

Via electronic submission to board.secretary@bpu.nj.gov

June 17, 2020

TO: Aida Camacho, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314, CN 350,
Trenton, New Jersey 08625

FROM: Pamela Frank, CEO
On behalf of ChargEVC
417 Denison Street
Highland Park, New Jersey 08648

RE: Request for Comments - New Jersey Electric Vehicle Infrastructure Ecosystem
2020 Straw Proposal

Secretary Camacho:

Enclosed please find the comments submitted on behalf of ChargEVC, pursuant to the notice released by the Board of Public Utilities regarding the New Jersey Electric Vehicle Infrastructure Ecosystem 2020 Straw Proposal, dated June 17, 2020.

Thank You.

INTRODUCTION & BACKGROUND

ChargEVC is a not for profit coalition of automotive retailers, utilities, technology companies, power generators, power retailers, local governments, environmental, community, equity and labor advocates and manufactures. The coalition's work focuses on accelerating the transition to electrically fueled transportation in New Jersey. Based on research and analysis, including input from its members with expertise in the diverse segments relevant to market development, ChargEVC develops and advocates for program and policies that will accelerate market development.

The coalition was formed in 2016 in response to technological progress that makes the electric vehicle (EV) market one of the most advanced clean transportation technologies available capable of delivering broad and significant benefits to all the people in New Jersey. We also understand that a focused and coordinated state effort working in partnership with the private sector, can create momentum to achieve significant progress on state goals, leveraging public investment to create the much-needed economic stimulus for New Jersey.

ChargEVC worked hard over the last two years to achieve passage of the comprehensive EV law. Enacted in January this year, it includes specific infrastructure goals.

The New Jersey EV Infrastructure Ecosystem Straw Proposal ("EVESP") released by the Board of Public Utilities in May is likely to influence the development of the EV infrastructure market.

We offer the following comments on the EVESP and as always, look forward to remaining a collaborative partner in the development of this market.

GENERAL COMMENTS

This is different: We applaud the Board of Public Utilities' ("BPU") attempt to get its arms around the EV market with the EVESP. EV technology and the charging infrastructure that will support it is different in many important ways from other technology innovations that have come before the BPU. First, shifting to electricity for fuel is the largest new load since the invention of the grid. Second, in some cases we may have the ability to use the batteries in EVs to not only store electricity that can be used for driving but for also as a load management tool, especially as that technology matures over time. Third, unlike more traditional loads, we can encourage beneficial siting and use of charging stations to avoid harm and optimize benefits to grid.

This is complex: The EVESP describes an ecosystem for EV infrastructure. The concept of an "ecosystem" is useful in looking at EV market development broadly. Currently, however,

it should be recognized that the scope of the EVESP is not as comprehensive as it needs to be and is heavily focused on public charging. Public charging is critically important, but so are other charging segments that merit detailed treatment in the policy framework.

A full understanding of the EV ecosystem needs to include a) all entities involved in infrastructure development including providers of both charging station equipment and operating software, site hosts, owners and operators (who are often private investors); and b) all charging segments with an understanding about what each segment will require. The preferences of the private sector will need to be considered for each segment and in some instances, each use case when developing utility electric transportation plans.

Further, the investments in vehicles and infrastructure in all segments of the EV landscape, including residential, commercial, and fleet development, will be necessary to achieve the goals set forth by the EV law, and to ensure that New Jersey's infrastructure is prepared for the EV industry to grow at an exponential rate in the coming years. The policy framework should address the infrastructure developments that encourage EV adoption, but also those investments that help mitigate potential grid impact to avoid unnecessary costs.

We are at the beginning: We are in the very early stages of market development and therefore a broad and flexible approach to policy development will bring the most effective EV policy to New Jersey. The more flexibility, the better positioned we are to make the necessary changes and adjustments as we learn over time. In addition, at this early stage there is considerable urgency – meeting the 2025 EV adoption goals (and beyond) will require mobilizing every available market participant, not imposing restrictions that limit the aggressive build-out needed.

COMMENTS

Residential Managed Charging

The EVESP touches on residential managed charging. This is an important and complex topic that needs to be addressed by the BPU.

