

February 17, 2023

Email to: doCKET@energy.ca.gov

Docket Number: 22-RENEW-01

Subject: Lead Commissioner Workshop on Demand Side Grid Support Program and Distributed Electricity Backup Assets Program

Re: Comments of the Vehicle Grid Integration Council on Demand Side Grid Support and Distributed Electricity Backup Assets Program Workshop

Dear Sir or Madam:

The Vehicle Grid Integration Council (“VGIC”) appreciates the opportunity to comment on the Lead Commissioner Workshop on the Demand Side Grid Support (“DSGS”) Program and Distributed Electricity Backup Assets (“DEBA”) Program Workshop (“Workshop”) held on January 27, 2023. VGIC commends the California Energy Commission (“CEC”) for its efforts to bolster grid reliability in the face of increased risk of extreme weather events.

I. INTRODUCTION AND SUMMARY.

The Vehicle Grid Integration Council is a 501(c)(6) membership-based trade association representing over 30 companies focused on accelerating the role of smart electric vehicle (“EV”) charging and discharging through policy development, education, outreach, and research. VGIC supports the transition to a decarbonized transportation and electric sector by ensuring the value from EV deployments and flexible EV charging and discharging is recognized and compensated in support of a more reliable, affordable, and efficient electric grid.

VGIC strongly believes the DEBA and DSGS programs are needed to unlock real-world load reductions and exports that will meaningfully support grid reliability. To accomplish these goals, each program must fill key gaps in policy and funding support. With this in mind, VGIC offers the below overarching recommendations to the CEC:

- DEBA program should transition toward a \$1,000/kW incentive *program* rather than using a Grant Funding Opportunity (“GFO”) approach to project selection and fund distribution.
- DEBA eligibility should include both bidirectional EV chargers and storage-backed managed charging.
- DSGS aggregators should be able to enroll directly in the program rather than going through a load-serving entity (“LSE”).

February 17, 2023

Page 2 of 6

- CEC should establish a pathway to participating in DSGS using both EV charger submetering and onboard vehicle telematics.
- DSGS Option 3 should include an out-of-market participation pathway that eliminates baselining.

II. DEBA PROGRAM SHOULD TRANSITION TOWARD A \$1,000/KW INCENTIVE PROGRAM RATHER THAN USING A GRANT FUNDING OPPORTUNITY (“GFO”) APPROACH TO PROJECT SELECTION AND FUND DISTRIBUTION.

Despite the rapid expansion of available products and the potential grid capacity that could be unlocked by EVs, the deployment of bidirectional charging equipment, storage-backed managed charging configurations, and other VGI solutions remain nascent due partially to the higher upfront installation costs relative to non-VGI charging solutions. Because these solutions are new, they do not fall neatly into existing incentive programs for EV chargers or energy storage. This presents a clear policy gap and bottleneck for the bidirectional charging market. VGIC understands the CEC’s intent to quickly distribute an initial round of funding to DERs and acknowledges that a GFO offers an existing framework that is relatively easy to implement for the CEC and its staff. However, VGIC believes the DEBA program would be far more effective if structured as a standard incentive program offering that maximizes transparency and certainty for participants while minimizing their administrative burden.

The CEC should offer a transparent \$1,000/kW incentive to support constructing these critical distributed grid resources. This would send a clear market signal to vehicle and charger manufacturers that have not yet begun offering bidirectional charging and other VGI products to do so, thereby expanding customer choice and placing downward pressure on the future costs of this equipment. While cost data for the purchase and installation of today’s bidirectional charging equipment is limited, VGIC reiterates its recommendation for a flat \$1,000/kW bidirectional and storage-backed charging equipment incentive to unlock new gigawatt-scale distributed energy storage capacity that will be embedded in California’s on-road EVs in the coming years. The CEC should establish a MW goal for the deployment of bidirectional charging infrastructure. If deployments do not track the goal, incentives could be adjusted to provide the necessary level of investment in bidirectional charging infrastructure.

To reduce administrative burden, VGIC recommends the flat \$1,000/kW incentive be made available on a rolling basis to aggregators for aggregations greater than 25 kW, rather than to individual projects.¹ Additionally, the incentive should accommodate the addition of customers that enter the aggregation later. Furthermore, the minimum aggregation size should be 25 kW, to align with the Emergency Load Reduction Program’s (“ELRP”) Vehicle Grid Integration (“VGI”) Aggregation Pilot. This alignment is important, given that VGIC anticipates many customers that receive DEBA funds will participate in ELRP to provide emergency capacity.

