

1. CHILLER PLANT AND BOILER PLANT CONTROL SHALL BE A PACKAGE CONTROL SYSTEM BASED ON ADAPTIVE CONTROL APPROACH TO OPTIMIZING THE ENERGY USAGE OF CHILLER AND BOILER PLANT.

3. PUMP VARIABLE FREQUENCY DRIVE SHALL BE PROVIDED BY PUMP PACKAGE SUPPLIER AND COOLING TOWER FAN VARIABLE FREQUENCY DRIVE SHALL BE PROVIDED BY COOLING TOWER SUPPLIER.



LEGEND:		
DEVICE	DESCRIPTION	TYPE
CS	CURRENT SWITCH	AI
DPS	DIFFERENTIAL PRESSURE SWITCH	AI
FM	FLOW METER (LIQUID)	AI
TLS	INSERTION TYPE TEMPERATURE SENSOR (LIQUID SUPPLY)	AI
TLR	INSERTION TYPE TEMPERATURE SENSOR (LIQUID RETURN)	AI
VFD	VARIABLE FREQUENCY DRIVE	AI

TO BAS _____ TO
BOILER ROOM CONTROL PANEL
(UNDER EMERGENCY POWER) INTERNET

1. THE SYSTEM IS A TWO PIPE VARIABLE PRIMARY FLOW SYSTEM. THE BOILER AND CHILLER PLANT SHALL OPERATE ON A DATE SCHEDULE (ADJUSTABLE -- JUNE 1 TO OCT. 13 FOR CHILLER AND OCT. 15 TO MAY 29 FOR BOILER). THERE ARE TWO DAYS WARM UP AND COOL DOWN PERIOD FOR THE SYSTEM. CHILLER SHALL NOT START WHEN WATER TEMPERATURE IS HIGHER THAN 80°F AND BOILER SHALL NOT START WHEN WATER TEMPERATURE IS LOWER THAN 60°F. CIRCULATION PUMPS SHALL BE ON TO WARM UP OR COOL DOWN WATER TEMPERATURE WHEN THE UNITS ARE OFF.
2. THE BOILERS AND CHILLERS SHALL OPERATE ON A LEAD/LAG BASIS. THE ASSOCIATE PUMP SHALL ALSO OPERATE ON A LEAD/LAG BASIS. THE LEAD UNIT SHALL BE OPERATOR SELECTABLE AND SHALL AUTOMATICALLY ALTERNATE ON A MONTHLY BASIS. THE LAG UNIT SHALL BE SEQUENCED TO MAINTAIN THE SET SUPPLY TEMPERATURE. THE UNIT SHALL NOT BE STARTED UNLESS FLOW IS STARTED IN THE CIRCUIT THROUGH PROVE BY FLOW SWITCH.
3. WHENEVER THE BOILERS ARE ENABLED TO OPERATE, OR ON A CALL FOR THE DOMESTIC WATER HEATERS TO FIRE, OR WHEN THE SUMMER VENTILATION MODE IS ACTIVE, THE COMBUSTION AIR FAN AND BOILER ROOM EXHAUST FAN SHALL START. REVERSE SHALL HAPPEN FOR FANS TO STOP. IF COMBUSTION AIR FAN DOES NOT PROVIDE AIR FLOW, AN ALARM SHALL BE ISSUED TO THE BAS OPERATOR WORKSTATION.
4. SUMMER VENTILATION SHALL START WHEN BOILER ROOM TEMPERATURE IS HIGHER THAN 85°F.
5. PRIMARY CHILL WATER SUPPLY TEMPERATURE SHALL BE MAINTAINED AT 45°F. BOILER PRIMARY HOT WATER SUPPLY SHALL BE MAINTAINED AT 180°F. SECONDARY LOOP CHILLED WATER SUPPLY SHALL BE MAINTAINED AT 60°F., AND SECONDARY LOOP HOT WATER SUPPLY TEMPERATURE SHALL BE MAINTAINED AT 170°F.
6. DURING HEATING SEASON, THE PRIMARY LOOP PUMP SHALL RUN CONTINUOUSLY DURING NIGHT SETBACK MODE TO SUPPLY HEATING HOT WATER TO ROOF AIR HANDLING UNIT COIL TO PREVENT FREEZING.

