DOCKETED	
Docket Number:	20-TRAN-04
Project Title:	Electric Vehicle Infrastructure Project Funding
TN #:	248855
Document Title:	VE Comments on LA Funding Ideas
Description:	This filing supersedes TN 248842.
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Submitter Role:	Intervenor
Submission Date:	2/17/2023 2:46:28 PM
Docketed Date:	2/17/2023

VIA ELECTRONIC FILING

February 17, 2023

California Energy Commission
Re: Docket No. 20-TRAN-04
715 P Street
Sacramento, CA 95814

Re: Comments on Light-Duty Electric Vehicle Infrastructure Allocation Workshop

Veloce Energy files these comments on the "Funding Ideas for Light-Duty Passenger Electric Vehicle Charging Projects" (Projects) that California Energy Commission (Commission) staff presented at the public workshop on January 26, 2023.

Veloce Energy (Veloce) is a California-based provider of EV charging solutions, committed to accelerating the electrification of transportation through technology and business model innovation. Veloce's solution supports modular and flexible charging infrastructure, with the intent to accelerate deployment, drive cost efficiencies, and provide resiliency.

Veloce is submitting comments on select funding ideas at this stage and reserves the option to submit further comments during the development process.

On the Grid-light and Resilient Charging Idea

We commend the Commission for developing this idea – we have long advocated that Distributed Energy Resources (DER), such as battery energy storage systems (BESS), play a critical role in deploying charging infrastructure through cost efficiencies and faster time to deploy by reducing or eliminating unnecessary utility distribution system upgrades and service interconnection inefficiencies on both the customer side and utility side of the meter. BESS also increase reliability through their ability to provide back-up power.

1. How should "grid-light" be measured and should a maximum level of grid reliance be specified?

VE: Grid connection sizes should be determined (and limited) based on the scale and utilization of the charging site.

⇒ For urban public charging, sites should be designed to use the largest easily available transformer / new utility service connection (typically <300kW)

- ⇒ For larger sites, serving class 4-8 vehicles, sites should have grid capacity sufficient to meet 33% to 50% of average peak load for the site – provided, in all cases, that appropriate protection equipment is in place to ensure safety
- ⇒ Even lower percentages are achievable, 25%, or lower, for chargers in perhaps remote locations with low utilization (but important that they are in service and available for use). The Commission could explore a program for installation of a single, dual port 150 kW charger, with a planned usage of less than 10%, with a grid capacity of 10% of the peak charger load, where the grid connection could be as little as 37.5 kW (25% of 150 kW).
- ⇒ The Commission should explore an idea in which energy storage is deployed in a transitory manner while the grid upgrade is undertaken, which allows for deployment of charging for an initial batch of vehicles. This idea could also test several use cases for energy storage co-sited with charging infrastructure post the grid upgrade such as peak mitigation, resiliency, grid support, etc.

2. Should applicants propose their own outage operation capabilities, or should CEC set minimum requirements? If so, how can CEC specify minimum requirements while accommodating a wide range of possible project types and integration strategies?

VE: CEC should set a minimum requirement, but not a maximum. Typically, outages of up to 30 minutes cause little disruption. Outages over two hours begin to impact operations and would require a BESS and/or on-site generation + BESS for the site to continue to provide charging services.

3.How can grid-light projects ensure customer confidence and that the charging experience is not compromised? Should CEC set minimum requirements?

VE: The charging experience today varies significantly based on the number of vehicles that are at a charging site. Hardware constraints and power management via network software impact the charging times. However, a multi-charger site with full charger occupancy is an uncommon occurrence – therefore, we do not recommend that the CEC require a site to be operational at an assumed utilization rate of 100%. Our research shows that public charging can be suitably accommodated with a combined grid plus storage capacity approximately equal to 65% of the charger(s) peak load, with 2–4 hour storage duration. Sites should be designed with the ability to scale storage with increasing utilization.

To enhance customer confidence, proper signage, and real-time access to charging information should be provided, such as charger availability (especially if the site has curtailed charged availability or for emergency use only, etc.), payment methods, and prices. (Note that the National Electric Vehicle Infrastructure technical guidelines require that charging stations receiving federal funds must provide such real-time data via an open API so third parties can make the data available to EV drivers via apps.). In addition, the Commission should highlight existing and planned uptime requirements.

4. Should CEC allocate a minimum portion of funding to Level 2? Why or why not?

VE: We recommend that any public funding that the CEC allocates towards Level 2 non-residential sites should be restricted to 19.2kW/80A chargers, which are ideal for both light-duty fleets as well as medium-dwell time public charging. Residential sites such as multi-family housing also qualify for such restrictions -- faster charging at a lower Total Cost of Ownership would be an attractive incentive for building owners.

Charging at Multi-family, Affordable Housing Sites

Charging at New Multi-family Sites

1. Should the solicitation include DC fast chargers?

VE: We support the idea that the solicitations include DC fast chargers, which can be as low as 30 kW. We also recommend that the Commission start restricting publicly funded incentives for Level 2 chargers to 19.2kW/80A. Unless every parking spot is equipped with a charger – unlikely in most cases – residents of multi-family housing will have to rely on shared charging, which requires a speed of charging that can be met only by higher power Level 2 chargers and DCFCs.

We also urge the Commission to require new sites installing charging stations to ensure that there is resiliency built in to support the charging infrastructure, such as onsite energy storage systems. This is especially critical given the PSPS events that the state experiences.

Veloce Energy appreciates the opportunity to submit these comments.

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