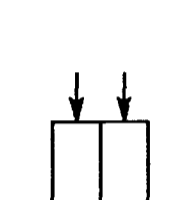
NOT A DEVICE WHICH PRODUCES AN OUTPUT ONLY WHEN THE INPUT DOES NOT EXIST.



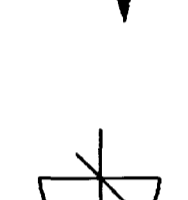
OR A DEVICE WHICH PRODUCES AN OUTPUT WHEN ONE INPUT (OR MORE) EXISTS.



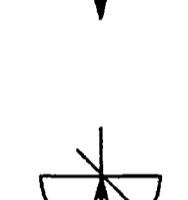
OFF RETURN MEMORY A DEVICE WHICH RETAINS THE CONDITION OF OUTPUT CORRESPONDING TO THE LAST ENERGIZED INPUT, EXCEPT UPON INTERRUPTION OF POWER IT RETURNS TO THE OFF CONDITION.



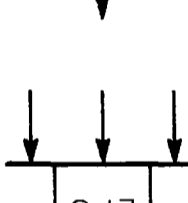
RETENTIVE MEMORY A DEVICE WHICH RETAINS THE CONDITION OF OUTPUT CORRESPONDING TO THE LAST ENERGIZED INPUT (ALSO UPON INTERRUPTION OF POWER).



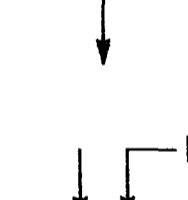
ADJUSTABLE TIME DELAY ENERGIZING A DEVICE WHICH PRODUCES AN OUTPUT FOLLOWING DEFINITE INTENTIONAL TIME DELAY AFTER RECEIVING AN INPUT.



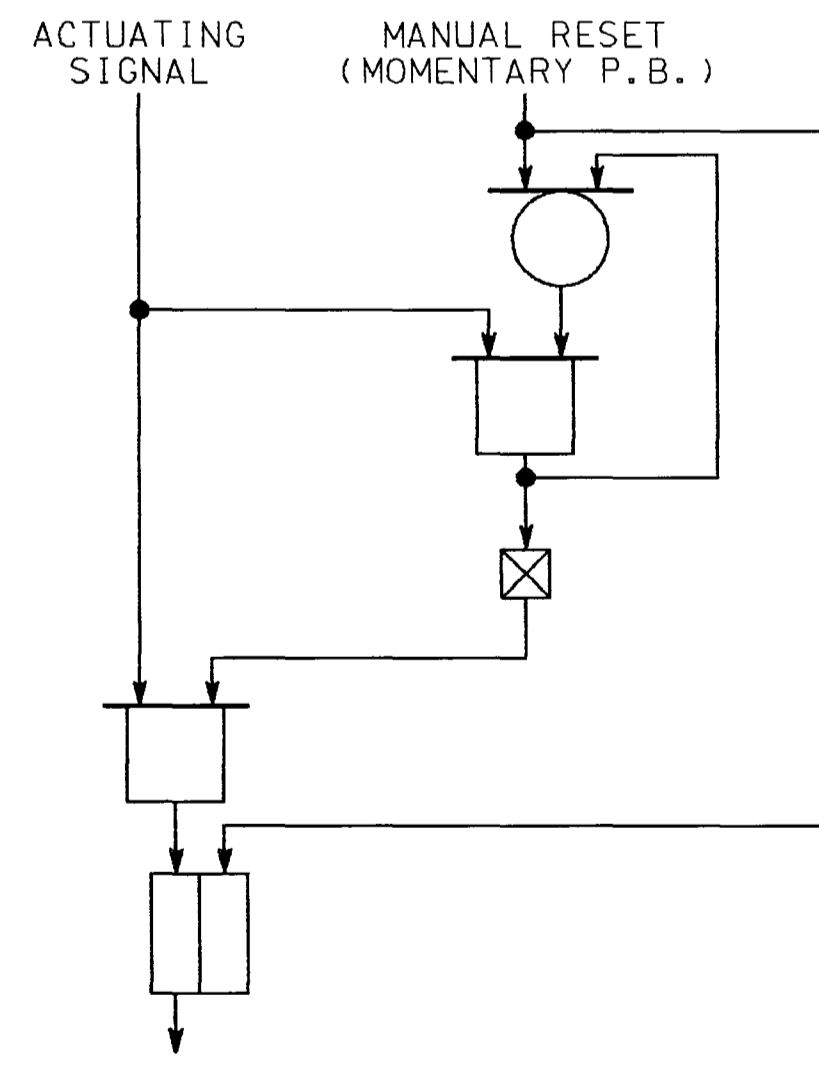
ADJUSTABLE TIME DELAY DE-ENERGIZING A DEVICE WHICH CONTINUES TO PRODUCE AN OUTPUT FOR A DEFINITE INTENTIONAL PERIOD OF TIME AFTER THE INPUT HAS BEEN REMOVED.



