



AIR COOLED CHILLER WITH TWO PUMPS CONTROL DIAGRAM

SEQUENCE OF OPERATION

AIR COOLED CHILLER W/ 2 PUMPS:

NOTE: ALL SETPOINTS AND TIME INTERVALS INCLUDING RESET SCHEDULE SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS). ALL PUMP MOTOR CONTROL SWITCHES SHALL BE IN "AUTO" POSITION.

1. CHILLED WATER SYSTEM OPERATION SHALL BE ENABLED BY DDC SYSTEM WHEN OUTDOOR AIR TEMPERATURE IS ABOVE 50 DEGF AND AT LEAST ONE OF THE HVAC'S THAT IS SERVED BY SYSTEM IS ACTIVATED.
2. THE CHW CIRCULATING PUMPS P-1 & P-2 SHALL HAVE START/STOP CAPABILITY FROM THE DDC SYSTEM. ONE OF THE TWO PUMPS SHALL BE ACTIVATED BY DDC WHEN SYSTEM IS ENABLED AND IS REQUESTING A PUMP TO RUN. THE OTHER WILL SERVE AS STANDBY. PUMP DE-ACTIVATION WILL OCCURE WHEN THE DDC SYSTEM RECEIVES A SIGNAL FROM THE CHILLER'S PUMP REQUEST POINT TO STOP PUMP OPERATION.
3. DDC SHALL ALTERNATE PUMP OPERATION BASED ON MONTH, EVEN MONTHS THE EVEN NUMBERED PUMP SHALL RUN AND ON ODD MONTHS THE ODD NUMBERED PUMP SHALL RUN.

4. DDC SHALL MONITOR OPERATING STATUS OF EACH PUMP THRU RESPECTIVE CURRENT SWITCH. UPON PUMP FAILURE (30 SECOND TIME DELAY) DDC SHALL ACTIVATE FAILURE ALARM, DEACTIVATE FAILED PUMP AND AUTOMATICALLY START THE STANDBY PUMP.
5. CHILLER PACKAGED CONTROLS SHALL BE SET FOR REMOTE ENABLE FUNCTION BY OPERATORS.
6. WITH CHW PUMP ACTIVATED, DDC SHALL ACTIVATE CHILLER.
7. WHEN CHW FLOW IS PROVEN BY WATER FLOW SWITCH, SWITCH WIRED IN SERIES WITH PARALLELED PUMP AUXILIARY CONTACTS, CHILLER INTERLOCKS ARE COMPLETE AND THE CHILLER PACKAGED CONTROL PANEL WITH INTEGRAL TEMPERATURE SENSORS SHALL SEQUENCE CHILLER OPERATION TO MAINTAIN THE CHILLER'S CHW SUPPLY SETPOINT OF 44 DEGF (ADJUSTABLE AT CHILLER PANEL).
8. DDC SHALL TOTALIZE SECONDARY CHW BTU CONSUMPTION FOR THE BUILDING BASE ON FLOW METER FM-1 AND SCHWS & R TEMPERATURES TTE-1 & TTE-2 RESPECTIVELY.
9. DDC SHALL MONITOR CHILLER RUN STATUS AND CHILLER FAILURE ALARM.

ALARMING

NORMAL

- PUMP FAILURE
- CHILLER FAILURE
- SUPPLY WATER TEMPERATURE

"ENHANCED" 24/7

- ALL OF ABOVE IS SYSTEM SERVES CRITICAL AREA