SECTION 25 35 28
GUIDELINES FOR CONTROL SEQUENCES

GENERAL
1.1 SUMMARY
a. Section includes control sequence guidelines for building control systems. The project will develop the required sequence of operations. This section provides Stanford’s desired theory of operation for key processes.

b. Related Sections:
   1). 25 00 00 Integrated Automation

1.2 REFERENCES
a. Refer to 25 00 00 Integrated Automation

1.3 DEFINITIONS
a. Refer to 25 06 11 Integrated Automation Definitions

1.4 SYSTEM DESCRIPTION
a. Refer to 25 00 00 Integrated Automation

1.5 SUBMITTALS
a. Refer to 25 00 00 Integrated Automation

1.6 QUALITY ASSURANCE
a. Refer to 25 00 00 Integrated Automation

PRODUCTS
2.1 NOT USED

EXECUTION
3.1 UTILITY HOT WATER TO BUILDING HEATING HOT WATER INTERFACE
A. Heating Hot Water temperature set point shall be reset based upon outside air or other Owner approved demand based reset input.
B. Heating Hot Water temperature set point shall be reset as needed to always be at least 5 deg F below the actual Utility Hot Water supply temperature.
C. The Utility Hot Water return temperature should be kept as low as possible through control and monitoring all applicable systems.

3.2 AIR HANDLING UNIT
A. Include supply static pressure reset based on VAV requests
B. Include supply temperature reset based on VAV requests. Supply temperature sequence shall initiate when static pressure sequence has reached its minimum value.
C. Include optimal start sequence.

D. Include economizer sequences such as damper sequencing, and economizer set point offset from supply air set point.

E. Include freeze protection for chilled water coil.

F. Use of hot water coil as pre-heat only (55° fixed set point)

3.3 VARIABLE AIR VOLUME WITH RE-HEAT

A. Include box minimum flow set point

B. Include heating max and cooling max flow

C. Cooling PI loop to reset actual flow set point

D. Heating PI loop to reset supply air temp set point and min/max heating flow

E. Effective room set point shall be the combination of center set point +/- thermostat adjustment and global offsets.

F. Room temperature, damper and valve requests multiplied by zone priority with be summed together with similar rooms to generate resets to serving air handlers.

3.4 CURTAILMENT EVENTS

A. All curtailment events negate the local thermostat temperature setpoint offset (t-stat slider offset).

B. If an Operator changes the Zone Criticality of any Zone, that Zone shall automatically be included in the correct curtailment event, corresponding to the Zone Criticality of the Zone.

C. Curtailment Event Level 0: The Zone Cooling setpoint for all zones shall be increased by the Lab occupied cooling offset, office/admin occupied cooling offset.

D. Curtailment Event Level 1: The Zone Cooling setpoint for all zones with a Zone Criticality of 1 or less shall be increased by the Lab curtailment cooling offset, office/admin curtailment cooling offset.

E. Curtailment Event Level 2: The Zone Cooling setpoint for all zones with a Zone Criticality of 2 or less shall be increased by the Lab curtailment cooling offset, office/admin curtailment cooling offset.

F. Curtailment Event Level 3: The Zone Cooling setpoint for all zones with a Zone Criticality of 3 or less shall be increased by the Lab curtailment cooling offset, office/admin curtailment cooling offset.

G. Curtailment Event Level 4: The Zone Cooling setpoint for all zones with a Zone Criticality of 4 or less shall be increased by the Lab curtailment cooling offset, office/admin curtailment cooling offset.

H. Curtailment Event Level 5: The Zone Cooling setpoint for all zones with a Zone Criticality of 5 or less shall be increased by the Lab curtailment cooling offset, office/admin curtailment cooling offset.

I. Curtailment Event Level 6-9: Reserved for Custom Curtailment

3.5 SETPOINT OFFSETS

A. Separate sets of setpoint offsets shall be used for lab and office/admin type spaces. Values are:

1. Lab occupied heating offset
2. Office/admin occupied heating offset
3. Lab occupied cooling offset
4. Office/admin occupied cooling offset
5. Lab standby heating offset
6. Office/admin standby heating offset
7. Lab standby cooling offset
8. Office/admin standby cooling offset
9. Lab unoccupied heating setpoint
10. Office/admin unoccupied heating setpoint
11. Lab unoccupied cooling setpoint
12. Office/admin unoccupied cooling setpoint
13. Lab curtailment heating offset
14. Office/admin curtailment heating offset
15. Lab curtailment cooling offset
16. Office/admin curtailment cooling offset

END OF SECTION