

**FINAL STATEMENT OF REASONS
FOR PROPOSED BUILDING STANDARDS
OF THE CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY
DEVELOPMENT
REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

(HCD 03/21)

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a Final Statement of Reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS:

Government Code Section 11346.9(a)(1) requires an update of the information contained in the Initial Statement of Reasons. If the update identifies any data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying that was not identified in the Initial Statement of Reasons, the state agency shall comply with Government Code Section 11347.1.

The Department of Housing and Community Development (HCD) has made changes in a subsequent 15-day Express Terms document due to comments from the Division of the State Architect (DSA) to clarify accessibility provisions related to public housing and public accommodations; internal determination for use of an Automatic Load Management System (ALMS) for both electric vehicle (EV) charging receptacles and chargers installed in excess of the mandatory number; renumbering and reorganizing of proposed code sections. The rationale for these changes is detailed in the 15-day Express Terms and Rationale document.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

Pursuant to Government Code Section 11346.9(a)(2), if the determination as to whether the proposed action would impose a mandate, the agency shall state whether the mandate is reimbursable pursuant to Part 7 of Division 4. If the agency finds that the mandate is not reimbursable, it shall state the reasons for the finding(s).

The California Department of Housing and Community Development (HCD) has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts.

HCD has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Government Code Section 11346.9(a)(3) requires a summary of EACH objection or recommendation regarding the specific adoption, amendment, or repeal proposed, and an explanation of how the proposed action was changed to accommodate each objection or

recommendation, or the reasons for making no change. This requirement applies only to objections or recommendations specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action, or reasons for making no change. Irrelevant or repetitive comments may be aggregated and summarized as a group.

This Final Statement of Reasons (FSOR) includes a reference to some duplicate comments. Due to the large volume of stakeholder comments, HCD consolidated similar comments and corresponding responses to comments.

HCD will not consider responses on non-HCD proposals or proposals not addressed during the specified public comment periods.

The text, with proposed changes, was made available to the public for a 45-day comment period from July 13, 2021, through September 27, 2021. A total of 170 comments were received during the comment period. HCD has responded to all the comments received during the 45-day public comment period. Please see below for responses.

The text, with proposed changes, was made available to the public for an additional 15-day comment period from October 13, 2021 through October 28, 2021. A total of 11 comments were received during the comment period. HCD responded to all comments received during the 15-day public comment period. Please see below for responses.

COMMENTS RECEIVED DURING THE 45-DAY PUBLIC COMMENT PERIOD ARE LISTED BELOW

Item 2

Chapter 2, DEFINITIONS, Section 202, AUTOMATIC LOAD MANAGEMENT SYSTEM

HCD is proposing a new definition for an Automatic Load Management System (ALMS) as a system designed to manage load across one or more electric vehicle supply equipment (EVSE) to share electrical capacity and/or automatically manage power at each connection point.

Commenter and Recommendation:

Robert Whitehair, San Mateo, CA

Commenter recommends that HCD return the ALMS language included in earlier versions of the proposed code. Commenter believes that the current proposal to include ALMS is insufficient, ambiguous, and unclear.

Commenters and Recommendation:

Guy Hall, Director, Electric Auto Association; Dwight MacCurdy, Sacramento Electric Vehicle Association, SMUD EV Project Coordinator (Retired); Marc Geller, Vice President, Plug In America

Commenters request that HCD consider providing more specific language to describe the ALMS and its subsequent use and that the code provide support for a "variety of

topologies that are currently available to deploy ALMS. These include a distributed approach with EVSEs that have more than one connection point...”

Agency Response:

HCD appreciates the commenters’ points of view and the commenters’ suggestions. HCD held multiple focus group meetings and worked in conjunction with California Air Resources Board (CARB), California Building Standards Commission (CBSC), Division of the State Architect (DSA), the building industry and other stakeholders to develop proposed definitions. HCD has proposed allowable use of an ALMS once minimum installation requirements for receptacles and chargers have been met. The California Electrical Code (CEC) more specifically defines and addresses the use and minimum code requirements for ALMS.

No changes to the Final Express Terms (FET) were made as a result of these comments.

Commenters and Recommendation:

Dylan Jaff, Electric Vehicle Charging Association; Kristian Corby, California Electric Transportation Coalition; Meredith Alexander, CALSTART; Steven Douglas, Alliance for Automotive Innovation; Noelani Derrickson, Tesla

Commenters state, “We generally support the definition of ALMS as well as the flexibility and limitations established...” Commenters further recommend that HCD and CBSC work with ALMS manufacturers, a safety standards organization such as Underwriters Laboratories (UL), and relevant stakeholders to develop a standard listing of certified ALMS systems in order to facilitate local jurisdictions in their review of ALMS design and installation.

Agency Response:

HCD appreciates the commenters’ points of view and the commenters’ suggestions. CEC Article 110.3 requires that product testing, evaluation, and listing (product certification) be performed by recognized qualified testing laboratories.

No changes to the FET were made as a result of this comment.

Commenter and Recommendation:

Jonathan Hart, PowerFlex

Commenter states that it “Supports BSC and HCD’s proposed definition of ALMS as written and that it is broad enough not to favor any one type or approach or technology.” Commenter also states that under both HCD and the CBSC’s definition of use of an ALMS, “It is unclear if the proposals would require that there be enough transformer capacity to serve at least 3.3 kW to each EVSE or if power delivered could not go below 3.3 kW.”

Agency Response:

HCD appreciates the commenter's points of view and the commenter's suggestions. HCD's language requires that there be sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. HCD is not proposing requirements for specific transformer capacity for the ALMS or EV charging.

No changes to the FET were made as a result of this comment.

Item 2

Chapter 2, DEFINITIONS, Section 202, LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT

HCD is proposing a new definition for Level 2 (EVSE) as the 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

Commenter and Recommendation:

Jonathan Hart, PowerFlex

PowerFlex proposes expanding the definition of Level 2 EVSE to include branch circuits up to 60 amps. Commenter further states that they have had several Level 2 EVSE installations with 60A branch circuits, so broadening the definition would cover these types of installations.

Agency Response:

HCD has proposed the definition of Level 2 EVSE to identify the minimum amperage required. The definition is a minimum and does not preclude installation of higher amperage circuits. Designers/developers may specify higher amperages for projects as deemed necessary.

No changes to the FET were made as a result of this comment.

Item 2

Chapter 2, DEFINITIONS, Section 202, ELECTRIC VEHICLE (EV) READY SPACE

HCD is proposing to define Electric Vehicle (EV) Ready Space as a vehicle space which is provided with a branch circuit; any necessary raceways, both underground and/or surface mounted; to accommodate EV charging, terminating in a receptacle or a charger.

Commenters and Recommendation:

Cesar Diaz, Senior Manager, Public Policy, Chargepoint

Commenter proposes that HCD specify that each parking space defined as being EV ready, specifically be "defined as featuring an adjacent wired electrical junction box, receptacle or EV supply equipment (EVSE)."

Agency Response:

HCD appreciates the commenter's points of view and the commenter's suggestions. HCD worked with stakeholders to develop a definition that is clear and prevents a code user from drawing a conclusion that a junction box meets the requirement or that a receptacle or charger is not necessary. It is HCD's intent that EV charging be immediately available at the EV ready space via an installed receptacle or EV charger and be ready to provide charging without additional installation of electrical equipment.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes mandatory regulations for EV charging and EV charging infrastructure for new construction.

Commenter and Recommendation:

Gary Latshaw, Ph.D.

Commenter states that, "...it is imperative that all new buildings in California are equipped to meet our EV targets... The best we can do is to eliminate greenhouse emissions wherever possible. Clearly, allowing residents of multi-family dwellings access to charging is critical in reducing emissions from vehicles."