¹ The 25 kW minimum aggregation size aligns with the Emergency Load Reduction Program’s VGI Pilot.

Given the lack of interoperability today between EVs and bidirectional charging stations, an incentive for a bidirectional charging station may not guarantee pairing with a bidirectionally capable EV and, thus, the inability to provide on-call emergency grid services. The recipient of the incentive should be required to attest that they will pair the bidirectional charging station with compatible V2X-enabled EVs and participate in one ELRP, DSGS, or another program deemed eligible for DEBA incentives. Note, this does not preclude other requirements that bidirectional charging stations are standards-ready (e.g., ISO 15118-20) to be prepared for the future with more robust V2X interoperability in the not-too-distant future.

Lastly, VGIC notes that bidirectional chargers and associated equipment, like automated transfer switches and meter-socket-based devices, could be used to safely island a customer's load from the grid to establish a microgrid. The creation of this microgrid could in turn support the grid during extreme heat events or other tight reliability conditions by reducing load on the grid. Therefore, in addition to V2G export solutions, these islanding configurations should also be eligible for the simple \$1,000/kW incentive.

III. DEBA ELIGIBILITY SHOULD INCLUDE BOTH BIDIRECTIONAL EV CHARGING AND STORAGE-BACKED MANAGED CHARGING EQUIPMENT.

VGIC appreciates the CEC's inclusion of VGI resources in its proposed DEBA eligibility. However, VGIC encourages the CEC to also consider the attributes of storage-backed managed charging. Storage-backed managed charging utilizes stationary energy storage co-located or integrated with an EV charger to buffer charging sessions and flatten a site's peak load. This approach is currently in use at public Direct Current Fast Charger ("DCFC") sites as well as fleet depots which otherwise may have had limited ability to reduce peak demand given the expectations of those drivers and fleets. While public DCFC is not typically considered a candidate use case for managed charging, utilizing a co-located or integrated stationary energy storage system can transform these sites into more flexible load management assets. Moreover, this storage-backed configuration can also support charger reliability and uptime by providing backup power during grid outages. Lastly, these sites can significantly reduce costs for grid upgrades in some cases, for example by deferring or avoiding transformer and other secondary distribution system upgrades, which in turn helps protect utility ratepayers from the rising costs of transportation electrification related utility infrastructure. Example commercial implementations of this configuration include recent installations from Electrify America² and FreeWire Technologies³.

Despite these many benefits, this configuration is not currently promoted or incentivized through CEC or utility programs and is under-deployed in California. VGIC believes adoption has been hampered due to the lack of promotion or incentive to elect these options, despite their apparent benefits. Namely, utility-side infrastructure upgrade costs are typically socialized to all ratepayers, leaving no reason for customers to choose these systems that can reduce system cost, help manage load, provide benefits such as site backup power, and alleviate congestion in backlogged utility

² See <https://media.electrifyamerica.com/en-us/releases/199>

³ See <https://insideevs.com/news/613621/chevron-texaco-stations-freewire-chargers/>

service connection queues. VGIC believes that DEBA is an appropriate program to address this gap and recommends that storage-backed managed charging (“V1G”) be eligible to receive the same DEBA incentive open to V2B and V2G charging equipment, given its similar costs, use cases, and customers.

IV. DSGS AGGREGATORS SHOULD BE ABLE TO ENROLL DIRECTLY IN THE PROGRAM RATHER THAN GOING THROUGH A LOAD-SERVING ENTITY (“LSE”).

During the January 27th Workshop, CEC staff shared a proposal to allow third-party aggregators to enroll directly with the DSGS Program Administrator (either the CEC or another PA). VGIC strongly supports this approach and believes DSGS aggregators can be instrumental in maximizing the load reductions and DER exports unlocked through the program. Like ELRP or other DER aggregator programs around the country, DSGS aggregators would be responsible for enrolling customers and dispatching resources in response to an event or price signal.

Critically, DSGS is a taxpayer-funded CEC program, not a ratepayer-funded LSE program. As such, VGIC strongly recommends the program be administered on a statewide basis, such that DSGS Aggregators can enroll directly in the program rather than going through a LSE. One risk of leaving it up to the LSE to offer DSGS is that publicly-owned utilities and other LSEs may be too busy with their own internal goals and mandates to take on the additional workload required to offer DSGS to their customers. Notably, CEC uses a statewide approach with third-party Program Administrators for many other impactful programs, including CALeVIP and EnergIIIZE. This approach could also facilitate inter-territory aggregation, which could provide additional flexibility and, in turn, further bolster reliability.