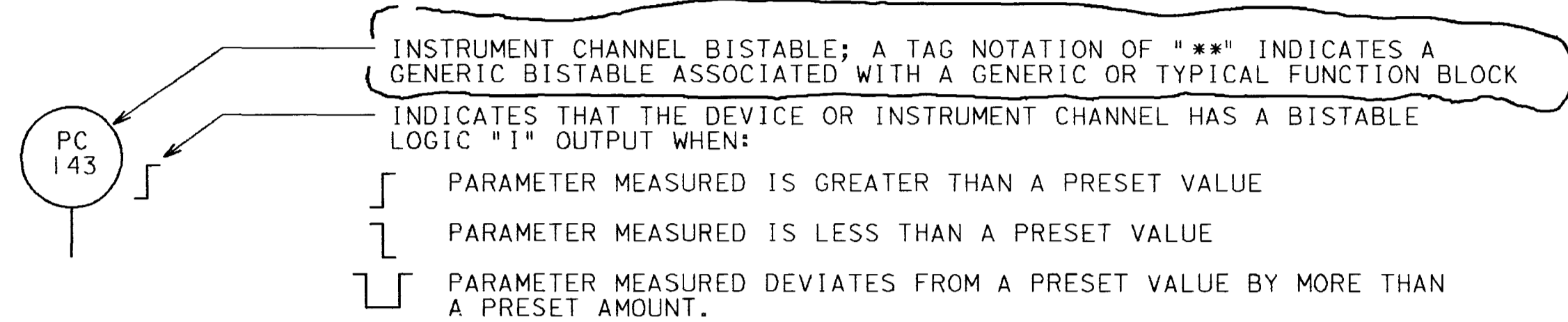
COINCIDENCE (2 OUT OF 3 SHOWN) A DEVICE WHICH PRODUCES AN OUTPUT WHEN THE PRESCRIBED NUMBER OF INPUTS EXIST (EXAMPLE 2 INPUTS MUST EXIST FOR AN OUTPUT).



RETENTIVE MEMORY WITH MANUAL RESET A DEVICE HAVING THE LOGICAL FUNCTION AS INDICATED BY THE DIAGRAM BELOW.



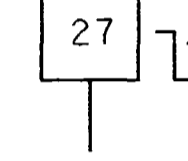
ADDITIONAL SYMBOLS



OR SAME AS ABOVE EXCEPT WITH AN AUTOMATICALLY SET VARIABLE VALUE

OR SAME AS ABOVE EXCEPT WITH REQUIRED HYSTERESIS BETWEEN TURN ON AND TURN OFF.

NON-INSTRUMENT BISTABLE OUTPUT INDICATOR SAME AS EXPLAINED ABOVE



ALARM ANNUNCIATOR (ALARMS ON THE SAME SHEET WITH THE SAME SUBSCRIPT SHARE A COMMON ANNUNCIATOR WINDOW)

