100% OA CONSTANT VOLUME AIR HANDLING UNIT WITH VIFB STEAM HEAT CONTROL DIAGRAM

SEQUENCE OF OPERATION

AIR HANDLING UNIT - 100% OA, CONSTANT VOLUME WITH VIFB STEAM HEAT

NOTE: ALL SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS). APPROPRIATE DIAGRAMS 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 THE SCHEDULED OCCUPIED MODE COMPLEMENTED BY OPTIMUM START PROGRAM AND UNOCCUPIED CYCLE MODE.

2. FOR HEATING AND COOLING OCCUPIED MODE, HVAC UNIT SHALL BE CONTROLLED TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT. THE DISCHARGE AIR TEMPERATURE SETPOINT WILL BE SET 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 DEGREES (ADU). IF REHEAT IS PRESENT IN THE SPACE THEN THE UNIT WILL NOT "OFF" THE UNIT WILL DISCHARGE 65 DEGREES CONTINUOUSLY.

4. SUPPLY FAN SHALL BE MONITORED BY DDC THROUGH A CURRENT RELAY AND A MODERN 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. COOLING CONTROL, THE COOLING COIL CONTROL VALVE SHALL BE CONTROLLED IN SEQUENCE WITH THE HEATING VALVE TO PREVENT SIMULTANEOUS HEATING AND COOLING. THE VALVE MODULATES TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT AS DESCRIBED.

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

8. HEATING COIL AIR TEMPERATURE SETPOINT OF 45 DEGREES SHALL PROVIDE OVERSIGHT CONTROL TO PREVENT THE LOW LIMIT DETECTOR FROM TRIPPING.

9. DURING MORNING WARM-UP OR UNOCCUPIED HEATING CYCLE, DAY SETPOINT SHALL BE 60 DEGREES UNIT BUILDING OCCUPANCY TIME OR WHEN SPACE TEMP SETPOINT IS REACHED, POST WARMUP DISCHARGE AIR SETPOINT WILL BE SLOWLY MODULATED DOWN TO PREVENT THE COURSE OF 30 MINS TO PREVENT TRIPPING OF THE LTDE-1.

10. WHEN OA TEMP IS BELOW 55 DEGREES AND SF AIRFLOW IS PROVEN BY A SUPPLY FAN HARD-WIRED STATUS; DDC SHALL ACTIVATE HUMIDIFIER TO MAINTAIN SPACE HUMIDITY SETPOINT OF 30% RH. DISCHARGE AIR HUMIDITY HIGH LIMIT SETPOINT OF 50% RH SHALL PROVIDE OVERRIDE CONTROL. A HARD-WIRED HUMIDITY LOW LIMIT SHALL ALSO BE USED TO PREVENT DISCHARGE HUMIDITY FROM EXCEEDING 50% RH.

11. FILTER STATUS WILL BE MONITORED THROUGH A UNIT MOUNTED DIPS SWITCH AND ALARMED BACK TO THE DDC SYSTEM.

12. FREEZE STATUS WILL DEACTIVATE THE SUPPLY FAN WHEN TEMPERATURE IS 35 DEGREES OR BELOW. DDC SHALL MONITOR FREEZE 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.