



January 24, 2023

Carmen D. Diaz
Acting Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Ave., 1st Floor
Trenton, NJ 08625-0350

Re: Straw Proposal, Docket No. QO21060946, In the matter of medium and heavy duty electric vehicle charging ecosystem

Dear Secretary:

Burns & McDonnell is one of the leading providers of services to the electric utility industry and has extensive experience advising and assisting electric utilities with their transportation electrification programs with teams specializing in the electrification of medium and heavy duty vehicles. As such, we believe that we are uniquely positioned to comment on the contents of this proposal.

We respectfully offer the following comments for your consideration.

1. Location Requirement for Private MHD Fleets (Section 3.i.):

We strongly support the inclusion of MHD private fleets to receive up to 50 percent coverage on make ready infrastructure. However, we are concerned that the location requirement, that funding can only go to fleets that either depot, or operate (driving mileage) at least 50 percent of the time in “disadvantaged communities,” is far too restrictive and, as a result, will substantially limit the uptake and impact of the make ready funding which is needed to effectively reduce infrastructure cost for private fleets and ensure a cost-effective transition to electric MHD vehicles across The State of New Jersey. Of specific concern, is the current definition that The Board is using for “disadvantaged communities,” which includes only a limited number of municipalities and excludes the wider community. Applying such a stringent definition for “disadvantaged communities,” is inconsistent with Federal standards for defining “disadvantaged communities,” and would mean that less than 10 percent of the municipalities in The State of New Jersey would count as “disadvantaged communities,” resulting in many locations with large fleets being excluded and unable to access the necessary funding to electrify their MHD fleets.

We would therefore strongly recommend that The Board reexam the definition and scope of “disadvantaged communities,” that is currently being applied and adopt the federal definition of “disadvantage communities,” in order to include fleets that operate or depot in the wider community and not just within the borders of currently eligible municipalities. However, if such an adjustment to the definition of “disadvantaged communities,” is not feasible, we would alternatively recommend adjusting the 50 percent of the time requirement that is currently based on driving mileage for private MHD fleets to receive funding to instead be based on either stops and/or operational time. Many of the MHD vehicles that operate in “disadvantaged communities,”

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may spend less than 50 percent of their driving distance in such areas but do spend either 50 percent of their operational time (driving or idling) or 50 percent of their pickup or drop offs in “disadvantaged communities.”

2. Make Ready Deployment Deadline (Section 9.B.):

We understand and agree with the rationale for setting deployment time requirements for Utilities to complete make ready upgrades. Make ready infrastructure should be completed within a reasonable amount of time and prioritized based on location and community and system benefit. However, we are concerned that the current 12-month deployment time deadline in the straw proposal is simply too prescriptive and not realistic, especially with current electrical infrastructure supply chain challenges, and will therefore be nearly impossible for utilities to consistently achieve.

Our experience working with fleets and utilities across the country shows that it typically takes an average of 18 months to complete make ready infrastructure from the point it was requested. Transformers alone are currently taking more than 40 weeks to be delivered and are difficult to purchase in bulk due to limited supply. As a result, if Utilities are required to consistently meet a 12-month deadline to complete make ready infrastructure they would potentially have to consider depleting limited stocks of currently available transformers that are set aside for emergencies, which is not advisable and creates significant risk to the reliability of the State’s electrical infrastructure. Switchgears are also currently taking more than 40 weeks to design and deliver and since each one must be customized, buying in bulk, even if available, would not be an option. For some perspective, a new multi-story building with a multi-megawatt load, which is similar to the typical electrical upgrade that is required to electrify a MHD depot, tends to take at least two years to complete. With these considerations in mind, we highly recommend that The Board either eliminate or greatly increase the minimum deadline to complete make ready infrastructure to no less than 18 months and to provide additional flexibility to Utilities on deadlines in the likely case of either supply challenges for infrastructure components or high demand for installation services that leads to unavoidable backups for make ready upgrades.

3. Per kW \$ Cap for Private MHD Fleets (Section 3.iii):

We agree with the board’s decision to provide make ready funds to private fleets in “disadvantaged communities,” and believe that 50 percent coverage of those costs is a reasonable compromise. However, upon further analysis, the \$200 per kW max in make ready coverage for private MHD fleets is substantially below what we’ve seen is required to cover 50 percent of make ready infrastructure costs in states like New Jersey. Our previous experience in deploying make ready infrastructure shows that 50 percent coverage of make ready costs typically averages between \$300 - \$350 per kW equivalent. Furthermore, these make ready average costs per kW only include

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the hard infrastructure costs and not the soft infrastructure costs like charge management systems which are also required under this straw proposal.

