

State Agency Panel

56th CALBO ABM
March 28, 2018

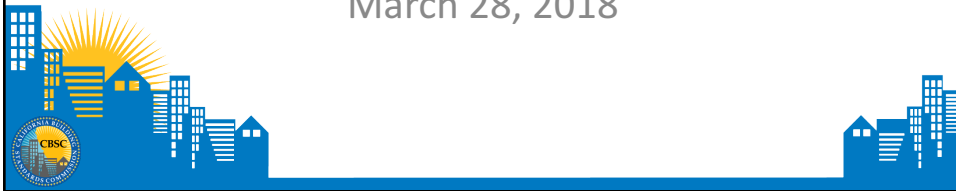


State Agency Panel

-
- Mia Marvelli California Building Standards Commission
 - Dave Ashuckian California Energy Commission
 - Ida Clair Division of the State Architect
 - Stoyan Bumbalov Housing & Community Development Dept.
 - Greg Andersen Office of the State Fire Marshal

California Building Standards Commission
presents
Title 24 Update

Mia Marvelli, CBSC Executive Director
CALBO Annual Business Meeting
March 28, 2018



2016 Intervening Supplement
Effective July 1, 2018

- Plumbing Code – Recycled water building standards
- CALGreen Code – SWRCB Stormwater pollution prevention
- Tier 1 and 2 checklists



**CALGreen VERIFICATION
GUIDELINES MANDATORY
MEASURES CHECKLIST**

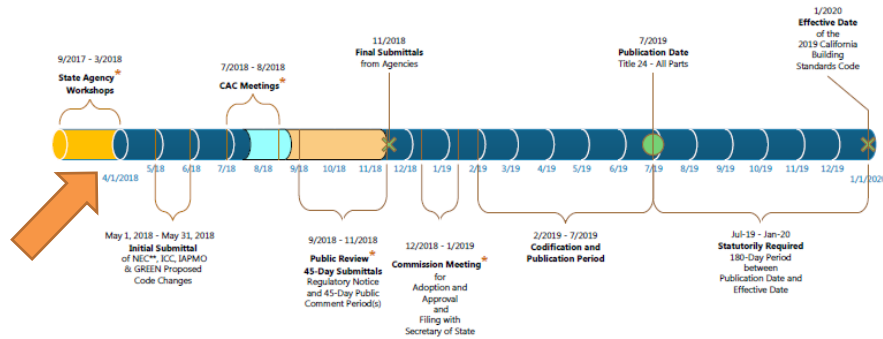
Application: This checklist shall be used for nonresidential projects that meet one of the following: new construction, building additions of 1,000 sq. ft. or greater or building alterations with a permit valuation of \$200,000 or more pursuant to CALGreen Section 301.3 AND do not trigger a Tier 1 or Tier 2 requirement:

- Y = Yes (section has been selected and/or included)
- N/A = Not Applicable (Code section does not apply to the project, mainly used for additions and alterations)
- O = Other (provide explanation)
- [N] = New construction pursuant to Section 301.3
- [A] = Additions and/or alterations pursuant to Section 301.3

CHAPTER 5 DIVISIONS		SECTION TITLE	CODE SECTION	Y	N/A	O	Plan sheet, Spec or Attach Reference
DIVISION 5.1 Planning and Design	Mandatory	Storm Water Pollution Prevention w/ subsections	5.106.1 through 5.106.1.2				
	Mandatory	Short Term Bicycle Parking	5.106.4.1.1				
	Mandatory	Long Term Bicycle Parking	5.106.4.1.2				
	Mandatory	Designated Parking For Clean Air Vehicles	5.106.5.2				
	Mandatory	Parking stall marking	5.106.5.2.1				
	Mandatory	Single (EV) Charging space requirements [N]	5.106.5.3.1				
	Mandatory	Multiple (EV) Charging space requirements [N]	5.106.5.3.2				
	Mandatory	EV charging space calculation [N] w/exceptions	5.106.5.3.3				
	Mandatory	[N] Identification	5.106.5.3.4				
	Mandatory	[N] Future charging spaces w/ notes 1-3	5.106.5.3.5				
	Mandatory	Light Pollution Reduction [N] w/ exceptions and note	5.106.8				
Mandatory	Grading and Paving w/exception for Additions and Alterations not altering the drainage path	5.106.10					
DIVISION 5.2 Energy Efficiency	Mandatory	Meet the minimum Energy Efficiency Standard	5.201.1				
DIVISION 5.3 Water	Mandatory	Separate Meters (new buildings or additions > 50,000 SF that consume more than 100 gal/day)	5.303.1.1				

2019 California Building Standards Code, Title 24
Effective January 1, 2020

2018 Triennial Code Adoption Cycle



- Code Advisory Committees (CAC):**
 SDLF – Structural Design/ Lateral Forces
 PEME – Plumbing, Electrical, Mechanical & Energy
 HF – Health Facilities
 GREEN – Green Building
 BFO – Building, Fire & Other
 ACCESS – Accessibility

* Public Participation Opportunity
 ** NEC resubmittal if necessary
 All dates are subject to change

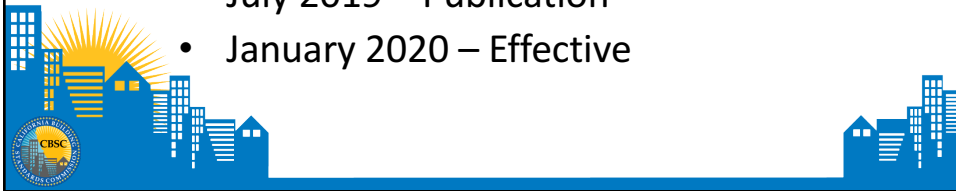
California Building Standards Commission



