June 17, 2020

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

Re: Docket No. QO20050357, Initial Comments of the Alliance for Automotive Innovation in the Matter of Straw Proposal on Electric Vehicle Infrastructure Build Out

Dear Secretary Camacho-Welch:

The Alliance for Automotive Innovation ("Auto Innovators")[1] thanks the New Jersey Board of Public Utilities ("BPU") for the opportunity to provide comments on the *Straw Proposal on Electric Vehicle Infrastructure Build Out* ("Straw Proposal").

Auto Innovators represents automakers that collectively produce nearly 99% of the new cars and light trucks sold in the United States, tier one original equipment suppliers, and technology and other automotive companies. Auto Innovators is committed to supporting and implementing policies and programs that help support transportation electrification, including battery electric, plug-in hybrid, and hydrogen fuel cell technologies.

This is a pivotal point in the development of the electric vehicle (EV) market. Today, there are 48 electric models offered[2]—more than any point in history. Moreover, nearly every major automaker has announced plans to increase the number of electrified platforms. In the next two years, automakers intend to offer over 100 different EV models in a variety of market segments.[3] However, automotive industry investments alone are not enough to ensure increased market penetration for electrified vehicles. Increasing customer demand for EVs is necessary, and time and time again studies have shown that purchase incentives and available charging/refueling

[1] Formed in 2020, the Alliance for Automotive Innovation is the singular, authoritative, and respected voice of the automotive industry. Focused on creating a safe and transformative path for sustainable industry growth, the Alliance for Automotive Innovation represents the manufacturers producing nearly 99 percent of cars and light trucks sold in the U.S. The newly established organization, a combination of the Association of Global Automakers and the Alliance of Automobile Manufacturers, is directly involved in regulatory and policy matters impacting the light-duty vehicle market across the country.
[2] *Veloz Sales Dashboard,* Veloz, https://www.veloz.org/sales-dashboard/ (data retrieved 2/28/20)
[3] https://www.autonews.com/article/20181001/OEM04/181009990/nearly-100-electrified-models-slated-to-arrive-through-2022

infrastructure are key parameters to increasing customer demand. Near-term utility engagement on transportation electrification is essential to build and maintain momentum as these new vehicles hit the market.

Both plug-in electric vehicles (PEVs) and hydrogen fuel cell electric vehicles (FCEVs) are EVs and are necessary to electrify the light duty market, especially in light of Governor Murphy's goal of 330,000 EVs on New Jersey roads by 2025 and at least 2 million by 2035.[4] Both electric charging and hydrogen refueling infrastructure is necessary for the EV market to grow and achieve the Governor's targets.

Auto Innovators appreciates the agency's initiative to increase EV infrastructure toward the level needed to meet Governor Murphy's goals and the Legislature's recognition of the urgency of adopting aggressive targets for the installation of EV chargers in the next five years under SB 2252. In particular, the stretch goal of 2 million EVs in 2035 will require close to all new light-duty vehicles to be an EV. Customers need to be confident that the infrastructure is there to meet their driving needs. For PEVs, this means not only home charging, but also workplace, fast charging on corridors, urban charging clusters, and key destinations. For those without easy access to charging at home (e.g. apartment dwellers), it will be even more important to focus on building out a full EV charging ecosystem. FCEVs also have the potential to serve drivers without home charging access, though New Jersey currently lacks hydrogen refueling infrastructure.

This proceeding is vitally important to supporting electrification in New Jersey. With less than 38,000 EVs on the road today,[5] New Jersey is only 11% of the way to meeting the state's goal of 330,000 EVs by 2025, leaving a significant gap to make up in the next five years. Infrastructure is continuously cited as a main reason that customers will not make the switch to electric vehicles, and evidence in New Jersey would support that reasoning. Per the Straw Proposal, New Jersey is currently ranked 45th in the nation in electric charging stations per registered vehicles. Continued private and public investment is necessary if New Jersey is going to accomplish its vehicle and infrastructure goals.

In conjunction with electric charging infrastructure, New Jersey needs to start hydrogen infrastructure development along with resolving tunnel restrictions for FCEVs. Auto Innovators supports Senate Bill 762 (and its companion, Assembly Bill 741) that establishes the New Jersey Fuel Cell Task Force within the NJ BPU to increase use of fuel cells in New Jersey, and was thrilled to hear that it passed the Senate on June 15.

