

17"

11"

8.5"

8.5"

11"

17"

17"

11"

8.5"

8.5"

11"

17"

This drawing and the design it covers are the property of BECHTEL. They are hereby loaned and on the borrower's express agreement, they shall not be reproduced, copied, altered, exhibited, or used except in the limited way and within the limits specified by any written contract plan for loan to the borrower.

REVISED AS INDICATED
1-26-76
ISSUED FOR CONSTRUCTION

NOTES

- THESE LOGIC DIAGRAMS DESCRIBE EQUIPMENT/SYSTEM FUNCTIONS AND DO NOT NECESSARILY REFLECT THE ACTUAL HARDWARE IMPLEMENTATION.
- ELECTRONIC LOGIC SYSTEMS (SUCH AS THE ICS, RPS, OR FMC) WHICH ARE SUPPLIED BY VENDORS ARE NOT INCLUDED IN THESE LOGIC DIAGRAMS.
- EQUIPMENT WILL CHANGE STATE WHEN A CHANGE IS INITIATED AND WILL REMAIN IN THAT STATE UNTIL A CHANGE TO ANOTHER STATE IS INITIATED.
- THE STATE OF EQUIPMENT WILL NOT BE CHANGED BY A TRANSIENT LOSS OF POWER, UNLESS OTHERWISE NOTED.
- INHERENT EQUIPMENT INTERLOCKS, SUCH AS CIRCUIT BREAKER TRIP FREE AND REVERSING STARTER CROSS INTERLOCKS, ARE NOT SHOWN. EQUIPMENT CANNOT BE OPERATED WHEN PROTECTIVE INTERLOCKS EXIST.
- THE MEMORY, RESET, AND START PERMISSIVE LOGIC ASSOCIATED WITH THE OPERATION OF ELECTRICAL PROTECTION DEVICES IS NOT SHOWN.
- KV SWGR LOGICS WILL BE SHOWN WITH THE BREAKER RACKED IN. HAND SWITCHES ARE PROVIDED ON ALL SWITCHGEARS FOR BREAKER TEST. THE BREAKER TRIP FUNCTION OF THESE SWITCHES IS OPERABLE AT ALL TIMES. THE BREAKER CLOSE FUNCTION IS OPERABLE ONLY WHEN THE BREAKER IS IN THE TEST POSITION, UNLESS OTHERWISE NOTED ON THE LOGIC. BREAKER TEST POSITION LOGIC IS NOT SHOWN ON THESE LOGIC DIAGRAMS.
- REFER TO THE INSTRUMENT INDEX OR VENDORS' DRAWINGS FOR THE SET POINT OF INSTRUMENTS. ANY SET POINTS SHOWN ON CONTROL LOGIC DIAGRAMS ARE APPROXIMATE.
- VALVE AND DAMPER RED AND GREEN LIGHTS ARE BOTH ON WHEN IN AN INTERMEDIATE POSITION. TORQUE SWITCHES WILL NOT BE USED FOR STOPPING THE VALVE OR DAMPER TRAVEL UNLESS SHOWN ON THESE LOGIC DIAGRAMS.
- INOPERABILITY OF EQUIPMENT DUE TO LOSS OF POWER AND ELECTRICAL FAULTS WILL NOT BE SHOWN IN THE LOGIC DIAGRAM SINCE THESE ARE INHERENT CHARACTERISTICS IN ELECTRICAL CIRCUITS.
- LOSS OF AIR SUPPLY OR HYDRAULIC PRESSURE WILL NOT BE SHOWN.
- ALL ENGINEERED SAFETY FEATURES ACTUATION SIGNALS CAN BE BLOCKED. FOR BLOCKING LOGIC SEE DRAWING M 1.32-6.
- SEAL-IN FUNCTION IS TYPICAL UNLESS NOTED.
- REFER TO THE INSTRUMENT INDEX, PLANT ALARM LIST, AND COMPUTER I/O LIST FOR ALARMS. ONLY THOSE ALARMS THAT HAVE LOGIC OR ARE NOT REPRESENTED IN THE ABOVE LISTS, WILL BE SHOWN ON THESE LOGIC DIAGRAMS.
- THE GREEN INDICATING LIGHT WILL GO OFF WHEN THE ASSOCIATED CONTROL ROOM CONTROL SWITCH IS PLACED IN THE PULL-TO-LOCK POSITION.
- REFER TO ELECTRICAL SCHEMATICS FOR DETAILS OF EQUIPMENT ELECTRICAL OVER-CURRENT, SHORT CIRCUIT, DIFFERENTIAL PROTECTION, AND SPACE HEATERS.

18. FOUR AND FIVE DIGIT ALPHANUMERIC DESIGNATORS SHOWN IN PARENTHESES ON RADWASTE LOGICS ARE PROGRAMMABLE CONTROLLER POINT IDENTIFICATION NUMBERS. REFER TO ADAPTER LISTS J-716 THROUGH J-719 FOR EXPLANATION OF POINT I.D. DESIGNATORS. A POINT I.D. DESIGNATOR WITH A BAR OVER IT (e.g. A238) INDICATES THE LOGICAL OPPOSITE OF THAT FUNCTION.

19. STATUS OF THE INDICATING LIGHTS ON THE LOGIC DIAGRAM IS AS FOLLOWS:

COLOR	SIGNIFIES
R (RED)	BREAKER CLOSED, MOTOR ON, VALVE OR DAMPER OPEN, START, INCREASE.
G (GREEN)	BREAKER OPEN, MOTOR OFF, VALVE OR DAMPER CLOSED, STOP, TRIP, DECREASE.
A (AMBER)	BREAKER TRIPPED, REMOTE, OVERLOAD OR ABNORMAL CONDITION.
W (WHITE)	BREAKER CONDITION NORMAL, PERMISSIVE OR LIGHT POSITION OR CONDITION REACHED.

BECHTEL ANN ARBOR, MICHIGAN	
MIDLAND PLANT UNITS 1 & 2 CONSUMERS POWER COMPANY	
LOGIC DIAGRAM	
LEGEND AND NOTES	
System No. <i>N/A</i>	Hardware Change (Yes or No)
7228	J-00(SM)3 2

DWG REVISED NO. 2
STARTUP SYSTEMS ≤ 90 DAYS OF
TURNOVER, OR AFTER TURNOVER IF
AFFECTED BY CHANGES:

I certify that the image contained on this frame was made in the normal and regular course of business, on the data stated below and that it is an accurate reproduction of the document submitted to the contractor for filing, by Bechtel Power Corporation.

DATE: 6-15-72
CAMERA OPERATOR: M. S. G. ...
CONTRACTOR'S SUPERVISOR OR MANAGER: J. ...

16X

PRG APERTURE CARD

RIDS

8302040192

