

DOCKETED

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CALSTART Comments on Revised Clean Transportation Investment Plan

Please find our Comments Attached. Given the extremely short comment timeline we hope you will accept our comments as timely.

Additional submitted attachment is included below.

BEFORE THE CALIFORNIA ENERGY COMMISSION

2019-2020 Investment Plan Update for the Clean
Transportation Program/ Alternative and
Renewable Fuel and Vehicle Technology
Program

Docket Number: **18-ALT-01**

CALSTART COMMENTS ON INVESTMENT PLAN UPDATE

Introduction

CALSTART commends Commissioner Monahan and Energy Commission Staff on the Revised Lead Commissioner Report, the 2019-2020 Investment Plan Update for the Clean Transportation Program. We are extremely supportive of the proposed \$30 million allocation for medium-and heavy-duty vehicles (M-HDV) & infrastructure and acknowledge that this represents a significant increase over last year's allocation for M-HDV. CALSTART has observed that the demand for charging infrastructure funding to support this rapidly transforming industry is immediate and immense.

CALSTART is proud to be a partner in working with government, industry and communities to drive this change. As the administrator of the California Air Resources Board's (CARB) Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program (HVIP), CALSTART has successfully distributed over 6,700 vouchers enabling over 1,000 fleets to deploy medium and heavy-duty hybrid, battery-electric, hydrogen fuel cell, and low NOx natural gas vehicles. In this role, CALSTART works closely with state agencies, manufacturers, fuel suppliers and fleets to address important barriers by putting forth solutions that enable successful technology adoption, particularly in the medium-and heavy-duty vehicle (M-HDV) classes.

HVIP, along with other state funded technology market acceleration programs, presents an important opportunity to coordinate and plan for infrastructure development to successfully deploy and anticipate the growing emergence of medium- and heavy-duty zero-emission vehicles (MHDEV). Executive Order B-48-18 calls for significant infrastructure development of 250,000 electric vehicle chargers (including 10,000 DC fast chargers) in addition to the development of 200 hydrogen fueling stations by 2025.

With the state's infrastructure development goals for electric and hydrogen vehicles, SB350 utility investments for MHDEVs, and the accelerating pace of transportation electrification, it is critical that deploying solutions are developed to enable successful infrastructure development.

Based on our experience both administering CARB's HVIP program and working with our member companies on a variety of projects, we suggest that the CEC consider a comprehensive strategy for M-HDV infrastructure that is also inclusive of the yet-to-be appropriated funds from last year. In particular, we suggest:

- 1. Funds are spent immediately on technical assistance for large fleets to plan infrastructure**
- 2. Infrastructure deployment funds be made available expeditiously to support those M-HDV fleets who are ready and able to install infrastructure.**
- 3. Both types of funding would be most efficiently distributed using a block-grant program structure, rather than via individual solicitation.**
- 4. Funds for hydrogen infrastructure should also be spent on fueling to support M-HDVs.**
- 5. Workforce training is a significant and important need.**
- 6. The Advisory Group membership should be broadened to represent M-HDV perspectives and Electric-Vehicle-Service Providers (EVSPs).**

We also provide comments below on the Workforce Training and Disadvantaged Communities recommendations, and on the makeup of the advisory committee.

Medium-and Heavy-Duty Vehicles and Infrastructure

Considering the state's infrastructure development goals for electric and hydrogen vehicles, SB350 utility investments for MHDEVs and the accelerating pace of transportation electrification, it is critical that deploying solutions are developed to enable successful infrastructure development. The Commission has an important role and opportunity to help the state effectively deploy infrastructure to meet electric vehicle adoption needs while laying the foundation for long-term development and implementation success.

CALSTART has been working closely with transit districts and other large fleets that are moving quickly towards adopting ZEV technology, either given their own business desire for sustainability and/or to meet CARB regulations applicable to transit districts and airport shuttles. Based on this experience, we observe that the most immediate need for these fleets is for funding for technical assistance grants,

particularly funding for ZEV planning at large public fleets, such as transit districts. CALSTART therefore recommends the development of both an Infrastructure Technical Assistance Program and an Infrastructure Deployment Program.

