

PLUMBING & HEATING SYSTEM SCHEMATIC 1
SCALE : N.T.S.

GLYCOL HEATING SYSTEM SEQUENCE OF OPERATION:

1. THE GLYCOL HEATING SYSTEM SHALL BE ACTIVATED BY A REQUIREMENT FOR HEAT FROM AHU-1 OR AHU-2.
2. UPON ACTIVATION OF THE SYSTEM, ONE PUMP SHALL BE ENERGIZED AND THE CONTROL VALVE ON ONE HEAT EXCHANGER SHALL MODULE AS REQUIRED TO MAINTAIN GLYCOL SETPOINT.
3. THE PUMP SHALL RAMP UP AND DOWN AS REQUIRED TO MAINTAIN THE DIFFERENTIAL PRESSURE SETPOINT.
4. THE SYSTEM SHALL RESET THE GLYCOL TEMPERATURE SETPOINT BASED UPON OUTSIDE AIR TEMPERATURE.
5. THE PUMPS AND HEAT EXCHANGERS SHALL ALTERNATE EVERY WEEK AS INDICATED BY THE OPERATOR.
6. UPON THE FAILURE OF ONE PUMP THE SYSTEM SHALL SWITCH TO THE ALTERNATE PUMP AND THE OPERATOR SHALL BE NOTIFIED.

HEATING SYSTEM SEQUENCE OF OPERATION:

1. THE HEATING SYSTEM SHALL BE ACTIVATED BY A REQUIREMENT FOR HEAT IN AT LEAST TWO ZONES WITHIN THE FOOD FACILITY.
2. UPON ACTIVATION OF THE SYSTEM, ONE PUMP SHALL BE ENERGIZED AND THE CONTROL VALVE ON ONE HEAT EXCHANGER SHALL MODULE AS REQUIRED TO MAINTAIN HOT WATER SETPOINT.
3. THE SYSTEM SHALL RESET THE HOT WATER SUPPLY SETPOINT BASED UPON THE OUTSIDE AIR TEMPERATURE.
4. THE PUMPS AND HEAT EXCHANGERS SHALL ALTERNATE EVERY WEEK AS INDICATED BY THE OPERATOR.
5. UPON THE FAILURE OF ONE PUMP THE SYSTEM SHALL SWITCH TO THE ALTERNATE PUMP AND THE OPERATOR SHALL BE NOTIFIED.
6. THE ENERGY METER SHALL CONTINUOUSLY MONITOR SUPPLY AND RETURN, AND FLOW RATE AND LOG ENERGY USAGE.

STEAM BOILER SEQUENCE OF OPERATION:

1. THE STEAM BOILER SYSTEM SHALL BE ENERGIZED BY THE BMS AND SHALL NORMALLY BE ON.
2. WHEN ACTIVATED, THE BMS SHALL MONITOR THE PLANT AND LOG ALARMS AND STEAM PRESSURE.
3. EMERGENCY SHUTDOWN: A LABELLED PUSH BUTTON SHALL BE PROVIDED OUTSIDE THE MAIN ENTRANCE TO THE MECHANICAL ROOM WHICH WHEN ACTIVATED SHALL SHUTDOWN THE STEAM BOILERS AND ALARM AT THE CENTRAL PLANT.

GUARDED PLANT SEQUENCE OF OPERATION:

- THE GUARDED PLANT SHALL CONSIST OF A PANEL LOCATED IN THE BASEMENT MECHANICAL ROOM AND CONSIST OF THE FOLLOWING:
- a. INPUT FROM EACH BOILER:
 1. HIGH PRESSURE LIMIT;
 2. LOW WATER CUTOFF;
 3. HIGH WATER LEVEL;
 4. PRE-PURGE AND FLAME FAILURE.
 - b. AUDIBLE ALARM AT THE PANEL.
 - c. VISUAL ALARM AT THE PANEL.
 - d. EACH BOILER SHALL HAVE THE FOLLOWING:
 1. PUSH-BUTTON ACKNOWLEDGE OF ALARM;
 2. KEYED RESET.
 - e. DIAL-OUT TO A DESIGNATED AND QUALIFIED FOURTH CLASS POWER ENGINEER, COORDINATE WITH OWNER.