We appreciate the need for utility charger-ready infrastructure, as this reduces cost for future electric vehicle supply equipment (EVSE) installation. However, it is simply too early in market development to know

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[4] N.J.S.A 48:25-1 et. seq.
[5] www.atlastevhub.com

with precision the exact and most efficient role for utilities. Investing in charger-ready infrastructure is certainly an important and foundational role for utilities, but there will be instances where a utility ownership model makes the most sense to overcome barriers. We urge BPU to be flexible in the role of utilities, evaluate ways to support a competitive market between public and private providers, and be willing to adapt as the EV market continues to evolve.

In order to not hinder any existing utility investment in transportation electrification, any future filings should complement existing programs, and not replace them. The comments below will touch on the following specific items:

- Charging Infrastructure Needs
- Hydrogen Refueling Needs
- Charger Ready and Utility Ownership
- Utility Rate Structures
- Timing
- Education & Outreach

Charging Infrastructure Needs

By 2025, N.J.S.A. 48:25-1 et seq. calls for 400 DC fast chargers and 1,000 L2 publicly accessible chargers. We see this requirement as a good start, but certainly more is necessary to accommodate 330,000 EVs ramping up to 2 million by 2035.[6] Home charging continues to be the predominant source of charging, with current EV drivers doing more than 80 percent of EV charging at home.[7] However, home charging is not sufficient to meet market needs. Drivers need to be confident that their EV can take them wherever they need to go, and this will require a complete ecosystem of charging including workplace, fast charge corridors, fleet charging, urban clusters, and key destinations. As we look to expand the market beyond early adopters and reach the 40% of Americans who do not live in a single-family home,[8] options such as charging at multi-unit dwellings (MUDs) and workplaces will be critically important. Given the importance of MUD, fleet, and workplace charging, we encourage BPU to provide additional flexibility on the "public access" requirement in the Straw Proposal so as not to preclude Charger Ready investment for much-needed infrastructure deployment at these sorts of locations. In this way, New Jersey can help address the needs of all residents, including those residents who may not be able to own an EV - either due to cost, lack of access to charging, or existing ownership of

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[6] For reference, NREL's EVI Pro Lite suggests that New Jersey would need over 20,000 public and workplace L2 chargers and nearly 1,500 DC Fast Chargers, using default vehicle inputs and assuming that 80% of drivers have home charging access. These numbers increase substantially if the goal is to serve additional drivers without home charging access. https://afdc.energy.gov/evi-pro-lite

[7] https://www.energy.gov/eere/electricvehicles/charging-home

[8] https://www.nytimes.com/2020/04/16/business/electric-cars-cities-chargers.html?smid=em-share

another vehicle. Incentivizing charging infrastructure for EV fleets, dedicated to transporting members of the public, can provide a unique role in expanding green miles traveled by the public. While outside of the scope of this Straw Proposal, it is important to note that FCEVs with centralized hydrogen refueling provides another option for addressing addresses MUD charging through a "gas station" model that will be familiar to drivers and should have little or no impact on the grid.

In addition to MUD and workplace charging being critical for EV owners, these applications also provide an opportunity for managed charging. With vehicles typically parked overnight at MUDs or during the day at workplaces, typical charging habits offer the opportunity for electric vehicles to provide stability to the electric grid. For the reasons laid out above, we recommend that workplace and MUD charging receive some urgency in New Jersey.

Auto Innovators understands the desire to maximize market response to EV charging, and eliminate the concern of stranded assets; however, we feel that the EV Mapping Effort laid out in the Straw Proposal may be too restrictive on a nascent market and may not adequately incorporate insights from the private sector. Stranded assets were a concern in years past, but with improved charging technology and the expansion of electric vehicles, there should be much less concern. The EV Mapping Effort and the Electric Distribution Company's (EDC) hosting maps are well-intended, but at this stage of the market, it is important not to discount market and customer insights from the private sector with regard to potential siting.