Technical Planning Assistance Program

Noting the significant amount of unappropriated '18-'19 funds, we encourage the Commission to take the sequencing of its funding opportunities into consideration. Planning grants would be an ideal use of last year's funds, which we understand may include up to \$18 million still available for infrastructure to support M-HDVs. CALSTART recommends that these planning grants have a broad reach with limited awards to each fleet/ district/ agency, and therefore a "block grant" seems most appropriate for this purpose. Given the implementation deadline of CARB's "Innovative Clean Transit Rule" we observe that transit agencies in particular are rapidly increasing their pace of purchasing zero-emission-buses (ZEBs), and smaller properties are struggling to plan for this major shift in their fleets and what resources will be required, both in financial terms and technical know-how.

We envision that an award of \$50,000- \$100,000 for each "site assessment grant" would allow a program administrator to evaluate energy needs, build out requirements, charging strategies, and costs. We would recommend that fleets currently waiting to receive vouchers from HVIP be given priority to receive these planning grants. The amount could vary based on the number of vehicles in the fleet and other factors that may add complexity to the planning process. Pursuant to AB 8 (Perea, Statutes of 2013), the Commission is empowered to use block grants to more expeditiously provide funding, where smaller individual funds would not lend themselves well to a traditional grant solicitation, or, as the Revised Report states when preferable because "outside organizations have more experience issuing incentives or are more familiar with the needs and opportunities of specific project types."

These Planning Grants could serve two primary purposes:

- 1) **Assist Fleets with Getting to Scale** – Transit, school bus and truck fleets throughout the state are facing significant barriers with infrastructure deployment as many aim for 100 percent electric vehicles. Barriers such as limited energy capacity, costly upgrades, space constraints, deployment lead time, and demand changes are significantly impacting a fleet's ability to successfully deploy electric vehicles. Whether a fleet is transitioning 10 or 100 vehicles to electric, important guidance and technical support is required to help a fleet understand the necessary steps while receiving ongoing support to see a project through to completion. Most fleet managers today are not informed on electric fleet deployment and are only familiar with deploying a conventionally fueled fleet. As

fleet electrification continues to grow, technical assistance is required in these early deployment stages while training becomes more prevalent and best practices are shared more broadly with the industry.

- 2) **Evaluate Infrastructure Needs by Facility Type** – Implementing infrastructure for zero emission vehicles (hydrogen or battery electric) varies greatly depending on the size and type of facility. Transit bus facilities for instance can have very different infrastructure requirements compared to other fleets, such as electric load, space limitations, and charging/refueling configuration. Freight facilities for example may electrify a variety of vehicles and equipment and may have to factor in energy management, different charging scenarios, and energy storage. Although transit and freight facilities may differ, both may require similar upgrades and smart charging solutions to be cost effective and efficient. Additionally, the need for significant numbers of high-capacity charging units, which some users are discovering to be more costly than expected, is causing some transit fleets to consider whether hydrogen fuel-cell buses are a more cost-effective alternative. Because of the diverse and dynamic nature of infrastructure planning for each facility, it is important that fleet and equipment managers are provided technical planning assistance to effectively plan for vehicle and equipment integration.

There is a great need for these funds, especially because CalTrans planning grants were available in the past but are no longer available—we expect to be waiting 2+ years for CalTrans to make these funds available again. Also, planning grants would make any funds awarded for charging infrastructure and hardware go further and could help avoid “throw-away” infrastructure as electric fleets grow. (Throw-away infrastructure could result, if, for example a transit district with 2 buses installs charging infrastructure, then when they purchase 50 buses, building a new depot for these chargers and then putting the old depot to other uses.) These smaller amounts for technical assistance would not lend themselves well to a traditional grant solicitation.

We encourage the Commission to move funds to fleets as quickly as possible. Using FY '18-'19 funds for technical assistance would allow the Commission to provide all of the proposed \$30M from '19/20 funds to fleets who are expected to imminently take delivery of ZEVs and are ready to deploy charging infrastructure.

