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<tr>
<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>220170</td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>Presentation - Title 24 - 2019 - Building Standards for Licensed Health Care Facilities</td>
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<tr>
<td><strong>Description:</strong></td>
<td>Licensed Health Care Facilities presentation made by Gabe Taylor at the 7-13-17 2019 Standards Pre-Rulemaking Staff Workshop.</td>
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<tr>
<td><strong>Filer:</strong></td>
<td>Adrian Ownby</td>
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<tr>
<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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<td><strong>Submission Date:</strong></td>
<td>7/14/2017 1:51:10 PM</td>
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<td><strong>Docketed Date:</strong></td>
<td>7/14/2017</td>
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</table>
Title 24 – 2019:
Building Standards for Licensed Heath Care Facilities

Gabriel D. Taylor, P.E
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
§141 Additions & Alterations
## Design & Installation (§120)

<table>
<thead>
<tr>
<th>120.1 Ventilation</th>
<th>120.6 Covered Processes</th>
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</thead>
<tbody>
<tr>
<td>120.2 HVAC Systems</td>
<td>120.7 Insulation</td>
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<td>120.8 Commissioning</td>
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<td>120.4 Ducts &amp; Plenums</td>
<td>120.9 Boilers</td>
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<tr>
<td>120.5 Mechanical</td>
<td>120.10 Demand Management</td>
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# Design & Installation (§120) Exceptions

<table>
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<tr>
<th>Section</th>
<th>Description</th>
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<tbody>
<tr>
<td>120.1</td>
<td>Ventilation</td>
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<tr>
<td>120.2</td>
<td>HVAC Systems</td>
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<td>120.3</td>
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<td>120.10</td>
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</table>
Design & Installation: HVAC Systems (§120.2)

- Zonal Controls
- Fan & Pump Efficiency
- Heat Pump use of Resistance Heat
- 5º 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 ($\S$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
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
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)

MANDATORY REQUIREMENTS

PREScriptive Energy Budget

PERFORMANCE TRADE-OFFS

Calculate Proposed Energy Budget

Proposed < Budget? NO

IN COMPLIANCE YES
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
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
- **2017**: Pre-Rulemaking
- **2018**: Rulemaking
- **2020**: 2019 Standards Effective January 1, 2020
Schedule: Pre-Rulemaking (2017)

- **May**: Draft Code Change Proposals
- **July**: Staff Workshop (Thursday, July 13th)
- **July – Oct.**: Comments from All Stakeholders, Collaboration with OSHPD & Stakeholders
- **Nov.**: Start Rulemaking & 45-day Public Review Workshops (November & December)
Schedule: Rulemaking (2018)

**Jan.**  
End of 45-day Public Review  
Comments from Public

**Feb.**  
Issue Revision for 15-day Public Review

**May**  
Commission Adoption

**Dec.**  
Building Standards Commission Approval
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)

Compliance Software
http://bees.archenergy.com/index.html
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