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**Comments Regarding the California Energy Commission's
Revised Proposed Regulations on EV Infrastructure Reliability**

Additional submitted attachment is included below.

May 15, 2024

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 22-EVI-04
715 P Street
Sacramento, CA 95814

Re: Docket No. 22-EVI-04 – Comments of Center for Sustainable Energy® regarding the California Energy Commission’s Revised Proposed Regulations on EV Infrastructure Reliability

Center for Sustainable Energy® (CSE) appreciates the opportunity to provide comments to the California Energy Commission (Energy Commission) regarding the revised proposed regulations for tracking and improving reliability of California’s electric vehicle (EV) chargers.

CSE is a national nonprofit that accelerates adoption of clean transportation and distributed energy through effective and equitable program design and administration. Governments, utilities, and the private sector trust CSE for its data-driven and software-enabled approach, deep domain expertise, and customer-focused team. CSE’s fee-for-service business model frees it from the influence of shareholders, members, and donors, and ensures its independence. Our vision is a future with sustainable, equitable and resilient transportation, buildings, and communities. CSE provides these comments based on our experience designing, implementing, and evaluating statewide incentive programs in California, Connecticut, Illinois, Massachusetts, New Jersey, New York, Oregon, and Vermont, which collectively translates to over \$1 billion worth of program value under management. In California, CSE implements the California Electric Vehicle Infrastructure Project (CALeVIP) on behalf of the Energy Commission.

CSE supports the Energy Commission’s revised proposed regulations and offers recommendations to further enhance EV infrastructure reliability and data collection:

1. Adopt harmonized and comprehensive data collection requirements.
2. Institute enforcement measures to ensure compliance with data collection requirements.
3. Develop analytical tools, such as public dashboards and data warehouses, to assess and improve EV infrastructure availability, accessibility, and reliability.

CSE’s recommendations are discussed in detail below.

1. Adopt harmonized and comprehensive data collection requirements.

CSE generally supports the Energy Commission’s revised proposed regulations regarding EV infrastructure reliability, developed pursuant to Assembly Bill (AB) 2061 (Stats. 2022, Ch. 345).¹ CSE appreciates the inclusion of new provisions in the revised proposed regulations, including the 97 percent uptime standard, the 90 percent Successful Charge Attempt Rate (SCAR) standard, and the requirements to share real-time data on EV infrastructure accessibility and availability. CSE also appreciates the change to a quarterly reporting timeline, rather than a semiannual timeline, as previously proposed. Adopting these additional provisions will help ensure that the proposed regulations align with existing requirements for the National Electric Vehicle Infrastructure (NEVI) Program.

CSE recommends the Energy Commission further revise the proposed data collection requirements in order to align with the existing data collection requirements for CALeVIP and provide a more comprehensive characterization of EV infrastructure reliability. The CALeVIP requirements were developed by CSE in coordination with the Energy Commission and have been agreed upon by the major electric vehicle service providers (EVSPs), many of whom have already begun to submit data to CSE. Specifically, CSE recommends the Energy Commission collect additional data fields to better characterize charger downtime events, charging sessions, and charging intervals, as detailed in Table 1 below. The addition of these data fields will enable the Energy Commission to comprehensively evaluate EV infrastructure reliability across individual charging sessions as well as discrete time intervals (e.g., 15-minute intervals).

Table 1: Recommended Data Fields to Include in Reliability Reporting Requirements

Data Category	Data Field	Benefits of Including these Data Fields
Downtime Event Identifier	Site ID	The "Downtime Event Identifier" data category includes data fields that will better characterize EVSE downtime events and assess factors that cause downtime. These data enable comparisons of uptime across stations, benchmark uptime to ensure adherence to specified standards, and provide site hosts and drivers with an understanding of reliability.
	EVSE ID	
	Port ID	
	Downtime Reason	
	Event Start/End Date	
	Event Start/End Time	
Session Identifier	Session ID	The "Session Identifier" data category includes data fields that characterize a
	Site ID	

¹ Assembly Bill 2061, Statutes of 2022, Chapter 345.

	EVSE ID	charging session (e.g., individual charging event initiated by a distinct customer) in terms of duration, time of day, power consumed, and vehicle charged. This data will enable comparisons of charging behavior across station locations and charger types to understand how chargers are being used, assess usage and idle time, assess current and future charging demand, and ensure charging stations are meeting the needs of drivers.
	Port ID	
	Connector Type	
	Charge Duration	
	Charge Session Start/End Date	
	Charge Session Start/End Time	
	Disconnect Reason	
	Connection Duration	
	Idle Duration	
	Energy Consumed	
	Charge Peak Demand	
	Charge Average Demand	
	Total Transacted Amount (Driver)	
	Payment Method	
	Vehicle Make	
	Vehicle Model	
	Vehicle Year	
	Vehicle Type	
Interval Identifier	Interval ID	The "Interval Identifier" data category includes data fields that will characterize power usage for a specific EVSE and/or charging station for a given time interval (e.g., 15-minute intervals). This information will yield an understanding of how EVSE usage affects overall system needs and will enable the development of load shape and forecasts, the integration of DERs into charging stations, and the management of peak demand.
	Session ID	
	Port ID	
	Interval Start/End Date	
	Interval Start/End Time	
	Interval Energy Consumed	
	Interval Peak Demand	
	Interval Average Demand	
Interval Duration		

CSE also recommends that, where possible, the Energy Commission coordinate with the California Public Utilities Commission (CPUC) to uniformly implement the proposed regulations for forthcoming ratepayer-funded programs, as required under AB 2061. CSE recognizes that many existing IOU programs have distinct data collection requirements,² which may not align

² California Public Utilities Commission, Transportation Electrification Activities Pursuant to Senate Bill 350.

