ASSOCIATION OF COMMERCIAL REAL ESTATE (ACRE)
SACRAMENTO, CALIFORNIA

Date: April 24, 2026

To: Stoyan Bumbalov, Executive Director
stoyan.bumbalov@dgs.ca.gov
Commissioners of the California Building Standards Commission
CBSC@dgs.ca.gov

From: California Business Properties Association
California Building Industry Association
Building Owners & Managers Association
Association of Commercial Real Estate
California Apartment Association
California Retailers Association
Institute of Real Estate Management
Commercial Real Estate Development Association (NAIOP of California)

RE: **Industry Coalition Support for:**
Office of the State Fire Marshal
(SFM 02/25) 2025 California Mechanical Code, Title 24, Part 4 - ITEM 1 (ASHRAE Std. 15)
(SFM 03/25) 2025 California Fire Code, Title 24, Part 9 – SUB-ITEM 9-4 (ASHRAE Std. 15)

The trade associations cited above, hereafter referred to as the Industry Coalition, represent California's residential and non-residential construction and management industries. The Industry Coalition supports the California Building Standards Commission's adoption of the Office of the State Fire Marshal's (SFM) Express Terms as presented in SFM 02/25: ITEM 1 and SFM 03/25: SUB ITEM 9-4.

These two proposals are essentially the same and simply seek to update the SFM's adoption of the most recent edition of *ASHRAE Standard 15: Safety Standard for Refrigeration Systems*. At present, the SFM adopts the ***2022*** *Edition of ASHRAE Standard 15*. The two SFM proposals cited above would update that reference to the newer ***2024*** *Edition of Standard 15*, including ASHRAE's recently issued ***Addendum A*** to Standard 15.

Description of Events Prompting this Code-Change Proposal

Background:

To reduce greenhouse gas (GHG) emissions, regulatory agencies at the state and national levels have focused significant attention on how refrigerant gases contribute to the climate change crisis. As a result, these agencies have adopted regulations, guidelines, and policy goals seeking the rapid transition from refrigerants with a high GWP (Global Warming Potential) to refrigerants classified as low- or ultra-low GWP in new **and existing** buildings.

Some of these low-GWP refrigerant gases (A2Ls) are mildly flammable, prompting the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), to keep pace by addressing the flammability safety issues associated with their use. ASHRAE regularly updates these safety requirements in its publication, ***ASHRAE Standard 15 – Safety Standard for Refrigeration Systems.***

California agencies heavily rely on this national safety standard. For example, Chapter 11 (Refrigeration) of the 2025 California Mechanical Code references various sections of ASHRAE Standard 15 more than 120 times.

The Challenge:

The 2022 and 2024 Editions of ASHRAE Standard 15 requires A2L refrigerant piping to be routed through **enclosed, fire-rated, and fully ventilated shafts**. This safety requirement presents significant cost and design challenges for new construction.

For existing buildings, **the associated retrofit costs are, in most cases, financially infeasible.** This presents a significant hurdle to the rapid transition to low-GWP refrigerant gases in existing buildings, a high priority in California's fight against the climate change crisis.

The Solution:

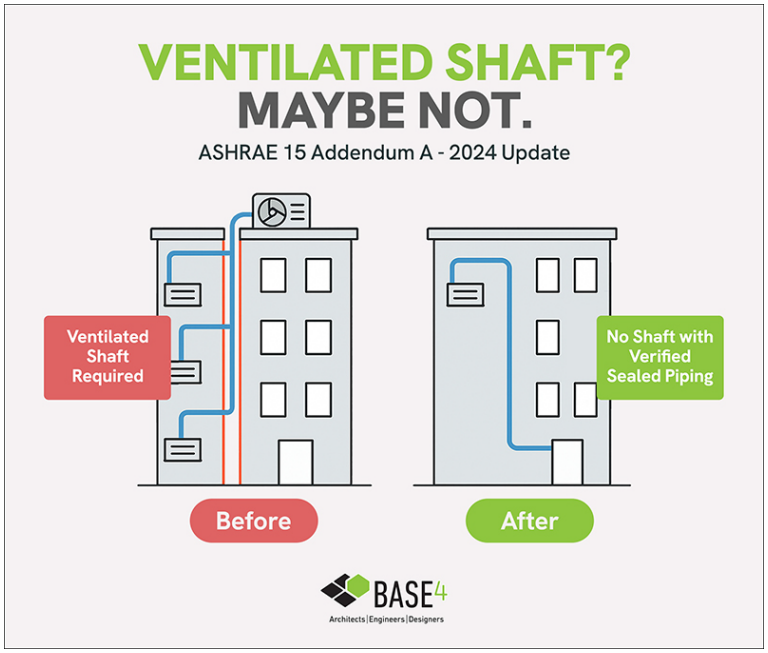
On May 30, 2025, ASHRAE approved an amendment (Addendum-A) to Standard 15-2024. Addendum A revises portions of Section 7 and Section 9 of Standard 15-2024 related to refrigerant pipe shafts by providing a new exception to the requirement for an enclosed, ventilated shaft.

