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CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



**FINAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA ENERGY COMMISSION**

**REGARDING THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(2019 CALIFORNIA GREEN BUILDING STANDARDS CODE)**

**2019 BUILDING ENERGY EFFICIENCY STANDARDS
DOCKET NUMBER 17-BSTD-03**

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I. INTRODUCTION

Pursuant to California Government Code Section 11346.9(a), this Final Statement of Reasons (FSOR) contains updates to the Initial Statement of Reasons (“ISOR”) and its descriptions of the purposes, rationales, and necessity of the California Energy Commission’s proposed amendments to voluntary provisions of Title 24 Part 11 and its Appendices, to account for further amendments made to the originally proposed Draft Express Terms as a result of public comments received during the rulemaking proceeding. This document accompanies a set of Final Express Terms that will go into effect on January 1, 2020, following its adoption by the California Energy Commission and approval by the California Building Standards Commission.¹ These standards are in the California Code of Regulations, Title 24, Part 11, (and are also known as the California Green Building Code or CALGreen). This FSOR fulfills the requirements of California’s Administrative Procedure Act (see Government Code Section 11340 et seq.).

The FSOR also includes the Commission’s Final Response to Comments. Due to its size, this response is included as an Appendix to the FSOR.

A. A Brief History of the Energy Commission's Building Standards

The description of the history of California’s Building Standards found in the ISOR remains accurate in describing the changes proposed in the Final Express Terms. No updates are necessary.

B. How the Standards Work

The description of the general organization and operation of the Green Building Standards found in the ISOR remains accurate in describing the changes proposed in the Final Express Terms. No updates are necessary.

C. Updates to the Summary of the Changes Proposed in This Rulemaking Proceeding

The changes included in the Final Express Terms build upon and ultimately refine the Draft Express Terms based on consideration of the public comments received on the proposed changes to the regulations. These changes therefore remain within the summaries specified in the ISOR, improving upon but not fundamentally altering the proposed changes to regulation. The changes are summarized below.

Residential

As expressed in the ISOR, the structure of the Residential Section adopts to the two-tier approach used in the rest of CALGreen and continues to require an Energy Design Rating (EDR). The EDR has been further refined in the Final Express Terms for Part 6 to include a minimum efficiency-only portion (Efficiency EDR) as well as the previous comprehensive EDR (Total EDR), which includes energy efficiency coupled with on-site renewable electricity generation to meet a specific threshold of expected electricity use. The same definitions and metrics for Efficiency and Total EDR’s are used in the Part 11 Final Express Terms when setting the Tier 1 and Tier 2 performance targets in Table A4.203.1.1.1.

Furthermore, the set of prerequisites has been expanded to include efficiency measures that should be considered in any project striving to meet advanced levels of energy efficiency. Quality Insulation Installation remains mandatory while only one of the four new prerequisites (Roof deck insulation, or ducts in conditioned space; High Performance Walls; HERS-Verified Compact Hot Water Distribution System;

¹ The ISOR refers to the proposed standards in various ways, e.g., “2019 voluntary Building Energy Efficiency Standards,” “proposed voluntary standards,” and “2019 voluntary Standards”; in addition, it uses “amendments” or “proposed regulations” as a shorthand reference for new provisions, revisions to existing provisions, and deletions of existing provisions, in Part 11 of Title 24 of the California Code of Regulations.

HERS-Verified Drain Water Heat Recovery) is required. All prerequisites applied to a given project result in credit towards the performance goal EDR targets of Tier 1 and Tier 2.

The performance approach for additions section has been removed.

Nonresidential

As expressed in the ISOR, the Final Express terms retain the addition and expansion of prerequisite options to the nonresidential sections of CALGreen. The outdoor lighting prerequisite now includes a color temperature upper limit for general hardscape lighting. Additional prerequisite options now included are: Warehouse Dock Seal Doors, Daylight Redirecting Devices, and Exhaust Air Heat. Only one of the five prerequisites is required to qualify for Tier 1 while two are required to qualify for Tier 2. All prerequisites applied to a given project result in credit towards the performance targets of Tier 1 and Tier 2.

Cleanup and Alignment

The Final Express Terms includes changes throughout the regulations to further clarify, simplify, and streamline the existing language and requirements consistent with the ISOR. The majority of these changes have no material effect, such as changes to correct spelling or improve grammar.

II. FSOR ANALYSES REQUIRED BY THE ADMINISTRATIVE PROCEDURE ACT

A. Update of the Information Contained in the Initial Statement of Reasons (Government Code Section 11346.9(a)(1))

Pursuant to Government Code Section 11349(a), this part of the FSOR provides an update to the information contained in the ISOR.

