

**INTERPRETATION IC 62.1-2004-13 OF  
ANSI/ASHRAE STANDARD 62.1-2004  
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY**

Transfer Approved: June 25, 2006

Originally issued as interpretation of Standard 62-2001 (IC 62-2001-48) on February 6, 2005, but transferred to Standard 62.1-2004. Even though Standard 62.1-2004 includes some changes to relevant sections of Standard 62-2001, only minor revisions related to referenced sections were made in transferring this interpretation to apply to Standard 62.1-2004.

**Request from:** Pedro J. Camejo (pcamejo@aes-pe.com), Applied Engineering Solutions, 440 Martin Luther King Jr. Blvd, Suite 101A, Macon, GA 31201.

**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, specifically related to the calculation of system average population in Sections 6.2.2.1, 6.2.5.3 and 6.2.6.2.

**Background:** Equation 6-7 is used to calculate the [system] *occupancy diversity* ( $D$ ) which is then used in Equation 6-6 to calculate the system *uncorrected outdoor air intake* ( $V_{ou}$ ). One of the variables used to calculate  $D$  is the sum of *zone population* ( $P_z$ ) for all the zones served by the system. The other variable used to calculate  $D$  is the *system population* ( $P_s$ ). In Section 6.2.2.1 the definition for  $P_z$  states that each  $P_z$  can be averaged as described in Section 6.2.6.2 if the expected zone population fluctuates with time.

**Interpretation No. 1:** The individual zone  $P_z$  to be used in Equation 6-7 may be averaged based on the averaging method described in Section 6.2.6.2 provided that averaging time  $T$  of Equation 6-9 is calculated based on the individual zone volume and on the individual zone *breathing zone outdoor airflow* ( $V_{bz}$ ).

**Question No. 1:** Is this Interpretation correct?

**Answer No. 1:** Yes.

**Comments No. 1:** None.

**Interpretation No. 2:** In the case where the individual *zone populations* ( $P_z$ ) used in Equation 6-7 are averaged the *system population* ( $P_s$ ) is also averaged.

**Question No. 2:** Is this Interpretation correct?

**Answer No. 2:** No.

**Comments No. 2:** *System population*  $P_s$  is the total population in the area served by the system. If this population changes over time it may be averaged over the time period found using Equation 6-9, but such averaging is not a requirement whenever average zone population values are used in Equation 6-7. Note that the averaging adjustments applied to zone population and those applied to system population account for two different effects. Zone population averaging (average  $P_z$ ) accounts for fluctuating population within a ventilation zone (due to occupants entering and leaving the zone), which does not necessarily affect the system population. System population averaging (average  $P_s$ ), on the other hand,

accounts for fluctuating population within the ventilation system as a whole (due to occupants entering and leaving the system).

**Interpretation No. 3:** The *system population* ( $P_s$ ) is averaged over time period  $T$  where  $T$  is calculated from Equation 6-9 based on the total volume of all the zones served by the system in question and the sum of all the zone outdoor airflows ( $V_{bz}$ ) of the zones served by the system.

**Question No. 3:** Is this Interpretation correct?

**Answer No. 3:** Yes.

**Comments No. 3:** None.