

# 10 101 to 10 114 Energy Building Regulations

## ARTICLE 1 – ENERGY BUILDING REGULATIONS

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### SECTION 10-101 – SCOPE

- (a) This article contains administrative regulations relating to the energy building regulations in Title 24, Part 6. This article applies to all residential and nonresidential buildings.
- (b) Nothing in this article lessens any necessary qualifications or responsibilities of licensed or registered building professionals or other designers or builders, or the duties of enforcement agencies that exist under state or local law.

**NOTE:** Authority cited: Sections 25402 and 25402.1, Public Resources Code. Reference: Sections 25402 and 25402.1, Public Resources Code.

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### SECTION 10-102 – DEFINITIONS

In this article the following definitions apply:

**ACCEPTANCE REQUIREMENTS** are "acceptance requirements for code compliance" as defined in Section 101(b) of Part 6.

**ALTERNATIVE CALCULATION METHOD (ACM) APPROVAL MANUAL** or **ACM APPROVAL MANUAL** establishes the requirements for Energy Commission approval of performance software used to show compliance with the Building Energy Efficiency Standards for Residential and Nonresidential Buildings. is the Alternative Calculation Method (ACM) Approval Manual for the Energy Efficiency Standards for Nonresidential Buildings, for nonresidential buildings, hotels, and multi-family residential buildings with four or more stories and the Alternative Calculation Method (ACM) Approval Manual for the Energy Efficiency Standards for Residential Buildings, for all single-family and low-rise multi-family residential buildings.

**ALTERNATIVE CALCULATION METHOD (ACM) REFERENCE MANUAL** or **ACM REFERENCE MANUAL** contains the specific procedures to implement Sections 140.1 and 150.1 of Title 24, Part 6 of the California Code of Regulations in Compliance Software.

**ALTERNATIVE COMPONENT PACKAGE** is a set of building measures whose aggregate calculated energy use is less than or equal to the maximum allowed Energy Budget.

**APPLIANCE EFFICIENCY REGULATIONS** are the regulations in Title 20, Section 1601 et. Seq. of the California Code of Regulations.

**APPROVED CALCULATION METHOD** is compliance software, or alternative component packages, or exceptional methods a Public Domain Computer Program approved under Section 10-109(a), or any Alternative Calculation Method approved under Section 10-109(b).

**BUILDING PERMIT** is an electrical, plumbing, mechanical, building, or other permit or approval, that is issued by an enforcement agency, and that authorizes any construction that is subject to Part 6.

**COMMISSION** is the California State Energy Resources Conservation and Development Commission.

**COMPLIANCE APPROACH** is any one of the allowable methods by which the design and construction of a building may be demonstrated to be in compliance \_\_\_ with Part 6. The compliance approaches are the performance compliance approach and the prescriptive compliance approach. The requirements for each compliance approach are set forth in Section 100(e)2 of Part 6.

**COMPLIANCE OPTION** is a method or procedure for demonstrating compliance with Title 24, Part 6 and Part 11, Division 4.2 and 5.2 of the California Code of Regulations through modifications of approved calculation methods.

**CONDITIONED FLOOR AREA** is the “conditioned floor area” as defined in Section 101(b) of Part 6.

**CRRC-1** is the Cool Roof Rating Council document entitled “Product Rating Program”.

**DATA REGISTRY** is a database application that provides services for registration of energy compliance documentation.

**RESIDENTIAL DATA REGISTRY** is a HERS provider data registry approved by the Energy Commission [look up the reference]

**NONRESIDENTIAL DATA REGISTRY** is a HERS provider data registry, or other data registry approved by the Executive Director

**DOCUMENTATION AUTHOR** is the person who prepares a Title 24 Part 6 compliance document (Certificate of Compliance, Installation Certificate, Certificate of Acceptance, or Certificate of Field Verification and Diagnostic Testing). A documentation author is not required to be eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design and/or construction, and is not required to be a certified HERS rater. A documentation author who is not eligible under Division 3 of the Business and Professions Code shall not accept responsibility for compliance with Title 24, Part 6.

**ENERGY BUDGET** is the “energy budget” as defined in Section 101(b) of Part 6.

**ENFORCEMENT AGENCY** is the city, county, or state agency responsible for issuing a building permit.

**EXCEPTIONAL METHOD** is a special modeling capability or calculation method for estimating the energy performance of building features that cannot be adequately modeled using the public domain computer programs.

**EXECUTIVE DIRECTOR** is the executive director of the Commission.

**HVAC SYSTEM** is the “HVAC system” as defined in Section 101(b) of Part 6.

**MANUFACTURED DEVICE** is the “manufactured device” as defined in Section 101(b) of Part 6.

**NFRC 100** is the National Fenestration Rating Council document entitled “NFRC 100: Procedure for Determining Fenestration Product U-factors.” (2007, NFRC 100 includes procedures for site built fenestration formerly included in a separate document, NFRC 100-SB)

**NFRC 200** is the National Fenestration Rating Council document entitled “NFRC 200: Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.” (2007)

**NFRC 400** is the National Fenestration Rating Council document entitled “NFRC 400: Procedure for Determining Fenestration Product Air Leakage.” (2007)

**NSHP GUIDEBOOK** is the California Energy Commission document entitled “New Solar Home Partnership Guidebook” that is in effect at the time of application for the building permit.

**PART 6** is Title 24, Part 6 of the California Code of Regulations.

**PUBLIC ADVISER** is the Public Adviser of the Commission.

**R-VALUE** is the measure of the thermal resistance of insulation or any material or building component expressed in ft<sup>2</sup>-hr-°F/Btu.

**RECORD DRAWINGS** are drawings that document the as installed location and performance data on all lighting and space conditioning system components, devices, appliances and equipment, including but not limited to wiring sequences, control sequences, duct and pipe distribution system layout and sizes, space conditioning system terminal device layout and air flow rates, hydronic system and flow rates, and connections for the space conditioning system. Record drawings are sometimes called “as built.”

**REFERENCE APPENDICES** is the support document for the Building Energy Efficiency Standards and the ACM Approval Manuals. The document consists of three sections: the Reference Joint Appendices (JA), the Reference Residential Appendices (RA), and the Reference Nonresidential Appendices (NA).

~~RESPONSIBLE PERSON is the person eligible under Division 3 of the Business and Professions Code to accept responsibility for building design and/or construction as applicable, who provides a signature to certify the information on Certificate of Compliance, Installation Certificate, or Certificate of Acceptance documents is true and correct, or is a HERS rater certified by a HERS provider as eligible to take responsibility for registration of Certificate of Field Verification and Diagnostic Testing documents.~~

STANDARD DESIGN BUILDING is a “Standard Design Building” as defined in Section 101(b) of Part 6.

NOTE: Authority cited: Sections 25402 and 25402.1, Public Resources Code. Reference: Sections 25402 and 25402.1, Public Resources Code.

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## **SECTION 10-103 – PERMIT, CERTIFICATE, INFORMATIONAL, AND ENFORCEMENT REQUIREMENTS FOR DESIGNERS, INSTALLERS, BUILDERS, MANUFACTURERS, AND SUPPLIERS**

- (a) **Documentation.** The following documentation is required to demonstrate compliance with Part 6. This documentation shall meet the requirements of Section 10-103(a) or alternatives approved by the Executive Director.
1. **Certificate of Compliance.** For all buildings, the Certificate(s) of Compliance described in Section 10-103 shall be signed and submitted in accordance with Sections 10-103(a)1 and 10-103(a)2 by the person(s) eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design (responsible person) to certify conformance with Part 6. If more than one person has responsibility for building design, each person shall sign the Certificate of Compliance document(s) applicable to that portion of the design for which the person is responsible. Alternatively, the person with chief responsibility for building design shall prepare and sign the Certificate of Compliance document(s) for the entire building design. Subject to the requirements of Sections 10-103(a)1 and 10-103(a)2, persons who prepare Certificate of Compliance documentation (documentation authors) shall sign a declaration statement on the documents they prepare to certify the information provided on the documentation is accurate and complete. The signatures provided by responsible persons and documentation authors shall be original signatures on paper documents or electronic signatures on electronic documents.
    - A. All Certificate of Compliance documentation shall conform to a format and informational order and content approved by the Energy Commission.

These documents shall:

      - i. Identify the energy features, performance specifications, materials, components, and manufactured devices required for compliance with Part 6.
      - ii. Identify the building project name and address. The building project name and address identification on the Certificate of Compliance shall be consistent with the building project name and address identification given on the other applicable building design plans and specifications submitted to the enforcement agency for approval with the building permit application.
      - iii. Display the unique registration number assigned by the data registry if Section 10-103(a)1 requires the document to be registered.
      - iv. Include a declaration statement to the effect that the building energy features, performance specifications, materials, components, and manufactured devices for the building design identified on the Certificate of Compliance indicate the building is in compliance with the requirements of Title 24, Parts 1 and 6, and the building design features identified on the Certificate of Compliance are consistent with the building design features identified on the other applicable compliance documents, worksheets, calculations, plans, and specifications submitted to the enforcement agency for approval with the building permit application.