Agency Response:

HCD appreciates the commenter's points of view and the commenter's suggestions. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces.

HCD is also retaining EV charging requirements for one and two-family dwellings and townhouses with attached private garages. These requirements are for installation of EV charging infrastructure only (raceway and service panel capacity). HCD is not proposing any change for one and two-family dwellings and townhouses from the 2019 California Green Building Standards Code (CALGreen).

Commenters and Recommendation:

Various commenters; see Attachment A for a complete list.

Many commenters request the following for all new multifamily housing units with parking:

- A. An EV Space that is wired directly to the unit's corresponding electric meter
- B. True EV Ready "plug-and-play" charging access via an electric outlet or EV charging cordset
- C. Prominent labeling of EV charging spaces with highly visible signage to increase EV awareness and encourage adoption

Commenters note that CALGreen should "level the playing field and provide equitable, affordable, ubiquitous access to EV charging." Commenters also note that current code does not require multifamily housing to have the same access as single-family housing.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. HCD held multiple focus group meetings and worked in conjunction with CARB, CBSC, DSA, the building industry and other stakeholders to incrementally increase EV charging access.

Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles.

No changes to the FET were made as a result of these comments.

Commenter and Recommendation:

Wei-Tai Kwok, Council Member, City of Lafayette

In addition to the comment above noted as A through C, commenter further suggests that HCD provide a Level 1 option for the charging.

Commenter and Recommendation:

Sinan Dunlap; Eugene Dunlap

In addition to the comment above noted as A through C, commenter further suggests that HCD require that the EV spaces per unit have "L2 capability (40 Ah, 240V)."

Agency Response:

See previous Agency response related to percentage increase and direct wiring. HCD appreciates the commenters' points of view and the commenters' suggestions. HCD believes that low power Level 2 receptacles should provide a sufficient level of charging at a minimum of 20-amperes for most EV drivers. HCD's proposal sets a minimum amperage and may be increased by the designer/developer as needed.

No changes to the FET were made as a result of these comments.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces.

Commenter and Recommendation:

John Kalb, EV Charging Pros

Commenter states the following: 1. In some cases Level 1 chargers may be sufficient at select multifamily dwellings, yet the proposal removes the possibility of 120V Level 1 charging from the building codes; 2. The proposal requires "low power" to be 240V 20A. Commenter included a chart that shows a much larger number of EVs can be charged at 120V 15A and 20A. There is a need to have 120V as a solution for a property owner to justify and scale a project from a power perspective; and 3. It is the commenter's experience that properties will be more than happy to embrace an electrical calculation at a 100% of spaces at 120V 20A definition and use automated load management and other technologies to provide a mix of charging levels for all parking spaces on the property in lieu of 60% less EV charging stations.

Agency Response:

HCD appreciates the commenter's point of view and the commenter's suggestions. HCD held multiple focus group meetings and worked in conjunction with CARB, CBSC, DSA, the building industry and other stakeholders to develop the current proposal.

The 120V was proposed by stakeholders at the initial focus group meeting, but at the second focus group meeting, stakeholders strongly encouraged HCD to require a minimum of low power Level 2 receptacles, as 120V would be inadequate for commuters with a longer commute distance and commuters that had no ability to charge at work. Therefore, HCD determined that low power Level 2 is more appropriate for most EV drivers.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 contains proposed amendments to existing requirements and new proposed mandatory regulations for EV charging and EV charging infrastructure for new construction. However, exceptions are provided.

Commenter and Recommendation:

Mark Roest, Sustainable Energy Inc.

The commenter recommends removing the exception "Where there is no local power supply or the local utility is unable to supply adequate power." The commenter suggests that regardless of the utility's ability or willingness to supply adequate power, rooftop solar would be able to supply the power for the EV chargers.

Agency Response:

HCD appreciates the commenter's point of view and the commenter's suggestions. This is an existing exception that was modified to align with the CBSC's CALGreen proposal. HCD believes that the EV charging exception may be applicable if the local utility cannot supply power to the chargers. This may apply especially in an area in which solar energy is inadequate due to topographical or climatic conditions.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2

Section 4.106.4.2 contains proposed mandatory regulations for EV charging and EV charging infrastructure to include EV ready parking for new multifamily, hotel and motel occupancies.

Commenter and Recommendation:

Cesar Diaz, Senior Manager, Public Policy, Chargepoint

Commenter recommends that HCD require 100% EV ready parking for new multifamily, hotel and motel occupancies in sections 4.106.4.2.1 and 4.106.4.2.2. Commenter further suggests that HCD propose new language which would introduce "EV Charging Performance Requirements."

Agency Response:

HCD appreciates the commenter's point of view and the commenter's suggestions. HCD has carefully considered the comments and has determined that the most prudent approach from this point forward is to allow the currently proposed code requirements and percentages to be field tested; through real world application and installation throughout the state, prior to further increasing the percentages.

No changes to the FET were made as a result of this comment.

Commenter and Recommendation:

Sven Thesen, Project Green Home Co-Founder

Commenter suggests that HCD change the code to require a low power Level 2 receptacle for every multifamily dwelling unit that has access to parking. Commenter lists additional statements supporting the proposed change.

A duplicate comment was also submitted.

Agency Response:

HCD appreciates the commenter's point of view and the commenter's suggestions. Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Sections 4.106.4.2.1 and 4.106.4.2.2

Section 4.106.4.2.1 identifies proposed EV charging requirements for multifamily development projects with less than 20 dwelling units and hotels and motels with less than 20 sleeping units or guest rooms. Section 4.106.4.2.2 identifies multifamily development projects with 20 or more dwelling units and hotels and motels with 20 or more sleeping units or guest rooms.

Commenters and Recommendation:

Timothy Burroughs, StopWaste; Alma Freeman, StopWaste

Commenters are supportive of HCD's proposal, but encourage higher amounts of EV charging capability for multifamily and believe "at least 30% of all new parking spaces should be EV capable."

Agency Response:

HCD appreciates the commenters' point of view and the commenters' suggestions. HCD has carefully considered the comments and has determined that the most prudent approach is to allow the currently proposed code requirements and percentages to be field tested; through real world application and installation throughout the state, prior to further increasing the percentages.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Sections 4.106.4.2.1 and 4.106.4.2.2

Section 4.106.4.2.2 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the

requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces.

Commenter and Recommendation:

Robert Whitehair, San Mateo, CA

Commenter appreciates that incremental improvements have been made for HCD's new residential EV infrastructure proposal. Commenter also recommends that HCD "increase the residential EV ready percentage from 25% to 85%..."

Commenter and Recommendation:

Vanessa Warheit, EV Charging Access for All

See Attachment B for list of additional signatories.

Commenter requests that HCD increase the residential EV ready percentage from 25% to 85%.

Commenter and Recommendation:

Brent Formigli, Qualcomm Technologies, Inc.

Commenter recommends that the standard should be EV ready spaces, with access to low power Level 2 charging receptacles, for the majority of tenants' parking spaces.

Commenter and Recommendation:

Britta Gross, Managing Director, Carbon-Free Mobility

Commenter supports an increase in the CALGreen code for residential EV ready parking spaces at newly constructed multi-unit dwellings, from the currently proposed 25% up to 85%. This increase – along with the currently proposed 10% EV capable and 5% installed charger requirements in this code update cycle – form a critical step in achieving universal home charging access.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions.

Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of these comments.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2

Section 4.106.4.2 contains proposed mandatory regulations for EV charging and EV charging infrastructure to include EV ready parking for new multifamily, hotel and motel occupancies.

