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VGIC Comments on IEPR Commissioner Workshop on Accelerating Interconnection and Energization

Additional submitted attachment is included below.

August 25, 2025

Email to: docket@energy.ca.gov

Docket Number: 25-IEPR-06

Subject: 2025 Integrated Energy Policy Report

RE: Comments of the Vehicle Grid Integration Council on the IEPR Commissioner Workshop on Accelerating Interconnection and Energization

Dear Sir or Madam:

The Vehicle-Grid Integration Council (VGIC) appreciates the opportunity to provide comments on the Integrated Energy Policy Report (IEPR) Commissioner Workshop on Accelerating Interconnection and Energization hosted August 11, 2025.

While California has made significant progress in expanding electric vehicle (EV) adoption and distributed energy deployment, delays and inefficiencies in these processes risk undermining customer adoption, slowing innovation, and increasing costs for ratepayers. The 2025 IEPR should highlight these challenges and identify forward-looking solutions that will allow California to capture the full reliability, affordability, and decarbonization benefits of EVs. In particular VGIC recommends that the IEPR discuss barriers to bidirectional EV interconnection and flexible service connections.

California should prioritize streamlining interconnection for grid-parallel bidirectional EV chargers.

Distributed resources can and will play an important role in California's grid future; in particular, there will be millions of EVs on the road that could provide electric system capacity, both in load flexibility but also for exports for the grid. However, today's interconnection process for bidirectional chargers remains complex and costly, creating a major barrier to widespread deployment. The 2025 IEPR should discuss current barriers to bidirectional interconnection and potential solutions to ensure we do not stall the state's electrification and reliability objectives.

Current interconnection processes often fail to recognize bidirectional charging configurations clearly, impose disproportionate fees on small projects, and require duplicative steps. VGIC therefore recommends the following:

- **Ensure customers/installers interconnecting bidirectional EV charging systems for grid-parallel operation are provided the appropriate guidance, portals, and forms:** To avoid confusion and delay, it is critical that each utility's interconnection application forms and online portal, if available, allow applicants to clearly identify whether they are

interconnecting a grid-parallel bidirectional EV charging system. In the past, grid-parallel bidirectional charging sites have been significantly delayed because applicants were not provided with appropriate forms and, in turn, projects would be initially routed through the wrong process and utility team. Applicants should be able to clearly specify the technology type, AC or DC paired, as it can expedite utility review.

Notably, Pacific Gas and Electric (PG&E) has made and maintained this update to its forms, which demonstrates that such updates are feasible and effective.¹ In contrast, Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) have not implemented similar updates, which VGIC members report resulting in confusion and delays.²

- **Reassess interconnection application fees for grid-parallel bidirectional charging systems:** California has interconnection application fees for grid-parallel bidirectional EV charging systems that significantly exceed those charged by utilities in other states. The investor-owned utilities charge an \$800 fee for all grid-parallel bidirectional EV charging systems less than 1 MW,³ and Sacramento Municipal Utility District (SMUD) charges \$475 for residential systems < 10 kW and \$900 for systems between 10-20 kW, the size of most bidirectional EV chargers on the market today.⁴

These fees have an outsized impact on bidirectional EV charging systems, which have relatively lower upfront costs compared to stationary energy storage systems, rooftop solar PV, or other customer distributed energy resources (DERs). For example, the most significant share of the total upfront costs for a stationary battery energy storage system is the battery itself. In contrast, this is not one of the costs required in enabling a bidirectional charging system, as the vehicle battery has already been purchased for its primary transportation use case. As a result, the \$800-\$900 interconnection application fee comprises one of the most significant upfront costs for grid-parallel bidirectional EV charging systems and, in turn, one of the largest barriers to widespread vehicle-to-grid capacity.

- **Define a timeline or roadmap for transitioning to virtual inspection and notification-only approaches:** Virtual inspections and notification-only approaches both offer cost and time improvements over traditional site inspection processes, especially for smaller

¹ PG&E Electric Form No. 79-1174-03. Attachment H. Section AB.

https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_FORMS_79-1174-03H.pdf

² See SCE Electric Form 14-918. Question 3.b.

https://www.sce.com/sites/default/files/customfiles/PDF_Files/ELECTRIC_FORM_14-918_PDF_fillable.pdf and [SDG&E Electric Form 142-05201](https://www.sdgandelectric.com/sites/default/files/customfiles/PDF_Files/ELECTRIC_FORM_142-05201.pdf) and [SDG&E Electric Form 142-05201](https://www.sdgandelectric.com/sites/default/files/customfiles/PDF_Files/ELECTRIC_FORM_142-05201.pdf)

³ <https://tariffsprd.sdge.com/view/tariff/?utilId=SDGE&bookId=ELEC&tarfKey=730>

⁴ <https://www.cpuc.ca.gov/rule21/>

⁴ <https://www.smud.org/-/media/Documents/Rate-Information/Rates/Rule-2-21.ashx>

bidirectional EV charging system projects. Establishing a clear timeline and milestones for this transition will streamline interconnection processes and reduce burdens on applicants.

- **Consider accepting all reasonable certification pathways for emerging V2G AC equipment:** Currently, V2G AC interconnection is only allowed under the three large IOUs' V2G AC interconnection pilot and has not been incorporated into the IOUs' Rule 21 on a permanent basis, nor, based on VGIC's understanding, have any publicly-owned utilities or small and multi-jurisdictional IOUs detailed a pathway for V2G AC interconnection. VGIC believes V2G AC interconnection should be unlocked by allowing multiple eligible interconnection pathways.

