

DOCKETED

Docket Number:	17-BSTD-01
Project Title:	2019 Building Energy Efficiency Standards PreRulemaking
TN #:	220970
Document Title:	Presentation - Title 24 Part 11 - California Green Building Standards
Description:	Presentation by Ingrid Neumann, made at the 8-30-17 Staff Workshop.
Filer:	Adrian Ownby
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/30/2017 3:58:51 PM
Docketed Date:	8/30/2017



Title 24 Part 11

California Green Building Standards

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Efficiency Division

Pre Rulemaking Workshop
Rosenfeld Hearing Room
August 30, 2017



California Green Building Standards

Purpose

- To improve public health, safety and general welfare
- Reduced negative / increase positive environmental impact
- Encouraging sustainable construction practices in:
 - 1. Planning and design
 - 2. **Energy efficiency**
 - 3. Water efficiency and conservation
 - 4. Material conservation and resource efficiency
 - 5. Environmental quality



California Green Building Standards History

- **2008 California Green Building Standards Code**
 - effective August 2009
 - composed entirely of voluntary measures
 - Preview of what may become mandatory
- **2010 California Green Building Standards Code (CALGreen)**
 - Team effort: CBSC, HCD, DSA, OSHPD, ARB, DGS, CalRecycle, DWR, CEC etc.
 - Mandatory measures in addition to voluntary tiers
- **2013, 2016, and now 2019 CALGreen**



California Green Building Standards

CHAPTER 1 - ADMINISTRATION

CHAPTER 2 - DEFINITIONS

CHAPTER 3 - GREEN BUILDING (Scope)

CHAPTER 4 - RESIDENTIAL MANDATORY MEASURES

CHAPTER 5 - NONRESIDENTIAL MANDATORY MEASURES

CHAPTER 6 - REFERENCED ORGANIZATIONS AND STANDARDS

CHAPTER 7 - INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS

CHAPTER 8 - COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIAL

APPENDIX A4 - RESIDENTIAL VOLUNTARY MEASURES

APPENDIX A5 - NONRESIDENTIAL VOLUNTARY MEASURES

APPENDIX A6.1 - VOLUNTARY STANDARDS FOR HEALTH FACILITIES

[OSHPD 1, 2 & 4]

Mandatory
Energy Efficiency Targets
Title 24 Part 6

Voluntary
Energy Efficiency
Title 24 Part 11



Appendix A4– Residential Voluntary Measures

- Section A4.203,
Performance Approach for Newly Constructed
 - based on **target Energy Design Rating (EDR) scores**
(no longer “Percent better than” mandatory Part 6)

**2016
Energy
Efficiency
Target**

**2019
Energy
Efficiency
Target**

**PV
Target**

**Tier 1
Target**

**Tier 2
(ZNE)
Target**

Example for CZ 12

EDR = 43

EDR = 25

EDR = 14

EDR = 0



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Performance Approach for Newly Constructed
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**Mandatory
Energy Efficiency Targets
Title 24 Part 6**

**Voluntary
Energy Efficiency
Title 24 Part 11**



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Performance Approach for Newly Constructed
 - based on **target EDR scores**
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Mandatory Title 24 Part 6

Voluntary Part 11

2016
Energy
Efficiency
Target

2019
Energy
Efficiency
Target

PV
Target

Tier 1
Target

Tier 2
(ZNE)
Target



Local Jurisdictions submit an Application to the Energy Commission

- A copy of the **ordinance**.
- A study or analysis showing the expected energy savings and the **cost effectiveness** of the ordinance.
- The date the ordinance, energy savings and cost-effectiveness study were presented to and adopted by the Council/Board in a **Publicly Noticed Meeting**.
- A letter to the Executive Director
 - A statement/finding that the ordinance will require buildings to be **“designed to save energy when compared to levels permitted by Title 24 Part 6.”**
 - Evidence of **CEQA compliance**.



Appendix A4– Residential Voluntary Measures

- **A4.203.1.2.1 Tier 1.**

- meet a target Energy Design Rating (EDR)
X% below or **X points lower** than compliance EDR
- Measures considered:
 - energy efficiency measures (e.g. triple pane windows)
 - Demand Management (e.g. load following)
 - on-site battery or thermal storage





Appendix A4– Residential Voluntary Measures

- **A4.203.1.2.2 Tier 2.**
 - achieve **Energy Design Rating 0**
(equivalent to “Zero Net Energy design”)
 - Paths considered:
 - electrifying space and water heating
 - advanced electric battery controls
 - modest oversizing of the photovoltaic system





Appendix A4– Residential Voluntary Measures

Items in Part 6 as Prescriptive requirements also suggested as Prerequisites:

- **A4.203.1.1.1 Quality Insulation Installation (QII)**
- **A4.203.1.1.2 High Performance Walls (HPW)**
- **A4.203.1.1.3 High Performance Attics (HPA)**



Appendix A4– Residential Voluntary Measures

New Prerequisites:

- **A4.203.1.1.4 (CHWDS-H)**

HERS-Verified Compact Hot Water Distribution System

- **A4.203.1.1.5 (DWHR-H)**

HERS-Verified Drain Water Heat Recovery



Appendix A4– Residential Voluntary Measures

- Section A4.204, Performance Approach for Additions
 - meet a **target Energy Design Rating** (EDR)
 - Target will continue to vary depending on the number of mechanical systems added



Appendix A5– Nonresidential Voluntary Measures

- Section A5.203, Performance Approach
 - Retain the “**Percent better than**” mandatory language
 - Target Percentages continue to vary depending on whether lighting and/or mechanical systems are included



Appendix A5– Nonresidential Voluntary Measures

New Prerequisites:

- **A5.203.1.1.1 Outdoor lighting.** Newly installed outdoor lighting power shall be no greater than 90 percent of the Allowed Outdoor Lighting Power, and **shall have a color temperature no higher than 3000K.**



Appendix A5– Nonresidential Voluntary Measures

- **A5.203.1.1.3**

Warehouse Dock Seal Doors

- **A5.203.1.1.4**

Daylight Redirecting Devices shall be installed for indoor lighting systems with automatic daylighting controls.

- **A5.203.1.1.5**

Exhaust Air Heat Recovery updates to increase the energy recovery ratio and establish sensible heat energy-only type devices.



Appendix A5– Nonresidential Voluntary Measures

- **A5.203.1.1.6**

Automatically Closing Fume Hood Sashes in Laboratories for variable air volume fume hoods.

- **A5.203.1.1.7**

Combustion Air Requirements Air for combustion, ventilation, and dilution of flue gases for space or water heating appliances shall not be obtained from the conditioned indoor air supply.



Questions?

Building Energy Efficiency Program

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

<http://www.energy.ca.gov/title24/2019standards/prerulemaking/> **2019 Update**

Comments to be submitted to

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

2019 Title 24 Utility-Sponsored Stakeholder

<http://title24stakeholders.com/>

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