Managed charging requires both a technology component (such as a smart charger or other “charging management” solution), along with the economic incentive that motivates the necessary change in customer behavior.

The EVESP should include a recognition of the many benefits of investment in managed charging, and the potential harm to all ratepayers of not incorporating managed charging. While advanced managed charging solutions represent an upfront investment at the outset, this investment will defer and reduce grid reinforcement and prevent increased capacity and transmission costs. The need for managed charging is important, irrespective of exactly who or how those services are provided.

The current BPU definition of managed charging focuses on the technology component and assumes a model where any type of charger (including a charger not capable of communication) is used in conjunction with AMI (advanced metering infrastructure), and loosely coupled with time of day (TOD) tariffs.

There are other approaches to managed charging that should be considered, especially since this approach may prove costly and limit the ability to deploy more advanced smart charging functions as the market scales up.

The EVESP should reflect the need for an advanced managed charging framework and encourage detailed communication between utilities and chargers. Regardless of whether the utilities or the private sector provide managed charging – which encompasses both incentive structures and technology options – the utility should have access to transaction data required for policy analysis and impact planning.

AMI is one way to enhance managed charging. More advanced solutions, through the use of smart chargers, should also be included. Smart chargers will facilitate more active charge coordination platforms that allow for intelligent charge coordination and charge spreading over time at reduced power levels.

In addition, as part of providing managed charging, all residential charging technologies should be supported by the appropriate TOD tariffs.

Residential Charging Incentive

The EVESP proposal acknowledges the BPU’s intent to implement a residential charging program through the Clean Energy Program (“CEP”). We note, as a matter of law, discretionary authority was provided in the statute for the BPU to use Clean Energy Program funds to provide a residential charging incentive – the BPU *may* provide such an incentive but is not required to. The question of whether or not such funds SHOULD be used for a residential charging program incentive has not been put to stakeholders. As a matter of process, that question should be put to stakeholders for input.

This is especially important given that the EVESP acknowledges the utilities have included incentives for residential smart chargers in filings now before the BPU. We agree that programs should not generally speaking be duplicative but should not discourage EDCs from proposing complementary programs in the same areas as state run programs that could be evaluated during approval processes. We also think that there are other higher priority uses for CEP funds than subsidizing residential smart chargers.

Further, given the need for tight integration of TOD rates and other incentives the utilities can offer, and in consideration of the small sales window that exists when customers consider EVSE needs, deployment of residential charging technology solutions should be tightly coupled with utility rate-related incentive programs.

In any residential smart charging incentive program, there are a number of vital elements that must be included:

- Only smart chargers should be incentivized;
- The customer must enroll in a managed charging program that motivates moving charging off-peak;
- There must be communication and transaction data shared with the utility, whether the managed charging program is provided by the utility or another party.

Multi-Family Residential Charging

A significant proportion of New Jersey’s population lives in multi-unit dwellings (“MUDs”), so it is important that there is meaningful development in this segment. The nearly complete absence of routing charging infrastructure in multi-family settings is restricting adoption of EVs by these New Jersey residents. Supporting the multi-family segment is not only a matter of equity, but also necessary to attain the State’s vehicle adoption goals.

The EVESP raises concerns about rate-equity in the MUD segment, and we agree that is a reasonable objective. However, before rate-equity is addressed, the BPU must address the primary barrier to MUD charging, which is the availability of chargers. The primary focus

for MUD charging should be increasing installation of Level 2 chargers in MUD developments, increasing DC Fast Charging (“DCFC”) that is accessible to MUD residents, and developing workplace charging to ensure the multi-family population has access to routine charging. Ensuring the availability of charging for multi-family EV drivers is a necessary first step before cost equity can be considered.

We understand from other markets the complexity in siting EVSE in MUD communities. It is not just a question of providing incentives. Building owners are faced with numerous operational challenges that cannot be solved through incentives. Therefore, the goal should be to create charging options for this population. Whether it’s a nearby DCFC, workplace charging or a charger at the MUD location, we need to create a number of options for drivers that live in these settings. Ensuring equitable access to charging infrastructure is a priority, but it is also a very hard problem that merits more complete treatment in the EVESP.

