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Electrify America - CALeVIP Public Workshop Comments

Additional submitted attachment is included below.

May 19, 2022

Junaid Faruq
Director, EV Infrastructure Programs
Center for Sustainable Energy

RE: Comments on the CALeVIP 2.0 Public Workshop

Dear Mr. Faruq:

Electrify America appreciates the opportunity to comment on the CALeVIP 2.0 Public Workshop. Electrify America operates the largest open network of DC fast chargers (DCFC) in the nation, and recently reached a milestone of 200 public ultra-fast electric vehicle (EV) charging stations and over 830 individual chargers in California. Electrify America has also supported the installation of thousands of Level 2 chargers at workplaces and multiunit dwellings (MUD), and has deployed 60 innovative grid-independent, solar-powered Level 2 chargers across 30 rural locations in the state.

We strongly believe that the State can accelerate ZEV infrastructure development and maximize private sector investment by focusing on the following five priorities:

1. Prioritize ultra-fast charging as the most optimal, future-proofed solution for public charging
2. Require investments in capabilities that enhance charger reliability
3. Require the use of non-proprietary technology so that any car can charge at any station
4. Improve the process for distributing funding for ZEV infrastructure by transitioning to post-construction rebates that are awarded upon completion of a project that meets established criteria
5. Align public investments with existing laws related to streamlined permitting by prioritizing investments in jurisdictions that comply with AB 1236 and AB 970

We encourage the Center for Sustainable Energy (CSE) to consider these priorities when developing the second block grant for CALeVIP. We offer some specific comments on the priorties below.

Prioritize ultra-fast charging

We appreciate that CALeVIP has a dedicated focus for DC fast chargers in the second block grant as research by Atlas Public Policy has identified ultra-fast, 350 kW charging as the most cost-effective public charging infrastructure solution. Ultra-fast charging provides a future-

proofed charging solution that will best support the State's efforts to reach all drivers and achieve 100% ZEV sales. The following points are relevant as CSE develops CALeVIP 2.0:

- Federal government progam has an 150kw minimum:
    - The Federal government in February, 2022 required all chargers funded by the National EV Infrastructure Formula program to be capable of at least 150 kW charging, and it expressed strong support for 350 kW charging as a future-proofing investment strategy.[1]

- Automakers are calling for ultra-fast charging investment:
    - Automakers are increasing charging speed capabilities of new model EVs, and a wide array of new vehicle models are capable of ultra-fast charging. The average charging speed of 2022 models has reached 200 kW, or 12 miles of range per minute;[2]
    - The Alliance for Automotive Innovation – the auto industry trade group representing "the manufacturers producing nearly 99 percent of cars and light trucks sold in the U.S." has called on States to concentrate investment in ultrafast charging, writing "state-funded DC fast chargers on corridors and at transit hubs must be capable of charging at a rate of 350 kW."[3]
    - Fifteen automakers representing every element of the US auto industry – luxury and volume, startup and legacy – wrote in 2021: "we anticipate growing market demand for ultra-fast and high-powered charging along highway corridors…. For highway corridor charging in particular, ultra-fast charging speeds of approximately 350 kW are necessary to enable efficient long-distance travel and avoid hours of downtime while waiting for vehicles to charge at slower speeds. These faster charging speeds will also be essential for the electrification of goods movement."[4]

- Ultra-fast charging investment is cost-effective:
    - Ultra-fast charging is the most cost-effective way to serve EV drivers who live in multi-unit dwellings and may not have access to charging at home or work.[5]

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[1] The National Electric Vehicle Infrastructure Formula Program Guidance, February 10, 2022. https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf

[2] In the past six model years, the average charging speed of new EV models has increased four-fold, from 50kW to 200kW, and the trend is accelerating. In the volume segment, Kia and Hyundai have introduced ultra-fast charging capable vehicles. Support for ultra-fast charging represents increased access, improved customer experience and adoption, and future-proofing California's EV charging network

