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Greenlots Comments on CALeVIP Future Tech Requirements

Additional submitted attachment is included below.

December 13, 2019

Docket No. 17-EVI-01
-Via e-file-

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Comments of Greenlots on Future Equipment Technology Requirements for CALeVIP

Greenlots submits these comments in response to the California Energy Commission's ("CEC" or "the Commission") proposals presented by staff at the technical workshop held on November 18, 2019 regarding future equipment technology requirements for CALeVIP.

Greenlots is a leading provider of electric vehicle ("EV") charging software and services committed to accelerating transportation electrification across California. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, and a growing percentage in the Level 2 charging space. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic electric vehicle charging loads and respond to local and system conditions.

California has set pivotal goals for reducing emissions with 50% renewable energy generation and deploying at least five million zero-emission vehicles (ZEVs) by 2030, as well as deploying 250,000 charging stations, including 10,000 Direct Current (DC) fast charging stations by 2025. Additionally, local and regional targets, such as the City and County of Los Angeles' goal of having 25% of its total light duty vehicle fleet be zero emission by 2025, have further reinforced the state's commitments. Vehicle-grid integration (VGI), such as smart/managed charging, will play a critical role in achieving these goals. It is widely recognized that managed charging can increase operational cost savings relative to fossil-fueled vehicles and offer a range of grid services, in addition to promoting overall electric system efficiency.

A key barrier for leveraging VGI in publicly accessible charging locations is interoperability for EV drivers to multiple smart charging networks. In the nearest term, driver roaming or network interoperability across different EVSE providers can help enable smart charging technologies, and facilitate open payment and driver access to charging infrastructure. Setting a communication standard between both the EV and EVSE, and the EVSE and the charging network, will help normalize smart charging and lower a component of investment risk. Greenlots broadly supports CEC's effort to promote interoperability as part of the CALeVIP program and provides the following comments regarding several of the specific proposals presented by staff at the November 18 workshop.

1. Greenlots strongly supports the Commission's proposal to require 3rd party Open Charge Point Protocol (OCPP) compliance for EVSE utilized in CALeVIP beginning in 2021, and 1st party (self-certification) beginning in 2020.

As the Commission knows, OCPP is the leading and freely available universal communication protocol that enables component vendors and network operators to mix and match interoperable hardware and software. Utilizing OCPP therefore both mitigates stranded asset risk and provides site hosts with the flexibility and optionality to switch between OCPP compliant vendors of both hardware and software, providing for competition and customer choice beyond the initial point of purchase.

Due to relatively light regulatory oversight of this space to date, the application of this protocol by some market participants is inadequate to ensure this full flexibility and ongoing customer choice. Greenlots therefore is encouraged by the Commission recognizing these issues and proposing a reasonable timeframe for adoption of OCPP in CALeVIP funded EVSE. Indeed, if regulators do not adequately consider the impact of proprietary networks, the complexity resulting from shoehorning closed networks the EVSE hardware runs on into an open and interoperable system could add significant future cost and difficulty. It will also significantly limit future flexibility for switching hardware and software, and in so doing, limit the potential for ongoing competition for both software and new hardware models. As competition is often the driver of innovation, and innovation often results in increased customer choice, such a dynamic can have profoundly negative impacts on hardware and software markets and products.

Market participants that historically have argued for a slower, restrained approach towards requiring and adopting this protocol have largely based their case on two contentions. First, they argue that using a standard protocol itself can hamper innovation by imposing a ceiling on features and functionality. Second, they argue that OCPP isn't yet certified by a standards body and that there is no third-party certification program to ensure compliance. Neither of these contentions are well-founded. Utilizing OCPP imposes no ceiling whatsoever in adding additional functionality or features on top of it; instead it represents a floor upon which more can be built should a particular vendor choose to. Moreover, while a self-certification process has been available for quite some time, the Open Charge Alliance (OCA) – the open and transparent organization that oversees the protocol – has begun to implement a third-party certification program, and the third-party test lab in the United States is up and running to be able to provide for independent certification. Finally, the International Electrotechnical Commission (IEC) is already working with stakeholders to develop OCPP 2.0 into an IEC version (IEC 63110), representing OCPP's ascension pathway to becoming recognized and adopted by an international standards body.

