

**INITIAL STATEMENT OF REASONS
FOR PROPOSED BUILDING STANDARDS
OF THE DIVISION OF STATE ARCHITECT
REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(DSA SS/CC 03-21)**

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 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.

The Division of the State Architect (DSA) proposes to amend the 2019 California Green Building Standards Code for inclusion in the 2022 California Green Building Standards Code, effective January 1, 2023. Proposals were presented to the Building Standards Commission (BSC) Green Code Advisory Committee (CAC) on April 28.

Item 1

A definition for Automatic Load Management System (ALMS) is needed to clarify the purpose of ALMS in the regulations provided for electric vehicle charging. The use of ALMS manages supply load to share electrical supply, provides for energy savings and incentivizes the installation of electric vehicle service equipment (EVSE) without increasing panel capacity. This proposed definition is being coordinated with other state agencies that are also proposing similar amendments.

CAC Recommendation:

Further Study

Agency Response:

Accept. The GREEN CAC recommended that DSA and BSC further study a revised definition based on comments received by the California Energy Commission and other stakeholders. DSA coordinated with BSC, the Department of Housing and Community Development (HCD), and The California Air Resources Board (CARB) to revise the definition for consistency between the various occupancies under BSC, DSA, and HCD's authority.

Item 2

A definition for EV CAPABLE will eliminate redundant language defining an EV capable space in Chapter 5. This proposed definition is being coordinated with other state agencies that are also proposing similar amendments.

CAC Recommendation:

Approve

Agency Response:

Accept

Item 2.1

Chapter 2, Definition, LOW-EMITTING AND FUEL EFFICIENT VEHICLES

Post CAC meeting, DSA has decided to co-adopt with BSC the amendment to the definition for Low-emitting and fuel efficient vehicles. Upon further review, this definition has been amended to reflect current laws and the title has been changed to Zero-emitting and high efficient vehicles. While DSA does not propose regulatory requirements for zero-emitting and high efficient vehicles, nor has it previously adopted language that includes regulatory requirements for low-emitting and fuel efficient vehicles, it does fully co-adopt all the definitions in Section 202 that are proposed for adoption by the BSC.

CAC Recommendation:

N/A

Agency Response:

N/A. This item was added post CAC meeting.

Item 3

DSA in coordination with BSC proposes to amend the definition for URINAL, HYBRID TO NONWATER URINAL WITH DRAIN CLEANSING ACTION. The proposed definition will align with the current International Code Council definitions in the 2021 Uniform Plumbing Code which will add consistency between California and model code language.

While DSA does not propose regulatory requirements for non-water urinals with drain cleansing action, nor has it previously adopted language that includes regulatory requirements for hybrid urinals, it does fully co-adopt all the definitions in Section 202 that are proposed for adoption by the BSC.

CAC Recommendation:

Approve

Agency Response:

Accept

Item 4

DSA in coordination with BSC proposes a new definition for OFF-STREET LOADING SPACES, which is needed because it is being used in new proposed code language for EV charging for medium-duty and heavy-duty vehicles.

While DSA does not propose regulatory requirements for off-street loading spaces, it does fully co-adopt all the definitions in section 202 that are proposed for adoption by the BSC.

CAC Recommendation:

Approve as Amended

Agency Response:

Accept. DSA did not align the title of the new definition, which was originally proposed as OFF-STREET PARKING SPACES with language the BSC proposed for the new definition submitted to the CAC. The CAC recommended that DSA change the title of this definition to align with the BSC proposed definition.

Item 5

Withdrawn.

Item 6

DSA in coordination with BSC proposes to co-adopt measures to mandate an increase in EV capable spaces and for the installation of EVSE at EV capable spaces.

The installation of EVSE requires a choice of either Level 2 EVSE or direct current fast chargers (DCFC). This also provides flexibility for school districts and community college districts to choose EV charging options that meet the need for the specific facility. If installing DCFC EVSE to meet the minimum number of EVSE required to be installed, a reduction of five EV capable spaces will be permitted to account for the increased load capacity required for DCFC EVSE and mitigate the reserve load requirements required to be provided to the site for EV capable spaces.