- v. Be signed by the documentation author to certify the documentation is accurate and complete. When document registration is required by 10-103(a)1, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.
- vi. Be signed by the responsible person eligible under Division 3 of the Business and Professions Code to accept responsibility for the design to certify conformance with Part 6. When document registration is required by 10-103(a)1, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9. For newly constructed low-rise residential buildings demonstrating compliance under the Section 151(c)2 multiple orientation alternative for which compliance requires HERS field verification, the person(s) responsible for the Certificate(s) of Compliance shall submit the Certificate(s) for retention to a HERS provider data registry. Submittals to the HERS provider data registry shall be made electronically.

B. Beginning on October 1, 2010, for For all low-rise residential buildings for which compliance requires HERS field verification, the person(s) responsible for the Certificate(s) of Compliance shall submit the Certificate(s) for registration and retention to a HERS provider data registry. The submittals to the HERS provider data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Certificate of Compliance documents that are registered and retained by a HERS provider data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

C. For alterations to existing residential buildings for which HERS field verification is not required, and for additions to existing residential buildings that are less than 300 square feet for which HERS field verification is not required, the enforcement agencies may at their discretion develop simplified Certificate of Compliance documentation for use for demonstrating compliance with the Standards.

D. Beginning on January 1, 2015, contingent upon approval of data registry(s) by the Executive Director, all nonresidential buildings, high-rise residential buildings, and hotels and motels, when designated to allow use of an occupancy group or type regulated by Part 6, the person(s) responsible for the Certificate(s) of Compliance shall submit the Certificate(s) for registration and retention to a HERS provider data registry, or a data registry approved by the Executive Director. The submittals to the HERS provider data registry or approved data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Certificate of Compliance documents that are registered and retained by a HERS provider data registry or approved data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

E. For all Nonresidential buildings, the Design Review Kickoff and Construction Document Design Review Checklist Certificates of Compliance shall be completed and signed by a licensed professional engineer. For buildings less than 10,000 ft<sup>2</sup>, the licensed engineer may be the engineer of record. For buildings greater than 10,000 ft<sup>2</sup> but less than 50,000 ft<sup>2</sup>, the licensed engineer should be a qualified in-house engineer with no other project involvement or a third party engineer. For buildings greater than 50,000 ft<sup>2</sup> and all buildings with complex mechanical systems serving more than 10,000 ft<sup>2</sup>, the licensed engineer must be a third party. Subject to the requirements of this section, persons who prepare energy compliance documentations shall sign a statement that the documentation is accurate and complete.

2. **Application for a building permit.** Each application for a building permit subject to Part 6, shall contain at least one copy of the documents ~~listed specified~~ in Sections 10-103(a)2A, 10-103(a)2B, and 10-103(a)2C.
  - A. For all newly constructed buildings, additions, alterations, or repairs regulated by Part 6, the applicant shall submit the applicable Certificate(s) of Compliance to the enforcement agency for approval. file the applicable Certificate(s) of Compliance on the plans. The certificate(s) shall ~~indicate the features and performance specifications needed to comply with Part 6 conform to the requirements of Section 10-103(a)1,~~ and shall be approved by the local enforcement agency, in accordance with all applicable requirements of

Section 10-103(d), by stamp or authorized signature prior to issuance of a building permit. A copy of the Certificate(s) of Compliance shall be included with the documentation the builder provides to the building owner at occupancy as specified in Section 10-103(b).

For alterations to existing residential buildings for which HERS field verification is required, and when the enforcement agency does not require building design plans to be submitted with the application for a building permit, the applicable Certificate of Compliance documentation specified in 10-103(a)1 is not required to be approved by the enforcement agency prior to issuance of a building permit, but shall be approved by the enforcement agency prior to final inspection of the dwelling unit, and shall be made available to the enforcement agency for all applicable inspections.

~~For newly constructed low-rise residential buildings demonstrating compliance under the Section 151(c)2 multiple orientation alternative for which compliance requires HERS field verification, the certificate that appears on the plans shall be a copy of the registered Certificate of Compliance from a HERS provider data registry.~~

When the enforcement agency requires building design plans to be submitted with the application for a building permit, the applicable Certificate of Compliance documents shall be incorporated into the building design plans. Beginning on October 1, 2010, for all low-rise residential buildings for which Section 10-103(a)1 compliance requires HERS field verification, document registration, the certificate(s) that appear on or are incorporated into the building design plans shall be copies of the registered Certificate of Compliance documents from a HERS provider data registry, or a data registry approved by the Executive Director.

~~The Certificate(s) of Compliance and supporting documentation shall be readily legible and of substantially similar format and informational order and content to the applicable Certificate(s) of Compliance and supporting documentation in the applicable Residential or Nonresidential Compliance Manual, as defined in Part 6.~~

- B. ~~Plans~~ When the enforcement agency requires building design plans and specifications to be submitted with each the application for a building permit, the plans shall show conform to the specifications for the characteristics of each features, materials, components, and manufactured devices identified on the Certificate(s) of Compliance, proposed to be installed in order to have the building meet the and shall conform to all other applicable requirements of Part 6, and of Plans and specifications shall be submitted to the enforcement agency for any other feature, material, component, or manufactured device that Part 6 requires be indicated on the building design plans and specifications. Plans and specifications submitted with each application for a building permit for Nonresidential buildings, High-rise Residential buildings and Hotels and Motels shall provide acceptance requirements for code compliance of each feature, material, component or manufactured device when acceptance requirements are required under Part 6. Plans and specifications for Nonresidential buildings, High-rise Residential buildings and Hotels and Motels shall require, and indicate with a prominent note on the plans, that within 90 days after the Enforcement Agency issues a permanent final occupancy permit, record drawings be provided to the building owner.

~~If~~ For all buildings, if the specification for any a building design feature, material, component, or manufactured device characteristic is materially changed before final construction and installation, such that the building may no longer comply with Part 6, the building must be brought back into compliance, and so indicated on amended plans, specifications, and Certificate(s) of Compliance that shall be submitted to the enforcement agency for approval. Such characteristics shall include the efficiency (or other characteristic regulated by Part 6) of each device.

- C. ~~All~~ The enforcement agency shall have the authority to require submittal of any supportive documentation that was used to generate the Certificate(s) of Compliance, and shall have the authority to require submittal of any supportive documentation that is necessary to demonstrate compliance for the building design conforms to the requirements of and of the sections of Part 6, with which the building is intended to comply shall be submitted with each application for a building permit. The forms used to demonstrate compliance shall be readily legible and of substantially similar format and informational order and content to the applicable forms in the Residential or Nonresidential Compliance Manual, as defined in Part 6.

3. ~~Installation Certificate and Certificate of Acceptance.~~

~~A. Installation Certificate. For all buildings, the person(s) eligible under Division 3 of the Business and Professions Code to accept responsibility with overall responsibility for construction or the person(s) responsible for the construction/ installation of features, materials, components, or manufactured devices regulated by Part 6 or the Appliance Efficiency Regulations (responsible person) shall sign and submit Installation Certificate documentation (s) as specified in this section Section 10-103(a)3 to certify conformance with Part 6. If more than one person has responsibility for the construction/installation, each person shall sign and submit the Installation Certificate documentation applicable to the portion of the construction/installation for which they are responsible; alternatively, the person with chief responsibility for the construction/installation shall sign and submit the Installation Certificate documentation for the entire construction/installation scope of work for the project. Subject to the requirements of Section 10-103(a)3, persons who prepare Installation Certificate documentation (documentation authors) shall sign a declaration statement on the documents they prepare to certify the information provided on the documentation is accurate and complete. The signatures provided by responsible persons and documentation authors shall be original signatures on paper documents or electronic signatures on electronic documents.~~

A. All Installation Certificate documentation shall conform to a format and informational order and content approved by the Energy Commission.

These documents shall:

- i. Identify the features, materials, components, manufactured devices, and system performance diagnostic results required to demonstrate compliance with Part 6 and the Appliance Efficiency regulations.
- ii. State the number of the building permit under which the construction or installation was performed.
- iii. Display the unique registration number assigned by the data registry if Section 10-103(a)3 requires the document to be registered.
- iv. Include a declaration statement indicating that the constructed/installed features, materials, components or manufactured devices (the installation) identified on the Installation Certificate conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
- v. Be signed by the documentation author to certify the documentation is accurate and complete. When document registration is required by 10-103(a)3, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.
- vi. Be signed by the responsible person eligible under Division 3 of the Business and Professions Code to accept responsibility for construction/installation in the applicable classification for the scope of work specified on the Installation Certificate document(s), or shall be signed by their authorized representative. When document registration is required by 10-103(a)3, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.

