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on Electric Vehicle Charging Infrastructure Reliability Workshop

Additional submitted attachment is included below.

November 11, 2022

Commissioner Patty Monahan
California Energy Commission
715 P Street
Sacramento, California 95814

RE: Comments on Electric Vehicle Charging Infrastructure Reliability Workshop

Dear Commissioner Monahan:

Electrify America appreciates the opportunity to present on DCFC charging reliability at the Electric Vehicle Charging Infrastructure Reliability Workshop held on October 21. Reliability is critical to the customer experience, and, therefore, acceptance and adoption of electric vehicles (EVs).

Electrify America operates the largest open network of DC fast chargers (DCFC) in the nation, and recently reached a milestone of 1,000 ultra-fast 150 kW and greater chargers across 242 public charging stations in California. Electrify America has also supported the installation of thousands of Level 2 chargers at workplaces and multiunit dwellings (MUD), and has deployed 60 innovative grid-independent, solar-powered Level 2 chargers across 30 rural locations in the state. Electrify America has made significant investments to ensure the reliability of its network and is proud to have recently received the Electric Vehicle Charging Infrastructure Best in Test Award for a second consecutive year.[1]

As you develop reliability standards, we suggest the CEC consider the following recommendations:

- Recognize and reward investment in reliability capabilities by adding measures and scoring that address the broader set of capabilities required to address these drivers of reliability.
- Require O&M plans to demonstrate reliability as both O&M plans and AB 2061 reliability oversight allow CEC to ask network providers to demonstrate reliability capabilities.
- Define and measure additional performance measures beyond uptime to accurately reflect the customer experience, including a customer satisfaction survey and 3rd Party quality standardized testing.
- Incorporate the benefits of charging system redundancy, at the site level, in uptime metrics.

Electrify America has found that a charging network provider's reliability-related capabilities are the key determining factor on whether aggressive reliability targets and continuous reliability can be accomplished. For example, Electrify America can achieve our reliability targets only because we have established 24/7 network diagnostics and engineering support, a laboratory to conduct thousands of hours of vehicle interoperability testing annually, a fleet of roaming test drivers, a domestic parts

[1] Electrify America Earns "Best-in-Test" Electric Vehicle Charging Award for Second Year in a Row https://media.electrifyamerica.com/en-us/releases/167

inventory to rapidly respond to hardware issues, and because all of our stations support multiple payment options, including credit card readers and "plug-and-charge" technology. Each of these capabilities is critical to network operations and customer experience. These capabilities ensure that chargers don't just provide a network signal to the backend, indicating that they are "up" or online, but also that drivers using the site can successfully receive a charge for their vehicles.

For EV charging, some reliability metrics do not tell the whole story regarding customer experience. For example, "uptime" may indicate whether a station is online and communicating with the backend, but it does not indicate whether a driver using the site is successfully able to charge. Furthermore, measuring uptime at the charger level instead of the site level devalues the reliability benefits of having multiple chargers at a site. Therefore, uptime calculations should allow for "redundant" chargers. As an example, a site with six chargers could be evaluated against the uptime metrics of a site with just four chargers. A calculation like this recognizes the benefits of redundancy without penalizing it. Without considering an approach to reliability that incorporates the benefits redundancy, the CEC risks creating an uptime target that will be very difficult to meet with commercially available chargers and that does not leverage best practices from other high availability industries.

EV charging providers track different performance metrics applicable to their technology and operations goals, and from Electrify America's perspective, reliability means that customers are able to consistently charge, successfully at expected speeds, and with as little hassle as possible. Ensuring this outcome requires designing a charging network around more than station uptime.

Electrify America supports CEC focusing on reliability as an important element of its grant programs. Rather than setting arbitrary benchmarks for uptime or other parameters, however, CEC should consider the role technical capabilities play in ensuring that chargers are not only online, but also that customers successfully receive a charge at expected speeds. CEC should consider requiring a broad set of technical capabilities as a condition of receiving grant funding in order to advance this outcome.

Thank you for the opportunity to comment on this workshop. Please do not hesitate to reach out with any questions.

Sincerely,

Anthony Willingham

Anthony Willingham
State Government Affairs Manager
Electrify America