August 22, 2022

Ms. Stephanie Pollack, Acting Administrator
Federal Highway Administration (FHWA)
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Docket No. FHWA-2022-0008: National Electric Vehicle Infrastructure Formula Program

Comments of the Vehicle-Grid Integration Council (VGIC) on the Proposed Regulations for the National Electric Vehicle Infrastructure (NEVI) Formula Program

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 in support of achieving a more reliable, affordable, and efficient electric grid. Scaling VGI will help accomplish the following public policy goals:

- **Benefit drivers** by reducing the cost of ownership.
- **Decarbonize the transportation sector** by accelerating EV adoption.
- **Support decarbonization of the power sector** by providing essential grid services as renewable energy penetration increases.
- **Increase affordability** by reducing electricity bills for all customers.
- **Improve grid resiliency** and security during extreme weather events.
- **Foster economic activity** through innovation, competition, and market transformation.

[1] VGIC member companies and supporters include American Honda Motor Co., Inc., dcbel, Enel X North America, Inc., ENGIE NA, Fermata Energy, FlexCharging, FLO EV Charging, Ford Motor Company, FreeWire Technologies, Inc., General Motors Company, Kaluza, Nissan Group of North America, Nuvve Holding Corporation, Sacramento Municipal Utility District, Stellantis N.V., Sunrun, Switch EV Ltd, The Mobility House, Toyota Motor North America, Inc., 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/)

With federal support, we believe this vision could become a reality and that EV drivers and owners across the United States can take part in the acceleration of both transportation electrification and grid decarbonization. **Our vision for VGI encompasses the following key elements:**

- **Ensure customer mobility needs are satisfied.** Drivers will be able to participate in a wide variety of VGI services, nationwide, without compromising their mobility needs.
- **Managed charging will provide benefits to EV drivers**: Drivers in every state will be given the choice to align charging with the times of day when electricity prices are low, reducing operating costs by 50% compared to unmanaged charging. Lowering the total cost of ownership will help to accelerate overall EV adoption by drivers and fleet managers.
- **EVs provide emissions-free emergency power during blackouts**: During extreme weather blackouts or other power outages, EVs can utilize two-way charging and discharging capabilities to send energy to a building or home ("V2B" – vehicle-to-building), serving as a generator and providing safe and emissions-free backup power.
- **Electricity infrastructure costs become more affordable**: Smarter management of EV charging will help minimize investments in utility infrastructure to support economy-wide electrification, which reduces the overall cost burden on all electricity customers.
- **EVs provide necessary services to the grid and get paid for it**: Unidirectional charging ("V1G") and bidirectional charging ("V2G" – vehicle-to-grid) will enable EVs to both receive and/or feed power back to the grid, supporting advanced grid services such as frequency control, demand response, peak shaving, and more. Providing these services can unlock new revenue streams for EVs, lowering the total cost of ownership. Grid flexibility services will become increasingly valuable as more renewable energy is added to the grid.

Bidirectional EVSE at Non-Corridor Sites Should be Exempt from CCS and ISO 15118 Requirements

The proposed regulations include a requirement for EV supply equipment ("EVSE") installed under the NEVI Formula Program to be equipped with CCS connectors[2] and be compliant with ISO 15118 standards.[3] VGIC appreciates the FHWA's overarching efforts to promote standardization and open protocols as a means to advance transportation electrification

[2] Section 680.106(c).
[3] Section 680.108.

more broadly. However, we encourage the FHWA to consider a more flexible approach when it comes to bidirectional chargers as the field is evolving rapidly. Given that Direct Current Fast Chargers ("DCFCs") deployed along Alternative Fuels Corridors are generally not suitable candidates for the bidirectional charging use cases described above, VGIC's comments are focused on EVSE, including Level 2 EVSE, that will be deployed at other sites after a state's Alternative Fuels Corridors are fully built out.

VGIC believes there is value in the FHWA supporting vendors, EV owners, and utilities to develop new programs, business models, and participation pathways for bidirectional charging in order to facilitate the nascent bidirectional charging market. The importance of bidirectional charging infrastructure was recognized by the recently enacted Inflation Reduction Act, which clarifies that bidirectional chargers are eligible for the Alternative Fuel Vehicle Refueling Property Credit. Moreover, the Department of Energy recently launched the Vehicle-to-Everything Memorandum of Understanding ("V2X MOU") to collect information on real-world V2X projects and support critical bidirectional charging market development efforts.

There are still only a limited number of bidirectionally-capable EVs and EVSE products available in today's market. While some of these products are already compliant with ISO 15118 (*e.g.*, Nuvve's bidirectional DCFC), some are not. For example, Nissan LEAFs, which represent the majority of the bidirectionally capable EVs on the road today use CHAdeMO connectors that do not use the ISO 15118 protocol. While we recognize that the industry has moved towards CCS connectors, there may be value in providing near-term support for bidirectional CHAdeMO chargers through a temporary exemption of ISO 15118 for bidirectional chargers.

Any near-term efforts from the federal government or at the state level to advance bidirectional charging use cases will likely rely on some participation from Nissan LEAFs. Thus, requiring CCS and ISO 15118 could effectively eliminate support for a significant share of the bidirectionally capable EVs and EVSEs available today, thereby limiting customer choice and delaying market development of an important VGI capability. As such, VGIC recommends the FHWA exempt bidirectional chargers deployed at non-corridor sites from any CCS and ISO 15118 requirements at this time if they instead use CHAdeMO connectors for bidirectional charging. VGIC further recommends the FHWA revisit the exemption at a later date when CCS-based and ISO 15118-compliant bidirectional charging is more commonplace.

Conclusion

VGIC appreciates the opportunity to provide these comments and looks forward to working with the FHWA and other stakeholders to ensure the success of the NEVI Formula Program.

Respectfully submitted,

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Vehicle-Grid Integration Council (VGIC)