ALMS is used to reduce minimum load capacity to incentivize the installation of additional EVSE beyond the required minimum while permitting a reduction in the required minimum load capacity to each EV capable space when EVSE is installed at time of construction.

This incremental change in the mandatory provisions for new K-12 public school and community college campuses, and new parking areas and the addition of parking areas to existing K-12 public school campuses and community colleges, will support functional EV charging in addition to EV infrastructure to support electric vehicle market penetration.

DSA's proposed action will support the implementation of the Governor's Executive Orders B-16-2012, B-48-2018 and N-79-20 to achieve a benchmark for having over 1.5 million zero-emission vehicles (ZEVs) on California roadways by 2025, 5 million ZEVs on California roadways by 2030, and 100% sales of electric vehicles by 2035.

The intent of the code continues to promote environmentally responsible, cost-effective, healthier places to live and work. The proposed changes to the building standards with statewide application will lead to substantial environmental benefits through reduction in GHG emissions, criteria pollutants, and fossil fuel dependency leading to improved public health, and potentially result in significant cost savings (avoided costs) associated with future installation of EV charging stations at public K-12 schools and community colleges.

CAC Recommendation:

Further Study

Agency Response:

Accept. DSA has further studied the proposed amendments through coordinated discussion with BSC and HCD. These amendments reflect the option to meet the minimum number with either Level 2 or DCFC chargers, a change to permit one EV charger to serve multiple EVs provided the load capacity for each EV capable space is accumulatively supplied to the EV charger, permitting the installation of a DCFC charger

to reduce the number of EV capable spaces by five for the minimum number required, permitting ALMS use for all chargers installed at the time of construction and not only when the minimum number of chargers installed exceeds the minimum number, and a change to the reference for EVCS signs from the Vehicle Code to the Caltrans Traffic Operation Policy Directive 13-01.

Item 7

The Division of the State Architect proposes amendments to the requirements for shade trees to provide clarity to the regulations and to correct an omission in the requirements that excepted play area for organized sport activity, such as basketball courts and foursquare courts, is removed from the total area calculation of the hardscape areas on the campus.

CAC Recommendation:

Approve

Agency Response:

Accept

Item 8

Along with BSC, the Division of the State Architect proposes to adopt the new mandatory measures for thermal insulation for K-12 public schools and community colleges.

Adding these amendments will afford greater protection of public health with limited impact on K-12 public schools and community colleges. Most of these products already meet the required limits.

Considering the availability of these products in the market, DSA believes that such requirements will be readily accepted by the current market and many manufacturers. These amendments have been recommended by and have the support of the California Air Resources Board, California Department of Public Health, Underwrites Laboratory, and the United States Green Building Council.

CAC Recommendation:

Approve

Agency Response:

Accept

Item 9

Along with BSC, the Division of the State Architect proposes to adopt the new mandatory measures for acoustical ceiling and wall panels for K-12 public schools and community colleges.

Adding these amendments will afford greater protection of public health with limited impact on K-12 public schools and community college. Most of these products already meet the required limits. Considering the availability of these products in the market, we believe that such requirements will be readily accepted by the current market and many manufacturers. These amendments have been recommended by and have the support of the California Air Resources Board, California Department of Public Health, Underwriters Laboratory, and the United States Green Building Council.

CAC Recommendation:

Approve.

Agency Response:

Accept.

Item 10

CO2 monitors are needed in K-12 public school classrooms so that teachers can identify indoor air quality concerns related to carbon dioxide levels that may compromise student and teacher health. An indoor air quality report issued by UC Davis in 2019, and school reopening concerns related to the COVID-19 pandemic have placed an increased focus and urgency to improve classroom indoor air quality. This proposal aims to provide a mechanism to identify and address indoor air quality concerns with the requirement for carbon dioxide monitors in classrooms. The requirement for CO2 monitors applies only to new building construction, and not to alterations and additions.

