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Greg Gorman
13 Jennings Road
Hamburg, NJ o7419

Via Electronic Mail to: board.secretary@bpu.nj.gov

Aida Camacho-Welch
Secretary of the Board
44 South Clinton Ave., 9th Floor
Post Office Box 350
Trenton, NJ 08625-0350
Phone: 609-292-1599

Re: BPU Docket No. QO21060946, New Jersey Electric Vehicles Infrastructure Ecosystem 2021 – Medium and Heavy Duty Straw Proposal

Provided are comments in support of New Jersey Board of Public Utility ("BPU")'s Electric Vehicles Infrastructure Ecosystem 2021 – Medium and Heavy Duty ("MHD") Straw Proposal.

Suggested additions to Background on Terminology:

"Microgrid"[1] is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode. DOE's definition allows for many kinds of structures to fall under the definition of a microgrid. In the context of the variable demand for EV MHD charging, microgrids can provide a significant contribution to load management, resiliency, and reliability. See National Association of State Energy Offices, Microgrid State Working Group at: https://www.naseo.org/issues/electricity/microgrids#:~:text=What%20is%20a%20Microgrid%3F%20The%20U.S.%20DOE%20Microgrid,single%20controllable%20entity%20with%20respect%20to%20the%20grid. The New Jersey Board of Public Utilities qualifies various microgrid structures as follows:

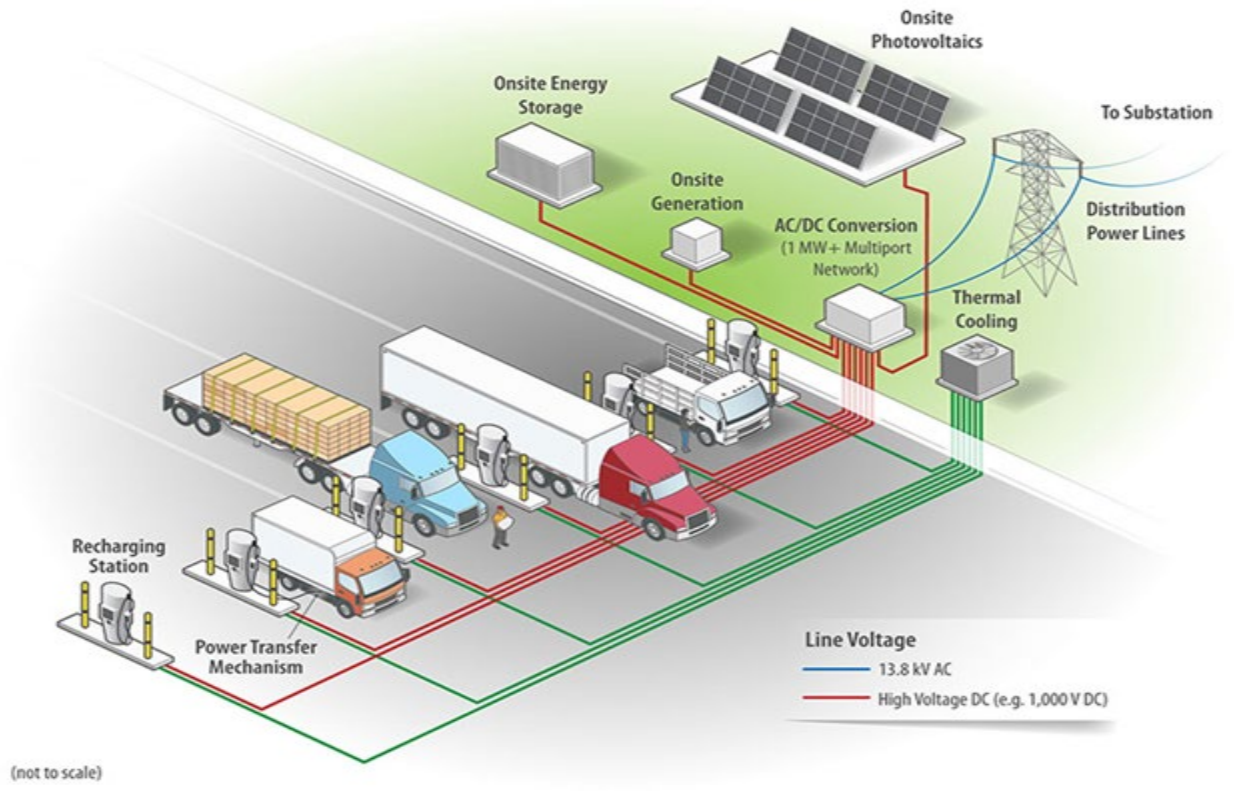
Microgrid Type	DERs	Facilities	Meters	Facility Owners
Level 1 single facility	1 - 2+	1	1	1
Level 2 campus	1 - 2+	2+	1 - 2+	1
Level 3 multi-user community	1 - 2+	2+	2+	2+