Utility Role

The EVESP has a narrow a vision for the utilities. Utility involvement is limited primarily to public make-ready, rate design for public infrastructure, and to a limited degree rate design for single and multi-family residential infrastructure.

Make-ready is important and avoids potential issues with ownership such as the EDC’s ability to set its public pricing at rates too low for the private market to compete, which could undercut competition. Providing the make-ready is a natural role for the utility and is one of the most effective ways for catalyzing private investment in public charging infrastructure – especially when coupled with rate-designs that address the demand charging impacts which are barriers for private sector investment during initial phases of low utilization.

Public make-ready, rate design for public infrastructure, and rate design are all important elements of market development. However, as discussed in the General Comments section at the start of these comments, utility support is needed in other areas when we consider different charging segments, use cases, fleets, workplace, and medium/heavy-duty applications to ensure development of needed EV infrastructure. Additionally, in hard to reach rural areas or other areas of low population density, the private market may have a more challenging time deploying given lower electric vehicle deployments.

Most importantly, the most optimal role for the utility will depend on a *combination* of tools, such as providing make-ready, rate-design, and (in appropriate cases) owning and operating the infrastructure. If properly designed, this portfolio of market development

programs will not displace private investment, it will attract and leverage private investment. The EVESP is incomplete in its consideration of the range of tools that can be offered in multiple segments, frequently in combination with each other, and in most cases in a form that complements private investment.

Understanding the complexity of this ecosystem, utility involvement in infrastructure development should not be limited to a “last resort”. Indeed, as noted above utility involvement can take a range of forms, and in many cases is done in conjunction with, not instead of, private investment. Equity areas are a legitimate place for utilities to invest. However, there are many areas where utilities need to make those same market-leading investments that are NOT in an equity area, for instance, ensuring reliability (i.e. if a competitive supplier can't maintain public service metrics). Also, the utility might be needed to ensure geographic density – filling in the charging deserts per the requirement in the law. One example of this is mentioned in the EVESP where it is recognized that "rural areas" might be included in "equity areas", presumably because their utilization might be lower. It should be recognized that it is not only the local drivers that need this facility it is also all other drivers passing through this location that need the facility.

Given the 2025 timeline of the EV law's infrastructure goals, development of charging infrastructure (of all types) is an *urgent need*, and we need to be proactive to ensure we have geographic coverage throughout the state and that charging deserts are eliminated – such as the rural area example mentioned above.

Last, as alluded to in the General Comments section above, the EVESP's definition of an “EV Infrastructure Company” only accurately describes a relative handful of EV charging companies that own and operate their own network of charging stations. A majority of companies in the EV infrastructure space do not own and operate their own charging stations, but rather provide the hardware and/or software platform to customers who then own the stations. A broader and more accurate definition of an EV infrastructure company therefore conveys greater value in utility ownership and operation of charging stations as a catalyst to grow the private market.

Defining Equity

Market failure should be broadly defined by the BPU in conjunction with other state agencies to reflect intersection of, health, poverty and pollution. It is not enough to define equity as a failure to meet the needs of the electric vehicle market. Providing for different electrically powered modalities to get access food, work, recreation and health services can solve a major market failure of our existing transportation system.

Further, opportunities to enhance sites that spur economic development in economically depressed areas should be addressed in programs (i.e. charging infrastructure in parking lots of urban churches/social service organizations).

With regard to air pollution, light duty fleets, accounting for 9% of vehicles in New Jersey contribute in a corresponding way to emissions in the state. Conversion of fleets is an efficient way to address inequitable burdens of air quality in the state while helping us get to our goals.

Last, any benefit-cost analysis should include a full societal cost test that reflects the wide range of benefits and costs associated with electrification – including the externalized benefits that are not directly economized, such as cleaner air and environmental value.

Rate Design

Given the 2025 timeline in the EV law, it is crucial to address rate design at the onset, so efforts to develop the EV charging infrastructure and attract private investment are not undermined.

