BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Transportation Electrification Policy and Infrastructure.	Rulemaking 23-12-008 (Filed December 14, 2023)

(NOT CONSOLIDATED)

Order Instituting Rulemaking to Continue Development of Rates and Infrastructure for Vehicle Electrification.	Rulemaking 18-12-006

COMMENTS OF THE VEHICLE-GRID INTEGRATION COUNCIL ON ORDER INSTITUTING RULEMAKING REGARDING TRANSPORTATION ELECTRIFICATION POLICY AND INFRASTRUCTURE AND CLOSING RULEMAKING 18-12-006

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the Vehicle-Grid Integration Council ("VGIC")[1] hereby submits these comments on the *Order Instituting Rulemaking Regarding Transportation Electrification Policy and Infrastructure and Closing Rulemaking 18-12-006* ("TE OIR"), issued by Administrative Law Judge ("ALJ") on December 14, 2023.

[1] VGIC member companies and supporters include American Honda Motor Co., Inc., BorgWarner, Fermata Energy, Ford Motor Company, General Motors, Nissan Group of North America, Nuvve Holding Corporation, Toyota Motor North America, Inc., BlueGrid Energy, Customized Energy Solutions, dcbel, Emporia Corp., EnergyHub, EV.Energy, FreeWire Technologies, Inc., GridWiz, Kaluza, Kitu Systems, Landis + Gyr, Ninedot Energy, Peak Power, PowerFlex, Qcells, Rhythmos, Inc., Stellantis N.V., Sumitomo Electric, The Mobility House, Wallbox USA Inc., WeaveGrid, Hoosier Energy, and Sacramento Municipal Utility District. The views expressed in these Comments are those of VGIC, and do not necessarily reflect the views of all individual VGIC member companies or supporters. (https://www.vgicouncil.org/)

I. INTRODUCTION.

VGIC commends the Commission for issuing the OIR and appreciates the attention given to timely energization of electric vehicle ("EV") charging infrastructure, transportation electrification ("TE") grid planning to support charging infrastructure deployment, deployment of behind-the-meter ("BTM") charging infrastructure to support state goals, vehicle-grid integration ("VGI"), and ongoing TE policy development and collaboration. The previous TE Rulemaking ("R.") 18-12-006 developed a framework for funding BTM charging infrastructure, clarifying the IOUs' role in TE, adopted key VGI strategies pursuant to Senate Bill ("SB") 676, adopted a submetering protocol for EV supply equipment ("EVSE"), and established strategic focus areas for VGI. VGIC and its members appreciate the progress made through each of these efforts in pursuit of widespread TE. VGIC generally supports the Commission's focus on the emerging TE issues identified in the new TE OIR, including timely energization of EV charging sites, grid planning for freight and other TE use cases, impacts on rate payers, and establishing goals and targets to advance VGI.[2]

The scope and timeline of the TE OIR are significant, which is appropriate given the imperative for TE to meet the state of California's climate goals. As detailed below, VGIC supports a dedicated track for VGI issues; however, it is critical that VGI solutions not be treated as an optional component of the TE planning portfolio or as an *afterthought* being considered only after immense TE infrastructure deployment. VGI is a critical tool that can help California achieve its ambitious transportation and energy sector decarbonization goals. The OIR states that "[t]he growth of zero-emission vehicles, and the deployment of new charging infrastructure to support the growing pace of zero-emission vehicle adoption, will have varying impacts on local

[2] OIR at 8.

distribution systems and will require significant grid upgrades."[3] VGI strategies can aid in alleviating cost pressures and energization timeline challenges that have been experienced to date and are expected to continue or worsen as EV adoption accelerates. VGI strategies, therefore, should be a key component of all TE infrastructure planning. VGIC offers the below comments recommending modifications to the OIR's preliminary scope to holistically incorporate VGI throughout California's emerging TE strategy and, in turn, optimize the deployment and use of infrastructure necessary to enable electrification and thereby reduce the ratepayer impacts of TE.

II. BACKGROUND & INTEREST IN PROCEEDING.

VGIC is a 501(c)6 member-based advocacy group committed to advancing the role of EVs and VGI through policy development, education, outreach, and research. VGIC supports the transition to a decarbonized transportation and electric sector by ensuring the value from flexible EV charging and discharging is recognized and compensated to achieve a more reliable, affordable, and efficient electric grid. VGIC's members include automotive original equipment manufacturers ("OEMs"), EV service providers ("EVSPs"), distributed energy resource ("DER") aggregators, and electric utilities, and has a direct interest in shaping the policies, procedures, and rules needed to develop the infrastructure required to support the acceleration of TE. VGIC has been an active party in related rulemakings such as R.18-12-006, R.22-07-005, R.17-07-007, and R.21-06-017.

