VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

Transfer Approved: January 20, 2008


Reference: This request for interpretation refers to Addendum “n” to ANSI/ASHRAE Standard 62-2001 that incorporates a new Ventilation Rate Procedure in Section 6.2 of ANSI/ASHRAE Standard 62.1-2007, specifically Section 6.2.5.2 and Appendix A (and the VRP Excel Spreadsheet 2005119121636_347.xls).

Background: Addendum “n” to 62-2001 revises the ventilation rate procedure. One of the key components is the determination of the system ventilation efficiency, $E_v$, which can be determined from Table 6.3, or Appendix A. Table 6.3 provides a direct determination of $E_v$ based on the maximum zone primary outdoor air fraction, $Z_p$. Appendix A utilizes the minimum zone ventilation efficiency, $E_{vz}$, of all zones serves by a particular unit. Equation A-2 provides a generalized form of the equation to determine $E_{vz}$. Within $E_{vz}$, the fraction of supply air to the zone from outside sources, $F_a$, is to be determined, which in turn relies on the determination of the primary air fraction to the zone, $E_p$. $E_p$ is defined as $V_{pz}/V_{dz}$, where $V_{pz}$, the zone primary air flow, is defined in Section 6.2.5.1. However, $V_{dz}$ is not defined. In Section 6.2.5.1 $V_{pz}$ for VAV systems is to be the minimum expected primary air flow. However, in the VRP Excel spreadsheet provided by ASHRAE the notes indicate that $V_{pz}$ is to equal the design air flow.

Interpretation No. 1: $V_{pz}$ for VAV systems, whether in 6.2.5.1, or Appendix A, is to be the minimum expected primary air flow (i.e. the lowest setting for the VAV box).

Question No. 1: Is this Interpretation correct?

Answer No. 1: Yes

Comments No. 1: Of course if the VAV box never reaches its minimum airflow setpoint at ventilation design conditions, $V_{pz}$ may be higher than this minimum setpoint.

Interpretation No. 2: $V_{dz}$ is the zone discharge (supply) airflow to the zone that includes primary and locally recirculated airflow. With VAV systems this shall be $V_{pz}$ plus the recircualted airflow when $V_{pz}$ is at the expected minimum.

Question No. 2: Is this Interpretation correct?

Answer No. 2: Yes