Incentivizing Deployment--support site design and hardware costs

Infrastructure costs continue to be a top barrier to MHD-V deployment. Although the state's major investment owned utilities are implementing incentive programs to support MHD-V deployment, most

incentives are going toward make-ready and may not provide adequate incentives to help cover charging equipment hardware and software costs. Additionally, there are utilities in the state that do not offer infrastructure incentives to fleets, or that may not cover 100% of the “make-ready” costs for a given site. It is critical that incentives for infrastructure are available to fleets to support successful fleet deployment and should be available in parallel with vehicle incentive programs. The Commission is the appropriate agency to provide incentives to fleets to procure and implement charging equipment and the appropriate software to help the state increase the adoption of MHDEVs.

Encourage Advanced Energy Storage, Microgrids, and Smart Charging to Help Fleets Meet Energy Needs

Depending on fleet size and energy capacity needs, MHD-V fleets may need additional energy solutions to sufficiently power its entire electric vehicle fleet and operation. Currently, there are multiple instances where MHD-V fleets do not have adequate power to run its entire fleet and require additional energy capacity that in some instance the utility is unable to provide. Providing technical guidance to fleets on additional energy solutions will be critical to support successful deployment. For instance, evaluating the potential integration of microgrids, energy storage powered by renewable energy and smart-charging are all solutions that can help a fleet manage its power needs, reduce demand charges and save on energy costs.

As shared at a recent public working group meeting, CARB is considering cutting the HVIP infrastructure “plus up”—which would make it even more critical for the CEC to support fleet infrastructure deployment. It is critical that the CEC’s funding keep pace with the vouchers going out via HVIP and the aggressive regulatory compliance deadlines for both transit buses and airport shuttles promulgated by CARB. We suggest vehicles subsidized through HVIP and other statewide or air district programs, as well as fleets currently awaiting delivery should be given priority for funding.

Going electric can support the electric grid, if fleets plan and invest accordingly and there are excellent benefits to a fleet going electric and having additional energy storage to rely on in times of a climate event. Technical assistance in fleet resiliency is also an important opportunity for a fleet to maintain its operation and service in the instance of a climate event or emergency when power from the utility grid is unavailable.

Focus on Infrastructure

While CALSTART fully supports the critical nature of pilot and demonstration projects for ZEVs, CARB is proposing \$40 million from GGRF for zero-and-near-zero emission fleet & freight (ZAN-ZEFF) pilots and other MHDV pilots/ demos. Therefore, the \$30M from this program seems best spent this year on tech assist for infrastructure rather than for pilots/demos. Therefore, we encourage very close collaboration between CARB and the CEC on funding for pilot and demonstration projects. Furthermore, while CARB develops and votes upon a three-year funding plan for low-carbon transportation programs on an annual basis, the CEC releases the Clean Transportation Program funding one-year ahead, making it challenging for stakeholders to understand the shared long-term vision of the agencies. A longer-term plan from the CEC would be beneficial both for inter-agency coordination and also as a signal to the industry that California will continue to support market transformation for zero-emission technologies. Also, as the Agency considers the best focus of funds for M-HDV infrastructure, we encourage the Commission to conduct further internal coordination with the EPIC investment plan on hardware/ software technologies for M-HDV, in particular on how to maximize on-site storage, as well as V1-G and V2-G technology demonstrations with M-HDV fleets.¹

Hydrogen Infrastructure Funding

To date, we observe that nearly all Hydrogen fueling infrastructure funding has gone to fueling stations that only support light-duty vehicles (LDV). While Hydrogen holds promise for the LDV market, we are observing that transit districts are some of the first true adopters of this technology, and are seeing heavy-duty hydrogen vehicles become available for purchase in California. Therefore, we recommend that Hydrogen fueling spending should give some priority to fueling that supports M-HDVs and dual fueling stations at transit depots (where the public can fuel alongside buses when not in use). We do not recommend that hydrogen fueling infrastructure for M-HDV come out of the “M-HDV vehicles and infrastructure” proposed fund of \$30 million, but rather through the funding designated for hydrogen. This seems supported by the data presented by Bloomberg NEF on fuel cells at the recent Advisory Group Meeting.

