

DOCKETED

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Project Title:	2019 Building Energy Efficiency Standards PreRulemaking
TN #:	220170
Document Title:	Presentation - Title 24 - 2019 - Building Standards for Licensed Health Care Facilities
Description:	Licensed Health Care Facilities presentation made by Gabe Taylor at the 7-13-17 2019 Standards Pre-Rulemaking Staff Workshop.
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Docketed Date:	7/14/2017



CALIFORNIA ENERGY COMMISSION

Title 24 – 2019: Building Standards for Licensed Health Care Facilities

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Building Standards Office
Energy Efficiency Division

2019 Pre-Rulemaking Workshop
Rosenfeld Hearing Room
July 13th, 2017



Acknowledgements

- Office of Statewide Health Planning and Development (OSHPD)
- OSHPD Hospital Building Safety Board (HBSB) Staff and Management
- HBSB Energy Management and Conservation Committee
- HBSB Administrative Processes, Code Changes, and Standard Details Committee



Overview & Goals

- **Legal Requirement**
- **Proposed Changes**
 - ✓ Code
 - ✓ Exceptions
- **Schedule**





Legal Requirement

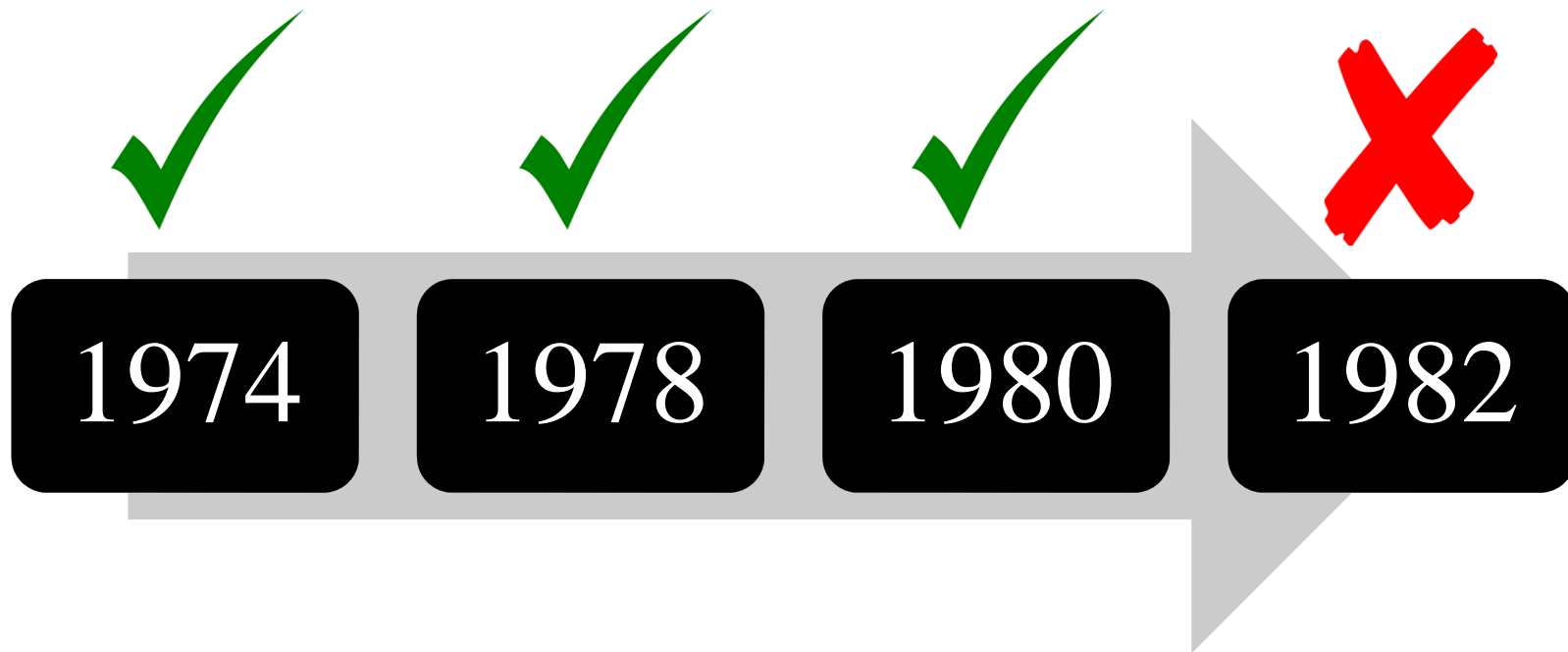
- UBC 1973 **Type H** are hotels, apartments, convents, and monasteries
- UBC 1973 **Type I** are dwellings and lodging houses
- UBC 1973 **Type J** are garages, sheds, and fences

§ 25130. Nonresidential building

“Nonresidential” building means any building which is heated or cooled in its interior, and is of an occupancy type other than Type H, I, or J, as defined in the Uniform Building Code, 1973 edition, as adopted by the International Conference of Building Officials.