V. CEC SHOULD ESTABLISH A PATHWAY TO PARTICIPATING IN DSGS USING BOTH EV CHARGER SUBMETERING AND ONBOARD VEHICLE TELEMATICS.

While bidirectional charging holds great promise as a grid resource, VGIC urges the CEC to consider the “low-hanging fruit” of unlocking greater load shift participation from EVs. VGIC estimates another 250,000 EVs will be sold in the state by summer 2023, on top of the 1 million already on California’s roads.⁴ Assuming an average charging load of only 5 kW per vehicle, this represents a total technical potential of 6,250 MW in instantaneous load that could theoretically be reduced via V1G. Obviously, the practical potential is only a small fraction of that since not all of those devices will be charging during the critical net peak load hours of 6-9pm, and not all EV owners will choose to participate in V1G activities. However, VGIC estimates that even under a more reasonable participation rate of 5%, approximately 312 MW of net peak load reduction from V1G might be achievable by the end of summer 2023.

⁴ CEC ZEV Sales Dashboard.

Historically, customers with certain smart chargers have been able to participate in California’s limited portfolio of smart charging pilots and programs. In December 2021, the California Public Utilities Commission (“CPUC”) adopted Decision (“D.”) 21-12-015, which established the EV/VGI Aggregation subgroup within the ELRP and, critically, detailed EVSE submetering as an acceptable pathway to measure Incremental Load Reductions (“ILR”). In August 2022, the CPUC issued D.22-08-024 adopting an EVSE Submetering Protocol following nearly a decade of testing and developing a robust record on the matter. This landmark decision establishes standards for EVSE submetering data accuracy and testing to enable the widespread use of EVSE submeters for billing purposes among California’s investor-owned utilities. With this in mind, VGIC strongly recommends that the CEC follow suit by enabling customers to participate in DSGS using EVSE submeters.

Meanwhile, the underlying tech needed to facilitate even greater participation in load shift programs and rates is embedded in most EVs themselves via the onboard vehicle telematics capabilities. Telematics-based pilots are increasing in number, for example, Sacramento Municipal Utility District’s (“SMUD”) recently announced BMW/Ford/GM pilot, PG&E’s evPulse program, and PG&E’s BMW ChargeForward pilot. However, the largest VGI pilot, ELRP, remains closed to telematics-based load management, and no mass-market (i.e., non-pilot) VGI program utilizing vehicle telematics have been proposed or established in California. By unlocking both smart chargers and vehicle telematics participation pathways for DSGS, the CEC can address a critical “missing link” in its load reduction capabilities.

VI. DSGS OPTION 3 SHOULD INCLUDE AN OUT-OF-MARKET PARTICIPATION PATHWAY THAT ELIMINATES BASELINING.

VGIC strongly supports the inclusion of DSGS’s Option 3 payment option, which provides capacity payments for committed DSGS capacity. However, the CEC’s current DSGS guidelines require resources in Option 3 to enroll in the CAISO market as a Proxy Demand Response (“PDR”) resource. As other parties have highlighted, such as the California Solar and Storage Association (“CALSSA”), PDR does not compensate resources for any exported energy.⁵ Additionally, the logistics of enrolling in the wholesale market, such as the share-my-data process, have also posed barriers, as highlighted by Sunrun and Leap.⁶ VGIC believes that the CEC can bolster participation in DSGS by including an out-of-market participation pathway for Option 3, with dispatch triggers being based on wholesale market prices without the need for market enrollment.

⁵ CALSSA DEBA DSGS program design proposal submitted on January 20, 2023 in CEC Docket No. 22-RENEW-01 at 1.

⁶ Sunrun and Leap Proposal - DER Program Design submitted on January 26, 2023 in in CEC Docket No. 22-RENEW-01 at 3.

February 17, 2023
Page 6 of 6

VGIC also agrees with CALSSA's proposal to eliminate baselining for these resources, which will help to streamline program compensation and administration.⁷ As highlighted by the CEC at the Workshop, payments to customers for 2022 DSGS events have yet to occur, and removing the complexities surrounding baselining would likely help to streamline program administration and payment. Lastly, the omission of baselines removes perverse incentives to not dispatch resources on non-event days in order to create an optimal baseline.⁸

VII. CONCLUSION.

VGIC appreciates the opportunity to provide these comments on the workshop and looks forward to collaborating with the CEC and other stakeholders in this docket.

Respectfully submitted,

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⁷ CALSSA DEBA DSGS program design proposal submitted on January 20, 2023 in CEC Docket No. 22-RENEW-01 at 8-9.

⁸ Ibid.