<table>
<thead>
<tr>
<th><strong>Docket Number:</strong></th>
<th>17-BSTD-01</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Title:</strong></td>
<td>2019 Building Energy Efficiency Standards PreRulemaking</td>
</tr>
<tr>
<td><strong>TN #:</strong></td>
<td>221448-8</td>
</tr>
<tr>
<td><strong>Document Title:</strong></td>
<td>10-5-17 Subchapter 9 Presentation</td>
</tr>
<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>
</tr>
<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 2:07:25 PM</td>
</tr>
<tr>
<td><strong>Docketed Date:</strong></td>
<td>10/9/2017</td>
</tr>
</tbody>
</table>
2019 Building Energy Efficiency Standards

SUBCHAPTER 9

Section 150.2

LOW-RISE RESIDENTIAL BUILDINGS - ADDITIONS AND ALTERATIONS TO EXISTING LOW-RISE RESIDENTIAL BUILDINGS

Danny Tam
danny.tam@energy.ca.gov

October 5, 2017
Pre Rulemaking Workshop
§150.2(a)–ADDITION

§150.2(a)1Ai–Prescriptive approach

§150.2(a)1Biii–Prescriptive approach for Additions > 700 Square feet

• Modified language to require R-21 insulation in a 2x6 framing
  – Change was made to be consistent with the new high performance wall requirements which is based on R-21 cavity insulation
§150.2(a)–ADDITION

§150.2(a)1B–Additions less than 700 square feet

§150.2(a)1Bi–Roof & Ceiling Insulation

Modified language to require R-38 ceiling insulation in climate zones 1 and 11-16, or R-30 in climate zones 2-10

Exception: Enclosed rafter ceiling shall meet requirement § 150.0

§150.2(a)1Bii–Radiant Barrier

Inserted new language to clarify radiant barrier requirements. Require for CZ 2-15

§150.1(a)1Bv – QII

Inserted new language exempting additions less than 700 ft² from the quality insulation installation (QII) requirements
§150.2(b)–ALTERATIONS

§150.2(b)1C–Entirely New or Complete Replacement Space-Conditioning System

Added an exception to allow for the installation of a heat pump when installing a complete replacement of an existing gas system including duct work.

§150.2(b)1G–Altered Space-Conditioning System

Add a new section to allow for the installation of a heat pump when altering/replacing a gas furnace or other form of has heating.
§150.2(b)–ALTERATIONS

§150.2(b)1F–Altered Space-Conditioning System – Mechanical Cooling

• Added language to include new airflow targets for small duct high velocity systems
  – applicable when refrigerant charge is triggered by the alteration
  – Require minimum airflow rate of 250 cfm per ton
§150.2(b)–ALTERATIONS

§150.2(b)1H–Domestic Water-Heating Systems Alteration

• Add new prescription alteration option for electric water heaters above 55 gallons
  – Require additional photovoltaic system capacity of 1kW

• Add new exception for installation of heat pump water heater that meets NEEA Advanced Water Heater Specification Tier 3 or higher.
  – Will meet prescriptive alteration requirement for CZ 1 through 15
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
Questions/Comments