REACTOR TRIP "FIRST OUT" ANNUNCIATOR

TURBINE TRIP "FIRST OUT" ANNUNCIATOR

COMPUTER INPUT

INDICATOR LAMP T TRIP STATUS LIGHTS P PERMISSIVE STATUS LIGHTS B BYPASS STATUS LIGHTS A ACTUATION SIGNAL LIGHTS

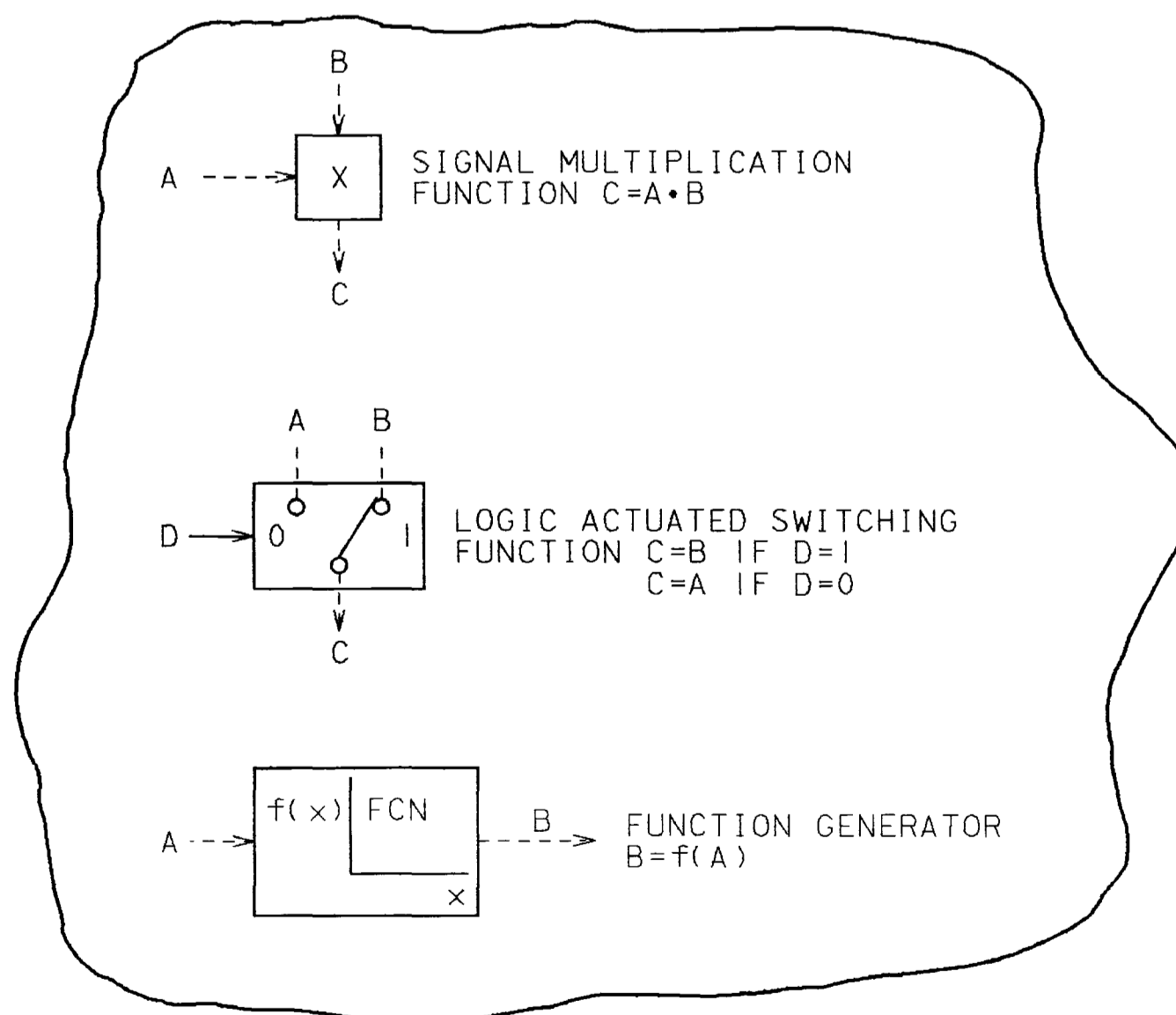
LOGIC INFORMATION TRANSMISSION

ANALOG INFORMATION TRANSMISSION; REAL VARIABLE FOR DIGITAL SYSTEM

ANALOG DISPLAY I ANALOG INDICATOR R RECORDER R2 RECORDER 2 CHANNEL R3 RECORDER 3 CHANNEL R8 RECORDER 8 POINT

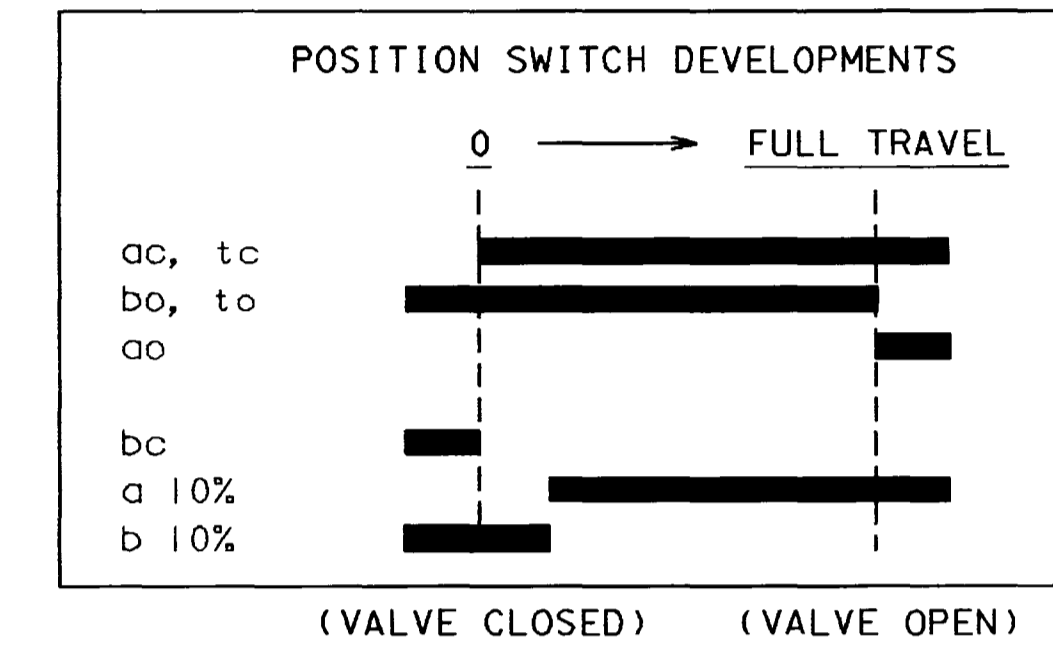
ANALOG SUMMER

ANALOG INPUT ANALOG GATE ANALOG OUTPUT A DEVICE WHICH PERMITS AN ANALOG SIGNAL TO PASS IN AN ISOLATED CIRCUIT IF THE CONTROL LOGIC INPUT EXISTS.



DEVICE FUNCTION LETTERS AND NUMBERS

Table with 4 columns: Device Function Letter, Description, Device Function Number, and Device Function Letter. Includes entries like DC POSITION (DISPLACEMENT) CHANNEL, FC FLOW CHANNEL, etc.



52 AC CIRCUIT BREAKER SUFFIX LETTER:

- a AUXILIARY CONTACT - OPEN WHEN MAIN CONTACTS ARE OPEN b AUXILIARY CONTACT - CLOSED WHEN MAIN CONTACTS ARE OPEN

NOTES

- 1. EXCEPT WHERE INDICATED OTHERWISE THE FOLLOWING IS TRUE: ALL LOGIC CIRCUITS ARE REDUNDANT. ALL INSTRUMENT CHANNELS, BISTABLES, ANNUNCIATORS, COMPUTER INPUTS, AND INDICATOR LAMPS ARE NOT REDUNDANT. MANUAL CONTROL