The need for charger-to-network interoperability is immediate, and the public policy goals that this supports are clear. The vast majority of EVSE vendors already offer EVSE that is self-certified OCPP-compliant, and Greenlots sees no justification for the Commission to continue

to support non-interoperable infrastructure deployment. With a self-certification process using the OCPP Compliance Toolkit from OCA in place for some time now, it is both warranted and appropriate for CEC to require this for 2020 CALeVIP projects. And with a third-party certification process now up and running, giving more than a full year for this requirement to go into effect, this is more than an adequate and appropriate amount of time for vendors to put their equipment through that process in advance of 2021 CALeVIP projects. In fact, Greenlots would recommend that CALeVIP strongly consider moving up its timeline for its third-party OCCP certification requirement.

Finally, Greenlots notes that in some instances, hardware-software interoperability has been limited by vendors contractually, even when the underlying hardware may be OCPP certified/compliant, much like a cell phone that is locked to a certain network, requiring permission from that network operator to be unlocked. Greenlots urges the Commission to be aware of and monitor this particular practice, and consider rules regarding this, including that OCPP be actively utilized rather than the charger just being OCPP compliant. This is the approach that the California Public Utilities Commission recently took in its Decision approving EV charging infrastructure deployments by the state's utilities at schools, parks and beaches pursuant to 2018's AB 1082 and 1083.[1] Indeed, proliferation of this practice could stand to subvert all the reasons and intentions that this Commission has recognized for supporting and requiring open communication standards and protocols in the first place.

2. Greenlots supports the Commission's proposal to require ISO 15118 and the required physical layer for high-level communications in EVSE utilized in CALeVIP, beginning in 2021.

As staff described at the workshop, ISO/IEC 15118 supports "plug and charge", future V2G capabilities and a relatively seamless EV driver charging experience, providing the greatest benefits compared to other high-level communication protocols. Moreover, the standard is being deployed and supported internationally, with a broad set of automakers committed to equipping millions of EVs with ISO 15118 capability over the next several years. Indeed, inaction in California while much of the market coalesces around this standard for EV-EVSE communication may prove detrimental to the growth of the EV market, and would be out of line with the State's longstanding leadership role in clean mobility. As such, Greenlots supports CEC's proposal to require ISO 15118 and the required physical layer for high-level communications in EVSE utilized in CALeVIP, beginning in 2021.

While DCFC charging already uses the standard, "plug and charge" functionality generally has not been widely supported. Accordingly, Greenlots encourages the Commission to clarify that this specific functionality will be supported by chargers used in CALeVIP by the same 2021 date. Greenlots believes that supporting ISO 15118 and the functionality it unlocks will

[1] Decision 19-11-017, Conclusion of Law 21, "To promote competition and innovation within these pilots, and to reduce the risk of stranded assets, qualifying EVSEs should actively utilize open access standards for communication of data between the EVSE and the back-end network."

both accelerate EV adoption and related benefits while adding minimal hardware costs, and help future-proof an element of EVSE deployment.

The adoption of open protocols and standards is essential to support transportation electrification, grow the market for EVs and EV charging products and services, enhance the driver/customer experience, integrate with the electricity system, and lower the cost of ownership of both EVs and EV charging infrastructure. The proliferation of open standards and communication methodologies provides a platform and ecosystem for innovation and customer choice that is critical to guarding against stranded assets and protecting the prudency of taxpayer investments.

Greenlots looks forward to continued participation in this process and helping to enhance CALeVIP. Greenlots thanks the Commission for consideration of these comments, and its ongoing efforts to support transportation electrification and advanced mobility.

Sincerely,

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