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**CaIETC's Comments on EV Charging Infrastructure Reliability
Workshop**

Additional submitted attachment is included below.



November 10, 2022

California Energy Commission
715 P Street
Sacramento, CA 95814

Submitted Electronically: <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=22-EVI-04>

Re: EV Charging Infrastructure Reliability Workshop

The California Electric Transportation Coalition (CalETC) appreciates this opportunity to provide input on the Electric Vehicle Charging Infrastructure Reliability Workshop (Workshop) held on October 21, 2022. We greatly appreciate all the effort that went into the workshop and the CEC's willingness to seek recommendations from stakeholders.

CalETC supports and advocates for the transition to a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, contribute to clean air, and combat climate change. CalETC is a non-profit association committed to the successful introduction and large-scale deployment of all forms of electric transportation. Our Board of Directors includes representatives from: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, Southern California Public Power Authority, and the Northern California Power Agency. In addition to electric utilities, our membership includes major automakers, manufacturers of zero-emission trucks and buses, electric vehicle charging providers, autonomous electric vehicle fleet operators, and other industry leaders supporting transportation electrification.

Reliable charging is essential for the successful transition to zero-emission vehicles. CalETC supports the CEC's proposed reliability requirements that seek to address charging station downtime and improve driver experience. We greatly appreciate the CEC's continued coordination with the Air Resources Board and willingness to seek recommendations from stakeholders, including electric vehicle service providers (EVSPs), automakers, and utilities, as these companies have already begun implementing reliability metrics to improve the customer experience. We provide the following recommendations and look forward to continuing to work with the CEC on developing the reliability standards.

Create Consistency in Reliability Standards with the Federal Highway Administration

The Federal Highway Administration's (FHWA) National EV Infrastructure Program, which will provide California with \$384 million over five years, includes a draft reliability standard. It specifies that funded chargers must:

- Adhere to an average annual uptime of 97 percent for five years
- Use a specified formula provided by FHWA to calculate uptime

- Allowable exclusions to the uptime calculation include upstream infrastructure failures, including grid, WiFi, and cellular, and vehicle interoperability issues (if it can be proven).

CalETC supports these requirements and respectfully urges the CEC to ensure consistency between FHWA's and the state's standards to the extent practicable and allowable via AB 2061. Consistency of standards not only helps ensure a uniform charging experience for drivers across the state, but also simplifies compliance for charging providers thereby reducing potential soft costs.

Going Further than FHWA's Standard

CalETC also recommends the CEC go further than FHWA's standard by incorporating additional features into its reliability standard:

- AB 2061 states that vandalism is an allowable exclusion to any uptime calculation; we recommend the CEC include this exclusion in how uptime is calculated. Vandalism (i.e. cut cables and cracked screens) is considered a major repair that takes significant time to complete. If the CEC does not include this as an exclusion, it could create a perverse incentive to avoid charging deployment in areas with higher rates of vandalism.
- No matter what exclusions the CEC determines are allowable via its standard, we recommend that the CEC still requires funding recipients to report all excluded time to better understand EV charging reliability from a systems perspective. This will help the CEC identify what other steps may be taken to increase reliability of the entire system. For example, requiring redundant systems to prevent downtime.
- If a funding recipient is not the owner of the charger, it is critical that the CEC require the owner of the charger to enter into a service level agreement with the charging provider. This will help ensure site hosts/charger owners maintain the equipment per the CEC's uptime requirements.
- We support SAE's work to standardize error codes so that the root causes of a failure to charge can be easily identified and analyzed. Root cause analysis for charging failure will be a key output to the CEC's work on reliability.

Different Standards for Networked and Non-Networked Chargers

CalETC supports creating different reliability standards for networked and non-networked chargers and evaluating how networking and cell/Wi-Fi outages impact reliability. Additionally, we recommend not requiring non-networked chargers to be networked for the sole purpose of data reporting. One of the benefits of non-networked chargers is reduced installation and operating costs, as well as simpler designs that enable faster repairs and less external support. It should be noted that the absence of network connectivity does not imply reduced operational reliability. For example: Avista, an electric utility servicing parts of eastern Washington and northern Idaho, conducted a reliability analysis of the EV chargers in its network, classified the severity of the

problems, and quantified the cost of the average repair.¹ The Avista report found non-networked chargers to be very reliable. CalETC works with many of the utilities in the Pacific Northwest and would be happy to set up a meeting with the CEC and CARB to share utility experiences with charging station reliability.

Include a Cost Analysis

Reliable charging is fundamental to EV market acceptance and growth. Affordable public charging is equally a priority. Robust data collection should facilitate analyses of cost and performance trade-offs. Therefore, CalETC recommends requiring a cost analysis be included in the reliability standard, similar to the one completed in Avista's report, which includes a classification of problem severity, average cost of repair, and annual operation and maintenance costs.²

Conducting Field Inspections of Chargers

We are interested in the CEC's proposal to conduct field inspections of chargers across the state using its specified sample populations. This will help the CEC understand the reliability of all charging infrastructure, whether it is publicly funded or not, as required by AB 2061. However, field inspections testing the reliability of chargers is a relatively new concept; testing methodologies are not well proven and are likely still evolving. Therefore, we encourage the CEC to clearly specify its methodologies ahead of conducting actual inspections and to seek technical guidance from stakeholders in their development. Furthermore, because field inspections could easily become costly, we recommend the CEC find ways to leverage existing processes (such as county weights and measure staffers' inspection processes for chargers) and other strategies to help minimize costs

Additional Tools to Improve Reliability

AB 2061 provides the CEC with the discretion to consider new tools that improve charger uptime. CalETC encourages the CEC to develop new, targeted programs that enhance station reliability across the state. Such programs could support charger equipment upgrades that improve reliability and prolong the useful life of existing chargers – deferring the need for more substantial upgrades. These issues are particularly important for legacy chargers that are near the end of their anticipated life and have served as a foundation for California's growing EV market. CalETC seeks to be a resource to the CEC as it considers how to efficiently develop new programs and initiatives that complement its forthcoming EVSE reliability standards.

¹ See page 39-47 <https://www.myavista.com/-/media/myavista/content-documents/energy-savings/electricvehiclesupplyequipmentpilotfinalreport.pdf?la=en>.

² *Ibid.* See page 40-43.

Thank you for your consideration and CalETC looks forward to working with the CEC staff and Commissioners on the development of charging infrastructure reliability standards.

Regards,

A handwritten signature in blue ink, appearing to read 'KAC', with a long horizontal flourish extending to the right.

Kristian Corby, Deputy Executive Director
California Electric Transportation Coalition