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California Energy Commission
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FINAL STATEMENT OF REASONS FOR PROPOSED BUILDING STANDARDS OF THE CALIFORNIA ENERGY COMMISSION

REGARDING THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11 (CALGREEN)

2016 BUILDING ENERGY EFFICIENCY STANDARDS
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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 the 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, 2017, following its adoption by the Energy Commission and approval by the California Building Standards Commission. These provisions are in the California Code of Regulations, Title 24, Part 11 (also known as 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. As the summaries of proposed changes found in the ISOR remain accurate in describing the changes proposed in the Final Express Terms, no updates are necessary.

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 remains 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.

UPDATES TO APPENDIX A4

A4.201.1

The change to this Section clarifies the language regarding the application submittal process local jurisdictions must follow if they wish to adopt any part of these voluntary provisions as mandatory local energy efficiency standards. Based on feedback from stakeholders that building officials may not always have access to the California Administrative Code, a parenthetical and hyperlink have been added to the section to make it easier to view language in Chapter 10, Section 106 of the California Administrative Code. The language in this section describes the requirements a local jurisdiction must meet if they wish to adopt any part of these voluntary provisions as mandatory local energy efficiency standards. No substantive changes have been made to the requirements, and thus there is no new regulatory effect.

A4.203.1.1

The change to this Section changes the name of Section A4.203.1.2.3 to Zero Net Energy Design from Tier 3. This change was made based on feedback from stakeholders and the intent is to maintain consistency with the rest of the CALGreen code format which only includes two above code tiers. No substantive changes have been made to the requirements, and thus there is no new regulatory effect.

A4.203.1.1.3

The change to this Section deletes this section requiring high efficacy lighting to be installed as a prerequisite to complying with either the Tier 1 or Tier 2 advanced energy efficiency levels. The language was deleted because overlapping lighting requirements are now mandatory in the Building Energy Efficiency Standards and therefore there is no need for duplicative requirements in this code. This change improves clarity and eliminate duplicative standards while simplifying compliance with these voluntary performance standards.

A4.203.1.2.1

The change to this Section adds an alternative means of showing compliance with the provisions in this section and was made based on public comments. The alternative method allows a builder to demonstrate compliance with this section using the Energy Design Rating metric and calls for a 15% reduction in the Energy Budget component of the Energy Design Rating. This new requirement calls for efficiency improvements in the building that are equivalent to the existing requirement in this section and therefore do not impose an additional burden to demonstrating compliance. The rationale and benefit of this change is to allow an alternative means of showing compliance with this section without imposing any additional requirements, which will make it easier to show compliance with the voluntary provisions.

A4.203.1.2.2

The change to this Section adds an alternative means of showing compliance with the provisions in this section and was made based on public comments. The alternative method allows a builder to demonstrate compliance with this section using the Energy Design Rating metric and calls for a 30% reduction in the Energy Budget component of the Energy Design Rating. This new requirement calls for

efficiency improvements in the building that are equivalent to the existing requirement in this section and therefore do not impose an additional burden on a builder demonstrating compliance. The rationale and benefit of this change is to allow an alternative means of showing compliance with this section without imposing any additional requirements which will make it easier to show compliance with these voluntary provisions.

A4.203.1.2.3

The change to this Section reclassifies this section as an elective and not as a performance standard tier. This change was in response to public stakeholder feedback and the intent is to maintain consistency with the rest of the CALGreen code which only includes two above code tiers. No substantive changes have been made to the requirements with this change, and thus there is no new regulatory effect.

In addition, changes have been made to the energy efficiency improvements that must be made for buildings demonstrating compliance with this section. Based on received public comments, staff determined that all buildings in Climate Zones 6 and 7 must meet the requirements in Section A4.203.1.2.1 as buildings in these climate zones will not be able to claim a compliance credit for installation of solar photovoltaics that will be available under the 2016 Building Energy Efficiency Standards and therefore will not be able to meet the requirements in Section A4.203.1.2.2. Staff also determined that low-rise multifamily buildings in Climate Zones 3 and 5 should meet the requirements in Section A4.203.1.2.1 because they are similarly challenged in meeting the requirements in Section A4.203.1.2.2. This change improves clarity while simplifying compliance with these voluntary performance standards.

A4.204.1

The change to this Section renumbers sections after the deletion of the prerequisite requirements in Section A4.204.1.1. This rationale for making this change was to improve clarity and maintain consistency with the remaining section numbers.