Rev. 10/17
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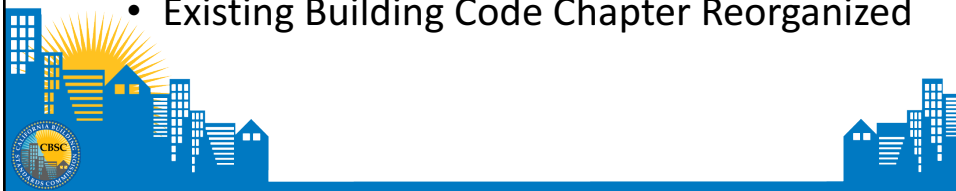
2018 Triennial Cycle Timeline

- April 17 – Nominate Code Advisory Committee (CAC) members
- July and August – CAC meetings
- September through December – Public Comment Periods
- December and January 2019 – Commission Action
- July 2019 – Publication
- January 2020 – Effective



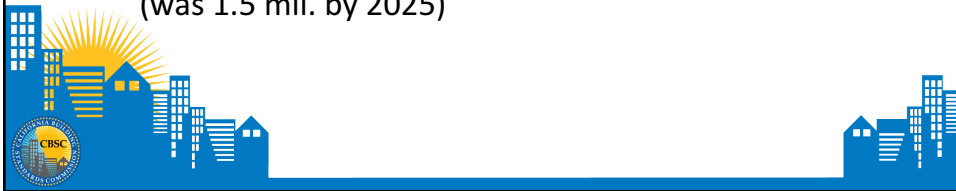
CBSC Proposed Amendments

- Exterior Elevated Elements
 - Emergency regulations
 - Public comments
 - EEE Subcommittee recommendations
 - Adopt 2018 model code
 - Definitions
 - Access panel for inspections
- Existing Building Code Chapter Reorganized



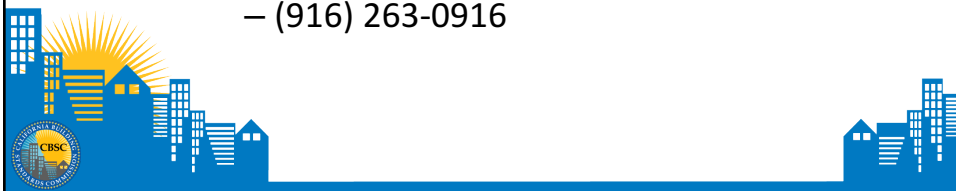
Legislation & Policy Shape Title 24

- AB 32 – 2006 CA Global Warming Solutions Act
 - ARB.ca.gov
 - Energy.ca.gov
 - CPUC.ca.gov
- AB 2800 Climate-Safe Infrastructure WG
- SB 859 – Wood Products Working Group
 - Resources.ca.gov
- ZEV – Business.ca.gov “Go Biz” + ARB + Energy + CPUC
 - Gov. EO B-48-18 new target 5 mil. ZEV’s by 2030 (was 1.5 mil. by 2025)



Contact CBSC

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2019 Building Energy Efficiency Standards

CALBO ABM
San Francisco, CA
March 28, 2018

Dave Ashuckian, PE
Director, Efficiency Division



2019 Standards – Progress Towards ZNE

1. Make progress toward the ZNE goal within the confines of cost effectiveness, NEM, and life cycle cost rules
2. Contribute to the State's GHG reduction goals
3. Promote self-utilization of the PV generation by encouraging or requiring demand flexibility and grid harmonization strategies
4. Provide independent compliance paths for both mixed-fuel and all-electric homes
5. Provide the tools for local governments to adopt ordinances to achieve ZNE through Part 11 Reach Codes, and other beyond code practices



ZNE Goals – 2019 Standards Approach

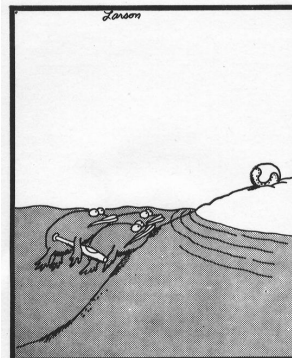
The 2019 Standards recognize the following priority for efficiency and generation resources:

1. Envelope efficiency,
2. Appropriately sized PVs, and
3. Grid harmonization strategies that maximize self-utilization of the PV output and limit exports to the grid



Lessons Learned – Grid Harmonization

- Grid harmonization strategies must be coupled with customer owned PV systems to bring maximum benefits to the grid, environment, and the home owner
- Grid harmonization strategies maximize self-utilization of the PV array output and minimize exports back to the grid;
- Examples include battery storage, demand response, thermal storage, and EV grid integration.



Great moments in evolution



2019 Standards – EDR Approach

Separate Energy Design Rating (EDR) targets for each climate zone:

1. An EDR for energy efficiency features – This EDR target can only be met using energy efficiency measures (no PV tradeoff)
2. An EDR contribution for the PV system that is sized to displace the home’s annual kWhs
3. Subtract the PV EDR Contribution from the energy efficiency EDR to determine the final target EDR



Builds on Commission’s Energy Design Rating Tool

Energy Design Rating (EDR) score show how close a home is to the ZNE target

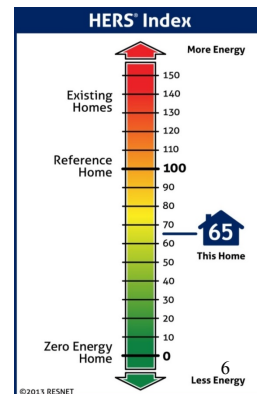
- Aligned with RESNET
- Reference home is a 2006 IECC compliant home, EDR=100
- A score of zero means the house is a ZNE building

CEC’s CBECC-Res software has the capability to calculate EDR scores for EE and PV

Builders can use a combination of envelope energy efficiency features, better appliances, PVs, and other strategies to get to the target EDR

Download CBECC-Res for free:

<http://www.bwilcox.com/BEES/BEES.html>





Compliance Target EDR Has Advantages

1. A target EDR establishes a performance benchmark that the building must meet for compliance
2. Target EDR allows the builder to use more efficiency and less PV to get to the compliance target
3. The EDR can be used to right-size the PV system and achieve ZNE goals by taking advantage of grid harmonization strategies
4. Target EDR is fully compatible with reach codes. Local jurisdiction can simply identify a lower target EDR.



