

**INITIAL STATEMENT OF REASONS FOR
PROPOSED BUILDING STANDARDS OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION**

**REGARDING THE CALIFORNIA BUILDING CODE,
PART 2
AND
THE CALIFORNIA EXISTING BUILDING CODE,
PART 10, CALIFORNIA CODE OF REGULATIONS, TITLE 24
(BSC EF-01-17)**

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS:

(Government Code Section 11346.2(b)(1)) requires a statement of specific purpose of each adoption, amendment, or repeal and 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 the agency intends to address for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.)

This rulemaking action represents a proposal for the permanent adoption of building standards that were approved as emergency regulations by the California Building Standards Commission on January 29, 2017.

In response to a sudden and catastrophic balcony failure at Library Gardens in Berkeley, on June 16, 2015, resulting in loss of life, California Building Standards Commission (CBSC) proposed emergency building standard regulations pertaining to enhanced design, construction, inspection and maintenance of exterior elevated elements (EEE) for specified state-owned buildings. CBSC, in coordination with the Department of Housing and Community Development, the Division of the State Architect and other stakeholders, developed emergency regulations that amended the 2016 editions of the California Building Code, Part 2 and the California Existing Building Code, Part 10, of Title 24, California Code of Regulations (Title 24).

The need to amend Title 24 before the next regular rulemaking cycle is due to the immediate need to design and construct EEE in a modified manner, in order to minimize the chance of other failures, between now and the January 1, 2020 effective date of the next edition of Title 24. This certifying rulemaking continues the intention of the emergency rulemaking, by making the approved emergency standards permanent.

These proposals are modeled after the International Building Code (IBC) and International Existing Building Code (IEBC) approved code change proposals, set to be amended in the 2018 editions of those codes. The proposed regulations are intended to help prevent future failure occurrences by reducing risk factors, thereby improving the health, safety and welfare of the public using buildings having EEE elements. The proposed amendments are intended to provide clarity, specificity and direction to the code user.

The rationale for each proposed regulatory amendment by chapter, division, and section is listed below.

California Building Code, Part 2

Chapter 1, Scope and Administration

Section 107.2.7 Exterior balcony and elevated walking surfaces. CBSC proposes to permanently adopt this new California section. This code change proposal to the IBC (ADM77-16) was proposed by the American Wood Council because existing language in IBC Section 107.2.4 specifies requirements for the

construction documents associated with the wall envelope, but does not address how that extends to the balcony and elevated walking surfaces where an impervious moisture barrier system protects structural elements. A new section was proposed to add detailing requirements for exterior balcony and elevated walking surfaces. This amendment was approved by the ICC code development process, and will be published in the 2018 IBC. The rationale is that for exposed elevated walking surfaces that have framing protected by a moisture barrier, construction documents need system-specific details and manufacturer's instructions for that barrier system, prescribing requirements that are not contained in this code. This serves to better inform the installer of special system requirements.

Section 110.3.8.1 Weather exposed balcony and walking surface waterproofing. CBSC proposes to permanently adopt this new California section. The code change proposal for the 2018 IBC (ADM87-16) was proposed by the American Wood Council because detailed inspections are needed to ensure the performance of the impervious moisture barrier used with exposed balconies and walking surfaces. For exposed elevated walking surfaces having framing protected by an impervious moisture barrier, the elements of that barrier system are specific and not generally covered by this code. Detailed inspections are needed to ensure the performance of the impervious moisture barrier. This serves to confirm proper installations, prior to their being covered.

As an exception, Section 1705.1.1, Item 3, of the 2015 IBC allows the building official to require special inspections of "Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code." This would be acceptable in lieu of inspections performed by the building department staff when utilized by the building official.

Chapter 16, Structural Design.

Table 1607.1 Minimum Uniform Distributed Live Loads And Minimum Concentrated Live Loads. CBSC proposes to permanently amend Chapter 16 of the 2016 CBC as follows:

Modify the table, at Line 5, to increase the uniform live load to be 1.5 times the load for the occupancy served (maximum 100 pounds) for balconies and decks. This strives to provide reserve strength in structural members where there is predisposition to decay or corrosion, using American Society of Civil Engineers (ASCE) 7 load requirements for baseline minimum live loads for balconies and decks.

As background, an amendment to the IBC was proposed by the National Council of Structural Engineers' Association; American Wood Council; and Codes and Standards Committee of the Structural Engineer's Association of New York. According to the code change proposal for the 2018 IBC (S85-16), historically, the 2006 IBC and 2005 ASCE 7-05 contained similar language in that balconies and decks were treated as different uses and had different uniform loading criteria. Then the IBC diverged from matching ASCE 7 in 2006 under code change proposal S9-06/07 when the IBC combined the separate occupancy categories (balconies and decks) into one item, with the uniform loading set as the "Same as occupancy served" force level. ASCE 7-10 followed suit in combining balconies and decks as a single item, however, the uniform loading was set at 1.5 times the live load for the area served, with an upper bound not required to be greater than 100 pounds per square foot.

