INTERPRETATION IC 90.1-2004-18 OF
ANSI/ASHRAE/IESNA STANDARD 90.1-2004
Energy Standard for Buildings Except Low-Rise Residential Buildings

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Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IESNA Standard 90.1-2004, Section G3.1.2.5, regarding ventilation rate and outdoor air (OA) volume.

Background: Section G3.1.2.5 requires the ventilation "rates" for the baseline and proposed building designs to be modeled the same. The question is whether "rate" is also the OA volume. Per ASHRAE Standard 62.l, the required OA Volume is the "rate" corrected for Ez and other factors e.g. multiple zones. If rate and volume have to be modeled the same for the baseline and proposed buildings, then except for DCV noted in the exception, the Owner derives no benefit from designs that reduce OA consumption e.g. DOAS, UFAD, and others. The Owner's engineer is reluctant to use different OA volumes for the baseline and proposed buildings because it is unclear if "rate" and "corrected" OA volume are synonymous.

Interpretation: Ventilation Rate must be the same for the baseline and the proposed building (See Standard 62.1, Table 6.1 "Rates"), but ventilation volume is not necessarily the same. This assumes that OA Volume is the rate in Standard 62.1 Table 6.1 divided by Ez and corrected for other factors. Rate and "corrected" OA volume may not be the same. It is my interpretation that under Standard 90.1-2004 Section G 3.1.2.5 baseline OA volume is not "required" to be the same as the proposed building if the Ez and other factors for the baseline are different than those in the proposed layout e.g. DOAS versus Rooftop VAV, PTAC versus DOAS to the hotel room, UFAD versus Rooftop VAV, 62.1 User Manual Example 6F, etc. Under my interpretation of G3.1.2.5, a proposed design would be rewarded for a more efficient ventilation system i.e. rates are the same in the baseline and proposed buildings but corrected OA volumes are not required to be the same in both simulations.

Question: Is this interpretation correct?

Answer: No

Comment:
As currently written Appendix G is neutral with regard to ventilation energy so no credit is allowed for improved ventilation system design that would be allowed under ASHRAE 62.1. Currently the only exception is a demand control ventilation strategy. Additionally, it should also be noted, system designs are currently not penalized for exceeding the minimum requirements of ASHRAE 62.1.

The committee agreed that allowing credit for ventilation system designs that consider ventilation effectiveness needs to be considered. A working group has been formed to propose changes to how Appendix G addresses minimum outside air and ventilation system design.