

## DOCKETED

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# 2019 Building Energy Efficiency Standards

## SUBCHAPTER 8

### Section 150.1

#### LOW-RISE RESIDENTIAL BUILDINGS - PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES

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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- This option is superseded with QII being a prescriptive requirement for 2019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 (DWHR) system are installed

- Current requirements are solar fraction of 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/>

**Comments to be submitted to**

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-01>



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# Questions/Comments

