

California Energy Commission

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ENERGY EFFICIENCY PROVISIONS OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE

PART 11 OF THE CALIFORNIA BUILDING CODE

(also known as CALGreen)

REVISED DRAFT EXPRESS TERMS (15-Day Language)



CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

SEPTEMBER 29, 2015

CHAPTER 4

RESIDENTIAL MANDATORY MEASURES

DIVISION 4.2 – ENERGY EFFICIENCY

SECTION 4.201

GENERAL

4.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

Authority: Public Resources Code Sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code Sections 18930.5 and 18941.5.

APPENDIX A4**RESIDENTIAL VOLUNTARY MEASURES****DIVISION A4.2 – ENERGY EFFICIENCY****SECTION A4.201****GENERAL**

A4.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. It is the intent of these voluntary standards provisions to encourage ~~buildings~~ local jurisdictions through codification to achieve exemplary performance in the area of building energy efficiency. ~~Local jurisdictions adopting these voluntary provisions as mandatory local energy efficiency standards shall submit the required application and receive the required approval of the California Energy Commission in compliance with Title 24, Part 1 Chapter 10, Section 10-106 of the California Administrative Code, prior to enforcement. Once approval is granted by the Energy Commission, local jurisdictions shall file an ordinance expressly marking the local modification along with findings~~ ~~submit their application~~ and receive the required acceptance from the California Building Standards Commissions in compliance with ~~Title 24, Part 11, Section 101.7 of this code~~, prior to enforcement. (Chapter 10, Section 106 of the California Administrative Code is available at <http://www.energy.ca.gov/title24/2016standards/>)

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

SECTION A4.202

DEFINITIONS

ENERGY BUDGET.

ENERGY DESIGN RATING.

TIME DEPENDENT VALUATION (TDV) ENERGY.

Authority: Public Resources Code ~~S~~Sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~Sections 18930.5 and 18941.5.

SECTION A4.203

PERFORMANCE APPROACH FOR NEWLY CONSTRUCTED BUILDINGS

A4.203.1 Energy Efficiency. Newly constructed low-rise residential buildings shall comply with Sections A4.203.1.1 and either A4.203.1.2.1, A4.203.1.2.2 or A4.203.1.2.3.

A4.203.1.1 Tier 1, Tier 2, and Zero Net Energy Design ~~Tier 3~~ Prerequisites. Each of the following efficiency measures is required for all applicable components of the building project.

A4.203.1.1.1 Energy Design Rating. An energy design rating for the Proposed Design Building shall be computed by Compliance Software certified by the Commission and this rating shall be included in the Certificate of Compliance documentation.

A4.203.1.1.2 Quality Insulation Installation (QII). The QII procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5 shall be completed.

A4.203.1.1.3 Lighting. Comply with all applicable requirements of Title 24, Part 6 Section 150.0(k). In addition:

- ~~1. All permanently installed interior lighting shall be high efficacy. Permanently installed interior lighting shall be controlled by vacancy sensors if installed in kitchens, bathrooms, utility rooms, and private garages at a minimum. Lighting installed in closets that are 70 square feet or larger shall be controlled by vacancy sensors or dimmers.~~

~~— Exceptions:~~

- ~~1. Night lights which comply with Title 24, Part 6 Section 150.0(k)1E.~~
- ~~2. Lighting integral to exhaust fans which comply with Title 24, Part 6 Section 150.0(k)1F.~~
- ~~2. All permanently installed lighting in bathrooms shall be controlled by a vacancy sensor.~~

~~— Exception: One high efficacy luminaire with total lamp wattage rated to consume no greater than 26 watts of power.~~

- ~~3. Every room greater than 70 square feet which does not have permanently installed lighting and has receptacles installed shall have at least one switched receptacle installed.~~
- ~~4. For single family residences, all permanently installed outdoor lighting shall be high efficacy and have controls complying with Title 24, Part 6 Sections 150.0(k)9A3Ai and iii.~~
- ~~3. For multi-family residential buildings, all permanently installed outdoor lighting shall be high efficacy and have controls controlled from within a dwelling unit shall have controls complying with Title 24, Part 6 Sections 150.0(k)9B3BAi and iii. For multi-family residential buildings, all~~

permanently installed outdoor lighting which is not controlled from within a dwelling unit shall have controls complying with Title 24, Part 6 Section 150.0(k)9Bii.