Parallel Prescriptive Paths

There will be two parallel prescriptive paths for compliance, one for each of:

1. Mixed Fuel Homes
2. All-Electric Homes

This allows the all-electric and mixed fuel homes to have their own prescriptive paths,

NEEA Tier 3 HPWH models can easily be used to meet or exceed standard design using the performance path





All-Electric Home Option

Standards allow an all-electric home's PV size be the same as an equally sized mixed fuel home with similar features:

- Requiring a much larger PV system on an all-electric home to displace the larger annual kWh may discourage all-electric homes
- The larger PV needed to displace the all-electric home kWhs, makes grid harmonization strategies, more important



PV System Sizing

- For Part 6, PV is sized to net out the building's expected annual kWhs
- larger PV array can be installed but will not receive additional compliance credit
- For Part 11 compliance, CBECC allows PV array coupled with a 6 kWh battery storage system to be oversized by a factor of up to 1.6
 - Provides additional flexibility for the grid; the battery enables the increased PV capacity to be used by the utility to meet demand during critical peak periods
 - Promotes self-utilization on peak since PV system is coupled with battery storage





Compliance Simplification Goal

- Simplify process of documenting Nonresidential prescriptive projects
- 47 current NRCC documents reduced to 10 dynamic documents
 - ONE document for each building component (lighting, envelope, mechanical, etc.)
 - Eliminates confusion of when to use which document
- 2019 Standards will only accept dynamic versions



Features of Dynamic Nonresidential Documents

- Hyperlinks to the Standards to show what requirements are being documented
- Only applicable tables are generated based on project scope
- Compliance Message on first page shows if the project Complies based on form inputs
- Auto indication of which documents apply
- Requirements from Standards auto filled when applicable
- Single signature page






2019 Energy Standards Index

- Index of common terms, definitions, building components, etc.
- Tool for users to easily access specific sections and requirements
- Instead of page numbers, organized by section numbers
- Narrowed down to the tables and 3rd level of requirements (i.e. §110.6(a)3) when necessary



Revised Compliance Manuals

- Reformatted and simplified two chapters of the Compliance Manuals
 - After public review, we will determine whether to follow through with the other chapters
- More graphics, better organization, more concise, etc.

Mandatory  Prescriptive  Performance 

Prescriptive requirements apply to:

1. Fenestration.
2. Roofs and ceilings, including exterior roofing products.
3. Exterior walls.



Floors:

Prescriptive envelope requirements in the Energy Standards apply to:

1. Fenestration
2. Roofs and ceilings, including exterior roofing products
3. Exterior walls
4. Floors



Questions?

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Regulatory Update

Ida A. Clair AIA LEED AP CASp
Principal Architect
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July 2018 Supplement

11B-233.3.1.2.4

- Multi-story residential dwelling units in buildings with an elevator (either in the building or within the unit) require a kitchen on the primary entry level

11B-604.7.2

- Location of sanitary napkin disposal units in accessible toilet compartments and single-user toilet rooms

11B-703.7.2

- Stipulates that a border may be provided either inside or outside the required dimension of the ISA.

Access Code Collaborative

A stakeholder group that assists DSA with Access Code rulemaking, comprised of 13 individuals:

- Individuals with Disabilities (4)
- Disability Advocates (2)
- Design Professionals (1)
- Building/Facility Owner Representatives (2)
- Code Enforcement Representatives (2)
- Certified Access Specialists (1)
- Building/Construction Industry Representatives (1)

and

Two ex-officio members :

- DSA HQ Principal or Senior Architect
- HCD Accessibility Specialist

2018 Triennial Code Cycle

Next public meeting is April 12, 2018

Regulations affecting Public Housing:

- Clarifying definition
- Clarifying FHA application date of March 13, 1991 for adaptable units

Regulations affecting Adult Changing Facilities

- Required in places of commercial places of public amusement with max. occupancy of 2500 or more

Reintroduce transfer showers

Clarifications on existing regulations

- Stair with one riser requires handrail
- Exception to vertical clearance requirements for car parking spaces in existing parking garages, requires 80" minimum

Technical Guidance and Resources

CBC Technical Guidance

- DSA Technical Assistance Helpline (916) 445-5827

DSA website: www.dgs.ca.gov/dsa

- DSA Access Compliance Reference Manual
- Access 2019 webpage
- Access Code Collaborative webpage
- CASp webpage
- EVCS accessibility webpage
- DSA Academy webpage

Resources about CASps



Informational material for download:

- Dispelling the Myths of Compliance
- List of Certified Access Specialists
- Brochure on Hiring a CASp
- CASp Benefits Flyer
- FAQs by Business Owners, Property Owners and Consumers

Continuing Education

Monthly Code Discussion Groups

- Third Wednesday of every month 11:30am-1pm
- 1 Continuing Education Credit (CBC) offered
- Email debbie.wong@dgs.ca.gov for teleconference info

DSA Academy Training

- CASp 101: Certification and Practice
- Plan Review – Access (2016 CBC)
- Access Compliance –2016 CBC
- Transient Lodging, Housing at a Place of Education, and Social Service Center Establishments
- Accessible Public Housing Regulations, Standards, and Guidelines
- Electric Vehicle Charging Stations (upon request)

Thank You!