1. Purpose of Proposed Regulations

a. The general purpose, rationale, and necessity of the proposed amendments

The general purpose and rationale stated in the ISOR remain accurate in describing the changes proposed in the Final Express Terms. No updates are necessary.

b. The specific purpose of each regulation, the problem it addresses, and why it is reasonably necessary

Where the language in the Final Express Terms differs from the Draft Express Terms that accompanied the ISOR, this section of the FSOR contains an updated statement of the specific purpose of each adoption, amendment, or repeal, the problem the agency intends to address, and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed.

TITLE 24, PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

APPENDIX A4

A4.201.1: The purpose of these changes is to standardize the language used to reference Title 24, Part 1, Section 10-106 in all portions of the buildings code developed by the Energy Commission. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

A4.203.1.1.2: The purpose of the change to this section is to standardize the language used to reference the Part 6 Reference Appendices in all portions of the buildings code developed by the Energy Commission. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

A4.203.1.2 and A4.203.1.2.3,4: The purpose of the change is to separate the HERS-Verified Compact Hot Water Distribution Systems and HERS-Verified Drain Water Heat Recovery measures into two distinct prerequisite options. This change is necessary to improve building design flexibility, consistent with received public commentary.

A4.203.1.2.2: The purpose of the change to this section is to standardize the language used to reference Title 24, Part 6, in all portions of the buildings code developed by the Energy Commission. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

A4.203.1.3.1 and 2; Table A4.203.1.1.1: The purpose of the change to these sections is to add reference to a new table (Table A4.203.1.1.1), which contains EDR targets for Tier 1 and Tier 2 specific to climate zone and building fuel type rather than a single EDR for all fuel types and climate zones. These changes also clarify phrasing and ensure use of identical language for both sections. This change is necessary to provide a more accurate and attainable target for each building type and climate zone, and to ensure clarity and consistency of regulatory language.

A4.203.1.4: The purpose of this change is to add a requirement for local jurisdictions requiring the addition of renewable energy sources and/or storage options to consult with any local electric service provider(s) and verify the ability to interconnect with said provider(s). This change is necessary to prevent potential interconnection issues.

APPENDIX A5

A5.201.1: The purpose of these changes is to standardize the language used to reference Title 24, Part 1, 10-106 in all portions of the buildings code developed by the Energy Commission. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

A5.203.1.1.1: The purpose of this change is to expressly limit the scope of the color temperature provision to general outdoor hardscape lighting, and to expressly state that it does not apply to excepted categories of lighting. This change is necessary to prevent the provision from having an "unlimited" scope and being applied to unintended types of lighting.

A5.203.1.1.3: The purpose of the changes to this section are to clarify that the seals must be installed prior to permitting (consistent with other building code requirements), correct grammar by inserting the word "building" and remove a requirement to verify the seals using ASTM E783. This change is necessary to avoid unnecessary costs and prevent unintended interpretations of the provision.

A5.203.1.1.4: The purpose of this change is to change the prerequisite option from a complex verification method to a simpler specification of devices and procedures already specified in Part 6. This change is necessary to reduce complexity and create consistency between Part 6 and Part 11.

A5.203.1.1.5: The purpose of these changes is to standardize the language used to reference Title 24, Part 6, in all portions of the buildings code developed by the Energy Commission. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's

compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

A5.203.1.1.6: The purpose of this change is to strike the proposed Triple Bottom Line Analysis prerequisite option. This change is necessary to address stakeholder concerns that there is no clear industry consensus or standards regarding triple bottom line analysis, and that the provision would therefore be unenforceable.

A5.203.1.2.1 and 2: The purpose of these changes is to differentiate between nonresidential building projects that are able to make indoor lighting improvements in addition to mechanical improvements and high-rise residential and hotel/motel building projects that are not (i.e., where the majority of spaces are subject to residential rather than nonresidential lighting requirements). High-rise residential and hotel/motel buildings are, for this reason, assigned the same target as mechanical-only nonresidential buildings. This change is necessary to ensure that the target for high-rise residential and hotel/motel buildings is feasible and reasonably attainable.

A5.211.1: The purpose of the changes to this section are to correct punctuation, remove unnecessary reference to the publication year of other parts of the Building Standards Code, and to remove an unnecessary and potentially inaccurate statement that more information is available in another part of the Building Standards Code. The changes clarify without materially altering the requirements in the Draft Express Terms and are necessary to improve Part 11's compliance with the clarity and consistency criteria of California Government Code Sections 11349 and 11349.1, and California Code of Regulations, Title 1, Section 16.