~~4. All outdoor lighting for residential parking lots shall be high efficacy and comply with Title 24, Part 6, Section 150.0(k)93D.~~

A4.203.1.2 Performance Standard. Comply with one of the advanced efficiency levels indicated below.

A4.203.1.2.1 Tier 1: Buildings complying with the first level of advanced energy efficiency shall have either an Energy Budget that is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Proposed Standard Design Building, or ~~shall have an Energy Design Rating, without considering on-site generation, reflecting showing~~ a 15% or greater reduction in ~~total energy uses regulated by Title 24, Part 6~~ its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software certified approved by the Energy Commission.

A4.203.1.2.2 Tier 2: Buildings complying with the second level of advanced energy efficiency shall have either an Energy Budget that is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Proposed Standard Design Building, or ~~shall have an Energy Design Rating, without considering on-site generation, reflecting showing~~ a 30% or greater reduction in ~~total energy uses regulated by Title 24, Part 6~~ its Energy Budget component compared to the Standard Design Building, as calculated by Title 24, Part 6 Compliance Software certified approved by the Energy Commission.

~~**A4.203.1.2.3 (Zero Net Energy Design) Tier:** Buildings complying with the third level of advanced energy efficiency (Tier 2):~~ Buildings complying with this elective designation shall have ~~shall comply with ALL of the following requirements:~~

~~1. The building shall be shown on-site renewable energy generation sufficient to be in compliance with Section A4.203.1.2.2 (Tier 2 requirements).~~

~~2. The building shall have~~ achieve an Energy Design Rating of zero (0) ~~or less~~ as calculated by Title 24, Part 6 Compliance Software certified approved by the Energy Commission, and:

1. Single family buildings in Climate Zones 6 and 7, and low-rise multifamily buildings in Climate Zone 3, 5, 6, and 7 shall comply with Section A4.203.1.2.1 (Tier 1); and

2. Single family Buildings in Climate Zones 1 through 5 and 8 through 16 and low-rise multifamily building in Climate Zones 1, 2, 4, and 8 through 16 shall comply with Section A4.203.1.2.2 (Tier 2).

Note: For Energy Budget calculations high-rise residential and hotel/motel buildings are considered nonresidential buildings.

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~s~~Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~ections 18930.5 and 18941.5.

SECTION A4.204

PERFORMANCE APPROACH FOR ADDITIONS AND ALTERATIONS

A4.204.1 Energy Efficiency. Additions and alterations to low-rise residential buildings shall comply with Section ~~A4.204.1.1~~ or A4.204.1.2.

A4.204.1.1 Tier 1 and Tier 2 Prerequisites. Each of the following efficiency measures is required if applicable to the addition or alteration building project:

A4.204.1.1.1 Lighting. Comply with all applicable requirements of Title 24, Part 6 Section 150.0(k). In addition:

- ~~1. All newly installed, permanently installed interior lighting shall be high efficacy and shall be controlled by vacancy sensors if installed in a kitchen, bathroom, utility room, or private garage. Lighting installed in closets that are 70 square feet or larger shall be controlled by vacancy sensors or dimmers.~~