~~For newly constructed low-rise residential buildings demonstrating compliance under the Section 151(e)2 multiple orientation alternative for which compliance requires HERS field verification, the person(s) responsible for the installation(s) that requires HERS field verification, or their authorized representative(s), shall submit the applicable sections of the Installation Certificate(s) for retention to a HERS provider data registry in accordance with procedures specified in Reference Residential Appendix RA2. Submittals to the HERS provider data registry shall be made electronically.~~

B. Beginning on October 1, 2010, for For all low-rise residential buildings for which compliance requires HERS field verification, the person(s) responsible for the Installation Certificate(s) installation(s) that requires HERS field verification, or their authorized representative(s), shall submit the applicable sections of the Installation all Installation Certificate documentation that is applicable to the building(s) for retention to a

HERS provider data registry for registration and retention in accordance with procedures specified in Reference Residential Appendix RA2. The submittals ~~Submittals~~ to the HERS provider data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Installation Certificate documents that are registered and retained by a HERS provider data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

C. For alterations to existing residential buildings for which HERS field verification is not required, and for additions to existing residential buildings that are less than 300 square feet for which HERS field verification is not required, the enforcement agencies may at their discretion develop simplified Installation Certificate documentation for use for demonstrating compliance with the Standards.

D. Beginning on January 1, 2015, contingent upon approval of data registry(s) by the Executive Director, for all nonresidential buildings, high-rise residential buildings, and hotels and motels, when designated to allow use of an occupancy group or type regulated by Part 6, the person(s) responsible for the Installation Certificate(s) shall submit the Certificate(s) for registration and retention to a HERS provider data registry, or a data registry approved by the Executive Director. The submittals to the HERS provider data registry or approved data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Installation Certificate documents that are registered and retained by a HERS provider data registry or approved data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

E. For all buildings, a copy of the Installation Certificate(s) shall be posted, or made available with the building permit(s) issued for the building, and shall be made available to the enforcement agency for all applicable inspections. ~~For installations that require HERS field verification~~ When document registration is required by 10-103(a)3, registered copies of the Installation Certificate(s) from a HERS provider data registry ~~of the applicable sections of the Installation Certificate(s)~~ shall be posted or made available with the building permit(s) issued for the building, and shall be made available to the enforcement agency for all applicable inspections. If construction on any portion of the building subject to Part 6 will be impossible to inspect because of subsequent construction, the enforcement agency may require the Installation Certificate(s) to be posted upon completion of that portion. A copy of the Installation Certificate(s) ~~as specified in this section~~ shall be included with the documentation the builder provides to the building owner at occupancy as specified in Section 10-103(b).

These certificates shall:

- i. ~~Identify the features, materials, components or manufactured devices required to verify compliance with the Appliance Efficiency Regulations and Part 6.~~
- ii. ~~State the number of the building permit under which the construction or installation was performed. Sections of the certificate(s), for which submittal to a HERS provider data registry is required, shall display the unique registration number assigned by the HERS provider data registry.~~
- iii. ~~Include a certification statement indicating that the installed features, materials, components or manufactured devices conform to the Appliance Efficiency Regulations and Part 6 and the requirements for such features, materials, components or manufactured devices given in the plans and specifications and the Certificate(s) of Compliance approved by the local enforcement agency.~~
- iv. ~~Be signed by the individual eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or by their authorized representative. If more than one person has responsibility for building construction, each person shall prepare and sign the part of the document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the document for the entire construction. The signatures shall be original signatures on paper documents or electronic signatures on electronic documents in~~

~~accordance with applicable requirements specified in Section 10-103(a)3A, Reference Residential Appendix RA2, and Reference Nonresidential Appendix NA1.~~

**B4. Certificate of Acceptance.** For all ~~new~~ nonresidential buildings, high-rise residential buildings, and hotels and motels, ~~when~~ designated to allow use of an occupancy group or type regulated by Part 6, the ~~applicant person(s)~~ eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction/ installation of features, materials, components, or manufactured devices regulated by Part 6 or the Appliance Efficiency Regulations (responsible person), shall sign and submit a all applicable Certificate(s) of Acceptance to the enforcement agency documentation in accordance with section 10-103(a)4 and Appendix NA7 to certify conformance with Part 6 prior to receiving a final occupancy permit. If more than one person has responsibility for the construction/installation, each person shall sign and submit the Certificate of Acceptance documentation applicable to the portion of the construction/installation for which they are responsible; alternatively, the person with chief responsibility for construction/installation shall sign and submit the Certificate of Acceptance documentation for the entire construction/installation scope of work for the project. Subject to the requirements of Section 10-103(a)4, persons who prepare Certificate of Acceptance documentation (documentation authors) shall sign a declaration statement on the documents they prepare to certify the information provided on the documentation is accurate and complete. The signatures provided by responsible persons and documentation authors shall be electronic signatures on electronic documents.

A. All Certificate of Acceptance documentation shall conform to a format and informational order and content approved by the Energy Commission.

These documents shall:

- i. Identify the features, materials, components, manufactured devices, and system performance diagnostic results required to demonstrate compliance with the acceptance requirements to which the applicant must conform as indicated in the plans and specifications submitted under Section 10-103(a)2, and as specified in Reference Nonresidential Appendix NA7.
- ii. State the number of the building permit under which the construction/installation was performed.
- iii. Display the unique registration number assigned by the data registry if Section 10-103(a)4 requires the document to be registered.
- iv. Include a declaration statement indicating that the features, materials, components or manufactured devices identified on the Certificate of Acceptance conform to the applicable acceptance requirements as indicated in the plans and specifications submitted under Section 10-103(a), and with applicable acceptance requirements and procedures specified in the Reference Nonresidential Appendix NA7, and confirms that Installation Certificate(s) described in Section 10-103(a)3 has been completed and is posted or made available with the building permit(s) issued for the building.
- v. Be signed by the documentation author to certify the documentation is accurate and complete. When document registration is required by 10-103(a)4, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.
- vi. Be signed by the person who performed the acceptance requirements verification reported on the Certificate of Acceptance (Field Technician). When document registration is required by 10-103(a)4, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.
- vii. Be signed by the person eligible under Division 3 of the Business and Professions Code to accept responsibility for construction in the applicable classification for the scope of work specified on the Certificate of Acceptance document, or shall be signed by their authorized representative. When document registration is required by 10-103(a)4, the signature shall be an electronic signature on an electronic document in accordance with the electronic signature specifications in Reference Joint Appendix JA9.

B. Beginning on January 1, 2015, contingent upon approval of data registry(s) by the Executive Director, for all nonresidential buildings, high-rise residential buildings, and hotels and motels, when designated to allow use of an occupancy group or type regulated by Part 6, the person(s) responsible for the Certificate(s) of

Acceptance shall submit the Certificate(s) for registration and retention to a HERS provider data registry, or a data registry approved by the Executive Director. The submittals to the HERS provider data registry or approved data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Certificate of Acceptance documents that are registered and retained by a HERS provider data registry or approved data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

- C. A copy of the registered Certificate(s) of Acceptance shall be posted, or made available with the building permit(s) issued for the building, and shall be made available to the enforcement agency for all applicable inspections. If construction on any portion of the building subject to Part 6 will be impossible to inspect because of subsequent construction, the enforcement agency may require the Certificate(s) of Acceptance to be posted upon completion of that portion. A copy of the Certificate(s) of Acceptance shall be included with the documentation the builder provides to the building owner at occupancy as specified in Section 10-103(b).

~~These certificates shall:~~

- ~~i.—Identify the acceptance requirements to which the applicant must conform as indicated in the plans and specifications submitted under Section 10-103(a), and as specified in the Reference Nonresidential Appendix NA7.~~
  - ~~ii.—State the number of the building permit under which the construction or installation was performed.~~
  - ~~iii.—Include a certification statement indicating that the applicant has demonstrated compliance with the acceptance requirements as indicated in the plans and specifications submitted under Section 10-103(a) and in accordance with applicable acceptance requirements and procedures specified in the Reference Nonresidential Appendix NA7, and confirms that Installation Certificate(s) described in Section 10-103(a)3A are posted, or made available with the building permit(s) issued for the building.~~
  - ~~iv.—Be signed by the individual eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or by their authorized representative. If more than one person has responsibility for building construction, each person shall prepare and sign the part of the document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the document for the entire construction.~~
4. **Insulation Certificate.** After installing wall, ceiling, or floor insulation, the installer shall make available to the enforcement agency or post in a conspicuous location in the building a certificate signed by the installer stating that the installation is consistent with the plans and specifications described in Section 10-103(a)2 and for which the building permit was issued and conforms with the requirements of Part 6. The certificate shall also state the manufacturer's name and material identification, the installed R value, and (in applications of loose fill insulation) the minimum installed weight per square foot consistent with the manufacturer's labeled installed design density for the desired R value.
5. **Certificate of Field Verification and Diagnostic Testing.** For all buildings for which compliance requires HERS field verification, a certified HERS rater shall conduct all required HERS field verification and diagnostic testing in accordance with applicable procedures specified in Reference Appendices RA2, RA3, NA1, and NA2. All applicable Certificates of Field Verification and Diagnostic Testing documentation shall be completed, signed, and dated submitted by the certified HERS rater who performed the field verification and diagnostic testing services (responsible person) in accordance with the requirements of Section 10-103(a)5, Reference Appendices RA2, and NA1, by the certified HERS rater who performed the field verification and diagnostic testing services to certify conformance with Part 6. If more than one rater has responsibility for the HERS verification for the building, each rater shall sign and submit the Certificate of Field Verification and Diagnostic Testing documentation applicable to the portion of the building for which they are responsible. Subject to the requirements of Section 10-103(a)5, persons who prepare Certificate of Field Verification and Diagnostic Testing documentation (documentation authors) shall sign a declaration statement on the documents they prepare to certify the information provided on the documentation is accurate and complete. The signatures provided by responsible persons and documentation authors shall be electronic signatures on electronic documents.