Key barriers in the market are related to rate design, and rate solutions that are optimized for EVs is one of the highest impact ways to develop the market. In no order of priority:

- There is no incentive for residential off-peak charging;
- There are significant commercial barriers to the development of charging infrastructure in many commercial segments due to demand charges, especially during early phase periods where utilization may be lower, including public DCFC (which are especially harmful since public DCFC supports multiple segments), multi-family, fleet, and workplace applications;
- Utilities, with policy support from the BPU, must address fundamental rate design issues. Consideration of rate design beyond just public charging is necessary. Simple “fixed fee” designs are likely not optimal across all locations and over time and could increase ratepayer burden unnecessarily. As we have stated in the general comments, we will need flexible and adaptive approaches that ensure each application gets only the incentive needed, so as to minimize ratepayer burden;
- Concerns about ensuring MUDs pay the same as private residential is merited, but as mentioned in the prior section, the key market issue to be solved first is ensuring access to charges – there is a widespread lack of charger installations in that segment;
- Any consideration of rate design must balance solving economic problems for the market, but must also ensure full and timely cost recovery by the utility;

- Recognize that rate design is a valuable and high impact first step to addressing market barriers which can be amplified significantly when paired with appropriate charging technology solutions.

Make-Ready

The EVESP puts forth a comprehensive plan for “make-ready” in which utilities are primarily responsible for preparing locations with make-ready EV infrastructure for public charging. They would do so at the request of an EVSE company or local entity. The utilities would also be responsible for mapping to identify what locations should be prioritized with make-ready infrastructure.

We agree that utilities should be primarily responsible for the build out of make-ready infrastructure improvements for public charging, but the EVESP would benefit from clarifying that this make-ready support should be available to other segments as well (potentially including multi-family, workplace, fleet, and others).

Utilities responsible for “make-ready” allows the utilities to focus on core competencies while attracting and leveraging private sector investments while also considering competitive market concerns. In most segments, this make-ready support will have the greatest impact when it is *combined with* rate design innovations that meet EV charging needs.

The EVESP says that utilities will see a return on the make-ready investment from sales of equipment and services to public. Since the “Charger Ready” infrastructure represents an extended edge to, with associated impacts on, the distribution system, those investments should be recovered consistent with typical long-life distribution investment recovery.

Utility build out of make-ready will make for a robust market stimulus and will be a leading force – a catalyst – in EV market development.

Consistent with prior comments regarding a benefit-cost analysis, the BPU, in its evaluation of filings, should incorporate economic, public health, environmental and other costs and benefits of this significant investment with ratepayers.

Public Charging

The EV law sets the goals of at least 1,000 Level 2 Chargers and at least 400 DC Fast Chargers in at least 200 locations by 2025. The straw proposal recommends that the private market be primarily responsible for charger installation, and for the utilities to intervene where the market fails to meet the goals of the EV law. We have addressed in the previous

section on the utilities role that there are legitimate reasons for the utility to intervene other than market failure on meeting goals. These public charging goals cannot be met without utility solutions such as make-ready *and* rate design, as needed to address significant economic barriers to private investment.

The EVESP frequently contemplates an “either/or” perspective on market participant roles, when in fact – consistent with the “share responsibility” concept – key investments, especially in public charging, are most optimal when supported by joint investment by the utility and private capital. Utility support for make-ready, combined with an optimized rate design, is augmented by private investment to make the needed public charging infrastructure possible.

The EV law sets a slim timeframe to achieve geographic density of EV chargers, since charging infrastructure leads to EV adoption. The BPU should put forward a flexible plan that allows for us to achieve statewide coverage well before the 2025 goal.

The EV Law specifies a distinction between corridor and community DCFC charging infrastructure. The BPU should address this distinction in their deliberations on public charging. A corridor location is located along a highly traveled roadway, and a community location is located in a town center, such as a commercial area or near a multi-unit residential dwelling. These distinctions were made in the law to ensure that there is geographic coverage of DCFC in New Jersey. The EVESP overall would benefit from more explicit alignment with key provisions in the EV law, especially regarding public charging infrastructure and other key segments like multi-family.

Demand Charge for DCFC

The BPU acknowledges the market barriers created by demand charges for public DCFC given the current low utilization rates, and the EVESP reveals a good understanding of the issue. This is one of the top market development priorities for the industry and providing a demand charge solution in a form that can be supported by the utilities is the most constructive path forward. As the grid evolves over time, with more distributed energy resources and storage, there are larger and more complex issues regarding rate design that will need to be addressed. However, today there is an urgent need to act quickly to address this particular barrier, to ensure private capital will leverage the public’s make ready investments and we can commence construction on public DCFC projects as soon as possible.