III. COMMENTS ON THE PROPOSED SCOPE.

In recognition of increasing EV adoption in California and the required charging infrastructure to support it, VGIC appreciates the magnitude of challenges facing the state's major

[3] OIR at 7.

investor-owned utilities and the established Commission TE policies. Leveraging the unique flexibility of EVs and EVSE offers the grid a relatively low-cost and increasingly critical approach to maintain electric reliability, unlock rate affordability, and reduce lengthy energization timelines. It will take an intentional and coordinated effort to capitalize on the *opportunity* of the coming mass deployment of EVs and the associated charging infrastructure.

Critically, planning for VGI cannot be considered in isolation from other efforts or as an afterthought. VGIC believes it would be a missed opportunity to deploy the needed charging infrastructure and distribution system upgrades without prudent consideration of VGI as a tool to manage EV load and moderate costs. Similarly, using VGI strategies to accelerate energization timelines should not be addressed *after* customers have navigated lengthy – and ever-lengthening –service connection queues. This demands an explicit and comprehensive framework for advancing VGI to address these and other challenges associated with TE.

VGIC appreciates the Commission's "VGI Strategic Focus Areas" adopted in D.22-11-040, but California needs a more comprehensive VGI Roadmap that includes a critical role for bidirectional charging, vehicle-based managed charging programs, automated load management solutions, and other key VGI technologies. SB 676 directs the Commission to *maximize VGI*. To fulfill this vision, VGIC recommends several enhancements below to ensure the scope of this proceeding is inclusive of all necessary VGI issues. VGIC also details a recommendation for the Commission to scope a precise process to *maximize VGI benefits*, including by adopting a participation/procurement target, establishing interim targets, adopting metrics to measure success against targets, identifying gaps and barriers to achieving VGI targets, and approving strategies to address each gap and barrier.

A. The Commission should establish discrete Tracks to facilitate parallel progress and "quick wins" across TE issues rather than sequencing topics solely by urgency.

The OIR identifies five issues and eight sub-issues within the preliminary scope for this proceeding.[4] To guide parties, VGIC recommends the Commission establish discrete tracks that infuse VGI throughout for the following key TE issues:

- Track A: Solutions to energization timelines and the IOU side-of-meter & BTM paradigm's impact on ratepayers.
- Track B: VGI targets, market transition, and holistic road-mapping.
- Track C: Statewide BTM rebate program development (i.e., Funding Cycle 1).
- Track D: TE infrastructure planning tools and investments, including freight, non-freight MHDV, and LDV charging needs, Funding Cycle 0, and Funding Cycle 2.

By developing distinct Tracks, the Commission can organize key issues in parallel efforts rather than strictly sequencing related issues, which may delay progress on urgent matters and miss opportunities for "quick wins" with outsized impact.

B. The VGI Track should consider market transition support and costs to enable third-party aggregator participation.

VGIC appreciates the inclusion of "technology enablement" as a strategic focus area for VGI and its explicit inclusion in the OIR's preliminary scope. While D.22-11-040 does not explicitly define VGI technology enablement, it states the following in its discussion of the technology enablement topic within the Annual VGI Forum:

> "This focuses on technology enablement, VGI in existing IOU programs and pilots, and the incorporation of new technology developments into FC1. This forum should coordinate

[4] OIR at 12.

with the CEC's VGI staff to showcase recent developments (e.g., emerging technology, ALM, coordination on VGI equipment certification, etc.)."[5]

Based on this, VGIC interprets *technology enablement* to include (1) unlocking emerging VGI technologies and (2) considering standards and equipment certification. There are two key elements to market enablement that VGIC recommends be explicitly addressed in the scope of this proceeding:

