VIA EMAIL SUBMISSION

October 5, 2021

Aida Camacho-Welch
Secretary of the Board
Board of Public Utilities
Post Office Box 350
Trenton, NJ 08625-0350

Re: Docket No. QO21060946 - In the Matter of Medium and Heavy Duty Electric Vehicle Charging Ecosystem

Veloce Energy (Veloce) respectfully files these comments on "New Jersey's Electric Vehicle Infrastructure Ecosystem 2021 – Medium and Heavy Duty ("MHD") Straw Proposal" ("Straw") released by the Board Staff on June 30, 2021.

Veloce Energy is a provider of EV charging solutions, and is committed to accelerating the electrification of transportation through technology and business model innovation. Veloce's solution supports modular and flexible charging infrastructure, with the intent to streamline deployment, provide resiliency and drive cost efficiencies.

We commend the Board of Public Utilities ("Board") for advancing an equitable and reliable electric vehicle (EV) ecosystem infrastructure framework in New Jersey, and are very encouraged by the Board's interest in the role of renewables and energy storage in EV charging infrastructure.

As the Board revises the Straw for MHD charging infrastructure, Veloce would like to urge that it incentivizes the deployment of Distributed Energy Resources (DERs) such as battery energy storage systems (BESS) and other behind-the-meter technologies, as well as onsite renewable generation that would drive cost efficiencies by reducing or eliminating unnecessary distribution system upgrades and service interconnection inefficiencies on both the customer side and utility side of the grid. In many utility territories today, capital-intensive based earning mechanisms discourage the use of DERs and Non-wires Alternatives (NWA) as cost-effective solutions to legacy grid upgrade practices. These incentives to invest in grid upgrades are not only causing delays in deployment of charging infrastructure, they are also burdening the ratepayer through increased electricity rates. These higher costs can be easily mitigated through existing and emerging advanced load management (ALM) technologies, as well as innovative tariffs that encourage managed charging through smart, interoperable charging networks.

While demand response (DR) and Time of Use (TOU) rates as means of load management are fairly common, the use of DERs & NWAs as means to safely connect customer load that exceeds

the total rated capacity of a customer connection is currently underutilized vis-à-vis charging infrastructure. The latter solution can avoid the need to upgrade an existing customer site with a new service connection, customer-side panel upgrade, or utility-side distribution system upgrade, as demonstrated by Pacific Gas & Electric (PG&E), where savings between $30,000 to $200,000 per project within its EV Charge Network Program were achieved at 20 sites.[1] Southern California Edison notes that "Type 2 ALM could have a potential for significant cost reduction and avoidance of major construction or upgrades by utilizing the existing capacity to the largest extent."[2] Behind-the-meter stationary BESS co-located with EV chargers is an example of such ALM2 solutions.

In addition to being a cost-effective grid upgrade solution, BESS is also critical in ensuring system resiliency, especially as extreme weather events become increasingly frequent, resulting in power outages and blackouts.

While Veloce is supportive of the provision of advisory services to MHD fleet operators by parties such as the EDCs, we caution that these services will only be beneficial to the community and ratepayers, if they have a technology neutral approach, and are based on lowering the total cost of ownership for the operators, versus furthering the traditional capital intensive model of infrastructure deployment. Therefore, we recommend that any advisory service be provided via a competitive marketplace, where private entities could also offer their expertise.

We wish to direct the Board to the Heavy Duty (HD) fleet study conducted by the Environmental Defense Fund in March 2021.[3] While the study was restricted to California, it used "real fleet data to evaluate the costs and capabilities of charging systems, and the impact of electric rate design and infrastructure policy on the ability of fleets to deploy electric vehicles in the heavy-duty market segment", and analyzed the four issue areas listed below. The information is applicable to and can be extrapolated for medium-duty fleets as well.

1. *Fleet needs*: How effective will electrification be at meeting fleet operational needs without modification of routes and timetables?
2. *Electric load:* What is the aggregate and peak facility electrical load for a combination of charging strategies, charger sizes, and traction battery capacities needed to accommodate a 40-50 heavy- duty battery electric truck deployment project?
3. *Charging rates and scenarios:* Under what charging scenarios can a target facility maximize the fraction of trips successfully charged while minimizing power demands and expected infrastructure costs? Also, how are the costs of charging and peak load impacted by managed charging under different electric rate variants?
4. *Distributed energy resources:* What role do distributed energy resources (DERs) have, including on-site solar photovoltaic (PV) generation and battery energy storage systems

[1] In PG&E's January 29, 2021 ALM/EV EMS Workshop, Panel 2 Presentation, PG&E indicates that they have deployed Type 2 Advanced Load Management (ALM) at 20 Multi-Unit Dwelling and workplace host sites as of Q4 2020. Type 2 ALM refers to load management used to avoid additional distribution system upgrades.

[2] SCE, Presentation on Transportation Electrification, Charging Infrastructure Programs, Energy Management Systems, presented at EPRI IWC on March 20, 2019.

[3] California Heavy-Duty Fleet Electrification, Environmental Defense Fund, March 2021. Prepared by GNA.

(BESS), on the charging infrastructure costs and emissions reductions profiles of each deployment? Also, how do DER scenarios affect the aggregate facility load profile under various utility rates?

We also encourage the use of managed charging to ensure that EVs can act as grid assets, especially as the market transitions to enable Vehicle–to-Grid (V2G) capabilities. Managed charging has two prerequisites: a) the charger needs to be smart, i.e., networked and capable of reading, receiving and transmitting data, and b) the charger must collect consumption data. The charger communication should be based on open, interoperability standards such as Open Charge Point Protocol (OCPP) to communicate between the charger and the back-end system, OpenADR to communicate with demand response signals, and other widely-adopted global standards such as ISO15118 that is used to communicate between the charger and the vehicle over the charging cable. Submetering is an excellent way to ensure that generated data is revenue-grade. We also wish to note that technologies exist that can combine vehicle and charger data to manage charging on aggregated third-party platforms that can not only charge based on grid conditions, but can also do so based on carbon-intensity of the grid, i.e., charge when there are excess renewables on the grid. For charging sites with behind-the-meter DERs (rooftop solar, battery storage), managed charging can be scheduled to take advantage of on-site generation and battery storage charge/discharge.

Veloce Energy appreciates the opportunity to submit these comments.

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