Addressing this market barrier will invite the private capital desired and a policy framework that applies statewide would be a strong and efficient market signal, recognizing that actual numbers would likely vary slightly for each utility to account for differences in tariffs.

The need to address and enable a demand charge solution is critical at this early stage we are in with respect to market development. With more electric vehicles on the road, and the corresponding increase in utilization, there will be an opportunity to evaluate success or remaining barriers over time. A positive customer experience will be an important consideration in success.

Specialized Applications (Ports, Buses, etc.) and New Jersey Transit

The ACE and PSE&G filings both propose investment in specialized EV infrastructure, such as ports, bus depots, and school buses.

In particular, the EV law has particular goals related to zero emission buses for New Jersey Transit (NJT). NJT just published its 10 Year Strategic Plan and 5 Year Capital Plan and the timelines on acquisition of electric buses does not meet the timelines mandated in the law. We understand from other jurisdictions where EV buses have been adopted, there is a lag time to build the charging infrastructure to support these vehicles. While we do not want to delay the existing utility filings, the EVESP should recognize the infrastructure needs for electrifying NJT buses.

Workplace/Fleet Infrastructure

Workplace and fleet EV segments are missing entirely from the ecosystem laid out in the straw proposal. These segments are a significant part of the EV adoption goals set by the state.

The BPU should outline a policy for workplace and fleets. Specifically, BPU needs to address EVSE utility and/or private ownership/operation and rate design implications. For example, avoiding demand charge impacts for fleet chargers, if unresolved, will limit fleet electrification by commercial entities. Treatment of these crucial segments would be consistent with the EVESP's aspirations to establish a comprehensive policy framework.

Medium/Heavy Duty Infrastructure

Utility involvement will be critical in the medium/heavy duty segments. The straw proposal should acknowledge that there must be policy action that leverages EDCs to meet the goals of these segments since the state will be setting goals later this year.

Additional Comments

The EVESP straw proposal does not cover the following related and intertwined topics with the EV development ecosystem; and although not yet ready for widespread market adoption, the BPU should consider pilot projects to test these innovations:

- Vehicle-To-Grid
- Benefits of Resiliency and Load Optimization

The EVESP contemplates using the DEP mapping beyond what it may be useful for. The DEP simply documents where existing public chargers exist and indicates locations that may be preferred based on criteria such as local traffic levels and the availability of amenities. These maps don't take into account other significant factors, such as gap-filling priorities (i.e. where charging is needed to eliminate charging deserts), demand from nearby commercial centers and MUD residents, or equity considerations.

The EVESP should only invoke the DEP maps to the extent they are helpful in illustrate current compliance levels and some factors of siting, but not as an exhaustive inventory of the many factors that play into site selection or prioritization of utility investment.

Given the complexity of the EV Ecosystem with its many stakeholders, and the fact that we are at the beginning of market development, this EVESP should not aim to be too prescriptive – addressing every charging segment, and every use case, technology, operator, battery type, etc. We understand the spirit of the EVESP was to reach consensus in a few areas in order to move market development expeditiously. The law requires we move with urgency. We also understand and want to underscore that any areas of consensus reached would not limit a utility from filing programs beyond those areas of consensus. We think given urgency and the early stage of market development, New Jersey is best served by an EVESP framework that provides for flexibility and leaves room for optimization and innovation.

EV Market Development in the Time of Covid-19

Last, the infrastructure development required to support EV adoption represents a unique opportunity for shovel ready projects that can help New Jersey's RESTART efforts as it

faces the what is likely some of the most urgent economic pressures in its' history. Building charging infrastructure state-wide will create "green jobs" and a much-needed economic stimulus. In light of the extraordinary circumstances, while we were preparing to move aggressively before Covid-19 in order to reach our state goals, these times call for bold moves - a doubling down of these efforts.

As always, we are available to discuss these comments in more details. Thank you for the opportunity to participate as a stakeholder.