Commenters and Recommendation:

Dylan Jaff, Electric Vehicle Charging Association; Kristian Corby, California Electric Transportation Coalition; Meredith Alexander, CALSTART; Steven Douglas, Alliance for Automotive Innovation; Noelani Derrickson, Tesla

Commenters appreciate the extensive work of CBSC, HCD, CARB, and the various supporting agencies in developing these code proposals with stakeholders. Commenters continue to strongly support the proposed increases to EV capable, EV ready, and EVSE installed for both residential and nonresidential building codes, while acknowledging the need for more. Commenters also recommend a text change to HCD's proposal to add the words "a minimum of;" and further suggest that EV Ready text read, "Twenty-five (25) percent of the total number of parking spaces shall be equipped with a minimum of low power Level 2 EV charging receptacles."

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. HCD believes that "a minimum of" does not need to be restated as the California Building Standards Code already establishes minimum requirements.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2.2

Section 4.106.4.2.2.1 (exception) contains proposed mandatory regulations for EV charging stations built in accordance with the California Building Code (CBC) Chapter 11B. Charging stations in compliance with Chapter 11B are not required to comply with location provisions in CALGreen. Section 4.106.4.2.2.1 requires EV spaces and EVSE for hotel and motel occupancies to comply with CBC Chapter 11B. EV ready spaces and electric vehicle charging stations (EVCS) in multifamily developments shall comply with CBC Chapter 11A.

Commenters and Recommendation:

Shane Diller, CALBO President 2021-2022; Anne Jungwirth, CALBO

CALBO supports HCD's proposal, but provided comments regarding "a conflict between the Exception in **4.106.4.2.2.1** and the language in **4.106.4.2.2.3**. Reader is left to ponder if the exception can be used generally and how it applies to public housing, which often is a multifamily development."

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. DSA submitted comments to clarify accessibility to public housing and public accommodations which will result in changes to these sections.

Accept. HCD will make the recommended DSA amendments during the 15-day public comment period.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4.2.2 identifies proposed mandatory regulations for EV charging and EV charging infrastructure for multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms. CALGreen includes references to accessibility requirements in CBC Chapters 11A and Chapter 11B.

Commenter and Recommendation:

Ida Claire, DSA

To maintain consistency with requirements already in regulation, EVCS serving public accommodations, public housing, motels, and hotels must be excepted from the specific requirements for location, dimensions, and accessible EV spaces as proposed by HCD, and reference must be made to comply with the accessibility requirements for EVCS stipulated in CBC Chapter 11B for these facilities.

DSA supports HCD in the regulatory process to advance EV charging in multifamily developments, hotels and motels. However DSA requests edits to the proposed building standards to maintain consistency with the regulations already adopted.

Agency Response:

Accept. HCD appreciates the commenter's points of view and the commenter's suggestions. HCD will make the recommended amendments during the 15-day public comment period.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2.2

Section 4.106.4.2.2 identifies proposed mandatory regulations for EV charging and EV charging infrastructure for multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms. When Level 2 electric vehicle supply equipment (EVSE) is installed beyond the minimum required, an ALMS may be used to reduce the maximum required electrical capacity to each space served by the ALMS.

Commenters and Recommendation:

Guy Hall, Director, Electric Auto Association; Dwight MacCurdy, Sacramento Electric Vehicle Association, SMUD EV Project Coordinator (Retired); Marc Geller, Vice President Plug In America

Commenters suggests that HCD include within the proposed language the words “connection point.” Commenters recommend that the language related to EV chargers read, “When Level 2 EVSE is installed beyond the minimum required, an automatic load management system... shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) connection point served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes and installed EVSE connection point(s) shall have an output capacity of not less than 30 amperes.”

Agency Response:

HCD appreciates the commenters’ points of view and the commenters’ suggestions. An ALMS may only be utilized when chargers or receptacles are installed in excess of what is required by CALGreen. The requirements for ALMS are addressed in the CEC.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2.3

Section 4.106.4.2.3 identifies proposed mandatory regulations for EV charging and EV charging infrastructure to include additions and alterations of parking facilities serving existing multifamily buildings.

Commenters and Recommendation:

Guy Hall, Director, Electric Auto Association; Dwight MacCurdy, Sacramento Electric Vehicle Association, SMUD EV Project Coordinator (Retired); Marc Geller, Vice President Plug In America

Commenters request that HCD consider the following recommendations be added to the proposed language under the Exceptions to further improve the CALGreen code for retrofits: 1. add exception for additions/alterations for enabling access to power for charging EVs and/or changing to more energy efficient lighting systems; and 2. change to EV ready instead of EV capable.

Commenters and Recommendation:

Dylan Jaff, Electric Vehicle Charging Association; Kristian Corby, California Electric Transportation Coalition; Meredith Alexander, CALSTART; Steven Douglas, Alliance for Automotive Innovation; Noelani Derrickson, Tesla

Commenters state that they strongly support HCD’s 10% EV Capable for existing multifamily, but also propose that HCD expand EV readiness to incorporate a broader range of housing stock which will need electrification by expanding the trigger for a building permit to also include work requiring an electrical permit.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. HCD has carefully considered the comments and has determined that the most prudent approach at this point within the rulemaking process, is to move forward with the proposed requirement as an incremental step. HCD is willing to consider the comments in future code adoption cycles.

No changes to the FET were made as a result of these comments.

Item 4

Chapter 4, ELECTRIC VEHICLE READY SPACE SIGNAGE, Section 4.106.4.2.6

Section 4.106.4.2.6 includes proposed mandatory regulations for EV ready spaces and the required identification for each space. Identification shall be in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

Commenters and Recommendation:

Robert Whitehair, San Mateo, CA

Commenter suggests that HCD include requirements for prominent signage at all EV capable/EV ready parking spaces.

Timothy Burroughs, StopWaste

Commenter supports comments at CBSC's Code Advisory Committee to include signage for EV capable to indicate that EV charging is possible.

Vanessa Warheit, EV Charging Access for All, see Attachment B for additional signatories.

Commenter recommends that HCD include prominent signage at all EV capable/EV ready parking spaces.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. HCD is requiring signage on EV ready spaces which includes spaces with a receptacle or charger for EV charging. The requirement for signage on EV capable space would be misleading to the public since there is no facility for charging.

No changes to the FET were made as a result of these comments.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for new construction. The 2022 CALGreen Code I is effective during 2023 - 2025.

Committer and Recommendation:

Mark Roest, Sustainable Energy, Inc.

Committer recommends that HCD be aggressive in escalating the schedule of percentages for EV ready and EV capable in each year and propose a schedule.

Agency Response:

HCD appreciates the commenter's points of view and the commenter's suggestions. Health and Safety Code (HSC) Section 18942 provides for state agencies to propose changes to the California Building Standards Code as necessary. HCD reevaluates the California Building Standards Code every 18 months but there is no escalated schedule built into the HCD proposal.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for new construction. HCD has prepared an Economic and Fiscal Impact Statement as related to the CALGreen proposal.

Committer and Recommendation:

Sven Thesen & Associates

Committer presented to HCD on September 27, 2021, "A Comparison of Two Multi-Family Dwelling EV Charging Codes, An Economic and Environmental Analysis of the CALGreen 2022 Mandatory Residential Electric Vehicle (EV) Infrastructure Code" which compares HCD's August 12, 2021 proposal to the EV Charging Access for All Coalition's February 2021 proposal. Commenter's analysis suggests that the low power Level 2 proposal presents a greater economic benefit for multifamily housing and for California.

Committer submitted another email on September 27, 2021, which recommended a position of "Approve as Amended", but commenter did not specify a specific amendment.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' detailed analysis.