- **Market transition support to encourage customer adoption of VGI-capable equipment.** This is particularly important for equipment that enables relatively nascent VGI market segments, like bidirectional chargers. Due to the early stage of market development for these technologies, it is important to provide market transition support in cases where ratepayers are expected to benefit from mass deployment as the industry matures. Notably, proactive technology deployment incentives have been successfully used in California for rooftop solar, smart thermostats and load control, and stationary energy storage. Today, these technologies yield significant affordability and reliability benefits for customers, ratepayers, and society at large, and VGIC posits this same blueprint could be successfully applied to VGI technologies.
- **Consideration of development and integration costs for third-party aggregators and service providers.** Bringing in new aggregators/service providers that service new types of customer assets/equipment, such as connected EVs and EVSE, bidirectional charging equipment, and storage-backed EVSE, may require the provider to develop new software and technology to support the integration of the customer-owned equipment into pilots, programs, and/or rates. Sufficient funding mechanisms and revenue are needed to entice these third-party providers to undertake this development effort and provide their services to retail customers and the grid throughout VGI pilots, programs, and/or rates. This is particularly important for emerging technologies and customer-owned equipment like bidirectional vehicle-to-everything ("V2X") EVSE or submetering via EVSE/vehicle telematics, where the underlying technology, integrations, and data flows are not nearly as developed as, say, smart thermostats.

[5] D.22-11-040 at 174.

C. The VGI Track should explicitly scope in the following types of VGI goals: customer participation targets and utility procurement directives.

VGIC strongly supports the OIR's intent to "establish goals and targets for the advancement of vehicle-grid integration." VGI progress in this proceeding's predecessor, R.18-12-006, was largely driven by the SB 676 legislative directive to develop strategies to maximize VGI. This created an imperative to spur the market, however, the tangible impact of SB 676 and the resulting D.20-12-029 has been essentially limited to Pacific Gas & Electric's V2X Pilots, which recently launched Phase 1 (focused on backup power) and are still pending approval for Phase 2 (adding grid export). The underlying need for SB 676 and *maximizing VGI* has not diminished and, in fact, has strengthened as EV adoption accelerates and the associated time and cost pressures continue to mount.

With this in mind, VGIC urges the Commission to adopt a set of clear, explicit, and ambitious goals for VGI to establish a "north star" to guide market development. While *maximizing VGI* remains a key theme, well-defined quantitative targets provide a benchmark against which we can track progress. VGIC offers the following two types of goals that should be included in the scope of the VGI Track:

- **Customer Participation Targets:** VGIC recommends the Commission seek party feedback on and ultimately adopt an appropriate customer participation target, in terms of number of customers and/or participating MW, for VGI programs and rates in California. Targets should apply to specific initiatives within the state's VGI portfolio, for example, individual VGI pilots, programs, and rates. An overall target(s) across the entire portfolio should also be adopted. These targets can be informed by existing data from the Joint IOU Electric Vehicle Load Research and Charging Infrastructure Cost Report, Lawrence Berkeley National Laboratory's ("LBNL") California Demand Response Potential Study, which were both used as key inputs in California's recent Integrated Resource Planning cycle to indicate

VGI customer enrollment, as well as additional studies in California and other jurisdictions that can support an informed customer participation target.[6]

- **Utility Procurement Directives:** VGIC recommends the Commission seek party feedback on and ultimately direct VGI procurement by utilities. This can be a share of customers and/or MW capability, which could include cumulative installed bidirectional charging capacity. This directive could be an overarching requirement for California's investor-owned utilities ("IOU") to procure a certain amount of demand flexibility and/or grid exports from VGI technologies. This approach was utilized to procure stationary energy storage, which helped to kickstart the industry. VGIC believes this successful approach can be applied to VGI customer resources and should be considered in the VGI Track of this OIR.

D. The VGI Track should seek to develop a clear VGI Roadmap to achieve the established targets and procurement directives and accomplish quick wins.

VGIC recommends the VGI Track scope include a precise process to *maximize VGI* by adopting participation and procurement targets, as noted above. In addition to these "north star" goals that will set an end destination for VGI efforts, VGIC urges the Commission to consider establishing interim VGI targets, adopting metrics to measure success against VGI targets, identifying gaps and barriers to achieving VGI targets, and approving strategies to address each gap and barrier. This road-mapping approach creates critical linkages between the desired end state, the milestones that must be hit along the way, and the actionable strategies various state agencies must pursue to achieve the desired outcomes. This roadmap can identify key near-term barriers and "quick wins," and detail a path for overcoming more challenging obstacles to widespread VGI.

[6] Inputs & Assumptions: 2022-2023 Integrated Resource Planning (IRP). October 2023. CPUC. Pg 110. https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/inputs-assumptions-2022-2023_final_document_10052023.pdf

E. Strategies for achieving faster energization, including Automated Load Management ("ALM"), should be considered given the nearly universal applicability of energization timeline challenges and the fundamental need for operational EVSE.

