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**Comments regarding Energy Commission Workshop on EV
Charger Utilization**

Additional submitted attachment is included below.

January 10, 2025

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 Workshop on Electric Vehicle Charger Utilization Reporting Regulations

Center for Sustainable Energy® (CSE) appreciates the opportunity to provide comments on the California Energy Commission’s (Energy Commission) proposal for electric vehicle (EV) charger utilization reporting requirements, as discussed in the workshop on December 18, 2024.

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 multiple states, which collectively translates to over \$1 billion worth of program value under management. In California, CSE is pleased to implement the California Electric Vehicle Infrastructure Project (CALeVIP) on behalf of the Energy Commission.

CSE supports the Energy Commission’s proposal to adopt additional data collection requirements and offers the following overarching recommendations:

1. Adopt data reporting requirements to include the collection of session and interval data from EV chargers, which will better characterize EV charger utilization.
2. Utilize analytical tools to understand charging behavior and inform grid planning.
3. Develop enforcement measures to ensure compliance with reporting requirements.

CSE’s recommendations are discussed in detail below.

1. Adopt data reporting requirements to include the collection of session and interval data from EV chargers, which will better characterize EV charger utilization.

CSE supports the Energy Commission’s revised proposal to adopt additional data reporting requirements in order to better characterize EV infrastructure utilization. CSE generally agrees with the Energy Commission’s rationale for proposing to collect session data from EV chargers, which will yield greater insights into individuals’ charging behavior, including responses to pricing changes and time-of-use (TOU) rates, and will inform the development of EV load forecasts necessary for grid planning efforts. Specifically, CSE supports the Energy Commission’s proposal to collect session data on EV charger utilization, including fields such as EVSE identifying information, plug-in/unplug times, active charging start/end times, energy consumed, energy discharged, and peak power.

CSE highlights that many of the utilization data fields are already included in the data reporting requirements for CALeVIP, as detailed in Table 1 below. 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), who routinely submit data to CSE.

Table 1: CALeVIP Data Reporting Requirements for Session and Interval Data

| Data Category | Data Field | Benefits of Including these Data Fields |
|----------------------|----------------------------------|--|
| Session Identifier | Session ID | The "Session Identifier" data category includes data fields that characterize a 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. |
| | Site ID | |
| | EVSE ID | |
| | 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 | |

Under the CALeVIP data collection requirements, EVSPs are required to report both session and interval data. Whereas session data can help characterize individual charging events initiated by distinct customers, interval data can characterize power usage across discrete intervals of time (e.g., 15-minute intervals) and identify grid impacts at different timescales. Therefore, interval data can be more useful than session data in developing EV load shapes and forecasts.

Accordingly, CSE recommends the Energy Commission adopt data reporting requirements that include the collection of both session and interval data. Specifically, CSE recommends the Energy Commission incorporate the data reporting requirements already in use for CALeVIP into the Final Staff Report, expected to be issued in Q1 2025. This will enable the Energy Commission to collect the data necessary to comprehensively characterize EV infrastructure reliability and utilization and inform grid planning, while leveraging existing reporting protocols.

2. Utilize analytical tools to understand charging behavior and inform grid planning.

CSE reiterates support for the Energy Commission’s rationale for proposing to collect session data from EV chargers, which will help characterize charging behavior and enhance the development of EV load shapes and forecasts. CSE also appreciates the Energy Commission’s concern that aggregated data may be insufficient to understand site-level charging, the impact of TOU rates on charging behavior, and trends across hourly, diurnal, and seasonal timescales, as identified on slide 18 of the Energy Commission’s presentation for the December 18, 2024

workshop.¹ As discussed above, CSE contends that the collection of interval data can yield information on these factors by collecting information across discrete time intervals. More importantly, CSE highlights that analytical tools can help sort through this data and provide more granular insights than aggregated data alone.

Accordingly, CSE strongly recommends the Energy Commission utilize analytical tools to coordinate and streamline the analysis of EV infrastructure data. Specifically, CSE recommends the Energy Commission employ a secure and scalable data warehouse to facilitate the long-term storage and analysis of EV infrastructure data. A data warehouse can function as a centralized repository for ingesting significant amounts of data across multiple programs and storing this information over time. Moreover, storing data in a centralized location can facilitate targeted evaluations of EV infrastructure reliability and utilization 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 EV load forecasts and inform grid planning efforts.

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

CSE recommends the data warehouse be designed with the capacity to automatically generate periodic reports and produce both internal- and external-facing dashboards. This functionality can enable state agencies to continuously track adherence to reliability and utilization goals. For example, dashboards can help verify that the proposed 97 percent reliability standard is being met by tracking uptime information directly from the data warehouse. Dashboards can also incorporate geographic information system (GIS) overlays to develop maps that visualize charger accessibility, reliability, and utilization across the state, which could be used to identify regional barriers to equitable charger access.

¹ California Energy Commission, Tracking and Improving Reliability of California's Electric Vehicle Chargers: Increased granularity of reported utilization data, slide 18.

3. Develop enforcement measures to ensure compliance with reporting 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 for different programs and inconsistent charger identification numbers provided by EVSPs, thus reinforcing the need for harmonized reporting requirements.

To ensure that reporting agents comply with the proposed EV infrastructure data reporting requirements, CSE strongly recommends the Energy Commission develop robust enforcement measures. Accordingly, CSE encourages the Energy Commission to detail potential enforcement measures in the Final Staff Report, expected to be issued in Q1 2025. Specifically, CSE recommends the Energy Commission propose penalties for those reporting agents who repeatedly fail to report data by the deadlines specified in the proposed regulations. CSE further 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 specify the data reporting requirements, enforcement measures, and penalties in the grant agreements that are signed with funding awardees. Additionally, CSE recommends that the Energy Commission streamline compliance with data reporting requirements by developing standardized data request documents, data transfer protocols, and template data sharing agreements. CSE suggests the Energy Commission include draft versions of these documents in the forthcoming Final Staff Report.

CSE acknowledges that EVSPs are often reluctant to share data about private operations or divulge proprietary information. However, CSE highlights that operational data reporting is already a key requirement for several publicly-funded EV infrastructure grant programs, including CALeVIP and NEVI, and is explicitly authorized under AB 2061. Additionally, the use of analytical tools such as a data warehouse can include measures to protect consumer privacy. Furthermore, EVSPs who are uncomfortable sharing private information may elect not to participate in public grant programs.

Center for Sustainable Energy

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Conclusion

CSE appreciates the opportunity to provide comments in response to the Energy Commission's revised proposed regulations regarding EV infrastructure utilization. CSE commends the Energy Commission's efforts to adopt EV infrastructure standards that enhance EV adoption.

Sincerely,

A handwritten signature in cursive script, appearing to read "K Chatterjee".

Kinshuk Chatterjee

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