

**INTERPRETATION IC 90.1-2007-8 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, Sections 9.4.1.1. and 9.4.1.2 and Appendix G (Table G3.1), regarding minimum lighting control requirements and Appendix G credit for lighting controls.

Background: This request for an official interpretation is to clarify the applicability of lighting power density credit in Table G3.2 as it relates to specific instances where the minimum requirements of Section 9.4.1 appear to have not been met. It is clear in the standard in Table G3.1(6)(g) that the credits in Table G3.2 are only allowed for controls provided in addition to the minimum code compliant controls. The following situations appear to be examples of situations where credit for controls is not allowed by Table G3.2. In all cases, the term "office" is used to represent a typical commercial office occupancy with a mix of private offices, conference rooms, open office areas, reception, restrooms and an employee break room.

1. A 10,000 square foot office is designed with occupancy sensors in all spaces. The office does not have time clock control and individual rooms are not provided with manual switches. The occupancy sensors provide the required Automatic Lighting Shutoff through 9.4.1.1.b and meet the Space Control requirements of 9.4.1.2 and no other devices are required to comply with the minimum requirements. Since the occupancy sensors are used to meet the minimum requirements and no other controls are provided, this situation is not eligible for credit under Table G3.2.
2. A 10,000 square foot office is designed with occupancy sensors in all spaces; however, a combination wall device (occupancy sensor and manual switch) is installed in private offices and conference rooms. The office does not have time clock control. The occupancy sensors provide the required Automatic Lighting Shutoff through 9.4.1.1.b and meet the Space Control requirements of 9.4.1.2. The manual switches are redundant controls but since manual switches cannot satisfy the requirements of 9.4.1.1 in absence of other controls (i.e. occupancy sensors, a time clock, or a signal from another system), this situation is not eligible for credit under Table G3.2.
3. A 10,000 square foot office is designed with occupancy sensors in all spaces and a time clock to turn off lighting after hours. There are no manual switches but the occupancy sensors are capable of overriding the time clock. The time clock provides the required Automatic Lighting Shutoff through 9.4.1.1.a and the occupancy sensors meet the Space Control requirements of 9.4.1.2. Since these two controls are used to meet the minimum requirements and no other controls are provided, this situation is not eligible for credit under Table G3.2.

4. A 10,000 square foot office is designed with occupancy sensors in all spaces. Private offices and conference rooms have combination wall devices (occupancy sensor and manual switch) and the entire building has a time clock. The manual switch portion of the combination devices is capable of sending an override signal for the time clock and the open office areas have separate override switches installed in an easily accessible location. The time clock provides the required Automatic Lighting Shutoff through 9.4.1.1.a and the manual switches provide the Space Control requirements of 9.4.1.2. Occupancy sensors meet the Space Control requirements of 9.4.1.2.a for conference rooms and employee break rooms. Conference rooms and employee break rooms are not eligible for credit under Table G3.2; however, all other spaces are eligible for a 10% credit under Table G3.2 due to the provision of occupancy controls in addition to the time clock control and manual switch.

Interpretation No.1: The situation in item number 1 above meets the provisions of Sections 9.4.1.1 and 9.4.1.2 but is not eligible for credit under Table G3.2.

Question No.1: Is this interpretation correct?

Answer No.1: No.

Interpretation No.2: The situation in item number 2 above meets the provisions of Sections 9.4.1.1 and 9.4.1.2 but is not eligible for credit under Table G3.2.

Question No.2: Is this interpretation correct?

Answer No.2: No.

Interpretation No.3: The situation in item number 3 above meets the provisions of Sections 9.4.1.1 and 9.4.1.2 but is not eligible for credit under Table G3.2.

Question No.3: Is this interpretation correct?

Answer No.3: No.

Interpretation No.4: The situation in item number 4 above meets the provisions of Sections 9.4.1.1 and 9.4.1.2 and is eligible for a 10% credit under Table G3.2 for all spaces except conference rooms and employee break rooms.

Question No.4: Is this interpretation correct?

Answer No.4: Yes.

Comments: G3.1 Section 6. Lighting, Item g. states credit may be given for “additional lighting controls in addition to those required for minimum code compliance”. We appreciate the confusion of what is meant by “lighting controls”, Mr. Poling appears to be interpreting that term to refer to the quantity of installed lighting controls and not their function(s). ASHRAE Standard 90.1 defines *automatic control device* as a singular device for automatic load control whereas there is no definition in the standard for “lighting control”. The intent of Appendix G has always been to grant performance credits based on the function(s) of lighting controls and

not the quantity of installed *automatic control devices*, therefore Interpretations 1, 2 and 3 are not correct. If the sentence in Table G3.1 Section 6 Lighting, item g read “additional *automatic control device(s)* in addition to those required for minimum code compliance” than we would be in agreement with Interpretation 1, 2 and 3.