"Microgrid Technology Provider" (MTP) refers to an entity using private capital to deploy facility or campus microgrids.

1 .Medium and Heavy Duty Ecosystem

"EV Ecosystem" or "Ecosystem" refers to all of the physical equipment necessary to charge a vehicle (light-, medium-,or heavy-duty), which includes the Electric Vehicle Service Equipment (i.e., "charging station infrastructure"), the Make-Ready portion of the 6electrical system, as well as distribution upgrades on the utility-side of the meter and any customer-owned support equipment needed for reliable, resilient, and cost effective ongoing operation of the charging services. When you consider the importance of MHD vehicles in fulfilling logistics needs for hospitals, first responders, and community recovery in response to disasters, public HMD charging stations must remain functional in all situations. As such, public MHD charging stations must be considered "critical" infrastructure.

NREL is working with other national labs to develop a megawatt-scale charging system for medium- and heavy-duty electric vehicles, enabling drivers to charge in less than 30 minutes at reasonable cost. The diagram below depicts the configuration envisioned for the megawatt-scale charging system connected to grid with energy generation and storage to optimize total operating costs. The concept could easily be converted to a "campus" or "facility" microgrid suitable for addressing resiliency issues. See https://www.nrel.gov/transportation/medium-heavy-duty-vehicle-charging.html



The appropriate role for the EDC is to ensure electricity is provided to the AC/DC Conversion System. This includes planning for grid scale storage to accommodate community critical infrastructure with MHD charging stations. Cost recovery for grid scale energy storage by the EDC would be via rates established routinely by BPU.

The appropriate role for the Microgrid Technology Provider (MTP) is to provide the manual or automatic switch to disconnect from the grind and the equipment to operate the MHD chargers. Optimally, the EV ecosystem provided would allow plug and play capabilities for the energy generation and storage, AC/DC Conversion System, Thermal Cooling, Make Ready, and EVSE equipment. The MTP could operate the microgrid or turnkey the system to an independent operator who may also be the EVSE Infrastructure company. The Microgrid Operator would be reimbursed by user MHD charger users. If the EVSE infrastructure company is not the Microgrid operator, then arrangements for reimbursement would be arranged with the Microgrid Operator. Since the Microgrid Technology including Make-Ready equipment is privately funded, recovery of investment is included in sales price for use of the charger.