A. All Certificate of Field Verification and Diagnostic Testing documentation shall conform to a format and informational order and content approved by the Energy Commission.

These documents shall:

- i. Identify the installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification for compliance with Part 6 as specified on the Certificate(s) of Compliance for the building.
- ii. State the number of the building permit under which the construction or installation was performed.
- iii. Display the unique registration number assigned by the HERS provider data registry, and provide any additional information required by Reference Appendices RA2, RA3, NA1, and NA2.
- iv. Include a declaration statement indicating that the installed features, materials, components or manufactured devices requiring HERS verification conform to the applicable requirements in Reference Appendices RA2, RA3, NA1, NA2, and the requirements specified on the Certificate(s) of Compliance approved by the local enforcement agency, and confirms the same features, materials, components or manufactured devices are identified on the applicable Installation Certificate(s) signed and submitted by the person(s) responsible for the construction/installation as described in Section 10-103(a)3.
- v. Be signed by the documentation author to certify the documentation is accurate and complete. The signatures shall be electronic signatures on electronic documents in accordance with the electronic signature specifications in Reference Joint Appendix JA9.
- vi. Be signed by the HERS rater who performed the field verification and diagnostic testing services. The signatures shall be electronic signatures on electronic documents in accordance with the electronic signature specifications in Reference Joint Appendix JA9.

B. For all buildings for which compliance requires HERS field verification, the certified HERS rater responsible for the ~~The~~ Certificate(s) of Field Verification and Diagnostic Testing shall ~~be submitted~~ submit the ~~Certificates~~ for registration and retention to a HERS provider data registry in accordance ~~with~~ with the applicable procedures in Reference ~~Residential Appendix~~ Appendices RA2 and ~~Reference Nonresidential Appendix~~ NA1 and Reference Joint Appendix JA9. ~~Submittals~~ The submittals to the HERS provider data registry shall be made electronically in accordance with the specifications in Reference Joint Appendix JA9.

Contingent upon availability and approval of an electronic document repository by the Executive Director, Certificate of Field Verification and Diagnostic Testing documents that are registered and retained by a HERS provider data registry shall also be automatically transmitted by the data registry, to an electronic document repository for retention in accordance with the specifications in Reference Joint Appendix JA9.

C. For all buildings, a ~~A~~ copy of the registered Certificate(s) of Field Verification and Diagnostic Testing shall be posted, or made available with the building permit(s) issued for the building, and shall be made available to the enforcement agency for all applicable inspections. If construction on any portion of the building subject to Part 6 will be impossible to inspect because of subsequent construction, the enforcement agency may require the Certificate(s) of Field Verification and Diagnostic Testing to be posted upon completion of that portion. A copy of the registered Certificate(s) of Field Verification and Diagnostic Testing shall be included with the documentation the builder provides to the building owner at occupancy as specified in Section 10-103(b).

These certificates shall:

- i. ~~Identify the installed features, materials, components or manufactured devices that require HERS verification for compliance with the Appliance Efficiency Regulations and Part 6 as specified on the Certificate of Compliance for the building.~~
- ii. ~~State the number of the building permit under which the construction or installation was performed, display the unique registration number assigned by the HERS provider data registry, and provide any additional information required by Reference Appendices RA2, RA3, NA1, or NA2.~~

~~iii.—Include a certification statement indicating that the installed feature(s), material(s), component(s) or manufactured device(s) requiring HERS verification complies with the applicable HERS verification requirements in Reference Appendices RA2, RA3, NA1, NA2, and also conforms to the requirements specified on the Certificate(s) of Compliance approved by the local enforcement agency, and confirms that the same feature(s), material(s), component(s) or manufactured device(s) is identified on the applicable sections of the registered Installation Certificate(s), signed and submitted by the person(s) responsible for the installation as described in Section 10-103(a)3A.~~

~~iv.—Be signed and dated by the HERS rater who performed the field verification and diagnostic testing services. The signatures shall be electronic signatures on electronic documents.~~

**EXCEPTION to Section 10-103(a):** Enforcing agencies may exempt nonresidential buildings that have no more than 1,000 square feet of conditioned floor area in the entire building and an occupant load of 49 persons or less from the documentation requirements of Section 10-103(a), provided a statement of compliance with Part 6 is submitted and signed by a licensed engineer or the licensed architect with chief responsibility for the design.

**(b) Compliance, Operating, Maintenance, and Ventilation Information to be provided by Builder.**

**1. Compliance information.**

A. For low-rise residential buildings, at final inspection, the enforcement agency shall require the builder to leave in the building copies of the applicable completed, signed, and dated-submitted compliance documents for the building owner at occupancy. For low-rise residential buildings, such information shall, at a minimum, include information indicated on forms-copies of all Certificate of Compliance ~~(CF-1R)~~, Installation ~~Certificate-Certificate~~(CF-6R), and ~~for buildings for which compliance requires HERS field verification,~~ Certificate(s) of Field Verification and Diagnostic Testing documentation submitted(CF-4R). These ~~forms-documents~~ shall be in paper or electronic format and shall conform to the applicable requirements of Section 10-103(a).

B. For nonresidential buildings, high-rise residential buildings and hotels and motels, at final inspection, the enforcement agency shall require the builder to leave in the building copies of the applicable completed, signed, and dated-submitted compliance documents for the building owner at occupancy. For nonresidential buildings, high-rise residential buildings and hotels and motels, such information shall include copies of all Certificate of Compliance, Installation Certificate, Certificate of Acceptance and Certificate of Field Verification and Diagnostic Testing documentation submittedENV, MECH, LTG, and OLTG compliance and acceptance forms. These forms-documents shall be in paper or electronic format and shall conform to the applicable requirements of Section 10-103(a).

**2. Operating information.** At final inspection, the enforcement agency shall require the builder to leave in the building, for the building owner at occupancy, operating information for all applicable features, materials, components, and mechanical devices installed in the building. Operating information shall include instructions on how to operate the features, materials, components, and mechanical devices correctly and efficiently. The instructions shall be consistent with specifications set forth by the Executive Director. For low-rise residential buildings, such information shall be contained in a folder or manual which provides all information specified in Section 10-103(b). This operating information shall be in paper or electronic format.

For dwelling units, buildings or tenant spaces that are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for operating the feature, material, component or mechanical device installed in the building. This operating information shall be in paper or electronic format.

**3. Maintenance information.** At final inspection, the enforcement agency shall require the builder to leave in the building, for the building owner at occupancy, maintenance information for all features, materials, components, and manufactured devices that require routine maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying, by title and/or publication number, the operation and maintenance manual for that particular model and type of feature, material, component or manufactured device.

For dwelling units, buildings or tenant spaces that are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for maintaining the feature, material, component or mechanical device installed in the building. This information shall be in paper or electronic format.

4. **Ventilation information.**

For low-rise residential buildings, the enforcement agency shall require the builder to leave in the building, for the building owner at occupancy, a description of the quantities of outdoor air that the ventilation system(s) are designed to provide to the building's conditioned space, and instructions for proper operation and maintenance of the ventilation system. For buildings or tenant spaces that are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for operating and maintaining the feature, material, component or mechanical ventilation device installed in the building. This information shall be in paper or electronic format.

For nonresidential buildings, high-rise residential buildings and hotels and motels, the enforcement agency shall require the builder to provide the building owner at occupancy a description of the quantities of outdoor and recirculated air that the ventilation systems are designed to provide to each area. For buildings or tenant spaces that are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for operating and maintaining the feature, material, component or mechanical device installed in the building. This information shall be in paper or electronic format.

- (c) **Equipment Information to be Provided by Manufacturer or Supplier.** The manufacturer or supplier of any manufactured device shall, upon request, provide to building designers and installers information about the device. The information shall include the efficiency (and other characteristics regulated by Part 6). This information shall be in paper or electronic format.

(d) **Enforcement Agency Requirements.**

1. **Permits.** An enforcement agency shall not issue a building permit for any construction unless the enforcement agency determines in writing that the construction is designed to comply with the requirements of Part 6 that are in effect on the date the building permit was applied for. The enforcement agency determination shall confirm that the documentation requirements of Sections 10-103(a)1 and 10-103(a)2 have been met.

