



May 15, 2023

Hon. Michelle L. Phillips
Secretary
New York Public Service Commission
3 Empire State Plaza
Albany, NY 12223-1350

RE: Case 18-E-0138: Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure

**Comments the Vehicle-Grid Integration Council (VGIC)
on the Make-Ready Program Mid-Point Review Staff Whitepaper**

Introduction

The Vehicle-Grid Integration Council (VGIC)¹ is a 501(c)(6) membership-based trade association committed to advancing the role of electric vehicles (EVs) and vehicle-grid integration (VGI) through policy development, education, outreach, and research. VGIC supports the transition to decarbonized transportation and electric sectors by ensuring the value from EV deployments and flexible EV charging and discharging is recognized and compensated to achieve a more reliable, affordable, and efficient electric grid. VGIC appreciates the opportunity to provide these comments on Staff’s Make-Ready Program Midpoint Review and Recommendations Whitepaper.

¹ VGIC member companies and supporters include American Honda Motor Co., Inc., BorgWarner, bp pulse, Customized Energy Solutions, dcbel, Enel X North America, Inc., ENGIE NA, Enphase, Fermata Energy, FlexCharging, FLO EV Charging, Ford Motor Company, FreeWire Technologies, Inc., General Motors, GridWiz, Hoosier Energy, Innovation Core SEI, IoTecha, Kaluza, Kitu Systems, Ninedot Energy, Nissan Group of North America, Nuvve Holding Corporation, Peak Power, Sacramento Municipal Utility District, Stellantis N.V., Sunrun, The Mobility House, Toyota Motor North America, Inc., Utilidata, Veloce Energy, Inc., Wallbox USA Inc., and WeaveGrid. 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/>)

VGIC Supports Staff's VGI-Related Proposals

Overall, the Staff Whitepaper provides constructive proposals for the utilities' make-ready programs going forward and represents a significant step forward for transportation electrification in New York. VGIC is particularly encouraged by the inclusion of several VGI-related recommendations in line with VGIC's prior comments:

- Joint Utilities to update VDER tariffs to clearly define VGI as eligible for compensation. VGIC's comments discussed the importance of compensation for vehicle-to-grid (V2G) exports. While some New York utilities have included V2G exports in their VDER tariffs as standalone energy storage, this inclusion has not been applied across all utilities in the state. Staff's recommendation would ensure that V2G exports are compensated across all utility territories in New York, like other distributed energy resources (DERs).
- Cost-reducing advanced technology to be eligible for make-ready incentives if the advanced technology provides grid and ratepayer benefits. As discussed in VGIC's prior comments, the adoption of Automated Load Management (ALM) solutions, including those that integrate battery storage, will help avoid or defer the need to upgrade certain customer-side and utility-side make-ready infrastructure, resulting in savings for EV customers and ratepayers. VGIC strongly supports Staff's proposal for these solutions to be eligible for make-ready incentives. Incentives through the make-ready program would complement the potential incremental incentives approved in the demand charge alternative proceeding in encouraging customer adoption in advanced technologies that provide grid and ratepayer benefits. VGIC is concerned, however, regarding the lack of clarity regarding the eligibility of cost-reducing advanced technologies. A full cost-effectiveness analysis for each project would be prohibitive and potentially lead to lengthy delays for project installations. VGIC recommends that the Joint Utilities implement a solution that does not require a case-by-case analysis to qualify these advanced technologies for make-ready incentives.
- Technical Standards Working Group (TSWG) to identify and propose solutions to barriers of VGI, including interconnection. The interconnection process for vehicle-



to-everything (V2X) systems and related technical standards can be a complex issue that would benefit from further stakeholder input and discussion. However, VGIC believes that the VGI Working Group (VGI WG) would be the more appropriate venue for this endeavor while the TSWG focuses on the submetering accuracy testing process. VGIC looks forward to collaborating with Staff, the Joint Utilities, and other stakeholders to ensure that the V2X interconnection process is smooth and efficient. The VGI WG should also be reconvened to address a broader set of VGI issues, including economics, consumer education, and permitting. Additionally, while there has been significant advancement of VGI in New York since VGIC submitted our prior comments, such as the commercial managed charging programs in Docket 22-E-0236, there have not been substantial efforts to explore the resiliency benefits of VGI or to incorporate VGI into the utilities' existing demand response programs. Therefore, VGIC recommends that the Commission direct the Joint Utilities to develop and propose pathways to scale these VGI benefits.