2. Update to the Economic Impact Assessment

The Economic Impact Assessment identified in the ISOR remains accurate in describing the changes proposed in the Final Express Terms. No updates are necessary.

3. Additional Technical, Theoretical, and Empirical Studies, Reports, and Similar Documents Relied Upon

Pursuant to the requirements of Government Code Section 11346.2(b)(3), this section of the FSOR contains "[a]n identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the adoption, amendment, or repeal of a regulation" that was identified after the publication of the ISOR. All of these documents have been filed and formally noticed in this proceeding, and are available to the public unless subject to copyright or other restrictions on free dissemination. They are docketed under docket number 17-BSTD-03 and are available at <http://www.energy.ca.gov/title24/2019standards/rulemaking/documents/>. The Energy Commission did not rely upon any additional documents beyond those identified in the ISOR in proposing and adopting the revisions in the Final Express Terms.

4. The Reasons Why Mandating the Use of Specific Technologies or Equipment is Required

The amended standards in the voluntary appendices do not mandate the use of specific technologies or equipment. Rather, they provide a selection of prerequisite options and otherwise are performance-based. Even where some of the prerequisite options specify technologies or equipment, these provisions are voluntary: local jurisdictions are free to add, modify, or remove prerequisite options when drafting a local ordinance based on these model codes.

5. Consideration of reasonable Alternatives, including those that Would Lessen Any Adverse Impact on Small Business

(Government Code Section 11346.9(a)(4) & (5))

Pursuant to the requirements of Government Code Section 11346.9(a)(4), this section of the FSOR contains “[a] determination with supporting information that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.” Per Government Code Section 11346.9(a)(5), this section must also contain “[a]n explanation setting forth the reasons for rejecting any proposed alternatives that would lessen the adverse economic impact on small businesses.” In doing so, the Commission is “not required to artificially construct alternatives or describe unreasonable alternatives.” (Gov. Code, § 11346.2(b)(4)(C).)

As stated in the ISOR, any alternatives that lessen any adverse economic impacts, but likewise do not achieve the energy savings of the proposed voluntary regulations, would not be a reasonable fulfillment of the Energy Commission’s statutory obligations. The Commission therefore does not consider the “do nothing” alternative of abandoning, in part or in full, the updates proposed by the Draft Express Terms, or any alternative that would completely eliminate feasible and cost effective efficiency requirements either currently in effect or proposed by the Draft Express Terms, to be a reasonable alternative.

The Energy Commission considered proposed alternatives to specific provisions of the voluntary Standards received among the public comments submitted for the Draft Express Terms, and substantively incorporated those alternatives where staff found that the proposed alternative would be effective in carrying out the purpose for which the regulation is proposed, or would be as effective and less burdensome to affected private persons than the adopted regulation. The reasons for accepting or rejecting any alternative proposed as part of a public comment are stated in the response to the comment within the Final Response to Comments at the end of this FSOR.

6. Facts, Evidence, Documents, Testimony, or other Evidence of No Significant Adverse Economic Impact on Business

The estimation of impacts on business referenced in the ISOR and included in the Form 399 analysis remains accurate in describing the changes proposed in the Final Express Terms. None of the amendments proposed after the release of the original Express Terms have the effect of modifying the estimated impacts on business.

7. Duplication or Conflicts with Federal Regulations

The final revisions to the voluntary appendices do not duplicate or conflict with any federal regulations. (See Gov. Code, 11346.2, subd. (b)(6)). There are no federal regulations that prescribe building standards for non-federal buildings, and the provisions in Appendices A4 and A5 are voluntary.

B. Determination as to Whether Adoption, Amendment, or Repeal of the Regulation Imposes a Mandate on Local Agencies or School Districts (Government Code Section 11346.9(a)(2))

The proposed modifications to Part 11 are voluntary provisions and therefore will not impose new mandates on local agencies.

C. Objections and Recommendations, and the Energy Commission’s Responses (Government Code Section 11346.9(a)(3))

This discussion is presented in the spreadsheets labeled Response to Comments.

D. Consideration of Reasonable Alternatives, including those that Would Lessen Any Adverse Impact on Small Business

(Government Code Section 11346.9(a)(4) & (5))

This consideration appears in Section II.A.5 of this document.

E. Documents Referenced in the Proposed Voluntary Standards

The amendments do not incorporate any documents by reference.