¹ It is notable that the CPUC’s Proposed Decision for SDG&E EV Infrastructure includes significant funds for a school bus V2G pilot. (Proposed Decision in 18-01-012, released 7/16/19.)

There are new M-HDV on-road vehicle technologies from manufacturers like Volvo and Nikola that are showing great potential for zero-emission regional and long-haul transportation for goods movement. Although forecasting suggests increased adoption in fuel cell technologies, there continues to be a significant infrastructure gap in fuel availability. Auto manufacturers are struggling with the high cost of hydrogen while looking for innovative ways to incentivize its consumers to lease their fuel cell products, and the medium- and heavy-duty market are looking for partnership opportunities to help demonstrate technology effectiveness as well as to bring down the price of hydrogen. Fuel costs continues to be an adoption barrier and requires important market enablers to help promote technology adoption, reduce fuel costs and build out reliable infrastructure to serve the on-road sector. Similarly, H2 fuel cell technology can help provide power solutions to the freight and off-road sectors such as port marine equipment and energy storage.

CALSTART also recommends the development of a Hydrogen Refueling Station Development and Technology Demonstration Program that would encourage public/private partnerships to build and expand refueling stations for hydrogen. The Program would encourage the production of renewable hydrogen and would seek to benefit both the on-road and off-road transportation sectors.

Proposed Program Structure:

- Demonstrate deployment of MHD fuel cell technologies.
- Provide incentives to support H2 station development.
- Incentivize onsite renewable H2 production.
- Demonstrate renewable H2 energy storage for large fleets.
- Identify solutions to reduce production cost of H2 including the cost of compression, standardizing refueling equipment (fuel dispensers) and long-term fixed supply contracts.
- Heatmap H2 refueling station needs to evaluate gaps and required investments to support continued growth.

Recommendation from Disadvantaged Communities Advisory Group

While CALSTART fully supports providing full and equitable access to EV charging infrastructure to all Californians, with particular focus in Disadvantaged Communities (DACs) as identified in various state policies, we caution that the recommendation made by the DAC Advisory Group to spend 100% of CTP funds in DACs is not easily implementable nor would it support the goals of the program to bring alternative fuels to market, to improve air quality in the state and in disadvantaged communities. Thankfully, the benefits of transportation electrification improve the air quality beyond the census-tract boundaries of where the EV chargers are located, for example. Even more so, because

traditionally fueled M-HDVs produce a majority of the NO_x and PM 2.5 emissions in the transportation sector, negatively impacting air quality in DACs, the speedy transition of these vehicles to low-or-near-zero emission options will have *significant* continued air quality benefits in DACs and other areas of critical non-attainment with Federal Clean Air standards.

Workforce Training

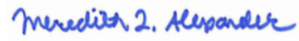
CALSTART has received consistent feedback from transit districts expressing concerns with existing maintenance staff not having the ability to service and maintain a growing fleet of electric and hydrogen buses, which speaks greatly to the need for workforce training assistance, for fleets, and particularly for public fleet operators like transit and school districts. CALSTART believes that the \$2 million set aside for this purpose in this year's budget is insufficient and therefore recommend a long-term plan be developed to address this need, while noting that the CPUC also approved IOU expenditures related to workforce training through various recent decisions.

Representation of the M-HDV Sector on the Advisory Group

As raised by Commissioner Monahan during the Advisory Group meeting on August 5, CALSTART would advise that the Commission consider improving the diversity of the group with regards to industry representatives from the M-HDV sector, and in particular, the transit agency community. While we appreciate that the California Trucking Association is a member of the Advisory Group, we would also recommend that the California Transit Association be appointed as a member. We would also encourage broader membership that represents electric fueling interests, as there are multiple representatives from the Hydrogen fueling sector and renewable biogas. For example, the Electric Vehicle Charging Association might be an appropriate representative of the EVSP community who are trying to build a profitable business model around public EV charging, as well as working with M-HDV fleets.

In closing, CALSTART greatly appreciates the opportunity to provide comments and our recommendations to the Commission and stands ready to work with Staff to further develop the concepts proposed here and to successfully implement the Investment Plan for the benefit of all Californians.

Sincerely,

Handwritten signature of Meredith L. Alexander in blue ink.

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