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

2019 Pre-Rulemaking for Building Energy Efficiency Standards

Payam Bozorgchami, P.E.
Project Manager, 2019 BEES

October 04, 2017
Housekeeping Items

• Restroom locations
  o Outside the double doors to your left

• The Snack Bar
  o Located on the 2nd floor under the white awning

• Event of an Emergency and the building is evacuated.
  o Follow our employees to the Roosevelt park, located across the street from this building
  o Proceed calmly and quickly following the employees with whom you are meeting
What We Will Cover Today

• How Title 24, Part 6 is developed

• Gabriel Taylor, P.E.
  o § 100 – General Provision + Healthcare Facilities
  o § 110 – Mandatory Equipment Provisions

• Mark Alatorre, P.E.
  o § 120 – Mandatory for Nonresidential, High Rise Residential, and Hotel/Motel Buildings

• Peter Strait
  o § 130 – Mandatory Requirements for Lighting Systems and Electrical Power Distribution

• Mark Alatorre, P.E., Simon Lee, P.E.
  o § 140 – Performance and Prescriptive Compliance Approaches
What We Will Cover Today

• Thao Chau
  o § 141 – Additions and Alterations
• Mark Alatorre, P.E.
  o Nonresidential Appendix (NA)
Public Resources Code (PRC 25402): Reduction of wasteful, uneconomic, inefficient, or unnecessary consumption of energy

- (a)(1) Prescribe, by regulation, lighting, insulation, climate control system, and other building design and construction standards that increase the efficiency in the use of energy and water…

- Warren Alquist Act Signed into law in 1974 by Governor Ronald Reagan and launched by Governor Jerry Brown in 1975 which mandates updates Building Efficiency Standards and requires the building departments to enforce them through the permit process.
Policy Drivers For Building Standards

- Governor's “Clean Energy Jobs Plan”
- Governor Brown’s ZNE goals – focused on ZNE building code requirement by 2020 for newly constructed residential buildings – get there in three code cycles (2013, 2016, 2019)
- Zero Net Energy: Residential by 2020 and Nonresidential by 2030
- CARB Climate Change Scoping Plan
- California Long Term Energy Efficiency Strategic Plan
How Standards Are Updated

• Energy Commission staff, with help from the utility partners and the consultants, write the Triennial Standards update.

• The updates are presented at both utility-sponsored stakeholder meetings and the public in staff workshops and committee hearings.
California Standards for California Climates

**Focus on CA Climate Diversity**

- Standards set expectations for climate-specific designs
- CA weather data captures statewide coincident peak demand climate conditions

![California Climate Zone Map](image)

- Coastal - 1, 3, 5, 6, 7, 8
- Inland - 2, 4, 9, 10
- Central Valley - 11, 12, 13
- Desert - 14, 15
- Mountains - 16
Standards measures must be cost effective

1. Using Life Cycle Costing Methodology (LCC)
   i. Discounted cash flows for costs and benefits
   ii. Accounts for maintenance costs/benefits
   iii. Appropriate discount rates and life of measures -
        30 years for residential measures
        15 years for nonresidential measures

2. Time Dependent Valuation (TDV)
   i. Value of gas and electricity changes depending on the season and the time of day
   ii. 8,760 TDV multipliers for each hour of the year
   iii. Favors measures that save energy during high demand periods
2019 Standards Process

We are very early in the process, the pre-rulemaking is set to begin soon.

<table>
<thead>
<tr>
<th>2019 STANDARDS UPDATE SCHEDULE</th>
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<tbody>
<tr>
<td><strong>DATE</strong></td>
<td><strong>MILESTONES</strong></td>
</tr>
<tr>
<td>February 2016-July 2016</td>
<td>Measures Identified</td>
</tr>
<tr>
<td>August 2016 to June 2017</td>
<td>Stakeholder meeting/workshop &amp; final staff workshop</td>
</tr>
<tr>
<td>August/September 2017</td>
<td>CASE Reports submitted to the CEC</td>
</tr>
<tr>
<td>January , 2018</td>
<td>45-day Language Hearings</td>
</tr>
<tr>
<td>March, 2018</td>
<td>Adoption of 2019 Standards at Business Meeting</td>
</tr>
<tr>
<td>June 1, 2018 to November 2018</td>
<td>Staff work on Software, Compliance Manuals, Electronic Documents Available to Industry</td>
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<tr>
<td>November 1, 2018</td>
<td>Approval of the Manuals</td>
</tr>
<tr>
<td>January 1, 2019</td>
<td>Software, Compliance Manuals, Electronic Documents Available to Industry</td>
</tr>
<tr>
<td>January 1, 2020</td>
<td>Effective Date</td>
</tr>
</tbody>
</table>
2019 Title 24 Utility-Sponsored Stakeholder
http://title24stakeholders.com/

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

Comments to be submitted to
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Questions?