~~— Exceptions:~~

- ~~1. Night lights complying with Title 24, Part 6 Section 150.0(k)1E.~~
- ~~2. Lighting integral to exhaust fans complying with Title 24, Part 6 Section 150.0(k)1F.~~
- ~~2. All newly installed, permanently installed lighting in bathrooms shall be controlled by a vacancy sensor.~~
- ~~— Exception: One high efficacy luminaire with total lamp wattage rated to consume no greater than 26 watts of power.~~
- ~~3. Every new room greater than 70 square feet which does not have newly installed, permanently installed lighting and has newly installed receptacles shall have at least one switched receptacle installed.~~
- ~~4. For single family residences, all newly installed, permanently installed outdoor lighting shall be high efficacy and have controls complying with Title 24, Part 6 Sections 150.0(k)9Ai and iii.~~
- ~~3. For multi-family residential buildings, all newly installed, permanently installed outdoor lighting shall be high efficacy and have controls controlled from within a dwelling unit shall have controls complying with Title 24, Part 6 Sections 150.0(k)9Ai and iii. For multi-family residential buildings, all newly installed, permanently installed outdoor lighting which is not controlled from within a dwelling unit shall have controls complying with Title 24, Part 6 Section 150.0(k)9Bii.~~
- ~~4. All newly installed, permanently installed outdoor lighting for residential parking lots shall be high efficacy and comply with Title 24, Part 6, Section 150.0(k)9D.~~

~~**A4.204.1.2 Performance Standard.** Comply with one of the advanced efficiency levels indicated in Section A4.204.1.2.1 or Section A4.204.1.2.2.~~

~~below.~~

A4.204.1.2

A4.204.1.1 Tier 1: Buildings complying with the first level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on the number of mechanical systems added or modified. Space heating systems, space cooling systems and water heating systems are each separate mechanical systems for the purpose of complying with this requirement. If the addition or alteration changes only the envelope with no change to any mechanical system, then no additional performance requirements above Title 24, Part 6 are required.

1. For one and only one mechanical system: No greater than 95 percent of the Title 24, Part 6 Energy Budget for the ~~Proposed~~ Standard Design Building as calculated by Compliance Software certified by the Energy Commission.
2. For two or more mechanical systems: No greater than 90 percent of the Title 24, Part 6 Energy Budget for the ~~Proposed~~ Standard Design Building as calculated by Compliance Software certified by the Energy Commission.

A4.204.1.2 Tier 2: Buildings complying with the second level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on the number of mechanical systems added or modified. Space heating systems, space cooling systems and water heating systems are each separate mechanical systems for the purpose of complying with this requirement. If the addition or alteration changes only the envelope with no change to any mechanical system, then no additional performance requirements above Title 24, Part 6 are required.

1. For one and only one mechanical system: No greater than 90 percent of the Title 24, Part 6 Energy Budget for the ~~Proposed~~ Standard Design Building as calculated by Compliance Software certified by the Energy Commission.
2. For two or more mechanical systems: No greater than 85 percent of the Title 24, Part 6 Energy Budget for the ~~Proposed~~ Standard Design Building as calculated by Compliance Software certified by the Energy Commission.

Note: For Energy Budget calculations high-rise residential and hotel/motel buildings are considered nonresidential buildings.

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~ections 18930.5 and 18941.5.

APPENDIX A4

RESIDENTIAL VOLUNTARY MEASURES

DIVISION A4.6 – TIER 1 AND TIER 2

SECTION A4.601

GENERAL

A4.601.4.2 Prerequisite and elective measures for Tier 1.

- 2. From Division A4.2, Energy Efficiency.
 - 2.1 For newly constructed low-rise residential buildings, comply with the energy efficiency requirements in Sections A4.203.1.1 and ~~Section A4.203.1.2.1.~~
 - 2.2 For additions ~~and alterations~~ to low-rise residential buildings, comply with the energy efficiency requirements in Section A4.204.1.1 and ~~Section A4.204.1.2.1.~~

A4.601.5.2 Prerequisite and elective measures for Tier 2.