Legal Requirement





Basis & Design of Code

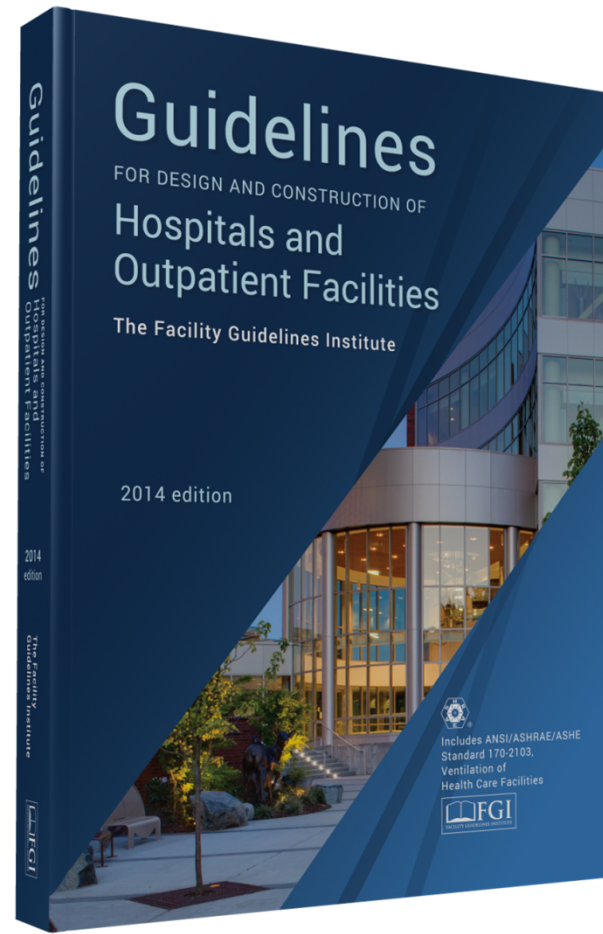
- **Cost Effective**
- **Technically Feasible**
- **Owner/Operator Centric**
- **Flexible**





