INTERPRETATION IC 62-2001-29 OF
ANSI/ASHRAE STANDARD 62-2001
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

TRANSFER TO 62-2001 APPROVED: January 12, 2002

Originally issued as interpretation of Standard 62-1989 (IC 62-1989-19) on January 29, 1995, but transferred to Standard 62-1999 (62-1999-27) 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: W. Hugh Bache, P.E., 4739 Brownstone Drive, Duluth, GA 30136

References. This request concerns subsection 6.1.3.4 of ANSI/ASHRAE Standard 62-2001.

Background. Subsection 6.1.3.4 states in part: "Where peak occupancies of less than three hours duration occur, the outdoor air flow rate may be determined on the basis of average occupancy for buildings for the duration of the operation of the system, provided the average occupancy is not less than one half the maximum."

Mr. Bache's letter cites a general application of classroom HVAC. An isolated classroom is served by a dedicated classroom HVAC unit (water source heat pump, fan-coil unit or unitary equipment) with ventilation (outside) air introduced into the classroom unit's return (recirculated) air duct. The classroom is fully occupied during each class period and partially occupied during the 6 minutes transition between the bell marking the end of a period and the tardy bell for the next period.

Case 1. The classroom is in use for Periods 1, 2, and 3, consuming a total time of 3 hrs. and 2 min. Of this total time, the classroom is fully occupied for 2 hrs and 50 min., and partially occupied during the transition between class periods for a total of 12 min. After Period 3, it is unoccupied during Period 4 and the succeeding lunch period for a total time of 1 hr. and 42 min. before the start of Period 5. During Period 5, it is again occupied for 55 min.

Hugh Bache's Interpretation of Case 1. Mr. Bache's interpretation for Case 1 is that the flow rate of outdoor air may be reduced below the value shown in Table 2 to the extent allowed for intermittent variable occupancy as defined in 6.1.3.4, since the effective time of peak occupancy meets the "less than three hours duration" criterion.

Question 1. Is Mr. Bache's interpretation of Case 1 correct?

Answer 1. No. In the situation you described the committee believes that the rooms should be considered occupied during the six minute class change interval between classes. Students are on their feet exiting and entering the rooms. If anything, their metabolic rate is higher suggesting a need for increased ventilation.

Case 2. The classroom is in use for Periods 1, 2, 3, and 4, consuming a total time of 4 hrs. and 3 min. Of this total time, it is fully occupied for 3 hrs and 45 min., and partially occupied between periods for a total of 18 min. After Period 4, the classroom is unoccupied for 41 min. before the start of Period 5. During Period 5, it is again occupied for 55 min.

Hugh Bache's Interpretation of Case 2: Mr. Bache's interpretation for Case 2 is that the flow rate of outdoor air cannot be reduced below the value shown in Table 2 because the effective time of peak occupancy exceeds the "less than three hours duration" criterion.

Question 2. Is Mr. Bache's interpretation of Case 2 correct?

Answer 2. Yes.