If a building permit has been previously issued, there has been no construction under the permit, and the permit has expired, the enforcement agency shall not issue a new permit unless the enforcement agency determines in writing that the construction is designed to comply with the requirements of Part 6 in effect on the date the new permit is applied for. The enforcement agency determination shall confirm that the documentation requirements of Sections 10-103(a)1 and 10-103(a)2 have been met.

“Determines in writing” includes, but is not limited to, approval of a building permit with a stamp normally used by the enforcement agency.

2. **Inspection.** The enforcement agency shall inspect newly constructed buildings and additions, and alterations to existing buildings ~~new construction~~ to determine whether ~~it~~ the construction/installation is consistent with the agency's approved plans and specifications, and complies with Part 6. Final certificate of occupancy shall not be issued until such consistency and compliance is verified. For Occupancy Group R-3, final inspection shall not be complete until such consistency and compliance is verified.

Such verification shall include determination that:

- A. All installed features, materials, components or manufactured devices, regulated by the Appliance Efficiency Regulations or Part 6, are indicated, when applicable, on the Installation Certificate(s), Certificate(s) of Acceptance and Certificate(s) of Field Verification and Diagnostic Testing, and are consistent with such features, materials, components or manufactured devices given in the plans and specifications and the Certificate(s) of Compliance approved by the local enforcement agency.
- B. All required Installation Certificates are posted, or made available with the building permit(s) issued for the building, and are made available to the enforcement agency for all applicable inspections, and that all required Installation Certificates conform to the specifications of Section 10-103(a)3A.
- C. All required Certificates of Acceptance are posted, or made available with the building permit(s) issued for the building, and are made available to the enforcement agency for all applicable inspections, and that all required Certificates of Acceptance conform to the specifications of Section 10-103(a)43B.
- D. All required Certificates of Field Verification and Diagnostic Testing are posted, or made available with the building permit(s) issued for the building, and are made available to the enforcement agency for all

applicable inspections, and that all required Certificates of Field Verification and Diagnostic Testing conform to the specifications of Section 10-103(a)5.

**EXCEPTION to Section 10-103(d):** For newly constructed buildings that meet the requirements of the New Solar Homes Partnership (NSHP) as specified in the NSHP Guidebook, the enforcement agency may waive the plan check and inspection of all measures other than the mandatory measures in the building.

**NOTE:** Authority cited: Section 25402, Public Resources Code. Reference: Section 25402, Public Resources Code.

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## **SECTION 10-104 – EXCEPTIONAL DESIGNS**

**NOTE:** See Section 10-109 for approval of calculation methods and Alternative Component Packages.

- (a) **Requirements.** If a building permit applicant proposes to use a performance compliance approach, and the building designs cannot be adequately modeled by an approved calculation method, an applicant shall be granted a building permit if the Commission finds:
1. That the design cannot be adequately modeled with an approved calculation method;
  2. Using an alternative evaluation technique, that the design complies with Part 6; and
  3. That the enforcement agency has determined that the design complies with all other legal requirements.
- (b) **Applications.** The applicant shall submit four copies of a signed application with the following materials to the Executive Director:
1. A copy of the plans and specifications required by Section 10-103(a)2A;
  2. A statement explaining why meeting the energy budget cannot be demonstrated using an approved calculation method;
  3. Documentation from the enforcement agency stating that:
    - A. Meeting the energy budget requirements cannot be demonstrated using an approved calculation method; and
    - B. The design complies with all other legal requirements; and
  4. A detailed evaluation of the energy consumption of the proposed building and the building's materials, components, and manufactured devices proposed to be installed to meet the requirements of Part 6, using an alternative evaluation technique. The evaluation shall include a copy of the technique, instructions for its use, a list of all input data, and all other information required to replicate the results.

**NOTE:** Authority cited: Sections 25402 and 25402.1, Public Resources Code. Reference: Sections 25402 and 25402.1, Public Resources Code.

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## **SECTION 10-105 – ENFORCEMENT BY THE COMMISSION**

- (a) **Where there is No Local Enforcement Agency.** Before new construction may begin in an area where there is no local enforcement agency, the Executive Director shall determine in writing that the building design conforms to the requirements of Part 6. The person proposing to construct the building shall submit the information described in Sections 10-103(a)2 and 10-103(a)3 to the Executive Director when such a determination is sought.
- (b) **Where building construction is under the jurisdiction of a state agency.** Pursuant to Public Resources Code Section 25402.1(g)(5), no construction of any state building shall commence until the Department of General Services or the state agency that otherwise has jurisdiction over the property determines that the construction is designed to comply with the requirements of Part 6 and confirms that the documentation requirements of Section 10-103(a)1 have been met, and that the plans indicate the features and performance specifications needed to comply with Part 6. The responsible state agency shall notify the Commission's Executive Director of its determination.

- (c) **Where the Enforcement Agency Fails to Enforce.** If an enforcement agency fails to enforce the requirements of this article or of Part 6, the Commission, after furnishing 10 days written notice, may condition building permit issuance on submission of the information described in Sections 10-103(a)2 and 10-103(a)3 to the Executive Director and on his or her written determination that proposed construction conforms to the requirements of Part 6.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## SECTION 10-106 – LOCALLY ADOPTED ENERGY STANDARDS

- (a) **Requirements.** Local governmental agencies may adopt and enforce energy standards for newly constructed buildings, additions, alterations, and repairs to existing buildings- or any other action for which a building permit is issued or any other event that requires a permitting action by the local governmental agency, provided the Energy Commission finds that the standards will require buildings to be designed to consume no more energy than permitted by Title 24, Part 6. Such local standards include, but are not limited to, adopting the requirements of Part 6 before their effective date, requiring additional energy conservation measures, or setting more stringent energy budgets. Local adoption of the requirements of Part 6 before their effective date is a sufficient showing that the local standards meet the requirements of this section and Section 25402.1(f)(2) of the Public Resources Code; in such a case only the documentation listed in Section 10-106(b), and a statement that the standards are those in Part 6, need be submitted. Local governmental agencies are required to enforce Title 24, Part 6 regardless of the requirements of the proposed local energy standards.
- (b) **Documentation Application.** Local governmental agencies wishing to enforce locally adopted energy conservation standards shall submit ~~four copies of~~ an application with the following materials to the Executive Director:
1. The proposed local energy standards.
  2. A study with supporting analysis showing how the local governmental agency determined the energy savings and cost effectiveness of the proposed energy standards.
  3. A statement finding by the local governmental agency that the local energy standards will require buildings to be designed to consume no more energy than permitted by Part 6.
  4. The local governmental agency adoption (conditional, if necessary), with appropriate findings, of the proposed local energy standards and the supporting cost effectiveness study.
  4. ~~The basis of the agency's determination that the standards are cost effective.~~

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## SECTION 10-107 – INTERPRETATIONS

- (a) The Commission may make a written determination as to the applicability or interpretation of any provision of this article or of Part 6, upon written application, if a dispute concerning a provision arises between an applicant for a building permit and the enforcement agency, and the dispute has been heard by the local board of permit appeals or other highest local review body. Notice of any such appeal, including a summary of the dispute and the section of the regulations involved, shall if possible be sent to the Commission by the enforcing agency 15 days before the appeal is heard, and the result of the appeal shall be sent to the Commission within 15 days after the decision is made. Either party to the dispute may apply for a determination but shall concurrently deliver a copy of the application to the other party. The determinations are binding on the parties.
- (b) The Executive Director may, upon request, give written advice concerning the meaning of any provision of this article or of Part 6. Such advice is not binding on any person.

(c) The Executive Director may authorize procedures, protocols, and information that the Executive Director determines to be technically equivalent to that specified in the Part 6, Alternative Calculation Method Approval Manuals, or the Reference Appendices.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## **SECTION 10-108 – EXEMPTION**

- (a) **Requirements.** The Commission may exempt any building from any provision of Part 6 if it finds that:
1. Substantial funds had been expended in good faith on planning, designing, architecture, or engineering of the building before the adoption date of the provision.
  2. Compliance with the requirements of the provision would be impossible without both substantial delays and substantial increases in costs of construction above the reasonable costs of the measures required to comply with the provision.
- (b) **Application.** The applicant shall submit four copies of a signed application with the following materials to the Executive Director:
1. A summary of the claimant's contracts for the project;
  2. A summary of internal financial reports on the project;
  3. Dated schedules of design activities; and
  4. A progress report on project completion.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## **SECTION 10-109 – COMPLIANCE SOFTWARE, CALCULATION METHODS AND ALTERNATIVE COMPONENT PACKAGES, CALCULATION METHODSEXCEPTIONAL METHODS, AND DATA REGISTRIES**

**NOTE:** See Section 10-104 for approval of exceptional designs.

(a) GENERAL REQUIREMENTS

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1. Compliance Software shall conform to the requirements specified in the ACM Approval Manual and implement the performance standards as specified in the Commission-approved ACM Reference Manual.
  3. ApprovalSubmittal. The Commission may approve compliance software, alternative component packages, calculation methods, exceptional methods, or data registries unconditionally, may restrict approval to specified occupancies, designs, materials, or devices, or may reject the application.
  42. Resubmittal. An applicant may resubmit a rejected compliance software, alternative component package, calculation method, exceptional method, or data registry or may request modification of a restricted approval. Such application shall include the information specified in Section 10-109(b) and shall indicate how the method has been changed to enhance its accuracy or capabilities.
  53. Modification. Whenever an approved compliance software, alternative component package, calculation method, or exceptional method, or data registry is changed in any way, the method shall be resubmitted under this section

for reapproval. The Executive Director may waive any of the requirements of this paragraph for nonsubstantive changes.

