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Terawatt Infrastructure - Additional Feedback for Workshop on the Development of Applications to Round 2 of USDOT CFI

Additional submitted attachment is included below.

Terawatt
Lead the charge.

July 29, 2024

California Energy Commission
715 P Street
Sacramento, California 95814

Re: **Additional Feedback for Workshop on the Development of Applications to Round 2 of the U.S. Department of Transportation's Charging and Fueling Infrastructure Grant Program**

Introduction

Thank you for the opportunity to submit information to assist the California Energy Commission following the Workshop on the Development of Applications to Round 2 of the U.S. Department of Transportation's Charging and Fueling Infrastructure Grant Program on July 18th, 2024.

This workshop solicited additional feedback as a result of input received for California's two RFIs (Tristate Proposal and Drayage Proposal) by July 30th for the CEC's submission to the Charging and Fueling Infrastructure (CFI) grant. Terawatt Infrastructure ("Terawatt") provided input to both the California Energy Commission's Tristate Proposal and Drayage Proposal, and is appreciative of the effort to provide final, additional input on California's CFI proposal before the state submits an application to the Federal Highway Administration (FHWA) at the end of August 2024.

Terawatt provides the following feedback to the CEC's provided questions as the CEC develops the following competitive CFI proposal to the Federal Highway Administration.

1. Is there a preference for battery electric or H2 MDHD trucks? In general, or for certain use cases?
Terawatt believes that battery electric technology is the most ideal in all cases given the higher rate of adoption of battery electric trucks, lower relative cost of vehicles, and broader charging network adoption across the United States.

2. For public truck charging, what is the preferred proportion for high-powered (350kW-1MW+) and low-powered or overnight (50 kW-150 kW) charging?
What use case is best served by public MDHD charging?
For public truck charging, sites should be configured with the highest powered chargers available. Currently, this may be at a 350kW power level. Sites should be designed to allow for upgrade to higher powered chargers, such as megawatt charging systems when available. The use of high powered chargers will maximize the limited space available at many sites (particularly in dense urban areas like Southern California), and allow the turnover of vehicles far more quickly, allowing far more vehicles to be charged -

maximizing the public investment in these sites. Fleets operate on tight margins, and require the fastest charging speeds available for corridor travel to ensure that goods can be delivered as fast as possible.

3. Is there a general cost per kW or MW you have used to estimate the cost per site?
While some costs may be generalized, the relative cost of real estate and other costs that affect construction (such as labor) may vary depending on which regions of the state sites are located, as well as the type of use. Federal requirements related to the CFI program will affect cost, as well as county and local permitting requirements, which may vary based on geography. While every site cost may vary, Terawatt's recent CFI award in New Mexico was for $63.8 Million award for two sites, at an approximately 20% non-federal share.

4. Is there a desire for a (publicly available) charging space reservation system? Would a reservation system work for your business model?
Terawatt, like most charging providers, utilizes a reservation system. The use of advanced reservation systems is a standard best practice among MHD charging providers. This is because fleets require guaranteed access to charging infrastructure so that charging sessions can be planned and optimized to deliver the greatest cost savings as well as be integrated into a planned route to ensure that vehicles do not run out of charge on their way to a charging station. Terawatt has developed a proprietary advanced reservation system that allows customers to plan their routes and optimize their charging sessions. Without an advanced reservation system that can guarantee access to a charging stall, fleets will not electrify their operations due to concerns that charging will not be accessible.

5. Need for pull-through vs. pull in spaces
As stated in previous submissions, for corridor charging applications, the majority of charging stalls at stations should be pull-through as the majority of trucks on the road will be hauling a trailer at any given time. Pull-in or bobtail parking can be used for overnight charging or at a fleet's central depot location, but are less suited for corridor sites compared to pull-through stalls thatcan accommodate trucks with and without a tractor.

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