Our company works across the country on fleet electrification projects and has seen what it takes to achieve a successful make ready program that provides sufficient funding to effectively support private MHD fleet electrification projects. For example, California make-ready programs have been very successful in gaining traction by covering between \$300 - \$350 per kW of charging capacity, whereas the New York make ready program for MHDs only covered about \$200 per kW, which led to limited uptake by fleets because that amount was not sufficient to effectively reduce infrastructure costs, and as a result is currently being redesigned.

Based on the previous factors, we recommend that The Board consider eliminating the per kW cap on make ready funding and simply apply a 50 percent cap to all hard (components and labor) and soft (charge management systems) make ready infrastructure costs. However, if eliminating the per kW cap is not feasible, we would alternatively recommend increasing the per kW cap to a sufficient level above \$300 per kW and allow for adjustments in future years to ensure substantial uptake of the program and to avoid the failures of other programs that did not provide sufficient funding support for make ready infrastructure.

4. Charging Management and Load Profile Requirement for Private MHD Fleets (Section 3.iii):

We agree with The Board that charge management systems will need to play an important role in supporting both the changing needs of fleets and to ensure grid stability. However, we have several concerns about the structure and implementation of requirements on private MHD fleets to install charge management systems and meet specified load profiles to receive make ready funding support.

First, we are concerned about the utility enforcement requirement for managed charging with private fleet locations that accept make ready funding and how such a system of enforcement system would work. What would be an acceptable penalty for a fleet charging more than 10 percent of the time during high demand periods and what if a private fleet doesn't install or consistently use managed charging after receiving funds? In such cases would utilities be responsible for clawing back funds or disconnecting power from private MHD fleets? Requiring Utilities to either claw back funds or disconnect power from fleets that don't follow these requirements would be incredibly complex to manage, legally problematic, and time consuming for utilities to implement and is therefore not advisable. As a matter of principle, we do not believe that it is the proper role or responsibility of a utility to directly manage or enforce fleet operation behavior or charging profiles.

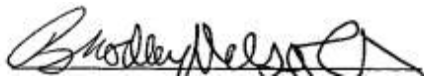
Second, how would such a managed charging system be implemented and managed? Would each private fleet get to select their own managed charging software that they have to pay for or does

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the utility determine which managed charging systems are acceptable? There is also the question of what level of control or monitoring would be required for managed charging? Would utilities simply have to ensure that a fleet that receives funding is consistently using managed charging and not charging more than 10 percent of the time during peak demand periods, or would utilities have to be able to directly control charging operations at facilities or install disconnect systems if a fleet is not in compliance? Utilities could attempt to directly control charging behavior of fleets at all times, known as active managed charging (utility-controlled charging), but managed charging at the fleet level tends to operate very differently and through different mechanisms that aren't centrally controlled as they can be with residential managed charging using vehicle telematics or smart chargers. Most importantly, fleets tend to operate on various duty cycles and operational structures which prohibits the ability to effectively enforce a standard charging scheme and stringent charging requirements that interfere with the operational flexibility that many fleets require would likely discourage fleets from accepting make ready funding and therefore delay the transition to electric vehicles for many fleets.

Due to the complexities of enforcement and implementation, and potential fleet concerns with a managed charging and strict load profile requirement we would highly recommend eliminating this requirement and instead ensuring that managed charging is included in the 50 percent of make ready funding. Our experience working with fleets across the country has shown us that nearly all fleets, and particularly large fleets, choose to integrate charge management systems on their own to effectively manage complex charging schedules and to minimize demand charges. The current system of demand charges already acts as a market-based enforcement mechanism on fleets to ensure most of the charging takes place outside of peak demand periods. Any additional requirements for managed charging or load profiles are therefore both unnecessary and extremely onerous for both utilities to implement and fleets to integrate.

Sincerely,

A handwritten signature in black ink, appearing to read "Bradley L. Nelson".

Bradley L. Nelson
Zero Emissions Mobility Consultant
1898 & Co. (Part of Burns & McDonnell)

A handwritten signature in blue ink, appearing to read "Kyle F. Pynn".

Kyle F. Pynn, PE, LEED® GA
Transportation Electrification Business Line Director
Burns & McDonnell