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<td>Duane Jonlin*</td>
<td>Tien Peng</td>
<td>Jerry White*</td>
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<td>Craig Drumheller*</td>
<td>Michael Jouaneh</td>
<td>Amber Wood*</td>
<td>Jeremiah Williams*</td>
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<td>David Foss</td>
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<td>Laura Petrillo-Groh*</td>
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<td>Phillip Gentry</td>
<td>Andrew Klein</td>
<td>Catherine Rivest</td>
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<tr>
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<td>Vladimir Kochkin</td>
<td>Michael Rosenberg*</td>
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</table>

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Connor Barbaree, Senior Manager of Standards

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- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard, or
- d. permission to reprint portions of the Standard.

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FOREWORD


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.

Modify Section 8 as shown (I-P and SI).

3.2 Definitions

[...]

lighting power allowance (LPA), exterior: the maximum lighting power in watts allowed for the exterior of a building property.

[...]

property: building or site

[...]

Modify Section 8 as shown (I-P and SI).

8.1.2 New Buildings, New Site Systems and Equipment. Building power distribution equipment installed in new buildings shall comply with the requirements of this Section 8.2.

8.1.3 Additions to Existing Buildings, Systems and Equipment. Building power distribution equipment installed in addition to existing buildings and existing sites shall comply with the requirements of this Section 8.2.

8.1.4 Alterations to Existing Buildings, Service Equipment, Systems and Equipment

[...]

8.1.4.1 Alterations to building service equipment and systems shall comply with the requirements of this Section 8, as applicable to those specific portions of the building and its systems that are being altered.

8.1.4.2 Alterations to systems shall comply with the requirements of Section 8, as applicable to those specific portions that are being altered.

8.1.4.3 Any new equipment subject to the requirements of this section that is installed in conjunction with the alterations as a direct replacement of existing equipment shall comply with the specific requirements applicable to that equipment.

[...]

8.7.3.1 Record Documents. Construction documents shall require that within 90 days after the date of system acceptance, record documents shall be provided to the building property owner including

a. a single-line diagram of the building property electrical distribution system,

b. floor plans indicating location and area served for all distribution,, and

c. site plans indicating location and area served for all distribution.
8.7.3.2 Manuals. *Construction documents* shall require that an operating manual and maintenance manual be provided to the building property owner.

[...]

**Modify Section 9 as shown (I-P and SI).**

9.1 Scope

9.1.1 New Buildings, New Site Systems and Equipment. Lighting *equipment* and *systems* serving the lighting needs of new *buildings*, or new *site systems* and *equipment*, shall comply with the requirements of this section as described in Section 9.2.

This section shall apply to the following:

a. Lighting *equipment* and *systems* serving interior spaces of buildings.

b. Lighting *equipment* and *systems* serving exterior applications -- lighting that is powered through the building's electrical service.

Exceptions to 9.1.1:

1. Emergency lighting that is automatically off during normal building operation.

[...]

9.1.1.2 Additions to Existing Buildings, Systems and Equipment. Lighting *equipment* and *systems* installed in additions to existing *buildings* and existing *sites* shall comply with the requirements of Section 9.1.1.1.

9.1.1.3 Alterations to Existing Buildings, Systems and Equipment. The alteration of a lighting *equipment* and *systems* in an interior space shall comply with Section 9.1.2.1. The alteration of a lighting *system* in an exterior area application shall comply with Section 9.1.2.2.

[...]

9.4.1 Lighting Control. Building lighting *controls* shall be installed to meet the provisions of Sections 9.4.1.1, 9.4.1.2, 9.4.1.3, and 9.4.1.4.

[...]

9.6.3.1 Record Documents. *Construction documents* shall require that within 90 days after the date of system acceptance, *record documents* be provided to the building property owner or the designated representative of the building property owner. Record documents shall include, as a minimum, the location luminaire identifier, control, and circuiting for each piece of lighting *equipment*.

9.6.3.2 Manuals. *Construction documents* shall require for all lighting *equipment* and lighting *controls* that an operating manual and maintenance manual be provided to the building property owner or the designated representative of the building property owner within 90 days after the date of system acceptance. These manuals shall include, at a minimum, the following:

[...]

**Modify Section 10 as shown (I-P and SI).**

10.1.1.1 New Buildings, New Site Systems and Equipment. Other *equipment* installed in new buildings shall comply with the requirements of this Section 10.2.