Basis of Proposal

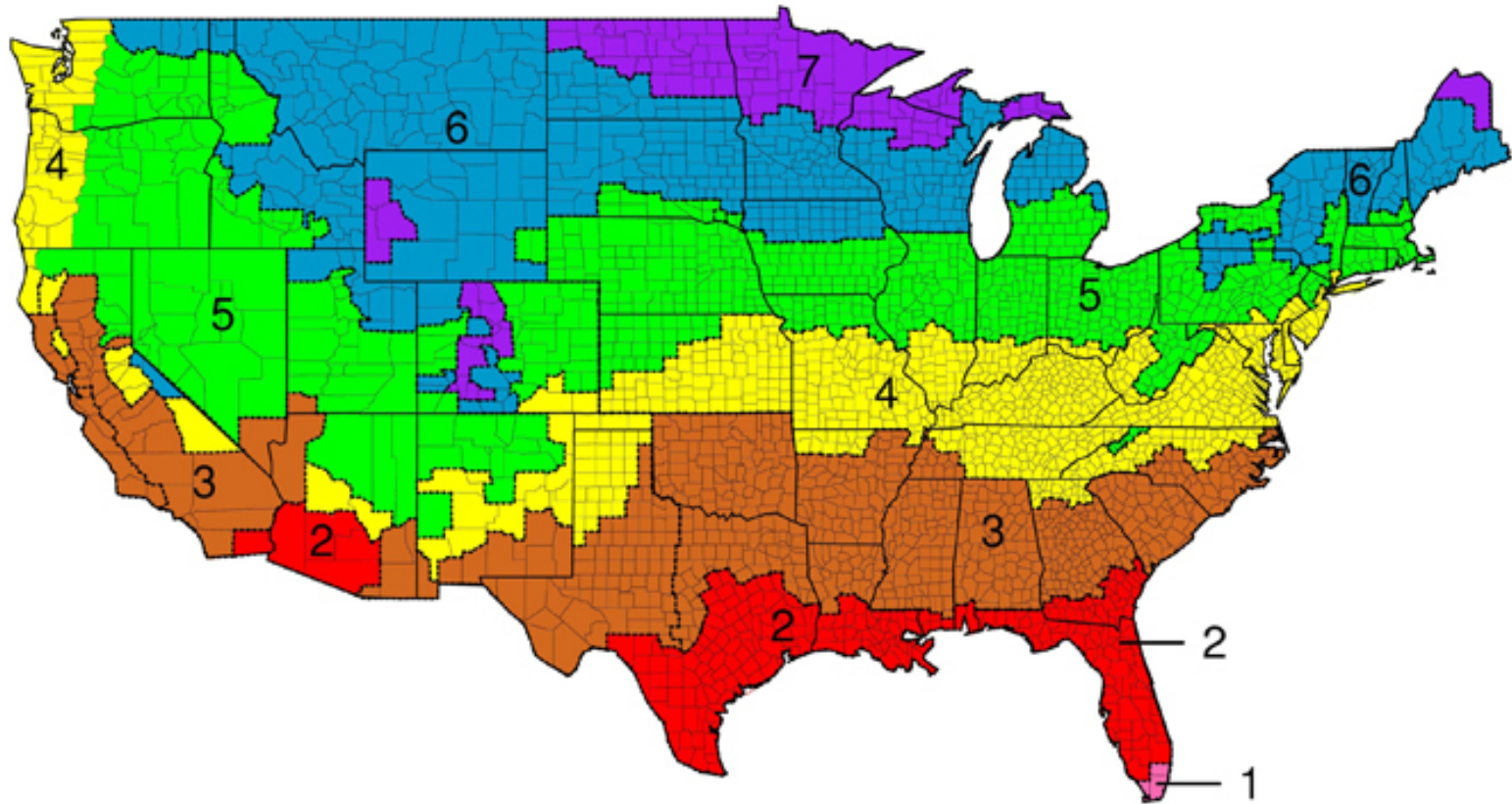
- OSHPD
- ASHRAE 90.1
- FGI Guidelines





Climate Zones

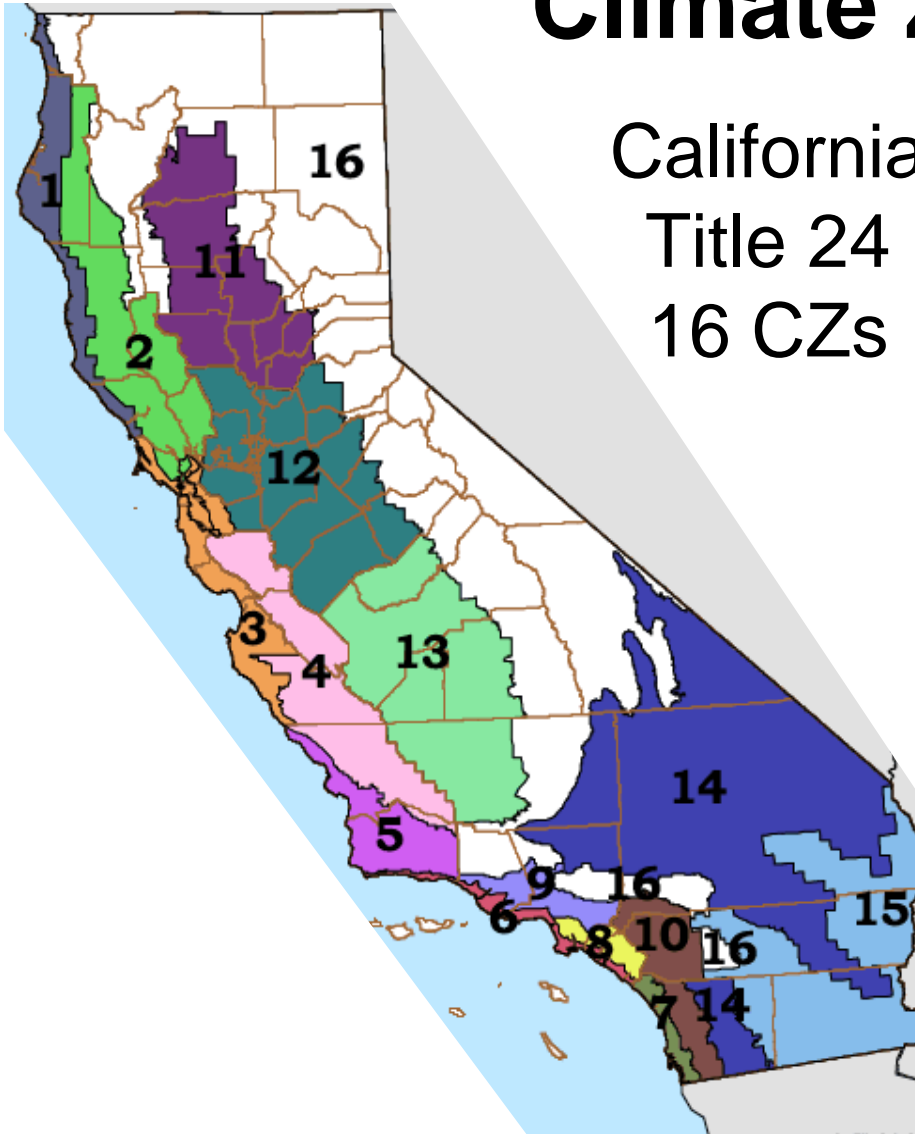
ASHRAE 90.1 – 7 CZs, 5 in CA





Climate Zones

California
Title 24
16 CZs





Title 24, Part 6: Building Energy Efficiency Standards

§100 Scope & Definitions

§110 Systems & Equipment

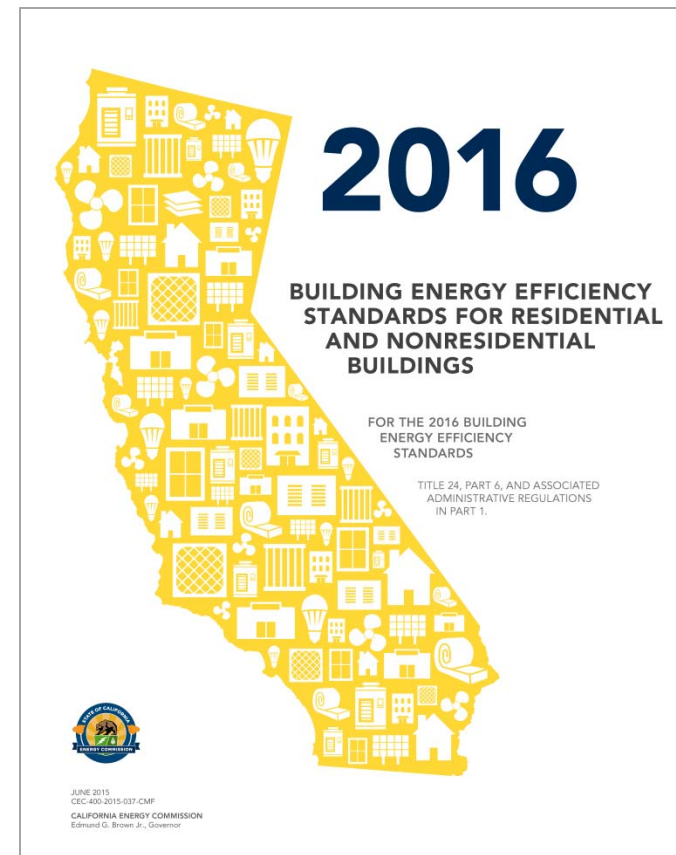
§120 Design & Installation

§130 Lighting & Electrical

§140 Performance & Prescriptive

§141 Additions & Alterations

EXCEPTIONS in Green





Title 24, Part 6: Building Energy Efficiency Standards

§100 **Scope & Definitions**

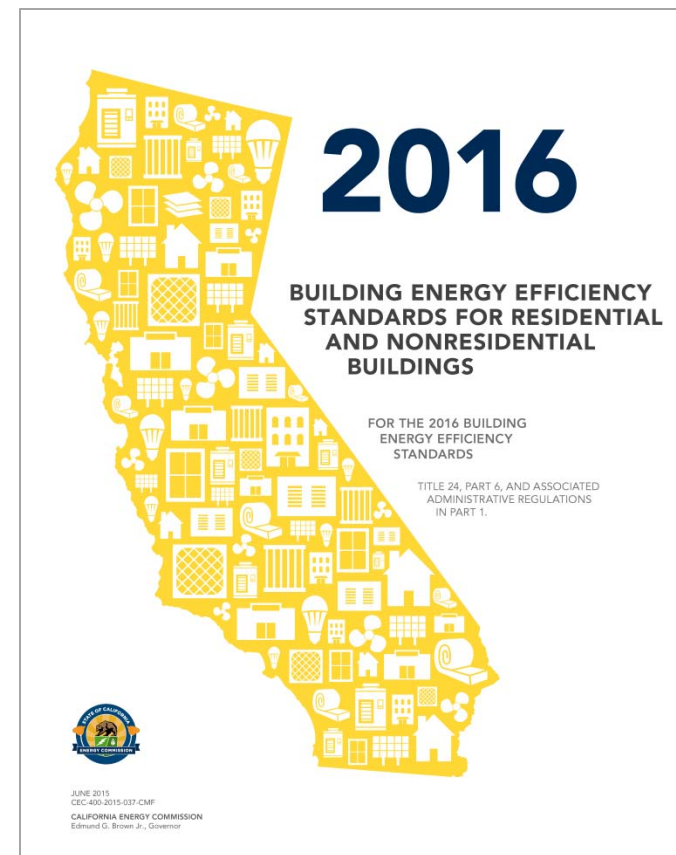
§110 **Systems & Equipment**

§120 **Design & Installation**

§130 **Lighting & Electrical**

§140 **Performance & Prescriptive**

§141 **Additions & Alterations**





Scope & Definitions (§100)