Hydrogen Refueling Needs

To meet New Jersey's goals, a full suite of EVs are necessary, including PEVs and hydrogen FCEVs. In order for the full suite of EVs to be viable, refueling and charging infrastructure is necessary. Currently, there are no hydrogen refueling stations in New Jersey,[9] making owning a FCEV impossible. If New Jersey is going to meet its goals of 330,000 EVs by 2025 and 2 million EVs by 2035, action is required now to build out hydrogen refueling and charging infrastructure. Auto Innovators supports Senate Bill 762, and its companion Assembly Bill 741, that establishes the New Jersey Fuel Cell Task Force within the New Jersey BPU to increase the use of hydrogen fuel cells in New Jersey. The passing of Senate Bill 762, establishing a New Jersey Fuel Cell Task Force, indicates the Garden State's willingness to embrace the unique benefits of FCEVs, including fast refueling in under 5 minutes, long range of 300 miles or more, and central refueling stations that can serve a community of 500 or more vehicles each, similar to a current gas station.

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[9] https://afdc.energy.gov/stations/#/analyze?region=US-NJ&country=US&fuel=HY&ev_levels=dc_fast&hy_nonretail=true&access=public&access=private&status=E&status=T&status=P

Charger-Ready and Utility Ownership

Auto Innovators agrees that charger-ready investment is a potentially valuable and foundational mechanism for utility investment to support infrastructure deployment. A well-designed charger-ready program can meet many market needs while leveraging the core competencies of utilities and catalyzing private sector investment. We commend the staff for developing a draft set of performance requirements intended to improve the effectiveness of the Charger Ready investments, though we acknowledge that these may need to be adjusted somewhat pending industry input. We are generally supportive of the desire to accelerate installation (requirement #1), ensuring that chargers are maintained (requirement #2). We have some concerns about ensuring public access on a subscription or per-use basis (requirement #3) as this appears to preclude workplace or MUD sites that may not be publicly accessible. We recommend continued discussion with stakeholders on the specifics of the requirements around returning a site to EDC control (requirement #5) so as to avoid unintended consequences, though we support the intent. Overall, we thank the staff for the work on the charger-ready proposal and believe that these sorts of programs should be an important part of the solution for addressing infrastructure gaps and accelerating electrification.

However, we caution that there is not one "right" model for utility engagement and infrastructure ownership, given the complexity of all the various EV infrastructure use-cases. Despite several years of committed efforts by all stakeholders to facilitate transportation electrification, the market remains immature. Infrastructure deployment is falling short of what is needed and there are still questions around the business cases and economics. Vehicle charging is not yet a fully competitive market, particularly in certain market segments and locations. There will be cases where a full "turnkey approach" enabled by utility ownership is necessary to overcome barriers and deploy much-needed infrastructure. Examples of market segments where utility ownership could be beneficial include MUDs and DCFC in areas not likely to draw private sector investment (e.g., corridors or disadvantaged communities). Different situations will call for different models.

The Straw Proposal states:

> Staff proposes that charging station infrastructure, or EVSE, costs will be generally borne by private investors, with no recourse to ratepayer funds, except where the EDC acts as the party of last resort, where investment in EVSE is not occurring, or is not occurring in specific geographic areas. EDCs shall continue to bear the burden of demonstrating that any investments made to serve such areas are reasonable, prudent, and that rate recover of such investments is appropriate.[10]

[10] *BPU EV Infrastructure Straw Proposal*, page 7.

We maintain that the market is already failing to meet demand, and precluding utility ownership except as a "last resort" may unintentionally hinder EV infrastructure build-out. We are not necessarily suggesting that this program should be modified to allow for broader utility ownership, but do want to highlight the potential benefits of utility ownership for overcoming barriers in some cases and the need for BPU flexibility supporting a competitive market going forward. If utility ownership of EVSE is limited to "last resort" cases, we urge the Board to provide additional clarity on how this is defined, and over what timeframe, and to ensure that there is a streamlined process of making the determination so that infrastructure deployment is not needlessly delayed.

Utility Rate Structure

Auto Innovators applauds BPU staff for recognizing the importance of utility rate structure in any transportation electrification program. In order to accelerate widespread transportation electrification in New Jersey, it will be important for potential EV operators, including individual EV owners and EV fleet operators, to have access to EV-specific rates—both residential and commercial—that are easily understood, provide cost savings relative to conventional (petroleum) fuels, offer flexibility to both personal and fleet vehicle ownership, lay the foundation for vehicle-grid integration (VGI), and further incentivize electrification. In designing any EV rates to encourage and incentivize the use of EVs, utilities and the BPU should ensure that the EV rates are clear, do not have cumbersome requirements that discourage potential customers (individual and fleet) during the initial sign-up process, include time-of-use and seasonal variability options, and lead to cost savings for EV drivers and fleet operators.