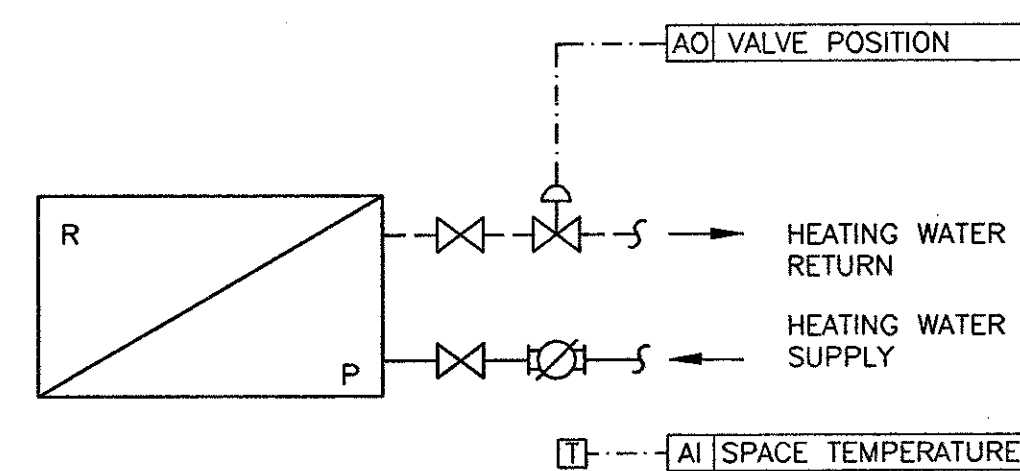


AO SPEED SETPOINT

SEQUENCE OF OPERATION:

1. UPON ACTIVATION OF THE EMERGENCY SHUT DOWN PUSH BUTTON, THE STEAM BOILERS SHALL SHUT DOWN AND AN ALARM SHALL BE GENERATED.

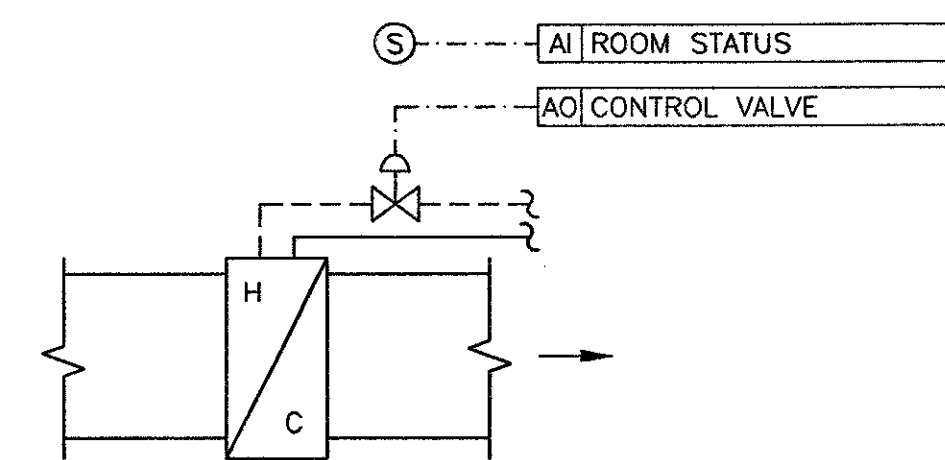
EMERGENCY BOILER SHUTDOWN 2
SCALE : N.T.S.



SEQUENCE OF OPERATION:

1. IF SPACE TEMPERATURE SETPOINT IS SATISFIED, CONTROL VALVE IS CLOSED.
2. CONTROL VALVE MODULATES TO MAINTAIN SPACE TEMPERATURE SETPOINT.