CARB evaluated the analysis provided by the commenter and has determined that, while the commenter's proposal reflects a lower cost on a per parking space basis (with infrastructure), the proposal requires a higher upfront cost and more parking spaces with EV charging infrastructure. The proposed regulations aim to meet the charging needs of EV users by providing better EV infrastructure with required Level 2 EVSE and Level 2 EV capable spaces. Lower cost based only on a per space analysis is not an equitable comparison.

Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of these comments.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies.

Commenters and Recommendation:

Jim Frey & Peter Mustacich, Statewide Utility Codes and Standards Team

Commenters provided HCD with a report published on behalf of the California Statewide Utility Codes and Standards Team titled "Light-Duty Electric Vehicle Charging Infrastructure Analysis for California's CALGreen Building Code." Commenters provided several recommendations: promote load shaping, futureproof buildings to reduce cost and impact of charging infrastructure expansion, avoid potential restrictions on technology advancement, revise technical power requirements for clarity and consistency, apply minimum ALMS performance requirements, accommodate typical parking variations (dwell times), and fill data gaps in support of future code enhancement.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' recommendations. HSC Section 18942 provides for state agencies to propose changes to the California Building Standards Code as necessary. HCD reevaluates the California Building Standards Code every 18-months. Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces.

Commenter and Recommendation:

Lawrence Emerson, National City, CA

Commenter states that it is important that a program be developed to assist existing multifamily unit dwellings to install charging stations for residents and for all new multifamily dwelling units to be designed to accommodate charging stations for future EV purchasers.

Agency Response:

HCD appreciates the commenter's points of view and the commenter's recommendations. Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Sections 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces.

Commenters and Recommendation:

Phillip Kobernick, representing Peninsula Clean Energy, MCE, Clean Power Alliance, Redwood Coast Energy Authority, and East Bay Community Energy

Further Study. Commenters suggest that HCD consider EV charging access to all residents with a parking space and elimination of mandatory measures (5% EVSE installed, 10% EV capable, and 25% low power Level 2 EV ready). Commenters also provide options for an EV ready space for every residential unit, and EV charging access to 50% of total parking spaces while utilizing flexible power management.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' recommendations. HCD has carefully considered the comments and has determined that the most prudent approach from this point forward is to allow the currently proposed code requirements and percentages to be field tested; through real world application and installation throughout the state, prior to further increasing the percentages.

No changes to the FET were made as a result of this comment.

Item 11

Appendix A4, RESIDENTIAL VOLUNTARY MEASURES, Section A4.106.8.2.1

Section A4.106.8.2.1 includes proposed voluntary regulations (Tier 1 and Tier 2) for EV ready and EV chargers for residential occupancies.

Commenters and Recommendation:

Dylan Jaff, Electric Vehicle Charging Association; Kristian Corby, California Electric Transportation Coalition; Meredith Alexander, CALSTART; Steven Douglas, Alliance for Automotive Innovation; Noelani Derrickson, Tesla

Commenters recommend adding the words "a minimum of" to the specified percentages.

Commenters and Recommendation:

Phillip Kobernick, representing Peninsula Clean Energy, MCE, Clean Power Alliance, Redwood Coast Energy Authority, and East Bay Community Energy

Commenters suggest that HCD consider increasing voluntary measures Tier 1 and Tier 2 up to 100%.

Agency Response:

HCD appreciates the commenters' points of view and commenters' recommendations. HCD believes that "a minimum of" does not need to be restated, as the California Building Standards Code already establishes the minimum requirements. Due to the varying needs of EV users and rapidly changing nature of EV technology, including battery capacity, types and rates of charging, and to ensure adoption of EV charging requirements in building standards are appropriate, cost-effective, flexible, and equitable for the many different stakeholders affected by EV-related building codes, HCD will consider further changes related to EV charging access in future code adoption cycles. HCD will work to continue the advancement of EV charging requirements for residential buildings in a manner that takes meaningful, incremental

steps to address air quality issues, reduce greenhouse gases and meet the needs of building residents that desire to purchase, own, lease and drive EVs. Also, since these are voluntary measures, local agencies have discretion to increase percentages as needed.

No changes to the FET were made as a result of this comment.

Item 11

Chapter A4, RESIDENTIAL VOLUNTARY MEASURES, Section A4.106.8.2.1

Section A4.106.8.2.1 includes proposed voluntary regulations for EV ready and EV chargers for residential occupancies. The section includes requirements for EV ready and EV chargers to meet specified Tier 1 and Tier 2 requirements (percentages) and also include references to sections related to accessibility.

Commenter and Recommendation:

Ida Claire, Division of the State Architect

Commenter requests amendments to Section A4.106.8.2.1 deleting references to the application of California Building Code Chapter 11B.

Agency Response:

Accept. HCD appreciates the commenter's point of view and the commenter's suggestions. HCD will make the recommended amendments during the 15-day public comment period.

COMMENTS RECEIVED DURING THE 15-DAY COMMENT PERIOD

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4

Section 4.106.4 includes proposed mandatory regulations for EV charging and EV charging infrastructure for residential occupancies. The 15-day Express Terms proposed changes related only to accessibility and use of ALMS.

HCD is retaining EV charging requirements for one and two-family dwellings and townhouses with attached private garages. These requirements are for the installation of EV charging infrastructure only (raceway and service panel capacity). HCD is not proposing any change for one and two-family dwellings and townhouses from the 2019 CALGreen regulations.

Commenters and Recommendation:

Senator Dave Cortese, 12 legislators and an additional 7 local elected officials

See Attachment E for list of additional signatories.

Sven Thesen, Project Green Home, Co-Founder

Commenters request the following for all new multifamily housing units with parking:

- A. An EV Space that is wired directly to the unit's corresponding electric meter.
- B. True EV Ready "plug-and-play" charging access via an electric outlet or EV charging cordset.
- C. Prominent labeling of EV charging spaces with highly visible signage to increase EV awareness and encourage EV adoption.

Commenters and Recommendation:

Senator Dave Cortese, plus 11 California Legislators

See Attachment D for list of additional signatories.

In addition to the comments above, A through C, commenter attached a delegation letter supporting the same level of EV charging access for residents of multifamily buildings as the level of EV charging access for residents of single-family homes.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. HCD's proposal for new multifamily dwellings, will mandate EV charging, not just EV infrastructure as in single-family dwellings. The basis of these comments is outside the scope of this 15-day Express Terms. Government Code Section 11346.9 states that a comment is "irrelevant" if it is not specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action.

No changes to the FET were made as a result of these comments.

Commenter and Recommendation:

Stacey Reineccius, Powertree Services Inc.

Commenter suggests that HCD make the following policy adjustments to meet the goals of Title 24 and to satisfy the needs of tenants/drivers and to address the equity concerns with EV infrastructure:

Clarify definition of Title 24 EV requirements to be a percentage of vehicles served vs. percentage of parking spaces.

Clarify Title 24 EV requirements to require actual activated EVSE at properties and not just "make readies."

Apply current mandates and requirements more aggressively to retrofits.

Commenter's letter also supports the same level of EV charging access for residents of multifamily buildings as residents of single-family homes with recommendations on ensuring cost effectiveness and equity in such deployments.

Agency Response:

HCD appreciates the commenter's points of view and the commenter's suggestions. The proposed changes to the 15-day Express Terms do not address percentages of parking spaces or the number of vehicles for EV charging. HCD's proposal for new multifamily dwellings will mandate EV charging, not just EV infrastructure as in single-family dwellings. The basis of these comments is outside the scope of this 15-day

Express Terms. Government Code Section 11346.9 states that a comment is “irrelevant” if it is not specifically directed at the agency’s proposed action or to the procedures followed by the agency in proposing or adopting the action.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2

Section 4.106.4.2 contains proposed mandatory requirements for EV charging and EV charging infrastructure to include EV ready parking for new multifamily, hotel, motel, and new residential parking facilities.

