SEQUENCE OF OPERATION

100% OA CONSTANT VOLUME AHU WITH HOT WATER HEAT

NOTE: ALL SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS). APPROPRIATE DEADBANDS SHALL BE USED TO PREVENT SHORT CYCLING SITUATIONS. ALL FAN MOTOR CONTROL SWITCHES SHALL BE IN 'AUTO' POSITION.

1. SUPPLY FAN SHALL HAVE START/STOP CAPABILITY FROM THE DDC SYSTEM. HVAC UNIT SHALL OPERATE BASED ON TIME SCHEDULED OCCUPIED MODE COMPROMISED BY OPTIMUM START PROGRAM AND UNOCCUPIED CYCLE MODE.

2. FOR HEATING AND COOLING OCCUPIED MODE, HVAC UNIT SHALL BE CONTROLLED TO MAINTAIN DISCHARGE AIR TEMP SETPOINT. THE DISCHARGE AIR TEMP SETPOINT WILL BE RESET BY THE SPACE TEMPERATURE SENSOR TO MAINTAIN SPACE TEMPERATURE SETPOINT.

3. FOR HEATING UNOCCUPIED MODE, HVAC UNIT SHALL CYCLE ON & OFF TO MAINTAIN A SETBACK SPACE TEMPERATURE OF 62 DEG. (ADJ.) (IF REPEAT COOL PRESENT IN THE SPACE THEN THE UNIT WILL NOT RESET DAT, THE UNIT WILL DISCHARGE 55 DEGREES CONTINUOUSLY.)

4. SUPPLY FAN SHALL BE MONITORED BY DDC THRU A CURRENT RELAY AND A ABNORMAL STATUS CONDITION SHALL ACTIVATE ALARM.

5. WHEN HVAC UNIT IS ACTIVATED THE OUTDOOR AIR DAMPER SHALL OPEN AND BE HARD-WIRED INTO THE SUPPLY FAN MOTOR STARTER TO START THE SUPPLY FAN.

6. COOLINGCONTROL, THE COOLING COIL CONTROL VALVE SHALL BE CONTROLLED IN SEQUENCE WITH THE HEATING VALVE TO PREVENT SIMULTANEOUS HEATING AND COOLING, THE VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT AS DESCRIBED.

7. HEATING CONTROL: THE HEATING COIL CONTROL VALVE SHALL BE CONTROLLED IN SEQUENCE WITH THE COOLING VALVE TO PREVENT SIMULTANEOUS HEATING AND COOLING, THE VALVE SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT AS DESCRIBED.

8. HEATING AIR TEMPERATURE LOW LIMIT SETPOINT OF 45 DEG. SHALL PROVIDE OVERRIDE CONTROL TO PREVENT THE LOW LIMIT DETECTOR FROM TRIPPING.

9. DURING WARM-UP OR UNOCCUPIED HEATING CYCLE, DAT SETPOINT SHALL BE 50 DEG. UNTIL BUILDING OCCUPANCY TIME OR WHEN SPACE TEMP SETPOINT IS REACHED, POST WARMUP DISCHARGE AIR SETPOINT WILL BE MODULATED DOWN TO SETPOINT OVER THE COURSE OF 30 MINS TO PREVENT TRIPPING OF THE LTDE.-1.

10. WHEN OA TEMP IS BELOW 55 DEG. AND SF AIRFLOW IS PROVEN BY A SUPPLY FAN HARDWIRED STATUS - DDC SHALL ACTIVATE HUMIDIFIER TO MAINTAIN SPACE HUMIDITY SETPOINT OF 30% RH. DISCHARGE AIR HUMIDITY HIGH LIMIT WITH SETPOINT OF 10% RH SHALL PROVIDE OVERRIDE CONTROL TO MAINTAIN HUMIDITY SETPOINT. HUMIDIFIER SHALL ALSO BE USED TO PREVENT DISCHARGE HUMIDITY FROM EXCEEDING 90% RH.

11. FILTER STATUS SHALL BE MONITORED THROUGH A UNIT MOUNTED DPI SWITCH AND ALARmed BACK TO THE DDC SYSTEM.

12. FREEZESTAT(S) SHALL DEACTIVATE THE SUPPLY FAN WHEN TEMPERATURE IS 38 DEG. OR BELOW, DDC SHALL MONITOR FREEZESTAT STATUS AND ACTIVATE ALARM ON DDC SYSTEM IF CONDITION OCCURS. THERE SHALL ALSO BE A LOCAL PILOT-LIGHT FOR INDICATION ON AUXILIARY PANEL, FOR ALARM.

13. DUCT SMOKE DETECTORS(S) SHALL DEACTIVATE SUPPLY AND CLOSE THE OUTDOOR AIR DAMPER WHEN PRODUCTS OF COMBUSTION ARE DETECTED.

14. WHEN HVAC UNIT IS DEACTIVATED, COOLING COIL VALVE SHALL REMAIN CLOSED AND HEATING COIL VALVES SHALL BE MODULATED BY DDC BASED ON HCP TEMPERATURE TO MAINTAIN LOW LIMIT FLENUM TEMPERATURE SETPOINT OF 50 DEG. RH VALVE SHALL REMAIN CLOSED.

ALARMING

NORMAL
- SUPPLY FAN FAILURE
- FREEZESTAT
- DISCHARGE AIR TEMPERATURE (+/- 1 DEGREES OF SETPOINT)
- DISCHARGE HUMIDITY HIGH LIMIT (90%)
- FILTER STATUS
- FILTER HIGH LIMIT
- DUCT SMOKE DETECTORS

ENHANCED: 24H
- IF SYSTEM SEVERES CRITICAL AREA
- SUPPLY FAN FAILURE
- FREEZESTAT
- DISCHARGE AIR TEMPERATURE