- **Add Occupancy Group I**
 - Excluding I-1, I-3, and I-4
- **Define “Healthcare Facility”**

HEALTHCARE FACILITY is any building or portion thereof licensed pursuant to California Health and Safety Code Division 2, Chapter 1, §1204 or Chapter 2, §1250.

- **Remove old definitions**



Title 24, Part 6: Building Energy Efficiency Standards

§100 Scope & Definitions

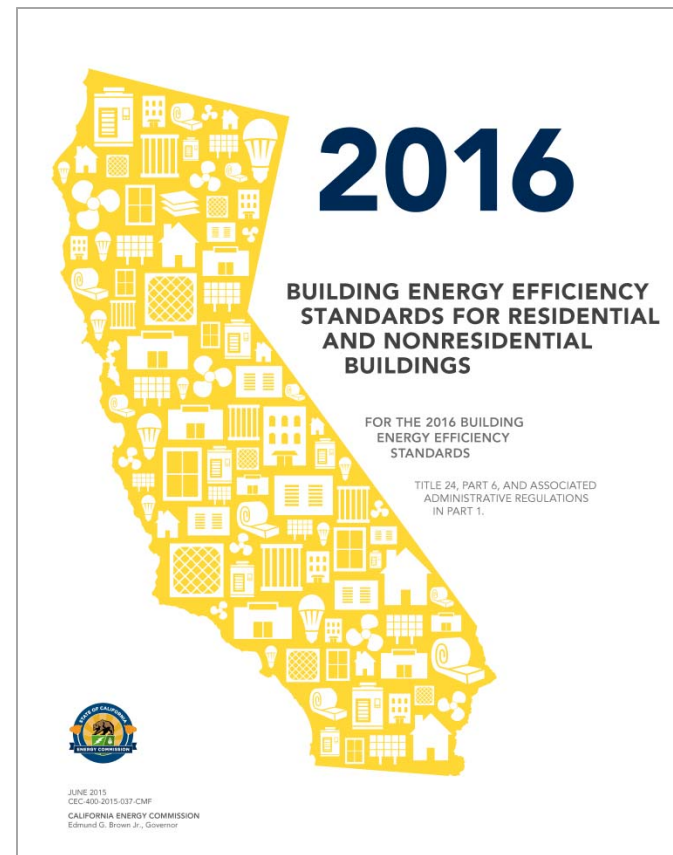
§110 **Systems & Equipment**

§120 Design & Installation

§130 Lighting & Electrical

§140 Performance & Prescriptive

§141 Additions & Alterations





Systems & Equipment (§110)

110.1 Appliances

110.2 HVAC Equipment

110.3 Water Heating

110.4 Pool & Spa

110.5 Pilot Lights

110.6 Fenestration

110.7 Air Leakage

110.8 Insulation & Roofing

110.9 Lighting Controls

110.10 Solar Ready

110.11 Electrical
Equipment



Systems & Equipment (§110)