The 15-day Express Terms proposed changes related only to accessibility and use of ALMS.

Commenter and Recommendation:

Sven Thesen, Project Green Home, Co-Founder

Commenter suggests that HCD change the code to require a low power Level 2 receptacle for every multifamily dwelling unit that has access to parking.

Agency Response:

HCD appreciates the commenter’s point of view and the commenter’s suggestion. The basis of this comment is outside the scope of this 15-day Express Terms. Government Code Section 11346.9 states that a comment is “irrelevant” if it is not specifically directed at the agency’s proposed action or to the procedures followed by the agency in proposing or adopting the action.

No changes to the FET were made as a result of this comment.

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4.2.2

Section 4.106.4.2.2 includes proposed mandatory requirements for EV charging and EV charging infrastructure for residential occupancies. HCD is proposing to retain the requirements for EV capable spaces at ten (10) percent of total parking spaces, proposing new requirements for low power Level 2 receptacles (EV ready) at twenty-five (25) percent of parking spaces, and Level 2 chargers at five (5) percent of parking spaces in multifamily buildings with 20 or more dwelling units or hotels and motels with 20 or more sleeping units or guestrooms. HCD is also proposing signage for EV ready and EV charger spaces. The 15-day Express Terms proposed changes related only to accessibility and use of ALMS and amended this section for ALMS to apply to low power Level 2 receptacles.

Commenter and Recommendation:

EV Charging Access, Light Duty - Group Letter

See Attachment C for list of additional signatories.

Commenters suggest that HCD increase the residential EV Ready percentage from twenty-five (25) percent to eighty-five (85) percent and include prominent signage at all EV capable and EV ready spaces.

Commenters and Recommendation:

Vanessa Warheit, EV Charging Access for All

See Attachment B for list of additional signatories.

Commenter requests that HCD increase the residential EV Ready percentage from twenty-five (25) percent to eighty-five (85) percent.

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions.

The basis of these comments is outside the scope of this 15-day Express Terms. The Government Code Section 11346.9 states that a comment is "irrelevant" if it is not specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action.

No changes to the FET were made as a result of these comments.

Commenters and Recommendation:

EV Charging Access, Light Duty - Group Letter

See Attachment C for list of additional signatories.

Vanessa Warheit, EV Charging Access

The commenters recommend that HCD remove the clarifying ALMS language from this version. The commenters state that "This change would, in effect provide a disincentive to developers for providing charging above the minimum required, by further limiting the potential of ALMS."

Commenter and Recommendation:

Phillip Kobernick, Peninsula Clean Energy

Commenter recommends amending this section to apply when "...ten (10) percent or more of the total number of parking spaces are equipped with Level 2 EVSE, then all can use the ALMS."

Agency Response:

HCD appreciates the commenters' points of view and the commenters' suggestions. The proposed changes to the 15-day Express Terms address the application to low power Level 2 receptacles but does not address ALMS capacity or use. Government Code Section 11346.9 states that a comment is "irrelevant" if it is not specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action. The basis of these comments is outside the scope of this 15-day Express Terms.

No changes to the FET were made as a result of these comments.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

Government Code Section 11346.9(a)(4) requires a determination with supporting information that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed, or would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

In the case of the CALGreen, there is no model code applicable to residential occupancies to be adopted. HSC Section 17928 mandates HCD to review relevant green building guidelines and to propose green building features that are cost effective and feasible as mandatory building standards. HCD evaluated the available relevant green building guidelines, held multiple focus group meetings and worked in conjunction with CARB, CBSC, DSA, the building industry and other stakeholders to determine the most appropriate updates.

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES:

Government Code Section 11346.9(a)(5) requires an explanation setting forth the reasons for rejecting any proposed alternatives that would lessen the adverse economic impact on small businesses, including the benefits of the proposed regulation per 11346.5(a)(3).

There were no alternatives available to HCD. Providing the most recent methods and applying those building standards on a statewide basis, as required by statute, results in uniformity, and promotes affordable costs.

Attachment A Commenter List

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106

(Comments with three primary requests related to electric vehicle charging)

Annie Tate
Lois Downey
Ariane Erickson
Karen Kirschling
Anne Kramer
Caryn Graves
Judy Burris
Jeffry Carpenter
Lalit Giri
Phil Lowery
Laurie-Ann Barbour
Jenny Riley / Aubrey Riley
Blanche Korfmacher
Cristi Hendry
John Holme
Bob Besso
Woody Hastings
Mary Burns
Ellie Cohen / The Climate Center
Deborah Hernas
Kenneth Gibson
Debbie Denton
Cate Levey
John Keller
Elaine Salinger
Gopal Shanker / Récolte Energy
Luis Sanchez / Community Resource Project
Lauren Fraser
Katheryn Bumpass
Ellyn Dooley
Hildy Meyers
Christine Hoex
Dr. Mha Atma S Khalsa / Martha Oaklander
Carlos Davidson
Patricia Kinney
Jessica Craven
Nancy Gatschet

Attachment A Commenter List

Denise Kato
Claire Broome, MD
David Wilde
Leah Pressman
Professor Katherine Trisolini / Loyola Law School
Terri Moon
Dr. Margie Chen
Jacki Yahn, Architect
Marialena Malejan-Roussere
Linda Hutchins-Knowles / Carl Knapp GoEV Program, Acterra
Laura Simpson
Stephanie Morris
Claire Broome, MD
David Bezanson, Ph.D.
Steve Birdlebough
Janet Pearlman
Ann Dorsey
Ariene Erickson
Carter Chapman
Katie Davis
Robert Dodge
Sybil Cramer / Silicon Valley Elect Vehicle Assoc.
Wendy Chou
Chris Lish
David and Susan Link
Ann Harvey, MD
Gwyn Dukes
Jan Adler
Judith I. Weisman
Kevin Ma
Lynn La Count
Miles Bergeson
Michelle Pierce
Marian Sedio
Dr. Ralf Buengener
Tom Edwards
Victoria Dunch
Bill Coolidge
Brigitta Van Der Raay
Cynthia Sandoval
Constance Starner
Brian Haberly

Attachment A Commenter List

Bruce Naegel / Constance Roberts
Betsy Thagard
Heather MacLeod
Indrani Chaudhuri
Igor Tregub
Jeffrey I Levin
Michael Wittig
Nora Dunlap
Paula Buel
Patrick Costello
Philip Morton
Susannah Sallin / SallinSearch.com
Nathan Schleifer
A. Fierro-Clarke
A. Stuart
A. Syed
B. Ballinger
D. Gangsei
D. Nelson
D. Sparacin
J. Baxter
J. Brooks
J. Cecil
J. Knox
J. Truong
J. Vandergriff
J. Willert
L. Mott
L. Nichols
P. Lydon
P. Mackin
P. Vachal
R. Goodman
S. Jacobi
S. Jeffress
S. Kress
S. Meinzen
S. Narducy
S. Ryan
T. Martin
T. Nocera
T. Snyder

Attachment A Commenter List

T. Strand
W. Foster
Z. Dietrich
Jeanne Lahaie
Bill Hilton
Lauren Weston
Sue Y Lee & Archie Mossman
John Reister – GoPower EV
Jim M.
Bill Montgomery
Wei-Tai Kwok, Council Member, City of Lafayette
Archie Mossman
K. Boyd
Miles Bergeson
Sinan Dunlap
Sven Thesen

Attachment B

Signatories to Vanessa Warheit, EV Charging Access for All, Comments Pt. 11 45-Day Comments - Section 4.106 - EV Charging Access for All