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California Department of Housing and Community Development



Stoyan Bumbalov
Codes and Standard Administrator I
State Housing Law Program Manager



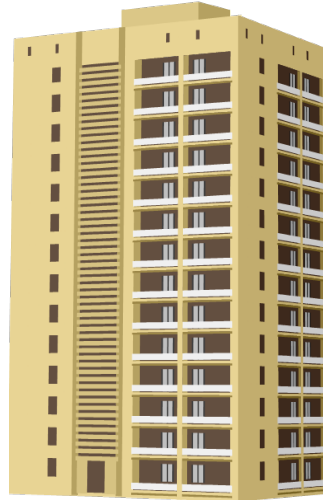
SHL Program

- **Mission Statement**
 - The SHL Program improves and assists in implementing and enforcing building and maintenance standards that promote, preserve, and expand safe, durable, affordable, and accessible housing throughout California
- **Authority**
 - HCD is authorized by law to promulgate and adopt building standards and regulations for several types of building applications, including housing accessibility



Application and Scope

- Hotels, Motels
- Lodging Houses
- Apartments
- Condominiums
- Dwellings
- Dormitories
- Homeless Shelters
- Monasteries, Convents
- Employee Housing
- Factory Built Housing
- Housing Accessibility



SHL Rulemaking

- **Title 24 Code Adoption Process**
 - Triennial Code Adoption Cycle
 - Intervening Code Adoption Cycle
 - Emergency Code Adoption Process
 - California Building Standards Commission (CBSC) Process
- **Title 25 Code Adoption Process**
 - As required (by statute) or as needed
 - OAL Process



Rulemaking Documents

- **Express Terms (ET)**
 - Shows proposed changes
 - Use strikeout for repeal/delete
 - Use underscore for additions/revisions
- **Initial Statement of Reasons (ISOR)**
 - Shows rationale (reason) for proposed modifications to existing code language
- **Final Statement of Reasons**
 - SHL Response to Public Comments



Rulemaking Documents

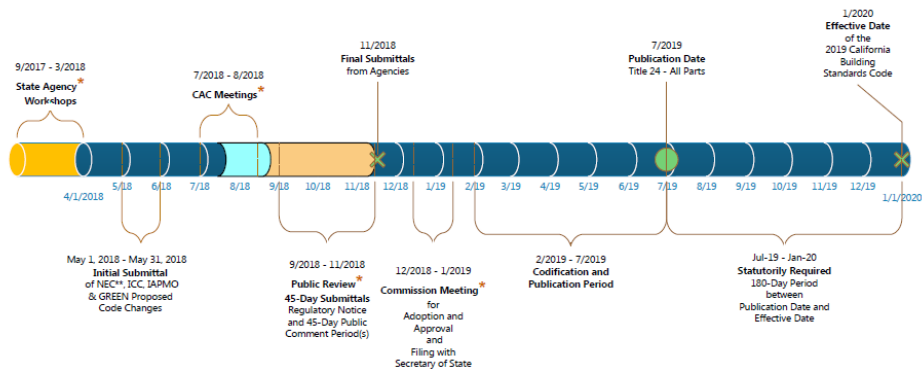
- **Express Terms (ET)**
 - **4.106.4.2 New multifamily dwellings.** Where 17 or more multifamily dwelling units are constructed on a building site, ~~3~~ Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.
- **Initial Statement of Reasons (ISOR)**
 - HCD proposes to continue adoption of the above referenced section with new amendments. HCD proposes to repeal the threshold, and to increase the percentage for the required EV capable parking spaces...



Timeline

2019 California Building Standards Code, Title 24
Effective January 1, 2020

2018 Triennial Code Adoption Cycle



Code Updates

- 2016 Intervening Code Adoption Cycle
 - Effective July 1, 2018
- Proposals for 2019 Codes
 - 2018 Code Adoption Cycle
- Emergency Rulemaking
 - Exterior Elevated Elements – 2016 CBC and 2016 CEBC; early adoption of 2018 IBC and IEBC
 - Emergency Housing – under development



2016 CBC

- There were no changes to the 2016 CBC during the 2016 Intervening Code Adoption Cycle.
- HCD adopted emergency regulations related to exterior elevated elements (EEE) effective Jan. 30, 2017, which were readopted twice and now adopted as permanent additions to the 2016 CBC and 2016 CEBC.
 - Resulted from research by the CBSC EEE subcommittee and various state agencies in response to the June 2015 balcony collapse in Berkeley.
 - “Early adoption” of provisions from 2018 IBC.



2016 CBC

EEE provisions

- **Section 107.2.7** construction documents to include details for impervious moisture barrier and manufacturer’s installation instructions.
- **Section 110.3.8.1** Balconies or elevated walking surfaces protected by impervious moisture carrier and exposed to water shall have all elements of barrier system exposed until inspected and approved.



2016 CBC

EEE provisions continued

- **Table 1607.1** Live Load Table amended
 - Minimum uniformly distributed live loads for balconies and decks amended from “same as occupancy served” to 1.5 times live load for area served; not required to exceed 100



2016 CBC

EEE provisions continued

- **Section 2304.12.2.5** Amended to also require positive drainage for impervious moisture barrier systems protecting moisture –permeable floor topping.
- **Section 2304.12.2.6** Requires ventilation for enclosed framing beneath balconies or elevated walking surfaces.



2019 CBC Proposals

- Carryover of California amendments related to exterior elevated elements and related 2018 IBC model code provisions. Changes pending.
- Section 1210 Addition of provisions related to garage door spring containment devices.
- Section 3113 Non-adoption of new model code provisions for relocatable buildings.
- Appendix N Non-adoption of new appendix for replicable buildings.
- Coordination of energy provisions with the California Energy Commission
- Carryover of California amendment (Appendix O) on emergency housing.
- No changes to housing accessibility.



