



June 27, 2024

Mr. Kevin Day  
Deputy Executive Director  
California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833

Via Email to [Kevin.Day@dgs.ca.gov](mailto:Kevin.Day@dgs.ca.gov)  
CC: [Mitchel.Baker@hcd.ca.gov](mailto:Mitchel.Baker@hcd.ca.gov), others listed below

Re: EVCAC EV Infrastructure suggestions for BSC's 45-Day Comment Period on Proposed CALGreen Non-Residential Building Standards Express Terms, released on May 16, 2024

Dear Mr. Day:

The **EV Charging for All Coalition (EVCAC) leadership team** offers the following comments and recommendations to the Building Standards Commission (BSC). Our comments refer directly to Items BSC presented in the 45 day comment period Express Terms and Initial Statement of Reasons as part of the current 2024 non-residential Triennial Code Adoption Cycle. We further bring to your attention issues for consideration during the upcoming 2025 Intervening Code Adoption Cycle.

In our review of the amended terms, we first wish to commend BSC for providing pre-cycle public workshop opportunities for EVCAC and other stakeholders to express strong support for improved access to convenient, inexpensive, safe and reliable charging at home — which will help to lower the barriers to equitable EV adoption at scale. We applaud the overall progress that has been made ensuring universal EV Ready access to charging in newly-built apartments and condominiums in the 2024 Triennial Code cycle.

## **45-Day Express Terms Comments**

### **1. BSC Express Terms Item 3, Table 5.106.5.3.1 EV Capable spaces and EVCS -**

The proposed number of charging spaces shown in Table 5.106.5.3.1 is insufficient to meet the needs of the large number of residents and employees who live in multifamily homes and who do not have charging at home. The number of EV Capable and EVCS spaces should be increased in accordance with H&SC § 18930 Criterion 3, which states that *“The public interest requires the adoption of the building standards. The public interest includes, but is not limited to, health and safety, resource efficiency, fire safety, seismic safety, building and building system performance, and consistency with environmental, public health, and accessibility statutes and regulations.”*

### **2. BSC Express Terms Item 3, Table 5.106.5.3.1 EV Capable spaces and EVCS -**

In the first row of Table 5.106.5.3.1, the range should be 1 to 9 spaces for the first category because there are no parking lots with zero spaces. This is in accordance with H&SC § 18930 Criterion 6, which requires that *“The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.”*

We based our review on BSC’s 45-day CalGreen documents, found here: [Initial Statement of Reasons](#) and [Express Terms](#). We used the Health and Safety Code Section 18930 criteria, found here: [H&SC § 18930](#).

## **Upcoming 2025 Intervening Code Cycle Considerations**

Despite the progress made in the proposed code changes, significant barriers remain to convenient and equitable EV charging for residents in both single-family and multi-family dwellings. Therefore, we offer the following suggestions for consideration in the upcoming 2025 Intervening Code Adoption Cycle:

- 1. Low Power Level 2 and Level 2 Minimum Power Requirements for retrofitting MFH with EV charging** - When a Low Power Level 2 circuit serves one space, the minimum power shall be 16A at 208V/240V; when a Level 2 40A circuit serves one space, the minimum power shall be 32A at 208V/240V. When either a Low Power Level 2 circuit or a Level 2 circuit serves more than one space in an automated load management configuration, the minimum power provided to a single space shall be 8A at 208V/240V.
- 2. Table 5.106.5.3.1 EV Capable Offset for Required EVCS** - Adjust or eliminate Footnote 2 from Table 5.106.3.1 to ensure the total number of EV Capable spaces is not reduced by the number of EVCS spaces provided. More workplace and

public charging will be needed in the future and the EV Capable circuits will be an important part of this effort.

3. **EV Charging Requirements Should Be Based on California Building Code Occupancy Groups in accordance with Employee, Customer and Visitor Needs, Dwell Times and Usage Patterns** - Align CALGreen non-residential building charging requirements with the existing CA Building Code Occupancy Groups to ensure that the required number of charging spaces and charging speeds support the frequency of use, dwell times, and the needs of employees, customers and visitors. Currently Office and Retail uses have the same requirements, which may be appropriate, but all other building uses are combined into one group, irrespective of the employee, customer and visitor needs, dwell times and usage patterns. For example, should a sports stadium with thousands of parking spaces that are used intermittently have the same requirements as hospital parking that is occupied on a continuous daily basis?
  
4. **In section 5.106.5.3.2.1 of the nonresidential building code, add reference to a fourth type of receptacle, namely an IEC 62196 Type 2 receptacle**, sometimes called a Mennekes receptacle, that is already in the code approved by the International Electrotechnical Commission (IEC). This configuration, which is used in the U.S. and Europe, is capable of supplying a minimum of 20A at 208V/240V in order to accommodate “travel” or “convenience” cords that have connectors on each end of the cord for use where the EVSE is contained in the sidewalk charging post or light pole. The code language to accomplish this is shown below:

*“Section 5.106.5.3.2.1*

*208/240V EV charging receptacles shall comply with one of the following configurations:*

- 1. For 20-ampere receptacles, NEMA 6-20R.*
- 2. For 30-ampere receptacles, NEMA 14-30R.*
- 3. For 50-ampere receptacles, NEMA 14-50R.*
- 4. An IEC 62196 Type 2 socket supplied with a minimum of 208/240V 20A.”*

*For more information see this link: [https://en.wikipedia.org/wiki/IEC\\_62196](https://en.wikipedia.org/wiki/IEC_62196).*

See this image for an example of the IEC 62196 cordset configuration.



