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Siemens Comments MDHD ZEV Infrastructure Funding Concept

Additional submitted attachment is included below.

VIA ELECTRONIC FILING

April 24, 2020

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Docket No. 19-TRAN-02, Comments on Draft Solicitation Document for Zero-Emission Transit Fleet Infrastructure Deployment

Siemens appreciates the opportunity to file these comments regarding the draft solicitation document for zero-emission transit fleet infrastructure deployment.

Siemens is the first corporation of its size to commit to being net-zero carbon by 2030 including a full transition to clean transportation. We are motivated by the goal of driving socio-economic benefits that stem from reducing GHG emissions and adoption of clean energy. Siemens employs over 4000 personnel in California, generating over $2 billion in in-state sales. Siemens' eMobility product portfolio encompasses hardware, software and services which are currently deployed in 35 countries globally – our solutions are geared to maximize the abilities of EVs to act as a Distributed Energy Resource as well as enable the effective harnessing of renewable sources.

Siemens offers the following comments on the proposed solicitation concept for Zero-Emission Transit Infrastructure Deployment, specifically regarding electric buses and charging infrastructure:

- **Deployment Scale**. The concept targets full-scale deployment of fleets of at least 50 or 100 buses with funding of up to $10 to $20 million, respectively, with grant applications due by the end of August 2020. At this time, many, California transit agencies do not have fully developed transition plans at full scale or, , plans with sufficient detail and specificity to commit to a particular type of alternative fuel. The large agencies must submit transition plans to the Air Resources Board (CARB) this summer, but many of those plans are expected to be high level and/or include multiple phases of transition to ZEV. For these reasons, Siemens suggests that the CEC consider modifying the solicitation so that lesser commitment in terms of fleet size could qualify for the grants. Specifically, there should not be a required commitment for electrifying 100% of their fleet since the transit agency may wish to diversify alternative fuel sources. Consequently, the minimum quantities should be reduced, perhaps to 25-50 buses, from the current 50-100.

- **Resiliency.** Given the real possibility of natural disasters such as earthquakes and wildfires, infrastructure investments related to EV charging that confer added resiliency should qualify for funding. This could include microgrids, nanogrids, energy storage, or on-site generation. CEC should consider adding a selection criterion on resiliency.

- **Interoperability.** In other programs, such as CALeVIP, the CEC requires that chargers be interoperable. This is good public policy, because interoperability enhances customer choice, protects assets from being stranded, lowers costs, and increases resiliency:

    - Customer choice is protected, because proprietary chargers result in transit agencies being locked into a single supplier for future bus purchases (or vice versa, getting locked into buying chargers from a single vendor).
    - Asset stranding is avoided when the communications link from the charger to the cloud is open, because a new provider can step into the shoes of a company that can no longer provide the data services – or in the case that the transit agency finds another vendor that it prefers for cost or other reasons.
    - Lower costs are achieved because interoperability allows transit agencies to continue to have competitive procurement on an ongoing basis, rather than having to rely on a single provider.
    - Resiliency and Availability is increased, because buses from one transit agency can use the facilities of another in the case of a natural disaster that damages or destroys the facilities of the first transit agency – or if the utility electrical facilities are similarly damaged or destroyed.

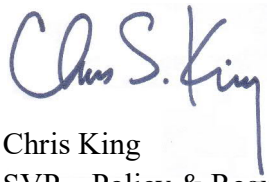
  Therefore, for these four and other reasons, the CEC should require that any chargers purchased using grant funds be interoperable and comply with open standards regarding the connectors (whether they be plugs or overhead pantographs, with J1772 and J3105 being the relevant standards) and regarding the data communications protocol between the charger and cloud (with OCCP being the relevant standard). For both the connectors and the data communications protocol, compliance can be certified using third party laboratories.[1]EV drivers know exactly how much they are paying to charge their vehicles and how much electricity is being consumed, because the bill is separate from the premise bill.

[1] For example, for OCPP: https://www.dekra-product-safety.com/en/authorized-test-laboratory-OCA

- **Smart Charging.** Finally, any chargers funded through the grant program should be smart chargers, meaning that they have communications and built-in sub-meters. The communications enables the chargers to receive and execute charging management commands such as start, stop, or curtail, while the sub-meters allow the chargers to send back the charging consumption data to allow the facilities manager to know exactly how much energy is being used to charge each bus – and when that energy is being consumed. Smart charging enables both costs and adverse grid impacts, due to high charging loads on the grid, to be minimized by:

    - Performing more charging during lower cost off-peak times,
    - By managing total coincident demand (and timing thereof) for the facility to minimize demand chargers,
    - By enabling charging control in response to demand response dispatch signals, and,
    - If the vehicles have the capability, managing two-way electricity flows for V2G programs that can become revenue sources. Transit agencies can both earn and help the grid by more effectively participating in demand response programs.

Siemens appreciates the opportunity to comment.



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