<table>
<thead>
<tr>
<th>Docket Number:</th>
<th>17-BSTD-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td>2019 Building Energy Efficiency Standards PreRulemaking</td>
</tr>
<tr>
<td>TN #:</td>
<td>221449-5</td>
</tr>
<tr>
<td>Document Title:</td>
<td>10-4-17 Subchapter 4 Presentation</td>
</tr>
<tr>
<td>Description:</td>
<td>Presentation by Peter Strait made at the 10-4-17 Staff Workshop on the proposed 2019 Standards.</td>
</tr>
<tr>
<td>Filer:</td>
<td>Adrian Ownby</td>
</tr>
<tr>
<td>Organization:</td>
<td>California Energy Commission</td>
</tr>
<tr>
<td>Submitter Role:</td>
<td>Commission Staff</td>
</tr>
<tr>
<td>Submission Date:</td>
<td>10/9/2017 1:47:10 PM</td>
</tr>
<tr>
<td>Docketed Date:</td>
<td>10/9/2017</td>
</tr>
</tbody>
</table>
2019 Building Energy Efficiency Standards

SUBCHAPTER 4
Section 130.0

NONRESIDENTIAL, HIGH-RISE RESIDENTIAL, AND HOTEL/MOTEL OCCUPANCIES—MANDATORY REQUIREMENTS FOR LIGHTING SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS

Peter Strait
peter.strait@energy.ca.gov

October 4, 2017
Pre Rulemaking Workshop
§ 130.0 – LIGHTING SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEM

Changes to Section 130.0:

• Rewrote §130.0 for clarity

• **Allowed recognition of lamp wattage** in §130.0(c)2. Installing efficient lamps now counts towards compliance

• **Updated track lighting to modular lighting systems** in §130.0(c)5 to account for new modular lighting approaches such as LED tape lighting and remote ballast systems
§ 130.1 –MANDATORY INDOOR LIGHTING CONTROLS

Changes to Section 130.1:

- Rewrote §130.1(a) through (e) for clarity.
- Aligned Automatic Shutoff Requirements to Building Code §1008. This affects areas where partial-off behavior would be needed to satisfy both codes.
- Moved Demand Responsive (DR) Controls requirements to §110.12.
- Added a new §130.1(f) to describe and clarify the expected interactions of lighting controls.
- Added Occupancy Sensing for Restrooms in §130.1(c)3.
- Clarified Daylighting requirements in §130.1(d) relating to overhangs and atrium spaces.
§ 130.1 –MANDATORY INDOOR LIGHTING CONTROLS
§ 130.1 –MANDATORY INDOOR LIGHTING CONTROLS
§ 130.1 – MANDATORY INDOOR LIGHTING CONTROLS
§130.2(c) Outdoor Lighting Controls

• **Delete subsection 130.2(a):** Motion sensor controls for legacy light source (incandescent)

• **Modify subsection 130.2(b):** Use reference to Part 11 for the outdoor luminaire BUG requirements – no substantive change

• **Modify subsection 130.2(c):** Consolidate and revise outdoor lighting requirements. Outdoor controls shall be capable of:
  – Turning OFF outdoor lighting when daylight is available
  – Dimming and/or turning OFF outdoor lighting during nighttime when the area is unoccupied (formerly “part-night” behavior), using automatic scheduling controls and/or motion sensor controls
  – Allowing override of automatic scheduling controls for up to two hours (consistent with indoor control requirements)
§130.2(c) Outdoor Lighting Controls

(c) Controls for Outdoor Lighting. Outdoor lighting controls shall be installed that meet the following requirements for reducing lighting when daylight is available and during normally scheduled unoccupied periods:

EXCEPTION 1 to Section 130.2(c): Outdoor lighting not permitted by a health or life safety statute, ordinance, or regulation to be turned OFF or dimmed.

EXCEPTION 2 to Section 130.2(c): Lighting in tunnels required to be illuminated 24 hours per day and 365 days per year.

1. Daylight Availability. All installed outdoor lighting shall be controlled by a photo control, astronomical time-switch control, automatic scheduling control, or other control capable of automatically shutting OFF the outdoor lighting when daylight is available.

2. Unoccupied Periods. All installed outdoor lighting shall be controlled by a control capable of reducing the outdoor lighting by at least 50 percent, or turning the lighting OFF, during normally scheduled unoccupied periods. This control shall be either an automatic scheduling control or an occupant sensing control, and shall include the following features:

   A. For automatic scheduling controls, the control shall provide an override function that turns the lighting ON during its scheduled dim or OFF period for no more than 2 hours when an override is initiated.

   B. For occupant sensing controls, no more than 800 watts of lighting shall be controlled by any single sensor, and the control shall return the lighting to its dim or OFF state no later than 15 minutes after the area has been vacated.
§130.4 Lighting Installation and Test

§130.4(b) Lighting Control Installation Certificate Requirements

- Removed §130.4(b)3 and 4 relating to certification requirements of line-voltage track lighting integral current limiters and supplementary overcurrent protection panels. Example products no longer need to be submitted to the Energy Commission, and manufacturers no longer have to certify product information, making the Sections redundant.

- Acceptance testing is still required for systems using these components under §130.4(b)1.

- We are interested in feedback on acceptance testing protocols for modular lighting systems that can be added to NA 7.7.
§130.5 Electrical Power System

Moved §130.5(e) Demand Responsive Controls and Equipment to Section 110.12
KEY WEB-LINK

2019 Title 24 Utility-Sponsored Stakeholder
http://title24stakeholders.com/

Building Energy Efficiency Program
http://www.energy.ca.gov/title24/

Comments to be submitted to
Standards Contact Information – Energy Commission

Mazi Shirakh, PE
ZNE Technical Lead & Advisor to the 2019 Building Standard Staff.
Mazi.Shirakh@energy.ca.gov
916-654-3839

Payam Bozorgchami, PE
Project Manager, 2019 Building Standards
Payam.Bozorgchami@energy.ca.gov
916-654-4618

Larry Froess, PE
CBECC Software Lead
Larry.Froess@energy.ca.gov
916-654-4525

Peter Strait
Supervisor, Building Standards Development
Peter.Strait@energy.ca.gov
916-654-2817

Christopher Meyer
Manager, Building Standards Office
Christopher.Meyer@energy.ca.gov
916-654-4052

Todd Ferris
Supervisor, Software Tools Development
Todd.Ferris@energy.ca.gov
916-654-4072
Building Standards Office Staff – Energy Commission

Mark Alatorre, P.E.
Mechanical / HVAC (nonresidential)
Mark.Alatorre@energy.ca.gov
916-654-4642

Thao Chau
Lighting
Thao.Chau@energy.ca.gov
916-654-4168

Simon Lee, P.E.
Lighting
Simon.Lee@energy.ca.gov
916-654-4525

Jeff Miller, P.E.
Mechanical / HVAC (residential)
Jeff.Miller@energy.ca.gov
916-651-6182

Michael Shewmaker
Envelope
Michael.Shewmaker@energy.ca.gov
916-653-1584
Building Standards Office Staff – Energy Commission

Gabriel Taylor, P.E.
Healthcare Facility Integration/ Demand Response
Gabriel.Taylor@energy.ca.gov
916-654-4482

Danny Tam
Plumbing/Water Heating/ Solar PV
Danny.Tam@energy.ca.gov
916-654-8435

Ingrid Neumann
Local Ordinances, Cal Green
Ingrid.neumann@energy.ca.gov
916-651-1461