Organizations

350 Bay Area, Laura Neish, Executive Director
350 Conejo / San Fernando Valley, Alan Weiner, Chapter Lead
350 Contra Costa, Lisa Jackson, Representative for 350 Contra Costa Leadership Team
350 Petaluma, Annie Stuart, Steering committee member
350 Silicon Valley, Nicole Kemeny, President
350 Sonoma, Christine Hoex, Steering Committee member & EV Driver
Acterra, Lauren Weston, Executive Director
Adopt A Charger, Kitty Adams Hoksbergen, Executive Director
Beyond Efficiency Inc, Dan Johnson, Architect
CA Interfaith Power & Light, Liore Milgrom-Gartner, Northern CA Director
Carbon Free Palo Alto, Bruce Hodge, Founder
Center for Biological Diversity, John Fleming, Ph.D., Senior Scientist
Center for Community Energy, Jose Torre-Bueno, Executive Director
Change Begins with ME (Indivisible), Tama Becker-Varano, Activist and EV Driver since 2018
Charge Across Town, Maureen Blanc, Organizer
Citizens' Climate Lobby - San Mateo County chapter, Ellyn Dooley, Climate activist
Clean Coalition, Craig Lewis, Executive Director
CleanEarth4Kids.org, Suzanne Hume, Educational Director and Founder
Climate Health Now, Cynthia Mahoney
Climate Reality Project Orange County (OC), Tristan Miller, Vice Chair
Climate Reality Project Sacramento Chapter, Kaveena Mathi, Co-chair
Climate Reality Project: Silicon Valley, Karen Warner Nelson, Chair
Climate Reality San Francisco Bay Area Chapter, Harriet Harvey-Horn and Teron McGrew, Co-Chairs
Coalition for Clean Air, Christopher Chavez, Deputy Policy Director
Coltura, Janelle Landon, Co-Executive Director
Cool the Earth, Annika Osborn, Community Outreach and Program Director
DRAWDOWN Bay Area, Leslie Alden, Executive Director
Elected Officials to Protect America, Dominic Frongillo, Executive Director
Electric Auto Association, Guy Hall, Director and Policy Committee Chair
Electric Auto Association - Silicon Valley Chapter, Jerry Pohorsky, President
Environment California, Laura Deehan, State Director
Environmental Council of Sacramento, Ralph Propper, President
Green Novato, Kevin Morrison, Founder
GreenLatinos, Andrea Marpillero-Colomina, Clean Transportation Advocate
Indivisible California Green Team, Jennifer Tanner, Leader
Indivisible California StateStrong, Lori Saltveit, Indivisible California StateStrong Lead
Indivisible East Bay, Lawrence Baskett, Former CA Sci/Tech Policy Fellow
Indivisible Ross Valley, Sue Saunders, Founder
Indivisible Sonoma County, Tom Benthin, Advisory Council Member
Indivisible South Bay LA, Doug Bender, Retired Engineer

Attachment B

Signatories to Vanessa Warheit, EV Charging Access for All, Comments Pt. 11 45-Day Comments - Section 4.106 - EV Charging Access for All

Labor Management Cooperation Committee of IBEW Local 11 & NECA L.A., Joseph Sullivan, Director of Energy Solutions
Labor Network for Sustainability, Veronica Wilson, California Organizer
Let's Green CA!, Heidi Harmon, Senior Public Affairs Director
Marin/Sonoma EV Squad, David Moller, Professional Engineer
Menlo Spark, Diane Bailey, Executive Director
Mothers Out Front California, Alicia Nichols Gonzalez, California Organizing Manager
Mothers Out Front Capital Region Team, Adelita Serena, Climate Justice Organizer
Mothers Out Front San Francisco, Kathie Piccagli, EV Driver since 2016
Mothers Out Front Silicon Valley, Susan Butler-Graham, Team Coordinator
Mothers Out Front Fresno, LaTisha Harris, Community Organizer
North County Climate Change Alliance, Marian Sedio, Climate Activist
Plug In America, Marc Geller, Vice President
Project Green Home, Dr. Kate Kramer, Co-Founder, EV Driver since 2007
Rotary Club of Novato, Ronald W. Harness, Energy Consultant & Import Manager
Sacramento Electric Vehicles, Guy Hall, Board Director
San Diego Green Building Council, Colleen FitzSimons, Executive Director
San Fernando Valley Climate Reality, Diana Weynand, Chapter Chair
Santa Cruz Climate Action Network, Pauline Seales, Organizer
Sierra Club California, Daniel Barad, Policy Advocate
Sierra Club SF Bay Chapter, David McCoard, Co-Chair Energy and Climate Committee
Silicon Valley Electric Auto Association, Sybil Cramer, Secretary, EAASV
Sonoma County Climate Mobilization, Pete Gang, Retired architect
Southwest Energy Efficiency Project (SWEET), Matt Frommer, Senior Transportation Associate
Sustainable San Mateo County, Christine Kohl-Zaugg, Executive Director
Sustainable Silicon Valley, Jennifer Thompson, Executive Director
The Climate Reality Project California State Coalition, Antonina Markoff, Coordinator
The Climate Reality Project San Diego Chapter, Cherry Robinson Psy.D, CoChair
Union of Concerned Scientists, Sam Houston, Senior Analyst
Unitarian Universalist Church of Palo Alto, Green Sanctuary, Bill Hilton, Co-Chair, EV Driver since 2016
Vegetarians In New Energy Sources, Maynard S. Clark, Founder and Director
Venice Action, Jed Pauker, Co-Founder
Venice Resistance, Jed Pauker, Leader

Companies

Atmos Financial, Ravi Mikkelsen, Co-founder
BeniSol, LLC, Sven Thesen, Founder, CEO & EV Driver since 2007
Orange Charger, Nicholas Johnson, CEO
Redwood Energy, Sean Armstrong, Managing Principal

Individuals

Alan Solomon

Attachment B
Signatories to Vanessa Warheit, EV Charging Access for All, Comments
Pt. 11 45-Day Comments - Section 4.106 - EV Charging Access for All

Alice Sung, Architect/Climate Justice Advocate /Future EV Driver
Bret Andersen, Member, Carbon Free Palo Alto
Bruce Naegel, Retired Engineer / Sustainability Volunteer
Dwight MacCurdy, SacEV Advisor, SMUD Retiree
Elena Engel, 350 Bay Area
Jeffrey Perrone, User Experience (UX) Designer
Josephine Gaillard, Environmental Quality Commissioner, Menlo Park, EV Driver since 2018
Kate Harrison, Councilmember, City of Berkeley
Leane Eberhart, Architect
Linda Hutchins-Knowles, EV driver since 2012, Co-founder of Mothers Out Front Silicon Valley
Mary Dateo, EV Driver since 2014
Nick Ratto, Retired Clinical Pharmacist
Paul Wermer, PhD, Chemistry
Rebecca Lucky
Sudhanshu Jain, City of Santa Clara Councilmember
Vanessa Warheit, EV driver since 2013