A4.204.1.1

The change to this Section deletes this section requiring high efficacy lighting to be installed as a prerequisite to complying with either the Tier 1 or Tier 2 advanced energy efficiency levels. The language was deleted because very similar lighting requirements are now mandatory in the Building Energy Efficiency Standards and therefore, there is no need for duplicative requirements in this code. This change improves clarity and eliminates duplicative standards while simplifying compliance with the voluntary provisions.

The change to this Section also deletes the term 'Proposed' and adds the term 'Standard' to clarify that the baseline energy budget that will be used for demonstrating compliance with this section will be the Standard Design Building Energy Budget and not the Proposed Design Building Energy Budget. The Standard Design Building is the reference building whose energy budget is calculated in the Compliance Software and is then compared to the Proposed Design Building in order to determine the whether the building demonstrates compliance with the requirements in this section. The rationale for this change is to improve the clarity of the voluntary provisions in this section and to maintain consistency with established method for determining the percentage by which the Energy Budget of a Proposed Building exceeds the Energy Budget of the Standard Design Building.

Lastly, this section has been renumbered to maintain consistency with the section numbers for other sections of the code. This change results in no substantive changes to the requirements, and thus there is no new regulatory effect.

A4.204.1.2

The change to this Section deletes this section number. The rationale for this change was that this section number was no longer needed because an earlier section was deleted and the sections were renumbered. The change will help improve the clarity of these voluntary provisions. This change results in no substantive changes to the requirements, and thus there is no new regulatory effect.

The change also deletes the term 'Proposed' and adds the term 'Standard' to clarify that the baseline energy budget that will be used for demonstrating compliance with this section will be the Standard Design Building Energy Budget and not the Proposed Design Building Energy Budget. The Standard Design Building is the reference building whose energy budget is calculated in the Compliance Software and is then compared to the Proposed Design Building in order to determine the whether the building demonstrates compliance with the requirements in this section. The rationale for this change is to improve the clarity of the voluntary provisions in this section and to maintain consistency with established method for determining the percentage by which the Energy Budget of the Proposed Building exceeds the Energy Budget of the Standard Design Building.

A4.601.4.2

The change to this Section deletes the term 'Section' from the language to improve the clarity of the section by removing a duplicative reference to each individual section number whose requirements must be met. This change results in no substantive changes to the requirements, and thus there is no new regulatory effect.

The proposed regulation also deletes reference to a section number that was removed as a result of a complete renumbering of the sections. This change improves clarity and simplifies compliance with the voluntary performance standards.

A4.601.5.2

The change to this Section deletes the term 'Section' from the language to improve the clarity of the section by removing a duplicative reference to each individual section number whose requirements must be met. This change results in no substantive changes to the requirements, and thus there is no new regulatory effect.

The proposed regulation also deletes reference to a section number that was removed as a result of a complete renumbering of the sections. This change improves clarity and simplifies compliance with the voluntary performance standards.

A4.601.6.2

The change to this Section deletes this section to maintain consistency with changes made in other sections of these voluntary provisions. The Zero Net Energy Design building classification was revised to be an elective rather than a third energy efficiency tier in order to maintain consistency with the rest of the voluntary provisions in this code. Division A4.6, which this section was part of, is meant to list all of the Tier 1 and 2 requirements throughout the voluntary provisions and electives are not discussed in this section. This change improves clarity and simplifies compliance with the voluntary performance standards.

A4.602 (checklist)

The proposed regulation to these voluntary provisions updates the Residential Occupancies Application Checklist to reflect changes made to the voluntary residential energy provisions of Section A4.203 and Section A4.204. These changes were made in order to mirror the changes that were made to the relevant sections covered by this checklist. These changes provide a simple to use checklist that will make compliance with the regulations easier and more straightforward.

UPDATES TO APPENDIX A5

A5.201.1

The change to this Section clarifies the language regarding the application submittal process local jurisdictions must follow if they wish to adopt any part of these voluntary provisions as mandatory local energy efficiency standards. Based on feedback from stakeholders that building officials may not always have access to the California Administrative Code, a parenthetical and hyperlink have been added to the section to make it easier to view language in Chapter 10, Section 106 of the California Administrative Code. The language in this section describes the requirements a local jurisdiction must meet if they wish to adopt any part of these voluntary provisions as mandatory local energy efficiency standards. No substantive changes have been made to the requirements, and thus there is no new regulatory effect.

A5.203.1

The change to this Section deletes an 's' to make the term 'Sections' singular with the rationale that this change clarifies the language and corrects its grammar. This correction is not substantive and thus has no new regulatory effect.