Additionally, Staff requested stakeholder feedback on whether make-ready incentives should cover a higher capacity on the customer-side than on the utility-side to encourage power sharing. Power sharing is an important ALM solution and can help deploy additional chargers at the same site capacity, and Staff's proposal would enhance the incentives for charging sites to adopt this technology, helping to limit infrastructure upgrade costs while expanding charging availability. However, power sharing is only one approach to ALM. Rather than focusing exclusively on power sharing, VGIC suggests the Commission adopt a more inclusive definition of ALM that encompasses the range of potential solutions that may be appropriate for different use cases, including power sharing as well as battery storage, rectifier cabinets, and other hardware- or software-based approaches.

VGIC notes that the Staff Whitepaper appears to have made a minor error in the title of its VGI section that should be corrected for the sake of clarity and accuracy – rather than “vehicle-to-grid integration,” the Staff Whitepaper and subsequent Commission orders should reference “vehicle-grid integration strategies,” as vehicle-to-grid (V2G) is a discrete sub-topic to VGI more broadly.

The Commission Should Take Additional Steps to Encourage Bidirectional Charging

While the Staff Whitepaper includes several valuable recommendations for VGI in general, as discussed above, there are still additional steps that the Commission should take to spur the nascent market for bidirectional charging in New York. Particularly, given the immense potential of vehicle-to-everything (V2X) solutions to support customer needs, bolster grid reliability, and lower system costs, VGIC believes it is reasonable to offer an incremental rebate to V2X customers to partially offset the incremental upfront costs of purchasing and installing V2X-capable EV supply equipment (EVSE) and associated infrastructure.

On average, a unidirectional Level 2 charging system costs \$1,300.² In contrast, bidirectional Level 2 charging systems can cost around \$5,000.³ Today, commercially available and certified V2X equipment is based on a direct current (DC) platform, which results in significant cost differences between a Level 2 charger (either unidirectional or bidirectional) and a bidirectional DC charger. While public information on the costs of bidirectional DCFC is limited, a 30% cost premium for bidirectional capabilities is a reasonable estimate based on VGIC's discussions with industry participants. VGIC recommends that the Commission adopt incremental incentives for V2X equipment based on these figures. At a minimum, the Commission should task the VGI WG with assessing the necessary incentives to encourage cost-effective investments in bidirectional charging. However, a more thorough assessment of incentives for V2X-capable EVSE by the VGI WG should not significantly delay progress on this issue. VGIC recommends that the Commission convene the VGI WG by Q4 2023 and be tasked with a deadline in Q2 2024 to develop appropriate incremental incentives. Such incentives for bidirectional charging should be technology-neutral, meaning that all bidirectional charging technologies, EVSE connector types, and communication protocols should qualify.

In addition, while V2X solutions have clear benefits to both customers and the grid, the technology is still new and unfamiliar to most customers. To increase customer awareness and

² Sebastian Blanco. J.D. Power. What Does an EV Home Charger Cost? August 16, 2022.

<https://www.jdpower.com/cars/shopping-guides/what-does-an-ev-home-charger-cost>

³ See, for example: Fred Lambert. Electrek. Ford F-150 Lightning Electric Pickup needs a \$3,900 home device to use it as backup power. May 2, 2022. <https://electrek.co/2022/05/02/ford-f-150-lightning-electric-pickup-needs-a4000-home-device-use-backup-power/>; dcbel (2022). r16. <https://www.dcbel.energy/r16/>



understanding, VGIC recommends that the VGI Working Group also determine the current level of customer understanding and recommend a comprehensive set of marketing, education, and outreach (ME&O) and technical assistance activities related to V2X. These activities should include educating customers on the benefits of V2X use cases, capable vehicles and chargers, interconnection pathways, applicable rates and programs, and other technical considerations.

