INTERPRETATION IC 62-1999-38 OF
ASHRAE STANDARD 62-1999
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

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Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62-1999, Table 2.1, Outdoor Air Requirements For Ventilation- Commercial Facilities.

Background: In the design of office facilities, the basic design premise utilized in most instances is as follows. Where the space should be treated as a toilet space, i.e., minimum of 50 cfm per wc or urinal, the air is typically supplied by transfer air and using local mechanical exhaust to the outdoors with no recirculation recommended. Where the space is typical office space, 20 cfm/person of outdoor air is adequate. Each restroom requires 50 cfm/wc transfer air, to compensate for the 50 cfm/wc air exhausted to the outdoors.

Interpretation: For an office building with 20 people, a male and female restroom each with one water closet supplied entirely by transfer air from the adjacent office space, served by a single zone rooftop unit, the total outside air required would be calculated as: 20 people x 20 cfm/person = 400 cfm.

Question: Is Mr. McWilliams Interpretation correct?

Answer: Yes, but with the caveats in the Comment below.

Comment: The Interpretation is correct in that the outdoor air intake requirement for the building is not increased by the exhaust air requirement for the toilets. (The outdoor air intake may need to be increased if the exhaust requirement exceeds the outdoor air requirement based on the Table 2 rates, but the standard does not specifically require the provision of outdoor air to meet exhaust air requirements.)

However, it is important to note that the determination of the outdoor air requirement for the office space is generally more complicated than multiplying the number of people by 20 cfm/person. Table 2 contains the outdoor air requirements to be delivered to the occupants, and the following effects must be considered in order to determine outdoor air intake rates that comply with the standard. As discussed in Section 6.1.3.3 of the standard, the outdoor air requirements in Table 2 are based on a ventilation effectiveness of 100%. If the ventilation effectiveness in the space were different from 100%, the outdoor air intake at the unit would need to be adjusted. Also, if the system serves more than one space, then Section 6.1.3.1 applies and the multiple spaces equation must be used to calculate the required outdoor air intake.