Specifically, Addendum-A states "***A shaft enclosure shall not be required for the refrigerant piping***" if the "***Continuous refrigerant pipe or tube, including joints and connections, have been tested in accordance with Section 9.13***."

For reference, Section 9.13 contains requirements for Refrigeration System Testing. It covers testing requirements and protocols related to exposure of refrigerant piping, allowable test gases (and those not allowed), field test apparatus, refrigerant piping strength and leakage tests (including the protocol), and a requirement for the contractor or engineer's declaration.

ASHRAE's recently approved Addendum-A addresses the extremely costly retrofit problem by removing the mandate for the shaft, **so long as rigid pipe testing protocols are followed**. Recognizing the potential of this cost-saving design to speed up the transition to low-GWP refrigerants in new and (especially) existing buildings, the City of Seattle and the City of Denver have already approved the use of Addendum A.

Before-and-After Illustration
ASHRAE Standard 15-2024 Addendum A



==========

ASHRAE Standard 15-2024 Addendum-A

Modifications to Standard 15-2024 Section 7

7.2.3.1.1 Exempted Spaces. The areas that contain only continuous ~~*refrigerant piping, or contain only*~~ *refrigerant pipe or tube, including* joints and connections that have been tested in accordance with Section 9.13, are exempt from the *effective dispersal volume* calculation unless these areas are part of *connected spaces* per Section 7.2.3.2.

(remainder of Section 7 remains the same)

Modifications to Standard 15-2024 Section 9

9.12.1.5.1 Shaft Alternatives. A shaft enclosure *shall not* be required for the *refrigerant piping* for any of the following ~~*refrigeration systems*~~:

a. Systems using R-718 (water) *refrigerant*

b. Piping in a *high-probability system* where the refrigerant concentration does not exceed the amounts shown in ASHRAE Standard 34, Table 4-1 or 4-2, for the smallest *occupied space* through which the *piping* passes

c. Piping located on the exterior of the building where vented to the outdoors

d. Continuous refrigerant pipe or tube, including joints and connections, that have been tested in accordance with Section 9.13.

Substantiation of the Need for this SFM Proposal

California Governor Gavin Newsom has declared a "climate crisis" in numerous Executive Orders and directives to state agencies over the past five years. A search on the Governor's website for matters related to the "climate crisis" finds over 900 results.

In a July 22, 2022, letter to the Chair of the California Air Resources Board (CARB), the Governor stated, "*California is in the midst of a climate crisis.*" In the same letter, the Governor also said, "*My Administration's unprecedented* ***all-of-government approach*** *has resulted in a draft of the world's first large-economy plan for carbon neutrality. Through the excellent facilitation and work of the California Air Resources Board and staff, and after significant public comment, the draft* ***2022 Scoping Plan calls for emissions cuts in every sector of the economy while prioritizing community health and equitable economic growth****."*

The California Air Resources Board's (CARB) ***Final 2022 Scoping Plan*** and ***Appendix F Building Decarbonization*** references the Building Standard Commission's critical need for the BSC to "adopt *the latest safety standards for refrigerant-containing equipment into the California building codes."* The most notable references, found on Page 238 and Page 240, are reprinted as follows:

Page 238: Hydrofluorocarbons

- *However, most of these technologies are still nascent in the United States.* ***In addition, some of the alternatives cannot be used until California building codes are updated, which is currently expected at the earliest in mid-2024 for some technologies based on the recently adopted provisions in AB 209 requiring the California Building Standards Commission to adopt the latest safety standards for refrigerant-containing equipment into California's building codes. The current updates to the building codes will allow the use of many refrigerants with lower GWPs than HFCs currently in use. However, additional building code updates are needed to expand the choices of ultra-low-GWP alternatives, and that will need to happen in the next few years.***