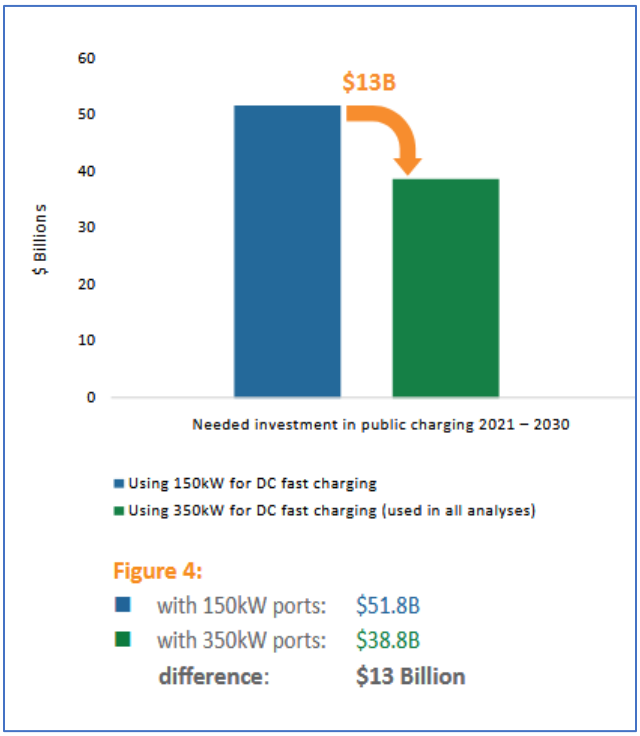
[3] Alliance for Automotive Innovation (2021). "Recommended Attributes for EV Charging Stations." Available at: https://www.autosinnovate.org/about/advocacy/Recommended%20Attributes%20for%20EV%20Charging%20Stations%2009DEC2021.pdf

[4] Joint Automakers (2021). "OEM Letter to Sec. Buttigieg." Available at: https://www.regulations.gov/comment/FHWA-2021-0022-0036

[5] Mark Singer, "Plug-In Electric Vehicle Showcases: Consumer Experience and Acceptance" (NREL, 2020), Accessed at: https://www.nrel.gov/docs/fy20osti/75707.pdf; Volvo Car USA/The Harris Poll, "The State of Electric Vehicles in America" (2019), Accessed at: https://www.media.volvocars.com/us/en-us/media/documentfile/249123/volvo-reports-the-state-of-electric-vehicles-in-america. UCLA research also finds that MUD residents rely on DCFC as their primary source of charging, using public DCFC for 43% of charging, more than twice as often as home charging and nearly three times as often as public Level 2 charging. https://innovation.luskin.ucla.edu/wp-content/uploads/2021/03/Evaluating-Multi-Unit-Resident-Charging-Behavior-at-Direct-Charging-Behavior-at-Direct-Current-Fast-ChargersCurrent-Fast-Chargers.pdf

- Ultra-fast charging allows for greater utilization of DCFC infrastructure. As Atlas' research demonstrates, ultra-fast chargers have substantially greater throughput, and can serve more customers, than slower DC charging technology;
- Atlas Public Policy finds that installing 150 kW fast chargers rather than 350 kW chargers would increase the needed national investment in public infrastructure from $39 billion to $52 billion. Ultra-fast 350 kW charging serves the needs of more EVs per dollar invested.

Figure 1: Atlas Public Policy Research Demonstrates 350 kW Charging Cost-effectiveness



- Ultra-fast Charging responds to consumer preferences.
  - Research has indicated a widespread consumer preference for ultra-fast charging. Over 30% of U.S. DOE PEV Showcase ride and drive participants reported vehicle charging speed as a top three deterrent from purchasing or leasing a BEV. Similarly, in a poll conducted by Volvo Car USA and the Harris Group, 36% of respondents reported using public charging stations to be time-consuming.[6]
  - Ultra-fast charging infrastructure imposes no harm to the ZEV market or consumers, as ultra-fast chargers step down to the power level and charging speed requested by the EV. The only risk to the market is providing slow public charging, as these deficient capabilities are not adequate to support consumer demands.

Given this, Electrify America encourages the CSE to prioritize investment in cost-effective, high-powered, ultra-fast charging infrastructure by establishing a minimum of 150 kW charging as satisfactory, and by requiring that at least one charger at each station location to be capable of delivering 350 kW, for all publicly-funded DC charging stations designed to serve light duty vehicle needs.

