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GM Comments on EV Charger Reliability and Reporting

Additional submitted attachment is included below.

October 25, 2023

California Energy Commission
715 P Street
Sacramento, CA 95814

Submitted Electronically to docket number 22-EVI-04

RE: 22-EVI-04 and Electric Vehicle Charging Infrastructure Reliability - Comments In Response to Draft Staff Report Tracking California's Electric Vehicle Chargers

General Motors Company (GM) thanks the California Energy Commission (CEC) for the opportunity to respond to the Draft Staff Report on electric vehicle (EV) charging infrastructure inventory, utilization, and reliability reporting. We support CEC's efforts to accelerate statewide EV infrastructure deployment, and we applaud the focus on convenience, reliability, and customer experience. The draft report highlights many key issues with the potential to degrade consumer confidence and we agree that additional data can play an important role in identifying and addressing some of these reliability concerns.

GM believes the future is all-electric and we are putting significant resources into accelerating this transition. We are bringing a wide range of new vehicles to market in different vehicle classes and price points, and we remain on track for 1 million units of EV production capacity in North America by the end of 2025. The vehicles, however, are just one part of this equation. To enable an all-electric future that leaves no one behind, we need to ensure convenient, reliable, affordable charging access for all. This will require significant expansion of charging infrastructure and considerable improvement in the charging experience for customers. GM is therefore investing directly in infrastructure deployment, and we are working through multiple avenues to improve charging experience and reliability.

Drivers need to have confidence in public EV charging stations and in their ability to go wherever they want to go in an EV. This means the network should be as convenient, reliable, and easy to use as today's conventional fuel network, with stations functioning as expected from the perspective of the EV driver. Well-designed reporting requirements, paired with strong funding program requirements and collaborative industry efforts such as the National Charging Experience Consortium (ChargeX), can help the industry make progress on this complex issue.

Below are recommendations and key considerations for improving the effectiveness of the regulations while minimizing administrative burden and costs across the industry.

Consider "uptime" in context of the broader charging experience. There has been considerable stakeholder debate around uptime calculations, exclusions, and requirements. As noted in our 2022 workshop comments, GM agrees uptime is one important piece of the overall reliability puzzle. A common approach to defining and measuring uptime is necessary, including clarity on "excluded time." We therefore appreciate and support the general alignment with the National EV Infrastructure (NEVI) program on uptime calculations and definitions. We note that

CEC is only proposing to exclude downtime stemming from communications outages for chargers that "default to free," and believe this is a reasonable, customer-centric caveat that helps align CEC's proposed calculation with the NEVI program.

Uptime is one important metric, but it is not sufficient, even if paired with an actual uptime requirement as suggested by many stakeholders. The report includes detailed discussion failure points that may prevent a satisfactory customer experience even when a charger may appear to be "up." We agree that there is limited data about charging reliability issues and that there are questions around whether mandating that EV chargers meet a 97 percent uptime requirement as defined "would actually result in a network that drivers perceive as reliable and dependable."[1] CEC may ultimately wish to impose an uptime requirement aligned with the NEVI program rules, but reporting and uptime requirements must be accompanied by additional data, metrics, and collaborative efforts to improve the charging experience. Uptime alone does not tell the full story and may mask customer experience issues.

Add "charger availability" as another metric for reliability. GM defines "availability" as the percentage of time a charging port is in an operable and/or committable state and is physically accessible to customers, without any "excluded" downtime removed from the equation. This metric would complement "uptime," but from a more consumer-centric point of view as drivers are not concerned with whether an outage is "excluded" or not. This should not require any additional data collection as it is simply another calculation using data that will already be collected for the uptime calculation.

Consider opportunities to better understand failures and root causes. We urge CEC to look for opportunities to uncover root causes for downtime. For example, itemized downtime logs might help uncover patterns across the network. We acknowledge that work is still ongoing to standardize error reporting, including through the ChargeX Consortium, and it may be necessary to let these discussions mature before considering any changes to reporting requirements.[2] However, anything CEC can do to uncover root causes and prominent defects would benefit the broader industry.

Align reporting requirements and processes with existing state and federal programs. Where possible, we recommend avoiding duplicative and conflicting reporting requirements. For example, data sharing agreements between California Air Resources Board (CARB) and with the Department of Energy's (DOE) Alternative Fuels Data Center (AFDC) might provide opportunities to capture the necessary data without creating additional, overlapping administrative burdens and costs for the covered entities.

Balance competitiveness concerns and public interest with regard to confidentiality. The Draft Staff Reports includes extensive discussion of confidentiality. Charging network operators have good reason to keep utilization data confidential and we see no compelling reasons to make this data public, particularly for data that is not sufficiently aggregated and

[1] Draft Staff Report, page 31.

[2] ChargeX recently released a report on Recommendations for Minimum Required Error Codes for Electric Vehicle Charging Infrastructure" that represents an important step forward on error code standardization. The report is available online at ChargeX_MREC_Rev5_09.12.23.pdf (inl.gov).

anonymized to protect confidential business information. Some might argue for greater transparency around aggregated reliability and uptime data, though here again there are business and competitiveness considerations that must be factored in. On balance, we generally recommend against disclosure pursuant to 2507(f)(1)(D) of data initially designated as confidential.

Leverage parallel CEC programs to drive progress. Looking beyond the current scope of these reporting regulations, we recommend continued consideration of ways CEC might support charging reliability through funding programs. For example, requiring preventive and general maintenance plans for charging station operators as a part of any incentive program could help drive best practices for maintenance and reliability across the industry. CEC might also consider random field testing, either through a state-run program or as part of an incentive program.

Thank you for the opportunity to respond to the CEC's draft report. This is an important and timely issue, particularly at this relatively early stage in the industry. We are encouraged by CEC's holistic, customer-centric approach and we look forward to continued engagement on this issue.

Sincerely,

Jamie Hall
Senior Strategist, EV and Energy Policy