

**INITIAL STATEMENT OF REASONS FOR
PROPOSED BUILDING STANDARDS OF THE
DIVISION OF THE STATE ARCHITECT–STRUCTURAL SAFETY (DSA-SS AND DSA-SS/CC)**

**REGARDING THE CALIFORNIA BUILDING CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2
AND
THE CALIFORNIA EXISTING BUILDING CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 10
(DSA-SS and DSA-SS/CC 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.)

Proposed Regulatory Actions: This rulemaking action represents DSA's proposal for the permanent adoption of building standards that were approved as emergency regulations by the California Building Standards Commission on January 29, 2017.

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 and amending 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.

On September 15, 2016, the Governor approved Senate Bill 465 (Chapter 372, Statutes of 2016) to add Section 18924.5 of the Health and Safety Code (operative until January 1, 2018) to require the Working Group formed by the California Building Standards Commission (CBSC) to submit a report before January 1, 2018, containing any findings or recommendations for statutory changes or California Building Standards Code changes, to increase the level of safety for Exterior Elevated Elements (EEE). Further, it allowed the Working Group to make any recommended changes at any time to appropriate State agencies, as soon as possible, in order to protect the public. This working group met on May 25, 2017, to allow any new information to be provided to assist the certified rulemaking process.

DSA, in coordination with the California Building Standards Commission (CBSC) and the Department of Housing and Community Development (HCD), adopted emergency regulations for EEE. This emergency adoption was supported by a Finding of Emergency (DSA-SS and DSA-SS/CC EF 01/17) that the adoption of these regulations was necessary for the immediate preservation of the public peace, health and safety, or general welfare.

As noted in the Finding of Emergency, these emergency regulations were adopted in response to a balcony failure at Library Gardens in Berkeley on June 16, 2015; and the availability of building standards developed by the ICC for enhancement of EEE for buildings and structures under the authority of DSA. DSA, in coordination with CBSC, HCD and other stakeholders, developed and adopted emergency

regulations that amend the 2016 editions of the California Building Code (Part 2, Title 24, California Code of Regulations) and the California Existing Building Code (Part 10, Title 24, California Code of Regulations) as follows:

- Amends Section 1.9.2 of Part 2 to reference language added to Chapter 1.
- Adds Sections 107.2.7 and 110.3.8.1 to Chapter 1 of Part 2.
- Amends Section 1616.5 of Part 2 pertaining to loading.
- Amends Table 1607A.1 of Part 2 pertaining to loading.
- Amends Section 2304.12.2.5 of Part 2 pertaining to drainage.
- Adds Section 2304.12.2.6 of Part 2 pertaining to ventilation.
- Amends Section 1.9.2 of Part 10 to reference language added to Chapter 1.
- Adds Section 101.8.1 to Chapter 1 of Part 10 pertaining to maintenance.
- Adds Sections 106.2.6 and 109.3.10 to Chapter 1 of Part 10.

The rationale for each amendment is listed below:

CBC CHAPTER 1 SCOPE AND ADMINISTRATION

1.9.2.1.1 Applicable administrative standards:

Item 2, Title 24, Part 1, California Code of Regulations: This proposal adds the Group 2 sections related to EEE regulations in California Administrative Code to the applicable administrative standards.

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SECTION 107 SUBMITTAL DOCUMENTS

107.2.7 Exterior balcony and elevated walking surfaces:

This proposal adds a new amendment based on a code change proposal for the 2018 IBC (ADM77-16). This item 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 ICC and will be published in the 2018 IBC.

SECTION 110 INSPECTIONS

110.3.8.1 Weather exposed balcony and walking surface waterproofing:

This proposal adds a new amendment based on a code change proposal for the 2018 IBC (ADM87-16). This item 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 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 Project Inspector.

CBC CHAPTER 16 STRUCTURAL DESIGN

1616.5.1 Modifications to Table 1607.1:

This proposal adds **Section 1616.5.1.2 Item 5 Balconies and Decks** which amends Table 1607.1 based on an amendment to the IBC that 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. Former sections **1616.5.1.2**, **1616.5.1.3** and **1616.5.1.4** are renumbered to **1616.5.1.3**, **1616.5.1.4** and **1616.5.1.5**, respectively

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. To harmonize the ASCE and IBC and International Residential Code (IRC) live loading requirements, this proposal is using the ASCE 7 load requirements for the baseline minimum live loads on balconies and decks.

CBC CHAPTER 16A STRUCTURAL DESIGN

1607A, TABLE 1607A.1 Minimum Uniformly Distributed Live Loads, L_o , And Minimum Concentrated Live Loads⁹:

This proposal amends Table 1607A.1 based on an amendment to the IBC that 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. To harmonize the ASCE and IBC and International Residential Code (IRC) live loading requirements, this proposal is using the ASCE 7 load requirements for the baseline minimum live loads on balconies and decks.

