

**INTERPRETATION IC 90.1-2007-18 OF
ANSI/ASHRAE/IESNA STANDARD 90.1-2007
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 90.1-2007, Section 6.4.3.9, regarding Ventilation Controls for High-Occupancy Areas.

Background: There is a set of adjacent ballrooms and each ballroom is served by an individual air conditioner with its own outside air supply. A sliding partition can be used to separate the rooms.

All three spaces are served by their own units that have their own thermostats. Each ballroom is densely occupied (50 people/1000ft²), greater than 500 ft² and has less than 3000 cfm of outside air each.

The sum total of outside air being supplied into the three adjacent ballrooms is 4200 cfm. (1600 cfm + 1568 cfm + 1032 cfm)

There are no air side economizers, OA damper controls, and they do not meet any of the exceptions of Section 6.4.3.9 (ASHRAE 90.1-2007).

The requirement defines that DCV is required for these spaces. According to the standard, spaces (enclosed spaces) are defined as volumes "substantially" surrounded by solid surfaces. I'd say that the center space is not considered a space since it has sliding partitions on both sides. The center space would not be "substantially surrounded" by solid surfaces. The sliding partitions go all the way up to the ceiling. I'm in doubt about the side areas though. I can't say that they are substantially surrounded since I couldn't locate ASHRAE's definition of "substantially surrounded".

Is DCV required here? If so, would it be for each unit?

Interpretation No.1: The center ballroom does not require DCV because it is not substantially surrounded by solid surfaces.

Question No.1: Is this interpretation correct?

Answer No.1: No. The definition of enclosed spaces allows for openable devices as a solid surface. The sliding partition is an openable device and as such should be considered a solid surface.

Interpretation No.2: The remaining two ballrooms do not require DCV because they are not substantially surrounded by solid surfaces.

Question No.2: Is this interpretation correct?

Answer No.2: No. The definition of enclosed spaces allows for openable devices as a solid surface. The sliding partition is an openable device and as such should be considered a solid surface.

Interpretation No.3: If the answer to questions 1 and 2 is “No”, then each unit serving each of the three ballrooms must have DCV.

Question No.3: Is this interpretation correct?

Answer No.3: Yes.

Interpretation No.4: Sliding partitions separating adjacent ballrooms are not considered to be solid surfaces when defining an enclosed space.

Question No.4: Is this interpretation correct?

Answer No.4: No. The definition of enclosed spaces allows for openable devices as a solid surface. The sliding partition is an openable device and as such should be considered a solid surface.