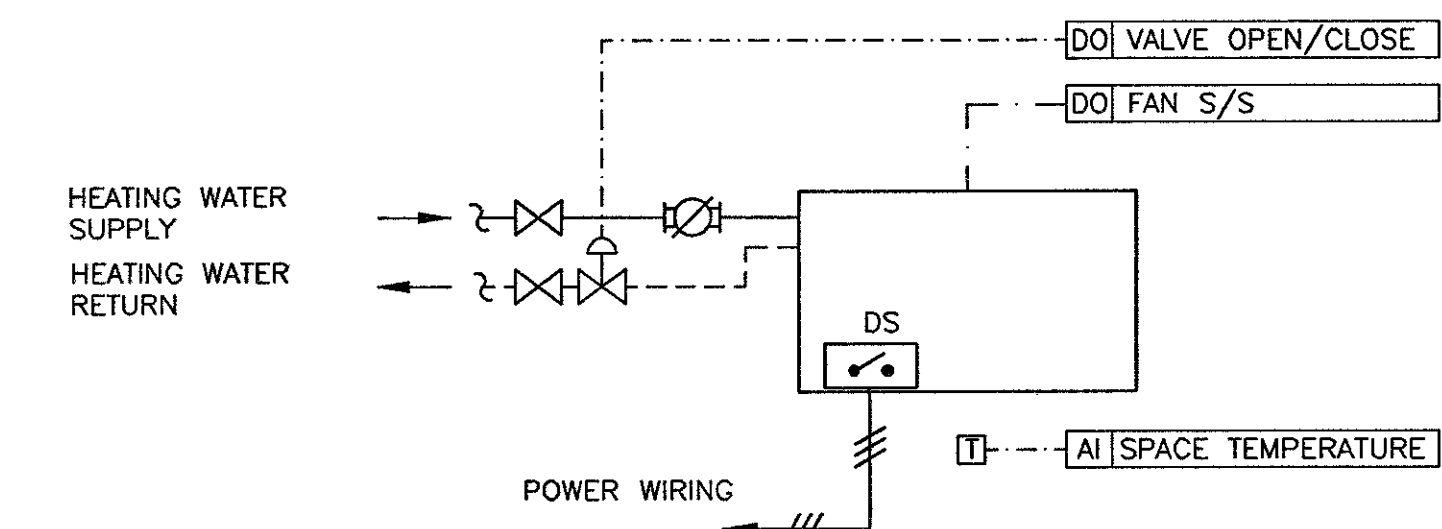
RADIANT CEILING PANEL SCHEMATIC 3
SCALE : N.T.S.



SEQUENCE OF OPERATION:

1. CONTROL VALVE SHALL MODULATE TO MAINTAIN ROOM SETPOINT.

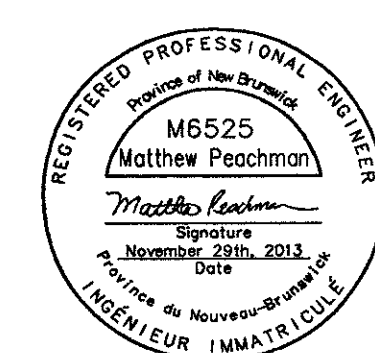
REHEAT COIL SCHEMATIC 4
SCALE : N.T.S.



SEQUENCE OF OPERATION:

1. WHEN SPACE TEMPERATURE DROPS BELOW SETPOINT VALUE, CONTROL VALVE OPENS AND FAN STARTS.
2. WHEN SPACE TEMPERATURE HAS REACHED 2°C ABOVE SETPOINT, VALVE CLOSSES AND FAN STOPS.

UNIT HEATER/FORCED FLOW HEATER SCHEMATIC 5
SCALE : N.T.S.



0	ISSUED FOR TENDER	NOV. 29, 2013
revisions		date
project	NEW FOOD SERVICES BUILDING	
	WESTMORLAND INSTITUTION	
	DORCHESTER, NB	
drawing	MECHANICAL CONTROLS HVAC	
designed	MCP	conçu
date	Oct. 21, 2013	
drawn	PSA	dessiné
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Tender	R.061828.001	
Project Manager	Administrateur des projets TPSC	
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