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Organizations

1000 Grandmothers for Future Generations, Susan Penner, DrPH
350 Butte County, Mary Kay Benson, Steering Council Manager
350 Contra Costa, Lisa Jackson, Leadership Team Member
350 Humboldt, Daniel Chandler, 350 Humboldt Steering Committee
350 Sacramento, Ilonka Zlatar, President
350 Silicon Valley, Nicole Kemeny, Concerned Citizen
350 Sonoma, Christine Hoex, EV driver since 2017
Acterra, Linda Hutchins-Knowles, Karl Knapp GoEV Senior Manager
African Beads For Good, Jeanne Pimentel, Retired editor, goodwill ambassador
Berkeley Climate Action Coalition, Pheng Lor, Ecology Center Program Manager & BCAC Convener
Berkeley Electrification Working Group, Amy Kiser, Co-Chair
California Climate Action Coalition, Ben Gould, Founder
Carbon Free Palo Alto, Bruce Hodge, Founder
Center for Biological Diversity, John Fleming, Ph.D., Senior Scientist
Center for Community Energy, Jose Torre-Bueno, Executive Director
CHARGE ACROSS TOWN, Maureen Blanc, Director, EV Driver since 2014
Clean Coalition, Craig Lewis, Executive Director
Climate Equity Policy Center, Sara Zimmerman, Director
Climate Health Now, Cynthia Mahoney, MD and EV driver since 2019
ClimateLink, Ravi Mikkelsen, Founder
Coalition for Clean Air, Christopher Chavez, Deputy Policy Director
Coltura, Janelle London, Co-Executive Director
Community Resource Project, Luis Sanchez, CEO
Cool the Earth, Annika Osborn, Community Outreach
County Climate Change Alliance, Marian Sedio, volunteer
DRAWDOWN Bay Area, Leslie Alden, Executive Director
Drive Clean Bay Area, Annika Osborn, Program Director
Ecology Action, Mahlon, Vice President
Ecology Center, Denaya Shorter, Community Engagement Director
Elders Climate Action, Marin Interfaith Climate Action, Katherine DaSilva Jain, Volunteer
Elders Climate Action's NorCal chapter and SoCal chapter, Bill Murphy, Policy and legislation volunteer
Electric Auto Association of Central Coast CA, Beverly DesChaux, President
Electric Auto Association San Joaquin Valley, Dave Atherton, Chapter President
Electric Auto Association, Jerry Pohorsky, Silicon Valley Chapter President
EV Nirvana and Inland Empire Electric Vehicle Association, Michelle Pierce, EV Driver since 2012
GreenLatinos, Andrea Marpillero-Colomina, Clean Transportation + Energy Lead
Indivisible East Bay, Larry Baskett, Governing Committee Member
Indivisible Ross Valley, Sue Saunders, Founder
Indivisible Sonoma County, Tom Benthin, Indivisible Sonoma County Advisory Council Member
Interfaith Climate Action Network of Contra Costa County, Rev. Will McGarvey, Exec. Director
Interfaith Power & Light, Susan Stephenson, Executive Director

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Long Beach Alliance for Clean Energy, Dave Shukla, Operations
Marin/Sonoma EV Squad, David Moller, P.E.
Menlo Spark, Diane Bailey, Executive Director
Mothers Out Front California, Alicia Nichols-Gonzalez, California Organizing Manager
Mothers Out Front Capital Region, Adelita Serena, Capital Region Organizer
Mothers Out Front Fresno, LaTisha Harris, Fresno Community Organizer
Mothers Out Front San Francisco, Maia Piccagli, Volunteer Leader
Mothers Out Front Silicon Valley, Jenny Green, Volunteer Leader
Novasutras, Michelle Merrill, Founder
Ocean Outfall Group, Joseph Racano, Director
Peninsula Interfaith Climate Action, Debbie Mytels, Chair
Project Green Home, Kate Kramer, MD, Co-Founder, EV driver running on PV since 2007
Resource Renewal Institute, Chance Cutrano, EV Driver since 2017
San Francisco Bay Physicians for Social Responsibility, Robert M. Gould, MD, President
Santa Cruz Climate Action Network, Pauline Seales, Organizer
So. Bay Interfaith Power & Light, Rani Fischer, EV driver since 2017
Sustainable Silicon Valley, Jennifer Thompson, Executive Director
The Climate Center, Woody Hastings, Energy Program Manager
The Climate Reality Project California State Coalition, Antonina Markoff, Coordinator and LEED AP BD+C Architect
Transition Sonoma Valley, Tom Conlon, Editor
Union of Concerned Scientists, Sam Houston, Senior Analyst
Unitarian Universalist Church of Palo Alto, Green Sanctuary Committee, Kevin Ma, ChairNorth

Companies

Atmos Financial, PBC, Ravi Mikkelsen CEO
BeniSol, LLC, Sven Thesen, Founder, EV driver running on PV since 2007
California Solar Electric, Tom Burt
GoPowerEV Inc, John Reister, CEO
Green Building Architects, Bill Wolpert, Architect and EV driver since 2011
Horse Opera Productions, Vanessa Warheit, Producer, award-winning video Worse Than Poop!
Infomax Solutions, Mike Molavi, EV driver
JRP Charge, Joel Pointon, Principal
Laura Stokes Online Art Sales and Gallery, Debra Stokes, Retired Engineer, Want to Drive an EV
Modern Home Services, INC, Hamed Kazemi, Business Professional
Natural Resources Law, Rene Voss, Attorney and EV Driver since 2018
NPC Solar, Nicholas Carter, PhD, Founder and Owner, EV driver for 20 years
Orange Charger Inc, Nicholas Johnson, CEO
Peevers Consulting Services, Alan Peevers, Owner
Récolte Energy, Gopal Shanker, President
Unplugged Performance, Ben Schaffer, CEO

Individuals

A-Kwun Wong, EV Driver since 2012

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Alan Solomon, Lead Generation/Sales EV Charging Access For All
Alex Wang, EV driver since 2016
Alison Sullivan, Aspiring EV driver
Allison Davis, Non Profit Program Director
Allison Kenneth, EV Driver since 2009
Amy Zucker Morgenstern, Minister, Unitarian Universalist Church of Palo Alto
Andrew Reich, EV Driver since 2015
Andrew Wilder, CEO and EV Driver since 2013
Andy Carman, Dr.
Ann Harvey, Physician and EV driver
Anthony DiSalvo, Network Engineer
Arthur Keller, EV Driver since 2001
Barbara A Ballenger, EV Driver since 2018
Barbara DiSalvo, Retired
Ben Zuckerman, EV driver since 2011
Beth DeVincenzi, Retired
Bettina Hughes, MSc
Bill DeVincenzi, Retired CFO and University Professor
Bill Hilton, Retired HR Mgr
Bill Montgomery
Brett Havener, Network Engineer
Bruce Naegel, Board, Carbon Free Silicon Valley
Bruce Nixon
Carol Long, EV driver since 2005
Carol Vollen
Chadwick Manning, Renewable Energy Technology Entrepreneur & Project Developer
Chance Cutrano, Town Councilmember, Town of Fairfax
Chase Dixon, Active Duty Navy
Chris Gilbert, EV Driver
Christine Sullivan, EV Driver
Claire Broome, Professor of Public Health
Colby Allerton, Real estate manager
Colin Finnegan, Researcher
Colin Gould, EV owner since 2018, tech worker
Cor van de Water, EV driver since 2005
Courtney Parks, Renter in Multi-Family Housing, Aspiring EV Driver
Craig Drizin, Engineer
Craig Gordon, Fire Department Paramedic
Dan Ellecamp, Retired Financial Analyst
Danny Boardman, Military member, EV driver
Dave Jewett, Retired
David Bezanson, Ph.D.
David Wilde, EV Driver since 2018
Dency Nelson, EV Driver since 2002/Founding Member of Plug In America
Diana Nemet, EV Driver

