DOCKETED	
Docket Number:	24-FDAS-04
Project Title:	Flexible Demand Appliance Standards for Electric Vehicle Supply Equipment
TN #:	260813
Document Title:	Ecology Action Comments - Ecology Action CEC Flexible Demand Appliance Standards for Electric Vehicle Supply Equipment RFI Comments
Description:	N/A
Filer:	System
Organization:	Ecology Action
Submitter Role:	Public
Submission Date:	12/23/2024 9:28:54 PM
Docketed Date:	12/24/2024

Comment Received From: Ecology Action
Submitted On: 12/23/2024
Docket Number: 24-FDAS-04

Ecology Action CEC Flexible Demand Appliance Standards for Electric Vehicle Supply Equipment RFI Comments

Additional submitted attachment is included below.

Comments to Docket 24-FDAS-04
CEC Flexible Demand Appliance Standards for Electric Vehicle Supply Equipment RFI Comments
12.20.24

Ecology Action would like to thank CEC Staff and Commissioners for the focus on potential Flexible Demand Appliance Standards (FDAS) for electric vehicle supply equipment (EVSE) and their impact on equitably scaling Multi-Family Dwelling (MFD) charging deployment in this underserved market. Innovations are needed in all aspects of the technology to help advance the transition in this market. We respectfully recommend making sure that any new EVSE standards ensure that EVSE remains affordable for MFD and is not burdened by substantial additional compliance costs.

Ecology Action is a 54-year-old 501c non-profit based in Santa Cruz, California that specializes in designing and implementing new energy and EV programs that help serve hard-to-reach and underserved customers. The majority of our work for the past two decades has focused on delivering turnkey energy efficiency solutions to small and medium businesses (SMB) including retrofit in more than 15,000 SMBs and 650 low-income MFDs. Over the last five years, Ecology Action has invested significantly in understanding and solving the MFD EVSE market failure. Under CEC grants for REACH 1.0 and REACH 2.0 as well as the PG&E MSDI program we have created new solutions to rapidly scale EVSE deployment in the MFD market. Our comments here are informed by our market engagement and the realities in the field.

We are extremely encouraged that the RFI will allow stakeholders to consider multiple market barriers simultaneously that have hindered adoption to date. However, improvements to several aspects of the standards could help maximize the impact of CEC's investments in this area.

General Observations
A core theme of our comments here is to assure that the FDAS rewards efforts in innovation that stimulates scaling, and that the proposed standards do not limit innovation in helping scalable deployment, especially for the hard-to-reach MFD market. Making standards that try to assure maximum connectivity for multiple purposes can impede long term gains in equity and vehicle adoption for California by increasing costs. Our comments attempt to highlight where we see these challenges.

At the highest level we strongly agree with the comments from the Joint Community Choice Aggregators (Joint CCAs) that:

- The CEC should continue to be mindful throughout this potential rulemaking that California is far behind on its electric vehicle (EV) charger deployment targets and evaluate the potential of the new FDAS to further slow deployment and increase costs.

- Nonnetworked Level 1 and low-power Level 2 charging are valuable options for enabling broader EV adoption and should not be inadvertently prohibited in California due to the new FDAS the CEC is considering.
- EV fleets, both light-duty (LD) and medium-duty and heavy-duty (MDHD) present a substantial opportunity for EV load shifting and offer several advantages over residential LD EVs, especially in the MFD market. CEC should consider this when deciding which EVSE technologies and use cases should be prioritized when developing potential FDAS.

EVSE FDAS Should Not Preclude the Use of Nonnetworked Chargers

Deploying EV chargers is a means to an end; increasing vehicle adoption and reducing GHGs. Lack of home charging is the number one impediment to vehicle ownership. While it might be ideal to install the highest energy output and most sophisticated chargers, we worry that this would make the perfect the enemy of the good.

Utilizing low power level-1 (L1) and automatically load managed (ALM) L2, provides more EV mileage than the average daily driving need for CA drivers, while often being able to be added to a building without need for expensive service or panel upgrades. This is in contrast to providing the "Cadillac" EVSE solution which is more than is necessary to stimulate EV ownership. To assure wise use of funds we encourage the CEC consider both cost control and future proofing installed systems for eventual service upgrades, additional EV drivers and potential cost savings from technologies like bi-directional V2G EV charging as FDAS is standardized. In our work we have found that for MFD charging the simplest solution is often best for both the driver and the property owner. It's important to note here that Ecology Action is vendor agnostic and seeks the best solution for the customer.

There are many use cases where nonnetworked chargers function as critical tools in encouraging broader EV adoption due to their lower cost compared to standard charging equipment. This is especially true for MFD that have historically been underserved by many charging incentive programs. Some of the primary reasons are that many CEC incentive programs have only incentivized minimum 7 kW Level 2 (L2) chargers, leading the projects to be overly complex and expensive. Due to the cost, MFD projects will often only result in only a small number of L2 charging ports, far fewer than the number of residential units on the property. This forces any property manager or resident considering adopting EV technology to consider the need to coordinate with their neighbors to ensure they can charge their vehicle at home, not unlike the shared use of limited laundry machines. Some incentive programs even expressly prohibit incentive support for MFD chargers that are not shared among the residents, leading to less optimal outcomes for residents. While L2 is certainly not an unreasonable option for many MFD projects, the reality is that deploying large numbers of L2 chargers can quickly add complication and expense for all parties involved, including the possibility of service and grid upgrades; the costs of which would be then borne by all of the IOU's ratepayers. Deploying charging at scale at MFD is critical to ensuring that all Californians have equitable access to participate as the state continues its shift towards EVs.

