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Comments on Section 120.1

see attached document

Additional submitted attachment is included below.

In Section 120.1(c)3.D.iv.a, it appears that the calculation of system ventilation efficiency is meant to be consistent with proposed addendum F to ASHRAE Standard 62.1-2016.

However, in order to be consistent, I believe that the calculation of Zone Minimum Primary Airflow needs to be moved to Section 120.1(c)3.D.iv.a instead of in Section 120.1(c)3.D.iv.b (see markup below). That is, in order to use the simplified approach in Table 120.1-A for calculating system ventilation efficiency (E_v), the zone minimum primary airflow settings must be $>$ or $= V_{oz} \times 1.5$. If one chooses to use the more complicated approach (Section 120.1(c)3.D.iv.b), then there is no limitation on zone minimum primary airflow.

Also, I believe the "Zone Primary Airflow" section need to clarify that this is the required minimum zone primary airflow setting, so I suggest the **highlighted** text changes below.

iv. System Ventilation Efficiency. The system ventilation efficiency (E_v) shall be determined in accordance with a or b below:

a. System ventilation efficiency shall be determined in accordance with Table 120.1-A; or

120.1-A SYSTEM VENTILATION EFFICIENCY

System Ventilation Efficiency (E_v)	Occupant Diversity (D)
$0.88 \times D + 0.22$	less than 0.60
0.75	equal to or greater than 0.60

I. Zone Minimum Primary Airflow. If using Table 120.1-A, the minimum zone primary airflow (V_{pz-min}) to the ventilation zone, including outdoor air and recirculated air, shall be calculated using Equation 120.1-I.

$$V_{pz-min} \geq V_{oz} \times 1.5 \quad (\text{Equation 120.1-I})$$

Where:

V_{oz} = zone outdoor airflow provided to the ventilation zone by the supply air distribution system as calculated using equation 120.1-A.

b. When the system ventilation efficiency is not determined by using Table 120.1-A, E_v shall be equal to the lowest calculated value of the zone ventilation efficiency (E_{vz}) using equation 120.1-H, and in accordance with I through V below:

$$E_v = \text{minimum } (E_{vz}) \quad (\text{Equation 120.1-H})$$

I. Zone Primary Airflow. The zone primary airflow (V_{pz}) to the ventilation zone, including outdoor air and recirculated air shall be calculated using Equation 120.1-I.

$$V_{pz} = V_{oz} \times 1.5 \quad (\text{Equation 120.1-I})$$

Where:

V_{oz} = zone outdoor airflow provided to the ventilation zone by the supply air distribution system as calculated using equation 120.1-A.

In Section 120.1(c)3.A, I suggest the highlighted text changes below to improve clarity:

A. Zone Outdoor Airflow. The zone outdoor airflow (V_{oz}) provide to the ventilation zone by the supply air distribution system shall be determined in accordance with Equation 120.1-A;

$$V_{oz} = V_{bz}/E_z \quad (\text{Equation 120.1-A})$$

Where:

E_z = Zone Air Distribution Effectiveness. E_z shall not be greater than the default value determined using Table 120.1-C.

V_{bz} = Breathing Zone Outdoor Airflow. The outdoor airflow required in the breathing zone (V_{bz}) of the occupiable space(s) in a ventilation zone shall be not less than the value determined in accordance with Equation 120.1-B.

$$V_{bz} = R_p \times P_z + R_a \times A_z \quad (\text{Equation 120.1-B})$$

Where:

~~V_{bz} = Volume of ventilation air required to be delivered to the breathing zone~~ (JM: duplicate from above)

R_p = Outdoor airflow rate required per person as specified in Table 120.1-B

P_z = Design zone population. For spaces without fixed seating, the expected number of occupants shall be either the expected number specified by the building designer or one half of the maximum occupant load assumed for egress purposes in the California Building Code, whichever is greater. For spaces with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

R_a = Outdoor airflow rate required per unit area as determined from Table 120.1-B

A_z = Zone floor area is the net occupiable floor area of the ventilation zone in square feet

In Section 120.1(g)2.A, I suggest adding the highlighted text below to make the language consistent with Section 5.16.3.2 of ASHRAE Standard 62.1-2016:

2. Class 2 Air. Recirculation or transfer of Class 2 air shall be permitted:

A. To the space of origin or to other Class 2 or Class 3 spaces provided that the other spaces are used for the same or similar purpose or task and involve the same or similar pollutant sources as the Class 2 space; or