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CalETC's Comments on EV Charging Infrastructure Reliability Workshop

Additional submitted attachment is included below.

CalETC
California Electric Transportation Coalition

April 6, 2022

Dustin Schell, Fuels and Transportation Division
California Energy Commission
715 P Street
Sacramento, CA 95814

Submitted via electronic commenting for Docket # 21-TRAN-03

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). We greatly appreciate all the effort that went into the workshop and your 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 study of reliability metrics that will seek to address charging station down time and improve driver experience. We greatly appreciate the CEC's coordination with the Air Resources Board and willingness to seek recommendations from stakeholders, including electric vehicle service providers (EVSPs) and automakers, as these companies have already begun implementing reliability metrics to improve the customer experience.[1]

A Reliability Standard for Publicly Funded Chargers

Charging infrastructure reliability has a number of issues that need to be thoughtfully distinguished. In developing a reliability standard, we recommend that the CEC include a process

[1] FLO recommends a standard of 97% uptime for each public charging station with a minimum of two stations per charging site for redundancy. (See https://www.flo.com/blog/reliability-blog-series-2-supporting-ev-drivers-with-a-charging-station-reliability-standard-flo/.) EVgo has been able to achieve 98% uptime across its network. (See https://www.evgo.com/blog/underscoring-the-need-for-a-robust-resilient-ev-charging-network/.) Tesla also noted at the workshop that they strive for 99% uptime but believe that 97% was an appropriate standard for publicly funded charging infrastructure.

to evaluate the scope of what characteristics would fall within the purview of a reliability standard and what characteristics impact reliability but would need to be addressed or are already being addressed through different standards or processes. For example, it is our understanding that this reliability standard is seeking to address issues that are within the control, authority, and ability of EVSPs to address at the unit or station level, e.g., hardware, software, network connectivity, etc. There are other issues that directly affect reliability but are outside of the EVSPs' control, e.g., PSPS events, cell/Wi-Fi network outages, vandalism, etc. An evaluation of the scope of reliability issues would be very useful to understand what specific issues this reliability standard will address, especially between networked and non-networked chargers, as discussed below.

Generally, CalETC supports creating a reliability standard for publicly funded charging infrastructure that would hold EVSPs to meeting a certain uptime requirement and require annual data reporting for a period of 5 years. While creating a standard that applies only to publicly funded chargers will cover a limited segment of the charging infrastructure installed in California, it will create a data set and methodology that can support wider reliability requirements. To effectively measure reliability and ensure meaningful solutions can be developed, reliability standards must:

1. Require data reporting of both uptime, downtime, and excluded time,
2. Use a standardized formula, like the one proposed by FLO,[2] and
3. Carefully define the types of exclusions that can be omitted from counting towards downtime.

Including these three elements will ensure that all the reasons for a charger's inoperability will be reported and root causes and locational trends can be evaluated and remedied.

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 data reporting, as one of the benefits of non-networked charging is reduced cost, improved reliability, and simpler designs allowing for faster repairs and less external support. Avista, an electric utility servicing parts of eastern Washington and northern Idaho, has 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.[3] This report found non-networked chargers to be extremely reliable with 99% uptime.[4] CalETC works with a number of utilities in the Pacific Northwest and would be happy to set up a meeting with the CEC and CARB to share their experiences with charging station reliability.

Include a Cost Analysis

Finally, collecting data and implementing solutions to improve reliability will increase the cost of charging. Improving reliability is necessary, however, we must recognize the increased cost of

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[2] *Reliability Blog Series #3: Calculating Standardized Charger Uptime, FLO, available at* *https://www.flo.com/blog/reliability-blog-series-3-calculating-standardized-charger-uptime/*.

[3] See page 39-47 https://www.myavista.com/-/media/myavista/content-documents/energy-savings/electricvehiclesupplyequipmentpilotfinalreport.pdf?la=en.

[4] *Ibid.* See page 40.

charging and the impact that will have on people who will need to rely more heavily on public charging because they cannot charge at home. 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.[5]

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,

Kristian Corby, Deputy Executive Director
California Electric Transportation Coalition

[5] *Ibid*. See page 40-43.