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<th><strong>Docket Number:</strong></th>
<th>17-BSTD-01</th>
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<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>221448-7</td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>10-5-17 Subchapter 8 Presentation</td>
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<tr>
<td><strong>Description:</strong></td>
<td>Presentation by Danny Tam made at the 10-5-17 Staff Workshop on the proposed 2019 Standards.</td>
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<td><strong>Filer:</strong></td>
<td>Adrian Ownby</td>
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<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
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<tr>
<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
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<tr>
<td><strong>Submission Date:</strong></td>
<td>10/9/2017 2:07:25 PM</td>
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<td>10/9/2017</td>
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2019 Building Energy Efficiency Standards

SUBCHAPTER 8
Section 150.1

LOW-RISE RESIDENTIAL BUILDINGS - PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES

Danny Tam
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October 5, 2017
Pre Rulemaking Workshop
§150.1(b)–Performance Standards

• Revised for clarity
• Explained the Energy Budget for newly constructed buildings is expressed as an EDR,
  – Energy Efficiency EDR,
  – Solar Electric Generation and Demand Flexibility EDR
  – Combined to arrive at Total EDR
• Energy Budget for additions and alterations continues to be expressed as TDV energy
§150.1(c)–Prescriptive Standards/Component Package

§150.1(c)1A–Insulation, Roof and Ceiling
Removed above deck HPA option (2016 HPA Option A)
- Instead of having a prescriptive requirement, users will be directed to use the performance path for above deck insulation

§150.1(c)1B–Insulation, Walls
Modified language to separate framed, unframed and mass walls for clarity
§150.1(c)–Prescriptive Standards/Component Package

§150.1(c)1E–Quality Insulation Installation
New requirement for quality insulation installation (QII)

§150.1(c)3A–Fenestration

- Revised language to include glazed doors
- U-factor and SHGC requirements in Table 150.1-A or B
- Revised definition for glazed door. Changed from 50 percent to 25 percent of glazed area
§150.1(c)–Prescriptive Standards/Component Package

§150.1(c)5 – Doors
- New U-Factor requirement for doors
- Exception for fire protection

§150.1(c)7A–Refrigerant Charge
- Revised language to include airflow targets for small duct high velocity systems
- Require minimum airflow rate of 250 cfm per ton
§150.1(c)–Prescriptive Standards/Component Package

§150.1(c)8A–Domestic Water-Heating Systems serving individual dwelling units

Delete option ii for gas storage type water heater under 55 gallons
  – This option is superseded with QII being a prescriptive requirement for 2019

Additional Drain Water Heat Recovery option for gas storage type water heater above 55 gallons
  – Currently requires either compact hot water distribution or HERs verified pipe insulation
§150.1(c)8A–Domestic Water-Heating Systems serving individual dwelling units

Add new prescription option iii for electric water heaters above 55 gallons

- Require additional kW larger than the prescriptive PV requirement in Section 150.1(c)14
- For CZ 2 through 15, additional capacity of 0.3 kW
- For CZ 1 and 16, additional capacity of 1.1 kW

Add new exceptions for Option iii. Require installation of heat pump water heater that meets NEEA Advanced Water Heater Specification Tier 3 or higher.

- For CZ 1 and 16, additional capacity of 0.3 kW required in addition to a NEEA Tier 3 HPWH
§150.1(c)8B–Domestic Water-Heating Systems serving multiple dwelling units

Add new prescription option for reduced solar fraction requirement if a Drain Water Heat Recovery (DHWR) system are installed

- Current requirements are solar fraction 0.2 in CZ 1 through 9 and 0.35 in CZ 10 through 16
- With a DHWR system, the solar fraction requirement reduced to 0.15 in CZ 1 through 9 and 0.3 in CZ 10 through 16
- The DHWR system must have at least a CSA rated effectiveness of 42 percent and recover heat from at least half of the showers above the first floor
§150.1(c)14–Photovoltaic Requirements

- Add new prescription requirement for low-rise residential buildings to have a photovoltaic system. System output shall equal the dwelling’s annual electrical usage
  - Exception for limited solar ready zones less than 80 contiguous SF due to natural or manmade barriers
  - Reduced PV requirement for Climate Zone 15
  - Reduced PV requirement for 3 stories single family homes
  - Accommodations for plans approved prior to Jan 1, 2020
  - Reduced PV size if installed in conjunction with a battery storage system
  - Exception for development connected to a constrained local utility distribution system
§150.1(c)–Prescriptive Standards/Component Package

Modified Footnote in Table 150.1-A and Table 150.1-B

“Mass wall has a **density greater than 45 pounds per cubic foot.**”
KEY WEB-LINK

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

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

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