Require investments that enhance charger reliability

As ZEVs enter the mass market and the State plans for achieving 100 ZEV sales, it is increasingly important to enhance the reliability of ZEV infrastructure. Drivers must be able to rely on the

[6] According to UCLA's most recent research, residents of all household types prefer charging stations with higher charging speeds and higher number of chargers. https://innovation.luskin.ucla.edu/wp-content/uploads/2021/03/Evaluating-Multi-Unit-Resident-Charging-Behavior-at-Direct-Charging-Behavior-at-Direct-Current-Fast-ChargersCurrent-Fast-Chargers.pdf

availability of charging stations, just like they would conventional gasoline stations. Electrify America has made significant investments to ensure the reliability of its network, and is proud to have recently received the Electric Vehicle Charging Infrastructure Best in Test Award for second consecutive year.[7]

We caution the CSE against setting arbitrary benchmarks for measuring the network up-time of chargers, as up-time is not a proxy for customer satisfaction in our experience. In fact, when Electrify America's chargers lose connection to the Electrify America network (i.e. off-line) due to, for example, an outage on the cellular network or an issue with the back end systems, Electrify America's chargers are designed to be able to continue delivering electricity to vehicles in free-vend mode, as a service to our customers. Electrify America also believes in reliability through redundancy. Only station site level results reflect the customer benefit created by placing many chargers at one station site, so when a single charger has an issue, customers still receive a satisfying experience.

Electrify America also suggests that reliability standards require recipients of state funds to demonstrate reliability capabilities. For example, along with providing the fastest charge speeds in the industry, Electrify America has built the nation's leading interoperability testing laboratory capacity, 24-hour customer assistance, 24/7 technology response capability through our Network Operations Center, and the industry's most robust technician training program. These investments allow Electrify America to deliver the nation's leading open charging network, and we encourage the CSE to require similar investments as a condition of receiving funding, in order to ensure improved reliability for ZEV infrastructure.

Require the use of non-proprietary charging

Electrify America agrees with and strongly supports the direction in of CSE to phase out CHAdeMO and replace it with a CCS requirement instead. In recent years, the non-proprietary CCS standard has emerged as the DC fast charging connector of choice among 31 different automakers in North America, and continuing to fund investment in other charging connectors increases costs and undermines standardization.

Transition funding programs to post-construction rebates

CALeVIP is currently administered on a first-come, first-served basis, where applicants submit applications for funding at a stage in the project development process where it is unclear whether the project will be built in the near term, or ever. As a result, available funding gets quickly allocated – often within an hour of the portal opening – and long waitlists form, but projects do not necessarily get developed. For example, according to the 2021 Clean Transportation Program Funding Plan, through May 31, 2021, only 950 DCFC have been installed through the program since 2017, with an additional 5,711 stations "planned."[8]

[7] https://media.electrifyamerica.com/en-us/releases/167
[8] See Table 7 at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=240977

We appreciate the steps CSE is taking to improve program process for CALeVIP. We believe the objective of maximizing private investment would be well served by transitioning CALeVIP to post-construction rebates and requiring funding applicants to demonstrate the following before receiving a funding commitment:

- Access to the station site via contract or deed
- Permits have been received
- Utility new service design has been finalized
- Fleet customer binding commitments have been secured.

The proposed program does not currently require these steps, which means many projects receive funding commitments before they are ready to proceed and may languish, along with funding meant to accelerate ZEV infrastructure. Requiring a permit/utility application for documentation will still lead to delays, as significant time passes between when permits and utility designs are sought and when they are approved. For example, Electrify America's 2021 Annual Report states that the average time to permit a project in California is 81 business days, and the average time to receive new utility service is 38 weeks.

Align public investments with existing laws related to streamlined permitting

We encourage CSE to prioritize funding for electric vehicle charging infrastructure projects that receive permits from local jurisdictions in compliance with electric vehicle permit streamlining requirements established under AB 1236 and AB 970.

Conclusion

Thank you for the opportunity to comment on the proposed CALeVIP 2.0 and CSE's ongoing work to accelerate the transition to electric vehicles in California. If you have any questions, please do not hesitate to reach out to me or Ryan McCarthy with the Weideman Group (ryan@weidemangroup.com).

Sincerely,

Matthew Nelson
Director of Government Affairs
Electrify America