Chapter 23, Wood.

Section 2304.12.2.5 Supporting Members For Permeable Floors And Roofs. BSC proposes to permanently amend this existing California section, requiring that, when provided, any impervious moisture barrier that protects a supporting floor structure is to have positive drainage of any water that infiltrates the moisture-permeable floor topping. A key functional requirement of impervious moisture barrier systems installed under permeable floor systems is that they direct any penetrating water out from the assembly, rather than stagnating on the barrier, increasing potential for penetration to framing systems. This permits any moisture that does get to a barrier to migrate out of the assembly, reducing potential for decay or corrosion.

As background, the code change proposal for the 2018 IBC (S279-16) was proposed by the American Wood Council. According to the code change proposal a key functional requirement of impervious moisture barrier

systems installed under a permeable floor system exposed to water are elements that provide for drainage of any water making its way through the permeable floor system. Additional information on these concepts may be found in a recently completed article by Joseph Lstiburek in the ASHRAE Journal. The article is available at the following website: <https://buildingscience.com/documents/building-science-insights-newsletters/bsi-093-all-decked-out>

Section 2304.12.2.6 Ventilation Required Beneath Balcony or Elevated Walking Surfaces. BSC proposes to permanently adopt this new section. This change clarifies the intent of the code when a balcony or elevated walking surface serves as a weather-resistant barrier and the joist spaces below are enclosed it is more difficult for water in the assembly to dry out regardless of the source of the water. The code currently requires ventilation of other enclosed assemblies, such as attics. This proposal requires venting methods, whereby exposed balconies and elevated walking surfaces having enclosed framing assemblies are to be provided with cross ventilation, in ratios similar to attics.

As background, the current IBC is generally applied to require ventilation when wood supports a balcony and is enclosed, there is no specific reference to this application.

California Existing Building Code, Part 10

Chapter 1, Division II, Scope And Administration

101.8 Maintenance. CBSC proposes to permanently adopt this California amendment. This rulemaking includes provisions in new construction to help reduce or avoid structural failures related to EEE. Therefore, the provisions also need to address existing buildings which may currently have conditions that could lead to failure. This provision was found in the 2013 CBC, Chapter 34, having come from the model code. When the model migrated Chapter 34 provisions to the new its International Existing Building Code, it moved Section 3401.2 its International Property Management Code, which California does not adopt. Thus, the California Existing Building Code does not contain the provision which was once a part of Part 2/Chapter 34. Without adopting this provision in the CEBC there would be no guidance or authority for local enforcing agencies to address existing buildings.

This proposal restores a provision of previous editions of the code (Part 2, Chapter 34, Section 3401.2), granting a Building Official authority to require re-inspection, in order to determine code compliance. The presence of programs already in place for the post-occupancy inspection of EEE by local agencies demonstrates the public safety benefit of providing clear authority for local enforcing agencies to require re-inspections of existing buildings.

As background, the City of Berkeley, in response to a tragic balcony failure in June 2015, established an Exterior Elements Program (E3) and adopted Ordinance No. 7.431-N.S requiring inspection and certification of weather-exposed EEE, for specific occupancies. The ordinance also required subsequent periodic re-inspection of structures. According to an October 25, 2016 City Council work session memo by the Berkeley Planning and Development, Housing Code Enforcement noticed 6,127 properties with 3 or more units in August 2015 meeting the new requirement to inspect EEE. Of the more than 3,000 inspected properties, 622 properties were indicated to require corrective work. Additional work by the city includes tracking properties to ensure the corrective work is completed. 122 properties failed to submit inspection certification forms and were issued administrative citations. This example demonstrates the public safety benefit of providing clear authority for local enforcing agencies to require re-inspections of existing buildings.

Section 106.2.6 Exterior balcony and walking surface waterproofing. CBSC proposes to permanently adopt this California amendment, in similar fashion to Section 107.2.7 of Part 2, but for existing buildings undergoing modification, such as additions or alterations.

As background, the code change proposal to the 2018 IEBC (ADM77-16) was proposed by the American Wood Council because existing language in IEBC Section 106.2.4 specifies requirements for the construction

documents associated with the wall envelope, but does not address how that extends to the balcony and elevated walking surfaces where an impervious moisture barrier system protects structural elements. A new section was proposed to add detailing requirements for exterior balcony and elevated walking surfaces. This amendment was also further amended by the National Council of Structural Engineers Association, approved by ICC and will be published in the 2018 IEBC.

Section 109.3.8.1 Weather exposed balcony and elevated walking surfaces. CBSC proposes to permanently adopt this California amendment, in similar fashion to Section 110.3.8.1 of Part 2, but for existing buildings undergoing modification, such as additions or alterations.

