ADDENDA

ANSI/ASHRAE/IES Addendum ak to
ANSI/ASHRAE/IES Standard 90.1-2019

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on September 30, 2021, and by the Illuminating Engineering Society on September 27, 2021.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (https://www.ashrae.org/continuous-maintenance).

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FOREWORD

Addendum ak changes the requirement in Section G3.1.1(c) to clarify the process of isolating an HVAC zone attached to a multizone system in the baseline building that may prevent the system from operating in an efficient way. The wording of the current requirement, if followed explicitly, would remove HVAC zones with internal gains lower than 10 Btu/h·ft^2 below the average of other zones on a multizone system. Because these zones would not adversely impact the operation of a multizone system, it is not necessary to require their removal. The change in this addendum only requires an HVAC zone to be modeled with a separate single-zone HVAC system if the peak internal gain is 30 Btu/h·ft^2 or higher and differs by 12 Btu/h·ft^2 or more from the average of other zones on the same HVAC system.

The change also increases the peak internal gain differential from 10 to 12 Btu/h·ft^2. This change is based on analysis done across the PNNL prototype models and helps establish baseline building HVAC system configuration outcomes that are more consistent with actual HVAC design practices.

The proposal also recommends clarifications to the "schedules" portion of the criteria, making it clearer that the intent is to evaluate occupancy and kickout zones whose occupied hours are significantly higher than average.

Addendum ak modifies a section of the standard that was previously updated by published Addendum ab, which can be downloaded online at www.ashrae.org/technical-resources/standards-and-guidelines/standards-addenda/addenda-to-standard-90-1-2019.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum ak to Standard 90.1-2019

Modify Appendix G Section G3.1.1(c) as shown (I-P and SI units).

G3.1.1 Baseline HVAC *System* Type and Description

[. . .]

c. If the baseline *HVAC system* type is 5, 6, 7, 8, 9, 10, 11, 12, or 13 use separate *single-zone systems* conforming with the requirements of *system* 3 or *system* 4 for any *HVAC zones* that have occupancy, or internal gains~~, or schedules~~ that differ significantly from the rest of the *HVAC zones* served by the *system*. ~~The t~~Total peak internal gains of 30 Btu/h·ft^2 (94.6 W/m^2) or higher that also differ by ~~10~~12 Btu/h·ft^2(~~31.2~~37.9 W/m^2) or more from the average of other *HVAC zones* served by the *system*, or occupied hours ~~schedules~~ that ~~differ by~~ are more than 40 ~~equivalent full-load~~ hours per week higher than the average of ~~from~~ other ~~*spaces*~~ *HVAC zones* served by the *system,* are considered to differ significantly. Examples where this exception may be applicable include but are not limited to commercial kitchens, auditoriums, natatoriums, and continually occupied security areas. This exception does not apply to *computer rooms*.

[. . .]

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ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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