

**INTERPRETATION IC 90.1-2010-36 OF  
ANSI/ASHRAE/IES STANDARD 90.1-2010  
Energy Standard for Buildings Except Low-Rise Residential Buildings**

**Date Approved:** June 24, 2017

**Request from:** Clark Denson, Smith Seckman Reid, Inc., 2995 Sidco Dr., Nashville, TN 37204.

**Reference:** This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IES Standard 90.1-2010, Sections G3.1.3.12 and G3.1.3.14, regarding Supply Air Temperature Reset in Baseline Systems 6 & 8.

**Background:** When Appendix G was first published with the 2004 version of Standard 90.1, much of the language was borrowed from the Energy Cost Budget Method of Section 11, with some requirements modified or added. For instance, Section G3.1.3.14 "Fan Power (Systems 6 and 8)" is very close in language to note 'a' of Table 11.3.2A "Budget Systems Descriptions" which relates to Budget Systems 1 & 2: those having "VAV with Parallel Boxes (and electric reheat)." In both sections, it says that "The supply air temperature *setpoint* shall be constant at the design condition." A reference to Section 11.3.2 in note 'a' implies that this design condition is based on a supply-air-to-room-air temperature difference of 20°F.

However, Section G3.1.3.12 "Supply Air Temperature Reset (Systems 5 through 8)" says that "The air temperature for cooling shall be *reset* higher by 5°F under the minimum cooling load conditions." This language was taken directly from note 'b' of Table 11.3.2A, and relates specifically to Budget Systems 2 & 4: those having "VAV with (hot water) reheat." Therefore, it appears that there are contradictory requirements in Sections G3.1.3.12 and G3.1.3.14 as to whether Baseline Systems 6 & 8 should have a constant or resetting supply air temperature setpoint.

**Interpretation:** Since Energy Cost Budget Method in Section 11 pre-dates the Performance Rating Method in Appendix G, it provides the original intent for when supply air temperature reset should be used in PRM Baseline Systems. Therefore, in the case of the contradiction found in Sections G3.1.3.12 and G3.1.3.14, this means that supply air temperature reset should only be used in Baseline Systems 5 & 7, but not in Baseline Systems 6 & 8.

**Question:** Is this interpretation correct?

**Answer:** No

**Comments:** The intent is to reset the supply air temperature in ANY VAV( 5 thru 8) system. This 5°F is during the minimum load condition else the supply air temperature should be constant at the design conditions. As indicated in section G1.1 , Appendix G is "a modification of the Energy Cost Budget ( ECB) method in Section 11 and is intended for use in rating the energy *efficiency* of building designs that exceed the requirements of the standard"