transfer to 62-2001 approved: January 12, 2002

originally issued as interpretation of standard 62-1989 (IC 62-1989-24) on July 12, 1995, but transferred to standard 62-1999 (62-1999-30) on August 14, 2000, and subsequently to standard 62-2001. Since no changes were made to the relevant sections of standard 62-2001, no revisions were made to the interpretation as part of this transfer.

request from: David O. Vick, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, TN 37831

references. This request refers to table 2 and subclause 6.1.3.3 of ANSI/ASHRAE 62-2001.

background. Table 2 prescribes supply rates of acceptable outdoor air required for acceptable indoor air quality. The standard states (6.1.3.3), "The values in Table 2 define the outdoor air needed in the occupied zone for well-mixed conditions (ventilation effectiveness approaches 100%)." The standard recognized that ventilation effectiveness is often much lower than 100%, i.e., $E_v < 1$, because there is less than perfect mixing in the occupied space.

Mr. Vick's interpretation. Mr. Vick's letter opines, "...that the required ventilation rate must account for imperfect mixing, and that the values in Table 2 refer to an effective volumetric flow ($V_{eff}$) rather than what might be called the mechanical ventilation rate ($V_{act}$). Therefore, in practice, the engineered ventilation rate must be greater than the values in Table 2 in order to compensate for imperfect mixing of the ventilation air in the occupied space."

question. Is Mr. Vick's interpretation of Table 2 and 6.1.3.3 correct as given above?

answer. Yes.

comment. If the ventilation effectiveness is $E_v$, the values in Table 2 must be multiplied by $1/E_v$. For example, if the ventilation effectiveness is 0.8, typical of ceiling supply and return system in a heating (warm supply air) mode, the values in Table 2 must be multiplied by $1/0.8 = 1.25$. For a ceiling supply and return system in the cooling mode, the ventilation effectiveness is around 1.0 so no adjustment is required. For a displacement ventilation system, ventilation effectiveness may be greater than one, allowing values in Table 2 to be reduced for a displacement system.