Electric Panel
Pump Control System
Sequence of Operation

GENERAL:
The electrical panel is used with the hydraulic panel to control the opening and closing of the pump control valve and monitor the function of the pump control system. A safety circuit shuts down and locks out the pump when a loss of prime or pump/valve failure occurs. Refer to Wiring Diagram SSC-2303.

PUMP START SEQUENCE:
The START button located in the Pump Motor Control Panel (PMCP) is pressed, which energizes control relay 1CR. 1CR contact on line 5 energizes the pump motor relay PMSR and starts the pump. When the pump builds pressure, pressure switch PS1 closes and energizes the 4-Way solenoid valve 4SV, which opens the pump control valve.

PUMP STOP SEQUENCE:
The STOP button located in the PMCP is pressed, de-energizing 1CR and 4SV, which closes the valve. The pump continues to run until the closed limit switch contact, CLS on line 6 opens, de-energizing PMSR and stopping the pump.

LOCAL STOP:
In case of a local emergency, the LOCAL STOP button is pressed energizing control relay 2CR. 2CR contact on line 2 de-energizes 1CR and 4SV, which initiates the normal pump stop sequence. The red STOP light remains lit and the system locked closed until the RESET button is pressed. An alarm contact 2CR on line 13 is provided for a remote alarm light on the PMCP.

PUMP OR VALVE STOP:
When the start sequence is initiated, 1CR contact on line 10 energizes timing relay 1TR. If the pump fail to build pressure and activate PSI or the ball valve fails to begin opening and trip CLS on line 10 within the set time period (1-10 min.), then the timing relay contact 1TR on line 9 initiates the LOCAL STOP sequence.

ELECTRICAL POWER FAILURE:
Upon loss of all power, the pump will stop. 4SV and the two 2-Way solenoid valves, 2SV are de-energized, which closed the ball valve rapidly. If power is quickly restored, PMSR contact on line 6 prevents a pump re-start.

VALVE INDICATION:
Closed limit switch contact CLS on line 11 de-energizes the red OPEN light when the valve is closed. Open limit switch contact OLS on line 112 de-energizes the green CLOSE light when the valve is open . In did-travel, both lights are energized.