<https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/transportation-electrification/transportation-electrification-activities-pursuant-to-senate-bill-350>

with the requirements proposed by the Energy Commission. Nevertheless, CSE contends that applying consistent performance standards and data collection requirements for all forthcoming programs will help increase EV infrastructure reliability and support widespread EV adoption.

2. Institute enforcement measures to ensure compliance with data collection requirements.

As part of CSE's implementation of CALeVIP, CSE has collected EV infrastructure data from several EVSPs and has experienced challenges in receiving data in a timely and consistent manner. In several instances, CSE has had to repeatedly reach out to reporting agents over the course of several months in order to schedule technical meetings, receive data reports, and receive corrections to previously-submitted data reports. The submission of these reports has also been complicated by disparate reporting timelines and inconsistent charger identification numbers, thus reinforcing the need for harmonized reporting requirements, as discussed above.

To ensure that reporting agents adhere to the data collection requirements in the proposed regulations, CSE strongly encourages the Energy Commission to develop robust enforcement measures and penalties for noncompliance. Specifically, CSE recommends the Energy Commission institute penalties for those reporting agents who repeatedly fail to report data by the deadlines specified in the proposed regulations. CSE suggests that these reporting agents be excluded, at least temporarily, from being eligible for future grant funding opportunities from the Energy Commission. Conceivably, this exclusion would be applied after a grace period to allow reporting agents time to become familiar with the requirements. CSE also recommends the Energy Commission clearly indicate data collection requirements, enforcement measures, and penalties in the grant agreements that are signed with funding awardees. CSE additionally suggests that the Energy Commission enhance clarity around reporting requirements by developing standardized data request documents, data transfer protocols, and template data sharing agreements.

CSE acknowledges that private entities are often reluctant to share data about private operations. However, CSE highlights that operational data reporting is already a key requirement for several publicly-funded EV infrastructure programs, including CALeVIP and NEVI, and is explicitly authorized under AB 2061. CSE also notes that the Energy Commission can adopt protocols to aggregate and anonymize private data, thereby alleviating concerns regarding the divulgence of proprietary information.

3. Develop analytical tools, such as public dashboards and data warehouses, to assess and improve EV infrastructure availability, accessibility, and reliability.

CSE highlights that AB 126 (Stats. 2023, Ch. 319) directed the Energy Commission to adopt tools to increase infrastructure uptime and set standards to notify customers about infrastructure availability and accessibility.³ To comply with this requirement and increase EV infrastructure reliability, CSE encourages the Energy Commission to develop analytical tools such as public dashboards and data warehouses.

CSE recommends the Energy Commission utilize public dashboards to track and visualize key insights on infrastructure availability, accessibility, and reliability. Specifically, dashboards can be used to provide customers with real-time information on infrastructure availability (including whether infrastructure is currently in use) and accessibility (including whether infrastructure is operational). This information can also be used to develop notification systems that inform customers and entities responsible for EV infrastructure operations and maintenance. Additionally, dashboards can incorporate geographic information system (GIS) overlays to develop maps that visualize charger reliability across the state and identify regional barriers to equitable EV infrastructure access.

CSE also recommends the Energy Commission employ a secure and scalable data warehouse to facilitate the long-term storage, aggregation, and analysis of EV infrastructure reliability data from public- and ratepayer-funded programs. A data warehouse can function as a centralized repository for ingesting significant amounts of data across multiple programs and storing this information over time. Storing data in a centralized location can also facilitate targeted evaluations of EV infrastructure reliability at the individual site level, while also comparing charging behavior across location types, charger types, and use cases. This information can subsequently be used to develop charging usage profiles and accompanying load curves, which will enhance future program design and inform grid planning.

CSE recommends that the data warehouse have the capacity to clean, standardize, and validate incoming data. Specifically, CSE suggests the warehouse be designed with automated protocols to clean data by identifying and sorting outliers, to standardize data by converting it into a consistent format, and to validate data by assessing whether the data conforms to the specified requirements. These protocols will ensure that all data, regardless of the source, transfer

³ Assembly Bill 126, Statutes of 2023, Chapter 319, Section 25231.5(d).

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method, or individual site characteristics, can be stored, analyzed, and visualized to consistently evaluate and improve EV infrastructure reliability.

Conclusion

CSE appreciates the opportunity to provide comments in response to the Energy Commission's revised proposed regulations on EV infrastructure reliability. CSE commends the Energy Commission's efforts to increase infrastructure reliability and enhance EV adoption.

Sincerely,

A handwritten signature in cursive script that reads "Kinshuk Chatterjee".

Kinshuk Chatterjee

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