2016 CRC

- **Section R304.5 Efficiency dwelling units**
 - Section R304.5 and all references to efficiency dwelling units were repealed from the 2016 CRC
 - Efficiency dwelling units remain in the CBC



2019 CRC Proposals

- **Section R106.1.5**
 - Details of impervious moisture barrier will be required to be shown on the construction documents
- **Section R109.1.5.3**
 - Impervious moisture barrier systems shall not be concealed until inspected and approved
- **Table R301.5**
 - The minimum live loads for balconies will increase to 60 pounds per square foot



2019 CRC Proposals

- **Section R315.7**
 - California amendment for interconnection of carbon monoxide alarms will be repealed
- **Section R315.4**
 - Model code language will be amended to include the rest of the language from the California amendment for carbon monoxide alarm interconnection
- **Section R317.17**
 - Language will be amended to include positive drainage of water



2019 CRC Proposals

- **Section R317.1.6**
 - New California amendment will require ventilation for enclosed framing in balconies and elevated walking surfaces
- **Section R317.17**
 - Language will be amended to include positive drainage of water



2016 CEC

- There were no changes to the 2016 CEC during the 2016 Intervening Code Adoption Cycle



2016 CMC

- There were no changes to the 2016 CMC during the 2016 Intervening Code Adoption Cycle



2019 CMC Proposals

- Section 603.10.1 (new) and 603.10.1.1 incorporating references to California Energy Code (CEC) requirements for duct leakage testing
- Non-adoption of sections related to manufactured homes which are regulated by federal regulations
- Sections 1217.5.2, 1217.5.4, 1220.2.5 including references to insulation requirements by the CEC



2016 CPC

Chapter 2 - Definitions:

- Construction Site
- Disinfected Tertiary Recycled Water
- Recycled Water Supply System
- Urinal, Hybrid



2016 CPC

Section 408.2 Water Consumption

- Showerheads shall have maximum flow rate of 1.8 gallons per minute @ 80 psi

Section 1501.1.1.1 Outdoor Recycled Water Supply Systems

- All newly constructed residential developments where disinfected tertiary recycled water is available from municipal source to construction site shall be provided with both potable water and recycled water supply system



2016 CPC

Section 1501.1.1.1 Outdoor Recycled Water Supply Systems

- All newly constructed residential developments where disinfected tertiary recycled water is available from municipal source to construction site shall be provided with both potable water and recycled water supply system.
- **Exceptions:**
 - Service area where recycled water is already used for potable purposes.
 - Access is not feasible/cost efficient
 - Dual system not required if landscape irrigation is supplied with recycled water at final inspection.
 - The use potable water on a temporary basis in recycled water supply system as allowed by AHJ



2016 CPC

• Section 1501.1.1.2 Technical Requirements for Outdoor Recycled Water Supply Systems

- Recycled water supply systems for outdoor applications shall meet the requirements of this code & CCR Title 17, 22 & 23



2019 CPC Proposals

- **Section 401.3 Water-Conserving Fixtures and Fittings**
 - All noncompliant plumbing fixtures in existing single-family and multifamily residential property to be replaced with compliant fixtures
- **Section 407.2.4 Metering Faucets**
 - Decrease the maximum flow rate of metering faucet to 0.2 gallon per metering cycle



2019 CPC Proposals

- **Section 601.2.1 Submeters**
 - Provides a reference to the California Water Code, which mandates (after January 1, 2018) the installation of submeters to individual dwelling units in newly constructed multifamily dwellings
 - SB 7; Chapter 623/2016



2019 CPC Proposal

Chapter 15 Alternate Water Sources for Nonpotable Applications

- Sections renumbered



2016 CEBC

Exterior Elevated Elements (EEE)

- **Section 101.8** Reinstates maintenance provisions from the 2013 CBC, Chapter 34, related to maintenance
- **Section 106.2.6** Construction documents to include details for impervious moisture barrier and manufacturer's installation instructions
- Section 109.3.7.1 Balconies or elevated walking surfaces protected by impervious moisture carrier and exposed to water shall have all elements of barrier system exposed until inspected and approved



2019 CEBC Proposals

- **Chapters 1 through 3**
 - Provisions for all compliance methods
 - Adopt
- **Chapter 4 Repairs**
 - Adopt with a few exceptions
- **Chapter 5 Prescriptive Compliance Method**
 - Adopt with a few exceptions
- **Chapters 6-12 Classification of work**
 - Discuss with stakeholders and other state agencies



2019 CEBC Proposals

- **Chapter 12 Historic buildings**
 - Do not adopt
- **Chapter 13 Performance compliance method**
 - Discuss with stakeholders and other state agencies
- **Chapter 14 Relocated or moved buildings**
 - Discuss with stakeholders and other state agencies
 - May consider adoption
- **Chapter 15 Construction safeguards**
 - Discuss with stakeholders and other state agencies
 - Compare with CBC, Chapter 33



2016 CALGreen

- **Section 4.106.4.2. New hotels and motels**
 - Requirements are similar to those for multifamily dwellings
 - Proposed locations and dimensions of EVCS to be identified on construction plans
 - **IMPORTANT:** There is no mandatory requirement to build EVCS, or identify the spaces on the ground, or to install chargers



2016 CALGreen

Table 4.106.4.3.1

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total



2016 CALGreen

- **Section 4.303.1.3.1 Single showerhead**
 - Maximum flow of 1.8 gpm @ 80 psi (previously 2.0 gpm)
- **Section 4.303.1.3 Multiple showerheads serving one shower**
 - Combined flow of multiple showerheads controlled by a single valve 1.8 gpm@80 psi (previously 2.0 gpm)



2016 CALGreen

- **Section 4.305.1**
Recycled water supply systems
 - New provision identifies possible requirement for installation of a recycled water system for qualifying areas identified in the California Plumbing Code, Chapter 15



2019 CALGreen Proposals

- **Section 102.3 Verification**
 - New requirement - Complete a Residential Occupancies Application Checklist
- **Section 302.1 Mixed Occupancy Building**
 - Two new exceptions clarify that accessory structures and live/work units shall comply with Chapter 4 and Appendix A4, as applicable