Page 240: Strategies for Achieving Success

- ***This includes addressing barriers to adoption of very low- or no-GWP refrigerant technologies, such as high upfront costs****, shortage of trained technicians,* ***and the lag in updating safety standards and building codes.***

As cited in the highlighted passage, CARB's Scoping Plan also refers to AB 209, legislation passed in 2022. This legislation included a statutory mandate explicitly directing the California Building Standards Commission to adopt the most recent versions of ASHRAE Standard 15.

Health & Safety Code Section 18944.21 (AB 209)
18944.21*. (a) Not later than July 1, 2023, the commission shall consider whether to adopt* ***the most recent versions*** *of the following consensus safety standards, to be codified and published in the California Building Standards Code: American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 15-2019; ASHRAE Standard 34-2019; Underwriters Laboratories (UL) 60335-2-89 2nd edition; and UL 60335-2-40 3rd edition.*

AB 130 Allows this SFM Code Change

Among other things, AB 130 places significant restrictions on agency code-changes during the Intervening Code Cycles (see language below). However, the authors of AB 130 also included exceptions to those restrictions. Two of those exceptions (highlighted below) allow the update being proposed by the State Frie Marshal.

During the February 11th meeting of the BSC GB/PEME Code Advisory Committee, Mark Springer (SFM Legal Counsel) provided legal advice to the CAC members indicating that this SFM proposal is considered a "technical update" to the code and is allowed under H&S Section 18942(a)(2)(A).

This position is consistent with the BSC AB 130 Guidance Document provided to each CAC member during this year's CAC orientation meeting (1/21/26). On Page 3 of that BSC document, the following guidance is provided:

> *Regarding building standards necessary to incorporate model code errata, the Commission interprets this to mean errata or **tentative interim amendments** issued by the national model code publishers listed in Health and Safety Code Section 18916.*

In the case of IAPMO's 2025 Uniform Mechanical Code, Chapter 11 (Refrigeration) references various sections of ASHRAE 15 more than 120 times. The recently approved "Addendum A" to ASHRAE Standards 15-2024 is clearly a "tentative interim amendment" to that standard. As such, The SFM's proposed adoption of this update would be allowed under AB 130.

In addition, the argument could also be made that this SFM proposal is also allowed under the exception provided by H&S 18942(a)(2)(D) which allows adoption of "emergency updates to the model codes".

The ASHRAE Technical Committee which approved Addendum A was addressing the **urgent** need to balance occupant safety with the need to address the climate change crisis by accelerating the use of low-GWP refrigerant gases. After years of experience with the existing requirement (routing A2L plumbing pipe through a fully ventilated shaft), it became clear that retrofitting existing buildings to enable the shift to low-GWP refrigerants was cost prohibitive, with estimates often exceeding **tens of millions of dollars for a single building**. Subsequently, testing showed that as long as the rigid pipe met the testing protocols specified in Section 9.13, the low-GWP refrigerant piping did not need to be routed through a fully ventilated shaft. This in turn prompted the urgent approval of Addendum A in May of last year.

Health & Safety Code 18942(a)(2)
Changes adopted during the intervening period described in paragraph (1) shall be limited to only the following:
(A) Technical updates to existing code requirements only to the extent necessary to effectuate support or facilitate the incorporation or implementation of those existing code requirements. The updates shall be limited to clarifying, conforming, or coordinating changes that do not materially alter the substance or intent of the existing code provisions.
(B) Emergency building standards.
(C) Amendments by the State Fire Marshal to building standards within the California Wildland-Urban Interface Code (Part 7 of Title 24 of the California Code of Regulations).
(D) The building standards are necessary to incorporate errata or emergency updates to the national model codes specified in Section 18916, along with any necessary and related state amendments supporting or facilitating the incorporation of errata or emergency updates to the model codes.
(E) Changes or modifications made pursuant to paragraph (6) of subdivision (b) of Section 17958, paragraph (6) of subdivision (c) of Section 17958.5, or paragraph (6) of subdivision (c) of Section 17958.7.
(F) Building standards necessary to incorporate updates to accessibility requirements that align with minimum federal accessibility laws, standards, and regulations.