INTERPRETATION IC 62.1-2010-2 OF
ANSI/ASHRAE STANDARD 62.1-2010
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY

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Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.1-2010, Sections 6.2.2.3 and 6.2.5, regarding resultant zone outdoor airflow.

Background: Within our office there has been some debate regarding what the final zone outdoor airflow to each zone should be after the system *Vot* has been calculated. Using equation 6-5 individual space *Zpz* is calculated. When the maximum *Zpz* for the system is less than or equal to 0.55, *Ev* may be determined from Table 6-3. *Vou* is calculated using equation 6-6, which divided by *Ev* determines *Vot*. The ratio of *Vot*/sum of all system *Vpz* (system minimum OA percentage) will be less than the maximum *Zpz*. When each zone's *Vpz* is then multiplied by the system minimum OA percentage the resultant final individual zone outdoor airflow may not equal the calculated *Voz*. For those zones with a high *Zpz* (higher than the system minimum OA percentage) the zone outdoor airflow will be less than *Voz*, and in those zones with a low *Zpz* the resultant zone outdoor airflow will be greater than *Voz*. Some in the office argue that all zones are to be provided with their calculated *Voz* at a minimum as *Voz* it is defined in Section 6.2.2.3 as "the outdoor airflow rate that ***must*** be provided to the *ventilation zone* by the supply air distribution system (emphasis added)." Following this line of thought would mean that *Vot* should equal the maximum *Zpz**sum of all system *Vpz*, which would negate the need for further calculations beyond equation 6-5, including 6-6 which allows for occupnat diversity. Others believe that all zones can not be taken out of context of the system; after *Vot* is calculated there will be zones underventilated when compared to their respective *Voz*, and others zones will be overventilated when compared to their respective *Voz*, but the system as a whole has met the intent and the requirements of the standard.

Interpretation: After calculating *Vot*, the minimum OA percentage for the system can be calculated by dividing *Vot* by the sum of all zone *Vpz* for the system. When this OA percentage is then applied to each zone's *Vpz* there will be some zones where final outdoor airflow is less than the calculated *Voz*, and there will be zones where the final outdoor airflow is greater than the calculated *Voz*. This is expected and acceptable.

Question: Is this interpretation correct?

Answer: Yes

Comments: The multiple spaces equations used to determine the outdoor air intake for the system takes credit for "unused" outdoor air that is recirculated from zones where the outdoor

airflow exceeds the minimum requirement. Note that the system design must meet outdoor air requirements at part load conditions (i.e. at reduced system airflow), as per Section 6.2.6.1.