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CalETC's Comments on January 25, 2021 V2B Workshop

Additional submitted attachment is included below.

CalETC
California Electric Transportation Coalition

February 16, 2021

California Energy Commission
Dockets Office MS-4
Re: Docket No. 20-MISC-01
1516 Ninth Street
Sacramento, California 95814-5512

Submitted to on-line portal: https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=20-MISC-01

Re: Comments on the CEC Staff Workshop on Vehicle-to-Building (V2B) for Resilient Backup Power

The California Electric Transportation Coalition (CalETC) appreciates the opportunity to provide feedback on the January 25, 2021 CEC workshop on Vehicle-to-Building (V2B[1]) for Resilient Backup Power and note that this workshop covered vehicle-to-grid (V2G) technologies that export to the grid. We greatly appreciate the time and effort it took to organize this workshop and the thoughtfulness of the presentations.

CalETC supports and advocates for the transition to a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, contribute to clean air, and combat climate change. CalETC is a non-profit association committed to the successful introduction and large-scale deployment of all forms of electric transportation. Our Board of Directors includes representatives from: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, Southern California Public Power Authority, and the Northern California Power Agency. In addition to electric utilities, our membership includes major automakers, manufacturers of zero-emission trucks and buses, electric vehicle charging providers, autonomous electric vehicle fleet operators, and other industry leaders supporting transportation electrification.

We applaud the recent acceleration of efforts on V2B and V2G by the CEC, the California Public Utilities Commission (CPUC), utilities, standards development organizations, the private sector, and other stakeholders. The January 25th workshop did a good job of highlighting this progress including newly available commercial projects, the efforts by UL and SAE on standards, the new funding sources approved by the CPUC[2] and the CEC, and the efforts by the CPUC to update interconnection rules.[3] The workshop also identified areas where more progress is needed and our letter encourages the CEC to provide help with policy work, cost studies, testing labs, and demonstrations as described below. We agree with presenters who noted that California is leading and that we need to get it right here in California first.

[1] Defined broadly to include all applications that do not export to the grid, including bi-directional power flow to the building, home, microgrid, or load.
[2] For example, see D-20-12-029 and D-20-12-027.
[3] For example, see D-20-09-035.

We support Staff's efforts to develop funding to advance V2B with off-board DC inverters and support several recommendations by the panelists.

1. We need a better understanding of the total cost of ownership of V2B using DC off-board bidirectional inverters in various use cases (e.g., homes with and without solar or stationary storage, fleets, office buildings, and for old or new homes and buildings). At the workshop we heard varying opinions about the capital and installation costs for modifying homes and buildings,[4] and on- and off-board inverters.
2. We need to understand how to lower the costs of V2B using off-board inverters. For example, one presenter identified the need for soft start motors in HVAC and other appliances that will allow the use of smaller off-board DC inverters for homes and commercial buildings, and another suggested a simpler architecture that lowers costs.
3. We need a better understanding of the value of different V2B use cases. For example, one presenter pointed out that the value of providing resiliency service in a public safety power shutoff event is different than the value of preventing power outages. The California Interagency Vehicle Grid Integration Working Group (VGIWG) recommended that more work be done on understanding net value of vehicle grid integration (VGI) use cases.[5]
4. Help advance V2B technology with off-board DC inverters into new use cases. For example, electric heavy-duty vehicles with off-board DC inverters above 75 kW, or municipal vehicles helping with traffic lights and gas pumps during long-term outages.
5. Fund outreach and education to help customers understand the benefit of V2B.
6. Work closely with USDOE, utilities, and other stakeholders on physical and cybersecurity for V2B use cases.
7. Keep focusing on safe, reliable, cost-effective V2B.

We also recommend that the CEC join efforts with other stakeholders to advance V2G and V2B with on-board AC inverters.

We support the CEC continuing its efforts to assist V2G technology using on-board AC inverters and consider additional funding and policy partnerships. While the AC V2G Interconnection working group has made progress in overcoming barriers, and UL and SAE are working jointly on standards,[6] several presenters outlined substantial barriers facing V2G. For example, certification procedures are yet to be determined and automakers want to be able self-certify. However, the National Electrical Code requires UL certification for permits to be issued by authorities having jurisdiction. Additionally, once SAE J 3072 is done, V2B and V2G pilots with on-board AC inverters will be needed with utilities and bulk power aggregators to test security, reliability, cost-effectiveness, and consumer acceptance. In addition, the many policy and cost issues listed above

[4] For example, automatic switches, modifying wiring, critical load panels, etc.
[5] See Final Report, June 30, 2020 at 53. Available at https://gridworks.org/initiatives/vehicle-grid-integrationwg/
[6] For example, an update to SAE J3072 is expected in Q1 of this year, and UL is creating a task force to create UL 1741 SC.

also apply to V2G with on-board AC inverters. CalETC recommends that the CEC explore how it can use its expertise and authority to help bring a solution to these barriers. Without a solution, the market is unable to explore many of the use cases identified in the workshops.

Thank you for considerations of our comments and do not hesitate to contact me at Kristian@CalETC.com if you have any questions.

Best regards,

Kristian Corby, Deputy Executive Director