BSR/ASHRAE Addendum e to
ANSI/ASHRAE Standard 209-2018

First Public Review Draft

Proposed Addendum e to Standard
209-2018, Energy Simulation Aided
Design for Buildings except Low-
Rise Residential Buildings

First Public Review Draft (December 2023)
(Draft shows Proposed Changes to Current Standard)

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Foreword: The addendum makes changes to Section 6.1, clarifying the purpose and analysis of Modeling Cycle #1. The Purpose is updated to include consideration of sensitivity in addition to distribution. The Applicability is unchanged in this addendum. The Analysis is expanded to include internal occupancy and equipment-based loads. To make the modeling cycling more enforceable, an action to develop a list of options and share it with the design team has been added. The informative note has also been expanded; this moves the definition of Simple Box Modeling into the modeling cycle and out of Appendix C, making the definition easier for users of the standard to find.

6.1 Modeling Cycle # 1—Simple Box Modeling

6.1.1 Purpose. Identify the distribution and sensitivity of energy consumption by end use. Evaluate energy end uses and demand characteristics for building characteristics that affect building conceptual design.

6.1.2 Applicability. This modeling cycle applies before the building’s geometry and site orientation have been set in the design process. This must be completed before or during the energy charrette described in Section 5.5.

6.1.3 Analysis. Create energy models to calculate understand annual building energy consumption by end use and peak heating and cooling loads with identical HVAC systems and internal occupancy and equipment-based loads. Perform a sensitivity analysis by varying the following building characteristics as applicable based on project considerations:

- a. Building geometry
- b. Window-to-wall ratio, by orientation, and shading options (if applicable)
- c. Orientation
- d. Thermal performance of the envelope and structure

6.1.3.1 Develop a list of conceptual design options and the relative energy consumption and peak loads, and share with the design team at energy charrette.

Informative Note: The term “Simple Box Modeling” came from simple energy models made when geometry was entered using a text editor, and not a 3d modeling tool. Some simple box modeling may still be a simple rectangular building, but it doesn’t have to be limited to that. Design teams can use nonrectangular geometry for this modeling cycle. See Informative Appendix C for guidance.