SEQUENCE OF OPERATION GUIDELINE

AIR TERMINAL UNITS – SINGLE DUCT VARIABLE AIR VOLUME COOLING ONLY

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NOTES:

1. THIS SEQUENCE IS INTENDED TO PROVIDE THE DESIGN PROFESSIONAL WITH A BASIC GUIDELINE OF MINIMUM REQUIREMENTS FOR TYPICAL VAV AIR TERMINAL UNITS- COOLING ONLY. THIS SEQUENCE SHALL BE CAREFULLY REVIEWED AND EDITED WITH RESPECT TO APPLICATION-SPECIFIC PROJECT REQUIREMENTS AND PROPOSED MODIFICATIONS SHALL BE REVIEWED WITH FSU STAFF.

2. THE INTENT IS FOR THIS SEQUENCE TO BE INCLUDED IN THE CONTRACT DRAWINGS.

3. USE ZONE OCCUPANCY SENSORS FOR "UNOCCUPIED" MODE WHENEVER POSSIBLE. COORDINATE WITH ELECTRICAL/LIGHTING DESIGN FOR DUAL USE.

4. REFERENCE STANDARD CONTROL DIAGRAMS IC-15.

VAV BOXES – COOLING ONLY:

PROVIDE THE FOLLOWING FOR ALL AIR TERMINAL UNIT BOXES.

1. ROOM THERMOSTAT WITH INTEGRAL TEMPERATURE SENSOR, INTEGRAL DISPLAY, SLIDING SCALE SETPOINT ADJUSTMENT, AND REMOTE COMMUNICATION PORT.
2. PRESSURE INDEPENDENT VOLUME CONTROL WITH ADJUSTABLE MAXIMUM AND MINIMUM AIRFLOW SETTINGS.
3. RETURN THE VOLUME DAMPER TO A MINIMUM POSITION (25 %) WHEN ASSOCIATED AHU IS OFF.
4. PROVIDE A SUPPLY AIR SENSOR DOWNSTREAM OF THE DAMPER FOR USE IN MONITORING OVERALL VAV BOX PERFORMANCE.
5. OCCUPIED MODE SHALL BE DETERMINED BY **[SCHEDULE OR LOCAL OCCUPANCY SENSOR]**.

OCCUPIED MODE

1. THE CONTROLLER SHALL CONTINUE TO MONITOR ROOM TEMPERATURE AND RESET THE CFM SETPOINT UP OR DOWN IN RESPONSE TO COOLING DEMAND.
2. ON A RISE IN ROOM TEMPERATURE, MODULATE THE AIR DAMPER TOWARDS ITS MAXIMUM CFM SETPOINT UNTIL OCCUPIED CLG SETPOINT HAS BEEN ACHIEVED.

3. ON A DROP IN ROOM TEMPERATURE, MODULATE THE DAMPER TOWARDS ITS MINIMUM CFM SETPOINT
4. ON A CONTINUED FALL IN ROOM TEMPERATURE, CONTINUE DELIVERING THE SCHEDULED MINIMUM AIR FLOW.

UNOCCUPIED MODE (BASED ON SCHEDULE OR LOCAL OCCUPANCY SENSOR)

ASSOCIATED AHU IS SCHEDULED OFF

1. THE AIR DAMPER SHALL REMAIN AT ITS MINIMUM 25% POSITION.
2. IN THE EVENT THE AHU IS ENABLED DURING UNOCCUPIED HOURS (DUE TO A NIGHT SETBACK CALL FOR COOLING), THE BOX SHALL CONTROL ACCORDING TO THE OCCUPIED MODE DESCRIBED ABOVE USING THE OCCUPIED SETPOINTS.
3. THE BAS SHALL POLL THE VARIOUS ZONES AND, BASED ON A PRESET REQUEST QUANTITY TARGET (INITIALLY SET AT 2), ACTIVATE THE AHU WHEN THE ASSOCIATED QUANTITY TARGET HAS BEEN REACHED.
4. UPON ACTIVATION OF THE AHU BASED ON OCCUPANCY SENSORS, THE ASSOCIATED AHU SHALL BE TEMPORARILY ACTIVATED AND THE TERMINAL UNIT SHALL RESUME NORMAL OCCUPANCY MODE CONTROL. DEACTIVATION OF ALL LOCAL OCCUPANCY SENSORS SHALL RETURN THE TERMINAL UNIT TO ITS UNOCCUPIED STATE AND CAUSE THE ASSOCIATED AHU TO SHUT DOWN.
5. TERMINAL UNIT AND ASSOCIATED AHU SHALL REMAIN OCCUPIED AND ACTIVE FOR A MINIMUM OF 1 HR (ADJUSTABLE).

ASSOCIATED AHU RUNS CONTINUOUSLY

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1. ON A RISE IN ROOM TEMPERATURE, MODULATE THE AIR DAMPER TOWARD ITS MAXIMUM CFM SETPOINT UNTIL THE UNOCCUPIED CLG SETPOINT HAS BEEN ACHIEVED.
2. ON A FALL IN ROOM TEMPERATURE MODULATE THE AIR TOWARDS ITS UNOCCUPIED MINIMUM CFM SETPOINT.

OCCUPIED CLG SETPOINT 74 F (ADJUSTABLE)
UNOCCUPIED CLG SETPOINT 78 F (ADJUSTABLE)

VAV# TYPE: IC-15			POINT TYPE		ALARM CONDITION			INTEGRATED POINT	NOTES
SHORT NAME	POINT DESCRIPTION	UNITS	ANALOG	DIGITAL	EQUIP ALARM	HIGH LIMIT	LOW LIMIT		
bbb_RMxxxx_AHxxx_BOXxx_FLW	SUPPLY AIR FLOW	CFM	X			X	X		
bbb_RMxxxx_AHxxx_BOXxx_DMP	SUPPLY AIR DAMPER	%OPEN		X					
bbb_RMxxxx_AHxxx_BOXxx_SA	SUPPLY AIR TEMPERATURE	DEG F	X			X	X		
bbb_RMxxxx_AHxxx_BOXxx_OS	OCCUPANCY STATUS	OCC/UNOCC		X					
bbb_RMxxxx_AHxxx_BOXxx_ZT	ZONE TEMPERATURE	DEG F	X			X	X		
bbb_RMxxxx_AHxxx_BOXxx_SP	ZONE TEMPERATURE SETPOINT	DEG F	X						
bbb_RMxxxx_AHxxx_BOXxx_OR	TEMPORARY OCCUPANCY OVERRIDE	OCC/UNOCC		X					