Lastly, it is VGIC's understanding that the Joint Utilities began requiring interconnecting DERs to be certified to UL 1741 SB on January 1, 2023. Since there is limited availability of V2G-capable DC EVSE currently on the market, this requirement effectively freezes the deployment of V2G-capable DC EVSE until SB-certified DC EVSE are more widely available. The new V2G Equipment List recently launched by the California Energy Commission serves as a common public database of UL-certified V2G-capable DC EVSE, and currently lists three chargers, none of which are certified to UL 1741 SB.⁴ In order to ensure V2G DC EVSE continues to be deployed in the near term, VGIC recommends that the Commission consider a temporary exemption for V2G DC EVSE from the UL 1741 SB requirement. This would provide critical support to V2G DC EVSE deployment efforts in New York and would align well with recent developments in other leading V2G efforts. For example, in recognition that availability of UL 1741 SB-certified inverters is extremely limited, the California Public Utilities Commission (CPUC) recently pushed back the implementation of UL 1741 SB to August 29, 2023. When approving the Emergency Load Reduction Program in 2021, the CPUC also exempted V2G DC EVSE from UL 1741 SA, SB, or any other smart inverter requirements if the EVSE is participating in the program,⁵ paving the way for the deployment of commercial V2G projects that supported the grid during California's summer 2022 heat wave.⁶

⁴ California Energy Commission. V2G Equipment List. <https://v2gel.energy.ca.gov/Home/ProcessView>

⁵ California Public Utilities Commission. Decision 21-12-015, Attachment 1, pg. 6. Rulemaking 20-11-003. 2021. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K821/428821668.PDF>

⁶ Nuvve Holding Corp. "SDG&E and Cajon Valley Union School District Flip the Switch on Region's First Vehicle-to-Grid Project Featuring Local Electric School Buses Capable of Sending Power to the Grid." 2022. <https://nuvve.com/sdge-and-cajon-valley-union-school-district-flip-the-switch-on-regions-first-vehicle-to-grid-project-featuring-local-electric-school-buses-capable-of-sending-power-to-the-grid/>



VGIC Supports the Proposed Changes to the Medium- and Heavy-Duty Make-Ready Pilot

In response to VGIC and other stakeholders' comments, the Staff Whitepaper also proposed several positive changes to the Medium- and Heavy-Duty (MHD) Make-Ready Pilot. Particularly, VGIC supports Staff's proposal to increase the overall budget of the pilot as well as extend the incentives to apply to both utility-side and customer-side make-ready infrastructure. However, VGIC is concerned that the funding may be depleted before the full MHD Make-Ready Program being contemplated in Docket 23-E-0070 is available. VGIC encourages the Commission and Staff to consider limiting eligibility to segments with the greatest need and public benefit, such as school buses and municipal fleets. These changes will help kickstart the electrification of MHD vehicles in New York in the near term while a more extensive make-ready program and other supportive offerings are explored in the newly opened Docket 23-E-0070.

In addition to Staff's proposals, VGIC also recommends that ALM technologies, including those that incorporate battery storage, be eligible for make-ready incentives under the MHD Make-Ready Pilot, consistent with Staff's recommendation for the Light-Duty Make-Ready Program. ALM technologies can benefit not only fleets but the grid as a whole and should not be ignored under the Pilot.

Conclusion

VGIC appreciates the opportunity to provide these comments and looks forward to working with the Commission, the Joint Utilities, and other stakeholders to ensure the success of New York's transportation electrification efforts.

Respectfully submitted,

Ed Burgess

A handwritten signature in black ink, appearing to read "Edward A. Burgess", written in a cursive style.

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