46. The Commission may modify or withdraw certification of a compliance software, alternative component package, calculation method, exceptional method, or data registry under Sections 10-109 based on approval of other programs or methods that are more suitable.

57. **Publication of Commission Determinations.** The Executive Director shall annually publish a manual, newsletter, or other administrative guide containing determinations made by the Commission pursuant to this section on or before December 31 of the calendar year.

(b) APPLICATION

The applicant shall submit four copies of a signed application form specified by the Executive Director. The application shall include the following materials:

1. The compliance software, alternative component package, calculation method, ~~or exceptional method, or data registry functional and/or analytical capabilities and limitations with respect to the occupancies, designs, materials, and devices, processes, and procedures covered by Part 6;~~
2. A demonstration that the criteria in Section 10-109 are met;
3. For compliance software, each of the items on the "Application Checklist" in the Residential or Nonresidential ACM Manual; and
4. An initial fee of two thousand dollars (\$2,000). The total fee shall cover the Commission's cost of reviewing and analyzing the proposed method. After the Commission determines the total costs, if the costs exceed the initial fee, the Commission shall assess additional fees to cover those costs; if the costs are less than the initial fee, the Commission shall refund the difference to the applicant.

(c) COMPLIANCE SOFTWARE

(a) **Public Domain Computer Programs.** In addition to the present approved public domain computer programs, the Commission may, upon written application or its own motion, approve additional public domain computer programs that may be used to demonstrate that proposed building designs meet energy budgets.

~~1A.~~ The Commission shall ensure that users' manuals or guides for each approved program are available.

~~2B.~~ The Commission shall approve a program only if, when it models building designs or features, it predicts energy consumption substantially equivalent to that predicted by the public domain computer program.

(b) **Alternative Calculation Methods (All Occupancies).** ~~In addition to Non-~~public domain computer programs, ~~the approved by the~~ Commission ~~may approve alternative calculation methods (ACMs)~~ that applicants for building permits may then use to demonstrate compliance with the performance standards (energy budgets) in Part 6.

~~1A.~~ **General requirements.** To obtain approval for a compliance software, the proponent shall submit an application that demonstrates that the compliance software:

~~Ai.~~ Makes no changes in any input parameter values specified by the Commission in Item 2 below;

~~Bii.~~ Provides input and output documentation that facilitates the enforcement agency's review and meets the formatting and content criteria found in the Residential or Nonresidential ACM Manual;

~~Ciii.~~ Is supported by clear and concise instructions for using the method to demonstrate that the energy budget requirements of Part 6 are met; and

~~Div.~~ Is reliable and accurate relative to the appropriate public domain computer program;

~~2B.~~ **Procedural requirements for alternative calculation methods.** In order to obtain approval of a compliance software, the applicant must comply with the requirements, specifications, and criteria set forth in the Residential or Nonresidential ACM Manual. The ACM Manuals specify application requirements, minimum modeling capabilities, required output forms and instructions, input assumptions, testing requirements, test approval criteria, vendor requirements, and other related requirements. The requirements, specifications, and criteria in the 2008 Residential or Nonresidential ACM Manuals are hereby incorporated by reference.

**NOTE:** Copies of the ACM Manuals may be obtained from the Commission's website at: [www.energy.ca.gov/title24](http://www.energy.ca.gov/title24).

- ~~3.—**Application.** The applicant shall submit four copies of a signed application form specified by the Executive Director. The application shall include the following materials:
  - ~~A.—The method's analytical capabilities and limitations with respect to the occupancies, designs, materials, and devices covered by Part 6;~~
  - ~~B.—A demonstration that the criteria in Section 10-109(b) are met;~~
  - ~~C.—Each of the items on the “Application Checklist” in the Residential or Nonresidential ACM Manual; and~~
  - ~~D.—An initial fee of two thousand dollars (\$2000). The total fee shall cover the Commission's cost of reviewing and analyzing the proposed method. After the Commission determines the total costs, if the costs exceed the initial fee, the Commission shall assess additional fees to cover those costs; if the costs are less than the initial fee, the Commission shall refund the difference to the applicant.~~~~
- ~~4.—**Exceptional methods.** If the alternative calculation method analyzes designs, materials, or devices that cannot be adequately modeled using the public domain computer programs, the method may be approved as an exceptional method. Applications for approval of exceptional methods shall include theoretical and empirical information that verify the method's accuracy, and shall also include the other documentation and fees required by Section 10-109(b).~~
- ~~5.—**Approval.** The Commission may approve a method unconditionally, may restrict approval to specified occupancies, designs, materials, or devices, or may reject the application.~~
- ~~6.—**Resubmittal.** An applicant may resubmit a rejected method or may request modification of a restricted approval. Such application shall include the information specified in Section 10-109(b) and shall indicate how the method has been changed to enhance its accuracy or capabilities.~~
- ~~7.—**Modification.** Whenever an approved calculation method is changed in any way, the method shall be resubmitted under this section for reapproval. The Executive Director may waive any of the requirements of this paragraph for nonsubstantive changes.~~

~~(e) The Commission may modify or withdraw certification of a program or method under Sections 10-109(a) or 10-109(b) based on approval of other programs or methods that are more suitable.~~

(d) ALTERNATIVE COMPONENT PACKAGES

~~(d) **Alternative Component Packages.** The Commission may approve any alternative component package, in addition to the packages in Sections 143(a) and 151(f) of Part 6, which it determines will meet the energy budgets and is likely to apply to a significant percentage of newly constructed buildings or to a significant segment of the building construction and design community. Applications for approval of packages shall use application forms specified by the Executive Director and shall be subject to the same fee requirements set forth in subsection (b).~~

~~(e) **Publication of Commission Determinations.** The Executive Director shall annually publish a manual, newsletter, or other administrative guide containing determinations made by the Commission pursuant to this section on or before December 31 of the calendar year.~~

(e) EXCEPTIONAL METHODS.

The Commission may approve an exceptional method that analyzes a design, material, or device that cannot be adequately modeled using the public domain computer programs. Applications for approval of exceptional methods shall include all information need to verify the method's accuracy. Applications for approval of exceptional methods shall use application forms specified by the Executive Director and shall be subject to the same fee requirements set forth in subsection (b).

(f) DATA REGISTRIES AND REPOSITORIES

The Commission may approve residential data registries that provide for registration of residential and nonresidential documentation for demonstrating compliance with Part 6. The Executive Director may approve nonresidential data

registries that provide for registration of nonresidential documentation for demonstrating compliance with Part 6. Data registries shall conform to the requirements specified in Reference Joint Appendix JA9 and the Commission-approved Registry Requirements Manual. The Executive Director may approve data/document repositories that provide for retention of registered electronic compliance data and documentation generated by residential and nonresidential data registries when required for compliance with Part 6, and may also provide for retention of data and documentation relevant to other regulatory procedures administered by the Commission.

NOTE: Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## **SECTION 10-110 – PROCEDURES FOR CONSIDERATION OF APPLICATIONS UNDER SECTIONS 10-104, 10-106, 10-108, AND 10-109**

- (a) If the application is complete, the Executive Director shall make the application available to interested parties. Comments from interested parties must be submitted within 60 days after acceptance of the application.
- (b) Within 75 days of receipt of an application, the Executive Director may request any additional information needed to evaluate the application. If the additional information is incomplete, consideration of the application will be delayed until the applicant submits complete information.
- (c) Within 75 days of receipt of the application, the Executive Director may convene a workshop to gather additional information from the applicant and other interested parties. Interested parties will have 15 days after the workshop to submit additional information regarding the application.
- (d) Within 90 days after the Executive Director receives the application, or within 30 days after receipt of complete additional information requested under Section 10-110(b), or within 60 days after the receipt of additional information submitted by interested parties under Section 10-110(c), whichever is later, the Executive Director shall submit to the Commission a written recommendation on the application.
- (e) The application and the Executive Director's recommendation shall be placed on the consent calendar and considered at the next business meeting after submission of the recommendation. The matter may be removed from the consent calendar at the request of any person.
- (f) The Executive Director may charge a fee to recover the costs of processing and reviewing applications with the exception of Section 10-106 applications.
- (g) All applicants have the burden of proof to establish that their applications should be granted.