CAC Recommendation:

Further Study

Agency Response:

Accept. DSA has further studied the proposed amendments and has changed the requirement for “hard-wired” monitor to “permanently affixed in a tamper proof manner.” The requirement for hard-wired was proposed so that monitors cannot be unplugged from an outlet and removed from service, but instead has been changed to reflect “permanently affixed in a tamper-proof manner” to address the same concern yet permit use of batteries with considerable longevity in addition to plug-in devices that can be protected from removal because they are secured in a tamper-proof manner. Additionally, the retention of carbon dioxide measurements has been made more specific to require measurements at 15-minute intervals and a record of previous carbon dioxide measurements of not less than 30 days duration.

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).

DSA Statement: There are three technical, theoretical and empirical studies, reports or similar documents used as the basis for the proposed Item 10 to the 2022 California Green Building Standards (CALGreen) Code. These are:

Wanyu R. Chan, et al., Ventilation Rates in California classrooms: Why many recent HVAC retrofits are not delivering sufficient ventilation, Volume 167 (2020), Western Cooling Efficiency Center-UC Davis, Lawrence Berkeley National Laboratory-Berkeley, CA

S. Petersen, et al., The effect of increased classroom ventilation rate indicated by reduced CO2 concentration on the performance of schoolwork by children (April 2015), INDOOR AIR 2016, by Department of Engineering, Aarhus University, Denmark

Mark J. Mendell, et al., Association of classroom ventilation with reduced illness absence: a prospective study in California elementary schools, (May 2013), by Indoor Environment Group, Lawrence Berkeley National Laboratory, Berkeley, CA

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.

DSA Statement: The proposed amendments to California Green Building Standards (CALGreen) Code regulations do not mandate any specific technologies or equipment and do not require any prescriptive standards.

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 Statement: DSA-SS has not identified any reasonable alternatives to these proposed regulations, which do not mandate the use of specific technologies or equipment.

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 Statement: No alternatives were identified that would lessen any adverse impact on small business. Small businesses will not experience an adverse impact due to these amendments.

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 Statement: DSA-SS did not identify any facts, evidence, documents, testimony, or other substantiation to make an initial determination of significant adverse economic impact on business. DSA-SS has determined that this regulatory action would not have a significant adverse economic impact on California business enterprises and individuals, including the ability of California business to compete with business 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)

DSA-SS has assessed whether, and to what extent this proposal will affect the following:

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

DSA Statement: These regulations may cause some jobs to be created for the installation, maintenance and manufacture of Electric Vehicle Supply Equipment and Carbon Dioxide Monitoring Equipment. No jobs are expected to be eliminated within the State of California.

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

DSA Statement: These regulations may cause the creation of businesses that expand into the EV and CO2 Monitor market. These regulations will not affect the elimination of jobs within the State of California.

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

DSA Statement: These regulations may promote the expansion of businesses currently involved with Electric Vehicle and CO2 Monitoring manufacturing, installation, maintenance, and technology development within the State of California.

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

DSA Statement: These regulations will increase the sustainability of California's natural resources by reducing fuel use, GHG emissions, criteria pollutants, and fossil fuel dependence. Additionally, updating and clarifying the minimum requirements in the California Green Building Standards (CALGreen) Code will provide increased protection of public health and safety, worker safety, and the environment.

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 Statement: The estimated costs to comply with the proposed requirement for the installation of carbon dioxide monitors in classrooms is \$7,000 for new elementary schools, \$12,500 for new middle schools, and \$17,500 for new high schools. The potential benefit is an optimal environment for learning, reduction in absenteeism, and increased academic success for students and faculty. The estimated costs to comply with the proposed requirement for electric vehicle

infrastructure and supply equipment is \$13,800 for new elementary schools, \$28,560 for new middle schools, \$103,500 for new high schools, and \$172,500 for new community colleges. The potential benefit is alignment of Governor Newsom's environmental goals for a reduction in greenhouse gas emissions and the opportunity for students and faculty to have access to charging if charging is not available at their place of residence. The assumptions for costs are based on the average annual construction of new campuses in the state.

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.

DSA Statement: There are no proposed California Green Building Standards (CALGreen) Code regulations that duplicate or conflict with federal regulations.