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Diane Demee-Benoit, EV Driver since 2019
Douglas Martoccia, Chief Engineer for the Global Positioning System
Dwight MacCurdy, Retired SMUD EV Project Manager
Eliot Kalman, Musician
Elizabeth Pirrotta, Data Analyst
Elizabeth Thagard, EV driver since 2005
Frank King, EV driver since 2017
Fred Bamber, CEO
Grace DeValle, EV Driver of 2013 Prius Plug-in & 2017 E-Golf
Hilary Bates AIA, Architect
Howie Schneider, Rabbi
Hugh Williams, EV owner in multi-family housing
Ian McCullough, EV Driver since 2018
Igor Tregub, Co-Chair, Sierra Club SF Bay Energy-Climate Committee; Volt driver and multi-family housing resident
Isaac Mankita, EV Driver since 2017
Jack Labbe, EV Activist
James Higbie, Physicist
James Hosner, EV Driver since 2020
Janet Parks, EV driver since 2017
Janet Perlman, Physician
Jeffrey Bradt, EV Driver in an apartment
Jennifer Heggie, EV driver since 2011
Jessica Craven, EV driver since 2014
Jill Jensen, EV driver since 2003
Jim Stewart
Joe Houde, Consultant
Joe Siudzinski, Retired Engineering Director
Joel Leong, Retired Engineer & Enthusiastic EV Driver
John Donnelly, Retired Economist
John Dymesich, Engineer
John Love, EV Driver since 2014
Jonathan Cano, Engineer
Jorge Ruiz, New EV driver
Kamal Prasad
Kate Sawtell, Student
Kelly Lyndon, EV Driver
Kendra Fadil, EV driver since 2013
Kenneth Forward, Community Advocate/Engineer
Kenneth Hansen, Retired Engineer
Kerry Skemp, ChargePoint employee, EV driver since 2017
Lance Pompe, Student
Laura simpson, Retired
Laurens Vaneveld, PE and EV driver since Jan 2013
Laurie-Ann Barbour, Multi-Family housing dweller and EV driver

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Leane Eberhart, Architect
Linda Henigin, EV Driver since 2011
Lisa Williams, EV driver since 2019
Lyle Predmore, Retired Clergy
Mahlon Dormon, EV Driver since 2015
Marc Silverman
Margaret Brosnan, EV driver
Mark Bernstein, Physician, PHEV driver since 2016
Mark Hall, Retired public library manager
Mark Williams, EV driver since 2011
Marsha Jarvis, EV Driver
Matthew Vis, Aerospace Engineer
Megan Shumway, Retired RNC/PHN
Michael Kutilek, Professor Emeritus, EV Driver since 2013
Mike Richards, EV Driver
Mike Trivich, Retired Electrical Engineer
Miles Hookey, Teacher, San Jose Unified School District
Moria Paz, JD, Mother, EV Driver since 2017
Nalin Nanayakkara, Physician, EV driver since 2010
Nancy Andon, Scientist
Nancy Neff, RN, EV driver since 2016
Nicholas Ratto, Retired Pharmacist
Norma Williamson, EV Driver since 2001
Olivier Kempf, EV driver since 2018
Pat Lang, Retired
Patricia Kinney, Retired Software Engineer
Patricia Ravit, EV driver
Patrick Reid, EV Driver since 2017
Paul Spitsen
Paul Zurmuhle, Project Manager
Peter Cross, Retired Engineer
Peter Hellwig, Concerned citizen
Peter Kozodoy, PhD, Dad, Clean Tech Entrepreneur, EV driver since 2017
Philip Morton, Retired software engineer
Randy Carrico, EV driver since 2019
Ravi Mikkelsen, EV driver since 2011
Rebecca Milliken, City of El Cerrito Environmental Quality Committee Member
Richard Baldwin, Retired Air Pollution Control Officer
Richard Leonard
Richard Oelerich, EV driver since 2016, and father
Richard Star, Owner/Driver of multiple EVs since 2014
Rick Castellini, EV Driver since 2016
Robin Mitchell, Software developer
Roland Saher, Retired teacher
Rolf Schreiber, EV Driver and advocate since 2008

Attachment C
Signatories to Vanessa Warheit and EV Charging Access –
Light Duty Comments
Pt. 11 15-Day Comments - Section 4.106.4.2.2
(EV Ready)

Ron Freund, EV driver since 1998
Sally Ahnger, EV Driver since 2002
Sara Katz, Dr.
Sarah Corr, EV driver since two months ago
Scott Kostka, Retired Engineer, 4 year EV driver
Sheila Tarbet, Retired
Sherry Boschert, EV Driver since 2002
Shirley Johnson, EV driver since 2016
Sonja Marwood, EV Driver since 2014
Soraya Moham, Educator
Steffen Rochel, EV Driver
Stephanie Hellman, Vice Mayor, Town of Fairfax
Stephanie Morris, Landscape Architect, EV driver, climate volunteer
steve yano, EV Driver since 2017
Steven Kalogeras, EV Driver since 2021
Sybil Cramer, Secretary, Silicon Valley Electric Auto Assoc
Tara Mills, Fundraising Manager
Terry Godfrey
Thom Filipel, EV driver
Tina Brenza, Dentist, EV driver since 2011
Tina Juarez, EV driver since 2003
Tom Goldfarb, EV Driver
Tom Graly, EV driver since 2016
Tom Kabat, Environmental Quality Commissioner, Menlo Park
Tom Kunhardt, EV driver since 2015 powered by solar PV
Tyler Hall, EV enthusiast and apartment dweller
Vadim Goziker
Vickie Randle, EV driver since 2008
Victoria Lea, EV Owner/Driver
Virginia Patch, EV Driver since 2020
Virginia Van Kuran, Volunteer for the environment
Waidy Lee, EV driver since 1999, retired Engineer
Wei-Tai Kwok, Lafayette City Council Member
Wendy Ring, Physician, EV Driver
Willard Alldis, EV driver
William Arnett, Voter
William Kendall Rothaus, Retired
Xintian Eddie Lin, Principal Engineer, EV driver since 2016

Attachment D

Signatories to Letter from Legislative Members, EV Infrastructure Pt. 11 15- Day Comments - Section 4.106.4 – Item 4

12 California Legislators

Ben Allen, Senator, 26th District
Anna Caballero, Senator, 12th District
Senator Dave Cortese, Senator, 15th District
Maria Elena Durazo, Senator, 24th District
John Laird, Senator, 17th District
Monique Limón, Senator, 19th District
Josh Newman, Senator, 29th District
Anthony Portantino, Senator, 25th District
Henry Stern, Senator, 27th District
Marc Berman, Assemblymember, 24th District
Mia Bonta, Assemblymember, 18th District
Mark Stone, Assemblymember, 29th District

Attachment E
Signatories to Letter from Legislative Members, EV Infrastructure
Comments
Pt. 11 15-Day Comments - Section 4.106.4 – Item 4

Item 4

Chapter 4, RESIDENTIAL MANDATORY MEASURES, Section 4.106.4
(Comments with three primary requests related to electric vehicle charging)

12 California Legislators and seven local elected officials

Ben Allen, Senator, 26th District
Anna Caballero, Senator, 12th District
Senator Dave Cortese, Senator, 15th District
Maria Elena Durazo, Senator, 24th District
John Laird, Senator, 17th District
Monique Limón, Senator, 19th District
Josh Newman, Senator, 29th District
Anthony Portantino, Senator, 25th District
Henry Stern, Senator, 27th District
Marc Berman, Assemblymember, 24th District
Mia Bonta, Assemblymember, 18th District
Mark Stone, Assemblymember, 29th District
Chance Cutrano, Town Councilmember, Town of Fairfax
John Gioia, Supervisor, Contra Costa County District 1
Sudhanshu Jain, City Councilmember, City of Santa Clara
Wei-Tai Kwok, Council Member, City of Lafayette
Karen Mitchoff, Supervisor, Contra Costa County District 4
Sandy Naranjo, Port Commissioner, Port of San Diego
Mike Wilson, Humboldt County Supervisor, District 3