DO NOT HAVE REDUNDANT ACTUATORS, BUT DO HAVE REDUNDANT CONTACTS WHERE LOGIC IS REDUNDANT. ALL INDICATOR LAMPS, COMPUTER INPUTS & ANNUNCIATORS ARE CONNECTED TO BOTH TRAINS SO THAT A SIGNAL IN EITHER TRAIN WILL ACTUATE. 2. THIS SET OF DRAWINGS IS IDENTICAL FOR UNITS 1 & 2 EXCEPT FOR THE TAG NUMBERS. FOR UNIT 1, TAG NUMBERS ADD A "1". EXAMPLE: IPC-455E FOR UNIT 2, TAG NUMBERS ADD A "2". EXAMPLE: 2PC-455E 3. WHENEVER A PROCESS SIGNAL IS USED FOR CONTROL AND IS DERIVED FROM A PROTECTION CHANNEL, ISOLATION MUST BE PROVIDED. 4. 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. 5. SHEET NUMBERS REFER TO THE REFERENCE NUMBERS BELOW.

REFERENCES

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

INDEX AND SYMBOLS table with columns for drawing type and number.

PROJECT, INSTALLATION, DIVISION, etc. table with columns for project name, location, etc.

Signature and registration information for Bruce M. Grosse, Registered Engineer.

NUCLEAR SAFETY RELATED

KEY DWG--SECTION 3 UNIT 1

Approval table with columns for APPROVED, CHECKED, DATE, etc.

FUNCTIONAL LOGIC DIAGRAM INDEX AND SYMBOLS

DIABLO CANYON DEPARTMENT OF ENGINEERING PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA

Table with columns for RM INDEXED REV, SHEET NO., SHEETS, etc.