

**INTERPRETATION IC 90.1-2004-9 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 11.3.2 and Table 11.3.2A, regarding the Energy Cost Budget Method – Budget Systems Modeling.

Background: I am working on an energy model for a museum project in NYC and have a question regarding modeling of the budget building. Since this is a museum building, many of our proposed systems are constant volume with reheat (which is allowed per Standard 90.1 exception 6.5.2.3(d) since the spaces are humidified). Per the energy cost budget method, however, with our building system being water cooled and fossil fuel heated (Figure 11.3.2 System 2), we are required to model all of the budget system fans as VAV with reheat. Note 2 of Table 11.3.2A states that VAV reheat boxes shall be 0.4 cfm/sq ft of floor area for minimum volume setpoints consistent with 6.5.2.1 Exception (a). Note 4 of Table 11.3.2.A states that for VAV constant volume can be modeled if the system qualifies for Exception (b) to 6.5.2.1, spaces with special pressurization needs - the galleries do not fall under this exception. Because we must model the budget building as VAV with such a low minimum on the boxes, we are being hit hard by a difference in energy consumption between the budget and proposed models before even beginning to test various energy conservation measures (we also cannot achieve the tight tolerances on relative humidity with the 0.4 cfm/sq ft VAV box minimums). We would like to know, since museum AHU's are allowed to be constant volume with reheat per Exception 6.5.2.3(d), if this exception can also apply to the budget building model, thereby allowing us to model the budget gallery AHU's as constant volume.

Interpretation: Since the actual proposed building design is exempt from being variable air volume due to it being a gallery in 6.5.2.3 Exception (d), the budget building model should not be required to be modeled as variable air volume, which would penalize the proposed model from the start just based on its building type.

Question: Is this interpretation correct?

Answer: No

Comment: Table 11.3.2A requires that the budget system be VAV.