VGIC recognizes that the Commission is slated to adopt another new OIR at its January 25, 2024 voting meeting to address Timely Energization pursuant to SB 410 and Assembly Bill ("AB") 50. The draft Timely Energization OIR will set average and maximum energization timeline targets. The new TE OIR, in contrast, appears to be the appropriate venue to consider strategies to achieve faster energization timelines, including both software- and hardware-based automated load management ("ALM") strategies. Given that lengthy energization timelines challenge most TE efforts, VGIC believes it is appropriate to deem *solutions to lengthy energization timelines* as a high-priority issue to be addressed in the near-term within this new TE OIR.

F. The Commission should coordinate closely with (1) demand response portfolio development, (2) Rule 21 interconnection of bidirectional V2X chargers, and (3) the High DER OIR and Timely Energization OIR.

The OIR's preliminary scoping memo section on VGI refers to "programmatic and policy interventions."[7] VGIC strongly supports the consideration of programmatic approaches to promoting VGI, such as the *Managed Electric Vehicle Charging at Home* program proposed by PG&E in its recently shared EPIC 4 Portfolio.[8] VGIC has raised the question of where managed charging programs or other VGI programs (e.g., bidirectional charging) can be proposed in both the preceding TE OIR (R.18-12-006) and the recent Demand Response ("DR") Portfolio Application (Application 22-05-002 et al.). The topic had been "bounced" between proceedings,

[7] OIR at 12.

[8] PG&E's EPIC 4 Portfolio. Presented January 16, 2024. Slides 33-34. https://www.pge.com/en/about/corporate-responsibility-and-sustainability/taking-responsibility/emerging-electric-technology-programs.html#accordion-268a6f67d5-item-804c2f0b8b

with Decisions in each proceeding referring the topic to the other proceeding. While the matter of programmatic approaches to VGI is unquestionably included in the preliminary scope of the new TE OIR, VGIC urges the Commission to coordinate closely with any future DR portfolio applications to ensure alignment across these initiatives, which could overlap.

In considering remaining barriers to VGI market development and opportunities for "quick wins," VGIC notes that the preliminary scope does not reference V2X interconnection. While this issue is scoped into R.17-07-007 by way of its relevance to each IOU's Rule 21, VGIC strongly urges the Commission to coordinate the new TE OIR with R.17-07-007 on the topic of V2X interconnection. Developing a standardized and streamlined process to interconnect both V2X DC and V2X AC resources to the grid in a timely fashion remains a critical keystone to advancing the VGI market.

Lastly, VGIC notes that the High DER OIR (R.21-06-017) and the new Timely Energization OIR, which may be approved as early as January 25, 2024, address the matter of energization timelines. Including this new TE OIR, the CPUC would simultaneously host three separate dockets in which this issue is addressed. VGIC urges the Commission to either consolidate the treatment of this issue, explicitly clarify scopes, or closely coordinate across all three proceedings on this matter.

G. Low Carbon Fuel Standard holdback revenue utilization was initially addressed in R.18-12-006, but outstanding issues should be scoped into the new TE OIR.

The preliminary scope thoughtfully details or implicitly captures most TE and VGI issues. However, VGIC notes that the Low-Carbon Fuel Standard ("LCFS") Holdback Revenue priorities and implementation plans are not mentioned in the OIR. Anticipated amendments to the LCFS Regulation by the California Air Resources Board ("CARB") in March of this year indicate that

the new TE OIR should include these topics.[9] As VGIC understands it, LCFS implementation plan development and approval have recently been held/discouraged pending CARB's LCFS updates. Once CARB finalizes LCFS updates, the CPUC is poised to take the issue back up and issue guidance/approvals for utility spending. VGIC recommends the Commission scope LCFS holdback revenues into the new TE OIR to ensure the progress made in R.18-12-006 can continue.

IV. PROCEDURAL SCHEDULE AND TIMING.

VGIC supports the categorization and proposed schedule of this proceeding and agrees with the preliminary determination finding that no hearings will be needed.

V. NOTICES.

Service of all notices and communications in this proceeding should be directed to the following VGIC representative:

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VI. CONCLUSION.

VGIC appreciates the opportunity to provide these comments on the OIR. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

[9] CARB, Proposed LCFS Amendments, https://ww2.arb.ca.gov/rulemaking/2024/lcfs2024.

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