As background, this code change proposal to the IEBC (ADM87-16) was proposed by the American Wood Council because detailed inspections are needed to ensure the performance of the impervious moisture barrier used with exposed balconies and walking surfaces. As an exception, Section 1705.1.1, Item 3, of the current IBC allowed the building official to require special inspections of “Materials and systems required to be installed in accordance with additional manufacturer’s instructions that prescribe requirements not contained in this code or in standards referenced by this code.” This would be acceptable in lieu of inspections performed by the building department staff when utilized by the building official. This amendment was further amended by the National Council of Structural Engineers Association, Washington Association of Building Officials Technical Development Committee, and Washington Association of Building Officials Code Committee; approved by ICC; and will be published in the 2018 IEBC.

Specific Purpose:

The need to amend Title 24 before the next regular rulemaking cycle is due to the immediate need to design and construct EEE in a modified manner, in order to minimize the chance of other failures, between now and the January 1, 2020 effective date of the next edition of Title 24. This certifying rulemaking continues the intention of the emergency rulemaking.

Rationale:

Adding, amending, and deleting these measures has been deemed appropriate for purposes of aligning with the upcoming release of the ICC model codes, that will be adopted as amended by California in a future code cycle.

Benefit:

The proposed regulations are intended to help prevent future failure occurrences by reducing risk factors, thereby improving the health, safety and welfare of the public.

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:

(Government Code Section 11346.2(b)(3)) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).

Senate Bill 465, Chapter 372:

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB465

A recently completed article by Joseph Lstiburek in the ASHRAE Journal:

website: <https://buildingscience.com/documents/building-science-insights-newsletters/bsi-093-all-decked-out>

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:

(Government Code Section 11346.2(b)(1)) requires a statement of the reasons why an agency believes any mandates for specific technologies or equipment or prescriptive standards are required.)

California’s building standards codes have historically been a mix of performance and prescriptive provisions and reference standards. This proposed code language continues this practice. Prescriptive standards provide the following: explicit guidance for certain mandated requirements; consistent application and enforcement of building standards while also establishing clear design parameters; and ensure compliance with minimum health, safety, and welfare standards for owners, occupants, and guests. Performance

standards are permitted by state law; however, they must be demonstrated to the satisfaction of the proper enforcing agency.

CONSIDERATION OF REASONABLE ALTERNATIVES

(Government Code Section 11346.2(b)(4)(A)) requires a description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate. It is not the intent of this paragraph to require the agency to artificially construct alternatives or describe unreasonable alternatives.)

As noted in the original Finding of Emergency, in view of the urgency to provide enhanced measures, intended to reduce risk factors and increase public safety, as implied by the statute's urgent language, CBSC proposed the adoption of these building standards through the emergency adoption process, authorized in HSC Section 18937. These regulations have undergone two readoption processes. Further readoption without formal rulemaking is not allowed by the Administrative Procedure Act.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

(Government Code Section 11346.2(b)(4)(B)) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business.)

No alternatives were identified to lessen the adverse impact on small business. CBSC determined that early adoption of provisions related to EEE in the soon-to-be published model codes was the best and most feasible alternative.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.

(Government Code Section 11346.2(b)(5)(A)) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business)

CBSC has determined that this regulatory action, focused on public safety and to avoid structural failure of EEE, would have no significant adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

(Government Code Sections 11346.3(b)(1) and 11346.5(a)(10))

The California Building Standards Commission has assessed whether or not and to what extent this proposal will affect the following:

- The creation or elimination of jobs within the State of California.

These regulations will not cause the elimination of jobs within the State of California. These regulations may create additional jobs within the State of California especially as related to inspection, repair and maintenance of EEE.

- The creation of new businesses or the elimination of existing businesses within the State of California.

These regulations will not cause the elimination of existing businesses within the State of California. These regulations may create additional businesses within the State of California especially as related to inspection, repair and maintenance of EEE.

- The expansion of businesses currently doing business with the State of California.

These regulations may affect the expansion of businesses currently doing business within the State of California.

- The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.

These regulations were initially proposed as emergency regulations for the purposes of providing enhanced measures, intended to reduce risk factors and increase public safety, as related to EEE. Permanent early adoption of these regulations will keep these regulations in force until adoption of the 2018 model codes.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

(Government Code Section 11346.2(b)(5)(B)(i)) states if a proposed regulation is a building standard, the initial statement of reasons shall include the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates.)

The impact of these regulation may be minimal or none as the cost of compliance on a project-by-project basis will vary since some projects may already include detailed construction requirements and details or be designed to avoid water or moisture damage or for cross ventilation, and for greater loads. Costs may be greater for projects not designed in excess the minimum requirements of the existing code. Costs would also vary depending on the amount, location and extent of EEE in a project. The potential benefits include reducing and/or avoiding harm, injury or death to building occupants due to failure of EEE.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

(Government Code Section 11346.2(b)(6)) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment.)

These regulations do not duplicate nor conflict with federal regulations.