10.1.1.2 Additions to Existing Buildings, Systems and Equipment. Other *equipment* installed in additions to existing *buildings* and existing *sites* shall comply with the requirements of this Section 10.2.

10.1.1.3 Alterations to Existing Buildings, Service Equipment, Systems and Equipment

10.1.1.3.1 Alterations to other building service equipment or systems shall comply with the requirements of this Section 10.2 applicable to those specific portions of the building and its systems that are being altered.

10.1.1.3.2 Alterations to *systems* shall comply with the requirements of Section 10.2, as applicable to those specific portions that are being altered.

10.1.1.3.3 Any new *equipment* subject to the requirements of this section that is installed in conjunction with the *alterations* as a direct replacement of existing *equipment* or *control devices* shall comply with the specific requirements applicable to that *equipment* or *control devices*.

[...]

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Modify Section 11 as shown (I-P and SI).

Exception to 11.5.1: Energy used to recharge or refuel vehicles that are used for off-building-site transportation purposes shall not be modeled for the design energy cost or the energy cost budget.

Table 11.5.1 Modeling Requirements for Calculating Design Energy Cost and Energy Cost Budget

<table>
<thead>
<tr>
<th>Proposed Design (Column A) Design Energy Cost (DEC)</th>
<th>Budget Building Design (Column B) Energy Cost Budget (ECB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ . . . ]</td>
<td>Same as proposed design.</td>
</tr>
</tbody>
</table>

12. Miscellaneous Loads

Receptacle, motor, and process loads shall be modeled and estimated based on the building area type or space type category and shall be assumed to be identical in the proposed and budget building designs. These loads shall be included in simulations of the building and shall be included when calculating the energy cost budget and design energy cost. All end-use load components within and associated with the building property shall be modeled, unless specifically excluded by Section 13 of Table 11.5.1, including but not limited to exhaust fans, parking garage ventilation fans, exterior building property lighting, swimming pool heaters and pumps, elevators and escalators, and cooking equipment.

Same as proposed design.

Modify Normative Appendix G as shown (I-P and SI).

G1.2.2 Performance Rating Calculation. The performance of the proposed design is calculated in accordance with provisions of this appendix using the following formula:

\[
\text{Performance Cost Index} = \frac{\text{Proposed building performance}}{\text{Baseline building performance}}
\]

Both the proposed building performance and the baseline building performance shall include all end-use load components within and associated with the building property when calculating the Performance Cost Index.

Exception to G1.2.2: Energy used to recharge or refuel vehicles that are used for off-building site transportation purposes shall not be modeled in the baseline building performance or the proposed building performance.
### Table G3.1 Modeling Requirements for Calculating Proposed Building Performance and Baseline Building Performance

<table>
<thead>
<tr>
<th>No.</th>
<th>Proposed Building Performance</th>
<th>Baseline Building Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Design Model</td>
<td>The baseline building design shall be modeled with the same number of floors and identical conditioned floor areas as the proposed design.</td>
</tr>
<tr>
<td></td>
<td>a. The simulation model of the proposed design shall be consistent with the design documents, including proper accounting of fenestration and opaque building envelope types and areas; interior lighting power and controls; HVAC system types, sizes, and controls; and service water-heating systems and controls. All end-use load components within and associated with the building property shall be modeled, including but not limited to exhaust fans, parking garage ventilation fans, snow-melt and freeze-protection equipment, facade lighting, swimming pool heaters and pumps, elevators and escalators, refrigeration, and cooking. Where the simulation program does not specifically model the functionality of the installed system, spreadsheets or other documentation of the assumptions shall be used to generate the power demand and operating schedule of the systems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The baseline building design shall be developed by modifying the proposed design as described in Section G3. Except as specifically instructed, all building systems and equipment shall be modeled identically in the proposed design and baseline building design.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>HVAC Systems</td>
<td>Exception: For fossil fuel systems where natural gas is not available for the proposed building site as determined by the rating authority, the baseline HVAC systems shall be modeled using propane as their fuel.</td>
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<tr>
<td>11.</td>
<td>Service Water-Heating Systems</td>
<td>Exception to (b): Where natural gas is not available for the proposed building site, as by the rating authority, gas storage water heaters shall be modeled using propane as their fuel.</td>
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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.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

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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