2019 CALGreen Proposals

- **Section 4.106.4 EV charging for new construction**
 - New exception clarifies ADUs without additional parking do not need to comply with EV requirements
- **Section 4.106.4.2 New multifamily dwellings**
 - Removes the threshold (17 or more dwelling units)
 - Increases the number of EV capable spaces from 3% to 10%
- **Section A4.106.8.2 New multifamily dwellings**
 - Tier 1 EV spaces increased from 5% to 15%
 - Tier 2 EV spaces increased from 5% to 20%



2019 CALGreen Proposals

- **Section 4.303.1.4.3 Metering Faucets**
 - Metering faucets shall not deliver more than 0.2 gallons per cycle (down from 0.25)
- **Section A4106.8.3 New hotels and motels**
 - Tier 1: Table A4.106.8.3.1 shows required number of EV capable spaces
 - Tier 2: Table A4.106.8.3.2 shows required number of EV capable spaces



Emergency Housing

Existing Law

- Government Code Chapter 7.8 Shelter Crisis
 - Sections 8698, 8698.1, 8698.2, 8698.3, 8698.4
 - Allows local jurisdictions to suspend provisions of any state or local regulatory statute, regulation, or ordinance prescribing standards of housing, health, or safety.
 - Does not require HCD review and approval
- Government Code Section 8698.3
 - San Jose
 - Requires HCD review and approval



Emergency Housing

- **Legislative mandate**
 - AB 932 (Chapter 786, Statutes of 2017)
 - Government Code Section 8698.4
 - City of Berkeley, Emeryville, Los Angeles, Oakland, San Diego; the County of Santa Clara; the City and County of San Francisco
 - Requires HCD review and approval
- **Appendices in 2016 CRC and 2016 CBC**
 - Different type of housing
 - Minimum health and safety



Contact Information

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Contact Information

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Sacramento CA 95833

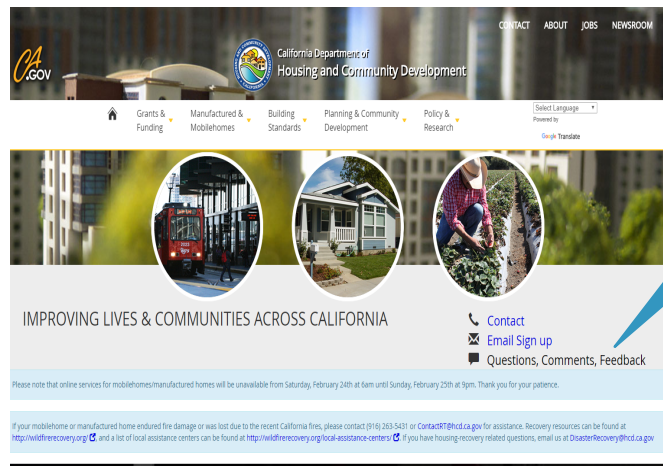
Telephone: 1 (800) 952-8356, Option 5

FAX: (916) 327-4712

Website: www.hcd.ca.gov

Questions: Use "Questions, Comments, Feedback" form on our website.

HCD's Website www.hcd.ca.gov



Questions
Comments
Feedback





Office of the State Fire
Marshal

CALBO
State Agency Panel

2016 Intervening Code Cycle

- ▶ CAC March 28–29, 2017
- ▶ CBSC meeting on August, 2017 – Regulations approved
- ▶ Published by January 1, 2018
- ▶ <http://www.bsc.ca.gov/Codes.aspx>
- ▶ Effective July 1, 2018

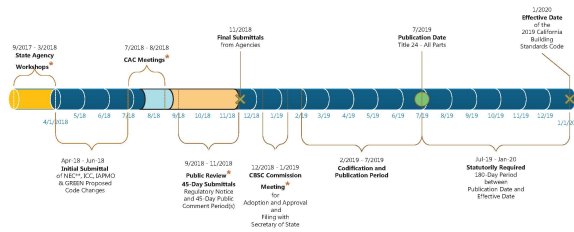
2018 Intervening Code Cycle

- ▶ Workgroups for code proposal– in Progress
- ▶ Agency submittal to CBSC by June 2018
- ▶ CAC July– Aug, 2018
- ▶ CBSC meeting January 2019
- ▶ Published by July 1, 2019
- ▶ Effective January 1, 2020

2019 California Building Standards Code, Title 24

2018 Triennial Code Adoption Cycle

Effective Date: January 1, 2020



Code Advisory Committees (CAC):
 SDF – Structural Design/Lateral Forces
 PEME – Plumbing, Electrical, Mechanical & Energy
 HF – Health Facilities
 GREEN – Green Building
 BFC – Building, Fire & Other
 ACCESS – Accessibility

*Public Participation Opportunity
 **NEC, residential if necessary

All dates are subject to change



Rev. 7/17
 03.05.2014-0015
 www.BSCC.ca.gov

2016 Intervening Code Cycle

- ▶ Office of the State Fire Marshal's Code Proposals
 - California Building Code
 - California Residential Code
 - California Electrical
 - California Fire Code

 - Proposals are based on:
 - ICC approved code proposals for the 2018 ICC codes
 - OSFM workgroups
 - Statute – SB 1069 ADU, SB 612 APSA & SB 945 Pet Boarding Facilities

2016 Intervening Code Cycle

- ▶ ICC Approved Code Proposals for the ICC 2018 Codes
 - Plant Processing & Extraction
 - CO2 Enrichment
 - Gas detection systems
 - Mobile Fueling
 - Slightly Flammable Refrigerants
 - Photovoltaic
 - Energy Storage Systems

2016 Intervening Code SFM Proposals

- ▶ ICC approved proposals for the 2018 codes
 - Plant Processing & Extraction F338-16, F75-16
 - CO2 Enrichment F372-16
 - Gas detection systems F75-16
 - Mobile Fueling F386-16
 - (Slightly) Flammable Refrigerants (AL2) F93-16
 - Photovoltaic F85-16 & F87-16 (F87 was adding during after the 45-day public comment period)
 - Energy Power Storage F95-16 & RB171-16

Marijuana Extraction Process

- ▶ F338-16 Plant Processing & Extraction
- ▶ Marijuana or cannabis is not mentioned in the regulations
- ▶ California Fire Code Chapter 38
 - Address issues with the extraction process
 - Not the grow site or the distribution site.



