

CALIFORNIA ENERGY COMMISSION

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Main website: www.energy.ca.gov**NINE-POINT-CRITERIA ANALYSIS****ADOPTED BUILDING STANDARDS
OF THE CALIFORNIA ENERGY COMMISSION:****CALIFORNIA CODE OF REGULATIONS, TITLE 24,
PARTS 1 and 6 (CALIFORNIA ENERGY CODE)****CALIFORNIA ENERGY COMMISSION
DOCKET NUMBER 12-BSTD-1:
2013 BUILDING ENERGY EFFICIENCY STANDARDS****DECEMBER 17, 2012**

Building standards submitted to the California Building Standards Commission (CBSC) for approval are required, by Health and Safety Code section 18930, subdivision (a), to be accompanied by an analysis which will, to the satisfaction of the CBSC, justify their approval. This document is the required analysis for the California Energy Commission's proposed updates to its energy and water efficiency standards in Parts 1 and 6 of Title 24, which were adopted by the Energy Commission on May 31 and December 7, 2012. The 9-Point Criteria Analysis for the Energy Commission's amendments to the voluntary standards in Part 11 (the Green Building Code) is being submitted as part of a separate rulemaking package.

Summary of the Adopted Standards

The California Energy Commission adopted deletions, additions, and amendments to its energy and water efficiency standards for buildings. These standards apply to residential, nonresidential, high-rise residential, and hotel and motel buildings. The standards are in Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1 of Title 24 of the California Code of Regulations (CCR).

The Energy Commission adopted these standards under the authority given by Public Resources Code sections 25218, subd. (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code sections 18930.5 and 18941.5, to implement, interpret and make specific Public Resources Code sections 25402, subds. (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, and 25943, and Health and Safety Code sections 18930.5 and 18941.5.

On February 7, 2012, the formal rulemaking phase was initiated when the Energy Commission (1) filed with the CBSC and the Office of Administrative Law (OAL), and (2) published, the following:

- A Notice of Proposed Action (NOPA), which described the proceeding, summarized the proposed Standards, and explained how interested persons could participate;
- An Economic and Fiscal Analysis (Form 399);
- An Initial Statement of Reasons (ISOR), which presented the rationales for the Standards; and
- Proposed Express Terms (45-Day Language) of the 2013 Standards.

OAL published the NOPA in the California Regulatory Notice Register on February 24, 2012, and at that time the Commission began to receive hundreds of comments on the proposed Standards.

In response to the comments, on May 15, 2012 the Energy Commission published revisions to the 45-Day Language. Those revisions, called 15-Day Language, were also made available for public comments.

The Energy Commission adopted most of the proposed 2013 Building Energy Efficiency Standards at a May 31, 2012 public hearing. Additional provisions, related exclusively to post-construction certification and testing, were adopted at a public hearing on December 15, 2012. The 2013 Standards will go into effect on January 1, 2014, if they are approved by the California Building Standards Commission.

1) The proposed building standards do not conflict with, overlap, or duplicate other building standards.

There is no overlap or duplication with other regulations because the Energy Commission is the only state agency authorized to set efficiency standards for buildings, and for the same reason there should be no conflict with other building standards (i.e., no situation in which it is impossible to comply with both an Energy Commission standard and another building standard). Nothing in the record shows otherwise.

2) The proposed building standards are within the parameters established by enabling legislation and are not expressly within the exclusive jurisdiction of another agency.

The California Energy Commission has statutory authority under Public Resources Code sections 25213, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25910 to promulgate and update energy efficiency standards for residential and nonresidential

buildings, including both newly constructed buildings and additions and alterations to existing buildings. The Energy Commission is the only state agency with the authority to set efficiency standards for buildings. No commenter suggested otherwise.

3) The public interest requires the adoption of the building standards.

When the Legislature created the Energy Commission almost forty years ago, it stated that the California economy, and indeed the well-being of all California's citizens, depends on an adequate, reasonably-priced, and environmentally-sound supply of energy.¹ The Legislature also stated that growth in electricity demand has strained the reliability of California's electricity system, created potential environmental stresses, and contributed to a substantial rise in electricity prices.² Finally, the Legislature recognized that improvements in energy efficiency are among the most cost-effective and environmentally-friendly methods to help bring demand and supply into balance.³ These facts remain as true today as they were then, and they make clear that adoption of the 2013 Energy Standards is required for the public interest.

