

**INTERPRETATION IC 90.1-2019-11 OF
ANSI/ASHRAE/IES STANDARD 90.1-2019
Energy Standard for Buildings Except Low-Rise Residential Buildings**

Date Approved: June 24, 2023

Request from: Christina LaPerle, Karpman Consulting LLC, 15 Hillside Ave., Monroe, NY 10950.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IES Standard 90.1-2019, Section G3.1.2.5 Exception1, Baseline Building Performance column, item (c), regarding calculation of the average design capacity.

Background: Section G3.1.2.5 states that, “Minimum ventilation system outdoor air intake flow shall be the same for the proposed design and baseline building design.”

With exception 1 stating, “When modeling demand control ventilation in the proposed design in systems with outdoor air capacity less than or equal to 3000 cfm serving areas with an average design capacity of 100 people per 1000 ft² or less.”

It is not clear how the average design capacity (underlined above) should be determined. An alternative calculation methodology to what is described in the interpretation below is to calculate the design number of occupants/gross floor area (ft²) for each individual space served by the HVAC system and then to take a straight average of these design number occupants/ft² values. The calculation methodology described in the interpretation below is a weighted average calculation – this alternative does not apply any weighting by space gross square footage or any other parameter.

Interpretation: The average design capacity shall be determined by first summing the design number of occupants and the gross floor area (ft²) across each space served by the HVAC system to arrive at totals across all spaces. Then by dividing the total design number of occupants by the total gross floor area (ft²) (both calculated in step 1) to arrive at the average design capacity.

Question: Is this interpretation correct?

Answer: Yes

Comments: The methodology described in the interpretation above is accurate. It should be noted this methodology shall only be used for modeling demand control ventilation in the Baseline Building. Demand control ventilation shall be modeled in the Proposed Building as designed and in accordance with the mandatory provisions of Section 6.4.3.8.