



# Smart Buildings, Smart Cities, and the Smart Grid



# **California Code of Regulations, Title 24 (Building Standards) Part 6 (Energy Code)**

**Slides courtesy of Gabe Taylor, CEC**

# Nonresidential Building

**NONRESIDENTIAL BUILDING** is any building which is identified in the California Building Code Table; Description of Occupancy as Group A, B, E, F, H, I, M, or S; and is a U; as defined by Part 2 of ~~Title 24~~ Title 24 of the California Code of Regulation.

**NOTE:** Requirements for high-rise residential buildings and hotels/motels are included in the nonresidential sections of Part 6.

- “Nonresidential” includes:
  - High-rise residential
  - Hotels/motels

## 2019 Energy Code DR

### ▪ **Nonresidential**

1. Thermostats
2. Lighting
3. EMC
4. General

### ▪ **Multifamily**

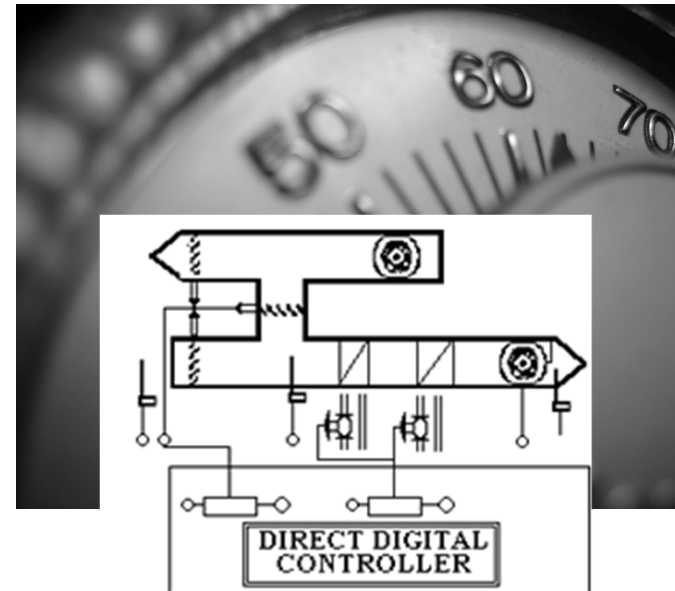
5. Solar Ready

### ▪ **Residential**

6. Solar Ready
7. Water Heaters
8. HVAC

## Nonresidential

- Single Zone
  - A/C & Heat Pumps
- Single Zone w/ DDC
  - Additional Shed Requirements
- Alterations
  - §120.2(b), 120.2(h) → 110.12(b), & 141(b)2E



# REQUIRED

## Nonresidential

- Lighting Controls
- LPD  $> 0.5 \text{ W/ft}^2$
- Buildings  $> 10,000 \text{ ft}^2$
- §130.1(e) →



# REQUIRED

## Nonresidential

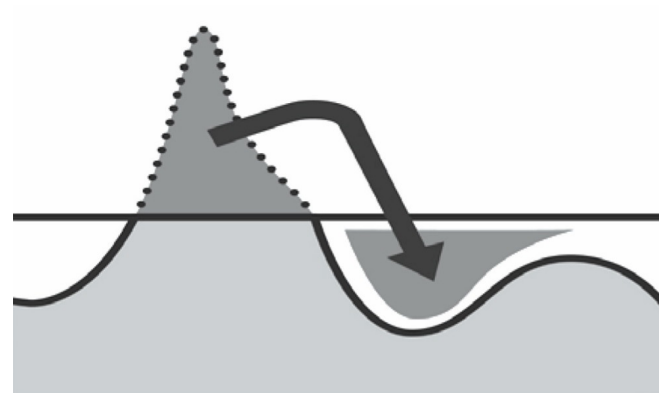
- Electronic Message Centers (EMC)
- > 15 kW
- >30% Reduction
- §130.3(a)3 → 110.12(d)



# REQUIRED

## Nonresidential

- Demand Responsive Controls
- For Compliance *or* Credit
- §130.5(e) → 110.12



# REQUIRED



## Multifamily

- DR Thermostats +  
*Either:*
  - Additional EE, or
  - EV Chargers
- **0 ft<sup>2</sup>** of Solar Ready
  - Down from 250 ft<sup>2</sup>
- §110.10(b)1B



# REQUIRED

## Residential

- DR Thermostats  
= **150 ft<sup>2</sup>** of Solar Ready
- Down from 250 ft<sup>2</sup>
- DR Thermostats  
+ Additional EE  
= **0 ft<sup>2</sup>** of Solar Ready
- §110.10(b)1A



**REQUIRED**

## Residential

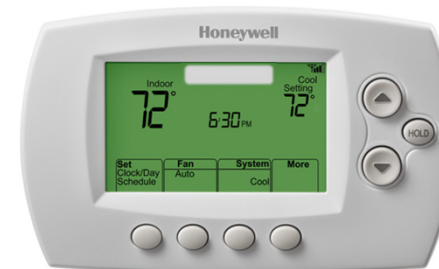
- Heat Pump Only
- Alterations Only
- Optional:
  - §110.12, or
  - NEEA Tier 3
- §150.2(b)1Hiii b & c



**REQUIRED**

## Residential

- Alterations Only
- Optional Testing Allowance
- Rare Cases
- EXCEPTION to §150.2(b)1Fiia
- EXCEPTION to §150.2(b)1Fiib



# REQUIRED

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