Exceptions

110.1 Appliances

110.2 HVAC Equipment

110.3 Water Heating

110.4 Pool & Spa

110.5 Pilot Lights

110.6 Fenestration

110.7 Air Leakage

110.8 Insulation & Roofing

110.9 Lighting Controls

110.10 Solar Ready

110.11 Electrical
Equipment



Systems & Equipment: **Water Heating (§110.3)**

- Minimum Energy Efficiency
- Tank & Recirculation System Insulation
- Isolation Valves
- No Pilot Lights
- **Water Heating Temperature Controls:**
 - ✓ **Reference California Plumbing Code for healthcare facilities (§110.3)**



Systems & Equipment: Solar Ready Buildings (§110.10)

- **Exception for Healthcare**
- Three stories or less
- 15% of roof
- Parking Structures
- Exemption for heliports





Title 24, Part 6: Building Energy Efficiency Standards

§100 Scope & Definitions

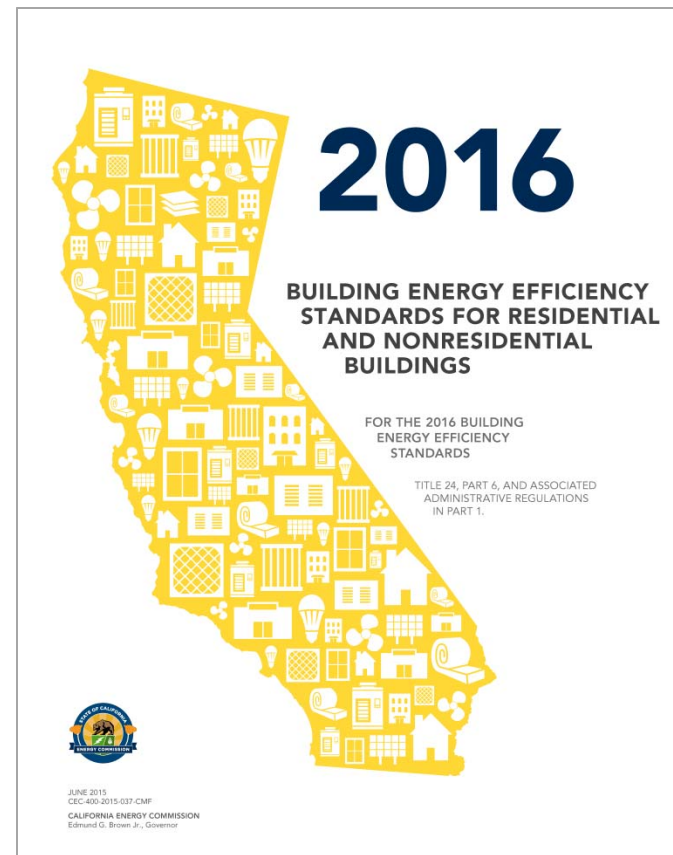
§110 Systems & Equipment

§120 **Design & Installation**

§130 Lighting & Electrical

§140 Performance & Prescriptive

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Design & Installation (§120)

120.1 Ventilation

120.2 HVAC Systems

120.3 Pipe Insulation

120.4 Ducts & Plenums

120.5 Mechanical

120.6 Covered Processes

120.7 Insulation

120.8 Commissioning

120.9 Boilers

120.10 Demand
Management



Design & Installation (§120) Exceptions

120.1 Ventilation

120.2 HVAC Systems

120.3 Pipe Insulation

120.4 Ducts & Plenums

120.5 Mechanical

120.6 Covered Processes

120.7 Insulation

120.8 Commissioning

120.9 Boilers

120.10 Demand
Management



Design & Installation: HVAC Systems (§120.2)

- Zonal Controls
- Fan & Pump Efficiency
- Heat Pump use of Resistance Heat
- 5° F Dead Band
- Shutoff & Resets
- Demand Shed



Design & Installation: Pipe Insulation (§120.3)

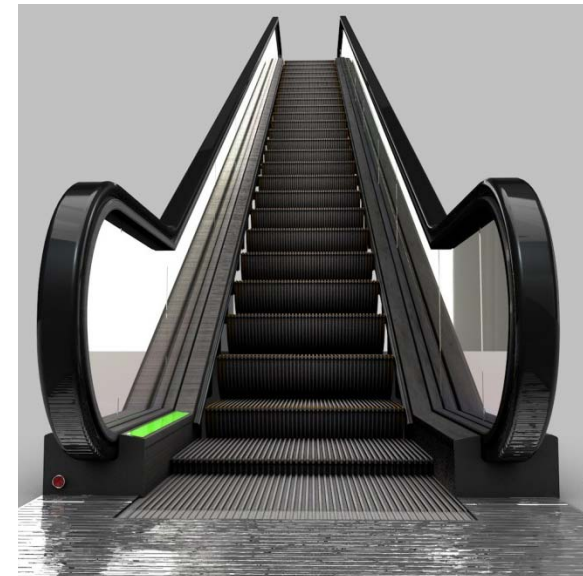
- **Space Conditioning**
- **Hot Water**
- **Insulation Protection**





Design & Installation: Covered Processes (§120.6)

- Parking Garage Ventilation
- **Compressed Air Systems**
- Boilers
- Escalators & **Elevators**





Design & Installation: Insulation (§120.7)

