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Comments regarding Tri-State CFI RFI

Additional submitted attachment is included below.

Center for Sustainable Energy
3980 Sherman Street, Suite 170
San Diego, CA 92110
Tel 858-244-1177
Fax 858-244-1178
EnergyCenter.org

June 10, 2024

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 24-EVI-01
715 P Street
Sacramento, CA 95814

Re: Docket No. 24-EVI-01 – Comments of Center for Sustainable Energy® regarding the Request for Information on the tri-state medium- and heavy-duty charging corridor proposal.

Center for Sustainable Energy® (CSE) appreciates the opportunity to provide comments in response to the California Energy Commission, the Oregon Department of Transportation, and the Washington State Department of Transportation (collectively, the three states) regarding their Request for Information (RFI) on the tri-state medium- and heavy-duty (MDHD) charging corridor proposal funded through the Charging and Fueling Infrastructure (CFI) Grant Program. CSE supports the three states' coordinated effort to deploy publicly-accessible charging infrastructure that will facilitate the deployment of MDHD zero-emission vehicles (ZEVs) and advance progress toward the National Zero-Emission Freight Corridor Strategy.

CSE is a national nonprofit that accelerates adoption of clean transportation and distributed energy through effective and equitable program design and administration. Governments, utilities and the private sector trust CSE for its data-driven and software-enabled approach, deep domain expertise and customer-focused team. CSE's fee-for-service business model frees it from the influence of shareholders, members and donors, and ensures its independence. CSE is pleased to implement the California Electric Vehicle Infrastructure Project (CALeVIP) on behalf of the California Energy Commission and commercial MDHD rebate programs in other jurisdictions, including the Commonwealth Edison (ComEd) C&I and Public Sector EV Purchase Program, the Massachusetts Offers Rebates for Electric Vehicle (MOR-EV) Trucks program, and the New York Truck Voucher Incentive Program (NYTVIP).

CSE recommends the three states utilize a data-driven planning approach to prioritize the deployment of publicly-available, en-route charging infrastructure to support long- and regional-haul ZEV trucks, which are the greatest contributors to greenhouse gas (GHG) emissions and are among the most difficult MDHD vehicle segments to electrify. CSE's recommendations are detailed below in responses to questions 4, 7, 10, and 11.

Question 4: What type of MDHD ZEV public charging do you anticipate being most important in the next three years (2024-2027) – en route or overnight charging? For what purposes do you anticipate needing public charging infrastructure – drayage, last-mile, delivery, long-haul freight, other?

CSE recommends the three states prioritize publicly-available, en-route charging infrastructure to support long- and regional-haul trucks used for freight transport. According to the California Air Resources Board's (CARB) Long-Term Heavy-Duty Investment Strategy, long-haul trucks are defined as Class 8 trucks, including sleeper caps and day cabs with a range of at least 300 miles, and regional-haul trucks are defined as Class 7-8 day-cab tractors with a range of less than 300 miles.[1] These vehicles are among the most difficult MDHD vehicles to electrify, based on CARB's market readiness analysis, which incorporates factors such as cost parity, duty cycle capability, and infrastructure.[2] Additionally, long- and regional-haul trucks represent less than 15 percent of vehicles but contribute 60 percent of GHG emissions.[3] Lastly, long-haul trucks are one of the few MDHD market segments that are expected to be reliant on some publicly-available infrastructure, including charging stations that can support 12-20 vehicles at a charging rate at above 500 kW, whereas most other MDHD vehicles will have charging requirements that can be supported through overnight charging at a home base.[4] As discussed below, heavy-duty truck chargers also have unique characteristics that are not met by most existing public chargers, including higher minimum power capacities, greater physical space requirements, and the ability for vehicles to pull through to the charger. For these reasons, CSE recommends the three states utilize CFI funds to deploy publicly-available charging infrastructure to support long- and regional-haul electric trucks and catalyze private sector investment in this MDHD vehicle segment.

Question 7: What distance should separate charging stations to support zero-emission trucks along the I-5 corridor? Provide description of typical route or use-case considered when

[1] CARB, Appendix D: Long-Term Heavy-Duty Investment Strategy Including Fiscal Year 2023-24 Three-Year Recommendations for Low Carbon Transportation Investments, at D-73. https://ww2.arb.ca.gov/sites/default/files/2023-10/fy2023-24lctfundingplan_appd.pdf

[2] *Id.* at D-54.

[3] M.J. Bradley & Associates, Medium- & Heavy-Duty Vehicles: Market structure, Environmental Impacts, and EV Readiness, at 6. https://www.edf.org/sites/default/files/documents/EDFMHDVEVFeasibilityReport22jul21.pdf

[4] *Id.* at 19 and 18.

making this recommendation. Describe the vehicle class and vocation if it differs from the information provided in question 1.

CSE suggests the three states deploy charging stations approximately every 50 miles along the I-5 corridor to support long-haul trucks, regional-haul trucks, and other MDHD ZEVs. According to the International Council on Clean Transportation, locating charging stations every 50 miles along the National Highway Freight Network (NHFN) can address a significant portion of charging needs of long-haul electric trucks.[5] Approximately 70 percent of heavy-duty trucks operate within 100 miles,[6] so deploying charger stations every 50 miles may provide sufficient charging opportunities for heavy-duty trucks as well as lighter vehicle classes. Nevertheless, greater flexibility will likely be warranted for those vehicles with range limitations based on duty cycle or battery capacity. The 50-mile distance between chargers is also consistent with the requirements under the National Electric Vehicle Infrastructure (NEVI) program, which may provide opportunities to co-locate light-duty chargers funded by NEVI and MDHD chargers funded by CFI.

