

**CALIFORNIA BUILDING STANDARDS COMMISSION
ZERO EMISSION VEHICLE (ZEV) WORKSHOP
November 14, 2013**

Electric Vehicle (EV) Charging Standards (Voluntary)

- **Statement of specific purpose, problem, rationale and benefits:**
The proposed amendments are to continue the development of EV provisions in Title 24 and transition voluntary EV charging regulations to mandatory provisions. The proposed building standards regulations will implement Governor Brown's Executive Order B-16-2012. The Office of Planning and Research developed a Zero-emissions Vehicle Community Readiness Guidebook to further assist local jurisdictions with the planning and installation of EV charging stations. The California Department of Transportation updated their Manual on Uniform Traffic Control Devices to include signage for EV charging stations. *[Additional rationale language to be developed.]*
- **Proposed code language for the 2013 Intervening Cycle**

LEGEND FOR PROPOSED LANGUAGE

1. Proposed California language and modified language is underlined.
2. Repealed text: All such language appears in ~~strikeout~~.
3. *[Information for the reader is bracketed and in red italics]*

**SECTION A5.106
SITE DEVELOPMENT**

A5.106.5.3 Electric vehicle (EV) charging. ~~Provide facilities meeting infrastructure to facilitate future installation of electric vehicle supply equipment (EVSE). EVSE and all devices related to EV charging shall be installed in compliance with the California Building Code Section 406.9 (Electric Vehicle) of the California Building Code, The California Electrical Code Article 625, and as follows:~~

A5.106.5.3.1 Single charging space location requirements. ~~When only a single charging space location is required, per Section A5.106.5.3.3, install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1 inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging location into a listed cabinet, box or enclosure. The panel or subpanel shall have sufficient capacity to support Level 2 EVSE or greater. The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure.~~

Exception: Other pre-installation methods approved by the local enforcing agency that provide sufficient conductor sizing and service capacity to install Level 2 electric vehicle supply equipment (EVSE) or greater.

A5.106.5.3.2 Multiple charging spaces locations required. ~~Only raceways are required to be installed at the time of construction. When multiple charging spaces locations are required, per Section A5.106.5.3.3 or Section A5.106.5.3.4, construction plans and specifications shall include indicate the proposed type and location(s) and type of the EVSE, raceway method(s), wiring schematics and electrical calculations to verify that the electrical charging system. The electrical charging system shall have has sufficient capacity to simultaneously charge simultaneously all the electrical vehicles (EV) at all the future designated EV charging spaces locations at their full rated amperage. Plan design shall be based upon Level 2 EVSE or greater at its maximum operating ampacity. Provide raceways from the electrical service panel to the designated parking areas which are required to be installed at the time of construction.~~

Note: Utilities and local enforcing agencies may have additional requirements for metering and EVSE installation, and should be consulted during the project design and installation. *[Relocate Note to end of section]*

A5.106.5.3.3 Tier 1. At least 3 percent of the total parking spaces, but not less than one charging location, shall be capable of supporting installation of future EVSE. *[Tier 1 is 3% for all parking spaces. However, if a property has 100 or more spaces then Tier 1 isn't more restrictive. Should Tier 1 have a higher % for greater than 100 spaces?]*

A5.106.5.3.4 Tier 2. At least 5 percent of the total parking spaces, but not less than two charging locations, shall be capable of supporting installation of future EVSE.

A5.106.5.3.5 Labeling requirement. A label stating "EV CHARGE CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and the EV charging space termination point.

A5.106.5.3.6 Future charging locations qualify as designated parking as described in Section 5.106.5.2 Designated parking.

Notes:

1. Utility providers and local enforcing agencies may have additional requirements for metering and EVSE installation, and should be consulted during the project design and installation.
2. The Society of Automotive Engineers (SAE) Standard J1772. "Electrical Conductive Charge Couple", released January 2010, defines, in part, AC Level EVSE as 240-volt, single phase, up to 80 amps.
3. 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 Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm
4. See Vehicle Code Section 22511 EV charging spaces signage in offstreet parking facilities and for use of EV charging spaces.
5. 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. http://opr.ca.gov/docs/ZEV_Guidebook.pdf