Recent actions by the Legislature and the Executive Branch have emphasized the need for further improvements in the energy efficiency of buildings, as the 2013 Building Energy Efficiency Standards will help accomplish. On the legislative side, the Global Warming Solutions Act of 2006 (also known as AB 32) mandates that California reduce its greenhouse gas emissions to 1990 levels by 2020.⁴ Improving the energy efficiency of buildings is the single most important activity to reduce greenhouse gas emissions in the electricity and natural gas sectors. Thus expanding and strengthening building standards is a key recommendation of the Act's Scoping Plan.⁵

Several administrative agency actions also highlight the need for further stringency in energy efficiency standards. For example, California's Energy Action Plan, which is developed jointly by the California Public Utilities Commission and the California Energy Commission with active participation from other state agencies with energy-related responsibilities, establishes energy efficiency as the resource of first choice for meeting California's energy needs (i.e., energy efficiency is at the "top of the loading order"). And the 2008 Update to the Public Utilities Commission - Energy Commission Energy Action Plan directs the Commissions to adopt new, more stringent building energy efficiency standards and strategies.⁶

Similarly, the California Long-Term Energy Efficiency Strategic Plan (2008) published by the California Public Utilities Commission identifies the crucial importance of the

1 Pub. Resources Code, § 25001; see also § 25300, subd. (a).

2 See Pub. Resources Code, § 25002.

3 See Pub. Resources Code, §§ 25001, subds. (a) & (b), 25007.

4 Health & Safety Code, §§ 38500 et seq., 38550.

5 Supplement to the AB 32 Scoping Plan FED, Att. D, August 19, 2011, p. 8.

6 2008 Update, Energy Action Plan, CEC-100-2008-001, p. 8.

Building Energy Efficiency Standards in reaching the State's policy goal of zero net energy homes by 2020 and zero net energy buildings by 2030.

Furthermore, Governor Brown's Clean Energy Jobs Plan (2010) combines existing state energy policy with economic recovery and growth goals by supporting renewable energy and energy efficiency technologies, which will in turn create more than half a million green jobs.

Finally, the Energy Commission's own Integrated Energy Policy Report (IEPR) emphasizes the State's zero net energy policy goals for residential and nonresidential buildings, and it articulates how the Building Energy Efficiency Standards must be updated periodically to those aggressive goals.⁷ (The IEPR is the Energy Commission's biennial report to the Legislature that assesses California's major energy trends and issues and makes policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect public health and safety. Upon approval by the Governor it becomes the Governor's official statement of California energy policy.⁸)

All of these enactments and policy statements emphatically demonstrate that the energy efficiency advances that will be produced by the 2013 Standards are crucial to the state's energy reliability, economic recovery, and environmental health.

The public interest in the adoption and approval of the 2013 Standards is also demonstrated by their cost-effectiveness, which is discussed in detail in section 5 below.

No comment in the Energy Commission's rulemaking proceeding asserted that the public interest does not require adoption of the proposed 2013 Building Energy Efficiency Standards as a whole. Some comments opposed, or recommend changes in, specific provisions of the proposed Standards, for various reasons. Those comments, and the Commission's responses to them, are thoroughly discussed in the Comments & Responses section of the Final Statement of Reasons for the rulemaking, which is being submitted to the Building Standards Commission as part of the entire package that includes this 9-Point-Criteria Analysis.

4) The proposed building standards are not unreasonable, arbitrary, unfair, or capricious, in whole or in part.

The record of the Energy Commission's rulemaking proceeding demonstrates that the 2013 Building Energy Efficiency Standards are not unreasonable, arbitrary, unfair, or capricious, in whole or in part. As was just discussed, in section 3 of this Analysis, the Building Energy Efficiency Standards respond to the mandates of the Warren-Alquist

7 (CEC-100-2011-001-CMF.

8 See Pub. Resources Code, §§ 25300 - 25307.

Act, the Global Warming Solutions Act of 2006, California's Energy Action Plan 2008 Update, the California Energy Efficiency Long-Term Strategic Plan, the 2011 Integrated Energy Policy Report, the California's Clean Energy Futures Initiative, and Governor Brown's Clean Energy Jobs Plan.