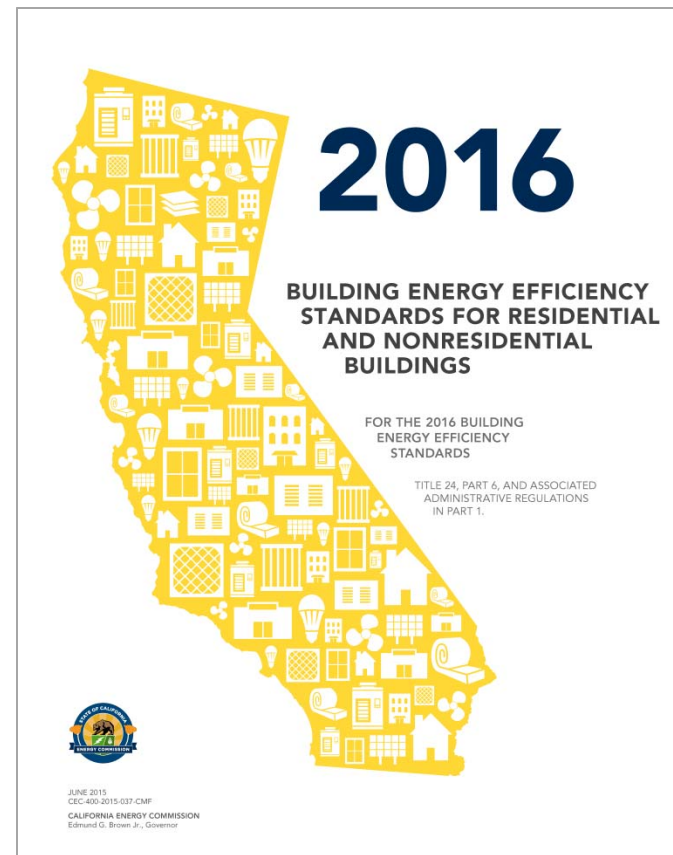
- Design of Insulation
- Installation of Insulation
- Roof, Wall, & Floor
- Durability





Title 24, Part 6: Building Energy Efficiency Standards

- §100 Scope & Definitions
- §110 Systems & Equipment
- §120 Design & Installation
- §130 Lighting & Electrical**
- §140 Performance & Prescriptive
- §141 Additions & Alterations





Lighting & Electrical (§130)

130.1 Indoor Controls

130.2 Outdoor Controls

130.3 Sign Controls

130.4 Acceptance Testing

130.5 Power Distribution



Lighting & Electrical (§130) Exceptions

130.1 Indoor Controls

130.2 Outdoor Controls

130.3 Sign Controls

130.4 Acceptance Testing

130.5 Power Distribution



Lighting & Electrical Indoor Controls §130.1

- Area
- Multi-Level
- Automatic Shut-off
- Automatic Daylighting



General Lighting



Lighting & Electrical Area Control (§130.1(a))

- On/off switch
- Accessible
- Each Area
- **Psychiatric and Secure Areas**





Lighting & Electrical Multi-Level Control (§130.1(b))

- Dimmer
- Bi-level switch





Lighting & Electrical Automatic Shut-OFF (§130.1(c))

*Automatically
turn the lights off
when nobody's there*

- Occupant sensor
- Time clock switch
- Patient Care Spaces





Lighting & Electrical Automatic Daylighting (§130.1(d))

- Windows & Skylights
- Maintain ambient light
- Reduce power, not light





Lighting & Electrical (§130) Exceptions

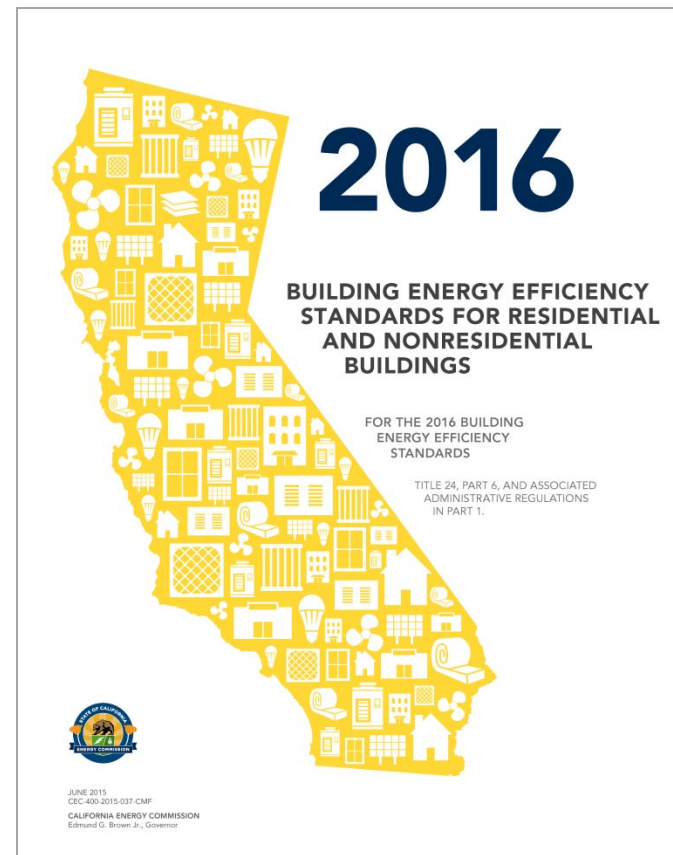
- Psychiatric and Secure Areas
- Auto Shut-off in Patient Spaces
- Outdoor Lit Signs





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Performance & Prescriptive (§140)