Stakeholders should consider the merits of establishing multiple pathways within Rule 21, as well as the publicly-owned utilities interconnection processes, for enabling V2G AC interconnection. UL 1741 SC, a new standard in development for V2G AC equipment, and UL 1741 CRD for DER Systems, a new CRD in development for V2G AC equipment, are both designed to meet the critical underlying safety and grid interoperability requirements of the grid. The UL 1741 CRD for DER Systems is for "matched pair" certification of a given EVSE paired with a specific vendor EV for V2G AC operation, whereas the UL 1741 SC certification is for general use with any EV designed to SAE J3072. There is also a certification pathway for "matched pair" V2G AC using UL 9741 for grid-tied AC power export. The UL 9741 certification pathway, however, is not referenced in Rule 21, hence the desire to establish the UL 1741 CRD alternative certification pathway.

Given the relatively nascent stage of the market, VGIC recommends considering allowing customers to elect the interconnection pathways best suited for them and their choice of technology. Notably, Maryland has already established a dual pathway approach, and other markets, including Texas and Nevada, are faced with a timely opportunity to follow suit. VGIC urges the Commission to advise relevant stakeholders via the IEPR to avoid creating undue limitations at this stage. A robust stakeholder process should consider all reasonable certification pathways.

California should set clear timelines for adopting these improvements and ensuring consistency across all utilities. Doing so will help unlock the hundreds of megawatts of latent capacity already on California's roads and ensure that EVs are fully integrated into the state's clean energy transition.

Flexible service connection can help improve energization timelines and also help to maximize use of the distribution system.

During the workshop, the CPUC discussed their efforts to implement flexible service connections, where customers must adhere to load limits during certain times of the day/year when the

distribution infrastructure is constrained. This is an extremely valuable tool to enable quicker energization but also to enable long-term cost savings for ratepayers. The IEPR should further explore flexible service connection and how to unlock this pathway throughout the state, including in publicly owned utility service territories.

EV customers have shown a particular interest in flexible service connections, since many larger charging sites for public fast charging and fleet charging have faced years of delays to unlock 24/7 import capability for their full charging load. This is materially impacting the ability of Californians to electrify their vehicles and business fleets. However, many of these sites may wish to avoid charging during times when the distribution system is constrained if it means that, in exchange for this load management, they can connect to the grid sooner. This can be done on an interim basis while electric infrastructure upgrades are constructed, but it is also likely that customers could continue to follow these schedules, avoiding the need for upgrades altogether. In either case, VGIC recommends that the customers electing the relevant load management technologies to enable flexible service connection, which may include software subscriptions and licenses, hardware, energy storage systems, local generation, and other costly solutions, be provided with a share of the avoided upgrade costs. VGIC believes a *shared savings model* in which utilities, ratepayers, and the customer electing the enabling solution for flexible service connection should all see clear financial benefit, representing a win-win-win solution to advance electrification while triggering fewer overall distribution system upgrades borne by utility ratepayers. We discuss the *shared savings model* in further detail below, as well as other specific recommendations related to flexible service connection.

- **All California utilities should adopt at a minimum, static, firm flexible service connection offerings for EV customers that cannot be fully energized in a timely manner.** PG&E and SCE have shown that simple flexible service connection frameworks can be created with significant customer participation. These structures should be expanded to other utilities, including publicly owned utilities, to allow customers to electrify their vehicles and fleets more quickly. Additionally, utilities should consider how to offer more dynamic flexible service connection offerings, especially if they have existing capabilities and investments required to enable these solutions (e.g., utility DERMS platforms).
- **Critically, all flexible service connection offerings should not only be technically available, but easily accessible to all customers through a standardized process, form, tariff, and/or portal.** This will allow for the rapid scale-up of flexible service connections in pursuit of both California’s transportation decarbonization goals *and* the state’s urgent affordability needs.
- **California should allow customers to voluntarily adopt flexible service connections and be compensated for the commensurate deferral and/or avoidance of costly distribution infrastructure upgrades.** Flexible service connections present a critical

opportunity to reduce total distribution system costs by “locking in” customer-side flexibility during the upgrade or new load site design and construction phase. In cases where upgrades will inevitably be needed to enable widespread electrification, the value of deferral alone is significant given the time value of money and the long timelines for utility-side upgrades.

VGIC strongly urges California to adopt fair, transparent, and scalable approaches for compensation that reflects this value of avoided system costs. One such approach is a *shared savings model*, where customers receive a portion of the distribution upgrade deferral value that they unlock. In this approach, the avoided costs can be split between the customer paying the equipment and/or software cost to enable the deferral/avoidance, the ratepayers that would otherwise have borne the cost of the upgrade, and the utility. Another approach that could be used is designating a fund to support customer installation of equipment and/or software required to enable elective flexible service connections. Under this approach, the total amount of funding provided to offset the equipment and/or software costs is below the total deferred/avoided costs, such that the program yields clear net benefits for ratepayers. For example, New York has established its Load Management Technology Incentive Program, which provides funding to augment other incentive programs, like the EV make-ready program, ensuring adequate funding to deploy equipment enabling flexible service connections.

Overall, flexible service connections should be pursued by all California energy agencies. As discussed at the workshop, incentivizing the technology-enabled rightsizing of load requests to existing grid capacity should remain a priority moving forward.

Conclusion.

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

Respectfully submitted,
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