# **CALIFORNIA BUILDING STANDARDS COMMISSION**

# **DIVISION OF THE STATE ARCHITECT**

December 9, 2020

2022 CALGREEN

WORKSHOP

Agenda Item 3A & 3B

**DRAFT EXPRESS TERMS**

**CALIFORNIA GREEN BUILDING STANDARDS CODE,**

**(CALGreen), PART 11,**

**CALIFORNIA BUILDING STANDARDS CODE,**

**TITLE 24, CALIFORNIA CODE OF REGULATIONS**

If using assistive technology, please adjust your settings to recognize underline, strikeout and ellipsis.

## LEGEND for EXPRESS TERMS

* Existing California amendments appear upright
* Amended or new California amendments appear underlined
* Repealed California language appears ~~upright and in strikeout~~
* Ellipsis (…) indicate existing text remains unchanged

## ITEM 3A-CO-ADOPTED BY DSA

## 5.106.5.3 Electric Vehicle (EV) charging

## (Mandatory Measures)

**Statement of specific purpose, problem, rationale and benefits:**

BSC-CG and DSA are proposing this section for adoption, which includes a mandatory requirement for Level 2 charging stations in new nonresidential buildings.

Under a mandate from Assembly Bill 1092 (Chapter 410, Statutes of 2013) authored by Assembly Member Levine, CBSC was directed to develop mandatory EV standards for nonresidential buildings during the 2016 Triennial Code Adoption Cycle.

Health and Safety Code Section 18930.5(b) as amended by Assembly Bill 341 allows CBSC and other state agencies that propose building standards to allow for input by state agencies that have expertise in green building subject areas. The California Air Resources Board (CARB) has expertise in air quality, climate change, and EV charging infrastructure.

BSC-CG and DSA are moving forward with the CARB suggested changes and proposes to include a mandatory requirement for level 2 charging stations in new nonresidential buildings. Recent analysis shows that only roughly 30% of existing Electric Vehicle (EV) capable spaces are being converted to EV chargers. The proposed mandate will increase visibility and access to Level 2 chargers, which are ultimately necessary to support the implementation of 5 million ZEVs by 2030, and to achieve 100% sales of electric vehicles by 2035.

In addition to supporting the Administration’s directives, CBSC’s and DSA’s goal is to enable future charging capability at nonresidential buildings in an effort to reduce the lack of access to EV charging which currently exists. We believe this effort will further encourage the purchase and use of EVs for routine transportation.

**History:**

BSC-CG and DSA’s Zero Emission Vehicle (ZEV) regulation is one strategy to improve air quality and reduce greenhouse gas emissions through advanced technology vehicle production and Low-Emission Vehicle Regulations placed on automobile manufacturers.  Consumers are embracing electric and electric/hybrid vehicles and there is a need for widespread infrastructure to support future charging needs. Additionally, the Governor’s Office Zero Emission Vehicle (ZEV) Action Plan identifies strategies and actions supporting the milestones identified in Executive Order B-16-12, and a revised target of 5 million ZEVs on California’s roadways by 2030 as directed by Executive Order B-48-18.

**Rationale for proposed code change:**

BSC-CG and DSA’s proposes to include a mandatory requirement for level 2 charging stations in new nonresidential buildings. This change will help improve air quality and reduce an estimated 326,000 to 341,000 metric tons of carbon dioxide equivalent (CO2e) annually between 2023 and the end of 2030.

These incremental changes in both the mandatory and voluntary provisions will support new buildings incorporating EV infrastructure in conjunction with electric vehicle market penetration. These amendments will add uniformity and consistency between mandatory and voluntary provisions.

**CHAPTER 5**

**NONRESIDENTIAL MANDATORY MEASURES**

**. . .**

**SECTION 5.106**

**SITE DEVELOPMENT**

**. . .**

**5.106.5.3 Electric vehicle (EV) charging. [N]** Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When at least one charging space is required per Table 5.106.5.3.3, one space equiped with EVSE shall be installed in addition to the required number of EV charging spaces. When EVSE(s) is/are installed, it shall be in accor­dance with the *California Building Code,* the *California Electrical Code* and as follows:

**5.106.5.3.1 Single charging space requirements [N]**

When only a single **. . .** the following:

1. **. . .**

2. **. . .**

3. **. . .**

4. **. . .**

5. **. . .**

**5.106.5.3.2 Multiple charging space requirements. [N]**

When multiple charging spaces **. . .** thefollowing:

1. **. . .**

2. **. . .**

3. **. . .**

4. **. . .**

5. **. . .**

**. . .**

**TABLE 5.106.5.3.3**

| **TOTAL NUMBER OF**  **ACTUAL PARKING SPACES** | **NUMBER OF REQUIRED EV CHARGING SPACES** |
| --- | --- |
| 0-9 | 0 |
| 10-25 | 2 |
| 26-50 | 4 |
| 51-75 | 7 |
| 76-100 | 9 |
| 101-150 | 13 |
| 151-200 | 18 |
| 201 and over | 10 percent of total1 |

1. Calculation for spaces shall be rounded up to the nearest whole number.

**. . .**

**5.106.5.3.5 [N] Future charging spaces.**

Future charging spaces qualify as **. . .** clean air vehicles.

