ADDENDA

ANSI/ASHRAE/IBPSA Addendum h to
ANSI/ASHRAE Standard 209-2018

Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on August 30, 2024, and by the International Building Performance Simulation Association on August 28, 2024.

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 (www.ashrae.org/continuous-maintenance).

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FOREWORD

Addendum h updates Modeling Cycle #2—Conceptual Design Modeling, and Modeling Cycle #3—Load Reduction Modeling. These changes primarily clean up and clarify the language without changing scope of each cycle.

Informative 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 h to Standard 209-2018

Modify Section 6 as shown.

6.2 Modeling Cycle #2—Conceptual Design Modeling

6.2.1 Purpose. Evaluate energy improvements that are tied to the form and architecture of the building.

6.2.2 Applicability. This *modeling cycle* applies to projects where the form and architecture of the building are still subject to design changes before *schematic design* begins. This *modeling cycle* applies to buildings with internal equipment/*process loads* less than 75% of overall energy breakdown.

6.2.3 Analysis. Create *energy models* based on architectural conceptual designs to ~~calculate~~ estimate annual building energy consumption by end use and peak heating and cooling loads with identical *HVAC systems*, internal occupancy, and equipment/*process loads*.

Exception to 6.2.3: When HVAC system selection impacts the architectural form, multiple HVAC systems may be modeled.

6.2.3.1 Perform comparative analyses of the conceptual designs options to inform design decisions.

~~**6.2.3.2** Provide recommendations to improve the energy performance of each conceptual design.~~

6.3 Modeling Cycle #3—Load Reduction Modeling

6.3.1 Purpose. Identify the distribution of energy by end use. Evaluate strategies that will reduce annual energy ~~use~~ consumption, heating, and cooling peak loads, and peak demand for electricity and other *energy sources*.

6.3.2 Applicability. Required for all projects, this *modeling cycle* shall be completed prior to the final selection of *HVAC system* type and prior to the end of *schematic design*.

6.3.3 Analysis

6.3.3.1 Create an *energy model* based on the *baseline* design, and calculate the annual *energy end uses* and heating and cooling peak loads.

6.3.3.2 Develop a list of at least three peak load reduction strategies selected from one or more of the following categories:

a. Building envelope (including, but not limited to, insulation level, window-to-wall ratio, glazing performance, shading, infiltration, phase change materials, and thermal mass)
b. Lighting and daylighting
c. Internal equipment loads
d. Outdoor air (including, but not limited to, outdoor airflow, exhaust air, and energy recovery)
e. Passive conditioning and natural ventilation

When internal equipment loads exceed ~~60~~75% of the building *energy end use*, at least two of the strategies shall be selected from the internal equipment loads category.

6.3.3.3 Use *energy modeling* to evaluate each load reduction strategy compared to the *baseline* design using identical *HVAC system* types.

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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.

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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.

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