CBC CHAPTER 23 WOOD

2304.12.2.5 Supporting members for permeable floors and roofs:

This proposal amends the above referenced section based on an amendment for the 2018 IBC (S279-16). This item 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. Without a properly functioning method to transport this water out, the floor assembly can stay saturated for very long periods of time which may contribute to premature failure. The code change proposal created a requirement for impervious moisture barrier systems protecting the structure, supporting a floor, to provide a mechanism for the water to drain out. As referenced in the code change proposal, the "impervious moisture barrier" is not defined, but describes the performance of the barrier. The "positive drainage" would ensure a need for slope and method for water to escape. Without the drainage the impervious moisture barrier may be subject to constant attack by water infiltrating the moisture-permeable topping slab in a wet

environment. 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>

2304.12.2.6 Ventilation required beneath balcony or elevated walking surfaces:

This proposal adopts the above referenced section base on an amendment for the 2018 IBC (S7-16). This item was proposed by the American Wood Council. 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. Although 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. It is critical to provide ventilation to these areas when enclosed and the wood supports an elevated balcony exposed to the weather.

CEBC CHAPTER 1 SCOPE AND ADMINISTRATION

1.9.2.1.1 Applicable administrative standards:

Item 2. Title 24, Part 1, California Code of Regulations: This proposal adds the Group 2 sections related to EEE regulations in California Existing Building Code to the applicable administrative standards.

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Item 2. Title 24, Part 1, California Code of Regulations: This proposal adds the Group 2 sections related to EEE regulations in California Existing Building Code to the applicable administrative standards.

SECTION 101 GENERAL

101.8.1 Maintenance:

This proposal adds a new amendment which establishes requirements that buildings be maintained in a safe and sanitary condition. The language for this new amendment was found in the 2013 CBC, Chapter 34. The model code 2012 IBC (adopted as 2013 CBC) Chapter 34 provisions were repealed and not brought forward into the 2015 IBC. Instead, Chapter 34 provisions were merged into the 2015 IEBC. Chapter 34, Section 3401.2, Maintenance, was not merged into 2015 IEBC and was instead placed into the 2015 International Property Maintenance Code (IPMC) which is not recognized in California. This rulemaking action includes provisions in new construction intended to help reduce or avoid structural failures related to EEE. The provisions also need to address existing buildings which may currently have conditions that could lead to failure. Adopting this amendment to the CEBC provides some guidance by specifying maintenance requirements for existing buildings.

SECTION 106 CONSTRUCTION DOCUMENTS

106.2.6 Exterior balconies and elevated walking surfaces:

This proposal adds a new amendment based on a code change proposal for the 2018 IBC (ADM77-16). This item 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 ICC and will be published in the 2018 IBC.

SECTION 109 INSPECTIONS

109.3.10 Weather exposed balcony and walking surface waterproofing:

This proposal adds a new amendment based on a code change proposal for the 2018 IBC (ADM87-16). This item 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 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 Project Inspector. 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.

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

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.)

Health and Safety Code (H&SC) Section 18941 requires consistency with state and nationally recognized standards for building construction in view of the use and occupancy of each structure to preserve and protect the public health and safety.

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.)

DSA did not identify nor determine any reasonable alternatives to these regulations. As noted in the 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, DSA proposed the adoption of these building standards through the emergency adoption process, authorized in H&SC Section 18937. Permanent early adoption of these regulations via formal certifying rulemaking process will keep these regulations in force until adoption of the 2018 model codes.

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.)

DSA is statutorily required to adopt by reference model building codes, which contain prescriptive standards. Therefore, DSA 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)

DSA has made an initial determination that this regulatory action may have very minor to no direct adverse economic impact on businesses. DSA has not considered alternatives that would lessen any adverse impact on business and has invited the public to submit proposals during the 45-day public comment period, as detailed in the *Notice of Proposed Action*.

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))

DSA 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 have very minor or no direct effect on creation of additional jobs within California's construction materials product/service industry, related to the construction and maintenance of EEEs.

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 business with the State of California. These regulations may have very minor or no direct effect on creation of businesses within California's construction materials product/service industry, related to the construction and maintenance of EEEs.

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

These regulations may have very minor or no direct effect on expansion of businesses within California's construction materials product/service industry, related to the construction and maintenance of EEEs.

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

These regulations pertain to enhanced detailing, construction inspection and maintenance of EEE and were prepared in response to a sudden and catastrophic balcony failure at Library Gardens in Berkeley, on June 16, 2015. Failures such as this demonstrate that, due to the enclosed nature of many EEE assemblies, causation factors leading to failure are not always observable in time for repair or mitigation. These regulations are intended to prevent future occurrences by reducing risk factors. The implementation of these regulations will likely result in the benefit of improved serviceability and longevity of EEE statewide, which will help increase public safety. Therefore, DSA finds that these regulations are necessary for the public's health, safety, and welfare.

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.)

DSA has coordinated with BSC and HCD in submitting these proposed regulations in response to Senate Bill 465 (Chapter 372, to add and repeal Section 18924.5 of the Health & Safety Code) as well as the CBSC request during the December 13, 2016 Commission meeting that state agencies propose emergency building standards for the early adopting of the ICC model code provisions. The regulations provide clarifying direction on the requirements regarding waterproofing, venting, detailing and inspection of EEEs. The regulations mirror language in proposed model codes that will be adopted in an upcoming code cycle.

Because these regulations do not represent new requirements beyond what DSA is and has been enforcing, DSA estimates there will be very minor to no direct cost impact as a result of these regulations for buildings under DSA authority. The potential benefits include reducing and/or avoiding harm, injury or death due to failure of EEE. 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.

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.