Note: Future electric vehicle charging spaces shall be considered parking spaces and shall count for the total parking spaces required by the local enforcing agencies.

**. . .**

## ITEM 3B-NOT ADOPTED BY DSA

## A5.106.5.3 Electric Vehicle (EV) charging

## (Voluntary Measures)

**Statement of specific purpose, problem, rationale and benefits:**

BSC-CG proposes to include a Tier 1 requirement for level 2 chargers in 3% of total new parking spaces in an effort to further advance the potential for EV preparedness. The Tier 1 charger provision incorporates a sliding scale similar to the EV Capable space requirements. There is no fiscal effect since Tier 1 is a voluntary measure available for adoption by local agencies. However, if all local governments adopted Tier 1 as mandatory, it may add 0.2-0.3% to total costs for nonresidential new construction beyond the current Tier 1 provisions. An estimated incremental GHG reduction of 627,000 to 731,000 metric tons CO2e emissions could be achieved annually by 2030 through the new Tier 1 provisions.

CBSC-CG proposes to include a Tier 2 requirement for level 2 chargers in 5% of total new parking spaces in an effort to further advance the potential for EV preparedness. The Tier 2 charger provision incorporates a sliding scale similar to the EV Capable space requirements. There is no fiscal effect since Tier 2 is a voluntary measure available for adoption by local agencies. However, if all local governments adopted Tier 2 as mandatory, it may add 0.3-0.45% to total costs for nonresidential new construction beyond the current Tier 2 provisions. An estimated incremental GHG reduction of 1,045,000 to 1,219,000 metric tons CO2e emissions could be achieved annually by 2030 through the new Tier 2 provisions.

**APPENDIX A5**

**NONRESIDENTIAL VOLUNTARY MEASURES**

**. . .**

**SECTION A5.106**

**SITE DEVELOPMENT**

**. . .**

**A5.106.5.3 [N] Electric vehicle (EV) charging.** Construction shall comply with Section A5.106.5.3.1 and A5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code* and the *California Electrical Code* and as follows:

**A5.106.5.3.1 Tier 1.** Table A5.106.5.3.1 shall be used to determine ~~the number of multiple charging spaces required for future installation of EVSE.~~ if single or multiple charging space requirements apply for future installation of EVSE. When a single charging space is required with no requirement for spaces equipped with EVSE, refer to Section 5.106.5.3.1 for design requirements. When charging spaces are required along with spaces equipped with EVSE, refer to Section 5.106.5.3.2 for design requirements. All EVSE space requirements are in addition to EV charging space requirements.

**A5.106.5.3.2 Tier 2.** Table A5.106.5.3.2 shall be used to determine ~~if single or multiple charging space requirements apply for future installation of EVSE. When a single charging space is required, refer to Section 5.106.5.3.1 for design requirements. When multiple charging spaces are required, refer to Section 5.106.5.3.2 for design requirements.~~ the number of EV charging spaces and the number of spaces equipped with EVSE. Refer to Section 5.106.5.3.2 for design requirements. All EVSE space requirements are in addition to EV charging space requirements.

|  |  |  |
| --- | --- | --- |
| **Total number of parking spaces** | **TIER 1 Number of required EV charging spaces** | **Tier 1 Additional Number of required EVSE** |
| 0-9 | 1 | 0 |
| 10-25 | 3 | 1 |
| 26-50 | 6 | 1 |
| 51-75 | 10 | 2 |
| 76-100 | 14 | 3 |
| 101-150 | 20 | 4 |
| 151-200 | 27 | 5 |
| 201 and over | 15 percent of total1 | 3 percent of total |

1. Calculation for spaces shall be rounded up to the nearest whole number.

**Table A5.106.5.3.2**

|  |  |  |
| --- | --- | --- |
| **Total number of parking spaces** | **TIER 2 Number of required EV charging spaces** | **TIER 2 Additional Number of required EVSE** |
| 0-9 | 2 | 0 |
| 10-25 | 4 | 1 |
| 26-50 | 8 | 2 |
| 51-75 | 12 | 3 |
| 76-100 | 18 | 5 |
| 101-150 | 25 | 6 |
| 151-200 | 35 | 9 |
| 201 and over | 20 percent of total 1 | 5 percent of total |

1. Calculation for spaces shall be rounded up to the nearest whole number.