Plant Extraction Process



- ▶ Regulations
- ▶ **3803.2 Prohibited occupancies.** *Extraction process utilizing flammable gasses or flammable cryogenic fluids shall not be located in any building containing a Group A, E, I or R occupancy.*
- ▶ **3803.6 Use of flammable and combustible liquids.** *The use of flammable and combustible liquids for liquid extraction processes where the liquid is boiled, distilled, or evaporated shall be located within a hazardous exhaust fume hood, rated for exhausting flammable vapors. ...*

Plant Extraction Process



- ▶ Regulations
- ▶ **3804.2 Systems and equipment.** *Systems or equipment for the extraction of oils from plant material shall be **listed or approved** for the specific use. If the system used for extraction of oils and products from plant material is not listed, then the system shall be reviewed by a Registered Design Professional.*
- ▶ *The **Registered Design Professional** shall review and consider any information provided by the system's designer or manufacturer. For systems and equipment not listed for the specific use, a **technical report** in accordance with Section 3804.3 shall be prepared and submitted to the fire code official for review and approval. ...*

Carbon Dioxide Enrichment

- ▶ F372-16 CO2 Enrichment
- ▶ Marijuana or cannabis is not mentioned in the regulations
- ▶ CO2 Enrichment is commonly used in greenhouses
 - Burning propane
 - Dry ice
 - The regulations are concerned with the compressed CO2



Carbon Dioxide Enrichment

- ▶ Regulations CFC 5307
 - Permits - more than 100 lbs.
 - Gas detection - with 12" of the floor and target areas (CFC 5307.4.3)
 - Ventilation -automatic with exhaust with 12" of the floor (5307.4.4)
 - Negative pressure
 - *5307.4.4 Pressurization and ventilation. Rooms or indoor areas in which carbon dioxide enrichment is provided shall be maintained at a negative pressure in relation to the surrounding areas in the building. ...*



F386-16 Mobile Fueling

- ▶ From F386-16
- ▶ Approved for the 2018 IFC 5707



Mobile Fueling

- ▶ Local AHJ can require permits
- ▶ Local control
- ▶ Prohibited locations
 - **5707.4 Mobile fueling areas.** *Mobile fueling shall not occur on public streets, public ways, or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.*
 - **5707.4.1 Separation.** *Mobile fueling shall not take place within 25 feet (7620 mm) of buildings, property lines, or combustible storage.*
 - **Exception:** *The fire code official shall be authorized to decrease the separation distance for dispensing from metal safety cans or other approved metal containers in accordance with Section 5707.2.*



A2L Refrigerant

- ▶ Allows A2L refrigerants in refrigerant rooms
- ▶ A2L is flammable
- ▶ Less flammable than ammonia
- ▶ Dedicated system, not combination systems
- ▶ Green Initiative

F85-16 Photovoltaic



- ▶ Clean-up language
- ▶ Changes in FD roof access
- ▶ Reduction in roof venting area
 - Allowance for Fire sprinklers (66% roof coverage)
 - ***605.11.1.2.2 Setbacks at ridge. For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a minimum 18 in. wide setback is required on both sides of a horizontal ridge.***

Photovoltaic

Tesla Solar roofs



Energy Power Storage

- ▶ **F95 Battery Power Storage**
 - Regulations based on size and type of batteries
 - Pre-engineered
 - Mixed types

RB171-16 Energy Storage Systems & Equipment CRC

- **Hazard mitigation analysis**
- **Ventilation**
- **Listings**
- **Vehicle protection**

F75-16 Gas Detection Systems

Energy Power Storage

TABLE 608.1 BATTERY STORAGE SYSTEM THRESHOLD QUANTITIES.

BATTERY TECHNOLOGY	CAPACITY
Lead acid, all types	70 KWh (252 Megajoules)
Nickel cadmium (Ni-Cd)	70 KWh (252 Megajoules)
Lithium, all types	20 KWh (72 Megajoules)
Sodium, all types	20 KWh (72 Megajoules)c
Flow batteries b	20 KWh (72 Megajoules)
Other batter technologies	10 KWh (36 Megajoules)

Energy Power Storage

BLE 608.3 MAXIMUM ALLOWABLE BATTERY QUANTITIES

BATTERY TECHNOLOGY	MAXIMUM ALLOWABLE QUANTITIES ^a	GROUP OCCUPANCY
Lead acid, all types	unlimited	Not Applicable
Nickel cadmium (Ni-Cd),	unlimited	Not Applicable
Lithium, all types	600 KWh	Group H-2
Sodium, all types	600 KWh	Group H-2
Flow batteries b	600 KWh	Group H-2
Other battery technologies	200 KWh	Group H-2 c

California Electric Code

- ▶ *California Electric Code*
 - *ARTICLE 706 Energy Storage Systems* from the 2017 NEC
 - New definitions
 - Is currently in the process of being updated



2016 Intervening Code Cycle

OSFM workgroups

- WUI
- Residential Fire Sprinkler
- High-rise
- E Occupancy
- APSA (SB612)
- I-3 Occupancy
- Mobile Fueling (ICC proposal)

2016 Intervening Code Cycle

2016 Residential Fire Sprinklers Working Group

- ▶ Stand-alone Pump and Tanks in residential fire sprinklers clarification and modifications
- ▶ California addition 5 gpm safety factor- location where to apply

2016 Residential Fire Sprinklers Working Group

- ▶ Correlation of Building Code regulations for Stand-alone Pump and Tanks in residential fire sprinklers clarification and modifications
 - Shared breaker
 - Where to apply the 5 gpm safety factor



2016 Wildfire Protection Building Construction Task Force

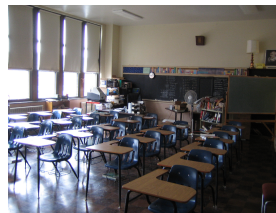
- ▶ Skylights in Wildland–Urban Interface Areas clarification and modifications.
- ▶ Garage doors in Wildland–Urban Interface Areas clarification and modifications.
- ▶ Accessory Structures in Wildland–Urban Interface Areas Clarification and modifications.
- ▶ Referenced Standards in Wildland–Urban Interface Areas clarification and modifications.
- ▶ Editorial modifications of regulations for vegetation management in Wildland–Urban Interface Areas.

