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Tesla Comments - 24-EVI-01 West Coast Truck Charging and Fueling Corridor Project

Additional submitted attachment is included below.

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BY ELECTRONIC FILING

February 27, 2025

California Energy Commission
Docket Unit, MS 4
715 P Street
Sacramento, CA 95814-5512

RE: Docket No. 24-EVI-01 CFI
Tesla comments on Joint Workshop on Concepts for the CFI West Coast Truck Charging and Fueling Corridor Project
Submitted via E-Comment Portal: https://efiling.energy.ca.gov/EComment.

Tesla respectfully submits the following comments in response to the Joint Workshop on Concepts for the CFI West Coast Truck Charging and Fueling Corridor Project. As a leading manufacturer of all-electric heavy-duty trucks and a developer of high-powered charging infrastructure, Tesla brings extensive experience in vehicle and charging technology, with firsthand knowledge of the challenges and opportunities associated with deploying medium-and heavy-duty (MHD) charging sites. Our comments touch on key aspects of the proposed funding opportunity where greater flexibility and alignment with industry realities will help ensure the successful deployment of charging infrastructure that supports widespread MHD electrification up and down the state.

Tesla Background

Tesla designs, develops, manufactures, and sells high-performance fully electric vehicles, direct-current fast chargers, and solar energy generation and storage systems. Tesla also installs, maintains, and operates charging and energy systems.[1]

In 2017, Tesla introduced the Tesla Semi, a Class 8 truck designed from the ground up to be the most efficient and safest truck on the market. The Tesla Semi focuses on reducing NOx and greenhouse gas (GHG) emissions from goods movement and transportation. The Semi comes in two models with ranges of 300 and 500 miles respectively and demonstrates that an all-electric truck can meet virtually any duty cycle when paired with a megawatt charging system.

With less than 2 kWh per mile of energy consumption, the Tesla Semi can travel up to 500 miles on a single charge, fully loaded. Charging with electricity is approximately 2 times cheaper per mile than refueling with diesel.[2] Operators can see estimated fuel savings of up to $150,000 within their first three years of ownership. With remote diagnostics, over-the-air software updates, and fewer moving parts to maintain, operators will spend less time at service centers and more time on the road.

To charge the Tesla Semi, Tesla has developed innovative, high-power 1 MW+ Semi chargers. This level of power represents an advancement in the commercial goods movement industry that enables longer range electrification than previously possible when paired with long-range electric vehicles.

[1] Tesla, Impact Report 2022 (Apr. 24, 2023)
[2] Tesla, Impact Report 2023 (May 23, 2024).

Response to Project Concepts

Category 1: Charging Equipment Requirements

Tesla is concerned with the proposed requirement that charging equipment must be "DCFC with non-proprietary connectors and have a published Society of Automotive Engineers (SAE) standard." While Tesla fully supports open standards and intends to adopt the Megawatt Charging System (MCS) once the SAE standardization process is complete, this requirement may be premature given the current status of the SAE standardization process.

MCS is widely recognized as the industry's emerging standard for MHD fast charging, with broad support from OEMs, charging providers, and infrastructure developers, including Tesla. However, SAE is still finalizing the standard, and it is not expected to be published until sometime in 2025. The specific timing remains uncertain and may not align with the CEC's planned timeline, which includes a solicitation release in April 2025 and an application deadline in August 2025. As a result, the current requirement for a finalized SAE standard could create unnecessary constraints and limit participation from projects deploying MCS-compatible infrastructure.

Tesla recommends that the CEC adopt a more flexible approach to charging equipment requirements in the solicitation. Rather than requiring a published SAE standard at the time of application, we encourage the CEC to allow projects to utilize charging equipment that aligns with an anticipated SAE standard that is in the final stages of development. This approach would ensure that funded projects are compatible with the industry's trajectory while avoiding unintended restrictions caused by the timing of the standardization process.

Additionally, while Tesla fully supports the requirement that at least four (4) ports provide a minimum of 150 kW, we are concerned that the blanket requirement for at least eight (8) total ports may not be feasible in all locations. For example, Tesla Semi charging sites deploying higher-powered chargers with >1.2 MW per port would far exceed the proposed minimum power requirements if they were also required to have at least eight ports. For example, a site with eight chargers operating at 1.2 MW each would require nearly 10 MW of peak demand, a level that would be infeasible for many utility distribution networks without costly and time-intensive grid upgrades. This could create significant bottlenecks, slowing down project development and delaying the deployment of much-needed MHD charging infrastructure.

Rather than requiring a fixed minimum of eight (8) ports, we recommend allowing developers to meet the total site capacity requirement through a combination of either:

1. Eight (8) ports, including at least four (4) at 150 kW, *or*
2. Fewer ports (e.g., four (4) or more) if they exceed 350 kW per port

This approach ensures that sites can be designed to maximize power delivery while remaining feasible within local grid constraints. It also reflects the reality that each site will have different infrastructure and utility service conditions, requiring tailored solutions.

Category 2: Charging Capacity Requirements

We also encourage the CEC to reconsider the requirement that each site have a minimum of 2.5 MW of installed and energized charger capacity. While high-power charging is critical for the trucking sector, this blanket requirement may inadvertently limit innovative site designs that align with utility constraints and phased infrastructure deployment strategies.

Tesla recommends lowering this minimum threshold to 2 MW, which would still support high-power charging while providing developers with additional flexibility to work within existing grid limitations. This

adjustment would ensure that infrastructure projects remain feasible across a range of site conditions without compromising the availability of reliable and scalable charging solutions.

Category 3: Application Evaluation

Tesla supports the CEC's goal of ensuring that public funds are allocated efficiently to projects that can be deployed in a timely manner. However, we have concerns regarding the proposed prioritization of "shovel ready" projects, which includes requirements such as real property acquisition, completed approvals and permits, available electrical capacity, and completed NEPA/CEQA screening/pre-screening at the time of application submission. While well-intended, these expectations do not align with the realities of developing public MHD charging sites and could inadvertently disadvantage viable projects.

Public MHD charging sites require significant upfront capital investment, long lead times for permitting and utility new service connection, and coordination with multiple stakeholders. The current readiness criteria suggest that all major site development steps should be completed before grant application submission in August 2025. However, if a developer were to meet these requirements, the site would likely remain unutilized for several months between the application deadline and the expected award approvals. In certain urban areas, this could result in hundreds of thousands of dollars in sunk rent costs alone. This delay creates financial inefficiencies and discourages investment in public charging infrastructure that relies on grant support.

Tesla recommends that the CEC refine its "shovel ready" expectations to better reflect the realities of MHD charging site development. Rather than encouraging all property acquisition, permitting, and new service connection readiness at the time of application, we suggest that the CEC:

1. Recognize phased project readiness, allowing applicants to demonstrate meaningful progress (e.g., site control secured or in progress, utility feasibility studies initiated, and permit applications submitted) rather than requiring full completion of all steps.
2. Adjust the evaluation criteria to balance project viability with feasibility, ensuring that strong projects with realistic development timelines are not excluded.
3. Allow for new service connection flexibility, acknowledging that securing full electrical capacity prior to grant approval is impractical for many projects given utility timelines.

Aligning readiness expectations with the realities of MHD charging deployment will encourage broader participation from infrastructure developers while still ensuring that awarded projects are capable of timely execution.

Conclusion

Tesla appreciates the opportunity to provide comments on the Concepts for the CFI West Coast Truck Charging and Fueling Corridor Project and looks forward to continued collaboration with the CEC to support the expansion of high-power charging infrastructure for MHD applications.

Sincerely,

Tessa Sanchez
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Tesla, Inc.