140.0 Performance &
Prescriptive Compliance

140.1 Performance:
Energy Budgets

140.2 Prescriptive
Approach

140.3 Prescriptive:
Building Envelopes

140.4 Prescriptive: HVAC

140.5 Prescriptive:
Water Heating

140.6 Prescriptive:
Indoor Lighting

140.7 Prescriptive:
Outdoor Lighting

140.8 Prescriptive: Signs

140.9 Prescriptive:
Covered Processes

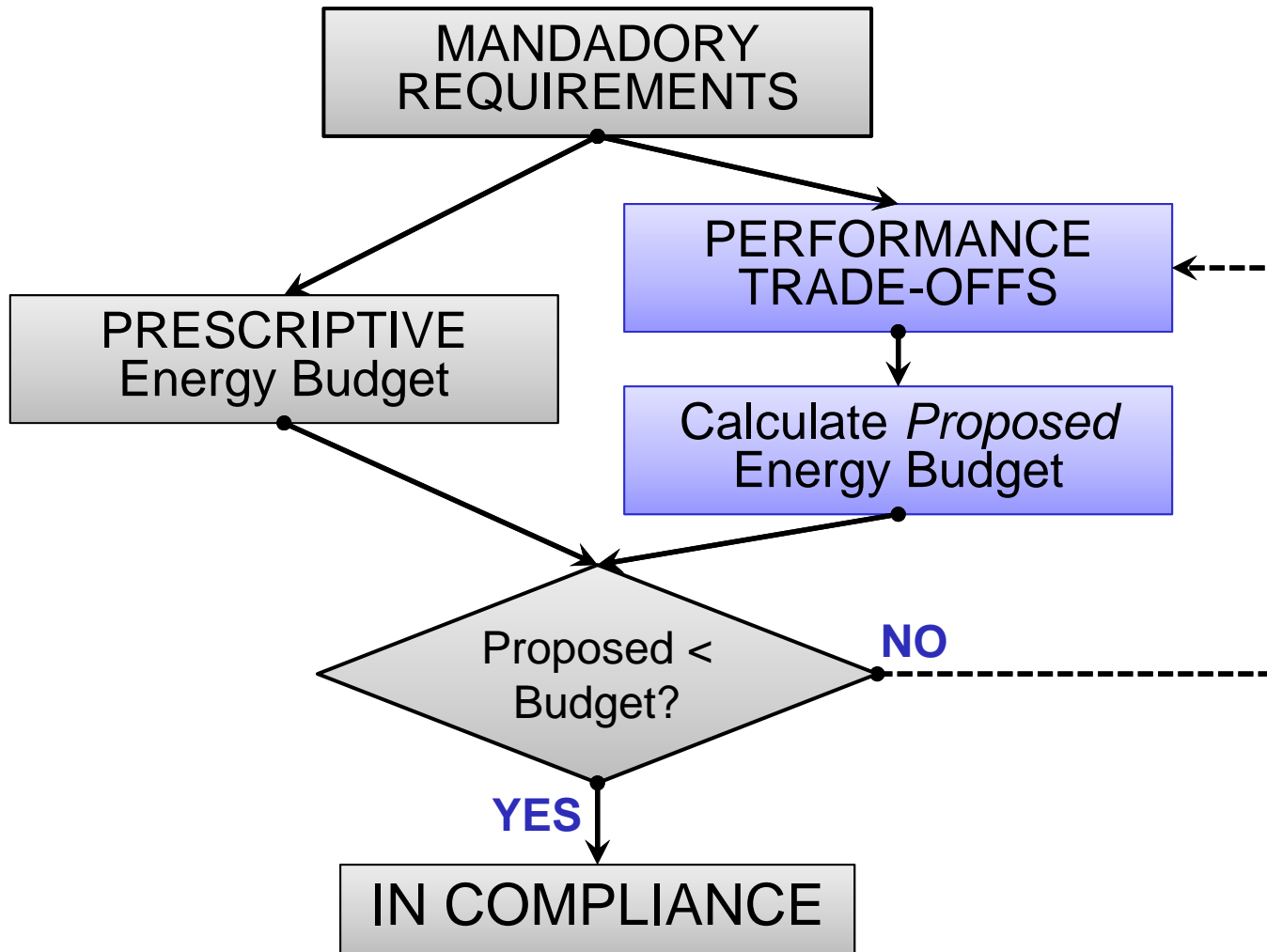


Performance & Prescriptive (§140) Flexibility

1. **Prescriptive Requirements**
 - ✓ **Calculate Energy Budget**
2. **Performance Trade-Offs**
 - ✓ **Calculate *Proposed* Energy Use**
3. **Compare & Iterate**



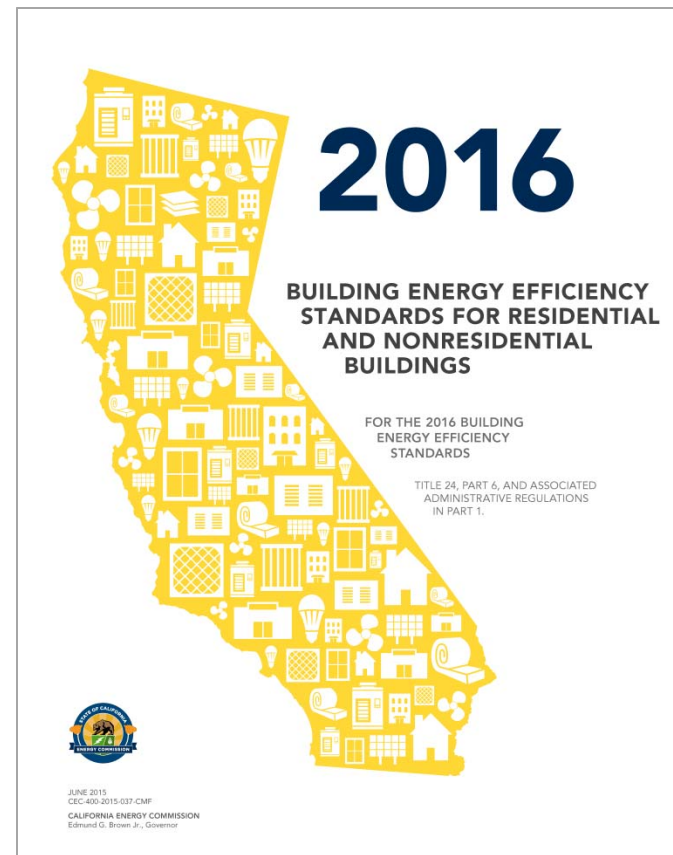
Performance & Prescriptive (§140)