For example, PCE's EV Ready[1] program and Ecology Action's direct installation model support MFDs by using a "right-sizing" design philosophy, and incentivizes the installation of charging equipment that meets EV driver needs without overbuilding. This approach reduces project costs, avoids service and grid upgrades, and provides design assistance to maximize charger access for residents within a limited budget. Level 1 (L1) and low-power (20A) Level 2 (LPL2) charging outlets are a critical component to the success of many EV Ready projects. Both have been very successful with more than 5,100 ports installed or under contract to be installed since those programs' began.

Analyses by PCE and others demonstrate that these equipment types can meet the daily driving needs of over 90% of EV drivers.[2] L1 and LPL2 are scalable solutions that cost a fraction of the price of other LD EV charging types and provide EV charging options to power-constrained properties, ultimately allowing PCE to minimize the out-of-pocket costs for MFD property owners.[3] So far, PCE's self-funded program has incentivized the installation of nearly 1,500 EV chargers in PCE's service area**,** two thirds of which have been installed at MFDs such as apartments and condominiums, with another 3,000 that are in process. EV Ready also has an average program cost of $5,000 per charger, several times less costly than similar programs that support LD and multi-family charging.

When compared to the traditional full power 7kW L2 alternatives, both nonnetworked and networked L1, LPL2, and ALM L2 can contribute to the goals of the FDAS because these charging methods are inherently more grid friendly, providing a less peak-intensive charge over several hours. The RFI states that the goal is multi-faceted and must "enable shifting the time and rate of vehicle charging to enhance grid reliability, lower GHG emissions, and save consumers money." L1, LPL2, and ALM L2 shift charging events from narrow, more peak-intensive Level 2 charge of a couple of hours, to smoother, less-peak intensive charge of 4-10 hours, flattening the charging load and limiting contributions to periods of grid stress, particularly in residential settings where charging is expected overnight. By design, they also can reduce the rate of charging from 7 kW to around 2-3 kW, reducing any coincident peak contributions or stress on the local grid. Beyond limiting EV charging contributing to peak events, they also enhance grid reliability by minimizing the need for service and grid upgrades to serve the new charging equipment. This enables utilities to spend limited distribution upgrade funding on other projects to shore up grid reliability. The lower cost of L1 and LPL2 also reduces a major barrier to entry for potential new EV drivers living in MFDs and elsewhere, allowing them to more easily switch from internal combustion engine (ICE) vehicles and reduce their GHG transportation emissions. Finally, L1 and LPL2 equipment save consumers money. They provide charging access while being several times less expensive than other long-dwell LD technologies, and due to their impacts on the IOU's cost of service, they help minimize grid operator costs to energize and serve the EVSE. Each time an EV charging project can avoid a service or grid upgrade, customers benefit as the significant front of the meter infrastructure costs will be avoided and not be borne by ratepayers. Avoiding this source of upward rate pressure helps ensure that EV drivers save money on the operating cost of their vehicle when they switch from an ICE to an EV.

There are other use cases where nonnetworked chargers should continue to be available, such as those in rural areas of the state where there are limited benefits to installing equipment with the networking capabilities that would be needed to comply with FDAS. Some CCAs, such as Redwood Coast Energy Authority and Sonoma Clean Power, have service areas that include very rural parts of

the state. They have had experiences with their community that indicate that it would be challenging for some EV drivers to save money via participating in a flexible demand program. These drivers live completely off-grid or are at the grid-fringe and face considerable reliability issues. Therefore while these EV drivers would inherently reduce their emissions by operating an EV rather than an ICE, they would either be completely unable to participate in a flexible demand program as any load shifting would not provide benefits to the larger grid, or the reliability of their service may be so poor that they would understandably be hesitant to respond to a demand flexibility event for fear that their power may go out anyway, leaving them unable to charge their vehicle. In such cases, operating an FDAS-compliant charger would provide minimal benefit at best. These EV drivers should not be forced to buy such EVSE if FDAS compliance increases the cost of EVSE equipment or software, as the RFI is seeking to understand.

Ecology Action agrees with The Joint CCAs and the stated goals of the FDAS and believe there is an opportunity through any potential rulemaking to enable sizable shifting of EV demand. However, we also encourage the CEC to ensure that any potential rulemaking avoids prohibiting the sale of nonnetworked EVSE and thereby inadvertently and unnecessarily make certain EVSE project types more expensive.

Unlike energy efficiency or water efficiency, there is no real return on investment on EV charging. MFDs are indeed businesses and as such MFDs need a financial motivation to engage. Therefore, any solution must be both free and hassle free, hence the need to keep FDAS rules flexible enough to enable lower cost charging. And it is critical to remember that the lower the cost the less of the cost that gets passed on to the equity driver by the EVSP or MFD owner.

There are still excellent possible opportunities for FDAS standardization, like residential V2G, which could benefit property owners, utilities, and consumers with new revenue streams, however these need to be further proven to provide the revenue to offset the costs of implementation.

Thank you again for the opportunity for Ecology Action and other stakeholders to weigh in on this important solicitation. We appreciate all of the time and effort that staff has put in to make this possible, working to create a program that will bridge the key gap in MFD EV adoption.

Sincerely
/s/
Mahlon Aldridge
Vice President Strategy
Ecology Action

---

[1] *See https://www.peninsulacleanenergy.com/ev-ready/*

[2] *See* https://www.peninsulacleanenergy.com/wp-content/uploads/2021/09/Determining-the-Appropriate-Level-of-Power-Sharing-for-EV-Charging-in-Multifamily-Properties.pdf; https://insideevs.com/news/709425/recurrent-ev-driving- distance-america/

[3] *See* https://www.canarymedia.com/articles/ev-charging/access-to-slow-ev-chargers-could-speed-up-ev-adoption-among-renters