- 2. From Division A4.2, Energy Efficiency.
 - 2.1 For newly constructed low-rise residential buildings, comply with the energy efficiency requirements in Sections A4.203.1.1 and ~~Section A4.203.1.2.2.~~
 - 2.2 For additions ~~and alterations~~ to low-rise residential buildings, comply with the energy efficiency requirements in Section A4.204.1.1 ~~and Section A4.204.1.2.2.~~

~~A4.601.6.2 Prerequisite and elective measures for Tier 3.~~

- ~~2. From Division A4.2, Energy Efficiency.~~

~~For newly constructed low-rise residential buildings, comply with the energy efficiency requirements in Section A4.203.1.1 and Section A4.203.1.2.3.~~

Authority: Public Resources Code §Sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code §Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code §Sections 18930.5 and 18941.5.

APPENDIX A4

RESIDENTIAL VOLUNTARY MEASURES

DIVISION A4.6 – TIER 1 AND TIER 2

SECTION A4.602

RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST

FEATURE OR MEASURE	LEVELS			VERIFICATIONS		
	ELECTIVE MEASURES ADOPTED AS MANDATORY ¹			ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
	Mandatory	Tier 1	Tier 2	Enforcing Agency <input type="checkbox"/> All	Installer or Designer <input type="checkbox"/> All	Third party <input type="checkbox"/> All
ENERGY EFFICIENCY						
General						
4.201.1 Building meets or exceeds the requirements of the <i>California Building Energy Efficiency Standards</i> . ³	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance Approach for Newly Constructed Buildings						
A4.203.1.1.1 An Energy Design <u>Rating</u> for the Proposed Design Building is included in the Certificate of Compliance documentation.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.203.1.1.2 QII procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5 are completed.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FEATURE OR MEASURE	LEVELS			VERIFICATIONS		
	ELECTIVE MEASURES ADOPTED AS MANDATORY ¹			ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
	Mandatory	Tier 1	Tier 2	Enforcing Agency	Installer or Designer	Third party
A4.203.1.1.3 All permanently installed lighting is high efficacy and has required controls.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.203.1.2.1 {Tier 1} The Energy Budget is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Proposed Standard Design Building.		<input checked="" type="checkbox"/> ²		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.203.1.2.2 {Tier 2} The Energy Budget is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Proposed Standard Design Building.			<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.203.1.2.3 {Tier III} : Zero Net Energy Design Tier: (elective) : Shall comply with all of the following: 1. <u>Section A4.203.1.1 (Prerequisite) and</u> 2. <u>Section A4.203.1.2.1</u> • <u>for single family buildings in Climate Zones 6 and 7, and low-rise multifamily buildings in Climate Zones 3, 5, 6, and 7</u> <u>or Section A4.203.1.2.2</u> • <u>for single family buildings in Climate Zones 1-5 and 8-16, and low-rise multifamily buildings in Climate Zones 1, 2, 4, and 8-16</u> 3. <u>Energy Design Rating of zero (0) or less</u>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FEATURE OR MEASURE	LEVELS			VERIFICATIONS		
	ELECTIVE MEASURES ADOPTED AS MANDATORY ¹			ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
	Mandatory	Tier 1	Tier 2	Enforcing Agency <input type="checkbox"/> All	Installer or Designer <input type="checkbox"/> All	Third party <input type="checkbox"/> All
Performance Approach for Additions and Alterations						
A4.204.1.1.1 All newly installed, permanently installed lighting is high efficacy and has required controls.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.204.1.2.1 Tier 1: If only <u>When one and only one</u> mechanical system is added or modified, the Energy Budget is no greater than 95 percent of the Title 24, Part 6 Energy Budget for the Proposed <u>Standard</u> Design Building. If two or more <u>When two or more</u> mechanical systems are added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6 Energy Budget for the Proposed <u>Standard</u> Design Building.		<input checked="" type="checkbox"/> ²		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4.204.1.2.2 Tier 2 If only <u>When one and only one</u> mechanical system is added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6 Energy Budget for the Proposed <u>Standard</u> Design Building. If two or more <u>When two or more</u> mechanical systems are added or modified, the Energy Budget is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Proposed <u>Standard</u> Design Building.			<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Green building measures in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
- Required prerequisite for this Tier.
- These measures are currently required elsewhere in statute or in regulation.

