INTERPRETATION IC 62.1-2013-6 OF
ANSI/ASHRAE STANDARD 62.1-2013
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

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Request from: Trevor M. Uitvlugt, MCW Hemisphere Ltd., 2400, 10020 - 100 Street NW, Edmonton, Alberta T5P2C8.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.1-2013, Section 6.2.7.1.1, regarding DCV and the use of CO_2 sensors in return air ductwork at the system level.

Background: There are currently provisions in the standard for using space CO_2 sensors to modulate the ventilation air to a zone for Demand Control Ventilation (DCV). A CO_2 sensor in the space allows the primary air in a zone to be modulated between minimum and maximum flows to maintain a CO_2 setpoint. Minimum ventilation flow for DCV in a zone is no less than the Breathing Zone Outdoor Airflow (area related portion): $Ra \times Az$.

For an air system serving multiple zones, there does not seem to be direction for expanding DCV to the System Level. As building occupant levels (*Ps*) increase or decrease during the day, the Outdoor air intake flow required (*Vot*) should also be allowed to increase or decrease accordingly.

Interpretation: By adding CO_2 sensors to the Return air of a multiple zone air system, the actual amount System Occupants (*Ps*) can be estimated in a similar way to a DCV zone with a CO_2 sensor estimates the Zone Population (*Pz*).

CO_2 sensor in the return air would allow the Outdoor air in a zone to be modulated between minimum and maximum flows to maintain a CO_2 setpoint. Minimum Outdoor air flow for DCV in a system would be no less than the sum of all area components: Sum ($Ra \times Az$).

Question: Is this interpretation correct?

Answer: No

Comments: In addition to total number of people (*Ps*), one must also identify in which zone(s) they reside. Multiple zone process requires that ventilation be at least minimum for each zone.