NOTE: Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## **SECTION 10-111 – CERTIFICATION AND LABELING OF FENESTRATION PRODUCT U-FACTORS, SOLAR HEAT GAIN COEFFICIENTS AND AIR LEAKAGE**

This section establishes rules for implementing labeling and certification requirements relating to U-factors, solar heat gain coefficients (SHGCs) and air leakage for fenestration products under Section 110.6(a) of Title 24, California Code of Regulations, Part 6. This section also provides for designation of the National Fenestration Rating Council (NFRC) as the supervisory entity responsible for administering the state's certification program for fenestration products, provided NFRC meets specified criteria.

### **(a) Labeling Requirements.**

1. **Temporary labels.** Every manufactured ~~and site-built fenestration~~ product or fenestration system installed in construction is subject to Title 24, Part 6 and shall have attached to it, a clearly visible temporary label that lists ~~or have an associated label certificate the U-factor, the solar heat gain coefficient (SHGC) of that product and the~~

~~method used to derive those values, and for manufactured fenestration products certifies and that certifies compliance with air leakage requirements of Section 110.6(a)1.~~

~~For site-built fenestration products it shall have an associated label certificate that lists the U-factor, the solar heat gain coefficient (SHGC), and if applicable Visible Transmittance (VT) if and shall be determined by one of the three options listed below for each fenestration product. ~~to the installed its performance~~~~

- A. Fenestration products rated and certified using NFRC 100, NFRC 200 or NFRC 400 Rating Procedures. The manufacturer shall stipulate that the ratings were determined in accordance with applicable NFRC procedures. For manufactured fenestration products, a temporary label certificate approved by the supervisory entity meets the requirements of this section. For site-built fenestration products, a label certificate approved by the supervisory entity, NFRC, meets the requirements of this section.
  - B. Fenestration products rated using a default value approved by the Commission. For manufactured fenestration products not rated by NFRC, a temporary label with the words “CEC Default U-factor,” followed by the appropriate default U-factor specified in Section 110.6(a)2 and with the words “CEC Default SHGC,” followed by the appropriate default SHGC specified in Section 110.6(a)3 meets the requirements of this section. For site-built fenestration products, a Default Label Certificate approved by the Commission meets the requirements of this section.
  - C. The temporary label shall also certify that the product complies with the air leakage requirements of Section 110.6(a)1 of the Standards.
2. **Permanent labels.** If a product is rated using the NFRC Rating Procedure, it shall have a permanent label that is either a stand-alone label, an extension or tab of an existing permanent certification label being used by the manufacturer/responsible party, or series of marks on the product. The permanent label, coupled with observable product characteristics, can be used to trace the product to certification information on file with the supervisory entity or to a directory of certified products, published by the supervisory entity. For site-built fenestration products, a label certificate approved by the supervisory entity meets the requirements of this section.

**EXCEPTION to Section 10-111(a):** Field-fabricated fenestration products.

(b) **Certification Requirements.**

1. **Certification to default ratings.** If a product's U-factor and SHGC are default values approved by the Commission as specified in Sections 110.6(a)2 and 110.6(a)3), the U-factor and SHGC shall be certified by the manufacturer.
  - A. A temporary label, affixed to the product, that meets the requirements of Section 10-111(a)1B meets this requirement.
  - B. If the product claims the default U-factor for a thermal-break product, the manufacturer shall also certify on the label that the product meets the thermal-break product criteria, specified on the default table, on which the default value is based. Placing the terms “Meets Thermal-Break Default Criteria” on the default temporary label or default label certificate meets this requirement.
2. **Certification to NFRC rating procedure.** If a product's U-factor, ~~or~~ SHGC or VT is based on the NFRC Rating Procedure, the U-factor, ~~or~~ SHGC or VT shall be certified by the manufacturer according to the procedures of an independent certifying organization approved by the Commission.
  - A. A temporary label, affixed to the product or label certificate for site-built fenestration, meeting the requirements of Section 10-111(a) certified by the independent certifying organization complies with this requirement.
  - B. An “independent certifying organization approved by the Commission” means any organization authorized by the supervisory entity to certify U-factor ratings, ~~and~~ solar heat gain coefficient and Visual Transmittance ratings in accordance with the NFRC Rating Procedure. If the Commission designates the NFRC as the supervisory entity, any independent certification and inspection agency (IA) licensed by NFRC shall be deemed to be an “independent certifying organization approved by the Commission.”
  - C. The “supervisory entity” means the National Fenestration Rating Council (NFRC), except as provided in paragraph (c) 1.

**EXCEPTION to Section 10-111(b):** Field-fabricated fenestration products.

- (c) **Designation of Supervisory Entity.** The National Fenestration Rating Council shall be the supervisory entity to administer the certification program relating to U-factors and solar heat gain coefficient ratings for fenestration products, provided the Commission determines that the NFRC meets the criteria in paragraph (d).
1. The Commission may consider designating a supervisory entity other than NFRC only if the Commission determines that the NFRC cannot meet the criteria in paragraph (d). Such other supervisory entity shall meet the criteria in paragraph (d) prior to being designated.
  2. The Commission shall periodically review, at least annually, the structure and operations of the supervisory entity to ensure continuing compliance with the criteria in paragraph (d).
- (d) **Criteria for Supervisory Entity.**
1. Membership in the entity shall be open on a nondiscriminatory basis to any person or organization that has an interest in uniform thermal performance ratings for fenestration products, including, but not limited to, members of the fenestration industry, glazing infill industry, building industry, design professionals, specifiers, utilities, government agencies, and public interest organizations. The membership shall be composed of a broad cross section of those interested in uniform thermal performance ratings for fenestration products.
  2. The governing body of the entity shall reflect a reasonable cross-section of the interests represented by the membership.
  3. The entity shall maintain a program of oversight of product manufacturers, laboratories, and independent certifying organizations that ensures uniform application of the NFRC Rating Procedures, labeling and certification, and such other rating procedures for other factors affecting energy performance as the NFRC and the Commission may adopt.
  4. The entity shall require manufacturers and independent certifying organizations within its program to **either use ~~only the computer simulation program(s)~~ (i.e. Component Modeling Approach Software Tool (CMAST)) or testing** laboratories accredited by the supervisory entity to perform simulations and tests under the NFRC Rating Procedure.
  5. The entity shall maintain appropriate guidelines for testing and simulation laboratories, manufacturers, and certifying agencies, including requirements for adequate:
    - A. Possession and calibration of equipment;
    - B. Education, competence, and training of personnel;
    - C. Quality control;
    - D. Record keeping and reporting;
    - E. Periodic review (including, but not limited to, blind testing by laboratories; inspections of products; and inspections of laboratories, manufacturing facilities, and certifying agencies);
    - F. Challenges to certified ratings; and
    - G. Guidelines to maintain the integrity of the program, including, but not limited to, provisions to avoid conflicts of interest within the rating and certification process.
  6. The entity shall be a nonprofit organization and shall maintain reasonable, nondiscriminatory fee schedules for the services it provides and shall make its fee schedules, the financial information on which fees are based, and financial statements available to its members for inspection.
  7. The entity shall provide hearing processes that give laboratories, manufacturers, and certifying agencies a fair review of decisions that adversely affect them.
  8. The entity shall maintain a certification policy committee whose procedures are designed to avoid conflicts of interest in deciding appeals, resolving disputes, and setting policy for the certifying organizations in its program.
  9. The entity shall publish at least annually a directory of products certified and decertified within its program.

10. The entity itself shall be free from conflict-of-interest ties or to undue influence from any particular fenestration manufacturing interest(s), testing or simulation lab(s), or independent certifying organization(s).
  11. The entity shall provide or authorize the use of labels and label certificates for site-built fenestration products that can be used to meet the requirements of Section 110.6(a)1 and 2, and this section.
  12. The entity's certification program shall allow for multiple participants in each aspect of the program to provide for competition between manufacturers, testing labs, simulation labs, and independent certifying organizations.
- (e) **Certification for Other Factors.** Nothing in this section shall preclude any entity, whether associated with a U-factor and SHGC certification program or not, from providing certification services relating to factor other than U-factors and SHGC for fenestration products.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## SECTION 10-112 – CRITERIA FOR DEFAULT TABLES

- (a) The Commission shall maintain tables of default U-factors and SHGCs for use as an alternative to U-factors and SHGCs derived based on the NFRC Rating Procedure. The default values shall meet the following criteria:
1. The values shall be derived from simulations of products using the same computer simulation program(s) used in the NFRC Rating Procedure.
  2. The default values shall be set so that they do not provide to any significant number of products a lower U-factor or SHGC than those products would obtain if they were rated using the full NFRC Rating Procedure.
- (b) The Commission shall periodically review and revise the default tables as necessary to ensure that the criteria are met.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code.

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## SECTION 10-113 – CERTIFICATION AND LABELING OF ROOFING PRODUCT REFLECTANCE AND EMITTANCE

This section establishes rules for implementing labeling and certification requirements relating to reflectance and emittance for roofing products for showing compliance with Sections 140.1, 140.2, 140.3(a)1, 140.9(b)1B, 150.1(c~~f~~)12, 150.2(b)1H, and 150.2(b)2 of Title 24, California Code of Regulations, Part 6. This section also provides for designation of the Cool Roof Rating Council (CRRC) as the supervisory entity responsible for administering the state's certification program for roofing products, provided CRRC meets specified criteria.