A5.203.1.1.3

The change to this Section deletes this section requiring high efficacy lighting to be installed as a prerequisite to complying with either the Tier 1 or Tier 2 advanced energy efficiency levels. The language was deleted because overlapping lighting requirements are now mandatory in the Building Energy Efficiency Standards and therefore there is no need for duplicative requirements in this code. This change improves clarity and eliminates duplicative standards while simplifying compliance with the voluntary performance standards.

A5.203.1.2.1

The change to this Section deletes the term 'Proposed' and adds the term 'Standard' to clarify that the baseline energy budget that will be used for demonstrating compliance with this section will be the Standard Design Building Energy Budget and not the Proposed Design Building Energy Budget. The Standard Design Building is the reference building whose energy budget is calculated in the Compliance Software and is then compared to the Proposed Design Building in order to determine the whether the building demonstrates compliance with the requirements in this section. The rationale for this change is to improve the clarity of the voluntary provisions in this section and to maintain consistency with established method for determining the percentage by which the Energy Budget of the Proposed Building exceeds the Energy Budget of the Standard Design Building.

A5.203.1.2.2

The change to this Section deletes the term 'Proposed' and adds the term 'Standard' in this section to clarify that the baseline energy budget that will be used for demonstrating compliance with this section will be the Standard Design Building Energy Budget and not the Proposed Design Building Energy Budget. The Standard Design Building is the reference building whose energy budget is calculated in the Compliance Software and is then compared to the Proposed Design Building in order to determine the whether the building demonstrates compliance with the requirements in this section. The rationale for this change is to improve the clarity of the voluntary provisions in this section and to maintain consistency with established method for determining the percentage by which the Energy Budget of the Proposed Building exceeds the Energy Budget of the Standard Design Building.

A5.602 (checklist)

The change to this Section updates the Nonresidential Occupancies Application Checklist to reflect changes made to the voluntary nonresidential energy provisions of Section A5.203. These changes were made in order to mirror the changes that were made to the relevant sections covered by this checklist. These changes provide a simple to use checklist that will make compliance with the regulations easier and more straightforward.

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. 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 Standards mandate the use of specific technologies and equipment to assure that buildings always meet minimum, cost-effective efficiency requirements whether the prescriptive method (pursuant to Sections 140.0 and 150.1(c)) or the performance method (pursuant to Sections 140.1 and 150.1(b)) of compliance is used. If these proven, simple, highly cost-effective, long-lasting energy saving technologies and equipment were not mandatory, they could be "traded off" against measures that have not been documented to save energy as persistently, simply, or cost-effectively. (Note also that although some measures and equipment appear in the "prescriptive" compliance method, none of those are mandatory. That is because the prescriptive compliance method is a voluntary alternative to the performance compliance method. Moreover, there are several different "packages" of measures and equipment in the prescriptive compliance method, which further demonstrates the voluntary nature of the prescriptive compliance method.)

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, the broad alternative of not specifying any criteria for a Zero Net Energy Design Building in CalGREEN was considered to be unreasonable given the explicit goals and directions given to the Commission in regards to California's drive to zero net energy. The ISOR also identifies two alternatives proposed prior to the issuing of the Draft Express Terms relating to the Zero Net Energy Design designation: creating an elective designation separate from the current efficiency tiers for a Zero

Net Energy Design Building, and allowing this designation to be met without first meeting the requirements for Tier 2. While the Energy Commission chose against these alternatives in drafting the Draft Express Terms, the public comments received on the Draft Express Terms led the Energy Commission to reconsider both of these alternatives. Based on these comments, the Final Express Terms incorporates the first alternative in full and the second in part: the Zero Net Energy Design elective designation is no longer specified as a third Tier, but is instead simply specified as an elective designation available for buildings that meet an appropriate Tier and achieve an Energy Design Rating of zero; and for specified climate zones and building types this designation is available if Tier 1 is met, rather than Tier 2. The Energy Commission rejected the alternative of making the elective designation available to buildings meeting Tier 1 but not Tier 2 in all building types and climate zones as this would be less effective in implementing the statutory policy served by the voluntary CALGreen provisions.

The Energy Commission considered other proposed alternatives to specific provisions of the Appendices 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 stated in the ISOR remains accurate in describing the changes proposed in the Final Express Terms.

7. Duplication or conflicts with federal regulations

The final revisions to the Standards 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.

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 the standards 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. (above).