Not only the content of the 2013 Standards, but also the process through which they were adopted (including the voluminous comments, both supporting the Standards and suggesting edits which were incorporated into the final proposal), show that this criterion was met. Some comments challenged, or proposed modifications to, various provisions of the proposed measures (although rarely using the statutory terms "unreasonable, arbitrary, unfair, or capricious"). The Energy Commission either accepted those comments or determined that they were invalid. For a complete discussion of the comments, see the Comments & Responses section of the Final Statement of Reasons for the rulemaking, which is being submitted to the Building Standards Commission as part of the entire rulemaking package.

5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.

The record overwhelmingly demonstrates that the 2013 Building Energy Efficiency Standards are cost-effective. The added construction costs that the Standards will impose are reasonable based on the economic, environmental, and other benefits that will be derived from the Standards and that will substantially outweigh the costs. In other words, although building owners and operators will see increases in the costs of purchasing buildings, those costs will be much more than made up by savings in utility bills for natural gas and electricity.

In addition, the Standards will require changes in some construction practices and in the post-construction testing and building components and this in turn will require the retraining of employees, but any costs attributable to such changes and retraining will be short-term in nature as the new protocols become mainstream. Moreover, the changes will increase employment and profit opportunities for certain aspects of the construction industry.

The 2013 Standards will reduce the energy use of typical new buildings by around 25 percent compared to buildings constructed under the current standards. Buildings constructed pursuant to the 2013 Standards are projected to:

- Save \$1.60 billion in energy over 30 years;
- Save 200 million gallons of water per year; and
- Avoid more than 155 thousand metric tons of greenhouse gas emissions per year.

In the residential context, the 25 percent efficiency improvement in the 2013 Standards will provide a 2½:1 return on a typical homeowner's investment; for a homeowner with

a 30-year mortgage, the standards will add approximately \$11 per month to the cost of the average home, but will save approximately \$27 on monthly heating, cooling, and lighting bills.

The Energy Commission estimates average increases in construction costs of about \$3,300 for single family residential buildings and about \$45,000 for a 15,000 square foot commercial building. These are less than 2 percent of typical construction costs for typical buildings and, of course, as we just described above, these increases will be more than recouped by the reduced energy costs to operate the buildings.

(Furthermore, the construction cost increases are probably too high, because they do not account for volume pricing or likely reductions in costs once new energy-efficiency technologies are provided to a mass market.)

There was, as one might expect, a fair amount of discussion about the cost-effectiveness of various provisions of the Standards during the Energy Commission's rulemaking proceeding. The Energy Commission's assessments of the applicable comments are discussed in the Comments & Responses section of the accompanying Final Statement of Reasons.

6) The proposed building standards are not unnecessarily ambiguous or vague, in whole or in part.

Throughout the one-and-a-half-year rulemaking process, the Energy Commission made many changes to draft proposals to ensure their clarity. Any proposals suggesting clarity improvements that were rejected by the Commission are discussed in the Comments & Responses section of the FSOR. There were no comments on the 15-Day Language regarding unnecessary ambiguity or vagueness.

7) The applicable national specifications, published standards, and model codes have been incorporated into the proposed Building Standards as required by the State Building Standards Law, where appropriate.

There are no federal laws applicable to nonfederal buildings in their entirety, so nothing in this realm could have been incorporated into the 2013 Standards. However, the adopted Standards do incorporate (as previous editions of the Standards have for decades incorporated) federal energy standards for particular appliances that may be installed in buildings.

In addition, the Energy Commission included model and national codes and specifications in the 2013 Standards wherever appropriate. For example, the Standards require heating and cooling system design loads to be determined in accordance with the ASHRAE Handbook, Fundamentals Volume (or as specified in a method approved by the Energy Commission).

Some of the comments received during the rulemaking proceeding addressed the incorporation into the proposed Standards of various specifications, standards, and codes. The Commission either accepted the recommendations or had sound rationales to reject them, as is fully explained in the Comments & Responses section of the accompanying FSOR.

8) The format of the proposed building standards is consistent with that adopted by the Building Standards Commission.

The 2013 Standards continue to use the format of the other building standards in the State Building Code. Nothing in the record suggests otherwise.

9) The proposed building standards, if they promote fire and panic safety, as determined by the State Fire Marshal, have the written approval of the State Fire Marshal.

The Energy Commission obtained the approval of the State Fire Marshal of the 2013 Standards. The State Fire Marshall has determined that the proposed 2013 Building Energy Efficiency Standards do not promote fire or panic safety.