Authority: Public Resources Code Sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code Sections 18930.5 and 18941.5.

APPENDIX A5

NONRESIDENTIAL VOLUNTARY MEASURES

DIVISION A5.2 ENERGY EFFICIENCY

SECTION A5.201

GENERAL

A5.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. It is the intent of these voluntary standards provisions to encourage buildings local jurisdictions through codification to achieve exemplary performance in the area of building energy efficiency. Local jurisdictions adopting these voluntary provisions as mandatory local energy efficiency standards shall submit the required application and receive the required approval of the California Energy Commission in compliance with ~~Title 24, Part 1~~ Chapter 10, Section ~~10-106~~ of the *California Administrative Code*, prior to enforcement. Once approval is granted by the Energy Commission, local jurisdictions shall file an ordinance expressly marking the local modifications along with findings and receive the required acceptance approved from the California Building Standards ~~Commissions~~ Commission in compliance with ~~Title 24, Part 11~~, Section 101.7 of this code, prior to enforcement. (Chapter 10, Section 106 of the *California Administrative Code* is available at <http://www.energy.ca.gov/title24/2016standards/>)

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~s~~Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

SECTION A5.202**DEFINITIONS****ENERGY BUDGET****GEOHERMAL****PROCESS****SOLAR ACCESS****TIME DEPENDENT VALUATION (TDV)**

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

SECTION A5.203**PERFORMANCE APPROACH**

A5.203.1 Energy Efficiency. Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Section ~~A~~5.203.1.1 and either A5.203.1.2.1 or A5.203.1.2.2. Newly constructed buildings ~~as well as~~ and additions ~~and alterations~~ are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required to comply with Sections A5.203.1.1.2 or A5.203.1.2.

A5.203.1.1 Tier 1 and Tier 2 Prerequisites. Each of the following efficiency measures is required for all applicable components of the building project:

A5.203.1.1.1 Outdoor Lighting. Newly installed outdoor lighting power shall be no greater than 90 percent of the ~~Title 24, Part 6 calculated value of a~~ Allowed ~~Outdoor Lighting p~~Power. The Allowed Outdoor Lighting Power calculation is specified in Title 24, Part 6, Section 140.7 "Requirements For Outdoor Lighting."

A5.203.1.1.2 Service Water Heating in Restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater shall install a solar water-heating system with a minimum solar savings fraction of 0.15.

Exceptions:

1. Buildings with a natural gas service water heater with a minimum of 95 percent thermal efficiency.
2. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

~~**A5.203.1.1.3 Functional Areas where Compliance with Residential Lighting Standards is required.** For newly constructed high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting shall comply with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.203.1.1.3. For additions and alterations to high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting shall comply with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.204.1.1.1.~~

A5.203.1.2 Performance Standard. Comply with one of the advanced efficiency levels indicated below.

A5.203.1.2.1 Tier 1: Buildings complying with the first level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on the type of energy systems included in the building project. If the newly constructed building ~~or, addition or alteration~~ does not include indoor lighting or mechanical systems, then no additional performance requirements above Title 24, Part 6 are required.

1. For building projects that include indoor lighting or mechanical systems, but not both: No greater than 95 percent of the Title 24, Part 6 Energy Budget for the Standard-Proposed Design Building as calculated by Compliance Software certified by the Energy Commission.
2. For building projects that include indoor lighting and mechanical systems: No greater than 90 percent of the Title 24, Part 6 Energy Budget for the Standard-Proposed Design Building as calculated by Compliance Software certified by the Energy Commission.