The exact same wording would also be inserted in the residential code, section **4.106.4.2.2**. EVCAC intends to insert this suggested language in our letter to HCD for the residential code.

EV Charging that is readily available, convenient and equitably priced for all Californians is essential for the transition to clean electric transportation. We commend the BSC management and staff for their hard work and consideration of new ideas offered by stakeholders throughout the many steps in the code development process. We look forward to working with you in the upcoming code adoption cycles.

Sincerely,

**The Electric Vehicle Charging for All Coalition Leadership Team:**

Wendy Chou, Coalition & Project Senior Manager, Acterra

Dennis Corelis, Architect

Marc Geller, Plug In America

Guy Hall, Electric Vehicle Association

Linda Hutchins-Knowles, Equitable E-Mobility and Electrification Consulting

Dwight MacCurdy, EV Advisor and Project Manager

Michelle Pierce, Electrical Engineer, EV Advocate

Sven Thesen, EV Policy & Infrastructure Consultant, EVCAC Co-Founder

Vanessa Warheit, National Codes Lead, EVCAC Co-Founder

Zack Wurtz, Chief of Staff, Acterra

## CC's for Other Stakeholders and Agencies

Adrienne.Harris@arb.ca.gov  
Ali.Koohestani@arb.ca.gov  
Analisa.Bevan@arb.ca.gov  
Andrew.Martinez@arb.ca.gov  
annalisa.schilla@arb.ca.gov  
banpreet.bhambra@arb.ca.gov  
Belinda.Chen@arb.ca.gov  
Jennifer.gress@arb.ca.gov  
Joshua.Cunningham@arb.ca.gov  
Kathy.Jaw@arb.ca.gov  
lauren.sanchez@gov.ca.gov  
Lisa.macumber@arb.ca.gov  
Sam.Lerman@arb.ca.gov  
zhen.dai@arb.ca.gov  
Corey.Permann@energy.ca.gov  
danuta.drozdowicz@energy.ca.gov  
hannon.rasool@energy.ca.gov  
Ken.Rider@energy.ca.gov  
Larry.Rillera@energy.ca.gov  
mark.wenzel@energy.ca.gov  
melanie.vail@energy.ca.gov  
Mona.Badie@energy.ca.gov  
Peter.Strait@energy.ca.gov  
simon.lee@energy.ca.gov  
will.vicent@energy.ca.gov  
<Michael.Truax@cpuc.ca.gov>  
Abhilasha.Wadhwa@cpuc.ca.gov  
Audrey.Neuman@cpuc.ca.gov  
Ed.Pike@cpuc.ca.gov  
jennifer.kalafut@cpuc.ca.gov  
Nick.Zanjani@cpuc.ca.gov  
paula.gruending@cpuc.ca.gov  
cbcs@dgs.ca.gov  
Enrique.Rodriguez@dgs.ca.gov  
Mia.Marvelli@dgs.ca.gov  
Hannah.Goldsmith@gobiz.ca.gov  
tyson.eckerle@gobiz.ca.gov  
cortney.copeland@gobiz.ca.gov  
grace.curtis@gobiz.ca.gov  
heather.hickerson@gobiz.ca.gov  
gia.vacin@gobiz.ca.gov  
[Thomas.G.Martin@hcd.ca.gov](mailto:Thomas.G.Martin@hcd.ca.gov)  
Gustavo.Velasquez@hcd.ca.gov  
janeen.dodson@hcd.ca.gov  
Jenna.Kline@hcd.ca.gov  
Kyle.Krause@hcd.ca.gov  
matt.schueller@hcd.ca.gov  
Megan.kirkeby@hcd.ca.gov  
Mitchel.Baker@hcd.ca.gov  
monica.hernandez@hcd.ca.gov  
Pedro.Galvao@hcd.ca.gov;  
Randall.Enrico@hcd.ca.gov  
ryan.seeley@hcd.ca.gov  
Thomas.g.Martin@hcd.ca.gov  
zachary.olmstead@hcd.ca.gov  
James.hacker@gov.ca.gov  
Andrea.Escobar@gov.ca.gov  
Czarlene.Manangan@hcd.ca.gov  
jason.elliott@gov.ca.gov  
Marshall.Comia@gov.ca.gov  
Sam.Assefa@opr.ca.gov  
Sasha.Kergan@bcsh.ca.gov  
scott.morgan@opr.ca.gov  
Karen.Douglas@gov.ca.gov  
kgjohnson@rivian.com  
[Kristian@caletc.com](mailto:Kristian@caletc.com)  
[Eric.Cahill@SMUD.org](mailto:Eric.Cahill@SMUD.org)  
Louie.Diaz@SMUD.org  
nderrickson@tesla.com  
Sdouglas@autosinnovate.org  
dbowerson@autosinnovate.org  
cbullis@flo.com  
Ken.Branson@sen.ca.gov  
Tina.Andolina@sen.ca.gov  
winifred.yancy@ladwp.com  
pkobernick@peninsulacleanenergy.com  
rreyes@peninsulacleanenergy.com  
Conrad.Aasper@pge.com  
KACV@pge.com  
ailsa.yew@sce.com  
naveed.h.ahmad@sce.com  
matt.londre@se.com  
vince.wiraatmadja@se.com  
barry.hooper@sfgov.org  
tosullivan@sflower.org  
gary.gluck@siemens.com  
justin.zagunis@svcleanenergy.org

nupur.hiremath@svcleanenergy.org  
zoe.elizabeth@svcleanenergy.org