2016 I–3 Occupancy Working Group

- ▶ Definitions for detention facilities addition and modifications.
- ▶ I–2 occupancies with restraint
 - I occupancy description clarification and modifications.
 - I–2 occupancies with restraint clarification and modifications.
 - Adoption of model code with modifications for controlled egress I–2 occupancies.
 - Intervening spaces in I–2 occupancies with detention clarification and modifications.
- ▶ I–3 addition of Condition 9 for healthcare.
 - I–3 occupancies healthcare provisions clarification and modifications.
 - Healthcare in Chapter 4 clarification and modifications.

E Occupancy (2016) Task Force

- ▶ Educational occupancy editorial changes to provide clarity.
 - Correlation of Educational occupancy editorial changes to removal duplication and provide clarity
- ▶ Educational occupancy modification to corridors. Non-rated corridors with fire sprinklers



Senate Bill 945

- ▶ Fire protection of Pet Boarding Facilities.
 - Fire sprinklers
 - Or monitored fire alarm



Senate Bill 612

- ▶ Underground petroleum tanks within the definition of the Aboveground Petroleum Storage Act for the changes made by SB 612
 - APSA regulations working group

Senate Bill 1069

- ▶ Accessory Dwelling Units
- ▶ Fire sprinkler exception:
 - *The unit meets the definition of an Accessory Dwelling Unit as defined in the Government Code section 65852.2.*
 - *The existing primary residence does not have automatic fire sprinklers.*
 - *The accessory detached dwelling unit does not exceed 1,200 square feet in size.*
 - *The unit is on the same lot as the primary residence.*

Accessory Dwelling Units

- ▶ Senate Bill 1069
- ▶ Effective January 1, 2017
- ▶ SFM Informational Bulletin 17-001



California State Fire Marshal Information Bulletin 17-001

Issued: January 24, 2017

Automatic Residential Fire Sprinkler System Requirements for Accessory Dwelling Units

Senate Bill 1069, Wisckowski (Chapter 720, Statutes of 2016) Land use, zoning, amends section 65852 of the Government Code to provide reform and incentives to facilitate and expedite the construction of affordable housing. The law was created to allow the construction of additional dwelling units associated with existing housing. An accessory dwelling unit may be attached or unattached to the existing house. The changes in the statute affect the automatic residential fire sprinkler system requirements for accessory dwelling units by exempting the requirement in some situations, noted below.

The Government Code is part of California statute and the bill has an effective date of January 1, 2017. The statute takes precedence over local regulations or ordinances. The information on SB 1069 can be found at: http://leginfo.ca.gov/pub/09_01_2016_150_160/sb_1069_150.html#top

Automatic Residential Fire Sprinkler System Requirements

The California Residential Code section R313.2 requires automatic residential fire sprinkler systems in one and two family dwellings:

R313.2 One- and two-family dwellings automatic fire systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.

Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.

Information Bulletin 17-001 (Continued)

Senate Bill 1069 adds the following exception for automatic residential fire sprinkler systems if all the following conditions exist:

- The unit meets the definition of an Accessory Dwelling Unit in the Government Code (section 65852.2).
- The existing primary residence is not required to have an automatic residential sprinkler system.
- The accessory detached dwelling unit does not exceed 1,200 square feet in size.
- The unit is on the same lot as the primary residence.

The statute prohibits local authorities from requiring automatic residential sprinkler systems for accessory dwelling units unless they are required for the primary dwelling unit.

The following information is provided for clarification:

- Automatic residential sprinkler systems are required in all new homes including those built with an accessory dwelling unit.
- New accessory dwelling units must have an automatic residential sprinkler system when the existing house has an automatic residential sprinkler system.
- Existing houses without an automatic residential sprinkler system adding an accessory dwelling unit are not required to provide an automatic residential sprinkler system.

Addition considerations:

- Existing houses that increase the square footage while adding an attached accessory dwelling unit may exceed an automatic residential sprinkler system threshold ordinance based on a local ordinance. If the local authority has an ordinance that applies to all houses and requires fire sprinklers when the square footage exceeds the prescribed amount, the local authority may then require an automatic residential sprinkler system to the entire house including the accessory dwelling unit.
- New detached accessory dwelling units are required to comply with the standards for fire protection such as water supply and fire department access. Automatic residential sprinkler systems provide construction options for the owner by providing different ways to complying with the fire protection requirements.

Accessory Dwelling Units

- ▶ Accessory Dwelling Units
- ▶ *Fire sprinkler exception:*
 - *The unit meets the definition of an Accessory Dwelling Unit as defined in the Government Code section 65852.2.*
 - *The existing primary residence does not have automatic fire sprinklers.*
 - *The accessory detached dwelling unit does not exceed 1,200 square feet in size.*
 - *The unit is on the same lot as the primary residence.*

2018 Triannual Code Cycle

- ▶ Office of the State Fire Marshal's Code Workgroups
 - I-3
 - L-Occupancy
 - E-Occupancy
 - WUI
 - SB 112 Correctional reentry facilities R-2.2



Thank you!! Questions??

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