(a) **Labeling Requirements.**

Every roofing product installed in construction to take compliance credit or meet the Prescriptive requirements for reflectance and emittance under Sections 140.1, 140.2, 140.3(a)1, 140.9(b)1B, 150.1(~~f~~c)12, 150.2(b)1H or 150.2(b)2 shall have a clearly visible packaging label that lists the emittance and the initial and 3-year aged solar reflectance, or an approved accelerated aged solar reflectance, tested in accordance with CRRC-1.

Packaging for liquid-applied roof coatings shall state the product meets the requirements specified in Section 110.8(i) 4.

(b) **Certification Requirements.**

Every roofing product installed in construction to take compliance credit or meet the Prescriptive requirements for reflectance and emittance under Sections 140.1, 140.2, 140.3(a)1, 140.9(b)1B, 150.1(~~f~~c)12, 150.2(b)1H or 150.2(b)2 shall be certified by CRRC or another supervisory entity approved by the Commission pursuant to Section 10-113(c).

- (c) **Designation of Supervisory Entity.** The Cool Roof Rating Council shall be the supervisory entity to administer the certification program relating to reflectance and emittance ratings for roofing products, provided the Commission determines that the CRRC meets the criteria in Section 10-113(d) paragraph (d).
1. The Commission may consider designating a supervisory entity other than CRRC ~~only~~ if the Commission determines that the CRRC ~~is~~ is not meeting the criteria in Section 10-113(d) paragraph (d). Such other supervisory entity shall meet the criteria in Section 10-113(d) paragraph (d) prior to being designated.
  2. The Commission shall periodically review, at least annually, the structure and operations of the supervisory entity to ensure continuing compliance with the criteria in Section 10-113(d) paragraph (d). The supervisory entity shall provide an annual report to the Commission detailing compliance with the criteria in Section 10-113(d).
- (d) **Criteria for Supervisory Entity.**
1. Membership in the entity shall be open on a nondiscriminatory basis to any person or organization that has an interest in uniform performance ratings for roofing products, including, but not limited to, members of the roofing industry, building industry, design professionals, specifiers, utilities, government agencies, and public interest organizations. The membership shall be composed of a broad cross section of those interested in uniform thermal performance ratings for roofing products.
  2. The governing body of the entity shall reflect a reasonable cross-section of the interests represented by the membership.
  3. The entity shall maintain a program of oversight of product manufacturers, laboratories, and independent certifying organizations that ensures uniform application of the CRRC testing and rating procedures, labeling and certification, and such other rating procedures for other factors- that improves the accuracy of properties of roofing products affecting energy performance as the CRRC and the Commission may adopt.
  4. The entity shall require manufacturers and independent certifying organizations within its program to use only laboratories accredited by the supervisory entity to perform tests under the CRRC rating procedure.
  5. The entity shall maintain appropriate guidelines for testing laboratories and manufacturers, including requirements for adequate:
    - A. Possession and calibration of equipment;
    - B. Education, competence, and training of personnel;
    - C. Quality control;
    - D. Record keeping and reporting;
    - E. Periodic review (including but not limited to, blind testing by laboratories; inspections of products; inspections of laboratories, and manufacturing facilities);
    - F. Challenges to certified ratings; and
    - G. Guidelines to maintain the integrity of the program, including, but not limited to, provisions to avoid conflicts of interest within the rating and certification process.
  6. The entity shall be a nonprofit organization and shall maintain reasonable, nondiscriminatory fee schedules for the services it provides, and shall make its fee schedules, the financial information on which fees are based, and financial statements available to its members for inspection.
  7. The entity shall provide hearing processes that give laboratories, manufacturers and certifying agencies a fair review of decisions that adversely affect them.
  8. The entity shall maintain a certification policy committee, whose procedures are designed to avoid conflicts of interest in deciding appeals, resolving disputes and setting policy for the certifying organizations in its program.
  9. The entity shall publish at least annually a directory of products certified and decertified within its program.
  10. The entity itself shall be free from conflict-of-interest ties or to undue influence from any particular roofing product manufacturing interest(s), testing or independent certifying organization(s).

11. The entity shall provide or authorize the use of labels that can be used to meet the requirements for showing compliance with the requirements of Sections 140.1, 140.2, 140.3(a)1, 140.9(b)1B, 150.1(~~fc~~)12, 150.2(b)1H and 150.2(b)2, and this section.
12. The entity's certification program shall allow for multiple participants in each aspect of the program to provide for competition between manufacturers and between testing labs.

**NOTE:** Authority cited: Section 25402.1, Public Resources Code. Reference: Section 25402.1, Public Resources Code.

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## **SECTION 10-114 – DETERMINATION OF OUTDOOR LIGHTING ZONES, ~~LOCAL OUTDOOR LIGHTING ORDINANCES,~~ AND ADMINISTRATIVE RULES FOR USE**

This section establishes rules for implementing outdoor lighting zones, ~~and rules for adopting specific outdoor light levels,~~ to show compliance with Section 147 of Title 24, California Code of Regulations, Part 6.

- (a) **Lighting Zones.** Exterior lighting allowances in California vary by Lighting Zones (LZ).
- (b) **Lighting Zone Characteristics.** TABLE 10-114-A specifies the relative ambient illumination level and the statewide default location for each lighting zone.
- (c) **Amending the Lighting Zone Designation.** A local jurisdiction may officially adopt changes to the lighting zone designation of an area by following a public process that allows for formal public notification, review, and comment about the proposed change. The local jurisdiction may determine areas where Lighting Zone 4 is applicable and may increase or decrease the lighting zones for areas that are in State Default Lighting Zones 1, 2 and 3, as specified in TABLE 10-114-A.
- (d) **Commission Notification, Amended Outdoor Lighting Zone Designation.** Local jurisdictions who adopt changes to the State Default Lighting Zones shall notify the Commission by providing the following materials to the Executive Director:
  1. A detailed specification of the boundaries of the adopted Lighting Zones, consisting of the county name, the city name if any, the zip code(s) of the redesignated areas, and a description of the physical boundaries within each zip code.
  2. A description of the public process that was conducted in adopting the Lighting Zone changes.
  3. An explanation of how the adopted Lighting Zone changes are consistent with the specifications of Section 10-114.

The Commission shall have the authority to not allow Lighting Zone changes which the Commission finds to be inconsistent with the specifications of Section 10-114.

- ~~(e) **Amending Local Outdoor Ordinances.** A local jurisdiction may officially adopt specific outdoor light levels, which shall be expressed as average or minimum footcandle levels, by following a public process that allows for formal public notification, review, and comment about the proposed change.~~
- ~~(f) **Commission Notification, Local Outdoor Lighting Ordinances.** Local jurisdictions who adopt specific outdoor light levels shall notify the Commission by providing the following materials to the Executive Director:
  1. ~~A detailed description of the adopted specific light levels, consisting of the minimum or average light levels adopted, the applications where these light levels apply, and the county name, city name if any, and zip code(s) of all areas covered by the local ordinance.~~
  2. ~~A description of the public process that was conducted in adopting the specific light levels.~~~~

**TABLE 10-114-A LIGHTING ZONE CHARACTERISTICS AND RULES FOR AMENDMENTS BY LOCAL JURISDICTIONS**

<b>Zone</b>	<b>Ambient Illumination</b>	<b>State wide Default Location</b>	<b>Moving Up to Higher Zones</b>	<b>Moving Down to Lower Zones</b>
LZ1	Dark	Government designated parks, recreation areas, and wildlife preserves. Those that are wholly contained within a higher lighting zone may be considered by the local government as part of that lighting zone.	A government designated park, recreation area, wildlife preserve, or portions thereof, can be designated as LZ2 or LZ3 if they are contained within such a zone.	Not applicable.
LZ2	Low	Rural areas, as defined by the 2000 U.S. Census.	Special districts within a default LZ2 zone may be designated as LZ3 or LZ4 by a local jurisdiction. Examples include special commercial districts or areas with special security considerations located within a rural area.	Special districts and government designated parks within a default LZ2 zone maybe designated as LZ1 by the local jurisdiction for lower illumination standards, without any size limits.
LZ3	Medium	Urban areas, as defined by the 2000 U.S. Census.	Special districts within a default LZ3 may be designated as a LZ4 by local jurisdiction for high intensity nighttime use, such as entertainment or commercial districts or areas with special security considerations requiring very high light levels.	Special districts and government designated parks within a default LZ3 zone may be designated as LZ1 or LZ2 by the local jurisdiction, without any size limits.
LZ4	High	None.	Not applicable.	Not applicable.

# **EFFICIENCY STANDARDS**

**CALIFORNIA CODE OF REGULATIONS**

**TITLE 24, PART 6**

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