Question 10: Use the maps under the "Corridor Segments" section below to identify locations within the National Zero-Emission Freight Corridor Strategy hubs along I-5 (identified in the map segments below) you anticipate needing EV charging in the next three years (2024-2027). You may identify sites where you plan to or would be interested in building charging stations or where you would like to see charging as a consumer. Please detail preferred locations across California, Oregon, and Washington. For each location, please provide desired site characteristics including number of chargers, power levels, type of charging desired (overnight or en route), and vehicle class and vocation if the information differs across locations or differs from the information provided in the questions above.

While CSE does not recommend any particular charging station locations at this time, CSE highlights the importance of utilizing a data-driven approach to identify sites that include the key factors necessary to enable reliable MDHD charging. These factors may include expected traffic volume and associated charger utilization, available electrical capacity, and physical parking space. Identifying sites with a high level of expected traffic will ensure that chargers

[5] International Council on Clean Transportation, Near-Term Infrastructure Deployment to Support Zero-Emission Medium- and Heavy-Duty Vehicles in The United States, at ii.
https://theicct.org/wp-content/uploads/2023/05/infrastructure-deployment-mhdv-may23.pdf

[6] National Renewable Energy Laboratory, Perspectives on Charging Medium- and Heavy-Duty Electric Vehicles, at 4.
https://www.nrel.gov/docs/fy22osti/81656.pdf

have sufficient utilization to be financially feasible without continued incentive support. Sites will also need to have sufficient electrical capacity to support MDHD charging. CSE supports the inclusion of a 5 megawatt (MW) threshold in the RFI but recommends prioritizing sites with additional capacity, as these sites will be better suited to add additional chargers in the future as MDHD ZEVs become more prominent. Additionally, sites will need enough physical parking space to accommodate MDHD vehicles. For all of these considerations, CSE recommends the three states prioritize sites that can meet both near-term and long-term needs identified in the National Zero-Emission Freight Corridor Strategy. To identify, overlay, and prioritize these key factors, CSE recommends the three states utilize mapping tools that incorporate real-world data from various sources and optimize the siting of MDHD chargers. This approach will help ensure that MDHD chargers are deployed in an objective and analytical manner that effectively advances the states' goals.

CSE notes that the three states did not identify any geographic requirements or limitations for potential charging infrastructure sites. For example, light-duty chargers funded under NEVI are required to be located within one mile of a public highway. Similarly, under CARB's proposed amendments to the Low Carbon Fuel Standard (LCFS) program, CARB has proposed a requirement for MDHD chargers to be located within one mile of a public highway in order for the operators of these chargers to be eligible to receive capacity credits under the Fast Charging Infrastructure (FCI) credit pathway within the LCFS program. While CSE does not recommend the three states institute any such requirements or limitations, CSE encourages the three states to consider selecting sites that could be eligible for other incentives, including those under NEVI or the LCFS program. Doing so can help site hosts and charging providers take advantage of multiple revenue streams to help offset the capital costs of deploying MDHD charging infrastructure.

Question 11: If you represent a utility, please use the maps under the "Corridor Segments" section below to identify locations within the National Zero-Emission Freight Corridor Strategy hubs along I-5 (identified in the map segments below) where there may be capacity for 5 megawatts or more of power in the next five years. This information may be considered in the development for future Requests for Proposals.

While CSE does not represent a utility, CSE supports the three states' efforts to coordinate with utilities in identifying charging station locations with sufficient electrical capacity to support MDHD charging. As discussed above, CSE supports the inclusion of a 5 MW capacity threshold but recommends prioritizing sites with additional capacity to promote future expansion. CSE also recommends the three states engage more closely with utilities and utility commissions

throughout long-term grid planning activities in order to provide updated information on expected MDHD ZEV deployment and potential grid impacts. CSE highlights that, while MDHD ZEVs can increase demand on the grid, utilities can utilize revenue from EV charging to maintain distribution infrastructure and reduce pressure on rates.[7] Lastly, CSE recommends the three states continually coordinate with utilities, site hosts, charging providers, and other partners to ensure that sufficient grid capacity remains available for sites selected for MDHD charging stations. Given the long lead times necessary to design and install MDHD chargers, there is a risk that other projects in the region may take up available capacity and therefore limit the capacity available for MDHD charging. As discussed above, CSE suggests that the three states and the utilities develop and update mapping tools to facilitate MDHD charger deployment and help maintain overall grid reliability. CSE recommends the three states utilize mapping tools that incorporate data from utilities' integration capacity analysis maps and other sources in order to provide real-time data on key considerations for deploying MDHD chargers.

Conclusion

CSE supports the three states' proposal to develop MDHD charging infrastructure across California, Oregon, and Washington. The development of a publicly-available MDHD charging corridor will help catalyze the market for MDHD ZEVs and advance the three states' climate and clean transportation goals.

Sincerely,

Kinshuk Chatterjee
Senior Transportation Policy Analyst
Center for Sustainable Energy®
Tel: (858) 244-1177
kinshuk.chatterjee@energycenter.org

[7] M.J. Bradley & Associates, Clean Trucks Analysis: Costs & Benefits of State-Level Policies to Require No- and Low-Emission Trucks, at 21.
https://www.ucsusa.org/sites/default/files/2021-09/clean-trucks-report-methodology.pdf