

DOCKETED

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VIA ELECTRONIC FILING

May 26, 2021

California Energy Commission
Re: Docket No. 19-AB 2127
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments on Implementation of AB 2127 Electric Vehicle Charging Infrastructure Assessment (Draft Report)

Advanced Energy Economy, Amply Power, Arrival, Blink Charging, BTC Power, CalStart, Daimler, Electriphi, Enel X, EVBox, EV Connect, ev.energy, FLO, Greenlots, IoTecha, Lucid, The Lion Electric Company, Mercedes Benz USA, Mobility House, Next Dimension, Nikola Corporation, Nuvve Holding Corporation, Oxygen Initiative, Powerflex-EDF Renewables, Rivian, SemaConnect, Siemens, Sierra Club, Tritium, Veloce Energy, VinFast, Volvo Group North America, together these **32 Joint Parties** ("Parties"), respectfully file these comments on the AB 2127 Electric Vehicle Charging Infrastructure Assessment Draft Report ("Report"). While several of the Parties in this coalition have filed comments individually during the comment period in February/March 2021, the Parties have come together to reiterate to the California Energy Commission ("Commission"), the importance of interoperability in the transition to the zero-emission transportation future that the State has identified as its 2035 target.

The Parties agree that the Commission should be encouraging the development of standardized, interoperable, cybersecure VGI communication between the EV and EVSE. Critically, this means taking steps to encourage the market to equip networked chargers with the hardware readiness to communicate with EVs over the charging cable. Doing so allows for the necessary communication to flow using ISO 15118, the widely-adopted global open standard being commercially utilized for this pathway. This provides for interoperable, cybersecure communications to create value for customers and the grid through VGI, “plug and charge”, and other functionality.

The Parties appreciate the effort and analysis that went into the Report. We believe it is not only a valuable, but also an essential tool for California to utilize in achieving its transportation electrification targets. The findings should be considered by State and local agencies as they develop and implement relevant infrastructure plans, including the Commission, California Public Utilities Commission, Air Resources Board, and Air Quality Management Districts.

The Parties support the Report’s seven recommended actions to further smarter EV charging infrastructure deployment in the state. In this filing, we restrict our comments to two specific areas that are critical to creating an EV driver and fleet-oriented charging network that will not only ensure that EV drivers have access and availability to consumer-friendly charging, but also that the charging infrastructure is well able to support a reliable and resilient grid, namely: **Interoperability & Standardization** and **Smart Chargers**.

Interoperability & Standardization

The Report rightly promotes the goals of interoperability and standardization in EV charging for their many benefits. Prioritizing chargers that speak common languages with vehicles and backend networks ensures chargers, the cloud, and vehicles can exchange the information necessary to easily or automatically align charging with surplus renewable energy generation, enable plug-in vehicles to power homes and businesses during outages, streamline the charging experience, provide customers with hardware and software switching ability and increased choice, and provide certainty and a platform for innovation to the market. Interoperability reduces the risk of stranded assets by preventing vendor lock-in and lowers costs through the increased competition between manufacturers. As such, we encourage the Commission to work towards ensuring that chargers procured with public funds are interoperable and ‘smart’ i.e., networked.

We offer the following definition of interoperability in the interest of clarity:

Interoperability means the ability of hardware, software, or a communications network provided by one party, vendor or service provider to interact with or exchange and make use of information, including payment information, with the hardware, software or communications network provided by a different party, vendor or service provider of chargers, meaning that chargers from one vendor can be connected to the network of another vendor.

Accordingly, we support the Report's finding that networked chargers should be equipped with the ability to communicate directly to the EV. Standards that support driver-friendly capabilities such as "plug and charge", using ISO 15118, and future VGI capabilities are crucial to create a necessarily seamless EV driver charging experience similar to or better than filling up at the gas pump, as is necessary for widespread EV adoption. Failure of California to adequately support standardization and the capabilities it unlocks will hinder achievement of the State's clean mobility and grid integration goals.

It is, therefore, critical that the Commission educate and signal to the marketplace now to enable an adequate phase-in timeframe for these EVSE capabilities, and continue testing of standards, including ISO 15118.¹ This will also provide time for the industry to continue to work through the associated Public Key Infrastructure ("PKI") implementation challenges to ensure adequate cybersecurity protections, as has been successfully achieved in other industries such as finance, telecom, etc.

The Parties also support the Report's findings that the Commission should prioritize chargers certified to be third-party Open Charge Point Protocol ("OCPP") compliant when procured with public funds. With an existing independent third-party OCPP certification process, it is appropriate for this to be a requirement of EVSE supported with public funds once an adequate phase-in timeline is established for hardware and software providers to comply.

Smart Chargers

To capture the benefits of VGI, smart chargers are essential to shift charging away from the peak hours or toward times of abundant renewables. Utilities (and their ratepayers) benefit from lower grid reinforcement costs, while EV drivers benefit from lower fueling costs.

In order to future proof the state's investment, the cost-efficient approach is for chargers to be equipped with cybersecure communications that allow for remote control and for providing data to EV owners and utilities. Remote control allows for ongoing adjustment of charging strategies as potential grid impacts change over time; for example, the potential for a new midnight peak noted in the Report can easily be managed by staggering charger start times. The data is valuable to EV drivers to understand how much their fuel is costing and to utilities to understand detailed grid conditions.

The benefits of managed charging can be most efficiently achieved via smart (i.e., networked) chargers. With light-duty EV ranges trending towards 400 miles/charge (and when light-duty EV drivers are reverting to ICE-vehicles owing to unacceptable charging times/experiences²), it is an inefficient use of public funds to support the procurement of Level 1 or non-smart Level 2 chargers.

¹ This could be done through programs being proposed by the Commission such as ViGIL and the Interoperability Testing Events

² "Discontinuance Among California's Electric Vehicle Buyers: Why are Some Consumers Abandoning Electric Vehicles," National Center for Sustainable Transportation, UC Davis, May 2021.

Therefore, we strongly urge the Commission to make the recommendation that publicly funded chargers should be smart, i.e., networked and capable of measuring and recording charging data.

Conclusion

The Parties respectfully urge the Commission to recommend the use of open standards, interoperability and cybersecure V2G communication between the EV and EVSE.

We commend the Commission on a well-analyzed, well-written Report that provides recommendations for EV infrastructure deployment in California essential to meet the state's EV adoption goals.

The Parties appreciate the opportunity to submit these comments.

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