Title 24, Part 6: Building Energy Efficiency Standards

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Additions & Alterations (§141)

- Additions, Alterations, and Repairs
- References §100 – 140
- Including all proposed exceptions



Schedule: 2019 Title 24 Standards

2016

Research & Outreach

2017

Pre-Rulemaking

2018

Rulemaking

2020

2019 Standards Effective January 1, 2020



Schedule: 2019 Title 24 Standards

2016

Research & Outreach

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2019 Standards Effective January 1, 2020

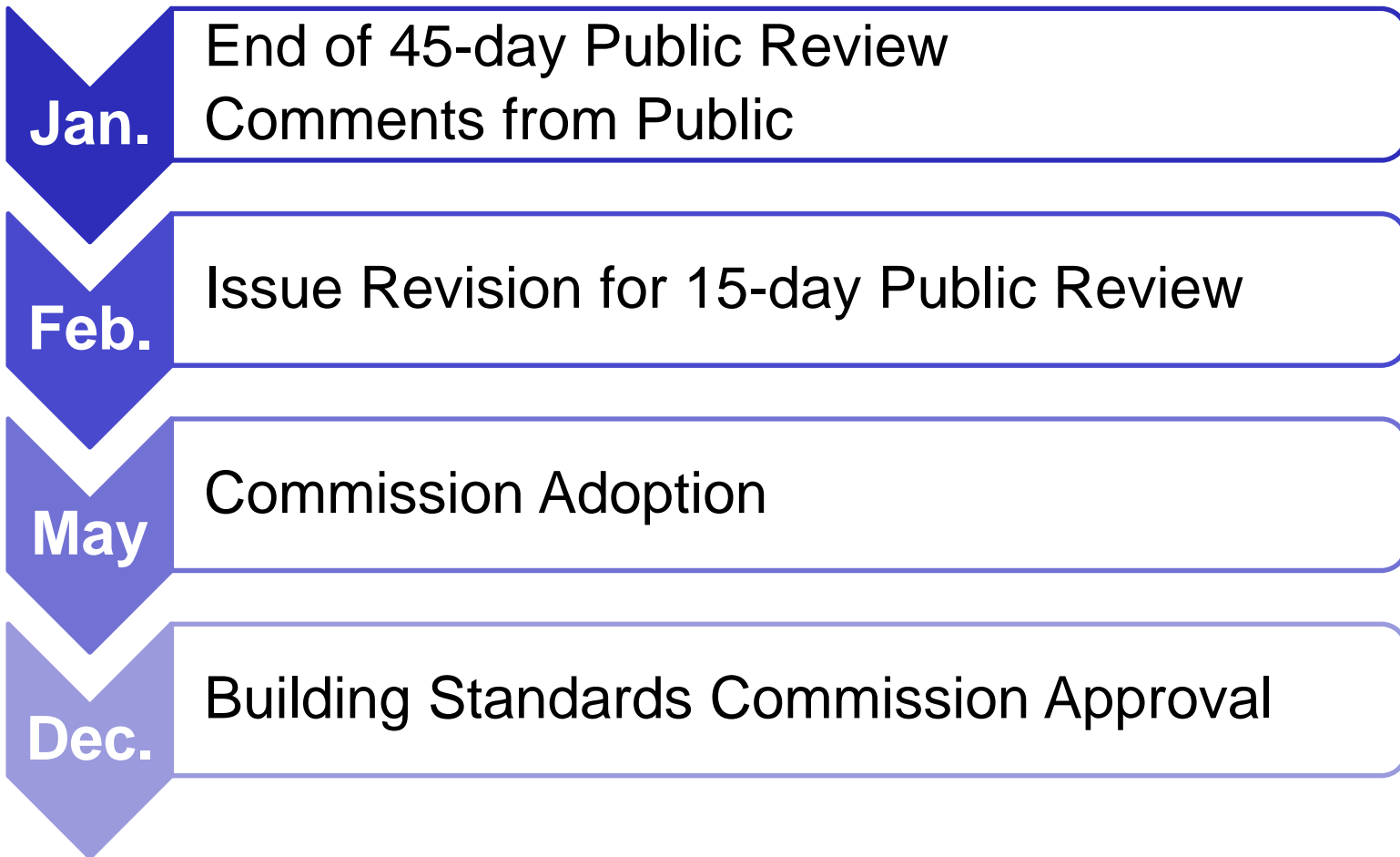


Schedule: Pre-Rulemaking (2017)





Schedule: Rulemaking (2018)





Closing Thoughts

- **Public & Open Process**
- **Coordination with OSHPD & Healthcare Community**
- **Focus on Health & Safety**



Key Web-Links/Resources

2019 Title 24 Utility-Sponsored Stakeholder Info

<http://www.title24stakeholders.com/>

Building Energy Efficiency Program

<http://www.energy.ca.gov/title24/>

Docket for Comments (17-BSTD-01)

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

Compliance Software

<http://bees.archenergy.com/index.html>



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