A5.203.1.2.2 Tier 2: Buildings complying with the second level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on the type of energy systems included in the building project. If the newly constructed building ~~or~~ addition ~~or~~ alteration does not include indoor lighting or mechanical systems, then no additional performance requirements above Title 24, Part 6 are required.

1. For building projects that include indoor lighting or mechanical systems, but not both: No greater than 90 percent of the Title 24, Part 6 Energy Budget for the ~~Standard~~ Proposed Design Building as calculated by Compliance Software certified by the Energy Commission.
2. For building projects that include indoor lighting and mechanical systems: No greater than 85 percent of the Title 24, Part 6 Energy Budget for the ~~Standard~~ Proposed Design Building as calculated by Compliance Software certified by the Energy Commission.

Note: For Energy Budget calculations, high-rise residential and hotel/motel buildings are considered nonresidential buildings.

Authority: Public Resources Code ~~S~~sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~s~~Sections 18930.5 and 18941.5.

APPENDIX A5

NONRESIDENTIAL VOLUNTARY MEASURES

DIVISION A5.6 – VOLUNTARY TIERS

SECTION A5.601

CALGREEN TIER 1 AND TIER 2

A5.601.2.2 Energy Performance. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

A5.601.2.3 Tier 1. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.1.

A5.601.3.2 Energy Performance. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

A5.601.3.3 Tier 2. Comply with the energy efficiency requirements in Section A5.203.1.1 and Section A5.203.1.2.2.

Authority: Public Resources Code ~~S~~ections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~ections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~ections 18930.5 and 18941.5.

APPENDIX A5

NONRESIDENTIAL VOLUNTARY MEASURES

DIVISION A5.6 – VOLUNTARY TIERS

SECTION A5.602

NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
Energy Efficiency			
Performance Requirements for Newly Constructed Buildings and Additions			
A5.201.1 Scope. Building meets or exceeds the requirements of the California Building Energy Efficiency Standards. ³	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²
A5.203.1 Energy efficiency. Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Section A5.203.1.1 and either A5.203.1.2.1 or A5.203.1.2.2. Newly constructed buildings and additions are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required to comply with Sections A5.203.1.1.2 or A5.203.1.2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A5.203.1.1.1 Outdoor Lighting. Newly installed outdoor lighting power is no greater than 90 percent of the Title 24, Part 6 calculated value of allowed outdoor lighting power.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²
A5.203.1.1.2 Service Water Heating in Restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater installed a solar water-heating system with a minimum solar savings fraction of 0.15 or meet one of the exceptions.		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY ¹	
		CALGreen Tier 1	CALGreen Tier 2
<p>A5.203.1.1.3 Functional Areas where Compliance with Residential Lighting Standards is required. For newly constructed high rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2—Energy Efficiency, Section A4.203.1.1.3. For additions and alterations to high rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2—Energy Efficiency, Section A4.204.1.1.1.</p>		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²
	<input type="checkbox"/>		
<p>A5.203.1.2.1 Tier 1.</p> <p>For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 95 percent of the Title 24, Part 6 Energy Budget for the <u>Standard Proposed</u> Design Building.</p> <p>For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 90 percent of the Title 24, Part 6 Energy Budget the <u>Standard Proposed</u> Design Building.</p>		<input checked="" type="checkbox"/> ²	
<p>A5.203.1.2.2 Tier 2.</p> <p>For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 90 percent of the Title 24, Part 6 Energy Budget for the <u>Standard Proposed</u> Design Building.</p> <p>For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the <u>Standard Proposed</u> Design Building.</p>			<input checked="" type="checkbox"/> ²

1. Green building measures in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
2. Required prerequisite for this Tier.
3. These measures are currently required elsewhere in statute or in regulation.

Authority: Public Resources Code ~~S~~Sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~Sections 18930.5 and 18941.5.

Reference: Public Resources Code Sections 25402, subd. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code ~~S~~Sections 18930.5 and 18941.5.