

# CALIFORNIA BUILDING STANDARDS COMMISSION

August 20, 2019  
GREEN BUILDING  
WORKSHOP  
Agenda Item 2

## DRAFT EXPRESS TERMS CALIFORNIA GREEN BUILDING STANDARDS CODE, (CALGreen), PART 11, CALIFORNIA BUILDING STANDARDS CODE, TITLE 24, CALIFORNIA CODE OF REGULATIONS

- **Proposed code language for the 2019 Intervening Code Adoption Cycle**

### LEGEND FOR EXPRESS TERMS

1. New California amendments: All such language appears underlined.
2. Repealed text: All such language appears in ~~strikeout~~.

#### **5.106.5.3 Electric Vehicle (EV) charging (Mandatory Measures)**

#### **A5.106.5.3 Electric Vehicle (EV) charging (Voluntary Measures)**

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

CBSC is proposing to increase the percentage of EV capable parking space infrastructure for inclusion in the 2019 CALGreen Code, Sections 5.106.3 Electric Vehicle (EV) charging for mandatory measures and A5.106.3 Electric Vehicle (EV) charging for voluntary measures. It was identified that nonresidential parking garages and other occupancies with large parking lots have had financial impacts trying to comply with the current standards requiring full capacity charging of 40 amps per vehicle. CBSC is proposing an exception in the code for dynamic power management systems for EVSE as one possible solution. Shared charging via dynamic power management systems allows for charging more vehicles with less power usage. Additionally, CBSC is proposing an amendment to Section A5.106.5.3.4 by adding a banner and title, “[N] Future charging spaces,” and to remove unnecessary notes. CBSC is also proposing an amendment to the EV’s code Sections 5.106.5.3.5 and A5.106.5.3.4 by adding a note that states, “Future electric vehicle charging spaces shall be considered parking spaces and shall count for the total parking spaces required by the local enforcing agencies.”

#### **History:**

CBSC’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-16-2012, 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:**

Increasing the requirement from 6 percent to 8 percent for lots over 201 parking spaces will accommodate a foreseeable increase in the demand for EV charging. For the voluntary code provisions, CBSC is proposing to increase the Tier 1 provision from 8 percent to 10 percent and the Tier 2 provision from 10 percent to 12 percent for parking lots over 201 parking spaces. These incremental changes in both the mandatory and voluntary provisions will support new buildings incorporating EV infrastructure in conjunction with electric vehicle market penetration. Additionally, allowing vehicles to be charged at less than full capacity, or less than 40 amps per vehicle, power management systems for EVSE is a good option for promoting widespread adoption by business owners. 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] . . .**

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

When only a single . . . the following:

1. . . .
2. . . .
3. . . .
4. . . .
5. . . .

**Exception:** Capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE is not required when an energy management system is installed in accordance with the California Electrical Code.

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

When multiple charging spaces . . . the following:

1. . . .
2. . . .
3. . . .
4. . . .
5. . . .

**Exception:** Capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE is not required when an energy management system is installed in accordance with the California Electrical Code.

...

**Table 5.106.5.3.3**

<b><u>Total number of parking spaces</u></b>	<b><u>Number of required EV charging spaces</u></b>
0-9	0
10-25	<del>1</del> <u>2</u>
26-50	<del>2</del> <u>3</u>
51-75	<del>4</del> <u>5</u>
76-100	<del>5</del> <u>7</u>
101-150	<del>7</del> <u>10</u>
151-200	<del>10</del> <u>14</u>
201 and over	<del>6</del> <u>8</u> % <sup>1</sup>

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.

...

**APPENDIX A5  
NONRESIDENTIAL VOLUNTARY MEASURES**

...

**SECTION A5.106  
SITE DEVELOPMENT**

...

**A5.106.5.3 [N] Electric vehicle (EV) charging.** Construction shall comply with . . . and as follows:

**A5.106.5.3.1 Tier 1. . . .**

**A5.106.5.3.2 Tier 2. . . .**

**Table A5.106.5.3.1**

<b>Total number of parking spaces</b>	<b>Number of required EV charging spaces</b>
0-9	<del>0</del> <u>1</u>
10-25	2
26-50	<del>3</del> <u>4</u>
51-75	<del>5</del> <u>6</u>
76-100	<del>7</del> <u>9</u>
101-150	<del>10</del> <u>12</u>
151-200	<del>14</del> <u>17</u>
201 and over	<del>8%</del> <u>10%</u> <sup>1</sup>

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

**Table A5.106.5.3.2**

<b><u>Total number of parking spaces</u></b>	<b><u>Number of required EV charging spaces</u></b>
0-9	<del>1</del> <u>2</u>
10-25	<del>2</del> <u>3</u>
26-50	<del>4</del> <u>5</u>
51-75	<del>6</del> <u>7</u>
76-100	<del>9</del> <u>10</u>
101-150	<del>12</del> <u>13</u>
151-200	<del>17</del> <u>18</u>
201 and over	<del>10%</del> <u>12%</u> <sup>1</sup>

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

...

**A5.106.5.3.3 [N] Identification.** The service panel or subpanel . . .

...

**A5.106.5.3.4 [N] Future charging spaces.** Future charging spaces qualify as . . .  
 . . . clean air vehicles.

**Notes:**

1. ~~The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Mark-ings can be found in the New Policies & Directives number 13-01. [www.dot.ca.gov/hq/traffops/policy/13-01.pdf](http://www.dot.ca.gov/hq/traffops/policy/13-01.pdf).~~

~~2. See Vehicle Code Section 22511 EV charging spaces signage in offstreet parking facilities and for use of EV charging spaces.~~

~~3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and businesses.  
[www.opr.ca.gov/docs/ZEV\\_Guidebook.pdf](http://www.opr.ca.gov/docs/ZEV_Guidebook.pdf).~~

**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.

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