

**INITIAL STATEMENT OF REASONS  
FOR PROPOSED BUILDING STANDARDS  
OF THE CALIFORNIA ENERGY COMMISSION  
REGARDING THE 2022 CALIFORNIA MECHANICAL CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 4**

**(CEC 01-21)**

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 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.

**Item 1**

**Chapter 1, Section 1.1.8.2**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional statutory and regulatory requirements that are applicable to local ordinances when they amend efficiency-related measures. This addresses a problem where readers of the Mechanical Code may be unaware that there are additional requirements that apply to this circumstance, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 2**

**Chapter 3, Section 311.5**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional energy efficiency-based insulation requirements in the Energy Code that are applicable to mechanical ventilation systems. This addresses a problem where readers of the Mechanical Code may be unaware that there are measures in the Energy Code that apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 3**

**Chapter 6, Section 601.2.1**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying energy efficiency-based duct sizing requirements in the Energy Code that are potentially applicable if certain design options in the Energy Code are utilized. This addresses a problem where readers of the Mechanical Code may be unaware that there are energy efficiency measures in the Energy Code that potentially apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 4**

**Chapter 6, Section 603.9.2.1**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional energy efficiency-based duct leakage testing requirements in the Energy Code. This addresses a problem where readers of the Mechanical Code may be unaware that there are measures in the Energy Code that apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 5**  
**Chapter 6, Section 603.9.2 and Section 603.10.1.1**

The specific purpose of amending this section is to address and resolve differences between duct testing requirements in the model code and those previously specified in the Energy Code, to similarly address and resolve concerns that lack of direction regarding representative sampling could create uncertainty and allow for misrepresentative tests, and to update provisions so that they represent the most recent versions of referenced test standards and model codes. In part, this means relocating provisions that were previously located in Part 6 and its Appendices to Part 4.

Amending this section to add detail regarding who is expected to perform testing, how representative duct sections are to be selected, and what leakage class is applicable to ducts of differing shapes is reasonably necessary to align duct leakage testing specified in model code language with the requirements for verification testing specified in the Energy Code and guidance provided in applicable SMACNA test standards (including the qualifications needed to perform SMACNA tests).

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 6**  
**Chapter 12, Section 1217.5.2.1**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional energy efficiency-based insulation requirements in the Energy Code that are applicable to heated slab floors. This addresses a problem where readers of the Mechanical Code may be unaware that there are energy efficiency measures in the Energy Code that apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 7**  
**Chapter 12, Section 1217.7.1**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional energy efficiency-based insulation requirements in the Energy Code relating to pipe insulation. This addresses a problem where readers of the Mechanical Code may be unaware that there are energy efficiency measures in the Energy Code that apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**Item 8**

**Chapter 12, Section 1220.4.5.1**

The specific purpose of amending this section is to assist readers of the Mechanical Code by identifying additional energy efficiency-based insulation requirements in the Energy Code that are applicable to heated slab floors. This addresses a problem where readers of the Mechanical Code may be unaware that there are energy efficiency measures in the Energy Code that apply to these systems, or may know that the requirements exist but may be unsure of where they are located or what they entail.

Adding a subsection that identifies the additional Energy Code requirements and provides express section references is reasonably necessary to preclude misunderstanding or misapplication of associated requirements.

**CAC Recommendation (if applicable):**

NA

**Agency Response:**

NA

**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).

The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they are based solely upon the extant language of the respective Parts of the Building Standards Code and the referenced model codes and test standards.

For Item 5, staff relied on the current SMACNA Recommended Leakage Classes for the update to the permitted duct leakage equation<sup>1</sup>. Staff observed that the existing specification of “six” was based on prior SMACNA guidance that Seal Class A corresponded to a Leakage Class of six for rectangular ducts and three for circular ducts<sup>2</sup>, however in seeking to add the missing specification for circular ducts staff found the updated guidance that associated Seal Class A with Leakage Classes of four and two

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<sup>1</sup> Pat Brooks, PE; “HVAC Duct Air Leakage”, 2019. Available at <https://www.smacna.org/resources/resource/2019/10/03/hvac-air-duct-leakage>.

<sup>2</sup> Staff found conflicting descriptions that sometimes assigned the most stringent SMACNA Seal Class as C and the least stringent as A, however the Leakage Class of six and three for the most stringent Seal Class was consistent.

(respectively). Staff accordingly updated the values to reflect contemporary industry standards in addition to adding the absent value for round ducts.

### **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.

The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they do not impose prescriptive standards. Item 5 updates a performance standard; it does not impose any mandates for specific technologies or equipment.

### **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.

Staff identified one alternative, the "do nothing" alternative of proposing no amendments to the identified sections.

Staff rejected the "do nothing" alternative as being less effective at ensuring that appropriate code provisions are applied to building projects. While information clarifying the interactions between the respective Parts of the Building Standards Code could instead be communicated in supplemental advisory materials or other publications, this would only serve to increase the knowledge needed and number of steps necessary to find these clarifications.

### **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.

The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they do not have any adverse impact on small business. Item 5 is understood by staff to reflect current industry standards and practices and thus has no adverse impact on small businesses.

### **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.

The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; the fact that they are nonsubstantive means that they do not have an adverse economic impact on business. Item 5 is understood by staff to reflect

current industry standards and practices, based on the above-referenced SMACNA publication, and thus has no adverse economic impact on business.

### **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)

California Energy Commission staff has assessed whether or not and to what extent this proposal will affect the following:

- A.** The creation or elimination of jobs within the State of California.  
The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they will not act to create or eliminate jobs. Item 5 is understood by staff to reflect current industry standards and practices and thus will not act to create or eliminate jobs.
- B.** The creation of new businesses or the elimination of existing businesses within the State of California.  
The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they will not act to create or eliminate businesses. Item 5 is understood by staff to reflect current industry standards and practices and thus will not act to create or eliminate businesses.
- C.** The expansion of businesses currently doing business within the State of California.  
The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they will not act to expand or contract business occurring within the State. Item 5 is understood by staff to reflect current industry standards and practices and thus will not act to expand or contract business occurring within the State.
- D.** The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.  
The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they will not provide a direct benefit to the health and welfare of California residents, worker safety, or the state's environment. Item 5 is understood by staff to reflect current industry standards and practices and thus will not provide a direct benefit to the health and welfare of California residents, worker safety, or the state's environment. The proposed amendments provide indirect benefits by preventing confusion or misunderstanding that may otherwise have occurred, however as this benefit is by its nature speculative it is best treated as *de minimis*.

### **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 proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they do not impose or increase compliance costs. Item 5 is

understood by staff to reflect current industry standards and practices and thus does not impose or increase compliance costs.

The proposed amendments provide benefit by preventing confusion or misunderstanding that may otherwise have occurred, however as this benefit is by its nature speculative the estimation of positive monetary benefits is zero.

### **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.

The proposed amendments, with the exception of Item 5, are drafted to be clarifying and nonsubstantive in nature; they do not duplicate or conflict with federal regulations. Item 5 updates a test standard to improve consistency with federal standards and ASHRAE 90.1.