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*Comment Received From: Mike Smith*
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## Xeal Comments on AB 2061 - Electric Vehicle Charging Infrastructure Reliability

See attached letter.

*Additional submitted attachment is included below.*

October 24, 2023

California Energy Commission
715 P Street
Sacramento, CA 95814-5512

RE: Docket No. 22-EVI-04 Electric Vehicle Charging Infrastructure Reliability

Dear California Energy Commissioners and Staff,

Xeal Energy appreciates the opportunity to provide our input and support for the California Energy Commission's (CEC) rulemaking to establish uptime recordkeeping and reporting standards for electric vehicle chargers and charging stations. Specifically, Xeal strongly supports the development of uptime reliability standards that will lead to strong consumer confidence and greater electric vehicle (EV) charging investment and adoption.

Xeal offers the ability to seamlessly install smart, reliable EV chargers with little to no infrastructure upgrades. Primarily focused on supporting multifamily housing and commercial real estate owners and operators, our partners manage these smart EV charging stations remotely through Xeal's dashboard, providing real-time data on charging sessions, energy management, utilization, and revenue share. Our driver app employs token-based technology for EV drivers to gain reliable access to charging stations without relying on cellular or garage IT infrastructure. Through Apollo, a groundbreaking decentralized communication protocol, building owners can remotely control and monitor smart charging stations through a bi-directional management channel between user smartphones and EV chargers to establish a more secure, reliable, and cost-effective way to stay connected. Our chargers require zero connection to the backend, therefore there is no "loss of connectivity" because it is always present between the driver's phone and the charger through our secure, short-range communication protocol. Xeal delivers an entirely self-sufficient smart charging experience for drivers, enabling near 100% uptime, 50x faster-processing speed, and frictionless user experience.

Xeal strongly supports the inclusion and prioritization of reliable EV charging infrastructure for multi-family and affordable housing sites. Providing reliable at-home charging in multi-family housing is critical to accelerating EV adoption and achieving the State's ZEV goals. Two main hurdles to EV adoption are convenient access to EV chargers, which is lacking at many multi-family sites, and the reliability of those chargers. According to a 2022 survey by JD Power, 27% of EV buyers who own their home say they are "very likely to consider" an EV, versus only 17% of those who rent. Additionally, 34% of those who indicate they are unlikely to consider purchasing an EV say they lack access to any charging capabilities at home or work. A report by EVAdoption titled 'The State of EV Charging in Apartment Communities' found nearly half of apartment dwellers lack access to "home" charging versus only 5% of single-family homeowners. Further, according to the Air Resources Board, upward of 85% of EV charging is estimated to occur at home. As a result, multifamily properties that don't offer EV charging as an amenity for their tenants are presenting a major barrier to EV adoption. Of the 22 million new households expected to form by 2030, 59 percent are projected to be renters and a high percentage are likely to be EV drivers, meaning the need for multi-family charging is paramount.

We strongly support establishing an uptime standard to improve reliability and uptime to reduce barriers to charging and support EV adoption. We are disappointed that the CEC did not include an uptime standard of 98% or greater in its initial proposal. Without establishing this standard, California drivers will continue to experience non-functional chargers that will reduce EV confidence and deployment. A report by Cisco titled "The Hidden Costs of IoT" suggests 95% of non-functional electric vehicle chargers are due to connection to a central server. Moreover, a survey by Plug-in America discovered that 54% of drivers reported chargers being non-functional for daily use. Taken together, reliable IT infrastructure is the central point of failure for all electric vehicle chargers. A recently released study by Car and Driver discovered that more than half of all charging failures monitored were due to a station not being able to connect to an internet network for driver authentication Additionally, the US Department of Health and Human Services acknowledged that low-income communities have less access to reliable internet that potentially exacerbates the issue of nonfunctional chargers. For this reason, we respectfully request the CEC adopt an uptime standard for charging infrastructure that can demonstrate 98% now. Xeal also encourages the CEC to adopt the 98% standard for every charging environment regardless if public funds were used to support the charging infrastructure. This would allow a complete and holistic understanding of EVSE performance throughout the state.

Connectivity is the backbone for EVSEs to provide smart charging capabilities and reporting. An EVSE's active connection to the internet is the crux to evaluating a charging system's functionality and health. For EVSEs to be as reliable as traditional gas stations, including network connectivity as a variable for uptime calculations is imperative, when the EVSE requires connectivity to function properly. Network management systems (NMS) are notified when network connectivity is interrupted and is measurable. The interruption is often refleccted in the charger's "heartbeat", where signals are sent to ping the charger and ensure the NMS has regular communication with the station. We are pleased to see the CEC adding network connectivity as a variable to uptime to ensure the most integral component of smart charging functionality is not overlooked. However, we respectfully request the CEC clarify which components are included under the Communication Network Outages Excluded Downtime to ensure network outage is truly a result of a cellular or internet service provider failure and not the EV Charger. Moreover, should a charger become offline due to network connectivity, Xeal agrees with the CECs suggestion that energy should be dispensed free of charge and without user authentication. This ensures drivers are not stranded, which cannot be overstated when considering emergency situations, and encourages timely maintenance. By including this crucial piece, the state will improve EVSE reliability, reduce stranded drivers and instances of nonfunctional chargers that can result in slower adoption rates of EVs and the State's climate goals.

Xeal appreciates the opportunity to support and provide input on CEC's rulemaking to establish uptime recordkeeping and reporting standards for electric vehicle chargers and charging stations. We look forward to continuing to work with the CEC and other stakeholders to support the deployment, access, and reliability of light-duty charging infrastructure.

Sincerely,

Michael A. Smith
Head of Deployments and Policy
Xeal Energy