Steps to encourage MHD adoption of EVs and expansion of EV fleets should include mandates and incentives for purchasing and using vehicles and developing public/private charging network. To maximize private investment and participation, the focus is to reduce the Total Operating Costs of Electric MHD vehicles:

1. · Provide state rebate program for purchase of Electric MHD Vehicles and charging stations
2. · Allow Electric MHD Vehicles access to high occupancy vehicle (HOV) lanes
3. · Change building codes to be more EV-friendly including mandating all new buildings (especially warehouses) be “Make Ready”.
4. · Dedicated state revenues for innovation in charging infrastructure and Electric MHD vehicle manufacture,
5. · Mandated state agency Electric MHD vehicle procurement
6. · Provide grants to Counties, municipalities, and school boards to purchase Electric MHD vehicles and charge stations
7. · Charge diesel trucks a fee to pick up cargo at ports and airports.
8. · Establish “no diesel zones” in downtowns and commercial malls
9. · Establish working group to advise businesses and entrepreneurs on construction and location of facility and campus microgrids in support of MHD charging stations
10. · Accelerate deployment of clean energy and energy storage to drive costs of electricity down.

EV MHD charging stations envisioned by NERL would be more expensive than Level 2 and low voltage DCFC systems. If a light vehicle is equipped to receive a charge from a megawatt scale charging system and wishes to pay the higher price, so be it. There should be not need to impose restrictions based on vehicle weight or class. In the event of an emergency, light vehicles such as ambulances, repair trucks, etc., should be welcomed.

2.Medium and Heavy-Duty Impact on Overburdened Communities

The reduction of diesel emissions from heavier trucks resulting from the proposed rule is expected to have significant impacts on public health improvement than from any other vehicle.

"Almost a third of New Jersey's population lives in the census tracts that are partially or wholly within a ½ mile buffer area of Interstate highways. This affected population is more highly representative of many of the states' more vulnerable subgroups. It is slightly younger, with a higher non-white population and a population that is 30% higher in poverty level than the state as a whole, and with a per capita income about 13% lower than the state's … New Jersey's overburdened communities are more highly concentrated in areas close to major highways (58% of census block groups) than in the state as a whole (50% of census block groups)."[1]

The New Jersey Climate Change Alliance prepared a "rapid Health Impact Assessment (HIA)" of the NJ DEP's proposed Advanced Clean Trucks Program and Fleet Reporting Requirements rulemaking. The HIA pointed to several insights. The reduction of diesel emissions from heavier trucks resulting from the proposed rule is expected to have more significant impacts on public health improvement than from other vehicle emissions. Roadways and other areas where trucks are in use for loading or delivery can create hot spots of locally elevated air pollution levels, which can harm some people more than others. At low-speed and heavy-idling conditions, which can be of particular concern around industrial areas like warehouses and ports, in-use truck emissions are as much as seven times higher than federal standards, in part because engine temperatures are too low to keep the emissions controls operating efficiently. Research shows that, nationwide, communities with the highest exposure to truck pollution are disproportionately communities of color.[2]

The National Network and NJ Access Network corridors contain the preponderance of warehouses and medium and heavy-duty truck depots typically located in EJ communities. NJ BPU decisions for locating and funding MHD charging stations will de facto ensure equity in electrifying this transportation sector. Suggest that MHD charging stations may be considered a pollution mitigation action to consider in accordance with New Jersey's Environmental Justice Law, N.J.S.A. 13:1D-157. This law requires NJDEP to evaluate the contributions of certain facilities to existing environmental and public health stressors in overburdened communities.

Sincerely,

Greg Gorman

[1]Karen W. Lowrie, Ph.D. with Emma Kilkelly Andrew Herrera Kevin Petrozzo "Health Note on the New Jersey Department of Environmental Protection proposed regulation: Advanced Clean Trucks Program and Fleet Reporting Requirements Proposed Amendment: N.J.A.C. 7:27A-3.10, Proposed New Rules: N.J.A.C. 7:27-31 and 33" Bloustein School of Planning and Public Policy, Rutgers University, June 17. 2021, p. 13.

[2] NJCCA Public Health Workgroup Co-Chairs, Dr. George DiFerdinando and David Henry. "NJ Spotlight Op-Ed "Improving health outcomes through climate-change action" July 2, 2021 https://www.njspotlight.com/2021/07/clean-trucks-program-electric-vehicles-health-impacts-ev-communities-of-color-low-income-neighborhoods/