A key benefit to EV customers and EV fleet operators is the ability to save money by charging when rates are lowest, but understanding and enrolling in these rate structures can be prohibitively difficult in some markets. To continue to maximize the potential for EV adoption by individual households and commercial fleets, supportive EV charging rates for both residential and commercial customers should be developed. These rates should be structured with both operator and grid needs in mind so as to accelerate transportation electrification while also incentivizing and encouraging charging behaviors that benefit the grid. Thus, we believe additional attention is needed to create these EV-specific rates that take into account electrification goals, costs, and benefits for all stakeholders, and when implemented, simplify and better communicate program structures and benefits to ratepayers. Auto Innovators generally supports the intent of the three rate reforms described in the Straw Proposal, though we acknowledge that there may be multiple ways to address issues such as demand charges and we encourage an approach that allows flexibility for reaching these goals:[11]

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[11] *BPU EV Infrastructure Straw Proposal*, page 12.

i. Ensure that chargers serving residential customers in MUDs are charged a rate (in $/kW-hour) that is consistent with normal residential rates;

ii. Ensure that demand charges applicable to publicly available chargers, many of which are in the Commercial & Industrial rate class, do not result in excessive $/kW-hour charges; and

iii. Ensure that each EDC offers a voluntary TOU rate for EV charging that rewards consumers that elect to charge during off-peak periods.

Time-of-Use (TOU) rates should be easy for customers to read and understand, and barriers to enrollment should be removed. Where possible, analysis of a customer's existing rate structure should be compared against new or alternative TOU rates to optimize customer bill savings and maximize power generation from renewable energy sources. Additional variations on simple TOU rates that deserve exploration include dynamic rates and seasonally varying rates.

TOU rates are a foundational component of vehicle-grid integration (VGI) and, can offer significant grid benefits.[12] In addition, more active solutions like active managed charging with one-way power flow (V1G) or vehicle-to-grid solutions with bidirectional power flow (V2G) can complement rate design. Taken together, these VGI solutions have the potential to improve reliability and lower the cost of electrical service by avoiding adverse grid impacts from on-peak charging, lowering the costs of integrating increasing levels of variable renewable generation, and increasing the utilization of existing assets, thereby putting downward pressure on electricity prices to the benefit of all utility customers. Utilities, regulators, and third parties should explore opportunities to leverage EVs as distributed energy resources—particularly in use cases with centralized management and charging.

Program Timing

As stated previously, if New Jersey is going to meet its goals by 2025, infrastructure development is needed now. The Straw Proposal offers one year for the utilities to make a location charger-ready, another year, with possible extensions for an additional year, for the EVSE company to install the charger. This timing can result in three years before a charger is available for EV consumers. To meet Governor Murphy's goals, action is needed now—waiting three years will not move the needle. Reducing the proposed timing and increasing

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[12] https://ww2.energy.ca.gov/2019publications/CEC-500-2019-027/CEC-500-2019-027.pdf

program flexibility will increase the number of chargers available and provide a ramp to meet the state's ambitious EV goals.

Outreach & Education

Utilities have a critical role to play in reaching out to and educating consumers about EVs and available rates that may make at home charging a more cost-effective option. While the Straw Proposal doesn't reference outreach and education, utilities can contribute in a variety of means, from consumer-facing outreach programs that promote electric vehicles to education on charging and rates. Regulators have approved ratepayer-funded programs in several states that provide examples of potential utility engagement on this front. Utilities have the ability to contact large numbers of customers, and can help grow the market through outreach. Additionally, they have a wealth of expertise with respect to the functionality of the grid and the current available information on how vehicle charging has and may impact it. We recommend that BPU not leave these resources on the table.

Conclusion

Auto Innovators appreciates the opportunity to provide these comments on the BPU Straw Proposal. We believe that BPU and the utilities have important roles to play in helping achieve New Jersey's ambitious EV goals and timelines. It is imperative that the charger-ready programs retain sufficient flexibilities to address needs and adjust to lessons learned.

As stated throughout our comments, we have a long way to go to meet our EV charging infrastructure targets, and charging infrastructure being in place ahead of vehicles is essential to growing the EV market. We commend BPU on taking this important step, and we look forward to working with BPU, staff, and the utilities to continue to build out the infrastructure necessary for increased vehicle electrification.

Respectfully submitted,

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